Development Approval Application and Environmental Management Plan

LOT 1123, 81 LAWSON ROAD, PALMER

SHIRE OF COLLIE

REPORT PREPARED BY
LUNDSTROM ENVIRONMENTAL CONSULTANTS PTY LTD

Lot 1123, 81 Lawson Road, Palmer, Shire of Collie

Development Approval Application and Environmental Management Plan

Version Reference: 0.1

Date: August 2025

Prepared by Lundstrom Environmental Consultants Pty Ltd for ACPH Civil and Plant Hire

Lundstrom Environmental Consultants Pty Ltd

Telephone: 08 9310 3297

Email: admin@lundstrom-environmental.com.au

Web: https://www.lundstrom-environmental.com.au

ACPH Civil and Plant Hire

Telephone: 0429 109 093

Email: terry@acph.com.au; admin@acph.com.au

Web: http://www.acph.com.au/

Version Register

Version No.	Description	Author	Reviewed by	Date
0.1	Report	V.G.	M. L	August 2025

Front cover image: *Google Earth Imagery Sep 2023*

CONTENTS

1 Introduction 3

2 Property Description, Ownership and Locality 4

3 Description of the Site and its Surrounds 5

3.1 Present Land Use 5
3.2 Topography 5
3.3 Surface Water, Drainage and Wetlands 5
3.4 Geology and Soils 5
3.5 Groundwater Hydrology 6
3.6 Vegetation 6
3.7 Environmentally Sensitive Areas 6
3.8 Current Zoning and Existing Infrastructure 6
3.9 Bushfire Prone Areas 6
3.10 Closest Residences 6

4 The Development Proposal 8

4.1 Current Gravel Extraction 8
4.2 Proposed Gravel Extraction 8
4.4 Site Access and Egress Roads 10
4.5 Estimated Traffic to be Generated 10
4.2.1 Condition of Norm Road 10
4.2.2 School Bus Schedules 10

5 Potential Negative Environmental Impacts and Proposed Management 11

5.1 Flora and Fauna 11
5.2 Weeds 11
5.3 Alteration of the Land Surface 11
5.4 Visual Impact 11
5.5 Water 11
5.5.1 Water Management 11
5.6 Noise 13
5.7 Dust 13
5.8 Dieback 13
5.8.1 Potential Impacts 13
5.8.2 Dieback Management 13
5.9 Heritage Sites 14
5.10 Acid SulPHate Soils 14
5.11 Fire Management 14
5.11.1 Fire Risk 14
5.11.2 Water Supplies 14
5.11.3 Contacts 15
5.11.4 Actions in the Event of a Bush Fire on Site 15

6 Rehabilitation 16
6.1 Proposed Rehabilitation Measures 16
6.2 Monitoring And Maintenance 16
6.3 Completion Criteria 17
7 References 18

LIST OF TABLES

Table 1. Property description 4
Table 2. Structures Within 1km Radius of Proposed Extraction activities for gravel and sand operation areas 7
Table 3. Proposed Stages of Extraction 9
Table 4. Closure Criteria, objectives and Interim Tragets 17

LIST OF FIGURES

Figure 1. Locality Plan
Figure 2. Site and Surrounds
Figure 3. Proposed Operations

LIST OF APPENDICES

Appendix 1: Development Approval Application Form
Appendix 2: Certificate of Title
Appendix 3: Authorisation Letter and Letter of No objection
Appendix 4: Water Management Plan
Appendix 5: Weed Management Plan
Appendix 6: Dust Management Plan
Appendix 7: Noise Management Plan
Appendix 8: Dieback Management Brochure

1 INTRODUCTION

The purpose of this report is to provide all the necessary information required in support of a Development Approval (DA) application (Appendix 1) by the proponent, ACPH Civil and Plant Hire, in relation to a proposed gravel extraction operation on Lot 1123 Lawson Road, Palmer in the Shire of Collie.

This application is to extract gravel within proposed Stage 2 with a total area of 7.4ha. This area is to the south of the current approved Stage 1 (12.2ha) which has now almost been completed. Rehabilitation within Stage 1 has taken place on a progressive basis.

This report sets out the details required by the Shire of Collie for ongoing extraction of laterite gravel on Stage 2 of the property together with maps. It also provides an environmental assessment of the proposal and environmental management plans.

2 PROPERTY DESCRIPTION, OWNERSHIP AND LOCALITY

The property is situated approximately 1km north of the intersection of Lawson Road and Collie-Williams Road and approximately 10km Northeast of Collie. A locality plan is included as Figure 1. The property description and ownership are summarised in Table 1.

Table 1. Property description

Property Description:	Lot 1123 81 Lawson Road, Palmer Shire of Collie

Lot 1123:

Deposited Plan	232895
Volume	1306
Folio	963
Area:	40.5078ha
Ownership	[redacted]

The Certificate of Title is attached as Appendix 2 and Authorisation letter and Letter of No Objection as Appendix 3.

The site is currently surrounded by low quality farmland to the west and south and on the east and north by the State Forest and the current gravel operation.

3 DESCRIPTION OF THE SITE AND ITS SURROUNDS

3.1 PRESENT LAND USE

The surrounding farm lots are currently used for sheep and cattle grazing and the lot 1123 is surrounded by public State Forest to the east and north. Approximately 12.2ha of the 40ha lot 1123 is currently being used for gravel extraction and the remainder is still used for cattle and sheep grazing by the landowner. The gravel extraction operations have occurred on the site since 2009.

Figure 2 illustrates the land use of the property and its immediate surrounds.

3.2 TOPOGRAPHY

The elevation of the subject area ranges between 301m AHD and 284m AHD, and generally falls from east towards south-west of gravel pit towards the farm dam and to south.

Current slopes across the proposed extraction area range between approximately 1:31 (3.2%) and 1:10 (10%).

3.3 SURFACE WATER, DRAINAGE AND WETLANDS

The property is situated within a *Rights in Water Irrigation Act 1914* (RIWI) Surface Water area and Irrigation district (Collie River Irrigation District Sub-Area No 2) overseen by DWER (Landgate 2023). The site lies in the Wellington Dam Collie River Catchment within the Collie River Basin of the Southwest division. The Collie River runs approximately 685m south from the nearest boundary of Stage 2 (Landgate 2023).

There is no permanent expression of surface water in the proposed new area. There are two tributaries flowing from the west of Lot 1123, merging further south-west, to flow into the Collie River.

The site does not fall in a Public Drinking Water Source Area (Landgate 2023).

Details of the methods that will be used to manage stormwater and off-site sedimentation are discussed in Section 5.5 of this report.

3.4 GEOLOGY AND SOILS

The landform is deeply dissected laterite plateau, bedrock geology of deeply weathered mantle over granite rocks. The soil characteristic is loamy gravel, duplex sandy gravel, red and brown loamy earth (often friable), shallow and deep sandy gravel, wet and semi-wet soils and loamy duplex (Landgate 2023).

Caprock thickness varies from 2 to 3m, and maximum excavation depths are approximately 1 to 3m below current ground level.

The surface laterite is underlain by deeply weathered granitic rocks of the Yilgarn Craton (GeoVIEW 2023).

3.5 GROUNDWATER HYDROLOGY

Limited groundwater occurs at approximately 20 metres below the proposed final ground surface, which exceeds the minimum required clearance under current regulatory policies and guidelines (DWER 2019).

3.6 VEGETATION

The Proposed Stage 2 does not have existing native vegetation. There is a cluster of vegetation to the west, and state forest to the east and further north of the proposed Stage 2. There is no clearing proposed during the operation, and the surrounding native vegetation will not be disturbed or impacted during the extractive operations. The gravel pit will be rehabilitated to pasture and will be used for grazing.

Lot 1123 comes under the Dwellingup vegetation Complex. Native vegetation around the extraction areas will be not disturbed by the extractive activities.

3.7 ENVIRONMENTALLY SENSITIVE AREAS

An Environmentally Sensitive Area (ESA) is an area where the vegetation has high conservation value and cannot be cleared. ESAs are declared by the Minister in the Environmental Protection (Environmentally Sensitive Areas) Notice 55 (2005) under section 51B of the Environmental Protection Act 1986. There are no Environmentally Sensitive Areas (ESA) as defined by the Clearing Regulations (DWER, 2019a) within or adjacent to the proposed extraction area.

3.8 CURRENT ZONING AND EXISTING INFRASTRUCTURE

The area is zoned as "Rural" in terms of the Shire of Collie Planning Scheme 6.

A small crib house and toilet facility exists on the northern boundary of the existing pit on Lot 1123.

3.9 BUSHFIRE PRONE AREAS

About one third of the proposed Stage 2 area falls within a bushfire prone area (Figure 2) as designated by the Fire and Emergency Services (FES) Commissioner on 1 June 2018. However, the threat of bushfire from this operation is considered low. The development area is on cleared agricultural land.

3.10 CLOSEST RESIDENCES

The Environmental Protection Authority (EPA) draft Environmental Assessment Guidelines "Separation distances between Industrial and sensitive land uses" lists the generic buffer for extractive industries where "grinding and milling works but no blasting" are proposed as 500 to 1 000m, depending on the type of processing (EPA, 2015).

The closest structures to the outer boundaries of the extraction areas are identified and mapped on Figure 2. There are three structures located within 1km of the proposed extraction areas as shown in Table 2. There are three structures within 1km of the closest boundary of the gravel operation area. Structure 1, 2 and 3 listed in the table 2 are owned by the owner [redacted] and are not considered to be sensitive receptors. The position of the crusher has been kept as far away as possible from structure 1 and has been placed in Stage 1. The gravel extraction operation on Lot 1123 has been carrying on since 2009; the owner has no objections to the operations, please see Letter of

No-Objection attached as Appendix 3. Structure 4 is a sensitive receptor; however, it is more than 1km from the closest boundary of Stage 2 and will not be impacted by the proposed gravel extraction operation.

Table 2. Structures Within 1km Radius of Proposed Extraction Area

Reference No. on Figure 2	Lot no.	Owner	Residential Status	Distance to closest boundary of Gravel operation area (metres)	Distance to the Crusher position (metres)
Structure 1	1123	[redacted]	Spare house, occasionally used by family members	105 SW	528 SW
Structure 2	345	[redacted]	Shed	325 SW	755 SW
Structure 3	763	[redacted]	Owner's residence	753 NW	972 NW
Structure 4	73	[redacted]	Unknown	1048 SW	1476 SW

The crusher position is further away from the structures and will be screened by the overburden and topsoil stockpile 2m high along the edges of extraction area and product stockpile 5m high positioned around the crusher. The closest sensitive premises is Structure 1 which is 528 m.

Further mitigations to manage dust and noise will be discussed in Dust Management Plan and Noise Management Plan.

4 THE DEVELOPMENT PROPOSAL

4.1 CURRENT GRAVEL EXTRACTION

Prior to 2009, Lot 1123 was used for cattle sheep grazing and from 2009 till now, has been mined for gravel on the northern side as shown in Figure 2.

4.2 PROPOSED GRAVEL EXTRACTION

ACPH propose to extract gravel from Stage 2, of the total are 7.4ha in two separate stages (Area 1 – 3.9ha and Area 2 – 3.5ha), as shown in Figure 3. The feature survey of the current land surface is attached as Appendix 9. The excavation will proceed to a maximum depth of approximately three metres. This DA application is for 5 years.

The Development Approval is required, for the purpose of undertaking the following activities on the land:

- Within each area of extraction, approximately 100mm of topsoil will be removed from the extraction area prior to the commencement of each area, with only the area targeted for immediate extraction being open. Topsoil will be stockpiled separately along the edges of the extraction area, with stockpiles being no more than 2 m high and 12m wide, with batter of 1:3 metres.
- Within each current stage of extraction, a bulldozer will rip and blade material to a raw material stockpile. Overburden stockpiles will be placed along the edges of the extraction area.
- The raw material will be loaded into the 20T jaw crusher and once processed, it will be automatically fed into the screening plant to grade the material depending on size required, after which a stacker creates a product stockpile. The product stockpile will be no more than 5m high and 30m wide, with batter of 1:3 metres.
- The excavation campaign which includes the removal of topsoil and overburden, excavation, crushing and screening stockpiling of gravel resource, will occur for 8 weeks during the summer months and material is stockpiled for future use.
- Cartage campaigns involve the removal of material from stockpiles, loading of trucks by front end loader and cartage by road trucks to mainly civil construction sites of private local sales. Cartage operations casually occur 6 days per week November to May.
- A mobile crushing and screening plant will process the material for approximately 8 weeks per year on site. Trucks will enter the pit and be loaded from the stockpile by a front-end loader.
- Overburden and Product stockpiles will be placed in such a way, that they will act as a noise buffer between the crusher and the sensitive receptors.
- Extraction activity will proceed to a depth of no more than 3m.
- Once extraction in the active area has been completed, topsoil will be respread, and the area ripped on the contour. Batters will be smoothed to 1:4 and the base of the pit levelled out.
- The extraction will be conducted as per the proposed areas of extraction shown in Table 3 and Figure 3. Each area of extraction will be progressively rehabilitated back to pasture after completion of extraction activities. This ensures that the area of disturbed land is kept to a practical minimum.
- To minimise open areas exposed to wind erosion as far as practicable, annual assessment of areas suitable for stabilisation will be completed, and soil stabilisation works will be carried out.
- Trucks will enter the pit from via Norm Road and be loaded from the stockpile by a front-end loader.

