Environmental Assessment Report

Catos Hill Quarry Capacity Increase

Cradoc

Duggans Pty Ltd

September 2022

EPA TASMANIA

ENVIRONMENT PROTECTION AUTHORITY

Environmental Assessment Report

Proponent	**Duggans Pty Ltd**
Proposal	Catos Hill Quarry Capacity Increase
Location	Cradoc
Class of Assessment	2B
PCE no.	10900
Permit Application No.	DA-51-2022 (Huon Valley Council)
myDAS Folder No.	21/2713
myDAS Document No.	S22-80683[v2]

Assessment Process Milestones

Date	Milestone
17 June 2021	Notice of Intent lodged
27 July 2021	Guidelines Issued
18 February 2022	Permit Application submitted to Council
4 May 2022	Referral received by the Board
3 June 2022	Start of public consultation period
4 July 2022	End of public consultation period
20 September 2022	Date draft conditions issued to proponent
23 September 2022	Statutory period for assessment ends (amended by agreement)

Glossary/Acronyms

Term	Detail
Board	Board of the Environment Protection Authority
EER	Environmental Effects Report
EIA	Environmental impact assessment
EMPCA	*Environmental Management and Pollution Control Act 1994*
EMPCS	Environmental management and pollution control system
EPBCA	*Environment Protection and Biodiversity Conservation Act 1999* (Cth)
LUPAA	*Land Use Planning and Approvals Act 1993*
NCA	*Nature Conservation Act 2002*
NOI	Notice of Intent
NRE	Department of Natural Resources and Environment Tasmania
PAF	Potentially Acid Forming
QCP	Quarry Code of Practice (EPA 2017)
RMPS	Resource Management and Planning System of Tasmania
SD	Sustainable development
TSPA	*Threatened Species Protection Act 1995*

Report Summary

This report provides an environmental assessment of the proposed capacity increase at Catos Hill Quarry by Duggans Pty Ltd.

Duggans Pty Ltd proposes to expand the quarry footprint and to increase extraction and processing of material at an existing activity level 2 activity, Catos Hill Quarry, located in Cradoc, 7km south of Huonville. Extraction is proposed to increase from 125,000 cubic metres to 150,000 cubic metres per annum, and processing is proposed to increase from 68,750 cubic metres to 150,000 cubic metres per annum. The operation will use drilling and blasting to extract the material, which will then be processed by crushing and screening.

This report has been prepared based on information provided in the permit application and Environmental Effects Report (EER). Relevant government agencies and the public were consulted, and their submissions considered as part of the assessment.

Appendix 1 contains a table of the proposed management measures.

Appendix 2 contains the environmental permit conditions for the proposal.

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1. Approval Process

The Board of the Environment Protection Authority (the Board) received a Notice of Intent for this proposal on 17 June 2021.

The proposal is defined as a 'level 2 activity' under clause 5(a)(i) and 6(a)(ii), Schedule 2 of the *Environmental Management and Pollution Control Act 1994* (EMPCA), being Extractive Activities and Materials Handling.

The Board required that information to support the proposal be provided in the form of an Environmental Effects Report (EER), prepared in accordance with Guidelines issued by the Board on 27 July 2021. Two drafts of the EER were submitted to EPA for review against the Guidelines before it was finalised and accepted on behalf of the Board on 3 March 2022.

An application for a permit under the *Land Use Planning and Approvals Act 1993* (LUPAA) for the proposal was submitted to Huon Valley Council on 18 February 2022.

Section 25(1) of EMPCA required Council to refer the application to the Board of the Environment Protection Authority (the Board) for assessment under the Act. The application was received by the Board on 4 May 2022.

The final EER, confirmed as the same version as that subsequently accepted by the Board, was submitted to Council with the permit application. The EER was released for public inspection for 28 days on 3 June 2022. Advertisements were placed in The Mercury and on the EPA website. The EER was also referred to relevant government agencies for comment. No representations were received.

The Executive Director, Environmental Assessments has undertaken determination of the assessment under delegation from the Board.

2. SD Objectives and EIA Principles

The proposal must be considered by the Board in the context of the objectives of the Resource Management and Planning System of Tasmania (RMPS), and the Environmental Management and Pollution Control System (EMPCS). Both sets of objectives are specified in Schedule 1 of EMPCA.

The functions of the Board are to administer and enforce the provisions of EMPCA, and to use its best endeavours to further the RMPS and EMPCS objectives. The Board must assess the proposal in accordance with the Environmental Impact Assessment Principles defined in Section 74 of EMPCA.

3. The Proposal

The main characteristics of the proposal are summarised below. A detailed description of the proposal is provided in Section 1 of the EER.

Summary of the proposal's main characteristics

Activity

Extraction and processing a maximum of 150,000 cubic metres of dolerite rock per annum.

Location and planning context

Location	8420 Channel Highway, Cradoc 7109 (refer to Figure 1 below)
Land zoning	Rural Resource (*Huon Valley Interim Planning Scheme 2015*)
Land tenure	Private freehold (Figure 2 below) • Entirety of Certificate of Title - 114690/1 • Part of Certificate of Title – 47130/1 • Part of Certificate of Title – 163072/3 • Part of Certificate of Title – 163072/2 • Part of Certificate of Title - 46807/1
Mining lease	1918P/M
Lease area	93 hectares
Bond	$26,000 – currently under review.
Permit	The existing quarry is operated under Permit (formerly 'Licence to Operate Scheduled Premises') No. 3308 and Permit ('Licence to Operate Scheduled Premises') No. 3307, as varied by Environment Protection Notice 8720/1 (the Permit) authorising extraction of 125,000 cubic metres and processing of 68,750 cubic metres of rock per annum.

Activity site

Land Use	Existing quarry operations (maximum extraction 125,000 cubic metres per annum, maximum processing 68,750 cubic metres per annum).
Topography	Located on saddle between Catos Hill and Woodstock Hill.
Geology	Jurassic aged dolerite. On eastern flank Permian aged quartz sandstone intrudes into the quarry footprint.
Soils	Thin, bleached soils. Site is adjacent to the Huon River which has alluvial deposits rated between low and high for Acid Sulfate Forming Potential (See Figure 4 of EER).
Hydrology	The quarry benches drain to the quarry floor, which in turn drains into a large impoundment / sediment trap (Pond 1) located on the quarry processing / stockpiling area perimeter. Final discharge travels through an open watercourse which crosses the mining lease boundary on the edge of the Channel Highway road reserve. The level of the first water storage / sediment pond is likely to be close to the normal high water table level. As the extraction progresses the source rock is becoming more massive with less fracturing and hence less capacity to support groundwater flow.
Natural Values	The Natural Values Assessment conducted for the EER found no plant or animal species listed under the *Threatened Species Protection Act 1995* (TSPA) and/or the *Environment Protection and Biodiversity Conservation Act 1999* (EPBCA) within the expansion area. The expansion area supports potential habitat for the following, discussed in Attachment 4 of the EER: • masked owl (*Tyto novaehollandiae*): EPBCA: vulnerable; TSPA: endangered

	• grey goshawk (*Accipiter novaehollandiae*): EPBCA: not listed; TSPA: endangered • swift parrot (*Lathamus discolor*): EPBCA: (critically endangered); TSPA: endangered • wedge-tailed eagle (*Aquila audax subsp. fleayi*): EPBCA: endangered ; TSPA: endangered • Tasmanian devil (*Sarcophilus harrisii*): EPBCA: endangered; TSPA: endangered • spotted-tailed quoll (*Dasyurus maculatus*): EPBCA: vulnerable; TSPA: rare • eastern quoll (*Dasyurus maculatus*): EPBCA: endangered; TSPA: not listed • chaostola skipper (*Antipodia chaostola tax. leucophaea*): EPBCA: endangered; TSPA: endangered The Natural Values Assessment noted that the TASVEG mapping does not reflect the current status of the site, and proposed mapping in Figure 5. The assessment found that the expansion area is best described and mapped as: • *Eucalyptus pulchella* forest and woodland (TASVEG code: DPU) • extra-urban miscellaneous (TASVEG code: FAG). The Quarry inspection (2020) in Attachment 5 of the EER found six declared weed species in and around the quarry: • Gorse (*Ulex europaeus*) • English broom (*Cytisus scoparius*), • Montpellier broom, (*Genista monspessulana*), • Boneseed (*Chrysanthemoides monilifera*), • Spanish heath (*Erica lusitanica*), • Pampas grass (*Cortaderia jubata).*

Location region

Climate	Mean rainfall: • Annual: 881.1 mm • August: 104.6 mm • February: 49.2 mm Mean temperatures: • January maximum: 22.1°C • January minimum: 9.9°C • July maximum: 12.1 °C • July minimum: 2.2 °C Wind rose averages • Mornings predominantly NW at 10 to 20 km/hr • Afternoons predominantly NW at 20 to 30 km/hr Weather station – Geeveston (Cemetery Road) 094137
Surrounding land zoning, tenure and uses	Surrounding land is zoned Rural Resource and Significant Agriculture and used for agriculture. Eight residences are within 750 m of the proposed maximum quarry footprint, including the proposed new development area (Table 6 of the EER), and 34 residences are within 1km (Figure 3). The Egg Island tidal Delta (Geo-con ID 2200) geo-conservation site exists on the Huon River to the West of the Quarry.

Species of conservation significance	NVA report: Listings under TSPA and EPBCA: **Threatened flora within 500m:** *Deyeuxia minor* small bentgrass - rare (TSPA) **Threatened fauna within 500m:** *Dasyurus maculatus,* spotted-tail quoll – rare (TSPA), vulnerable (EPBCA) *Dasyurus viverrrinus*, eastern quoll – endangered (EPBCA) *Perameles gunnii* eastern barred bandicoot – vulnerable (EPBCA) *Sarcophilus harrisii,* Tasmanian devil – endangered (TSPA), endangered (EPBCA)

Proposed infrastructure

Major equipment	Rock Drill Excavators Wheel loaders Off-road haul truck Mobile primary crusher Fixed secondary and tertiary crushers and screener Truck/trailers for on road use
Other infrastructure	Existing infrastructure to be used includes: • Water storage/recycling impoundment, pumps, and pipelines • Internal haul roads • Overhead gantry mist spray for dampening loads on trucks • Sprays for stockpiles and roadside sprinklers for dust suppression • Weighbridge and offices

Inputs

Water	Water for process water and dust suppression (from spring fed dam)
Energy	Fuel for machinery
Other raw materials	None

Wastes and emissions

Liquid	Stormwater runoff from extraction, unrehabilitated and stockpile areas.
Atmospheric	Dust from blasting, drilling, crushing, and screening. Dust from internal and external traffic, and blow-off from stockpiles.
Solid	General refuse including food scraps, paper, and packaging. General inert wastes such as metal waste to be collected periodically.
Controlled wastes	Waste engine oil and potentially contaminated soil.
Noise	Noise from blasting, drilling, crushing, and screening. Noise from internal and external traffic.
Greenhouse gases	Fuel powered equipment use will increase with increased extraction and processing, resulting in increased greenhouse gas emissions.

