

OPERATIONAL ENVIRONMENTAL MANAGEMENT PLAN

SPRING HILL QUARRY

PREPARED FOR:

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The preparation of this report has been in accordance with the project brief provided by the client and has relied upon the information, data and results provided or collected from the sources and under the conditions outlined in the report.

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Document control

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ABBREVIATIONS

CA	Conditions of Approval
CC	Cabonne Council
DA	Development Application
EMP	Environmental Management Plan
SC	Statement of Commitments
SHQ	Spring Hill Quarry
SEE	Statement of Environmental Effects
OEMP	Operations Environmental Management Plan

Executive Summary

This Operational Environmental Management Plan (OEMP) is prepared as a commitment of the Statement of Environmental Effects (SEE) and as a requirement of the Conditions of Approval set by Cabonne Council on 28 November 2017. Condition 15 states:

15. The proponent is required to submit to Cabonne Council on or before the 31 December yearly an Annual Report that includes (but is not limited to) the following:

- a) Total extraction volume for the year,*
- b) Total volume of material transported from the site for the year,*
- c) A record of any complaints received, including time/date of complaint, details of the complaint, and any action to rectify the complaint*
- d) Audit of the Operational Environmental Management Plan.*

The purpose of this document is to specify the processes and environmental management to be used when extracting material from the Spring Hill Quarry (SHQ).

This plan is a living document and will be updated from time to time to reflect changes in procedure and to respond to complaints or comments from customers, neighbours or Council. When a change is made to the document, the updated document will be provided to Council.

Introduction

1.1 PURPOSE OF THE MANAGEMENT PLAN

The purpose of this document is to provide an overview of the environmental management requirements to be followed during the operation of the Spring Hill Quarry in Spring Hill, NSW.

1.2 SCOPE OF THE MANAGEMENT PLAN

The OEMP has been prepared as a requirement of the Conditions of Approval issued by Cabonne Council. The OEMP provides an overview of the environmental management strategies to be adopted during the operation of the SHQ and a guide to the required content for the specific environmental management plans for the SHQ. The OEMP incorporates environmental safeguards outlined in the Statement of Environmental Effects (SEE), the Statement of Commitments (SC), and other relevant matters.

Site Description

2.1 LOCALITY

Spring Hill Quarry is located within Lot 28 DP1227863, Spring Hill Road, Spring Hill.

The site is located in a rural setting approximately 1.6 kilometres south of the village of Spring Hill and approximately 4 kilometres north-west of the village of Millthorpe.

Access to the quarry site is via a private access road that joins Spring Hill Road to the west.

Lot 28 covers an area of approximately 28 hectares. Most of the site is used for agricultural purposes, with 5.64 ha currently in use as the existing quarry.

Figure 1 shows the extent of the quarry site within Lot 28. **Figure 2** identifies the nearest potential sensitive receptors.



Figure 1: The Subject Site (Source: Six Maps)

The surrounding area is characterised by agricultural land uses with scattered residential dwellings. The nearest residential receptors are approximately 220 metres to the south-east, 260 metres to the south-west, and 430 metres to the west. These properties are shown for reference on **Figure 2** and dwellings are referenced as potential sensitive receptors.



Figure 2: Potentially Sensitive Receivers Within 1 km

2.2 OPERATIONS

The property was purchased by the applicant in 2017, and operations are to recommence at the SHQ under DA 2018/5 for the operation of an extractive industry. The indicative life of the project is 15 years, based on the approved extraction volume per year and the resource available.

2.2.1 TOTAL EXTRACTION VOLUME ANNUALLY

The proposed quarry extraction shall be limited to 15,000 tonnes (approximately 8,333 cubic metres) per year.

2.2.2 TOTAL VOLUME OF MATERIAL TRANSPORTED FROM THE SITE ANNUALLY

A maximum of 15,000 tonnes (approximately 8,333 cubic metres) of material will be transported from the quarry annually.

2.2.3 SCALE (GENERAL)

The current depth of extraction ranges from approximately 10-15 metres from natural ground level. The current depth of extraction will be the maximum depth of the quarry activity. No extraction beyond the current maximum depth will occur.

As stated in the Statement of Commitments, a maximum of 15,000 tonnes (approximately 8,333 cubic metres) of material will be extracted, stored, processed and transported from the quarry annually.

2.2.4 HOURS OF OPERATION

Operational activities relating to the development must only be undertaken during the following hours:

Table 2.1 – Hours of operation

Day	Hours
Monday – Friday	7am – 6pm
Saturdays	8am – 3pm
Sundays and public holidays	No work

2.3 BUSINESS PLAN

Topsoils are stripped separately and retained for rehabilitation purposes. Clays are extracted separately as they are a saleable product.

Quarrying does not require blasting as the rock is finely bedded and fractured, allowing manual extraction with a bulldozer and excavator. All quarry walls are scaled for stabilisation.

Via the terms of DA 2018/005, the proposed quarry extraction will be limited to 15,000 cubic metres per year.

There is no intention to change from the above stated business plan in the foreseeable future.

2.4 SUMMARY OF POTENTIAL ENVIRONMENTAL IMPACTS

Significant impacts potentially associated with operations were identified and assessed in the SEE for the SHQ expansion. Mitigation measures deemed as necessary to reduce potential risks to an acceptable level were identified and included in the Conditions of Approval.

Potential environmental impacts identified in the SEE associated with the operation of the SHQ include:

- Visual;
- Traffic;
- Noise;
- Air pollution;
- Ground water;
- Surface water;
- Natural hazards;
- Geology and soils;
- Flora and fauna;
- Heritage artefacts/sites (Aboriginal and European);
- Land use;

- Waste; and
- Greenhouse gas emissions.

Specific mitigation measures and management plans have been prepared to address these impacts.

Environmental Management Framework

3.1 INTRODUCTION

The OEMP falls under the SEE as a framework document specific to environmental management associated with operations at the SHQ. As part of this OEMP and to satisfy the Conditions of Approval (CA), Geolyse was required to prepare the following Management Plans and management measures for the SHQ:

- Vehicle Management Plan;
- Erosion and Sediment Control Plan;
- Air quality management measures;
- Dust suppression management measures; and
- Surface water management measures.

3.2 LEGISLATIVE REQUIREMENTS AND PROJECT ENVIRONMENTAL APPROVALS

This OEMP has been created to address the specific requirements of the Conditions of Approval document as issued by Cabonne Council. The requirements of these regulatory approvals addressed in this OEMP are provided in **Table 3.1**.

Table 3.1 – Regulatory Consent Conditions Applicable to this OEMP

Condition Number	Condition Objective	Condition Performance	Section in OEMP
SHQ DA (2018/5)			
Condition 2	To ensure the proposal operates in accordance with the proposed, assessed, and determined proposal.	The proposed quarry extraction shall be limited to 15,000 tonnes per year.	Section 2.2.1
Condition 3	To ensure the proposal hours of operation are in accordance with the proposed, assessed, and determined proposal.	Operational activities relating to the development will be only undertaken during the specified hours – refer Section 2.2.4 .	Section 2.2.4
Condition 4	To ensure the proposal operates in a manner not detrimental to the environment or locality.	The proposal shall comply with the Statement of Commitments provided by the proponent as past of correspondence to council.	Section 4
Condition 5	To ensure the proposal operates in a manner that is not detrimental to the environment or locality.	The proponent must rehabilitate the site to the satisfaction of council. Rehabilitation must be substantially consistent with the rehabilitation objectives described in the Rehabilitation Plan – Appendix A , and the objectives listed in Section 6.3 .	Section 6.3 & Appendix A
Condition 6	To ensure environmental management of the site.	The proponent shall carry out all surface disturbing activities in a manner that, as far is reasonably practical, minimises potential for dust emissions and shall carry out rehabilitation of disturbed areas progressively, as soon as reasonably practicable, to the satisfaction of the Director Environmental Service, Cabonne Council.	Section 6.1