- Measures to limit noise and dust from the operations are discussed separately in 5.6 and 5.7 below.
- Rehabilitation and stormwater management measures will be implemented.
- There will be no blasting in this operation.
- Batters of 1:4 will be maintained throughout the operation. Where possible, topsoil will be replaced and seeded with pastures on a progressive basis, in fully extracted areas, prior to the commencement of winter, to blend with the existing landscape as much as possible. The end use of the site is for grazing.

Table 3 below summarises the actions that are to take place on the property over the next 5-year licence period (2025 to 2030) and are illustrated on Figure 3.

Table 3. Estimated Proposed Stages of Extraction

Stage (Gravel)	Action	2025	2026	2027	2028	2029	2030
Area 1	Strip, Crush and Stockpile from 3.9ha area						
Area 1	Load and Truck out						
Area 1	Progressive Rehabilitation of approx. 3.9ha						
Area 2	Strip, Crush and Stockpile from a 3.5ha area						
Area 2	Load and Truck out						
Area 2	Progressive Rehabilitation of approx. 3.5ha						
All	Monitoring and Maintenance						

4.4 SITE ACCESS AND EGRESS ROADS

Site access and egress is established off Norm Road (Figure 2).

4.5 ESTIMATED TRAFFIC TO BE GENERATED

Operating times will be 7am to 6 pm Monday to Friday and 7am to 4pm on Saturdays, excluding public holidays, November to May. No crushing will take place on Saturdays.

The following estimates are made:

- Estimated annual gravel removal: up to 80,000 tonnes
- Number of working days per month: 22days
- Vehicle payloads (GAV's[1]): Semi (30 tonnes)

  Six-Wheeler (20 tonnes)
- Proportional use: 30 tonner (50%), 20 tonners (50%)

It is estimated that on average a maximum of 14 trucks (out and in) movement will occur per day. Trucking gravel offsite can vary because of orders. On average, gravel is carted off site 1 day a week for small orders and large could be for a week averaging 4-5 times a year.

4.2.1 Condition of Norm Road

Norm Road is an unsealed road and is currently in a good condition, mainly used by log trucks as well as local traffic. ACPH conducts grading of the Norm Road as per requirement, on average 3 to 4 times a year. Development Approval condition of the previous Stage 1 required detailed design for upgrades/works to the intersection of Norms Road and Collie-Williams Road, including bitumen sealing of the first 50 metres from the Collie-Williams Road, in consultation with Main Roads WA. This work has been completed.

4.2.2 School Bus Schedules

Information about the school bus route and timing on Norm Road is obtained from South Central school bus services of Public Transport Authority of Western Australia. There is one school bus route that travels on Norm Road at around 8AM in the morning and 4PM in the afternoon. There is communication and understanding between the school bus driver and ACPH and trucking is avoided around the school bus times. ACPH makes sure there is no trucking 15 minutes before and after the school bus timings.

5 POTENTIAL NEGATIVE ENVIRONMENTAL IMPACTS AND PROPOSED MANAGEMENT

Short-term negative environmental impacts are to be expected in the process of all mining actions. These can largely be mitigated over the medium to long term provided that operating procedures are in accordance with acceptable standards and that rehabilitation measures are implemented as proposed. The following listed potential impacts are used as a checklist to ensure that all potential major impacts are addressed.

5.1 FLORA AND FAUNA

The Britten gravel pit comes under the Dwellingup vegetation complex. Native vegetation around the extraction areas will be not disturbed by the extractive activities.

The gravel extraction has been carried out since 2009 and no native vegetation is present in the pit area. Therefore, no clearing will take place and it is unlikely there will be significant impact to indigenous flora and fauna.

5.2 WEEDS

ACPH will implement a weed management plan as is described in Appendix 5 of this report.

5.3 ALTERATION OF THE LAND SURFACE

After extraction, the land surface will be approximately 3 metres lower than the original, apart from the batters which will be at a maximum gradient of 1:4. The battered slopes for each stage of the excavation works will be contained within the designated boundaries of each stage.

5.4 VISUAL IMPACT

Whilst a short-term visual impact will occur, once rehabilitation has been completed and pasture regrown, there will be little evidence that extraction has taken place. The end use of the rehabilitated gravel pit will be grazing.

Norm Road passes through State Forest and is effectively sheltered by trees on both sides. The only area visible is the entrance to the Lot 1123 off Norm Road.

5.5 WATER

5.5.1 Water Management

In all mining operations the potential exists for impacts to be incurred on surrounding water resources, or by storm water erosion of exposed areas. This is dependent on the slopes associated with the site, the nature of the ground materials and the proximity of the site to sensitive receptors such as productive aquifers, wetlands, lakes, or rivers.

A Water Management Plan has been prepared and is included as Appendix 4 of this report.

5.5.1.1 Surface Water Management

There is no permanent expression of surface water such as lakes, wetlands, dams, rivers or creeks, and no major surface drainage lines have been identified within the extraction area.

There are two tributaries flowing west of Lot 1123, merging further south-west, to flow into the Collie River as shown in Figure 2. The nearest tributary is about 150m from the pit boundary. These tributaries will not be disturbed by the gravel extraction.

5.5.1.2 Stormwater Management

Stormwater management is an important issue on this site and the management measures proposed are as follows:

- Any surface runoff from unmined areas outside the extraction areas will be diverted around the workings by means of diversion bunds placed around the boundaries of the operational stage.
- The runoff generated by direct rainfall onto the working stage will be managed using a number of measures which include:
    - Stormwater detention ponds to be constructed at the base of each sub catchment as defined in the water management plan, whilst it is being worked, with all stormwater generated by rainfall onto the being directed to them by the use of rip lines and material stockpiles. Detention ponds will serve as effective silt traps in times of high surface runoff. Runoff and detention pond sizing is calculated in the Water Management Plan (Appendix 4).
    - Strategically placed stockpiles to reduce water flow within the extraction area.
    - Topsoil stockpile will be positioned in a gently sloped area along the stage boundary, and it will stabilise quickly, which will prevent any sedimentation.
    - Product (gravel) stockpile will act as a barrier to the storm water flow, and any water escaping will be captured by the constructed detention ponds.
- On completion of the extraction stage, contour banks will be constructed with an average fall of 0.4% and within a range of 0.2 and 0.5%. The contour bunds will be spaced according to contour design guidelines (See Water Management Plan in Appendix 4).

5.5.1.3 Groundwater Management

The project does not involve abstracting groundwater for operational purposes. No groundwater will be exposed by this development since extraction will only lower the ground level by three metres, and the floor of the pit will not intersect the limited groundwater that may occur at 10 or more metres.

Due to the low scale nature of the operations, no groundwater contamination is anticipated. No fuel or lubricant storage will occur on the site.

Refuelling will take place using a mobile refuelling vehicle which is equipped with a “snap-on snap-off, fast-fill and auto shut-off” facility. Plant will be refuelled each morning, leaving the vehicles almost empty overnight.

Refuelling or any activities that carry a risk of spills will be carried away from the detention basins and stormwater flow paths. No major servicing, which could lead to fuel and oil spills, will take place on the site. Contaminated material resulting from any minor spills will be extracted and disposed of offsite at an appropriate landfill facility.

ACPH will implement a Hydrocarbon Spill Response outlining their procedures for controlling, recovering, treating, and reporting hydrocarbon spills (See Water Management Plan in Appendix 4).

5.6 NOISE

The proposed development will generate some operational noise during periods of stripping/crushing/screening etc in the case of gravel extraction, but this will be limited to approximately 8 weeks per annum.

As detailed in Section 3.10 and Appendix 7 there are three structures within 1,000m of the proposed operations, located mostly towards the southwest. All the lots within 1000m are owned by the owner of 1123. The gravel extraction operations on Lot 1124 are going on since 2009 and have not caused any issues in the past with dust and noise. The Letter of No Objection from the owner is attached as Appendix 3.

Mitigation measures will be implemented which will limit the impact of operational noise. A Noise Management Plan has been prepared and is included as Appendix 7 of this report.

5.7 DUST

There is potential for dust to be generated when conditions are dry and there are strong winds during the initial stages of the proposed operation. Proposed measures to limit the impact of dust on amenity, human health and environmental values are contained in a Dust Management Plan included as Appendix 6.

5.8 DIEBACK

5.8.1 Potential Impacts

Previous assessment of the dieback status of the site could not be ascertained due to the historical clearing that had occurred on site. The proposed extraction is classified as “Low Confidence Uninfested” and are managed as per the guidelines applicable for this classification (Dieback Working Group, 2010). ACPH has prepared a brochure for management of dieback which is included as Appendix 8.

5.8.2 Dieback Management

The following management measures will be put in place to minimise future spread of dieback:

- The properties will be always fenced.
- Access to the properties will be via a single entrance gate.
- All machinery, trucks and other vehicles will arrive in a clean condition free of soil and organic matter that may contain dieback fungus.
- Any soil and plant material brought to the site for rehabilitation purposes should be from dieback free sources.
- Employees and contractors working on the site will be informed of the purpose of the above measures and their responsibilities in relation to dieback prevention.
- The site will not be worked during wet periods.

5.9 HERITAGE SITES

A search of the Department of Planning, Lands and Heritage (DPLH) Aboriginal Heritage Inquiry System (AHIS) shows one registered Site 16713, Collie River Waugal, around 1km south-west of Lot 1123. This site is classified as a mythological, natural feature and water source (DPLH 2023). This site will not be disturbed or impacted by the extractive industry operations.

There are no registered sites or other heritage sites within the proposed extraction area. If during the works, an aboriginal cultural heritage site is discovered, the proponent will immediately advise the Department of Aboriginal Affairs and abide by the *Aboriginal Heritage Act 1972*.

5.10 ACID SULPHATE SOILS

A search of the CSIRO's Australian Soil Resource Information System (ASRIS) database identified the area has been provisionally classified as having an extremely low probability of occurrence for acid sulphate soils (CSIRO 2023).

5.11 FIRE MANAGEMENT

Fire management will be implemented in accordance with Shire of Collie's Local Planning Scheme 6.

5.11.1 Fire Risk

The rainfall pattern for the area is such that the majority of the rain falls in late autumn to early spring. This rainfall supports substantial vegetation growth which dries off in summer/early autumn.

Bush fires in the area are generally fast moving, with many fires running up the trees into the canopy, sending out embers to start spot fires ahead of the main ground fire, making suppression and containment difficult. Smoke is a major hindrance to fire fighters in such fast-moving fires.

Fire risk assessment for the proposed development will consider existing site conditions (WA Planning Commission & FESA 2010), which include:

- Topography and slope with reference to accessibility
- Remnant vegetation cover and likely revegetation
- Surrounding land use patterns

The bush fire risk level for the proposed development area is Low-Medium, as the areas of proposed operations are cleared. The bush fire risk levels for the surrounding remnant vegetation are rated as Extreme and Low-Medium in cleared areas.

5.11.2 Water Supplies

A water tanker will be available for firefighting operations off site when bush fires are close by, and water availability is at the discretion of ACPH management. A 15kl water cart will be always on site, during the proposed extraction activities. ACPH will continue to obtain water for dust suppression and bushfire management from commercial water source during the lifecycle of the proposed extraction operations. Water for dust suppression will be obtained from commercial water source in the local area. The applicant ACPH, has obtained a Water Corporation cad to obtain water from a hydrant standpipe.

Approximately 2000kl of water will be required every year for the proposed extraction activities and bushfire management.

5.11.3 Contacts

The Site Supervisor will be the main point of contact for any fire related queries. The Supervisor's contact number will be displayed on the sign at the main access gate.

5.11.4 Actions in the Event of a Bush Fire on Site

The following actions will be taken in the event of a bush fire.

- All personnel on site will be notified immediately of fire.
- Fire will be reported to FESA Operations by ringing '000' and providing all known details on the fire including location, type of vegetation burning, intensity, smoke level.
- If safe to do so, onsite personnel and equipment will be used to extinguish the fire using fire extinguishers, water cart, plant, and equipment.
- Personnel and equipment will be relocated to a safe area.
- A fire break will be created around the fire, if possible, only if it is safe to do so. Any personnel or equipment will not be put at risk.
- On arrival of Fire Brigade, site supervisor will take directions from the most senior Brigade Officer (Incident Controller) on site. ACPH personnel will follow their own chain of command (site supervisor/team leader).
- Mobile phones will be available to all operators.
- Fire extinguishers will be fitted to all plants.
- The water cart will be fitted with a fire hose facility.

6 REHABILITATION

6.1 PROPOSED REHABILITATION MEASURES

Rehabilitation of the completed areas will be progressive with the entire area being returned to pastures. The end use of the rehabilitated area will be farming.

The following steps will be implemented:

- All batters behind the active working face will be contoured to achieve a slope of no more than 1:4.
- Final land surface will have the same grade as the original surface but will be approximately 3m lower.
- Stockpiled topsoil/overburden will be re-spread over completed area.
- The pit floor will be ripped along the contour, at 6m intervals, to a depth of 0.5 to 1m to relieve compaction, improve infiltration, attenuate stormwater runoff, and facilitate rapid root penetration.
- Stormwater attenuation embankments will be constructed as discussed in Section 5.5.1.2 above.
- Stormwater infrastructure is to remain post extraction to assist in the control of flow velocity where downstream erosion problems are present, until pasture is sufficiently established.
- Detention ponds will be removed/filled in once the rehabilitation is complete.
- All areas will be seeded with appropriate pasture species.
- Rehabilitation work will only be carried out just prior to or during the wet season.
- Completion of rehabilitation for each stage within three years of extraction being completed as shown in Figure 3.
- Regular monitoring will be undertaken over the licence period as is described in Section 6.3 below.