Construction, commissioning and operations

Proposal timetable	No construction or commissioning required to increase operations after approval due to existing infrastructure.
Operating hours (ongoing)	0700 to 1900 hours Monday to Friday 0800 to 1600 hours Saturday

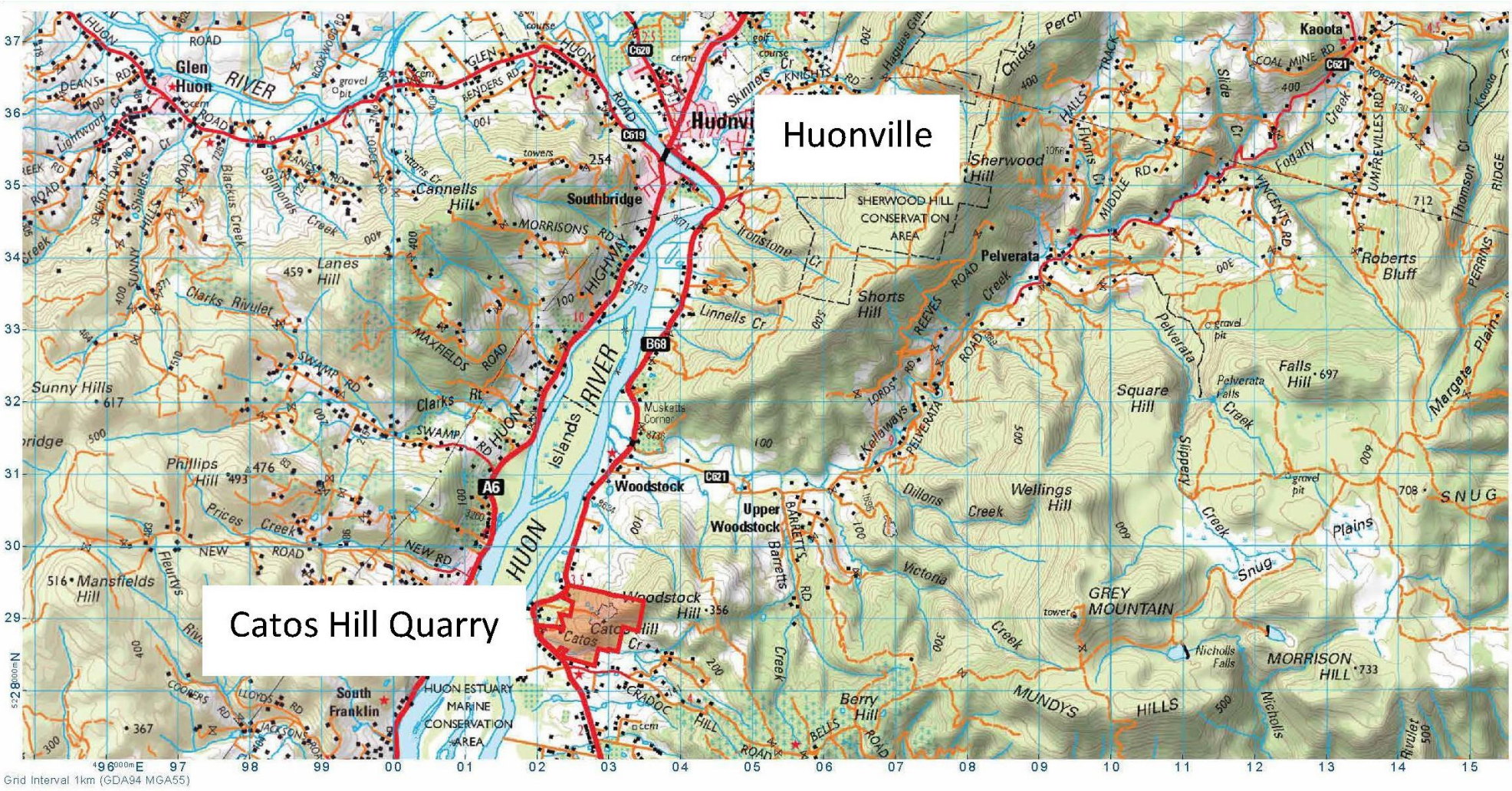

Figure 1: Catos Hill Quarry Location (Figure 1 of the EER)

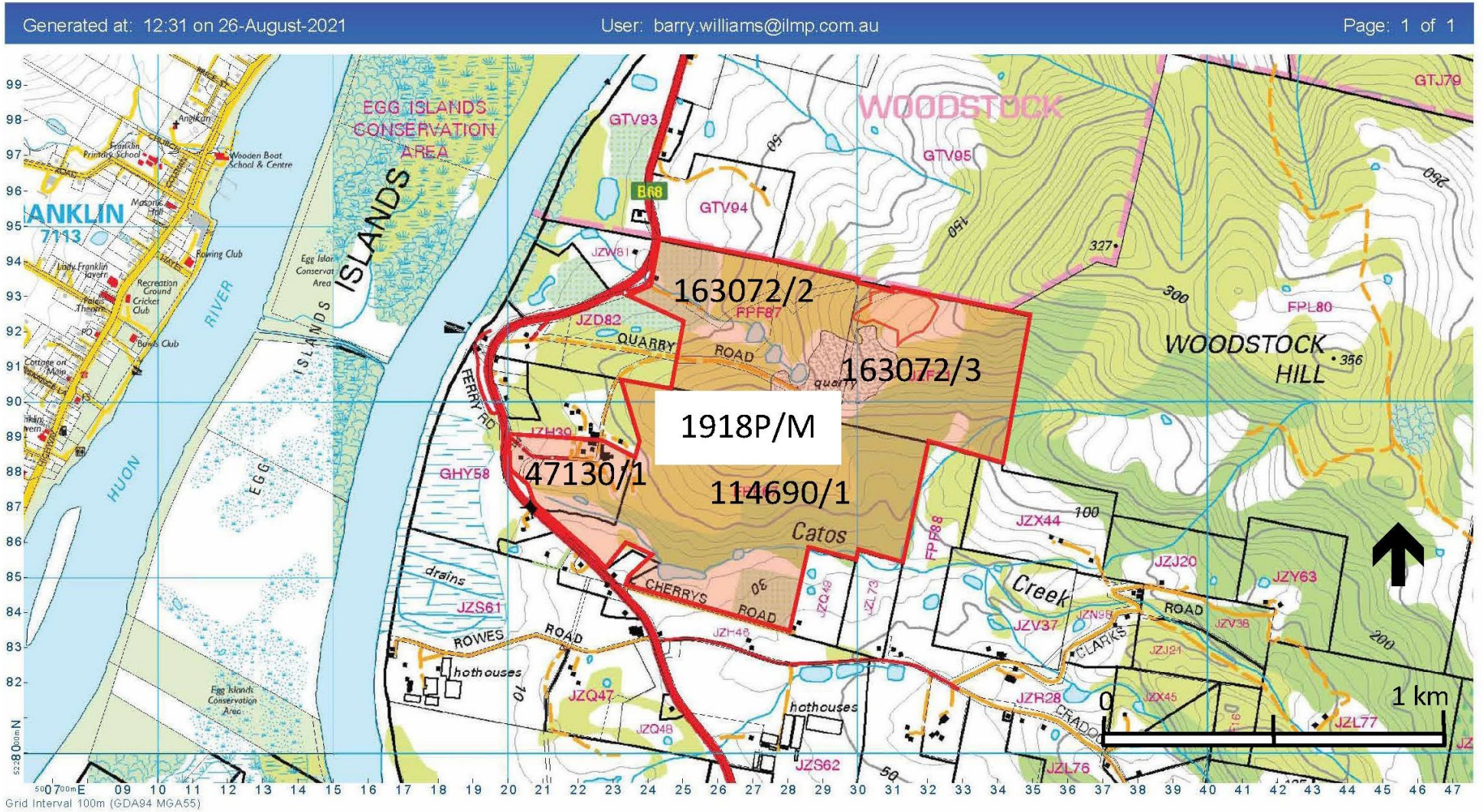

Figure 2: The Land (mining lease 1918P/M) (Figure 6 of the EER)

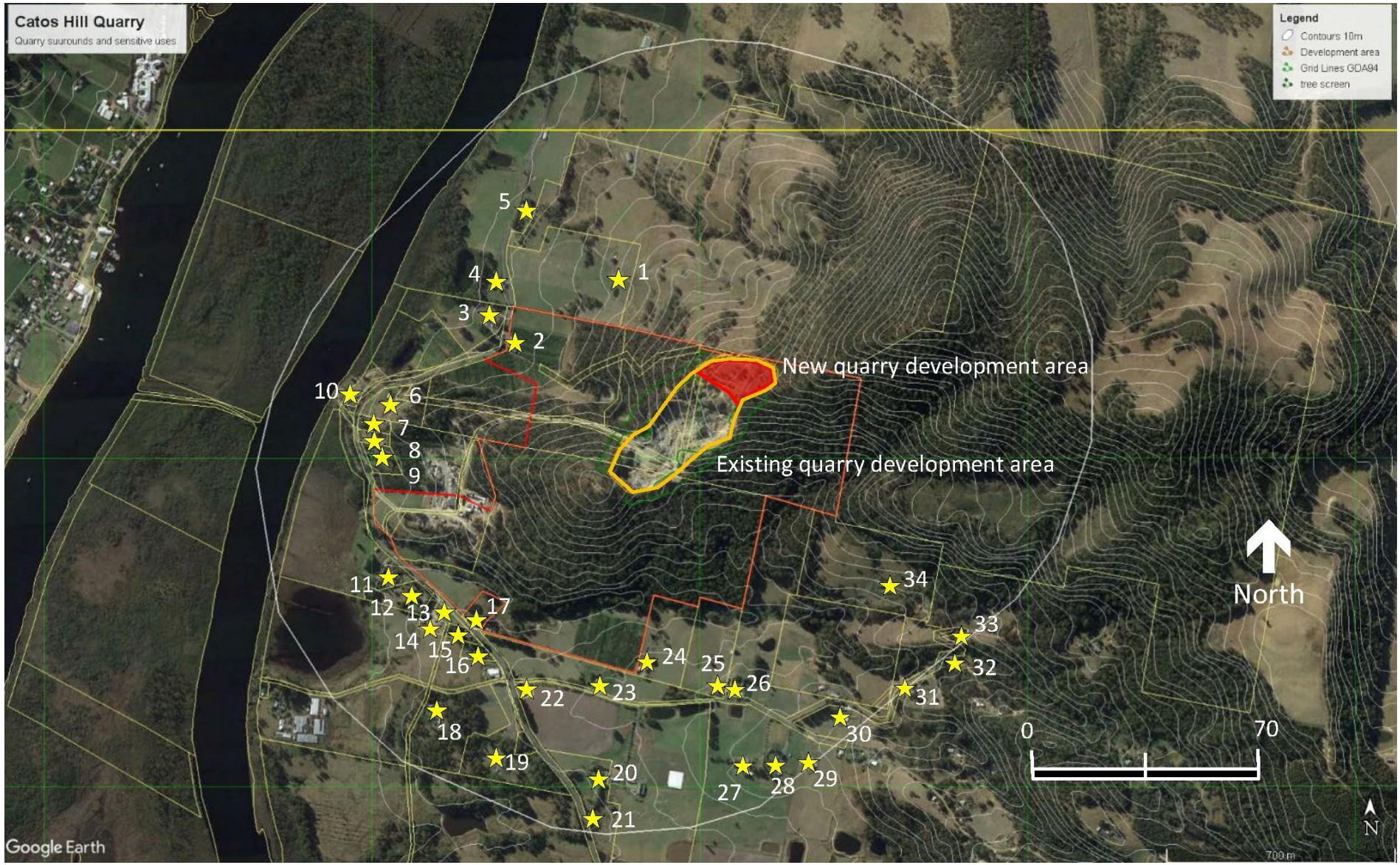

Figure 3: Catos Hill Quarry in relation to surrounding sensitive uses (Figure 2 of the EER)