Table 3.1 – Regulatory Consent Conditions Applicable to this OEMP

Condition Number	Condition Objective	Condition Performance	Section in OEMP
Condition 7	To prevent sediment and erosion from leaving the site.	An overall erosion and sedimentation control plan is to be prepared for the site to a standard acceptable to council.	Section 4.5
Condition 8	To ensure on-site traffic flows in the manner assessed by council.	Entrance/exit points are to be clearly signposted and visible from both the street and the site at all times.	Section 4.1
Condition 9	To ensure loading/unloading operations are to take place at all times wholly within the confines of the site.	All loading and unloading operations are to take place at all times wholly within the confines of the site.	Section 4.1.
Condition 10	To ensure that dust does not become a nuisance to neighbouring properties or passing motorists.	Applicant will ensure to water down any nuisance dust that may arise from the use of the quarry of the private access road to its intersection with Spring Hill Road. The applicant is responsible to water down all area within the development where nuisance dust may arise from the development caused by machinery and traffic movements. The quarry site supervisor is to alter or cease dust emitting activity should weather conditions direct dust to, and potentially impact, the closest residence.	Section 4.6
Condition 11	To ensure that arrangements are made for all vehicles movements associated with the development.	The vehicle management plan is to detail all vehicle movements within the site including loading areas, truck parking/waiting areas, re-fuelling zones and travel routes that are used during the quarry.	Section 4.1 & Appendix B
Condition 12	To provide adequate on-site truck parking	At all times of operation of the quarry, there must be adequate truck parking available within the quarry site, with no trucks associated with the development queuing within the road reserve of Spring hill Road, or the private access Right of Carriageway.	Section 4.1.
Condition 13	In the interest of public safety	The driver's code of conduct must be implemented and abided by all employees and contractors accessing the site.	Section 4.1.
Condition 14	To ensure the impact of the development on the environment and surrounding properties is considered.	The proponent is required to provide a telephone complaints contact in accordance with the Statements of Commitments, for the purpose of receiving any complaints from members of the public in relation to activities conducted at the site, or by vehicles and plant associated with the site activity. The proponent must notify the public of the complaints telephone contact details so that the impacted community is aware of the service.	Section 5
Condition 15	To respond to the public interest in identifying and mitigating environmental impacts associated with the development proceeding.	The proponent is required to submit to Cabonne Council on or before the 31 December yearly an Annual Report that includes (but is not limited to) the following:	
		Total extraction volume for the year	Section 2.2.1
		Total volume of material transported from the site of the year	Section 2.2.2
		A record of any complaints received, including time/date of complaint, details of the complaint, and any action to rectify the complaint.	Section 5
		Audit of the Operational Environmental Management Plan	Section 3.9

Table 3.1 – Regulatory Consent Conditions Applicable to this OEMP

Condition Number	Condition Objective	Condition Performance	Section in OEMP
Condition 17	To satisfy the requirements of RMS for safe use of public roads.	Prepare and implement a code of conduct relating to transport of materials on public roads.	Section 4.1.
Condition 18	To ensure the scale of the activity does not increase beyond the scope of the approval without the further assessment of possible impact.	This approval enables the applicant to operate at a scale as submitted in the proposal. Any increase in the scale of the activity as submitted, will require the further approval of Council.	Section 2.2.1

3.3 ROLES AND RESPONSIBILITIES

Responsibility for environmental management related to the operation of the SHQ lies with the following person:

- Site Manager;

All employees will be responsible for the reasonable care for their own health and safety and that of others who may be affected by their conduct at the workplace.

3.3.1 EMPLOYEES

Employees will be responsible for:

- Undertaking operational activities in accordance with all SHQ's policies, procedures, management plans, statutory and contract requirements;
- Implementing appropriate environmental and safety management measures as outlined in Environmental Management Plans and the Management Systems;
- Recognising environmental and safety hazards associated with specific activities through a risk base assessment process;
- Reporting all incidents and dangerous occurrences including harm to the environment as soon as practical; and
- Reporting all Hazards via the Hazard Reporting System and ensuring the workplace is made safe.

3.3.2 CONTRACTORS

Standard requirements for safety and environmental management at the SHQ will be included in all tender and contract documentation so that contractors are aware of SHQ's expectations. Contractors will be required to:

- Produce their own management plan to demonstrate compliance with the safety and environmental requirements outlined in these management plans; and
- If there is any ambiguity between elements of the management plans and statutory requirements the Contractor shall request clarification from the Site Manager prior to implementing that element of the management plan.

3.4 TRAINING AND INDUCTION

All employees and contractors will complete an induction program prior to the commencement of work at the SHQ. The induction program will outline the importance of protecting the environment and ensure employees and contractors are aware of the environmental and community requirements for the operation. Environmental training modules will be developed for key risk areas of the operation as

detailed in **Table 3.2**. Environmental training records will be maintained for all personnel that undergo environmental training at the SHQ.

Table 3.2 – Training Requirements

Training Modules	Personnel	Description
Air Quality & Dust Suppression Management Measures	General workforce	Minimum requirements for air quality and dust suppression management at the SHQ including environmental and health monitoring.
Water Management	General workforce	Minimum requirements for water management at the SHQ including water monitoring.
Erosion and Sediment Management	General workforce	Minimum requirements for erosion and sediment management at the SHQ including environmental monitoring.
Vehicle Management Plan	General workforce	Minimum requirements for vehicle management at the SHQ.
Environmental Management, Regulatory Requirements and Incident Reporting	All	Site specific training raising environmental awareness including reasons for protecting the environment, site risk/ incident identification and reporting, site environmental regulations including management plans and an introduction to the Environmental Management System
Hazard and Risk Assessment and Control" (National Safety Council of Australia).	All	Introduction to hazard/ risk identification and assessment
Hazard Incident Reporting	All	Outline of hazard and incident reporting requirements for the SHQ.

3.5 WORKING NEAR SITE

- All personnel must wear a safety vest or other approved high visibility garments and safety footwear.
- Hard hats must be worn in designated hard hat zones. Where applicable, these are clearly marked on site. Hard hats are also required near lifting and slewing plant such as cranes, backhoes and excavators.
- Visibility, especially to the rear of some construction plant is quite limited. Be alert to reversing alarms and move away from the path of these vehicles.
- If making or receiving phone calls; or anything else which may distract you from plant and vehicle movement, move well away from the work zone and traffic paths.

3.6 HAZARD IDENTIFICATION, RISK CONTROL & SAFE WORK METHOD STATEMENTS (SWMS)

Safe Work Method Statements (SWMS) are developed for all maintenance activities where there is assessed to be an ongoing risk.

Input from all personnel to the development and review of SWMS, and indeed for all safety and environmental issues, is encouraged.

The Site Manager will explain and talk through the relevant SWMS and ensure that all personnel understand, before commencing any new activity.

In order for these controls to be effective, all personnel need to:

- Correctly use and maintain all protective and personal protective equipment;
- Follow safe work procedures; and
- Inform the Site Manager of any risks identified for which no controls have been developed.

Plant and Equipment

- All operators and drivers must conduct appropriate pre-start and lockdown checks on plant and vehicles to ensure that there is no leakage of fuel, oil or hydraulic fluid; or excessive noise or smoke;
- Re-fuelling of plant and vehicles must be carried out away from water courses or other environmentally sensitive areas; and
- Trucks transporting compost materials and compost must have tailgates securely closed. Tarpaulin covers must be used to suppress dust where required.

Waste Materials

- All waste shall be disposed of appropriately (check with Site Manager if in doubt).
- No materials shall be disposed of by burning

3.7 MATTERS OUTLINED IN THE SUPPORTING DOCUMENTATION SUBMITTED WITH THE APPLICATION

Matters outlined in the reporting supporting the approved development application are provided throughout this EMP.

3.8 ENVIRONMENTAL REPORTING AND CORRESPONDENCE

Conditions of Approval 15 (see **Table 3.1**) for SHQ require that an Annual Environmental Management Report (AEMR) is submitted to Cabonne Council on or before the 31 December yearly.

3.9 AUDITS OF THE EMP

Within 12 months of the approval of the lodged OEMP, the applicant will commission an independent external audit of the site to assess operation against the provisions of the SEE, these commitments, the conditions of consent and any other relevant matters. A copy of the audit, including any corrective actions proposed, will be provided to Cabonne Council within a further one month.

3.10 REVIEW OF THE MANAGEMENT PLAN

The OEMP will be reviewed annually or upon the occurrence of any notifiable environmental incident. An updated version of the document will be supplied to Cabonne Council within 30 days.

3.11 PROVISION OF UPDATES TO COUNCIL

In the event the above review requires a change or update to this plan, a copy of the revised plan will be provided to Council within 30 days of the update.

Environmental Management

4.1 VEHICLE MANAGEMENT PLAN

A Vehicle Management Plan will be implemented to ensure all vehicle operators (where unfamiliar with the site) would be briefed in standard operating requirements.

This plan satisfies *Conditions 11, 13 and 17* of the Conditions of Approval.