6.2 MONITORING AND MAINTENANCE

Monitoring of rehabilitated areas will ensure that any area requiring remedial work is identified. Monitoring will be carried out on an annual basis to assess:

- The physical stability of the landform in the rehabilitated area.
- The success of sown pasture grasses.
- The emergence of weeds.

Monitoring will continue until the completion criteria presented in section 6.3 have been fulfilled. Maintenance procedures will be carried out where necessary and will include:

- Repair of any erosion damage.
- Seeding areas that may not have regenerated.
- Weed control.

6.3 COMPLETION CRITERIA

Completion criteria should be set at a high enough standard to ensure that the overall objectives of the rehabilitation have been met. These criteria should allow for efficient reporting and auditing so that rehabilitation works can be tracked and finalised within an appropriate timeframe.

The completion criteria proposed for extractive operations on Lot 1123 are presented in Table 4.

Table 4. Closure Criteria, objectives, and Interim Targets

Criteria	Objective	Interim Targets
a) Safety	The site is safe to humans.	Site is safe to humans during operations.
b) Sustainability	The site is sustainable in the long term without additional management inputs.	On-going Management of short-term impacts.
c) Suitability	The site is suitable for the agreed land uses.	On-going Management of short-term impacts.
d) Visual amenity and heritage	The rehabilitated extraction area blends into the surrounding environment.	On-going Management of short-term impacts.
e) Off-site impacts	Significant adverse off-site impacts are prevented.	Significant adverse off-site impacts are prevented.
f) Hydrology	a. Site hydrology does not prevent the establishment of desired vegetation. b. Site hydrology does not reduce the stability of the landform. c. Stormwater is contained within the site.	Stormwater is contained within the site during operations. Identification and mitigation of any hydrology related issues during operations.
g) Soils and stability	a. Soil profiles and structures are sufficient to ensure vegetation establishment. b. The landform is stable.	Topsoil is respread in all rehabilitation areas. Identification and mitigation of potential erosion scars and scours during operations.
h) Vegetation	a. Pasture grasses cover the entire site after completion of the extraction phase. b. Pasture grass cover is sufficiently resilient to sustain grazing pressure.	After one year pasture grasses over 30% of target area increasing by 20% per annum thereafter.
i) Weeds	a. Declared pest weeds are absent. b. The level of weed species should not be detrimental to the planted seedlings.	Declared weed species removed systematically during operations.

7 REFERENCES

CSIRO (2023). Australian Soil Resource Information System (ASRIS). [Online], http://www.asris.csiro.au. Accessed May 2023.

Department of Planning, Lands and Heritage (DPLH) (2023). Aboriginal Heritage Inquiry System (AHIS). Website: https://maps.daa.wa.gov.au/AHIS/ Accessed May 2023.

Department of Water and Environmental Regulation (DWER) (2019). Water quality protection note no.15. Basic raw material extraction. Accessed: May 2023

Dieback Working Group (2010). Management of Phytophthora Dieback in Extractive Industries. Best Practice Guidelines. Available on http://www.dec.wa.gov.au

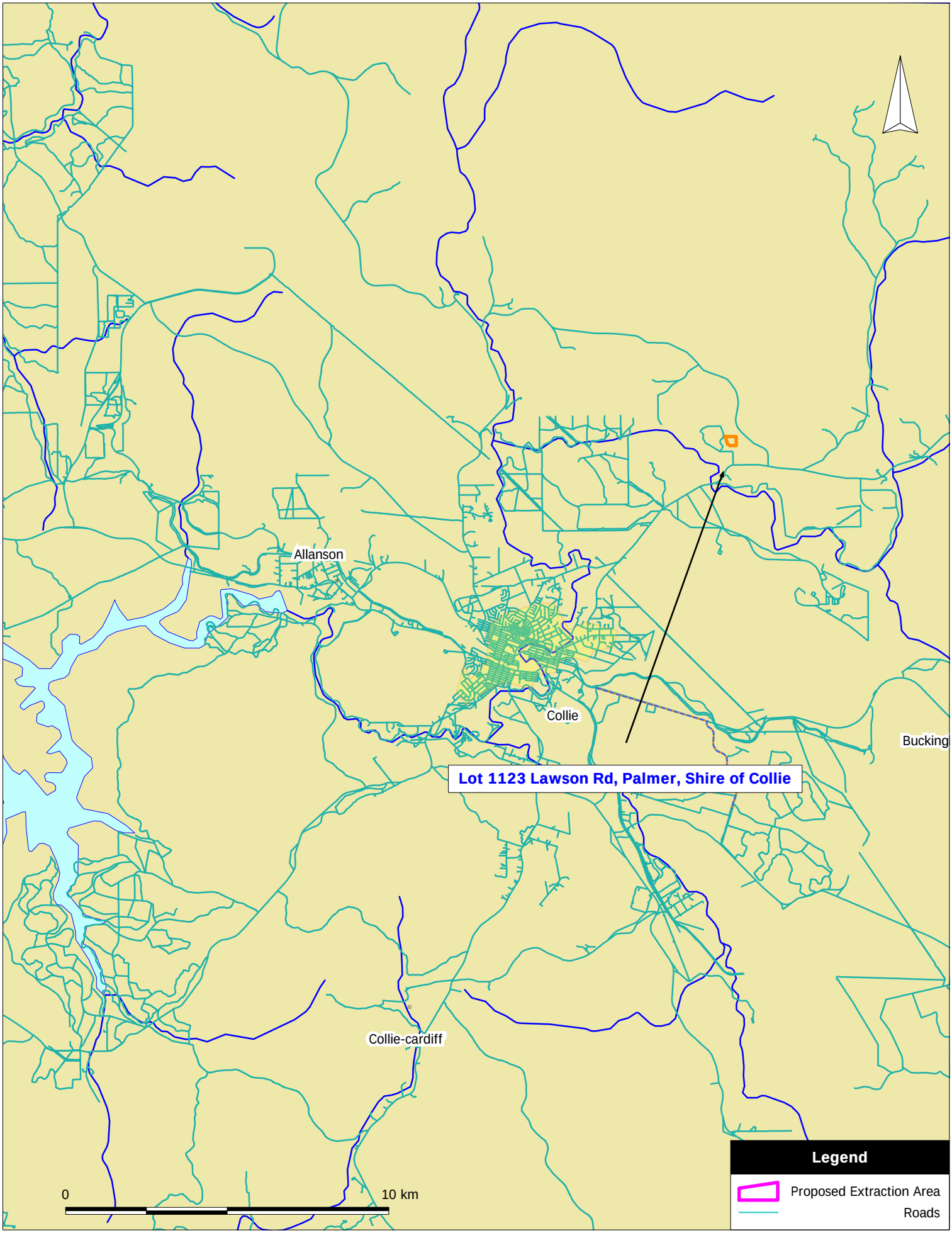
Dieback Public Map (2023) Project Dieback website: https://dieback.net.au/dieback-public-map/

Environmental Protection Authority (EPA) (2015). Draft Environmental Assessment Guidelines for Separation distances between industrial and sensitive land uses. Western Australia, September 2015.

Landgate (2023). Lot 1123 Lawson Road, Palmer, Shire of Collie. [Online] https://maps.slip.wa.gov.au/landgate/locate/. Accessed: May 2023.

Water and Rivers Commission (now DWER). (2001). Position Statement: Wetlands.

FIGURES



Lundstrom Environmental Consultants Pty Ltd

Applecross WA 6153
Mob: 0417934863
admin@lundstrom-environmental.com.au

Scale: 1:150000
Original Size: A4
Datum: GDA94
Projection: Australia MGA94 (50)

Client: ACPH

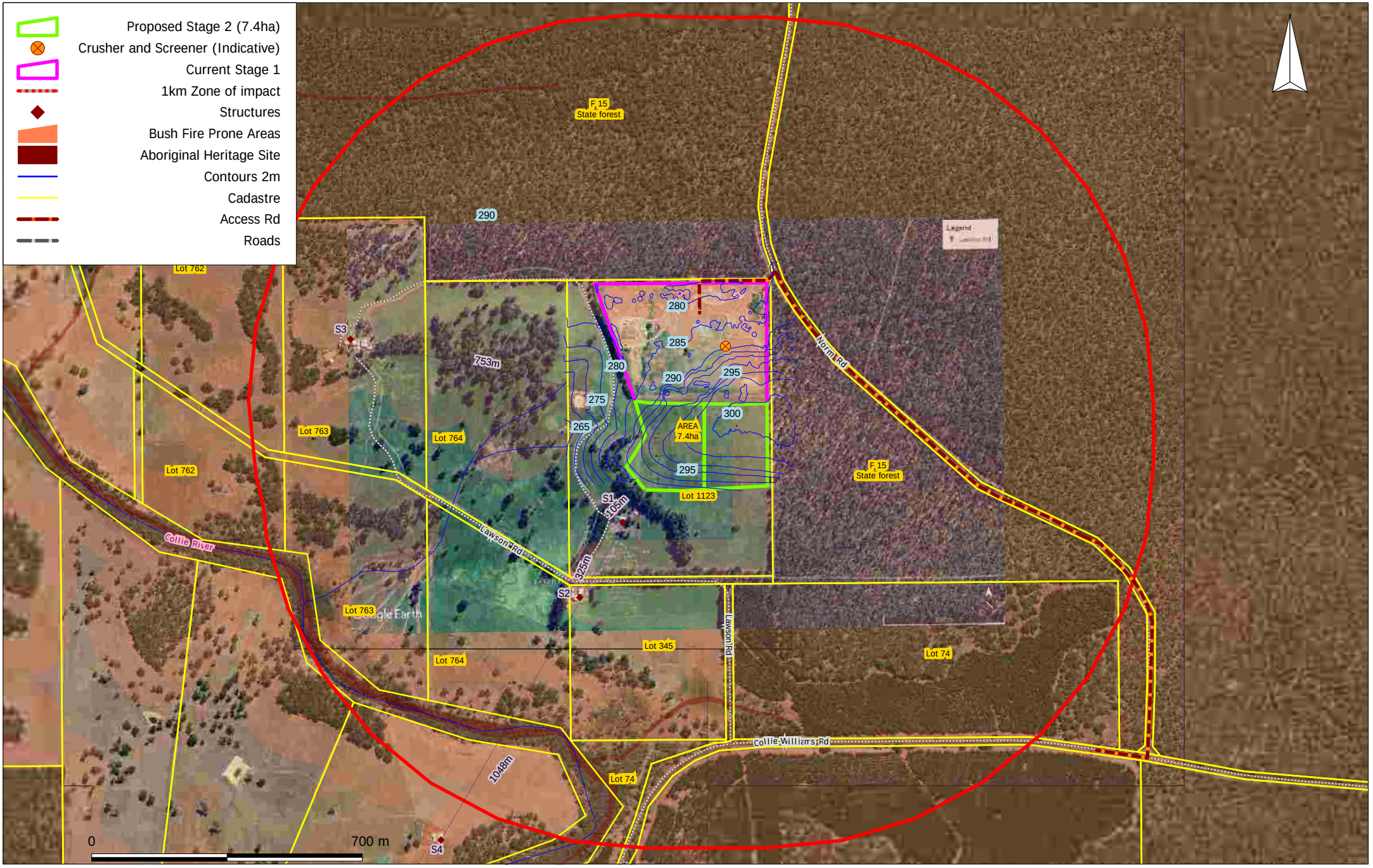
Project: Gravel Extraction

Location: Lot 1123 Lawson Rd, Palmer, Collie

Figure 1:

Locality Plan

Z:\Other Clients and Projects\ACPH\Lawson Rd Lot 1123_1123_SoCo_Gr\EIL\2025-South Area\Drawing\F1 Locality New Haulage Route.ma