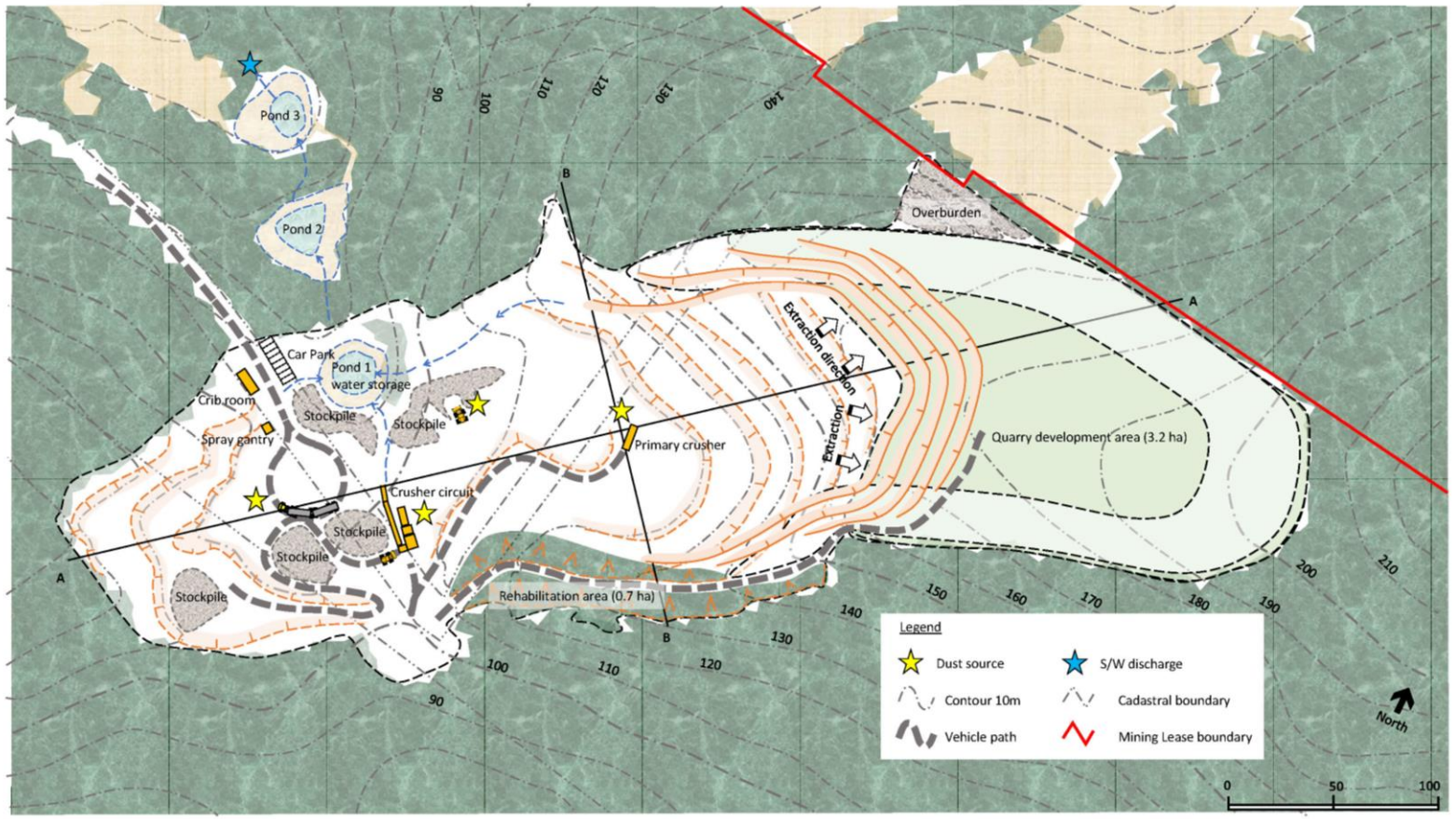

Figure 7: Catos Hill Quarry – Quarry Plan – general arrangement
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integrated land management & planning

Figure 4: Catos Hill Quarry Site Plan (Figure 7 of the EER)

Figure 5: Vegetation mapping as identified in Natural Values Assessment (Figure 8 from EER Attachment 4)

4. Project Rationale and Alternatives

The proposal is for an expansion in area and production levels at an operating Level 2 quarry, with pre-existing infrastructure. According to the EER, the quarry operator is competing for tenders to supply simultaneous projects. It states that 'project type' demand is increasing, so the operator is proposing to increase the maximum permitted extractive capacity so annual extractive limits are not exceeded.

The EER states that the "alternative is to remain at the existing annual capacity. As more of the market demand becomes 'project based' the operator will be forced to decline to submit tenders for projects that could 'if won' cause them to exceed their annual operating capacity."

5. Public and Agency Consultation

No public submissions were received during the public consultation period.

The EER was also referred to several government agencies with an interest in the proposal. Submissions were received from the following:

- Conservation Assessments , Natural Resources and Environment Tasmania
- Mineral Resources Tasmania, Department of State Growth

The following individuals also provided specialist advice on the EER:

- Regulatory Officer, Environment Protection Authority
- Scientific Officer (Noise), Environment Protection Authority

Appendix 1 of this report contains a summary of the government agency submissions received.

6. Evaluation of Environmental Issues

The following environmental issues are considered relevant to the proposal and have been evaluated in this section:

1. Noise emissions and blasting
2. Air emissions
3. Surface water and groundwater
4. Natural values and weeds and disease
5. Solid wastes and environmentally hazardous substances
6. Decommissioning and rehabilitation

The following general conditions will be imposed on the activity:

G1 Access to and awareness of conditions and associated documents

G2 Incident response

G3 No changes without approval

G4 Change of responsibility

G5 Change of ownership

G6 Complaints register

G7 Quarry Code of Practice

G8 Quarry areas

6.1 Noise emissions and blasting

6.1.1 Potential impacts

Catos Hill Quarry proposes to expand the quarry footprint (Figure 4) and increase production at its existing quarrying operation, which creates noise emissions with the potential to cause nuisance to neighbouring properties. Noise emissions from the operation occur from traffic movements and various equipment, including fixed and mobile crushers, screens, excavators, and loaders. A maximum of 10 blasts and approximately 5 weeklong drilling campaigns will continue to occur each year. Blasting events will be limited to the hours of 10:00 – 16:00 Monday to Friday. Blasting produces ground vibration and low frequency air blast noise.

The noise impact assessment conducted for the EER (Attachment 2) states that "no significant changes to the existing operations, equipment or operating hours are envisaged" as the existing plant and equipment is capable of extracting and processing the proposed increase in materials. Current permitted operating hours are not proposed to change, being 0700 to 1900 hours Monday to Friday and 0800 to 1600 hours on Saturdays and consistent with hours recommended in the Quarry Code of Practice (QCP).

Eight residences exist within 750 m of the quarry footprint, including the proposed quarry expansion area (Table 6 of the EER), and 34 residences exist within 1km (Figure 3), which are the standard recommended standard separation distance for in the QCP for crushing and blasting respectively. The quarry faces southwest and is screened to the southwest by Catos Hill. It is also screened to the north, east, and partly to the south.

The noise impact assessment selected the nearest sensitive receivers in each direction, and modelled noise emissions for normal quarry operations and during drilling campaigns, summarized in Table 1 and locations shown in Figure 6 below.

Table 1: Nearest sensitive receivers in each direction with predicted noise levels (Adapted from Table 1 and 5 from Attachment 2 of EER)

Location	Address	Distance from crusher (m)	Predicted sound pressure level		
			Quarry	Drilling	Quarry + Drilling
A	54 Cherrys Road	620	30	46	46
B	8495 Channel Highway	670	36	46	46
C	8369 Channel Highway	750	25	32	33
D	53 Clarks Road	760	24	30	30
E (Cradoc)	Cradoc rural living zone	>1500	22	32	32
F (Franklin)	Franklin township	>1800	31	32	35

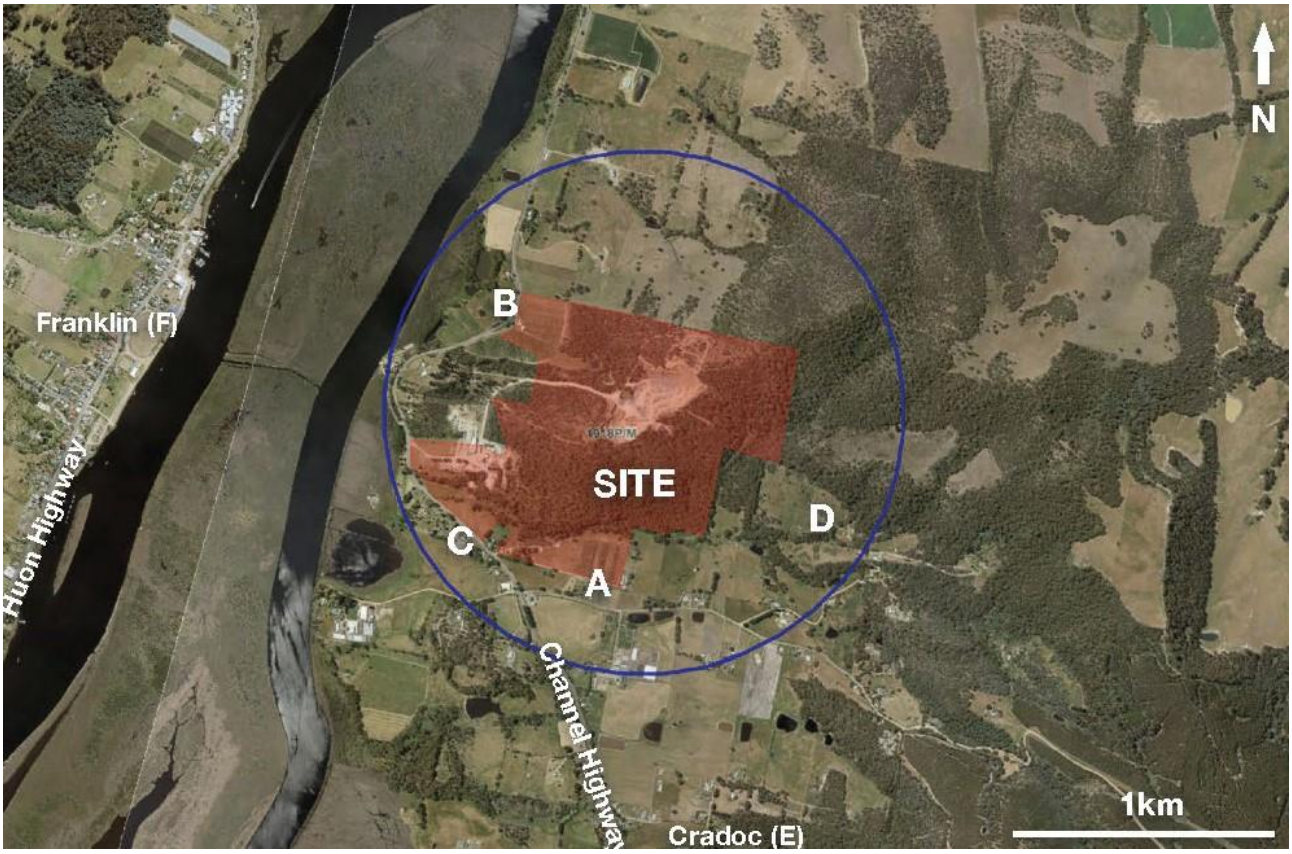

Figure 6: Site and locations of sensitive receivers for noise impact assessment.

Unattended noise measurements were also taken at location A (the nearest residential dwelling to site) on 27 October 2021 over 2 hours, to monitor background noise emissions. No quarry operations were audible during the setup of the logger, and measured background noise was 44dB(A).

6.1.2 Management measures proposed in EER

- All equipment operating at Catos Hill Quarry will be recent models and fully maintained with proprietary silencers fitted. The quarry floor, haul roads and access road will be maintained free of ruts and potholes to ensure traffic noise is minimised.
- Operators will ensure that load/material drop distances are minimised and vehicles and equipment maintain slow speeds.
- Catos Hill Quarry was the subject of a recent occupational noise and dust monitoring program, the recommendations of which have been implemented to minimise occupational noise for the quarry workforce. In particular, older noisy equipment will be replaced with quieter alternatives where they are available.
- The Catos Hill Quarry will continue to use fully certified professional blasting contractors. All blasts will be monitored, and any exceedance will be reported to the EPA.

6.1.3 Public and agency comment

No comment was received.

6.1.4 Evaluation

The management measures to minimise noise impacts are supported and are consistent with suggested measures in the QCP. The noise impact assessment conducted for the EER shows that adverse noise impacts from the activity can be avoided and emissions will adhere with noise levels specified in the QCP.