4.1.1 ACTION/MANAGEMENT

4.1.1.1 Onsite Movements

Truck Parking

- Vehicles enter and exit the quarry site through designated access points onto a private access road joining Spring Hill Road to the west.
- Vehicle movements will be restricted to internal access roads whilst on site and will be in a one-way direction only.
- Informal parking is located in an 'inactive zone' adjacent the site office near the southern boundary of the site. Vehicles will wait at this location until directed to a loading zone by the Site Manager or staff.
- At all times of operation of the quarry, there must be adequate truck parking available within the quarry site, with no trucks associated with the development queuing within the road reserve of Spring Hill Road, or the private access Right of Carriageway.

Loading Zones

- Loading zones will be clearly identified using appropriate signage.
- All loading and unloading operations are always to take place wholly within the confines of the site.

Entrance/Exit Points

- Entrance/exit points are to be clearly signposted and visible from both the street and the site at all times.

Plant and Site Infrastructure

- Site plant includes a bulldozer, excavator and loader.
- A small truck will be available for dust suppression.
- A site office is provided near the southern boundary of the site.

Refuelling of Vehicles and Plant

- No fuels or chemicals will be stored onsite.
- Site plant will be refuelled onsite by a service vehicle.
- Trucks and other vehicles will refuel at a petrol station or depot suitable for heavy vehicles, as required.

4.1.1.2 Haulage Routes

- When travelling toward the Spring Hill Quarry, access will be via Spring Hill Road. Dependent on direction of travel, vehicles will be required to conduct either a left or right hand turn onto the private access road.

- Spring Hill Road adjoins Forest Reefs Road to the south and Forest, Whiley and Beasley Roads via Spring Hill to the north, allowing easy access to localities in all directions.
- The township of Spring Hill has a posted speed limit of 50 km/h. All aforementioned roads are sealed two lane (undivided) roads with posted speed limits to 100 km/h.
- Access to Forest Road and Beasley Road is via Carcoar Street, Spring Hill. Carcoar Street has a speed limit of 50 km/h except for the posted school zone of 40 km/h from 8 – 9:30 am and 2:30 – 4 pm.
- Haulage via Carcoar Street or other streets within the school zone would be avoided where possible during the gazetted hours.
- Haulage will not be undertaken during the above hours if an active school zone will knowingly be encountered.

4.2 SAFE INTERSECTION SIGHT DISTANCE (SISD)

The requirements for the SISD outlined in the Austroads Guide to Road Design Part 4A are as follows:

- Provides sufficient distance for a driver of a vehicle on the major road to observe a vehicle on a minor road approach moving into a collision situation (e.g. in the worst case, stalling across the traffic lanes) and to decelerate to a stop before reaching the collision point.
- Viewed between two points to provide inter-visibility between drivers and vehicles on the major road and minor road approaches. It is measured from a driver eye height of 1.1 m above the road to points 1.25 m above the road which represents drivers seeing the upper part of cars. Figure 3.2 illustrates the longitudinal section for the two cases representing inter-visibility; one for drivers on the major road and the second for a driver waiting in the minor road for an opportunity to enter the major road.
- Assumes that the driver on the minor road is situated at a distance of 5.0 m (minimum of 3.0 m) from the lip of the channel or edge line projection of the major road. SISD allows for a 3 s observation time for a driver on the priority legs of the intersection to detect the problem ahead, (e.g. car from minor road stalling in through lane) plus the SSD.
- Provides sufficient distance for a vehicle to cross the non-terminating movement on two-lane two-way roads, or undertake two-stage crossings of dual carriageways, including those with design speeds of 80 km/h or more.
- Should also be provided for drivers of vehicles stored in the centre of the road when undertaking a crossing or right-turning movement.
- Enables approaching drivers to see an articulated vehicle, which has properly commenced a manoeuvre from a leg without priority, but its length creates an obstruction.
- Measured along the carriageway from the approaching vehicle to the conflict point, the line of sight having to be clear to a point 5.0 m (3.0 m minimum) back from the holding line or stop line on the side road

The SISD requirements are to be provided and maintained at the vehicular access to the quarry site from Spring Hill Road. The requirements satisfy *Condition 17(b)* of the Conditions of Approval.

4.3 DRIVER'S CODE OF CONDUCT

This Driver's Code of Conduct has been implemented to ensure all employees and contractors are aware of and adhere to the outlined safe driving practices to maximise safety on public roads and minimise the impact of trucks on other road users and the wider community. The Driver's Code of Conduct must be implemented and abided by all employees and contractors accessing the quarry site. The operator will operate a Driver Code of Conduct for the life of the project.

This code satisfies *Conditions 13 and 17* of the Conditions of Approval.

4.3.1 GENERAL REQUIREMENTS

- Any person operating heavy vehicles (including machinery) at the Spring Hill Quarry must adhere to the following general requirements:
 - Have undertaken a Site Induction carried out by an approved Spring Hill Quarry staff member;
 - Hold a valid driver's licence for the class of vehicle being operated;
 - Ensure the vehicle is appropriately registered and insured;
 - Ensure the vehicle is mechanically and structurally sound and suitable to haul quarry materials;
 - Operate the vehicle in a safe manner within and external to the Quarry site;
 - Comply with directions provided by authorised Quarry personnel;
 - Transport quarry materials only between the hours of 7 am – 6 pm Monday to Friday and 8 am to 3 pm Saturday.

4.3.2 CODE OF CONDUCT

- The driver will:
 - Comply with all public road rules and regulations, including posted speed limits;
 - Comply with rules and regulations when operating on the Quarry site or other private property;
 - Ensure vehicle is contained within the Quarry site prior to stopping;
 - Familiarise themselves with any required PPE for the Quarry site;
 - Ensure all loads are secured and covered prior to exiting the Quarry site;
 - Avoid or limit vehicle movements through residential areas or on roads near schools;
 - Reduce/minimise engine braking when travelling through built-up areas;
 - Not use horn unless considered appropriate to do so;
 - Avoid where possible the carrying out of haulage operations during school student drop off and pick up times (between the hours of 8 – 9:30 am and 2:30 – 4 pm). However, if inadvertently travelling through active school zones the driver will comply with the 40 km/hr School Zones, and maintain a safe distance from school buses whether moving or parked. If passing a parked school bus with its lights flashing, the driver shall decelerate to 40 km/hr whilst passing;
 - Decrease speed when travelling on unsealed roads near private dwellings or roadworks;
 - Not litter;
 - Before leaving the Quarry site ensure loose materials have been cleaned off the vehicle to prevent materials being tracked on public roads;
 - Operate their vehicle in a safe, professional and courteous manner;
 - Act in a manner that reflects positively on themselves and Spring Hill Quarry;
 - Show respect to other road users;
 - In the event of an accident, remain calm and ensure appropriate actions are taken to prevent injury to self and others;
 - In the event of an environmental incident (spill), ensure appropriate actions are taken to contain the spill (if safe to do so) and prevent further incidents from occurring;

Disciplinary Action

If the driver fails to meet the requirements of this Driver's Code of Conduct a review will be undertaken by the Site Manager and disciplinary action may be undertaken. Disciplinary action may take the form

of a verbal or written warning, temporary exclusion from loading quarry materials or termination of any contact or agreement previously entered into with SHQ.

4.4 TRANSPORT OF MATERIALS CODE OF CONDUCT

The Transport of Materials Code of Conduct relates to transport on public roads, as part of the considerations under Clause 16(1) of *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007* (the SEPP).

This Code of Conduct has been implemented to ensure all employees and contractors are aware of and adhere to the outlined safe transporting materials practices to maximise safety on public roads and minimise the impact of trucks on other road users and the wider community. The Transport of Materials Code of Conduct must be implemented and abided by all employees and contractors accessing the quarry site. The operator will operate a Transport of Materials Code of Conduct for the life of the project.

This code satisfies *Condition 17* of the Conditions of Approval.

4.4.1 CODE OF CONDUCT

- The driver will:
 - Transport quarry materials only between the hours of 7 am – 6 pm Monday to Friday and 8 am to 3 pm Saturday.
 - Avoid where possible the carrying out of haulage operations during school student drop off and pick up times (between the hours of 8 – 9:30 am and 2:30 – 4 pm). However, if inadvertently travelling through active school zones the driver will comply with the 40 km/hr School Zones and maintain a safe distance from school buses whether moving or parked. If passing a parked school bus with its lights flashing, the driver shall decelerate to 40 km/hr whilst passing;
 - No oversize vehicles would be accepted at the site
 - No hazardous materials would be transported in relation to the quarry operations;
 - Operate vehicles in a safe, professional, and courteous manner.