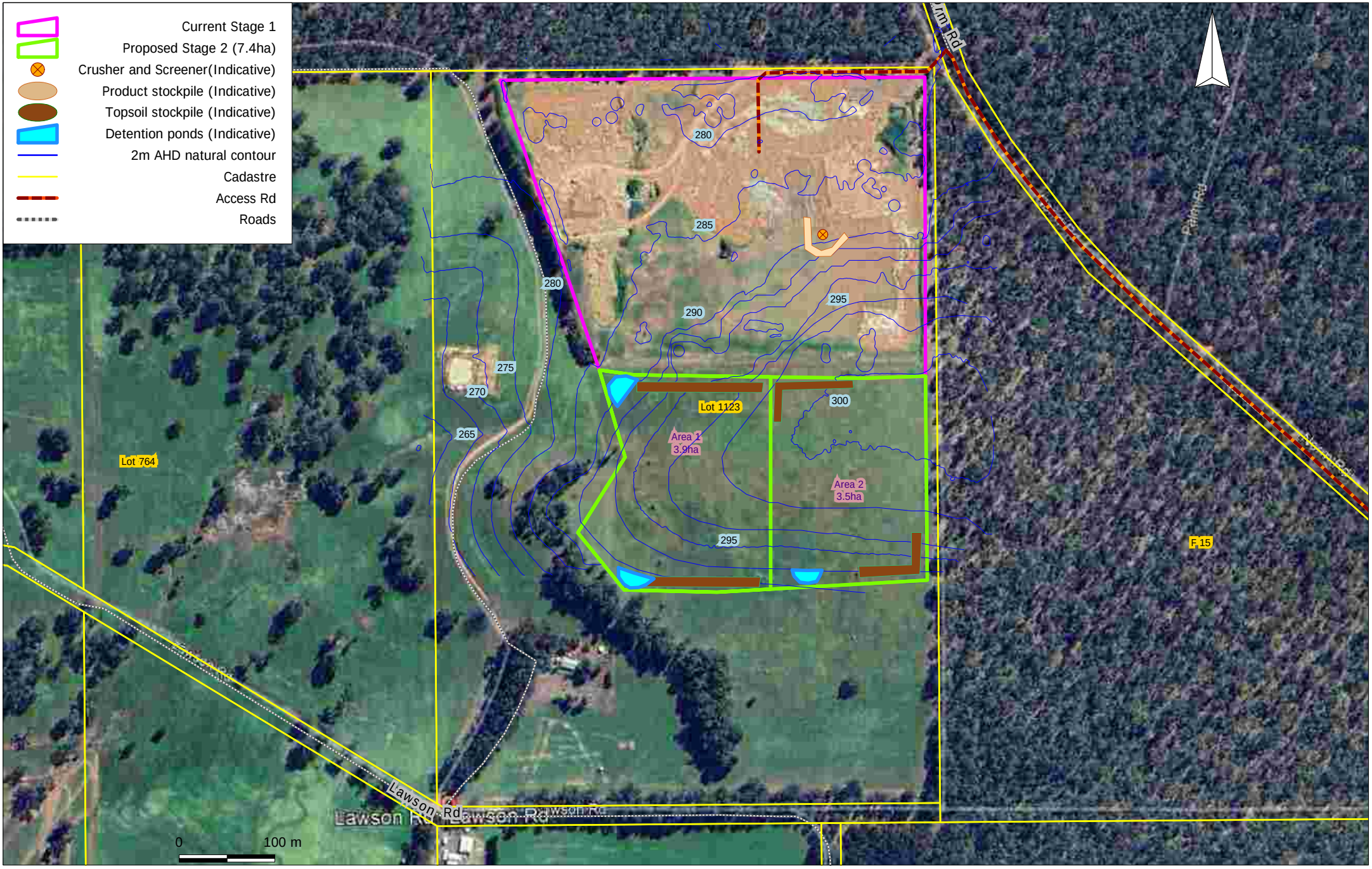
Lundstrom Environmental Consultants Pty Ltd
Applecross WA 6153
Mob: 0417934863
admin@lundstrom-environmental.com.au

Scale: 1:12000
Original Size: A4
Air Photo Source: Google Earth Sept 2023
Datum: GDA94
Projection: Australia MGA94 (50)

Client: ACPH
Project: Gravel Extraction
Location: Lot 1123 Lawson Rd, Palmer, Collie

Figure 2:
Site and Surrounds

Z:\Other Clients and Projects\ACPH\Lawson Rd Lot 1123_1123_SoCo_Gr\EIL\2025-South Area\Drawing\F2 Site and surrounds.map 14/08/2025 Layout



Lundstrom Environmental Consultants Pty Ltd
Applecross WA 6153
Mob: 0417934863
admin@lundstrom-environmental.com.au

Scale: 1:5000
Original Size: A4
Air Photo Source: Google Earth Sept 2023
Datum: GDA94
Projection: Australia MGA94 (50)

Client: ACPH
Project: Gravel Extraction
Location: Lot 1123 Lawson Rd, Palmer, Collie

Figure 3:
Proposed Extraction Operations

Z:\Other Clients and Projects\ACPH\Lawson Rd Lot 1123_1123_SoCo_Gr\EIL\2025-South Area\Drawing\F3 Proposed Extraction Area.map 14/08/2025 Layout

APPENDIX 1:

DEVELOPMENT APPROVAL APPLICATION FORMS

Shire of Collie
Explore. Discover. Connect.

ABN 80 581 297 683
87 Throssell Street, Collie WA 6225
Mail to: Locked Bag 6225, Collie WA 6225
P (08) 9734 9000 E colshire@collie.wa.gov.au
www.collie.wa.gov.au

DEVELOPMENT APPLICATION GUIDE

This guide has been provided to help you submit a complete and correct application for development approval to enable the Development Services team to properly assess your proposal and arrive at a fair determination. It applies to all development within the Shire requiring development approval under the relevant clauses set out in Local Planning Scheme No. 6 (LPS 6) and Schedule 2 - Deemed Provisions for local planning schemes of the *Planning and Development (Local Planning Schemes) Regulations 2015*.

The development application must consist of the following (unless otherwise agreed):

- A completed **Application for Development Approval Form**.
- A **Covering Letter** addressed to the Chief Executive Officer detailing the development proposal and addressing any important issues.
- A completed **Development Application Checklist**.
- Two copies of a full **site plan**, **floor plan** and **elevation** drawings of all aspects (views) of the proposal. One stamped set will be returned to you at the completion of the development assessment process.
- Payment of the relevant **Development Application Fees**, as set out in the *Planning and Development Regulations 2009* or prescribed under the *Local Government Act 1995.*
- any other plans or information that the local government reasonably requires.

Under the *Planning and Development Act 2005* the period allowed for the Shire to assess an application for development approval is 60 or 90 days, depending on whether or not public consultation is required for the application.

Please note that “the clock stops” if sufficient information has not been provided to enable assessment of the development application. If insufficient information has been provided you will be informed in writing as soon as practical after receiving your application.

The period between a request for further information and the time the information is provided to the satisfaction of the Shire Planner is not counted in the period allowed for assessment of the development application.

Similarly, the clock does not start, nor does the processing of the application commence, until the application is complete. If your application is not complete, you will be notified by the Shire’s Planner within 7 days of lodgment.

Shire of Collie
Explore. Discover. Connect.

ABN 80 581 297 683
87 Throssell Street, Collie WA 6225
Mail to: Locked Bag 6225, Collie WA 6225
P (08) 9734 9000 E colshire@collie.wa.gov.au
www.collie.wa.gov.au

APPLICATION FOR DEVELOPMENT APPROVAL FORM

Owner/s details		
Name/s: [redacted]		
Residential Address: [redacted]		
ABN (if applicable): [redacted]		
Phone: (work): (home): (mobile):	Fax:	[redacted]
Contact person: [redacted]		
Signature: [redacted]	Date: 12/08/2025	
Signature:	Date:	

The signatures of all of the owner(s) is required on all applications. This application will not proceed without that signature and may not be signed by an unauthorised person.

For the purpose of signing this application an owner includes the persons referred to in the* Planning and Development (Local Planning Schemes) Regulations 2015 *Schedule 2 clause 62(2).

Applicant details (if different from owner)		
Name: Terry Christopher Massara		
Address: Lot 2041 Patstone Road Collie WA 6225		
Phone: (work): (home) (mobile): 0429109093	Fax:	E-mail: terry@acph.com.au
Contact person for correspondence:		
The information and plans provided with this application may be made available by the local government for public viewing in connection with the application. ☐ Yes ☐ No		
Signature:		Date: 12/08/2025

Property details		
Lot No: 1123	House/Street No:	Location No:
Diagram or Plan No:	Certificate of Title Vol. No: 1175	Folio: 686
Title Encumbrances (Easements, restrictive covenants): Attach relevant documents.		
Street name: Norms Rd Palmer	Suburb:	
Nearest street intersection:		

Proposed Development	
Nature of development:	☐ Works ☐ Use ☒ Works and Use

Is an exemption from development claimed for part of the development? ☐ Yes ☐ No
If yes, is the exemption for: ☐ Works ☐ Use
Description of proposed works and/ or land use: Proposed extraction of gravel only with the prime user being ACPH
Description of exemption claimed (if relevant):
Nature of any existing buildings and/ or land uses: Existing Location is currently used fro grazing cattle and gravel extraction. There are no existing buildings.
Approximate cost of proposed development:
Estimated time of completion: 5 years

Shire of Collie
Explore. Discover. Connect.

ABN 80 581 297 683
87 Throssell Street, Collie WA 6225
Mail to: Locked Bag 6225, Collie WA 6225
P (08) 9734 9000 E colshire@collie.wa.gov.au
www.collie.wa.gov.au

DEVELOPMENT APPLICATION CHECKLIST

This checklist is to ensure that development applications are complete before they are accepted and registered as received applications. The reasons for requiring complete applications include:

1. The information is required under the Shire of Collie's Local Planning Scheme No. 6 and therefore required by law.
2. Assessment cannot be carried out by a planning officer until all information is received;
3. Completed information reduces delays.

Required Information		**Please Tick**
1.	Application for Development Approval form completed and signed by **all** of the owner/s of the land and the applicant (if different from the owner)	
2.	Payment of the appropriate development application fee (refer to Planning Fees Schedule [attached])	
3.	Detailed written statement in the form of a letter to the CEO in support of the proposal including: • Full details of the use/development • Compliance with Local Planning Scheme/R-Codes/Policies • Justification for any proposed variations to development requirements.	
4.	A copy of the Certificate of Title (CT) no more than six (6) months old. A copy of the CT can be ordered online from Landgate for $25.70. Further documents which may also be purchased from Landgate (such as Survey plan and Caveat details) may be requested in order to assess the application.	
5.	(a) Two (2) copies of a plan or plans showing the following- (i) the location of the site including street names, lot numbers, north point and the dimensions of the site; (ii) the existing and proposed ground levels over the whole of the land the subject of the application; (iii) the location, height and type of all existing structures and environmental features, including watercourses, wetlands and native vegetation on the site; (iv) the structures and environmental features that are proposed to be removed; (v) the existing and proposed use of the site, including proposed hours of operation, and buildings and structures to be erected on the site; (vi) the existing and proposed means of access for pedestrians and vehicles to and from the site;	

	(vii) the location, number, dimensions and layout of all car parking spaces intended to be provided; (viii) the location and dimensions of any area proposed to be provided for the loading and unloading of vehicles carrying goods or commodities to and from the site and the means of access to and from those areas; (ix) the location, dimensions and design of any open storage or trade display area and particulars of the manner in which it is proposed to develop the open storage or trade display area; (x) the nature and extent of any open space and landscaping proposed for the site; and (b) plans, elevations and sections of any building proposed to be erected or altered and of any building that is intended to be retained; and (c) a report on any specialist studies in respect of the development that the local government requires the applicant to undertake such as site surveys or traffic, heritage, environmental, bushfire attack level assessment, engineering or urban design studies; and (d) any other plan or information that the local government reasonably requires. **All plans and details must be legible, drawn to scale and include the lot and street address and owners details**	

Applications that are accompanied by the complete package of information as detailed above, including this Checklist, and signed by the Applicant below will be processed more efficiently and expediently.

Applicants Signature/s **Printed Name** **Date**

Notes:

1. *The above information is required to enable an initial assessment of the application only.*
2. *If required, the Shire may make a further request for additional supporting information to facilitate the assessment process. Compliance with the checklist does not necessarily mean that the proposal will be approved.*
3. *This is **not** an application for a Building Permit. A Separate application for a Building Permit must be made and granted before development commences.*

Shire of Collie
Explore. Discover. Connect.

ABN 80 581 297 683
87 Throssell Street, Collie WA 6225
Mail to: Locked Bag 6225, Collie WA 6225
P (08) 9734 9000 E colshire@collie.wa.gov.au
www.collie.wa.gov.au

Schedule of Planning Fees
Planning and Development Regulations 2009
2023/24

(N.B. this is a guide only. For current fees and charges, please refer to the Shire of Collie's Fees & Charges*)*

Item	Planning Service	Maximum fee
Part 1 – Statutory Fixed Fees		
1.	Determining a development application (other than for an extractive industry) where the development has not commenced or been carried out and the estimated cost of the development **(excluding GST)** is —	
	(a) not more than $50 000	$147
	(b) more than $50 000 but not more than $500 000	0.32% of the estimated cost of development
	(c) more than $500 000 but not more than $2.5 million	$1 700 + 0.257% for every $1 in excess of $500 000
	(d) more than $2.5 million but not more than $5 million	$7 161 + 0.206% for every $1 in excess of $2.5 million
	(e) more than $5 million but not more than $21.5 million	$12 633 + 0.123% for every $1 in excess of $5 million
	(f) more than $21.5 million	$34 196
2.	Determining a development application (other than for an extractive industry) where the development has commenced or been carried out	The fee in item 1 plus, by way of penalty, twice that fee
3a.	Residential Design Code (R-Code) Variation (Minor)	$147
3b.	Residential Design Code (R-Code) Variation (Major)	$294
4.	Determining a development application for an extractive industry where the development has not commenced or been carried out	$739
5.	Determining a development application for an extractive industry where the development has commenced or been carried out	The fee in item 4 plus, by way of penalty, twice that fee
5A.	Determining an application to amend or cancel development approval	$295
6.	Providing a subdivision clearance for —	
	(a) not more than 5 lots	$73 per lot
	(b) more than 5 lots but not more than 195 lots	$73 per lot for the first 5 lots and then $35 per lot
	(c) more than 195 lots	$7 393
7.	Determining an initial application for approval of a home business/ occupation where the activity has not commenced	$222
8.	Determining an initial application for approval of a home business/ occupation where the activity has commenced	The fee in item 7 plus, by way of penalty, twice that fee

Item	Planning Service	Maximum fee
Part 1 – Statutory Fixed Fees		
9.	Determining an application for the renewal of an approval of a home business/ occupation where the application is made before the approval expires	$73
10.	Determining an application for the renewal of an approval of home occupation where the application is made after the approval has expired	The fee in item 9 plus, by way of penalty, twice that fee
11.	Determining an application for a change of use or for an alteration or extension or change of a non-conforming use to which item 1 does not apply, where the change or the alteration, extension or change has not commenced or been carried out	$295
12.	Determining an application for a change of use or for an alteration or extension or change of a non-conforming use to which item 2 does not apply, where the change or the alteration, extension or change has commenced or been carried out	The fee in item 11 plus, by way of penalty, twice that fee
13.	Providing a zoning certificate	$73
14.	Replying to a property settlement questionnaire	$73
15.	Providing written planning advice	$73
Part 2 – Maximum Fees: Scheme Amendments, Structure Plans and Local Development Plans (incl. gst)		
1.	Request to Initiate Scheme Amendment	$360
2.	Processing Fee – Basic (Unless lodgment is only required to comply with the relevant Act or Regulations)	$1 745
3.	Processing Fee – Standard (Note: Unused Fees to the maximum value of $500 may be refunded to applicant upon consideration of request if the proposal is not approved/ initiated)	$1 745
4.	Processing Fee - Complex	$3 385
5.	Lodgment of Structure Plans and Local Development Plans	$1 056 (Initial charge, based on 12hrs; final charge is subject to hours required on application)
6.	Director/ Shire Planner	$88 per/hour
7.	Environmental Health Officer	$37 per/hour
8.	Administrative Assistance	$30 per/hour
Part 3 – Council Fees		
1.	Advertising required for all 'A' use classes, and any discretionary 'D' uses, Home Based Businesses, and contentious issues as required	$155 (For advertising up to 14 days maximum of 1 newspaper circulation) $310 (For advertising up to 21 days, minimum of 2 newspaper circulations)
2.	Advertising for longer than 21 days E.g. Scheme Amendments, Changes to Crown Reserves – Road closures, road dedications, vesting, change of purpose.	Cost plus 10%
3.	Issue of Section 40 Certificate (Liquor Act)	$155
4.	Lodgment of a Notification on Title	$175
5.	South West Joint Design Review Panel Sitting Fees	$2 100 per meeting

Shire of Collie
Explore. Discover. Connect.