Multiple residences exist within the recommended standard separation distances of the QCP, however the noise impact assessment concluded that operational noise falls within the QCP specified limits to minimise noise impacts. The current permit for the activity and the QCP specifies noise limits at sensitive receptors of 45dB(A) during daytime operations unless the noise emissions from the activity are audible and exceed the background noise levels by at least 5 dB(A). Modelling for the noise impact assessment predicted noise emissions of 46dB(A) during drilling campaigns at the nearest residential receptors (A and B), however the measured background noise levels at receptor A were 44dB(A), and so it was concluded the limit is not considered breached. The noise measurements for the noise assessment were conducted during the daytime while normal site operations were taking place. However, unattended measurements were limited to a period of 2 hours, which may not fully represent the full extent of operations of the quarry. The noise assessment notes that the nearest residential neighbour has stated that, whilst drilling noise was occasionally audible during campaigns, it was not intrusive or annoying. The EPA is not aware of any persistent noise concerns regarding the existing operations.

Condition **N1** maintains the current noise emission limits imposed on the activity, in line with daytime limits specified in the QCP, of 45dB(A) between 0700-1900, notwithstanding limits to operating hours. Given the location of residences in proximity to the quarry, it is not considered appropriate to provide evening or night-time noise limits as quarry operations during these hours are not permitted. Therefore, condition **N1** also stipulates that emissions from the activity must not be audible at any noise sensitive premises in other ownership during these times. Condition **N2** specifies operating hours of 0700-1900 on weekdays, and 0800-1600 on Saturdays. The limits in **N1** will still apply where any temporary extension to operation hours is approved by the Director. These limits are consistent with conditions in the existing permit for the operation.

Given the predicted noise measurements at receptors A and B showing noise levels potentially at or slightly above the 45db(A) limit and potential uncertainty around the adequacy of representation of background noise level measurements, a noise survey within 12 months is warranted to confirm background noise levels and noise emission levels from the expanded quarry operations while operating and will be required by condition **N3** to ensure compliance of the expanded activity to noise limits. Condition **N4** details noise survey method and reporting requirements.

If any future noise complaints are raised, **N5** requires they are reported to the Director within 24 hours to ensure any community concerns are promptly addressed.

Proposed blasting is consistent with existing operations, and conditions will reflect the existing requirements to ensure nuisance is minimised. Condition **B1** restricts blasting times to the hours of 1000-1600 Monday to Friday. Condition **B2** imposes noise and vibration limits specified in the QCP and **B3** specifies monitoring requirements, including reporting to the Director should any exceedances occur. Condition **B4** requires that all residents within a 1km radius of the activity must be notified at least 24 hours before blasting is due to occur.

6.1.5 Conditions

The proponent will be required to comply with the following conditions:

N1 Noise emission limits

N2 Operating hours

N3 Noise Survey requirements

N4 Noise survey method and reporting requirements

N5 Noise complaints

B1 Blasting times

B2 Blasting – noise and vibration limits

B3 Blast monitoring

B4 Notification of blasting

6.2 Air Emissions

6.2.1 Potential impacts

Dust has the potential to cause a nuisance to neighbouring properties under certain weather conditions if inappropriately managed. Sources of dust at Catos Hill Quarry include vegetation clearing, drilling and blasting, excavation, mechanical crushers and screens, dropping products from buckets and conveyors, and through vehicle movements over unsealed surfaces.

Eight residences exist within 750 m of the proposed expanded quarry footprint, (Table 6 of the EER), and 34 residences exist within 1km (Figure 3). Properties to the southeast are most susceptible to dust impacts, as the predominant wind direction is from the northwest.

6.2.2 Management measures proposed in EER

- Catos Hill Quarry has been deliberately developed in a slot. The quarry plan (Figure 4) shows that the forested area on the northwest and southeast flanks of the quarry will be retained. Catos and Woodbridge Hills have been retained and provide significant topographic screening close to the dust sources.
- The flanks of the quarry are fully forested which provides a visual screen but also reduces wind speeds at ground level, further mitigating the potential for dust emissions.
- Water is available from a spring fed dam which doubles as a sediment trap (pond 1) for the quarry. This pond supplies process water and dust suppression water and the excess is provided to neighbouring orchards for irrigation.
- Trafficked surfaces on the quarry floor, benches and haul roads will be maintained in good condition.
- On dry windy days an overhead fog spray will be used to dampen the surface of loaded trucks as they leave the quarry.
- Drop distances between buckets and hoppers and trays and off conveyor chutes will be kept to a minimum.
- Trays carrying product off site will be loaded so the maximum height of the load does not exceed the height of the sides of the tray or will have covers fitted.
- A purpose-built water spray system has been installed on the side of the main quarry access road.
- A purpose-built water spray system has been installed and is directed to the product stockpiles.
- The operator will deploy a water cart on days where weather conditions are especially dry and windy.

6.2.3 Public and agency comment

No comment was received.

6.2.4 Evaluation

It is considered unlikely that dust from activities on site will result in a nuisance to surrounding landowners, given mitigation measures, the presence of forests surrounding the quarry, and the topography of the site. The existing purpose-built dust suppression systems viewed in the assessment site visit in 2021 suggested effective dust management of the existing operations.

The proposed management measures for the expanded operation are supported to manage the site to prevent dust from causing a nuisance, and effective management will be required by permit conditions. Condition **A1** is included to ensure dust management is undertaken so dust is contained within the boundaries of The Land, including from crushing and drilling activity. Condition **A2** requires control of dust emissions from plant such as crushing and screening equipment. While not stated in the EER, purpose built systems for control from plant are understood to be used at the existing operation from the assessment site visit. Condition **A3** requires that no nuisance is caused by the loss of material from the back of loads during transport, preventative measures may include covering with tarpaulins and load dampening as proposed. The requirement for compliance with the Quarry Code of Practice (QCP) (Condition **G7**) is also relevant as this specifies requirements for dust management.

6.2.5 Conditions

The proponent will be required to comply with the following conditions:

G7 Quarry Code of Practice

A1 Control of dust emissions

A2 Control of dust emissions from plant

A3 Covering of vehicles

6.3 Surface water and groundwater

6.3.1 Potential impacts

High rainfall events have the potential to cause erosion of exposed areas in quarries, which may lead to pollution of the receiving environment (whether they are waterways, or surrounding land areas) from sediment and other water borne contaminants such as oil, if not appropriately managed. Proposed increased operations will increase the disturbance area (unrehabilitated area) from 7.7 to 12 hectares, which will increase the overall surface water catchment. Catos Hill Quarry is situated on the crest of a saddle between Catos Hill and Woodstock Hill. The Egg Islands Tidal Delta, a listed Geoconservation site (Geocon ID 2200), is mapped to the west of the mining lease.

The quarry benches drain to the quarry floor, which in turn drains into a large impoundment / sediment trap (Pond 1) located on the quarry processing / stockpiling area. Water from Pond 1 discharges to another two ponds to settle further, and then to an open watercourse which crosses the mining lease boundary on the edge of the Channel Highway road reserve.

The EER states that minor groundwater seepage occurred when the floor of the quarry was recently extracted to around RL 90 m. The excavation in the floor will be filled in and the proposed quarry floor will remain at RL 100 m to prevent encountering groundwater. The original saddle between Catos Hill and Woodstock Hill is narrow and as such the water table is likely to be lower relative to the original ground surface.

6.3.2 Management measures proposed in EER

- Contaminated stormwater will be treated in the existing stormwater runoff management infrastructure. The first pond will accommodate flows from a 1 in 20-year (approximately equal to AEP 5%) rain event without immediately discharging. When the trap does discharge the overflow will be captured in pond 2 and subsequently pond 3. This will remain the case for the ultimate quarry expansion. Sediment basin capacity calculations are provided in the Section 2 of the EER.
- The Operator will observe the level of accumulated sediment in the water impoundment ponds and drainage channels. Once the level of accumulated sediment in the traps or drains has risen to half the full water level the sediment trap and drain will be cleaned out. The calculated clean out frequency of Pond 1 is 6 years.

6.3.3 Public and agency comment

Conservation Advice Section, NRE Tasmania (CAS) recommends that all run off is adequately managed to avoid impact to the Egg Island Geoconservation site. CAS noted that, based on the calculations provided in the EER, the existing sediment ponds will need to have enough capacity to process the increased sediment output from the quarry.

6.3.4 Evaluation

The proposed sediment management system is consistent with acceptable standards in the QCP (condition **G7**), and the existing sediment basin infrastructure has been demonstrated to be sufficient to deal with the increased volumes of stormwater from the proposed quarry expansion to prevent offsite water quality impacts.

Condition **SW1** requires construction and maintenance of perimeter cut-off drains or bunds to reduce volumes of surface water contaminated by the activity with sufficient capacity to retain run-off from a 1 in 20-year rainfall event. Condition **SW2** specifies design and maintenance requirements for settling ponds. Condition **SW3** requires collection and treatment of polluted stormwater to the extent necessary to prevent serious or material harm, or environmental nuisance. The potential for water quality to be impacted is also mitigated by Condition **DC1** which requires progressive rehabilitation such that open surfaces vulnerable to erosion are minimised and Condition **DC3** which requires topsoil to be separated and protected from erosion and disturbance (see also section 6.6).

It is noted that there is some conflicting information in the EER regarding where the groundwater level is. The EER advises in two separate sections that infiltration was observed at RL 90m and RL 95m. As such, it is appropriate to include a Groundwater condition **GW1** to prevent quarrying activities below RL 98m to prevent groundwater impacts through future development.

6.3.5 Conditions

The proponent will be required to comply with the following conditions:

G7 Quarry Code of Practice

SW1 Perimeter drains or bunds

SW2 Design and maintenance of settling ponds

SW3 Stormwater

GW1 Maintenance of floor level

DC1 Progressive rehabilitation

DC3 Stockpiling of surface soil

6.4 Natural Values and weeds and diseases

6.4.1 Potential impacts

Land clearing associated with extractive industries may lead to disturbance and loss of natural values such as threatened communities, and may disturb, injure, or kill rare and threatened flora and fauna. Increased traffic movements have the potential to increase roadkill risk to threatened fauna if not appropriately mitigated. Land clearing and disturbance also provides the opportunity for exotic weeds to invade, which has the potential to negatively impact on threatened communities.

The proposed expansion of the existing quarry is into a highly modified area. A natural values assessment of the proposed development area for the quarry found mostly highly modified abandoned grazing land, best described and mapped as (Figure 5):

- *Eucalyptus pulchella* forest and woodland (TASVEG code: DPU) and
- extra-urban miscellaneous (TASVEG code: FAG).

The field assessment found no threatened vegetation types with high priority for conservation management. No plant species listed as threatened on the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBCA) and/or the Tasmanian *Threatened Species Protection Act 1995* (TSPA) were detected, or are known from database information, from the expansion area.

Surveys for potential habitat for threated fauna found the following.

Species	EPBCA/TSPA listing	Potential habitat
Masked owl *(Tyto novaehollandiae)*	Vulnerable/endangered	The proposed development area only supports regrowth-form trees, with none supporting hollows suitable for nesting by this species (and at least 100 years from forming such hollows).
Grey goshawk *(Accipiter novaehollandiae)*	Not listed/endangered	Ubiquitous potential foraging habitat only.
Swift parrot (*Lathamus discolor*	Critically endangered/endangered	Highly marginal and opportunity foraging habitat only (saplings of Eucalyptus ovata). No hollow-bearing trees (see notes under masked owl)
Wedge-tailed eagle (*Aquila audax* subsp. *fleayi*)	Endangered	Ubiquitous potential foraging habitat only.
Tasmanian devil (*Sarcophilus harrisii*)	Endangered	Likely to use the area opportunistically for foraging, but direct evidence of this species [not] noted (e.g., scats, latrines, dens).
Spotted-tailed quoll (*Dasyurus maculatus*)	Vulnerable/rare	As above.
Eastern quoll (*Dasyurus maculatus*)	Endangered/not listed	As above.
Chaostola skipper (*Antipodia chaostola* tax. *Leucophaea*	Endangered	Scattered larval host plant (Gahnia radula) present. Hand searches failed to detect any evidence.