4.5 EROSION AND SEDIMENT CONTROL PLAN

This plan satisfies *Condition 7* of the Conditions of Approval.

The following erosion and sediment control measures will be followed by SHQ:

- Disturbed areas must be assessed for suitability before applying topsoil (i.e. do not apply to areas conducive to erosion such as steep slopes or on exposed bedrock);
- Regular inspections will be completed by the Site Manager to identify any erosion and sedimentation issues, with actions undertaken as necessary to address any issues identified. Actions may include a change in activity to prevent further impact or control measures which may include:
 - Establish groundcover and vegetation.
 - Installation of sediment barriers or retaining walls.
 - Installation of flow controls (to reduce velocity or direction of surface run-off).
- Regeneration/replanting of exposed areas as soon as practical following exposure to enhance soil stability and eliminate run off;
- Installation of erosion/sediment diversion bunds if required; and
- In heavy rainfall events, extraction is suspended and sumps/settlement dams are dewatered to the grassed areas of the site or cultivated land within Lot 28 only.

4.6 AIR QUALITY AND DUST SUPPRESSION MANAGEMENT MEASURES

These measures satisfy *Condition 7* of the Conditions of Approval.

The following management measures will be followed by SHQ:

- Maintain the internal road surface to minimise dust emissions;
- Maintenance of plant and machinery in accordance with the manufacturer's specifications;
- Strategic watering as required, utilising reclaimed surface water run-off from the water storages within the quarry;
- Temporary suspension of vehicle movements in excessively dry and/or windy conditions;
- Covering loads of trucks leaving the site;
- Speed limiting on the private access road and internal access roads
- Routine water application to the private access road, the internal road and unsealed surfaces within the quarry area;
- Water spraying of stockpiles and stockpile transfer points;
- Alter or cease work during times of high winds and in areas with high potential for dust dispersion; and
- Water down all areas within development where nuisance dust may arise from development caused by machinery and traffic movements.

4.7 SURFACE WATER MANAGEMENT MEASURES

The following management measures will be followed by SHQ:

- Maintenance and improvement of the condition of existing sumps/settlement dams;
- Reuse of captured water for dust suppression activities;
- Installation of new sumps/settlement dams as required throughout the life of the quarry;

4.8 GROUNDWATER MANAGEMENT

- The current and proposed quarry operations would not impose any additional demand on groundwater resources;
- No contaminants, including fuel, would be stored on site;
- Major repairs or oil changes would not be undertaken on-site;
- No effluent would be generated or disposed of at the quarry site;
- Spill kits will be provided at the quarry site;
- Sediment and erosion controls would be implemented in accordance with **Section 4.5** to ensure that surface water directed to water storages does not have a high sediment load.
- No extraction or use of groundwater is proposed or anticipated in relation to the project;
- Whilst not expected, if any interaction with groundwater occurs during operations, work in the affected area will immediately cease and consultation will occur with the Department of Primary Industries (Water) and Cabonne Council as to any approval requirements that may be necessary. Work will not recommence in those areas until necessary approvals are sought and granted.

4.9 QUARRY SITE MANAGEMENT

The following quarry site management measures will be followed by SHQ:

- The site, including site slopes, batters and benches, will be managed by the applicant to ensure the safety of all persons having access to the quarry. If, as a result of any perceived instability,

the Site Manager will commission a geotechnical report to confirm safe slopes and bench heights. The findings of this reporting would be incorporated within the OEMP and complied with for the life of the project

- Benches will be graded to ensure stormwater are drained off the bench towards the on-site water collection points (i.e. sumps/settlement dams); and
- If batter slopes exhibit failure signs, all excavations will cease in the affected area and a geotechnical engineer will be consulted to determine the appropriate course of action.
- Quarry activities will immediately cease if any change in rock type (i.e. rocks other than shale or siltstone) is observed, and a suitably qualified geologist experienced in Naturally Occurring Asbestos will be engaged to investigate. If required, an Asbestos Management Plan will be prepared for the site prior to works recommencing in the affected area;

4.10 NOISE MANAGEMENT

The following noise management measures will be followed:

- All site operations will endeavour to remain within any noise criteria as outlined in the development consent, maintained for the life of the Project;
- In the event of a noise non-compliance, any exceedance will be recorded.
- Exceedances and their management/corrective actions will be published in the site's Annual Report.

4.11 HAZARD STORAGE MANAGEMENT

The following hazard storage management measures will be followed:

- Storage of any hazardous materials will be carried out in accordance with the Safety Data Sheets for those items and all relevant requirements of SafeWork NSW.

Complaints, Non-Conformance, and Incident Management

5.1.1 COMPLAINTS MANAGEMENT

SHQ is required to provide a telephone complaints contact in accordance with the Statement of Commitments, for the purpose of receiving any complaints from members of the public in relation to activities conducted at the site, or by vehicles and plant associated with the site activity. The proponent must notify the public of the complaints telephone contact details so that the impacted community is aware of the service.

All complaints will be recorded together with any corrective actions taken and the details included within the Annual Report.

In the event of a complaint, the Complaints Management Form will be completed (**Appendix C**):

5.1.2 NON-CONFORMANCE AND INCIDENT MANAGEMENT

All incidents which result in or have the potential to result in accidents and/or injury must be reported and investigated. This is to ensure that action can be taken to eliminate or reduce the possibility of further incidents.

If any potentially dangerous situation can be simply rectified without putting yourself or others at risk (such as standing up a sign which has been knocked over), this should be done before reporting the incident to the Site Manager.

All personnel must ensure that they follow safe working procedures and report all accidents or incidents.

In the event of an incident, the Incident Form will be completed (refer **Appendix C**).

Rehabilitation and Landscaping

6.1 REHABILITATION PRINCIPLES AND OBJECTIVES

Principles to be adopted for rehabilitation of the SHQ include:

- Preservation of existing vegetation and landforms (where practicable);
- Progressive rehabilitation (where practicable); and
- Revegetation with endemic native vegetation consistent with an agreed final land use.

The following key objectives and outcomes have been identified for on-going rehabilitation of the SHQ site:

- Carry out all surface disturbing activities in a manner that minimizes potential for dust emissions and carry out rehabilitation of disturbed areas progressively, as soon as reasonably practicable, to the satisfaction of the Direction Environmental Services, Cabonne Council.
- Incorporation of stabilisation and progressive rehabilitation measures into the rehabilitation program, including:
 - Surface water management;
 - Erosion control;
 - Conserving and reusing topsoil;
 - Visual screening;
 - Revegetation;
 - Reusing site materials for habitat enhancement;
 - Managing impacts on fauna;
 - Bushfire management;
 - Weed control;
 - Feral pest control; and
 - Controlling access.

6.2 DISTURBANCE AREAS

The extent of disturbance of the area is approximately 1.8 hectares. A summary of disturbance and rehabilitation areas is provided in **Table 6.1**

Table 6.1 – Disturbance and Rehabilitation Areas

Domain	Area (ha)		
	Existing Site Layout (Plan 1)	Quarry Expansion (Plan 2)	Final Landform (Plan 3)
Active Working Area / Expansion Area	1.21	1.54	0
Inactive Zone	0.46	0.36	0
Quarry Water Storages	0.77	0.72	0.66
Internal Access Roads	0.35	0.28	0.2
Overburden Stockpile	0.23	0	0
Visual Screen Area / Safety Bunds	0.86	0.4	0.36

Table 6.1 – Disturbance and Rehabilitation Areas

Domain	Area (ha)		
	Existing Site Layout (Plan 1)	Quarry Expansion (Plan 2)	Final Landform (Plan 3)
Active Rehabilitation Area / Final Rehabilitated Area	0.51	1.66	3.34
Grass Vegetation	1.25	0.68	0.57
Relinquished Area	0	0	0.38
Total Quarry Site Area	5.64	5.64	5.51

6.3 REHABILITATION AND FINAL LAND USE CONCEPT

Closure and rehabilitation objectives for SHQ include:

- To produce a final landform that achieves a stable and functional drainage system at the site and minimises erosion and sedimentation.
- To provide rehabilitation areas that are similar to surrounding native vegetation communities and providing suitable habitat for native fauna.
- To eliminate impacts from weeds and feral pests.
- To maintain site security and perimeter bunding to ensure public safety and stock exclusion.
- Maintain limited visibility of the site from adjacent properties and the local road network.