ABN 80 581 297 683
87 Throssell Street, Collie WA 6225
Mail to: Locked Bag 6225, Collie WA 6225
P (08) 9734 9000 E colshire@collie.wa.gov.au
www.collie.wa.gov.au

ADDITIONAL INFORMATION FOR DEVELOPMENT APPROVAL FOR ADVERTISEMENTS

[cl. 86]

Note: to be completed in addition to the Application for Development Approval form if the proposal includes commercial signage

1.	Description of property upon which advertisement is to be displayed including full details of its proposed position within that property:			
2.	Details of proposed sign:			
	(a)	Type of structure on which advertisement is to be erected (i.e. freestanding, wall mounted, other):		
	(b)	Height:	Width:	Depth:
	(c)	Colours to be used:		
	(d)	Height above ground level —		
		• (to top of advertisement): • (to underside):		
	(e)	Materials to be used:		
		Illuminated: Yes / No If yes, state whether steady, moving, flashing, alternating, digital, animated or scintillating and state intensity of light source:		
3.	Period of time for which advertisement is required:			
4.	Details of signs (if any) to be removed if this application is approved:			
	Note:	This application should be supported by a photograph or photographs of the premises showing superimposed thereon the proposed position for the advertisement and those advertisements to be removed detailed in 4 above.		
	Signature of advertiser(s): (if different from land owners)			
	Date:			

APPENDIX 2

CERTIFICATE OF TITLE

WESTERN AUSTRALIA

REGISTER NUMBER	
1123/DP232895	
DUPLICATE EDITION	DATE DUPLICATE ISSUED
N/A	**N/A**

VOLUME **1306** FOLIO **963**

RECORD OF CERTIFICATE OF TITLE

UNDER THE TRANSFER OF LAND ACT 1893

The person described in the first schedule is the registered proprietor of an estate in fee simple in the land described below subject to the reservations, conditions and depth limit contained in the original grant (if a grant issued) and to the limitations, interests, encumbrances and notifications shown in the second schedule.

BGRoberts

REGISTRAR OF TITLES

REGISTRAR OF TITLES WESTERN AUSTRALIA

LAND DESCRIPTION:

LOT 1123 ON DEPOSITED PLAN 232895

REGISTERED PROPRIETOR:
(FIRST SCHEDULE)

[redacted]

(T G709996) REGISTERED 11/2/1998

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

1. G709999 MORTGAGE TO BANK OF WESTERN AUSTRALIA LTD REGISTERED 11/2/1998.

Warning: A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required.
* Any entries preceded by an asterisk may not appear on the current edition of the duplicate certificate of title.
Lot as described in the land description may be a lot or location.

----------END OF CERTIFICATE OF TITLE----------

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND:	1306-963 (1123/DP232895)
PREVIOUS TITLE:	1242-711
PROPERTY STREET ADDRESS:	81 LAWSON RD, PALMER.
LOCAL GOVERNMENT AUTHORITY:	SHIRE OF COLLIE

NOTE 1: A000001A LAND PARCEL IDENTIFIER OF WELLINGTON LOCATION 1123 (OR THE PART THEREOF) ON SUPERSEDED PAPER CERTIFICATE OF TITLE CHANGED TO LOT 1123 ON DEPOSITED PLAN 232895 ON 24-APR-02 TO ENABLE ISSUE OF A DIGITAL CERTIFICATE OF TITLE.

NOTE 2: THE ABOVE NOTE MAY NOT BE SHOWN ON THE SUPERSEDED PAPER CERTIFICATE OF TITLE OR ON THE CURRENT EDITION OF DUPLICATE CERTIFICATE OF TITLE.

APPENDIX 3

AUTHORISATION LETTER AND LETTER OF NO OBJECTION

Authorisation Letter

2nd June 2023

TO WHOM IT MAY CONCERN

I, [redacted] am the registered owner of Lot 1123 on Deposited Plan 232895, Lawson Road, Palmer, Shire of Collie WA, 6225.

I hereby grant permission for ACPH Civil and Plant Hire and their consultant, Lundstrom Environmental Consultants Pty Ltd, to make application for all the necessary licences and permits, and authorise them to access, and extract gravel on the property.

Yours faithfully

[redacted]

Letter of No-Objection

Lot 1123
Lawson Road
Palmer
WA 6225
Shire of Collie

To Whom It May Concern

I, [redacted] confirm that I am the owner of Lot 1123, 345 and 763 Lawson Road, Palmer and that I have been approached by ACPH Civil and Plant Hire of Patstone Road Collie, regarding my sensitivity to dust and noise from their gravel extraction operations on lot 1123 Lawson Road, Palmer.

I wish to confirm that I have no objection to this proposed extraction.

[redacted]

Signature and Date

APPENDIX 4

WATER MANAGEMENT PLAN

APPENDIX 5

WEED MANAGEMENT PLAN

APPENDIX 6

DUST MANAGEMENT PLAN

APPENDIX 7

NOISE MANAGEMENT PLAN

APPENDIX 8

DIEBACK MANAGEMENT BROCHURE

LUNDSTROM ENVIRONMENTAL CONSULTANTS PTY LTD

ACN 600 398 945

896 Canning Hwy
Applecross
WA 6153

Mob: 0417934863
email: admin@lundstrom-environmental.com.au
www.Lundstrom-Environmental.com.au

WEED MANAGEMENT PLAN

Prepared for ACPH Civil and Plant Hire
Lot 1123, 81 Lawson Road, Palmer
Shire of Collie

1. INTRODUCTION

This Weed Management Plan (WMP) has been prepared in accordance with guidelines published by the Department of Agriculture and Food (DAF) (DAF 2014). This WMP should be read in conjunction with the report entitled "*Development Approval Application and Environmental Management Plan Lot 1123, 81 Lawson Road, Palmer, Shire of Collie"*, prepared for ACPH Civil and Plant Hire by Lundstrom Environmental Consultants Pty Ltd in August 2025.

1.1 Locality and Ownership

Locality: 1123, 81 Lawson Road,
Palmer
Shire of Collie

Ownership: ACPH Civil and Plant Hire

Figure 1 shows the site and its surrounds and indicates the renewal extraction area covered by this application.

1.2 Development Proposal

ACPH Civil and Plant Hire propose to extract gravel from Stage 2, of the total area 7.4ha in two stages (Area 1 – 3.9ha and Area 2 – 3.5ha), as shown in Figure 1. Excavation will proceed to a maximum depth of approximately three metres. This DA application is for 5 years.

2. RESPONSIBILITIES

ACPH Civil and Plant Hire accepts responsibility for weed management within Zones A and B (as identified in Section 4.1 of this report) and any areas identified within the conditions of approval set by the Shire of Collie.

3. CURRENT WEED STATUS OF THE PROPERTY

At present there are no declared weeds on the property.

4. PROPOSED WEED MANAGEMENT ACTIONS

The following is a general description of the actions that will be implemented by ACPH Civil and Plant Hire for weed management:

4.1 Weed Management Zones on the Subject Land

For the purpose of this WMP, the subject land has been allocated zones as follows:

Zone A: This is all the land within the quarry and includes the base of the excavation, roadways and stockpiles of topsoil, overburden and all product stockpiles.

Zone B: This is all land that is at natural level which extends 100m beyond the perimeter of the quarry and includes any stockpiles or overburden created by the excavation and rehabilitated areas.

4.2 Weed Emergence Monitoring

Monitoring of the emergence of weeds in Zones A and B will be undertaken by an experienced and licensed weed management contractor on a six-monthly basis i.e. after the first seasonal rains and at the end of spring. In addition, ACPH Civil and Plant Hire personnel on the site will be instructed to report any infestations that may occur on other occasions. Based on the type of weeds that emerge, a control plan will be formulated by the licensed weed management contractor.

4.3 Import and Export of Weeds

ACPH Civil and Plant Hire will ensure that all plants and equipment are clean and free of any soil when moving any equipment to or from the site. ACPH Civil and Plant Hire will also ensure that any quarry products imported to the site will be free of weeds.

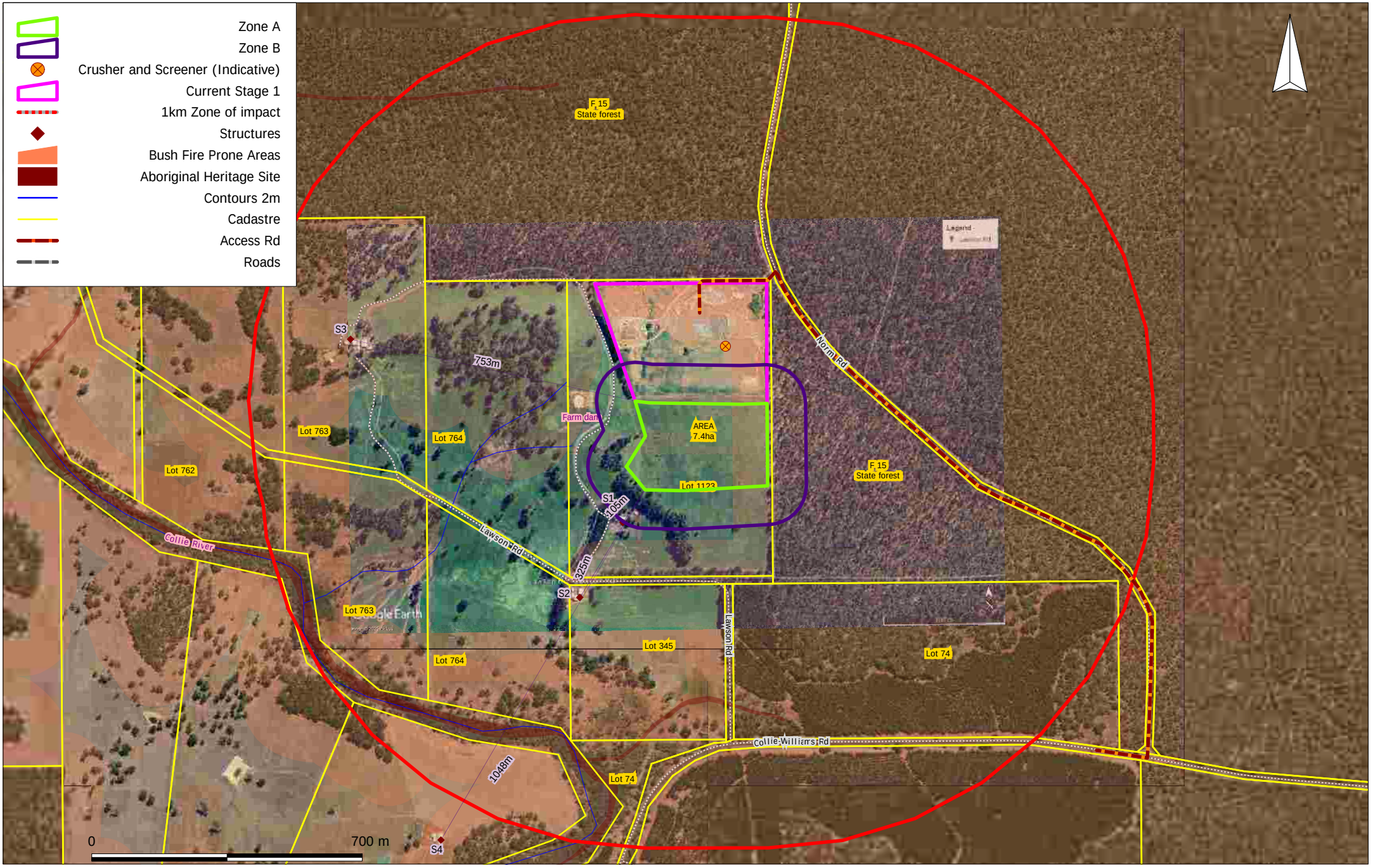
4.4 Weed Control Program

If a weed infestation occurs within Zones A or B, the licensed weed management contractor will apply the appropriate method of control, in accordance with the guidelines published by the DAF, whether chemical or mechanical, at the appropriate time. The weed management contractor will keep a record of all treatments.