The assessment found no potential habitat for Tussock Skinks *Pseudemoia pagenstecheri*, i.e., "native grasslands dominated by tussock-forming grasses". It also found no known sites of the Tussock Skink known from the greater Channel area. Further correspondence from the author of the natural values assessment provided examples of confirmed habitat of native grassland sites such as Township Lagoon (mix of TASVEG GCL, GPL & GTL grassland types), Cradle Mountain grasslands (Poa-dominated GPH grassland type) and the Domain (mainly GTL grassland type). It was stated that potential confirmed habitat does not include "rough pasture" that may grade into TASVEG mapping units FRG, FAG, GCL & GSL, and further reiterated that the proposed quarry extension area does not support vegetation that presents this type.

The EER states that the proposal will result in an increase in traffic movements from 158 to 167 per day, an increase of 5.7%.

Field observations found evidence of a declared weed species, Spanish heath (*Erica lusitanica*), and other weed species. No evidence of diseases such as Rootrot pathogen (*Phytophthora cinnamomic*), myrtle wilt, myrtle rust and Chytrid fungus were observed during the field study, and habitats on site are not considered susceptible.

6.4.2 Management measures proposed in EER

- The Operator will maintain the weed and disease-free status by adopting the hygiene protocols from the *Weed and Disease Planning and Hygiene Guidelines 2015 (DPIPWE, March 2015):*
    - All machinery will be thoroughly cleaned, inspected, and certified before being mobilised to site.
- During normal operations the operator, employees and contractors will observe the quarry stockpiles and surrounding areas for emergent weeds and, if present, initiate controls as required.

6.4.3 Public and agency comment

CAS provided the following advice with respect to the proposal:

- *Eucalyptus ovata* has been recorded within the impact footprint, with the report stating that these are saplings representing opportunistic foraging habitat. CAS recommended that the majority of *E. ovata* are retained.
- Topographic maps indicate that the proposed area of quarry expansion may include part of the "crest" of the hill/spur and hence may significantly alter the area subjected to 1km line of sight disturbance impacts. An eagle nest survey should be undertaken by a suitably qualified and experienced person of suitable eagle nesting habitat within 500m or 1km line-of-sight of the quarry expansion footprint to determine if any unknown nests are present (searches for the presence of nests should be undertaken outside of the breeding season).
- a targeted survey for Tussock Skink, within the impact footprint, should be undertaken as the site is within the ecological range of the species and habitat in the form of grassy open woodland containing *Poa labillardierei* and *Rytidosperma* sp. is present.
- the commitment (page 31 of the EER) to adopt the hygiene protocols from the *Weed and Disease Planning and Hygiene Guidelines* is supported.

6.4.4 Evaluation

The proposed expansion of the existing quarry is into a highly modified area, and there will be clearing of this habitat which is not classified as threatened. Some marginal habitat containing *E. ovata* saplings exists within the site, which may provide some potential foraging habitat. While CAS recommended that *E. ovata* be retained where possible to support opportunistic foraging, as the area mapped is to be cleared for the quarry expansion this is not considered feasible and will not be required by conditions. Appropriate rehabilitation is an important future consideration to restore potential habitat after quarry closure and is discussed in section 6.6.

The site is an existing long-term quarry with existing well-formed and speed-signposted access on to the Channel Highway, defined parking areas, and slow haulage routes (due to steepness and corners). The traffic impact assessment shows a traffic increase of 5.7%, below the trigger value of 10% considered significant for impacts on Tasmanian devil and Spotted-tailed Quolls, referred to in the *Tasmanian Devil Survey Guidelines and Management Advice for Development Proposals* (The Devil Guidelines). Quarry operations are also predominantly limited to daylight hours, minimising roadkill risks. Specific roadkill mitigation measures are therefore not considered necessary.

CAS noted that eagles can be sensitive to disturbance during the eagle nesting/breeding season (July to January inclusive), and potential nesting habitat exists within 1km of the proposed impact footprint. This was not addressed in detail in the Natural Values Assessment, which did not discuss the eagle disturbance buffers and potential impacts on breeding eagles within 1km of the proposed development. CAS

acknowledged that the quarry has been in operation for over 40 years and is currently undertaking drilling and blasting, however, a capacity increase poses an increase in intensity of the disturbance.

As the expansion is at the crest of a hill and may significantly alter the area subjected to 1km line-of-sight disturbance, a pre-clearance eagle nest survey will be required by condition **FF1** to determine if any unknown nests are present before further expansion can take place. This must occur within 1km of the quarry expansion footprint. Condition **G8** restricts quarry operations to the existing and proposed quarry development area (as shown in figure 4), and activity must not disturb vegetated areas outside this unless otherwise approved by the Director.

A survey was recommended by CAS for Tussock Skink based on potential ranges and potential habitat. However, evidence provided in the Natural Values Assessment, along with further information provided by the consultant from the field-based assessment shows that it is highly unlikely that proposed quarry extension area supports vegetation that presents type of habitat suitable for the species. Therefore, a survey will not be required.

Existing and proposed weed management measures are supported. Condition **OP1** requires that the land is kept substantially free of weeds, and **OP2** requires that machinery must be washed in accordance with the *Weed and Disease Planning and Hygiene Guidelines.*

6.4.5 Conditions

FF1 Eagle nest survey

G8 Quarry areas

OP1 Weed management

OP2 Machinery washdown

6.5 Solid wastes and environmentally hazardous substances

6.5.1 Potential impacts

The accumulation of rubbish, waste oil or other waste materials, and spills of any oil or fuel have the potential to result in contamination of soil and water if not adequately contained. The use, storage, and maintenance of vehicles during quarrying operations has the potential to release substances that may cause environmental nuisance or harm if not appropriately mitigated or managed.

Mobile equipment at Catos Hill Quarry will be refuelled using a vehicle mounted refuelling facility. Machinery on site will be removed to the Operator's workshop for servicing and maintenance. Any waste generated through breakdowns or lubrication will be contained in worker's vehicles and taken off-site each day. The equipment brought in for each production campaign will be serviced before delivery and will not require servicing until after removal from the site. Waste may be generated through maintenance activities, or litter from personnel on site.

6.5.2 Management measures proposed in EER

- Machinery will be taken off site to the Operator's workshops for servicing and maintenance. Spares or waste generated through breakdowns or routine lubrication will be retained in the workers utes and taken off-site at the end of each working day.
- The Operator will retain a hydrocarbon spill kit onsite ready for immediate deployment if a hydrocarbon leak or spill occurs. A hydrocarbon boom will be retained onsite for deployment across the surface of the sediment trap should a hydrocarbon spill or leak enter the sediment control infrastructure.
- Explosives will not be stored onsite.
- Litter from lunches and other amenities will be retained in enclosed containers and periodically disposed of to an approved disposal site.

6.5.3 Public and agency comment

No comment was received

6.5.4 Evaluation

The proposed management measures are adequate to ensure that waste is collected from the site and appropriately disposed of to limit the potential for environmental impacts. No conditions are considered necessary in relation to solid wastes. Standard hazardous material conditions are included. Condition **H1** requires appropriate spill kits to be kept on The Land and maintained in a functional condition. Conditions **H2** and **H3** require hazardous materials to be contained and managed to prevent contamination of soil, groundwater, waterways or any other medium. Standard information items **LO2** and **OI1** are included to ensure the proponent is aware of legislation relating to storage and handling of dangerous good and substances, and best practice in relation to waste management.

6.5.5 Conditions

H1 Spill Kits

H2 Storage and handling of hazardous materials

H3 Handling of hazardous materials - mobile

Other information included in the permit:

LO2 Storage and handling of dangerous goods, explosives and dangerous substances
OI1 Waste management hierarchy

6.6 Decommissioning and Rehabilitation

6.6.1 Potential impacts

Quarrying activities have the potential to cause ongoing environmental impacts after cessation. Rehabilitation of sites is required to ensure long term stability of the site, minimise erosion, provide native flora and fauna habitat, and reduce the potential for establishment of invasive flora species and diseases. The EER states that the Catos Hill Quarry will continue to be developed in a slot, which places constraints on the area available to set out extractive, processing, and stockpiling operations. None of the floor area will be available for progressive rehabilitation. The total proposed unrehabilitated area is 12 hectares.

The proposed extractive operations will generate amounts of stripping, topsoil and overburden which will be retained in windrows adjacent to the mining lease and cadastral boundary to the north of the site. Some of this material will be used to undertake rehabilitation and revegetation activities on the southeast flank of the quarry.

6.6.2 Management measures proposed in EER

- Rehabilitation activities will take place on the eastern flank of the quarry, which was found to contain unsuitable material for quarrying, to stabilise the benches and lower the face height. Completed rehabilitation of this area will result in a total area of disturbance of 12 hectares.
- When quarry closure is pending the operator will prepare the site for rehabilitation by introducing an intermediate bench into any operating quarry face higher than 5 metres or by placing overburden against the toe of the face to reduce the height to 5 metres and provide a growing medium.
- On closure:
    - all machinery, sheds and equipment will be removed from the site,
    - remaining overburden and topsoil stockpiles will be spread across the floor of the quarry,
    - the impoundment pond will be cleaned out and the spoil using in rehabilitation works,
    - quarry access road and any tracks and hard stands will be ripped to facilitate infiltration,
    - any seed slash resulting from clearing for the final shot will be spread over the floor surface; and
    - the access will be secured against unauthorised entry.

6.6.3 Public and agency comment

Mineral Resources Tasmania requested clarification about proposed unrehabilitated area from the stated 10 hectares in the EER. This was revised to 12 hectares after mapping was reviewed.

6.6.4 Evaluation

The proposed rehabilitation of the eastern flank of the quarry is supported to minimise disturbed areas. To ensure this is conducted appropriately, condition **DC2** requires that a Rehabilitation plan for the 0.7 hectare rehabilitation area is submitted to the Director for approval after new conditions for the activity take effect.

The management measures proposed in the EER in the case of cessation of activity are supported and are consistent with the expectations contained within the QCoP. The proposed management measures to progressively rehabilitate the eastern flank of the quarry is also appropriate and will be required to meet decommissioning conditions. Condition **DC1** and **DC3** require appropriate treatment of surface soil and implementation of progressive rehabilitation, permitting a maximum open area of 12 hectares. Condition **DC4** requires the notification of the Director in case of temporary suspension of the activity and requires care and maintenance of the site during temporary suspension of the activity, and rehabilitation if the activity is suspendered for 2 years or more. In the case of permanent cessation of the activity, Condition **DC5** requires the Director to be notified. Condition **DC6** requires the proponent to submit a Decommissioning and Rehabilitation Plan (DRP) for the activity upon planned cessation of the activity, and **DC7** requires that rehabilitation on The Land is carried out in accordance with that plan to ensure appropriate measures are undertaken on final closure.

6.6.5 Conditions

DC1 Progressive rehabilitation

DC2 Rehabilitation Plan

DC3 Stockpiling of surface soil

DC4 Temporary suspension of activity

DC5 Notification of cessation

DC6 DRP requirements

DC7 Rehabilitation following cessation

7. Issues not assessed by the Board

No other issues have been raised during the assessment process.

8. Report Conclusions

This assessment has been based on the information provided by the proponent, Duggans Pty Ltd, in the permit application and the case for assessment (the EER).

This report incorporates specialist advice provided by EPA scientific and regulatory staff, the Department of Natural Resources and Environment Tasmania, and other government agencies.

It is concluded that:

1. the RMPS and EMPCS objectives have been duly and properly pursued in the assessment of the proposal; and
2. the assessment of the proposal has been undertaken in accordance with the Environmental Impact Assessment Principles; and
3. the proposal is capable of being managed in an environmentally acceptable manner such that it is unlikely that the RMPS and EMPCS objectives would be compromised, provided that the Permit Conditions - Environmental No.10900 appended to this report are imposed and duly complied with.