Refer to **Table 6.2** for rehabilitation objectives listed in the Condition of Approval section 5.

Table 6.2 – Rehabilitation Objectives Related to the Conditions of Approval

Rehabilitation Feature	Objective
Quarry site (as a whole of disturbed land)	Safe, stable and non-polluting, fit for the purpose of the intended post quarry land use
Rehabilitation materials	Materials (including topsoils), are appropriately managed, and used effectively as resources in rehabilitation.
Landforms	Final landforms sustain the intended land use for the post quarry land use. Final landforms are consistent with and complement the topography of the surrounding area to minimize the visual prominence of the final landforms in the post quarry landscape. Final landforms incorporate design relief patterns and principles consistent with natural drainage.
Water quality	Water retained on site is fit for the intended land use for the post quarry land use.
Native flora and fauna habitat	Species of native trees and vegetation complements local biodiversity.

6.4 REHABILITATION MONITORING

Monitoring of rehabilitation areas and the identification of remedial works requirements will include:

- Landscape visual monitoring of the stability of the area, the water levels in the Water Storages, and the quarry wall stability;
- Visual monitoring of weed infestations, effectiveness of past weed control measures' and feral fauna species;
- Visual monitoring of revegetation to assess the progress and to decide if there is a need for implementation of management works or replacement planting/seeding; and
- Visual monitoring of the presence and general health of native fauna that occupies the Rehabilitation Areas.

References

Austroads. 2010, *Guide to Road Design Part 4A: Unsignalised and Signalised Intersections*, Austroads, Sydney.

Appendix A

REHABILITATION PLAN MANAGEMENT

REHABILITATION PLAN

SPRING HILL QUARRY

LOT 28 DP1227863, SPRING HILL ROAD

SPRING HILL

PREPARED FOR:

J & V CARMAN

AUGUST 2017

(RE-ISSUED)



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Issued:	<i>31 August 2017</i>

Geolyse Pty Ltd and the authors responsible for the preparation and compilation of this report declare that we do not have, nor expect to have a beneficial interest in the study area of this project and will not benefit from any of the recommendations outlined in this report.

The preparation of this report has been in accordance with the project brief provided by the client and has relied upon the information, data and results provided or collected from the sources and under the conditions outlined in the report.

All information contained within this report are prepared for the exclusive use of J & V Carman to accompany this report for the land described herein and are not to be used for any other purpose or by any other person or entity. No reliance should be placed on the information contained in this report for any purposes apart from those stated therein.

Geolyse Pty Ltd accepts no responsibility for any loss, damage suffered or inconveniences arising from, any person or entity using the plans or information in this study for purposes other than those stated above.

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Background

1.1 LOCATION

The Spring Hill Quarry is located at Lot 28 DP1227863, Spring Hill Road, Spring Hill.

1.2 QUARRY ACTIVITIES

1.2.1 EXTRACTION

The Spring Hill Quarry has been operating for approximately 50 years for extraction of siltstone/shale. More recently, clay intervals within overburden have also been extracted for sale. Topsoils are stripped separately and retained for rehabilitation purposes.

Quarrying does not require blasting as the rock is finely bedded and fractured, allowing manual extraction with a bulldozer and excavator. All quarry walls are scaled for stabilisation. However, in places quarry walls are steeply sloping due to the naturally steep orientation of bedded rock.

Approximately 15,000 tonnes (8,333 cubic metres) of material is proposed via the attached development application to be extracted from the quarry annually.

1.2.2 STOCKPILES

All extracted rock and clay material is stockpiled within the active working area but away from the active quarry face. There is no waste rock material.

Overburden and topsoil stockpiles are currently on the eastern side of the quarry site and are used for progressive rehabilitation. These would be progressively moved as an element of the proposed expansion plan to open up the eastern elevation of the quarry and enable the installation of a new boundary fence on the eastern side, in line with existing fencing in this area. This provides improved security for the site.

1.2.3 PROCESSING

No processing (i.e. crushing, grinding or screening) of the extracted material is required.

1.2.4 PRODUCT TRANSPORT

Extracted materials are loaded onto trucks within the quarry site and enter and exit through designated access points onto a private access road joining Spring Hill Road to the west.

1.2.5 PLANT AND SITE INFRASTRUCTURE

Site plant includes a bulldozer, excavator and loader. A small water truck is available for dust suppression. However, the quarry is below the natural ground surface and not likely to be subject to high winds. Site plant is refuelled on-site by a service vehicle. No fuels or chemicals are stored on site.

A site office is provided near the southern boundary of the site.

Rehabilitation

2.1 REHABILITATION PLANS

There are three plans to guide rehabilitation of the Spring Hill Quarry, attached to this Rehabilitation Plan and detailed below.

Plan 1 – Existing Site Layout

Plan 1 depicts the existing site layout.

Plan 2 – Quarry Expansion

Plan 2 depicts the layout including areas for quarry expansion, including extensions to Visual Screen Areas and Internal Access Roads.

Plan 3 – Final Landform

Plan 3 depicts the final landform in terms of rehabilitation, relinquished areas and safety bunds.

2.2 DISTURBANCE AND REHABILITATION AREAS

Table 2.1 – Disturbance and Rehabilitation Areas

Domain	Area (ha)		
	Existing Site Layout (Plan 1)	Quarry Expansion (Plan 2)	Final Landform (Plan 3)
Active Working Area / Expansion Area	1.21	1.54	0
Inactive Zone	0.46	0.36	0
Quarry Water Storages	0.77	0.72	0.66
Internal Access Roads	0.35	0.28	0.2
Overburden Stockpile	0.23	0	0
Visual Screen Area / Safety Bunds	0.86	0.4	0.36
Active Rehabilitation Area / Final Rehabilitated Area	0.51	1.66	3.34
Grass Vegetation	1.25	0.68	0.57
Relinquished Area	0	0	0.38
Total Quarry Site Area	5.64	5.64	5.51

2.3 REHABILITATION PLAN OBJECTIVES

The following are the key objectives for rehabilitation of the Spring Hill Quarry:

- To produce a final landform that achieves a stable and functional drainage system at the site, and minimises erosion and sedimentation.

- To provide rehabilitation areas that are similar to surrounding native vegetation communities, and providing suitable habitat for native fauna.
- To eliminate impacts from weeds and feral pests.
- To maintain site security and perimeter bunding to ensure public safety and stock exclusion.
- Maintain limited visibility of the site from adjacent properties and the local road network.

2.4 QUARRY REHABILITATION

The rehabilitation of the site will require stabilisation and progressive rehabilitation of disturbed areas that are no longer required for quarry-related activities.

Stabilisation and progressive rehabilitation measures are detailed in **Sections 2.4.1 to 2.4.10**.

2.4.1 SURFACE WATER MANAGEMENT

- The Site Manager will ensure that surface water within the quarry is directed to the Water Storages (sump/settlement ponds) within the quarry.
- The Site Manager will ensure that perimeter bunding is maintained around the quarry to prevent surface water (outside the quarry) from entering the quarry.

2.4.2 EROSION CONTROL

- Disturbed areas must be assessed for suitability before applying topsoil (i.e. do not apply to areas conducive to erosion such as steep slopes or on exposed bedrock).
- Regular inspections will be completed by the Site Manager to identify any erosion and sedimentation issues, with actions undertaken as necessary to address any issues identified. Actions may include a change in activity to prevent further impact or control measures which may include:
 - Establish groundcover and vegetation.
 - Installation of sediment barriers or retaining walls.
 - Installation of flow controls (to reduce velocity or direction of surface run-off).

2.4.3 CONSERVING AND REUSING TOPSOIL

- Where possible, stripped topsoil should be immediately placed on rehabilitation areas to ensure best use of soil seed stores and maintenance of soil structure.
- Where stripped topsoil must be stockpiled, it must be stockpiled separately from other quarry product stockpiles.
- All stockpiles should be clearly identified so that they are not inadvertently covered with overburden or damaged by other quarry activities.
- Topsoils should be spread to provide a cover of at least 150 mm over all gently sloping surfaces.
- Avoid compaction after spreading topsoil to allow for aeration and reseedling.

2.4.4 VISUAL SCREENING

- Maintain existing Visual Screen Areas and extend along areas of the quarry that are expanded, as per **Plan 2**.
- Topsoil application and revegetation of Visual Screen Areas as required.