5. REFERENCES

Department of Agriculture and Food (DAF) (2014). *Department of Agriculture and Food WA guidelines for weed control procedures for extractive industries licence.*

FIGURES



Lundstrom Environmental Consultants Pty Ltd
Applecross WA 6153
Mob: 0417934863
admin@lundstrom-environmental.com.au

Scale: 1:12000
Original Size: A4
Air Photo Source: Google Earth Sept 2023
Datum: GDA94
Projection: Australia MGA94 (50)

Client: ACPH
Project: Gravel Extraction
Location: Lot 1123 Lawson Rd, Palmer, Collie

Figure 1:

Weed Management Plan

Z:\Other Clients and Projects\ACPH\Lawson Rd Lot 1123_1123_SoCo_Gr\EIL\2025-South Area\Management Plans\Weed Management\Drawing\F1 Site and surrounds.map 13/08/2025 La

LUNDSTROM ENVIRONMENTAL CONSULTANTS PTY LTD

ACN 600 398 945

896 Canning Hwy
Applecross
WA 6153

Mob: 0417934863
email: admin@lundstrom-environmental.com.au
www.Lundstrom-Environmental.com.au

WATER MANAGEMENT PLAN

Prepared for ACPH Civil and Plant Hire
Lot 1123, 81 Lawson Road, Palmer
Shire of Collie

1. INTRODUCTION

This Water Management Plan (WMP) has been prepared for the purpose of a Development Approval (DA) application for renewal of gravel extraction on 81 Lawson Road, Palmer, Shire of Collie.

This WMP should be read in conjunction with the report entitled *"Development Approval Application and Environmental Management Plan Lot 1123, 81 Lawson Road, Palmer, Shire of Collie"*, prepared for ACPH Civil and Plant Hire by Lundstrom Environmental Consultants Pty Ltd in August 2025.

1.1 PROPERTY DESCRIPTION, OWNERSHIP AND LOCALITY

Property Description:	Lot 1123, 81 Lawson Road, Palmer Shire of Collie
Ownership:	ACPH Civil and Plant Hire

The property is situated approximately 1km north of the intersection of Lawson Road and Collie-Williams Road and approximately 10km Northeast of Collie. The site is currently surrounded by low quality farmland to the west and south and on the east and north by the State Forest.

1.2 HISTORIC AND PRESENT LAND USE

The surrounding farm lots are currently used for sheep and cattle grazing and the lot 1123 is surrounded by public State Forest to the east and north, as shown in Figure 1. The gravel extraction operations have occurred on the site since 2009. Approximately 12.2ha of the 40ha lot 1123 has now almost been completed for gravel extraction and the remainder is still used for cattle and sheep grazing by the landowner.

The area is zoned as "Rural" in terms of the Shire of Collie Planning Scheme 6. A small crib house and toilet facility exists on the northern boundary of the current Stage 1, on Lot 1123.

2. THE DEVELOPMENT PROPOSAL

2.1 PROPOSED EXTRACTION ACTIVITIES

ACPH propose to extract gravel from Stage 2, of the total area 7.4ha in two stages (Area 1 – 3.9ha and Area 2 – 3.5ha), as shown in Figure 2. The excavation will proceed to a maximum depth of approximately three metres. This DA application is for 5 years.

The Development Approval is required, for the purpose of undertaking the following activities on the land:

- Within each area of extraction, approximately 100mm of topsoil will be removed from the extraction area prior to the commencement of each area, with only the area targeted for immediate extraction being open. Topsoil will be stockpiled separately along the edges of the extraction area, with stockpiles being no more than 2 m high and 12m wide, with batter of 1:3 metres.
- Within each current stage of extraction, a bulldozer will rip and blade material to a raw material stockpile. Overburden stockpiles will be placed along the edges of the extraction area.
- The raw material will be loaded into the 20T jaw crusher and once processed, it will be automatically fed into the screening plant to grade the material depending on size required, after which a stacker creates a product stockpile. The product stockpile will be no more than 5m high and 30m wide, with batter of 1:3 metres.
- The excavation campaign which includes the removal of topsoil and overburden, excavation, crushing and screening stockpiling of gravel resource, will occur for 8 weeks during the summer months and material is stockpiled for future use.
- Cartage campaigns involve the removal of material from stockpiles, loading of trucks by front end loader and cartage by road trucks to mainly civil construction sites of private local sales. Cartage operations casually occur 6 days per week November to May.
- A mobile crushing and screening plant will process the material for approximately 8 weeks per year on site. Trucks will enter the pit and be loaded from the stockpile by a front-end loader.
- Overburden and Product stockpiles will be placed in such a way, that they will act as a noise buffer between the crusher and the sensitive receptors.
- Extraction activity will proceed to a depth of no more than 3m.
- Once extraction in the active area has been completed, topsoil will be respread, and the area ripped on the contour. Batters will be smoothed to 1:4 and the base of the pit levelled out.
- The extraction will be conducted as per the proposed areas of extraction shown in Table 1 and Figure 2. Each area of extraction will be progressively rehabilitated back to pasture after completion of extraction activities. This ensures that the area of disturbed land is kept to a practical minimum.
- To minimise open areas exposed to wind erosion as far as practicable, annual assessment of areas suitable for stabilisation is completed, and soil stabilisation works is carried out.
- Trucks will enter the pit from via Norm Road and be loaded from the stockpile by a front-end loader.
- Rehabilitation and stormwater management measures will be implemented.
- There will be no blasting in this operation.
- Batters of 1:4 metres will be maintained throughout the operation. Where possible, topsoil will be replaced and seeded with pastures on a progressive basis, in fully extracted areas, prior to

the commencement of winter, to bend with the existing landscape as much as possible. The end use of the site is for grazing.

Table 1 below summarises the actions that are to take place on the property over the next 5-year approval period (2025 to 2030) and are illustrated on Figure 2.

Table 1: Estimated Stages of the Extraction Operation

Stage (Gravel)	Action	2025	2026	2027	2028	2029	2030
Area 1	Strip, Crush and Stockpile from 3.9ha area						
Area 1	Load and Truck out						
Area 1	Progressive Rehabilitation of approx. 3.9ha						
Area 2	Strip, Crush and Stockpile from a 3.5ha area						
Area 2	Load and Truck out						
Area 2	Progressive Rehabilitation of approx. 3.5ha						
All	Monitoring and Maintenance						

3. EXISTING ENVIRONMENT

3.1 TOPOGRAPHY, HYDROLOGY AND WETLANDS

The elevation of the subject area ranges between 301m AHD and 284m AHD, and generally falls from north-east towards the south-west of the gravel pit, towards the farm dam to south.

Current slopes across the proposed extraction area range between approximately 1:31 (3.2%) and 1:10 (10%).

The property is situated within a *Rights in Water Irrigation Act 1914* (RIWI) Surface Water area and Irrigation district (Collie River Irrigation District Sub-Area No 2) overseen by DWER (Landgate 2023). The site lies in the Wellington Dam Collie River Catchment within the Collie River Basin of the Southwest division. The Collie River runs approximately 685m south from the nearest boundary of Stage 2 (Landgate 2023).

There is no permanent expression of surface water in the Britten gravel pit. There are two tributaries flowing from the west of Lot 1123, merging further south-west, to flow into the Collie River.

The site and does not fall in a Public Drinking Water Source Area (Landgate 2023).

Details of the methods that will be used to manage stormwater and off-site sedimentation are discussed later in this report.

3.2 GEOLOGY AND SOILS

The landform is deeply dissected laterite plateau, bedrock geology of deeply weathered mantle over granite rocks. The soil characteristic is loamy gravel, duplex sandy gravel, red and brown loamy earth (often friable), shallow and deep sandy gravel, wet and semi-wet soils and loamy duplex (Landgate 2023).

Caprock thickness varies from 2 to 3m, and maximum excavation depths are approximately 1 to 3m below current ground level.

The surface laterite is underlain by deeply weathered granitic rocks of the Yilgarn Craton (GeoVIEW 2023).

3.3 GROUNDWATER HYDROLOGY

Limited groundwater occurs at approximately 20 metres below the proposed final ground surface, which exceeds the minimum required clearance under current regulatory policies and guidelines (DWER 2019).

The Site is not situated within the *Rights in Water Irrigation Act 1914*(RIWI) Groundwater Proclamation Area (Landgate 2023).

3.4 RAINFALL

One of the closest weather stations is Collie East (Station 009994) and it has a mean annual rainfall of 704.5mm. The wettest months are June, July and August and the driest months are December, January, and February. The station has been recording rainfall since 2002. The highest recorded annual rainfall was 930mm in 2021 and the lowest was 390mm in 2010.

Table 2 shows the mean monthly and annual rainfall for Collie East.

Table 2: Mean Rainfall Data (mm) for Collie East for Period (Station 009994) 2002 to 2025 (BoM 2025)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
15.9	11.1	18.2	40.8	89.7	96.6	134.0	116.0	86.1	39.7	24.3	17.5	704.5

Rainfall intensity has been calculated using the Bureau of Meteorology (BoM) Rainfall Intensity-Frequency-Duration (IFD) data system (BoM 2025), which provides the 2hr 10% Annual Exceedance Probability (AEP) as 33.3mm. The DWER recommends that surface water runoff produced within the mined area from this rainfall event should be contained within the pit (DWER 2019). This aspect is discussed later in this document.

4. WATER MANAGEMENT

In all extraction operations the potential exists for impacts to be incurred on surrounding water resources, or by stormwater erosion of exposed areas. The planned surface water management actions for this site will be designed such that the nearby tributaries of the Collie River will not be impacted by the proposed extractive activities.

4.1 Surface Water Management

Surface water management will be based on the Department of Water Guideline, “Water Quality Protection Note No. 15” (DWER 2019) which considers both runoff within the extraction area and runoff from adjacent catchments.

During periods of heavy rainfall, stormwater runoff can be generated. Stormwater detention ponds will be installed to store accumulated runoff for the 2-hour 10% AEP rainfall event (ponds shown on Figure 3), with the stormwater generated being directed to the detention ponds via rip lines. These will serve as effective silt traps in times of high surface runoff. Where possible, overburden stockpiles will be used to control stormwater runoff during these periods. Stockpiles will be strategically placed to reduce water flow within the extraction area. Topsoil stockpiles will be positioned in a gently sloped area along the stage boundary. Topsoil stockpiles stabilise quickly, and erosion from these is limited. However, if not stabilised naturally, polymer-based stabilizer will be used. Product (gravel) stockpiles will act as a barrier to the storm water flow, and any water escaping the product stockpile will be captured by the constructed detention ponds.

Runoff generated within each sub-catchment for the 2hr 10% Annual Exceedance Probability (AEP) rainfall event has been calculated using the Rational Method as detailed in Table 3.

Storm-water management infrastructure (detention ponds and contour bunds) will be designed to manage, at minimum, this runoff until such time as the land surface has recovered sufficiently for these structures to be removed.

Runoff from areas outside the extraction areas will be diverted away using diversion (cut-off) bunds. Contour bunds within each sub-catchment will help direct surface water flow towards detention ponds and prevent uncontrolled flow of surface water from mined areas to nearby streams.

As part of the rehabilitation process, the ground will be ripped along the contour at 6m intervals prior to fertilisation and seeding. This leaves a depression and low bund which will attenuate surface water flows and prevent soil erosion during the period that pasture grasses are becoming established. Contour bunds will be installed as shown on Figure 3[1] and described in 4.1.2 below. Surface water detention ponds and cut-off bunds will be retained until vegetation ground cover is sufficient to stabilise the ground surface and prevent erosion.

Regular monitoring of the erosion control measures will be undertaken, and repairs implemented where necessary throughout the licence period or longer if necessary.

Note: [1] Contour bund locations shown on Figure 3 are indicative only and detailed layout should be implemented by an experienced surveyor.

Table 3: Surface Water Management Areas, Runoff Volumes and Detention Pond Dimensions

Sub-catchment	Total Area (ha)	Extraction Area (ha)	Undisturbed Area (ha)	Design Storm Runoff* m^3	# Detention Ponds	Detention Pond Storage (m^3)	Detention Pond Area (With 2m depth) (m^2)
1	1.7	1.7	0.00	459.9	D1	459.9	230
2	2.2	2.2	0.00	574.1	D2	574.1	287
3	3.5	3.5	0.00	939.7	D3	939.7	470
TOTAL	**7.4**	**7.4**	**0.00**	**1973.7**	**3**	**1973.7**	**987**

*Calculated by Rational Method with a 2hr 10% AEP of 33.3mm obtained from the Bureau of Meteorology (BoM) website (BOM 2025). Runoff coefficients used for Rational Method calculations were 0.8 for disturbed areas and 0.3 for undisturbed areas.

4.1.1 Stormwater Detention Ponds

As each sub catchment area, stormwater detention ponds will be excavated deeper than the workings (but within the extraction area) with the capacity to hold at least a 2hr 10% AEP storm event. D1, D2 and D3 detention ponds will be constructed in sub catchment 1, 2 and 3 respectively. The positions of these detention ponds are shown in Figure 3 and the storage capacities listed in Table 3 above.

4.1.2 Contour Bank/Bund Design

Basic design parameters for the contour bunds that will be used for stormwater management on this property have been taken from the Queensland Department of Environment and Resource Management guideline, attached to this management plan as Annexure 1.

Contour bank design is dependent on the following factors:
- Land-use after rehabilitation
- Slope
- Soil erodibility

In this case, the site will be returned to its former agricultural land use post-extraction. The proposed contour bank type in this situation is "narrow-based" i.e., approximately 4m across.