The environmental conditions in Appendix 2 are a new set of operating conditions for the entire, intensified activity that will supersede the existing Environment Protection Notice.

9. Report Approval

Environmental Assessment Report and conclusions, including environmental conditions, adopted:

MARTIN READ

EXECUTIVE DIRECTOR, ENVIRONMENTAL ASSESSMENTS

Acting under delegation from the Board of the Environment Protection Authority

Date: 27 September 2022

10. References

Integrated land management and planning (2022) *Catos Hill Quarry capacity increase Environmental Effects Report* (dated 3 March 2022) for Duggans Pty Ltd; Hobart, Tasmania

Environment Protection Authority (2017) *Quarry Code of Practice 3rd Edition*; Hobart, Tasmania.

DPIPWE (2015) *Tasmanian Devil Survey Guidelines and Management Advice for Development Proposals* (The Devil Guidelines); Hobart, Tasmania

DPIPWE (2015*) Weed and Disease Planning and Hygiene Guidelines*; Hobart, Tasmania

Appendices

Appendix 1 Table of proponent management measures

Appendix 2 Permit conditions – Environmental No: 10900

Appendix 1: Proponent management measures (Part D of EER)

1 AIR QUALITY

No.	Management measure	Responsible	Date
1.1	Trafficked surfaces on the quarry floor, benches and haul roads will be maintained in good condition and clean. Drop distances between buckets and hoppers and trays and off conveyor chutes will be kept to a minimum	Operator	As required
1.2	Trays carrying product off site will be loaded so the maximum height of the load does not exceed the height of the sides of the tray or will have covers fitted. On dry windy days an overhead fog spray will be used to dampen the surface of loaded trucks as they leave the quarry.	Operator	At all times
1.3	A purpose-built irrigation system will be turned on dry windy high traffic days to suppress dust between passes of the water cart.	Operator	As required
1.4	A water cart will be deployed on days where weather conditions are especially dry and windy.	Operator	As required

2 WATER QUALITY

No.	Management measure	Responsible	Date
2.1	The quarry floor will remain at the existing surface level to minimise the potential for extraction to encounter the natural ground-water surface.	Operator	At all times
2.2	The level of sediment in Pond 1 will be monitored and removed to maintain detention volume.	Operator	As required

3 NOISE

No.	Management measure	Responsible	Date
3.1	All equipment will be recent models, well maintained with proprietary silencers fitted.	Operator	At all times
3.2	Quieter alternatives will be used to replace obsolete equipment.	Operator	As required

4 WASTE

No.	Management measure	Responsible	Date
4.1	Spares and packaging from mobile equipment repairs and lubrication will be retained in workers utes and taken off site at the end of the work day.	Operator	At all times

4.2	Litter from crib breaks will be retained at the office / crib room in sealed containers with lids and disposed of regularly	Operator	At all times

5 ENVIRONMENTALLY HAZARDOUS SUBSTANCES

No.	Management measure	Responsible	Date
5.1	Lubricants and oils will be retained on self-bunded pallets within storage containers on site.	Operator	At all times
5.2	A hydrocarbon spill lit will be retained in the refuelling vehicle ready for immediate deployment if a spill occurs.	Operator	At all times
5.3	Hydrocarbon booms and matts will be retained onsite ready for immediate deployment on unmade ground or across water bodies if a hydrocarbon spill occurs	Operator	At all times
5.4	Responsibility for explosives brought to the site be remain with the Blasting Contractor, no explosives will be stored on-site.	Blasting Contractor	At all times

6 NATURAL VALUES

No.	Management measure	Responsible	Date
6.1	Hygiene protocols recommended in the *Weed and Disease Planning and Hygiene Guidelines 2015* (DPIPWE, March 2015) will be adopted.	Operator	At all times
6.2	Access to the site will be strictly controlled when the quarry is unattended by fastening a locked gate.	Operator	At all times

7 MONITORING

No.	Management measure	Responsible	Date
7.1	Non-routine monitoring will entail: • Water impoundment ponds for accumulated sediment. • Airborne dust in dry and windy weather. • Presence of weeds anywhere around the quarry workings. Corrective action will be initiated where observation reveals a potential environmental issue	Operator	As required

Appendix 2: Permit conditions – Environmental No: 10900

PERMIT PART B
PERMIT CONDITIONS - ENVIRONMENTAL No. 10900

Issued under the *Environmental Management and Pollution Control Act 1994*

Activity: **The operation of a quarry (ACTIVITY TYPE: Crushing, grinding, milling or separating into different sizes (rocks, ores or minerals))**
CATOS HILL QUARRY, 8420 CHANNEL HIGHWAY
CRADOC TAS 7109

The above activity has been assessed as a level 2 activity under the *Environmental Management and Pollution Control Act 1994*.

Acting under Section 25(5)(a)(i) of the EMPCA, the Board of the Environment Protection Authority has required that this Permit Part B be included in any Permit granted under the *Land Use Planning and Approvals Act 1993* with respect to the above activity.

Municipality: **HUON VALLEY**
Permit Application Reference: **DA-51-2022**
EPA file reference: **21/2713**

Date conditions approved: 27 September 2022

Signed: _____

DELEGATE FOR THE BOARD OF THE ENVIRONMENT PROTECTION AUTHORITY

DEFINITIONS

Unless the contrary appears, words and expressions used in this Permit Part B have the meaning given to them in **Schedule 1** of this Permit and in the EMPCA. If there is any inconsistency between a definition in the EMPCA and a definition in this Permit Part B, the EMPCA prevails to the extent of the inconsistency.

ENVIRONMENTAL CONDITIONS

The person responsible for the activity must comply with the conditions contained in **Schedule 2** of this Permit Part B.

INFORMATION

Attention is drawn to **Schedule 3**, which contains important additional information.

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Attachments

Attachment 1: The Land (modified: 24/08/2022 16:43)....1 page
Attachment 2: Quarry development area (modified: 20/09/2022 09:39)....1 page

Schedule 1: Definitions

In this Permit Part B:-

150,000 cubic metres is considered equivalent to 240,000 tonnes.

Activity means any environmentally relevant activity (as defined in Section 3 of EMPCA) to which this document relates, and includes more than one such activity.

Best Practice Environmental Management or '**BPEM**' has the meaning described in Section 4 of EMPCA.

Director means the Director, Environment Protection Authority holding office under Section 18 of EMPCA and includes a delegate or person authorised in writing by the Director to exercise a power or function on the Director's behalf.

DRP means Decommissioning and Rehabilitation Plan.

EMPCA means the *Environmental Management and Pollution Control Act 1994*.

Environmental Harm and **Material Environmental Harm** and **Serious Environmental Harm** each have the meanings ascribed to them in Section 5 of EMPCA.

Environmental Nuisance and **Pollutant** each have the meanings ascribed to them in Section 3 of EMPCA.

Environmentally Hazardous Material means any substance or mixture of substances of a nature or held in quantities which present a reasonably foreseeable risk of causing serious or material environmental harm if released to the environment and includes fuels, oils, waste and chemicals but excludes sewage.

Noise Sensitive Premises means residences and residential zones (whether occupied or not), schools, hospitals, caravan parks and similar land uses involving the presence of individual people for extended periods, except in the course of their employment or for recreation.

Person Responsible is any person who is or was responsible for the environmentally relevant activity to which this document relates and includes the officers, employees, contractors, joint venture partners and agents of that person, and includes a body corporate.

Quarry Code of Practice means the document of this title published by the Environment Protection Authority in May 2017, and includes any subsequent versions of this document.

Stormwater means water traversing the surface of The Land as a result of rainfall.

Tasmanian Noise Measurement Procedures Manual means the document titled *Noise Measurement Procedures Manual*, by the Department of Environment, Parks, Heritage and the Arts, dated July 2008, and any amendment to or substitution of this document.

The Land means the land on which the activity to which this document relates may be carried out, and includes: buildings and other structures permanently fixed to the land, any part of the land covered with water, and any water covering the land. The Land falls within the area defined by:

1 Consolidated Mining Lease 1918P/M as shown in Attachment 1

Threatened Species means has the meaning ascribed in the *Threatened Species Act 1995*.

Weed means a declared weed as defined in the *Weed Management Act 1999*.

Weed And Disease Guidelines means the document titled *Weed and Disease Planning and Hygiene Guidelines - Preventing the spread of weeds and diseases in Tasmania*, by the Department of Primary Industries, Parks, Water and Environment, dated March 2015, and any amendment to or substitution of this document.

Schedule 2: Conditions

Maximum Quantities

Q1 Regulatory limits

1 The activity must not exceed the following limits :

1.1 150,000 cubic metres per year of rocks, ores or minerals processed.

1.2 150,000 cubic metres per year of materials extracted.

General

G1 Access to and awareness of conditions and associated documents

A copy of these conditions and any associated documents referred to in these conditions must be held in a location that is known to and accessible to the person responsible for the activity. The person responsible for the activity must ensure that all persons who are responsible for undertaking work on The Land, including contractors and sub-contractors, are familiar with these conditions to the extent relevant to their work.

G2 Incident response

If an incident causing or threatening environmental nuisance, serious environmental harm or material environmental harm from pollution occurs in the course of the activity, then the person responsible for the activity must immediately take all reasonable and practicable action to minimise any adverse environmental effects from the incident.

G3 No changes without approval

1 The following changes, if they may cause or increase the emission of a pollutant which may cause material or serious environmental harm or environmental nuisance, must only take place in relation to the activity if such changes have been approved in writing by the EPA Board following its assessment of an application for a permit under the *Land Use Planning and Approvals Act 1993*, or approved in writing by the Director:

1.1 a change to a process used in the course of carrying out the activity; or

1.2 the construction, installation, alteration or removal of any structure or equipment used in the course of carrying out the activity; or

1.3 a change in the quantity or characteristics of materials used in the course of carrying out the activity.

G4 Change of responsibility

If the person responsible for the activity intends to cease to be responsible for the activity, that person must notify the Director in writing of the full particulars of any person who will become the person responsible for the activity, before such cessation.

G5 Change of ownership

If the owner of The Land upon which the activity is carried out changes or is to change, then, as soon as reasonably practicable but no later than 30 days after becoming aware of the change or intended change in the ownership of The Land, the person responsible must notify the Director in writing of the change or intended change of ownership.

G6 Complaints register

1 A public complaints register must be maintained. The public complaints register must, as a minimum, record the following detail in relation to each complaint received in which it is alleged that environmental harm (including an environmental nuisance) has been caused by the activity:

1.1 the date and time at which the complaint was received;

1.2 contact details for the complainant (where provided);

1.3 the subject matter of the complaint;

1.4 any investigations undertaken with regard to the complaint; and

1.5 the manner in which the complaint was resolved, including any mitigation measures implemented.

2 Complaint records must be maintained for a period of at least 3 years.

G7 Quarry Code of Practice

Unless otherwise required by these conditions or required in writing by the Director, the activity (or activities) undertaken on The Land must comply with the Acceptable Standards provisions of the *Quarry Code of Practice.*

G8 Quarry areas

1 Quarrying must be confined to the Quarry development area in Attachment 2.

2 Unless otherwise approved in writing by the Director or for the purposes of complying with these conditions, the activity must not disturb vegetated areas outside of the Quarry development area in Attachment 2.

Atmospheric

A1 Control of dust emissions

Dust emissions from The Land must be controlled to the extent necessary to prevent environmental nuisance beyond the boundary of The Land.

A2 Control of dust emissions from plant

1 Dust produced by the operation of all crushing and screening plant must be controlled by the use of one or more of the following methods to the extent necessary to prevent environmental nuisance:

1.1 the installation of fixed water sprays at all crushers and at all points where crushed material changes direction due to belt transfer;

1.2 the installation of dust extraction equipment at all crushers and at all points where crushed material changes direction due to belt transfer, and the incorporation of such equipment with all vibrating screens;

1.3 the enclosure of the crushing and screening plant and the treatment of atmospheric emissions by dust extraction equipment; or

1.4 any other method that has been approved in writing by the Director.