2.4.5 REVEGETATION

- Reuse topsoil to promote reseedling of naturally occurring species (if conserved topsoil contains an abundance of weeds, clean fill should be imported and applied, and purchased seed material used).
- Species type should be determined by those locally adapted to the prevailing climate and soil conditions, and should include those that are associated with surrounding endemic vegetation communities.
- The location of seed propagation or vegetation establishment must be protected as new plantings may be vulnerable to grazing from both native and introduced animals. A variety of measures may be employed, such as tree guards or fencing to isolate the areas.
- Rehabilitation Areas must be maintained: this includes the watering, weeding, replacement of plants that have failed to establish (where required), and the maintenance of sediment and erosion controls such as mulch application.
- Any synthetic materials (i.e. sediment controls or tree guards) should be removed from the site once rehabilitated.
- Sticks, logs and larger rocks should be included in revegetation to help control soil movement and provide habitat.

2.4.6 REUSING SITE MATERIALS FOR HABITAT ENHANCEMENT

Materials from the quarry site that may enhance habitat should be used to attract fauna to Rehabilitation Areas, including the following measures:

- Use available sticks, logs and larger rocks when revegetating to improve ground habitat diversity for fauna returning to the rehabilitated site.
- Retain all fallen timber in areas outside the disturbance footprint.

2.4.7 MANAGING IMPACTS ON FAUNA

The progressive and long term rehabilitation of the quarry site requires the management of impacts on native and non-native fauna. The following measures should be implemented to manage these impacts:

- Only disturbed areas should be rehabilitated.
- Undisturbed areas should be protected to provide habitat for native species.
- Livestock should be excluded from the quarry site by fencing the eastern boundary of the quarry and ensuring access/exit gates are locked when the site is unattended.

2.4.8 BUSHFIRE MANAGEMENT

The site is not mapped as bush fire prone. Fire risks associated with quarry activities are limited to machinery fires. All machinery on-site is fitted with a fire-extinguisher and would be kept within the quarry where there is no vegetation. Bushfires may also occur naturally (outside the quarry) however, surrounding vegetation is not highly connective and largely consists of pasture. The following measure should be implemented for bushfire management:

- Fuel reduction measures should be assessed in consultation with the local Rural Fire Service. Fuel reduction activities will be undertaken as required and will be designed to minimise impacts on biodiversity and threatened species.

2.4.9 CONTROLLING WEEDS AND FERAL PESTS

The key measure to control weeds is the regular inspection of the site for weeds and identifying ways to reduce the potential for weed infestations in these areas.

Any outbreak of noxious weeds will be controlled and eradicated as required under the *Noxious Weeds Act 1993*. Weed control and eradication techniques may include:

- Spraying with herbicides;
- Physical removal; or
- Minimisation of area available for weed infestation.

Measures to control feral species will be undertaken in consultation with the Central Tablelands Local Land Services, and will include:

- Identification of pest species;
- Determination of appropriate control practices;
- Implementing control practises; and
- Undertaking monitoring and follow up control as required.

2.4.10 CONTROLLING ACCESS

- Restrict vehicle and truck movements to Internal Access Roads.
- Restrict entry to undisturbed areas and Rehabilitation Areas.
- Ensure property fences and gates are maintained.
- Install a new boundary fence on the eastern side to effectively limit access from this area.

Monitoring

Section 3 identifies the monitoring requirements to assess effectiveness and progress of rehabilitation measures against Completion Criteria in **Section 4**.

3.1 LANDSCAPE MONITORING

- Visual monitoring of the stability of Rehabilitation Areas (i.e. presence of erosion or slope destabilisation).
- Visual monitoring of water levels in the Water Storages (sump/settlement ponds).
- Visual monitoring of quarry wall stability.

3.2 WEEDS AND FERAL ANIMALS

- Visual monitoring of weed infestations.
- Visual monitoring of the effectiveness of past weed control measures.
- Visual monitoring of feral fauna species.

3.3 ECOLOGICAL MONITORING

3.3.1 MONITORING OF REVEGETATED AREAS

Upon completion of any revegetation works at the quarry site, visual monitoring will be undertaken to assess the progress of the revegetation with the aim of monitoring plant health and the need for implementation of management works or replacement planting/seeding.

The inspections will specifically assess the following and any need for control measures:

- the extent of the vegetative cover;
- the presence of non-native and native species;
- the general health of the vegetation;
- any occurrences of weeds species in the revegetated area;
- the results of any programs implemented following previous inspections;
- fire management of revegetated areas;
- any signs of disturbance; and
- any signs of erosion.

3.3.2 FAUNA MONITORING

- Visual monitoring of the presence and general health of native fauna that may be occupying Rehabilitation Areas.

Completion Criteria

The completion criteria provided in **Section 3** are designed to ensure that the required rehabilitation works are completed in accordance with the objectives and measures provided in this Rehabilitation Plan.

4.1 REVEGETATION

- Rehabilitation Areas are not significantly disturbed, whether it be humans or animals.
- Rehabilitation Areas are free from significant weed growth.
- Rehabilitation Areas have established vegetation.
- Natural regeneration is occurring in Rehabilitation Areas.

4.2 ECOLOGY

- Rehabilitation Areas are similar to surrounding native vegetation communities.
- Rehabilitation Areas support a diverse range of flora and fauna species that are not adversely impacted by quarry activities or rehabilitation works.
- Significant weed occurrences in Rehabilitation Areas are eradicated.

4.3 LANDSCAPE

- Where possible, quarry walls are battered and quarries areas are reshaped to form a suitable landform for rehabilitation.
- The final landform is stable and not subject to erosion or sedimentation.
- Stable and functional drainage exists at the site.
- The location of the overburden stockpile has been relinquished for agricultural use.

4.4 ACCESS

- Access is restricted to Internal Access Roads, and only used for inspection and maintenance purposes only.
- The quarry site boundary is fully fenced and locked gates are maintained.

Responsibilities

The Site Manager is responsible for providing the resources to ensure the effective implementation of this Rehabilitation Plan.

The Site Manager is responsible for the effective implementation of all quarry rehabilitation measures (**Section 2.4**) and monitoring (**Section 3**), and the reviewing and updating of the Rehabilitation Plan as necessary.

Plans



Plan 1 - Existing Site Layout

Rehabilitation Plan
Wattle Grove Quarry



Legend

- | | | |
|---------------------|-----------------------|----------------------------|
| Quarry Site | Quarry Water Storages | Active Rehabilitation Area |
| Site Office | Internal Access Roads | Grass Vegetation |
| Active Working Area | Overburden Stockpile | Tree |
| Inactive Zone | Visual Screen Area | |



Plan 2 - Quarry Expansion

Rehabilitation Plan
Wattle Grove Quarry



Legend

- | | | |
|---------------------|-----------------------|----------------------------|
| Quarry Site | Quarry Expansion Area | Overburden Stockpile |
| Site Office | Inactive Zone | Visual Screen Area |
| Proposed fence | Quarry Water Storages | Active Rehabilitation Area |
| Active Working Area | Internal Access Roads | Grass Vegetation |



Plan 3 - Final Landform

Rehabilitation Plan
Wattle Grove Quarry



Legend

- Quarry Site
- Water Management Area
- Internal Access Roads

Rehabilitated Areas

- Safety Bunds (Natural Regeneration - Grass)
- Tree/Grass Vegetation
- Grassland
- Relinquished - Pasture

Appendix B

VEHICLE MANAGEMENT PLAN

VEHICLE MANAGEMENT PLAN

SPRING HILL QUARRY

LOT 28 DP1227863, SPRING HILL ROAD

SPRING HILL

PREPARED FOR:

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Project:	<i>Spring Hill Quarry</i>
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Introduction

1.1 PURPOSE AND SCOPE

This Vehicle Management Plan (VMP) has been prepared to satisfy Condition 11, 13 and 17 of Development Application DA 2018/5 for the continued approved operation of Spring Hill Quarry.

The purpose of this vehicle management plan is to ensure arrangements are made for all vehicle movements associated with the development and applies to all employees, contractors and visitors operating vehicles on site. This VMP shall:

- Ensure the safety of road users and operational traffic,
- Minimise traffic issues and delays,
- Ensure the safe use of public roads,
- Establish and encourage compliance with a Driver's Code of Conduct.

1.2 PROJECT OVERVIEW

Spring Hill Quarry site is located in a rural setting approximately 1.6 kilometres south of the village of Spring Hill and approximately 4 kilometres north-west of the village of Millthorpe. The site locality plan is provided in **Figure 1**.

The quarry is positioned on the eastern side of a gentle north-south oriented rise and is therefore not visible from Spring Hill Road to the west. Perimeter bunding also limits views towards the site from other directions. The quarry site layout is provided in **Figure 2**.