Slopes on Sub catchments 1, 2 and 3 averages between 3% to 10%, hence according to the contour bund design guidelines (Annexure 1), it is recommended that contour banks are spaced approximately 30m to 45m apart, and with a fall within a range of 0.2 and 0.5%.

4.2 Runoff Management

Runoff from areas outside the defined stages will largely be diverted away naturally and by means of diversion bunds around the boundaries of the operational stage.

No un-managed surface water runoff will be allowed flow outside the defined extraction area.

In addition to the construction of the storm water detention ponds described above the following measures are proposed to achieve onsite management of surface water runoff from the proposed EIL working:

- As each extraction area is completed, narrow-based contour bunds will be constructed to a grade of between 0.2 to 0.5%. Contour bund design methodology as discussed in 4.1.2 above.
- Cut-off or diversion bunds will be formed along the boundary of the proposed area, to prevent runoff entering the mined area.
- Drainage within the extraction area must be retained within the pit. Hence, the site supervisor will undertake a daily site inspection to ensure drainage is not impacting adjacent properties.
- In case of contamination or discharge, an incident report will be completed, and investigation undertaken by the operations and/or OH&S Manager.
- Site boundaries will be carefully monitored on a fortnightly basis or during heavy rainfall to ensure no water flow is observed into the surrounding sensitive environmental and human receptors.
- Daily visual inspections of stockpiles and bunds will be conducted. If an erosion incident is noted, work will stop until the incident has been assessed and prevention control measures implemented.
- Stockpiles will be strategically placed to reduce water flow within the extraction area. Topsoil stockpile will be positioned in a gently slopped area along the stage boundary;

topsoil stockpile stabilizes quickly, which will prevent any sedimentation. However, if not stabilized naturally, polymer-based stabilizer will be used.

- Product (gravel) stockpile will act as a barrier to the storm water flow, and any water escaping the product stockpile will be captured by the constructed detention ponds.
- The overflows of the sumps will have silt curtains to address the potential for sedimentation discharge properties.
- Initial post mining rehabilitation will involve the construction of contour bunds to control the flow of stormwater (including particulate matter) over the EIL area.

4.3 Groundwater Management

The project does not involve abstracting groundwater for operational purposes. No groundwater will be exposed by this development since extraction will only lower the ground level by three metres, and the floor of the pit will not intersect the limited groundwater that may occur at 10 or more metres.

Due to the low scale nature of the operations, no groundwater contamination is anticipated. No fuel or lubricant storage will occur on the site.

Refuelling will take place using a mobile refuelling vehicle which is equipped with a “snap-on snap-off, fast-fill and auto shut-off” facility. Plant will be refuelled each morning, leaving the vehicles almost empty overnight.

Refuelling or any activities that carry a risk of spills will be carried away from the detention basins and stormwater flow paths. No major servicing, which could lead to fuel and oil spills, will take place on the site. Contaminated material resulting from any minor spills will be extracted and disposed of offsite at an appropriate landfill facility.

ACPH will implement a Hydrocarbon Spill Response outlining their procedures for controlling, recovering, treating, and reporting hydrocarbon spills, attached to this management plan as Annexure 2.

4.4 Water Supplies for Bushfire Management

A water tanker will be available for firefighting operations off site when bush fires are close by, and water availability is at the discretion of ACPH management. A 15kl water cart will be always on site, during the proposed extraction activities. ACPH will continue to obtain water for dust suppression and bushfire management from commercial water source during the lifecycle of the proposed extraction operations.

Approximately 2000kl of water will be required every year for the proposed extraction activities and bushfire management.

4.5 Monitoring and Management Measures

After pit closure and rehabilitation, monitoring of rehabilitated areas will ensure that any areas requiring remedial work are identified. Monitoring will be carried out on an annual basis to assess the:

- Physical stability of the landform in the rehabilitated areas.
- Success of pasture grasses.
- Emergence of weeds.

Monitoring will continue until the completion criteria have been fulfilled. Maintenance procedures will be carried out where necessary and may include:

- Repair of any erosion damage.
- Seeding areas that may not have regenerated.
- Weed control.

5. ACID SULFATE SOILS

A search of the CSIRO's Australian Soil Resource Information System (ASRIS) database identified the area has been provisionally classified as having an extremely low probability with for acid sulfate soils (CSIRO 2023).

6. REFERENCES

Bureau of Meteorology (BoM) (2025). Rainfall records for Collie East (Station 9994). Website: www.bom.gov.au

Bureau of Meteorology (BoM) (2025). Rainfall frequency information. Website: www.bom.gov.au

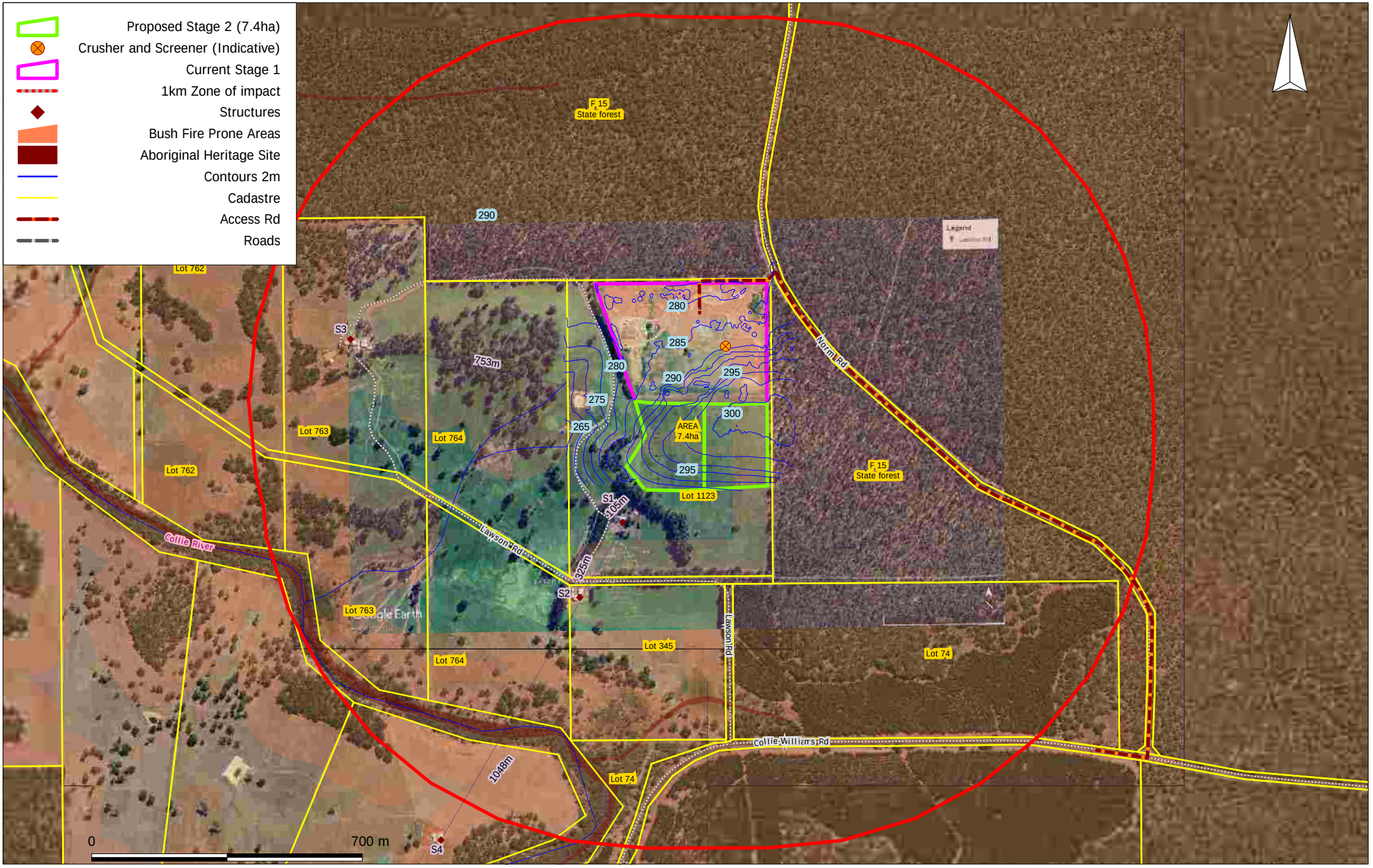
CSIRO (2023). Atlas of Australian Acid Sulphate Soils. Shapefile downloaded from http://hdl.handle.net/102.100.100/10531?index=1 May 2023.

Department of Mines, Industry Regulation and Safety (DMIRS) (2023) 1:500 000 State interpreted bedrock geology (DMIRS-016). Digital data layer accessed at: https://catalogue.data.wa.gov.au/dataset/1-500-000-state-interpreted-bedrock-geology-dmirs-016.

Department of Water and Environment Regulation (DWER) (2019). Water quality protection note no. 15, Basic raw materials extraction. Government of Western Australia.

Landgate (2023). Locate V5. [Online] https://maps.slip.wa.gov.au/landgate/locate/. Accessed: May 2023.

FIGURES



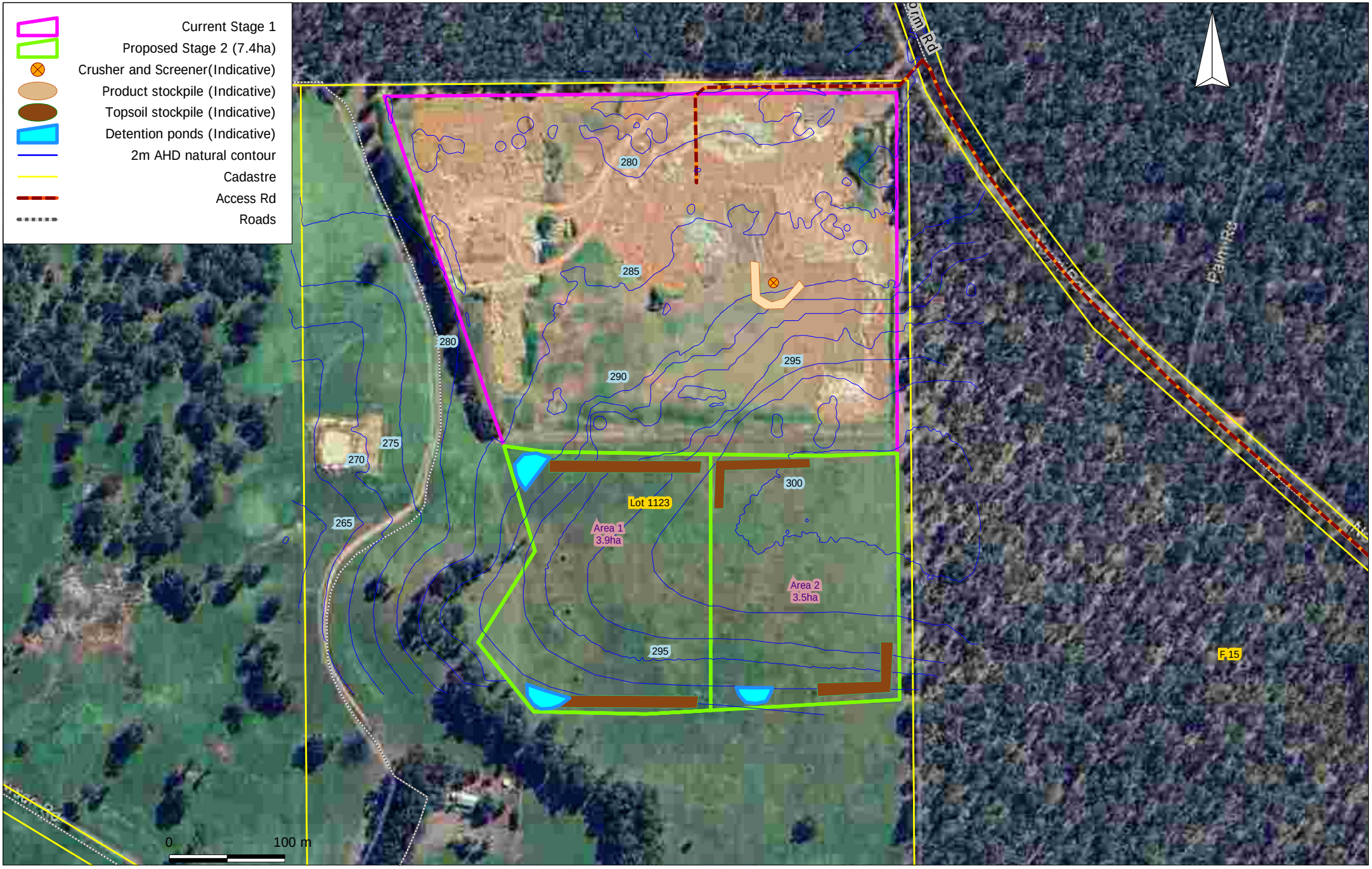
Lundstrom Environmental Consultants Pty Ltd
Applecross WA 6153
Mob: 0417934863
admin@lundstrom-environmental.com.au

Scale: 1:12000
Original Size: A4
Air Photo Source: Google Earth Sept 2023
Datum: GDA94
Projection: Australia MGA94 (50)

Client: ACPH
Project: Gravel Extraction
Location: Lot 1123 Lawson Rd, Palmer, Collie

Figure 1:
Site and Surrounds

Z:\Other Clients and Projects\ACPH\Lawson Rd Lot 1123_1123_SoCo_Gr\EIL\2025-South Area\Management Plans\Dust Management\Drawings\F1 Site and surrounds.map 14/08/2025 La