A3 Covering of vehicles

Vehicles carrying loads containing material which may blow or spill must be equipped with effective control measures to prevent the escape of the materials from the vehicles when they leave The Land or travel on public roads. Effective control measures may include tarpaulins or load dampening.

Blasting

B1 Blasting times

Blasting on The Land must take place only between the hours of 1000 hours and 1600 hours Monday to Friday. Blasting must not take place on Saturdays, Sundays or public holidays unless prior written approval of the Director has been obtained.

B2 Blasting - noise and vibration limits

1 Blasting on The Land must be carried out in accordance with blasting best practice environmental management (BPEM) principles, and must be carried out such that, when measured at the curtilage of any residence (or other noise sensitive premises) in other occupation or ownership, airblast overpressure and ground vibration comply with the following:

1.1 for 95% of blasts, airblast overpressure must not exceed 115dB (Lin Peak);

1.2 airblast overpressure must not exceed 120dB (Lin Peak);

1.3 for 95% of blasts ground vibration must not exceed 5mm/sec peak particle velocity; and

1.4 ground vibration must not exceed 10mm/sec peak particle velocity.

2 All measurements of airblast overpressure and peak particle velocity must be carried out in accordance with the methods set down in *Technical basis for guidelines to minimise annoyance due to blasting overpressure and ground vibration*, Australian and New Zealand Environment Council, September 1990.

B3 Blast monitoring

1 Unless otherwise approved in writing by the Director, blast monitoring must be undertaken for each blast that occurs on The Land.

2 Blast monitoring must be carried out at location(s) agreed in writing by the Director.

3 In the event that ground vibration and/or airblast overpressure caused by a blast exceeds a limit imposed by these conditions, the Director must be notified within seven days of the blast, or as soon as is reasonable and practicable.

4 Blast monitoring records must be maintained for a period of at least two years.

B4 Notification of blasting

All residents within a 1 km radius of the activity must be notified on each occasion prior to blasting on The Land. This notification must be given at least 24 hours before such blasting is due to occur. In the event that the blast(s) cannot take place at the time specified, the responsible person must advise all those residents within 1 km of the activity of the revised time at which blasting will take place.

Decommissioning And Rehabilitation

DC1 Progressive rehabilitation

Worked out or disused sections of The Land must be rehabilitated concurrently with extractive activities on other sections of The Land. Progressive rehabilitation must be carried out in accordance with the relevant provisions of the *Quarry Code of Practice*, unless otherwise approved in writing by the Director. The maximum disturbed area of land which may remain, at any time, without rehabilitation is 12 hectares.

DC2 Rehabilitation Plan

1 Unless otherwise specified in writing by the Director, a Rehabilitation Plan for the 0.7ha rehabilitation area (Attachment 2) must be submitted to the Director within 60 days of the date on which these conditions take effect or by a date otherwise specified in writing by the Director.

2 The Plan must be prepared in accordance with any reasonable guidelines provided by the Director.

3 The Plan must include, but not necessarily be limited to, details of the following:

3.1 identification of areas for rehabilitation concurrent with ongoing extractive operations;

3.2 earthworks to be undertaken including detail on drainage contouring, seed bed preparation and stabilisation of any land surfaces that may be subject to erosion;

3.3 seed mix and/or tubestock species to be used, planting density and fertiliser application rate;

3.4 revegetation maintenance;

3.5 weed management;

3.6 a table containing all the major commitments made in The Plan; and

3.7 an implementation timetable for key aspects of The Plan;

4 The person responsible must implement, and act in accordance with, the approved plan.

DC3 Stockpiling of surface soil

Prior to commencement of extractive activities on any portion of The Land, surface soils must be removed in that portion of The Land to be disturbed by the conduct of the activity and stockpiled for later use in rehabilitation of The Land. Topsoil must be kept separate from other overburden and protected from erosion or other disturbance.

DC4 Temporary suspension of activity

1 Within 30 days of becoming aware of any event or decision which is likely to give rise to the temporary suspension of the activity, the person responsible for the activity must notify the Director in writing of that event or decision. The notice must specify the date upon which the activity is expected to suspend or has suspended.

2 During temporary suspension of the activity:

2.1 The Land must be managed and monitored by the person responsible for the activity to ensure that emissions from The Land do not cause serious environmental harm, material environmental harm or environmental nuisance; and

2.2 If required by the Director a Care and Maintenance Plan for the activity must be submitted, by a date specified in writing by the Director, for approval. The person responsible must implement the approved Care and Maintenance Plan, as may be amended from time to time with written approval of the Director.

3 Unless otherwise approved in writing by the Director, if the activity on The Land has substantially ceased for 2 years or more, rehabilitation of The Land must be carried out in accordance with the requirements of these conditions as if the activity has permanently ceased.

DC5 Notification of cessation

Within 30 days of becoming aware of any event or decision which is likely to give rise to the permanent cessation of the activity, the person responsible for the activity must notify the Director in writing of that event or decision. The notice must specify the date upon which the activity is expected to cease or has ceased.

DC6 DRP Requirements

Unless otherwise approved in writing by the Director, a Decommissioning and Rehabilitation Plan (DRP) for the activity must be submitted for approval to the Director within 30 days of the Director being notified of the planned cessation of the activity or by a date specified in writing by the Director. The DRP must be prepared in accordance with any guidelines provided by the Director.

DC7 Rehabilitation following cessation

1 Following permanent cessation of the activity, and unless otherwise approved in writing by the Director, The Land must be rehabilitated including:

1.1 stabilisation of any land surfaces that may be subject to erosion;

1.2 removal or mitigation of all environmental hazards or land contamination, that might pose an on-going risk of causing environmental harm; and

1.3 decommissioning of any equipment that has not been removed.

2 Where a Decommissioning and Rehabilitation Plan (DRP) has been approved by the Director, decommissioning and rehabilitation must be carried out in accordance with that plan, as may be amended from time to time with written approval of the Director.

Flora And Fauna

FF1 Eagle nest survey

1 The northern boundary of the existing quarry's working area, as shown in Attachment 2, must be delineated with a fence, or similar method approved in writing by the Director, within 30 days of the date on which these permit conditions take effect.

2 Vegetation clearance and development of the expanded quarry area further north beyond the boundary of the existing quarry's working area (delineated as required by this condition) must not occur until a survey for nests of the Wedge-tailed Eagle (Aquila audax subsp. fleayi) has been conducted by an appropriately qualified person within one (1) kilometre of the development area proposed for future clearance, and the survey report submitted to the Director for approval in writing.

2.1 The survey must be conducted outside of eagle nesting/breeding season (July to January inclusive); and

2.2 The report outlining the findings of the survey must be submitted to the Director for approval in writing prior to clearance occurring and must include proposed mitigation measures to prevent disturbance should eagle nests be found; and

2.3 Any eagle nests that are identified must also be brought to the attention of the Department which administers the *Threatened Species Protection Act 1995*, prior to clearance occurring.

Groundwater

GW1 Maintenance of floor level

1 Unless otherwise approved in writing by the Director:

1.1 The activity must not be carried out below Relative Level 98 metres.

1.2 Notwithstanding the above requirement, should there be evidence that groundwater is entering or standing water is observed in the quarrying area, the following measures must be taken:

1.2.1 machinery is not permitted to operate in the standing water; and

1.2.2 the floor level of the extractive activity must be raised by the addition of quarried material to prevent the occurrence of the standing water.

Hazardous Substances

H1 Spill kits

Spill kits appropriate for the types and volumes of materials handled on The Land must be kept in appropriate locations and maintained in a functional condition to assist with the containment of spilt environmentally hazardous materials.

H2 Storage and handling of hazardous materials

1 Unless otherwise approved in writing by the Director, environmentally hazardous materials held on The Land must be:

1.1 stored within impervious bunded areas, spill trays or other containment systems; and

1.2 managed to prevent unauthorised discharge, emission or deposition of pollutants:

1.2.1 to soils within the boundary of The Land in a manner that is likely to cause serious or material environmental harm;

1.2.2 to groundwater;

1.2.3 to waterways; or

1.2.4 beyond the boundary of The Land.

H3 Handling of hazardous materials - mobile

1 Where mobile containment of environmentally hazardous materials is utilised for the fuelling or servicing of mobile or fixed plant on The Land, all reasonable measures must be implemented to prevent unauthorised discharge, emission or deposition of pollutants:

1.1 to soils within the boundary of The Land in a manner that is likely to cause serious or material environmental harm;

1.2 to groundwater;

1.3 to waterways; or

1.4 beyond the boundary of The Land.

2 Reasonable measures may include spill kits, spill trays/bunds or absorbent pads, and automatic cut-offs on any pumping equipment.

Noise Control

N1 Noise emission limits

1 Noise emissions from the activity at any noise sensitive premises in other ownership and expressed as the equivalent continuous A-weighted sound pressure level must not exceed 45 dB(A) between 0700 hours and 1900 hours (Day time), notwithstanding any limits to operating hours specified elsewhere in these conditions.

2 Where the combined level of noise from the activity and the normal ambient noise exceeds the noise levels stated above, this condition will not be considered to be breached unless the noise emissions from the activity are audible and exceed the background noise levels by at least 5 dB(A).

3 Noise emissions from the activity must not be audible at any noise sensitive premises in other ownership during the evening time (1900 hours to 2200 hours) or night time (2200 hours to 0700 hours).

4 The time interval over which noise levels are averaged must be 10 minutes or an alternative time interval specified in writing by the Director.

5 Measured noise levels must be adjusted for tonality, impulsiveness, modulation and low frequency in accordance with the Tasmanian Noise Measurement Procedures Manual.

6 All methods of measurement must be in accordance with the Tasmanian Noise Measurement Procedures Manual.

N2 Operating hours

1 Unless otherwise approved by the Director, activities associated with the extraction of rock, gravel, sand, clay or minerals, and loading of product, and screening/crushing must not be undertaken outside the hours of 0700 hours to 1900 hours on weekdays and 0800 hours to 1600 hours on Saturdays.

2 Notwithstanding the above paragraph, activities must not be carried out on public holidays that are observed Statewide (Easter Tuesday excepted).

N3 Noise survey requirements

1 Unless otherwise approved in writing by the Director, a noise survey must be completed:

1.1 within 12 months from the date on which these conditions take effect; and

1.2 prior to any change to the activity which is likely to substantially alter the character or increase the volume of noise emitted from The Land; and

1.3 where the Director is of the opinion that a noise survey must be completed within a specified timeframe.

N4 Noise survey method and reporting requirements

1 Noise surveys must be undertaken in accordance with a survey method approved in writing by the Director, as may be amended from time to time with written approval of the Director.

2 Without limitation, the survey method must address the following:

2.1 measurements must be carried out at day, evening and night times (where applicable) at each location;

2.2 simultaneous source measurements in order to compare with the noise emissions results measured at noise sensitive premises during the same time-period;

2.3 source noise levels and characteristics of each item of equipment of concern; and

2.4 measurement locations, and the number thereof, must be specified, with one location established as a control location (noise).

3 Measurements and data recorded during the survey must include:

3.1 operational status of noise producing equipment and throughput of the activity;

3.2 subjective descriptions of the sound at each location;

3.3 details of meteorological conditions relevant to the propagation of noise;

3.4 the equivalent continuous (L_{eq}) and L_1, L_{10}, L_{50}, L_{90} and L_{99} A-weighted sound pressure levels measured over a period of 10 minutes or an alternative time interval approved by the Director;

3.5 a data set containing periods capturing the normal and the worst operating conditions;

3.6 A and C weighted one-third octave spectra (including low frequency) over suitably representative period of not less than 1 minute presented in tabulated and graph format;

3.7 one-third octave spectra over suitably representative periods of not less than 1 minute; and

3.8 narrow-band spectra over suitably representative periods of not less than 1 minute.

4 A noise survey report must be forwarded to the Director within 30 days from the date on which the noise survey is completed.