Spring Hill Quarry has been operating for approximately 50 years for extraction of siltstone/shale. More recently, clay intervals within overburden have been extracted for sale. Topsoils are stripped separately and retained for rehabilitation purposes.

Quarrying does not require blasting as the rock is finely bedded and fractured, allowing manual extraction with a bulldozer and excavator. All quarry walls are scaled for stabilisation, however, in places quarry walls are steeply sloping due to the naturally steep orientation of bedded rock.

The annual extraction of the quarry will not exceed 15,000 tonnes per year (combined of both shale/siltstone and clay).

1.3 LEGISLATIVE REQUIREMENTS

1.3.1 DEVELOPMENT CONSENT

DA 2018/5 was granted by Cabonne Council on 28 November 2017, with *Condition 11* requiring a Vehicle Management Plan. In addition, *Condition 13* requires a Driver's Code of Conduct to be implemented in the interest of public and *Condition 17* requires a code of conduct to satisfy the requirements of RMS for safe use of public roads. Conditions 13 and 17 form the Driver's Code of Conduct attached as **Appendix A**.

1.3.2 STATEMENT OF COMMITMENTS

The Statement of Commitments outlines the commitment of Spring Hill Quarry's operators to implement a Driver's Code of Conduct and Traffic Management Plan for the life of operations. This plan is provided to satisfy that commitment.

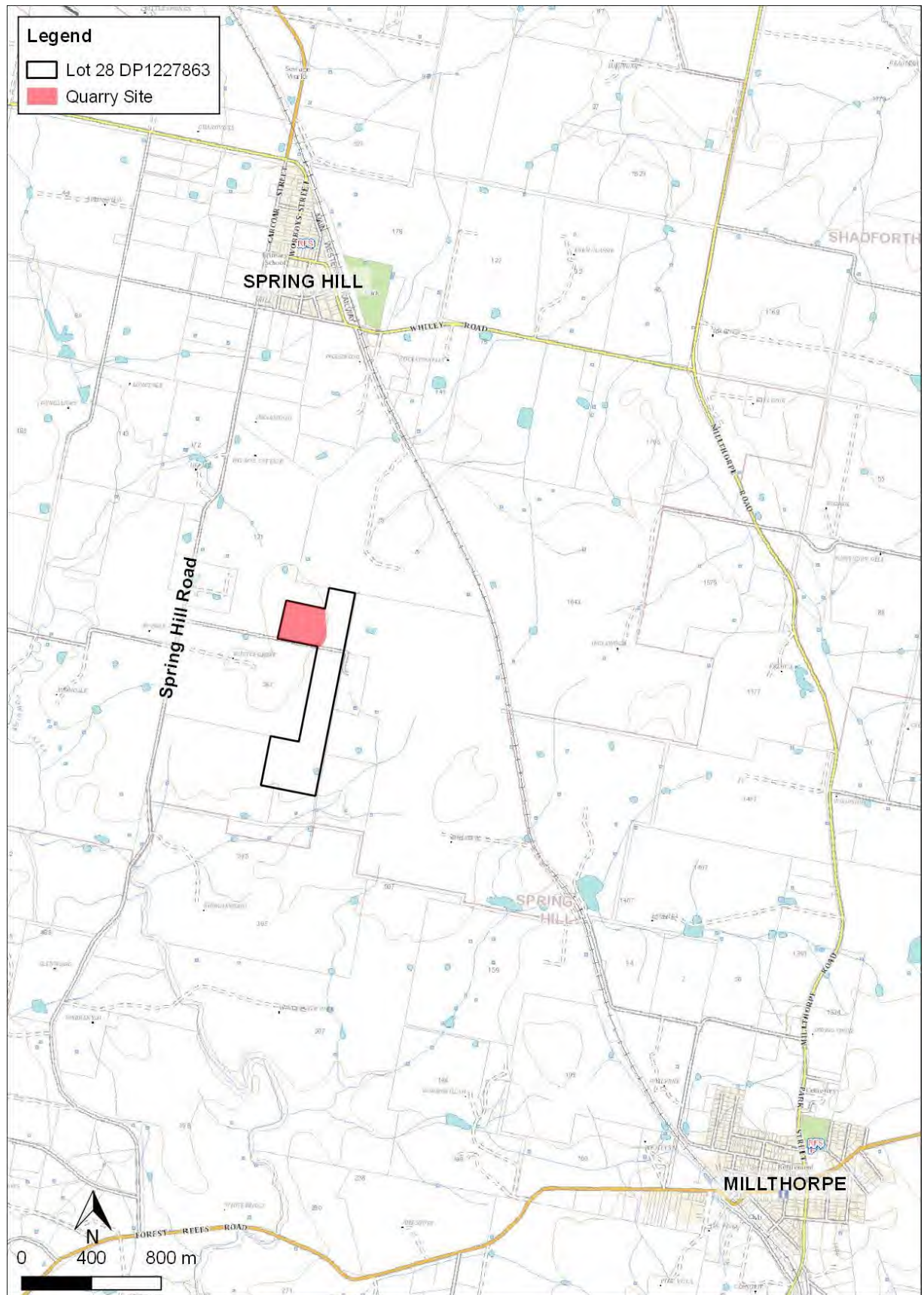




Figure 2: Approved Site Plan

Site Access and Traffic

2.1 ACCESS TO SITE

The quarry site is accessed via a private access road that joins Spring Hill Road approximately 600 metres west of the quarry entrance point (**Plate 1**).

The private access road also provides access to a neighbouring residential dwelling to the east.



Plate 1: Gridded entrance to private access road and signage

2.2 OPERATIONAL HOURS

The hours of operation for the Spring Hill Quarry are detailed below:

Table 2.1 – Operational Hours

Activity	Monday to Friday	Saturday	Sunday
Extraction	7am to 6pm	8am to 3pm	No works
Loading and transportation	7am to 6pm	8am to 3pm	No works

Haulage and onsite operations will not be undertaken outside of the above hours.

2.3 TRAFFIC

2.3.1 EXPECTED VOLUME

Volumes of traffic on the private access road are limited to vehicles associated with the current quarry use and for access to the neighbouring residential dwelling.

The expected average number of heavy vehicles is 13 trucks per week (26 movements) or 2.3 trucks per day (~5 movements). This expected volume is made on the following assumptions:

- A fully laden heavy vehicle can haul up to 23 tonnes of material per load,
- Assuming average extraction rates; and
- Operation of the quarry for 6 days per week, 48 weeks per year

In periods of heavy haulage, i.e., responding to a specific project, vehicle numbers per day may raise to five trucks per day (10 movements). This would only be limited to short term periods and would likely be followed by periods where no activity occurs.

Traffic Management System

3.1 ONSITE MOVEMENTS

3.1.1 TRUCK PARKING

Vehicles enter and exit the quarry site through designated access points onto a private access road joining Spring Hill Road to the west. Vehicle movements will be restricted to internal access roads whilst on site and will be in a one-way direction only.

Informal parking is located in an 'inactive zone' adjacent the site office near the southern boundary of the site. Vehicles will wait at this location until directed to a loading zone by the quarry manager or staff.

3.1.2 LOADING ZONES

Loading zones will be clearly identified using appropriate signage.

3.1.3 PLANT AND SITE INFRASTRUCTURE

Site plant includes a bulldozer, excavator and loader. A small truck will be available for dust suppression. A site office is provided near the southern boundary of the site.

3.1.4 REFUELLING OF VEHICLES AND PLANT

No fuels or chemicals will be stored onsite. Site plant will be refuelled onsite by a service vehicle. Trucks and other vehicles will refuel at a petrol station or depot suitable for heavy vehicles, as required.

3.2 HAULAGE ROUTES

When travelling toward the Spring Hill Quarry, access will be via Spring Hill Road. Dependent on direction of travel, vehicles will be required to conduct either a left or right hand turn onto the private access road.

Spring Hill Road adjoins Forest Reefs Road to the south and Forest, Whiley and Beasley Roads via Spring Hill to the north, allowing easy access to localities in all directions. The township of Spring Hill has a posted speed limit of 50 km/h. All aforementioned roads are sealed two lane (undivided) roads with posted speed limits to 100 km/h.

Access to Forest Road and Beasley Road is via Carcoar Street, Spring Hill. Carcoar Street has a speed limit of 50 km/h except for the posted school zone of 40 km/h from 8 – 9:30 am and 2:30 – 4 pm. Haulage via Carcoar Street or other streets within the school zone would be avoided where possible during the gazetted hours. Further, haulage will not be undertaken during the above hours if an active school zone will knowingly be encountered.