5 The noise survey report must include the following:

5.1 a map of the area surrounding the activity with the boundary of The Land, measurement locations, and noise sensitive premises clearly marked on the map;

5.2 the results and interpretation of the measurements required by these conditions;

5.3 if and where required, predicted noise levels at the noise sensitive premises based on the completed commissioning source noise measurements

5.4 any other information that will assist with interpreting the results and whether the activity is in compliance with these conditions and EMPCA; and

5.5 recommendations of appropriate mitigation measures to manage any noise problems identified by the noise survey.

N5 Noise complaints

In the event that a noise complaint is received in relation to the activity, the complaint must be reported to the Director within 24 hours.

Operations

OP1 Weed management

The Land must be kept substantially free of weeds to minimise the risk of weeds being spread through the transport of products from The Land.

OP2 Machinery washdown

Prior to entering The Land, machinery must be washed in accordance with the Weed and Disease Guidelines, or any subsequent revisions of that document.

Stormwater Management

SW1 Perimeter drains or bunds

1 Perimeter cut-off drains, or bunds, must be constructed at strategic locations on The Land to prevent surface run-off from entering the area used or disturbed in carrying out the activity. All reasonable measures must be implemented to ensure that sediment transported along these drains, or bunds, remains on The Land. Such measures may include provision of strategically located sediment fences, appropriately sized and maintained sediment settling ponds, vegetated swales, detention basins and other measures designed and operated in accordance with the principles of Water Sensitive Urban Design.

2 Drains, or bunds, must have sufficient capacity to contain run-off that could reasonably be expected to arise during a 1 in 20 year rainfall event. Maintenance activities must be undertaken regularly to ensure that this capacity does not diminish.

SW2 Design and maintenance of settling ponds

1 Sediment settling ponds must be designed and maintained in accordance with the following requirements:

1.1 ponds must be designed to successfully mitigate reasonably foreseeable sediment loss which would result from a 1 in 20 year storm event;

1.2 discharge from ponds must occur via a stable spillway that is not subject to erosion;

1.3 all pond walls must be stable and treated with topsoil and vegetated or otherwise treated in such a manner as to prevent erosion; and

1.4 sediment settling ponds must be periodically cleaned out to ensure that the pond design capacity is maintained. Sediment removed during this cleaning must be securely deposited such that sediment will not be transported off The Land by surface run-off.

SW3 Stormwater

1 Polluted stormwater that will be discharged from The Land must be collected and treated prior to discharge to the extent necessary to prevent serious or material environmental harm, or environmental nuisance.

2 Notwithstanding the above, all stormwater that is discharged from The Land must not carry pollutants such as sediment, oil and grease in quantities or concentrations that are likely to degrade the visual quality of any receiving waters outside The Land.

3 All reasonable measures must be implemented to ensure that solids entrained in stormwater are retained on The Land. Such measures may include appropriately sized and maintained sediment settling ponds or detention basins.

Schedule 3: Information

Legal Obligations

LO1 EMPCA

The activity must be conducted in accordance with the requirements of the *Environmental Management and Pollution Control Act 1994* and Regulations thereunder. The conditions of this document must not be construed as an exemption from any of those requirements.

LO2 Storage and handling of dangerous goods, explosives and dangerous substances

1 The storage, handling and transport of dangerous goods, explosives and dangerous substances must comply with the requirements of relevant State Acts and any regulations thereunder, including:

1.1 *Work Health and Safety Act 2012* and subordinate regulations;

1.2 *Explosives Act 2012* and subordinate regulations; and

1.3 *Dangerous Goods (Road and Rail Transport) Act 2010* and subordinate regulations.

Other Information

OI1 Waste management hierarchy

1 Wastes should be managed in accordance with the following hierarchy of waste management:

1.1 waste should be minimised, that is, the generation of waste must be reduced to the maximum extent that is reasonable and practicable, having regard to best practice environmental management;

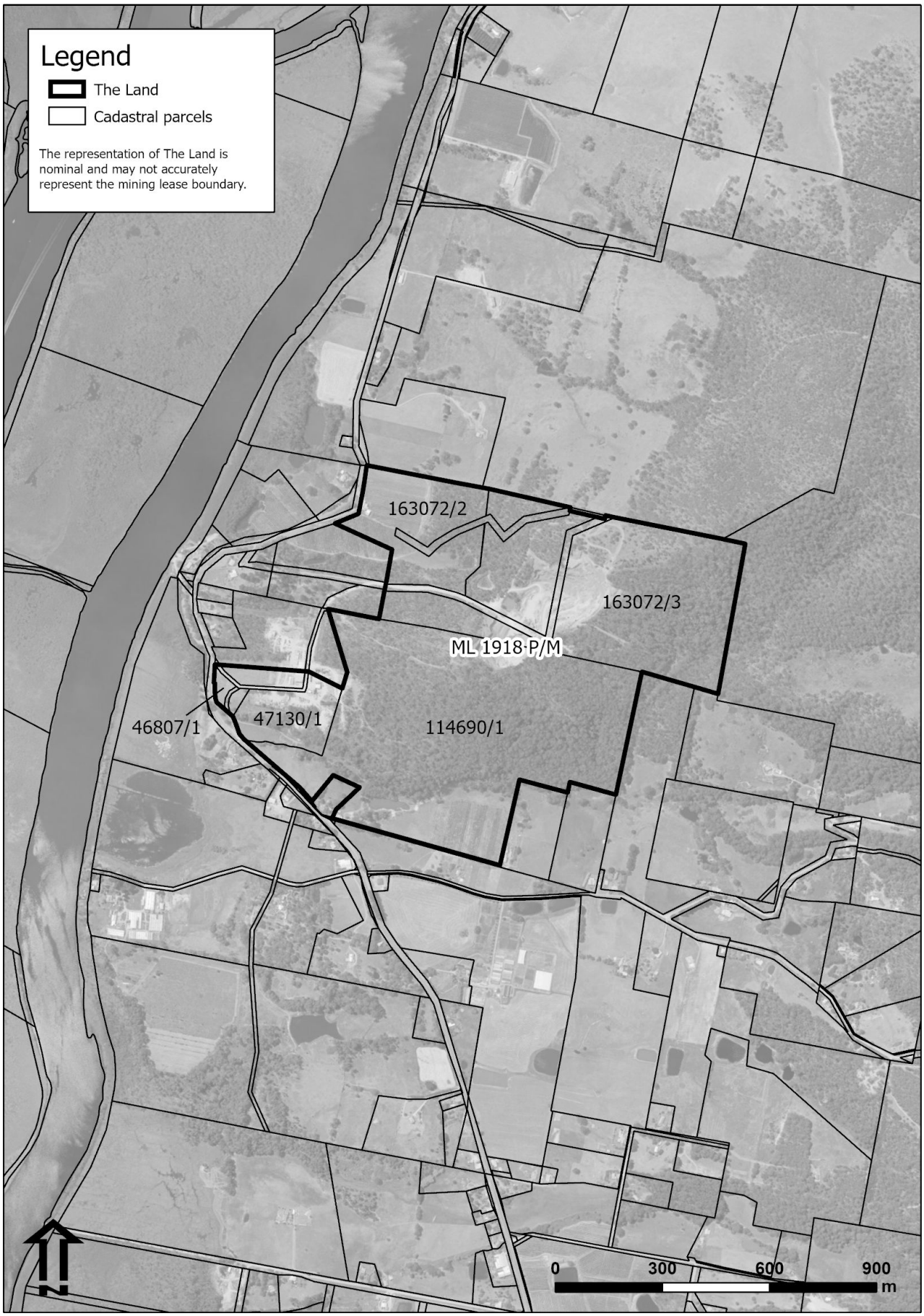
1.2 waste should be re-used or recycled to the maximum extent that is practicable; and

1.3 waste that cannot be re-used or recycled must be disposed of at a waste depot site or treatment facility that has been approved in writing by the relevant planning authority or the Director to receive such waste, or otherwise in a manner approved in writing by the Director.

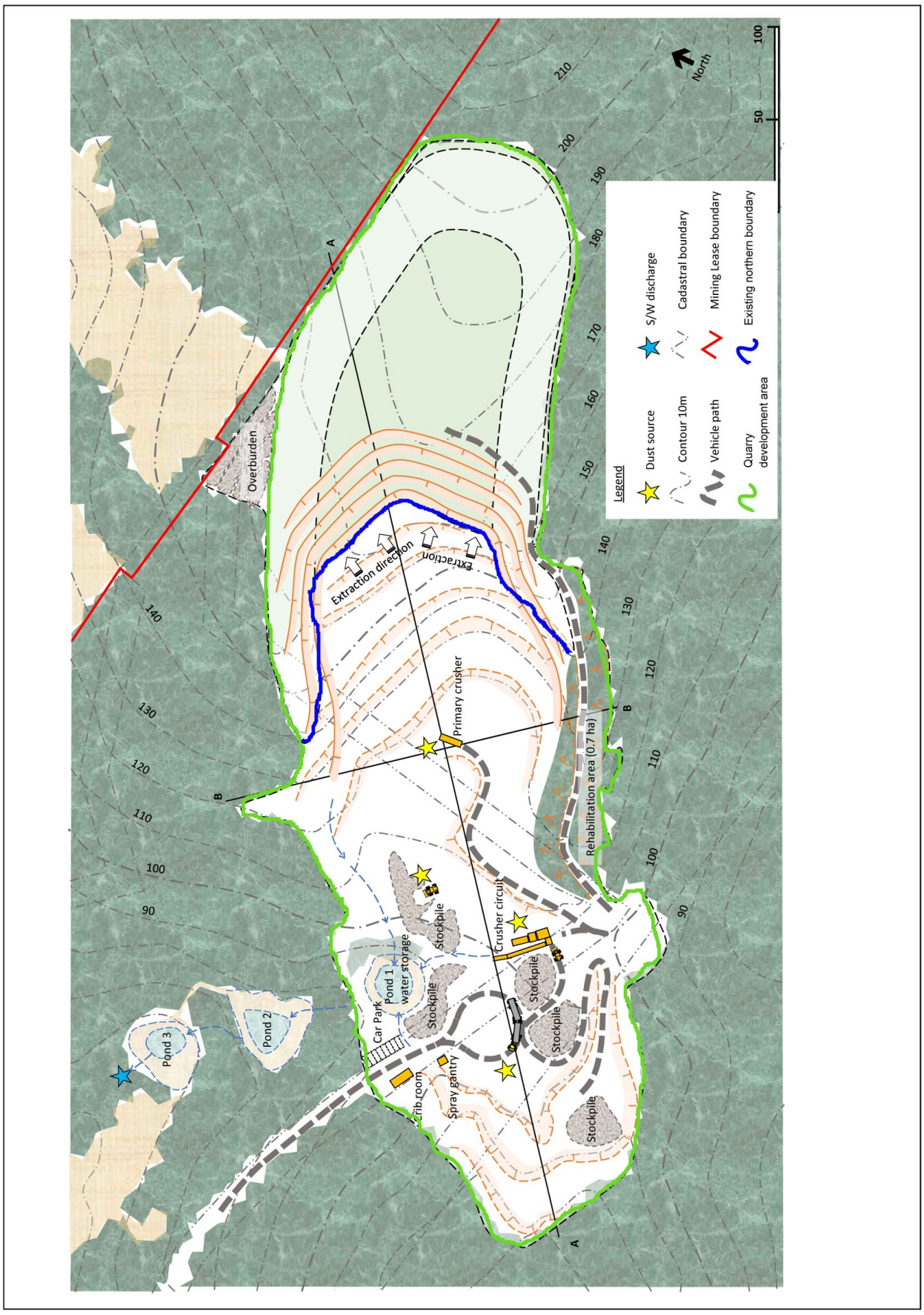
OI2 Notification of incidents under section 32 of EMPCA

Where a person is required by section 32 of EMPCA to notify the Director of the release of a pollutant, the Director can be notified by telephoning **1800 005 171** (a 24-hour emergency telephone number).

Attachment 1: The Land



Attachment 2: Quarry development area



ENVIRONMENT PROTECTION AUTHORITY