Local schools likely to be encountered in the locality include:

- Spring Hill Public School (Carcoar Street),
- Spring Terrace Public School (Forest Road); and
- Millthorpe Public School (Millthorpe Road).

3.3 DRIVER'S CODE OF CONDUCT

The Driver's Code of Conduct (DCC) has been implemented to ensure all employees and contractors are aware of, and adhere to the outlined safe driving practices to maximise safety on public roads and minimise the impact of heavy vehicles on other road users and the wider community.

The DCC is provided as **Appendix A**.

3.4 MITIGATION MEASURES

- Truckloads of material transported offsite would be covered;
- Records of materials transported offsite will be kept, including volume, driver details and destination;
- Movements passed the Spring Hill Primary School will be avoided where possible during active school zone hours;
- Posted speed limits would be adhered to, to minimise dust and noise internally and ensure the safety of other road users and the wider community;
- Internal vehicle movements will be in a one-way direction only; and
- Implementation of the Driver's Code of Conduct included as **Appendix A** of this VMP.

Compliance and Review

4.1 COMMENCEMENT OF VEHICLE MANAGEMENT PLAN AND DRIVER CODE OF CONDUCT

This Vehicle Management Plan and Drivers Code of Conduct will be commenced when the quarry expansion becomes operational.

The Driver's Code of Conduct is to be provided to individual drivers at the time heavy vehicle haulage drivers attend a site induction (if applicable) or prior to commencing haulage operations. The driver is to sign the document and provide the signed copy to the quarry operator who will retain the signed copy for their records.

4.2 COMPLIANCE

4.2.1 DRIVERS CODE OF CONDUCT

It is a condition of haulage that each driver must read, understand and sign the Drivers Code of Conduct prior to loading of quarry materials. The Driver's Code of Conduct is provided as **Appendix A**.

4.2.2 INCIDENT AND COMPLAINTS MANAGEMENT

Spring Hill Quarry management will keep a register of all reported incidents and complaints regarding heavy vehicle driver conduct external to the quarry. The incident register will include:

- Date;
- Location of incident;
- The driver and heavy vehicles details;
- Contact details of individual lodging complaint;
- Actions taken to resolve issue; and
- Any response provided to the complainant.

The Complaints/Incident Management Form is provided as **Appendix B**.

4.3 REVIEW AND REPORTING

An internal review of this plan including the Driver's Code of Conduct will be undertaken annually to ensure the usability and currency of the plan and allow for any adaptations and/or improvements. The review will be taken at the time of completing the Annual Return as required by Cabonne Council.

Appendix A

DRIVER'S CODE OF CONDUCT

Driver's Code of Conduct

*Spring Hill Quarry
Spring Hill Road, Spring Hill NSW 2800*

Purpose of the Code

This Driver's Code of Conduct has been implemented to ensure all employees and contractors are aware of, and adhere to the outlined safe driving practices to maximise safety on public roads and minimise the impact of trucks on other road users and the wider community.

This code satisfies *Conditions 13 and 17* of the Conditions of Approval.

General Requirements

Any person operating heavy vehicles (including machinery) at the Spring Hill Quarry must adhere to the following general requirements:

- Have undertaken a Site Induction carried out by an approved Spring Hill Quarry staff member;
- Hold a valid driver's licence for the class of vehicle being operated;
- Ensure the vehicle is appropriately registered and insured;
- Ensure the vehicle is mechanically and structurally sound and suitable to haul quarry materials;
- Operate the vehicle in a safe manner within and external to the Quarry site;
- Comply with directions provided by authorised Quarry personnel;
- Transport quarry materials only between the hours of 7 am – 6 pm Monday to Friday and 8 am to 3 pm Saturday.

Code of Conduct

The driver will:

- Comply with all public road rules and regulations, including posted speed limits;
- Comply with rules and regulations when operating on the Quarry site or other private property;
- Ensure vehicle is contained within the Quarry site prior to stopping;
- Familiarise themselves with any required PPE for the Quarry site;
- Ensure all loads are secured and covered prior to exiting the Quarry site;
- Avoid or limit vehicle movements through residential areas or on roads near schools;
- Reduce/minimise engine braking when travelling through built-up areas;
- Not use horn unless considered appropriate to do so;
- Avoid where possible the carrying out of haulage operations during school student drop off and pick up times (between the hours of 8 – 9:30 am and 2:30 – 4 pm). However, if inadvertently travelling through active school zones the driver will comply with the 40 km/hr School Zones, and maintain a safe distance from school buses whether moving or parked. If passing a parked school bus with its lights flashing, the driver shall decelerate to 40 km/hr whilst passing;
- Decrease speed when travelling on unsealed roads near private dwellings or roadworks;
- Not litter;
- Before leaving the Quarry site ensure loose materials have been cleaned off the vehicle to prevent materials being tracked on public roads;

- Operate their vehicle in a safe, professional and courteous manner;
- Act in a manner that reflects positively on themselves and Spring Hill Quarry;
- Show respect to other road users;
- In the event of an accident, remain calm and ensure appropriate actions are taken to prevent injury to self and others;
- In the event of an environmental incident (spill), ensure appropriate actions are taken to contain the spill (if safe to do so) and prevent further incidents from occurring;

Disciplinary Action

If the driver fails to meet the requirements of this Driver's Code of Conduct a review will be undertaken by the Site Manager and disciplinary action may be undertaken. Disciplinary action may take the form of a verbal or written warning, temporary exclusion from loading quarry materials or termination of any contact or agreement previously entered into with Spring Hill Quarry.

DECLARATION

I, the undersigned, hereby agree to abide by Spring Hill Quarry's Driver's Code of Conduct for the transport of quarry materials from the Spring Hill Quarry to their final destination.

TRUCK DRIVER

FULL NAME _____

ORGANISATION _____

SIGNATURE _____

DATE _____

SPRING HILL QUARRY REPRESENTATIVE

WITNESS _____

DATE _____

Form 1 – Driver's Code of Conduct

By signing the following, you agree to adhere to the requirements outlined in the **Driver's Code of Conduct** and confirm that the information contained within the code has been adequately explained and understood.

[illegible]

Appendix B

COMPLAINTS/INCIDENT MANAGEMENT FORM

Form 2: Complaints/ Incident Management Form

DATE: _____

COMPLAINT NO: _____

TIME: _____

COMPLAINANT DETAILS (IF PROVIDED):

Name: _____

Phone number: _____

Email address: _____

DRIVER/VEHICLE DETAILS (IF PROVIDED):

Name: _____

Vehicle _____

Registration: _____

HOW COMPLAINT WAS LODGED (phone, email etc)

NATURE AND DETAILS OF COMPLAINT:

CAUSE:

CORRECTIVE ACTION (IF NONE, STATE WHY):

FOLLOW-UP CONTACT REQUIRED?

SIGNATURE: _____

NAME: _____

Appendix C

FORMS



Date:	Time:
Complaint No.	
Complaint Details (If Provided):	
Driver/Vehicle Details (if Provided):	
Name:	
Vehicle Registration:	
How Complaint Was Lodged (Phone, Email, etc)	
Nature and Details of Complaint:	
Cause:	
Corrective Action (If none, state why):	
Follow-Up Contact Required?	
Signature	
Name	
Date Closed:	

INCIDENT REPORT

INCIDENT LOCATION: _____

DATE/TIME/DURATION OF INCIDENT: _____

NATURE OF INCIDENT:

Excessive Noise/Vibration	☐	Spill	☐
Dust/Smoke/Odour	☐	Leak	☐
Accumulation of Waste	☐	Other	☐
Fire/Flood/Natural Disaster	☐		

CONDITIONS PRESENT
(at the time of the incident):

Temperature: _____

Wind Speed: _____

Wind Direction: _____

Rainfall: _____

DESCRIPTION OF INCIDENT:

RESULTING IMPACT (what environment harm was caused or threatened?):

EXTENT OF IMPACT (area affected):

PROBABLE CAUSE (what caused the incident?):

CORRECTIVE ACTION TAKEN (immediate actions, date/time etc):



PREVENTATIVE ACTION TO BE TAKEN (to prevent occurrence/eliminate cause):

OTHER COMMENTS/ATTACHMENTS:

REPORT COMPLETED BY: _____ **SIGNED:** _____ **DATE:** _____