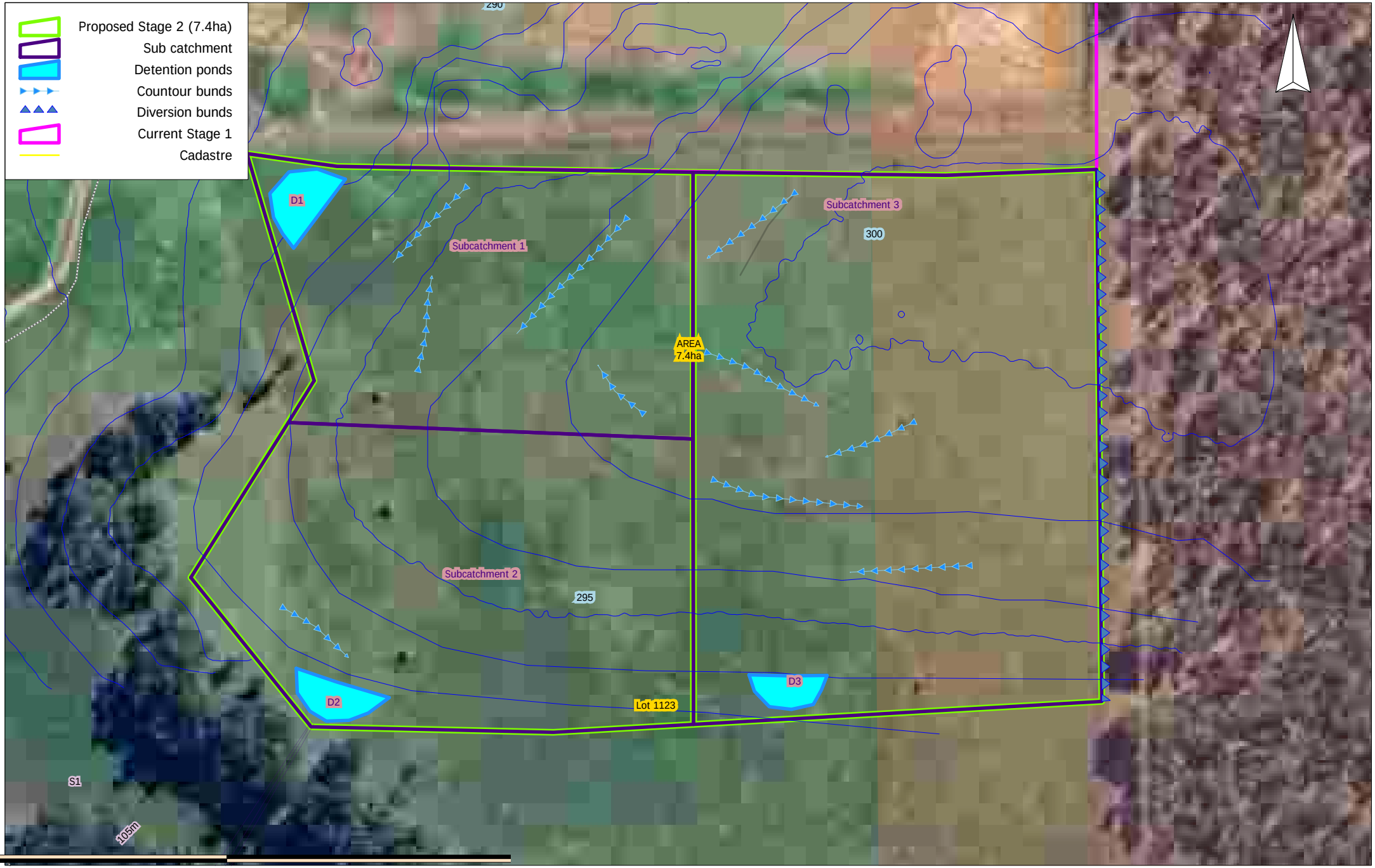
Lundstrom Environmental Consultants Pty Ltd
Applecross WA 6153
Mob: 0417934863
admin@lundstrom-environmental.com.au

Scale: 1:4200
Original Size: A4
Air Photo Source: Google Earth Sept 2023
Datum: GDA94
Projection: Australia MGA94 (50)

Client: ACPH
Project: Gravel Extraction
Location: Lot 1123 Lawson Rd, Palmer, Collie

Figure 2:
Proposed Extraction Operations

Z:\Other Clients and Projects\ACPH\Lawson Rd Lot 1123_1123_SoCo_Gr\EIL\2025-South Area\Management Plans\Dust Management\Drawings\F2 Proposed Extraction Area.map 14/08/2025



Lundstrom Environmental Consultants Pty Ltd
Applecross WA 6153
Mob: 0417934863
admin@lundstrom-environmental.com.au

Scale: 1:1900
Original Size: A4
Air Photo Source: Google Earth Sept 2023
Datum: GDA94
Projection: Australia MGA94 (50)

Client: ACPH
Project: Gravel Extraction
Location: Lot 1123 Lawson Rd, Palmer, Collie

Figure 3:
Stormwater MP

Z:\Other Clients and Projects\ACPH\Lawson Rd Lot 1123_1123_SoCo_Gr\EIL\2025-South Area\Management Plans\Water Management\Drawings\F3 Water MP.map 14/08/2025 Layout

Annexure 1

Contour bank specifications

Contour banks, combined with effective stubble management, are recommended to control erosion on sloping land used for growing crops.

Before building contour banks, decisions have to be made about the:

- gradient in the bank channel
- length of the banks
- spacing of the banks
- proposed bank shape and dimensions.

Contour bank specifications vary with the land slope. Most broad-acre cropping areas in Queensland are under three per cent. Slopes of up to eight per cent are cropped on the eastern Darling Downs, inland Burnett and the Atherton Tableland. Some horticultural crops in coastal areas are grown on steeper slopes.

Gradients

Contour bank gradients are normally expressed as a percentage. A bank with a gradient of 0.2 m in 100 m would have a gradient of 0.2 per cent. Selecting suitable gradients for contour banks has to be a compromise. If gradients are too high, bank channels with bare soil may erode. If gradients are too low, banks lined with crops may overtop or there may be excessive pondage in the bank following run-off.

Recommended contour bank gradients are shown in Table 1. Gradients are highest on steeper land where banks are shorter and have less capacity than banks on low sloping land. It is normal practice for a contour bank to be constructed to the same capacity for its entire length. Since the amount of run-off to be carried increases with the length of the contour bank, variable gradients can be used along a contour bank channel.

Table 1. Gradients for contour banks

Land slope (%)	Contour bank gradients (%)		
	Top section	Middle section	Outlet section
2	0.15	0.15	0.2
3–5	0.2	0.25	0.3
5–10	0.3	0.4	0.5

In intensive cropping areas (e.g. sugar cane), parallel contour bank systems are preferred. Such systems require flexibility in contour bank gradients. Gradients can be modified over short distances to improve workability of the layout. If the channel is permanently grassed, higher gradients can be used.

Gradients at bank outlets may need to be increased for the last 30 m if the waterway is stable and well grassed or the banks empty into an adjacent grassed area.

Length

Table 2 provides a guide to maximum bank lengths based on land slope. It is based on well maintained contour banks and the minimum contour bank spacings normally recommended on such slopes. It assumes that run-off is travelling in the one direction in the contour bank channel. On steeper landscapes, average contour bank lengths are likely to be shorter because the distance between natural drainage lines is less than on low slopes.

Table 2. Recommended maximum bank lengths for various land slopes and single contour bank spacing

Land slope (%)	Maximum bank length (metres)
1	2500
1.5	2000
2	1750
3	1500
4	1000
5	750
6	600
7	450
8	400
9	350
10	300

Spacing

There are no strict rules that determine the correct spacing for a particular situation. The concept of a single and double spacing has been used to allow variations in contour bank spacings—depending on the average conditions likely to be experienced in a paddock (Table 3).

Single spacings should be used where paddocks are seriously eroded and lower levels of ground cover are likely. Double spacings can be used where there is minimal erosion and high levels of cover are to be maintained. Spacings between single and double can be chosen when there is a need to compromise. For example, in the Central Highlands where high rainfall intensities often occur and dry seasons often lead to low cover levels.

Table 3. Recommended contour bank spacings

Slope (%)	Single Spacing		Double Spacing	
	VI (m)	HI (m)	VI (m)	HI (m)
1	0.9	90	1.8	180
2	1.2	60	2.4	120
3	1.4	45	2.8	90
4	1.6	40	3.2	80
5	1.8	36	3.6	72
6	1.9	32	3.8	64
7	2.1	30	4.2	60
8	2.4	30	4.8	60
9	2.7	30	5.4	60
10	3.0	30	6.0	60

VI = Vertical interval; HI = Horizontal interval

Shape and dimensions

Narrow-based banks normally have batters of 1:3 (VI:HI) while broad-based banks may have batters varying from 1:4 to1:8 (VI:HI). The amount of soil required to build a bank increases significantly as the bank batter becomes flatter.

The amount of run-off a contour bank has to handle depends on its length, the distance between banks, rainfall intensity, and the condition of the soil surface in terms of its ability to produce run-off.

Contour banks must be able to handle vastly different conditions in the channel. They vary from a smooth and bare channel (comparable to a highway) to one with a growing crop or standing stubble (comparable to a traffic jam).

Table 4. How flow depth affects velocities and flow rates in contour banks

Depth of flow in the channel (m)	Conditions in the contour bank channel			
	Standing wheat stubble		Bare cultivated channel	
	Velocity (m/s)	Flow rate (m^3/s)	Velocity (m/s)	Flow rate (m^3/s)
0.2	0.08	0.14	0.38	0.72
0.3	0.10	0.35	0.48	1.74
0.4	0.11	0.67	0.57	3.35
0.5	0.13	1.13	0.65	5.65

This data is based on a contour bank on a land slope of two per cent and a gradient of 0.2 per cent with the same shape as shown in Figure 1.

If necessary, a suitable design can be obtained by preparing a spreadsheet as shown in Table 4 (based on Mannings formula for a typical contour bank cross section). For a given cross section shape, velocities and flow rates can be compared for different flow depths and different channel conditions.

Erodible velocities (0.5–0.6 m/s) may occur once the depth of flow in a bare channel exceeds 0.3 m. However, when the channel has standing stubble a flow depth of 0.5 m will only be flowing at 0.13 m/s.

Contour banks are not normally individually designed. A bank that can handle a depth of flow of 0.4 to 0.5 m will provide satisfactory capacity for typical contour bank layouts. To accommodate such a flow, a contour bank needs to be constructed to a height of 60 to 70 cm to allow for settlement and some freeboard.

Table 5 shows some typical contour bank cross sections with a height of 0.5 m on slopes ranging from 2–5 per cent. Note how the capacity of a contour bank for a given height is very dependent on the land slope.

Table 5. Contour bank specifications for banks of a height of 0.5 m on a range of slopes

Land slope %	Batter on bank	Batter on inlet into channel	Bottom width (m)	Cross sectional area (m^2)
2	1:4	1:50	4	8.75
3	1:4	1:20	4	5.00
4	1:3	1:10	2	2.63
5	1:3	1:5	2	2.00

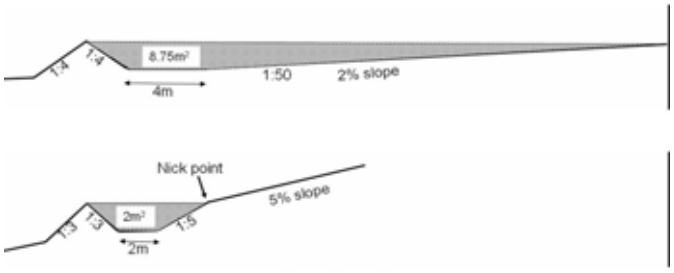


Figure 1. Contour bank cross sections for banks 0.5m high on a 2 percent and a 5 per cent slope.

Further information

For further information visit the DERM website <www.derm.qld.gov.au> and refer to *Soil conservation measures—design manual for Queensland* (Chapter 9), and the following fact sheets:

- L202—*Maintaining contour banks*
- L13—*Erosion control in cropping land*
- L35—*Run-off control measures for soil conservation*.

July 2010
L205

Annexure 2

ACPH Civil and Plant Hire

Hydrocarbon Spill Management Plan

Purpose:

The purpose of this document is to describe the measures that ACPH Civil and Plant Hire will implement in order to limit the impact of any hydrocarbon spills that may take place on any of their extraction and waste fill sites.

Proposed Measures:

The following preventative measures will be implemented:

- No fuel will be stored on site and all plant and equipment will be refuelled by a mobile fuel truck, as and when required. Refuelling is done in the morning and plant and equipment is empty during the night.
- Refuelling or any activities that carry a risk of spills will be carried out away from the detention basins and stormwater flow paths.
- All major servicing of plant and equipment will take place at the workshops off site.
- Refuelling trucks are fitted with automatic snap-off fuel nozzles, thus preventing overfilling and spillage.
- Operators/drivers are provided instruction on the need for hydrocarbon pollution prevention when induction courses are given.

The following actions will be taken in the event of a spill occurring:

- Stop the spill source immediately if it is safe to do so.
- Contain the spill and prevent any contact with water bodies and drains.
- Clean up the spill by digging up the contaminated soil and transporting it to a licensed waste disposal site. Replace the excavated material with clean fill.

- If possible a photographic record of the procedure should be kept.
- Report the incident to the Quarry Manager.

LUNDSTROM ENVIRONMENTAL CONSULTANTS Pty Ltd

ACN 600 398 945

896 Canning Hwy
Applecross
WA 6153

Mob: 0417934863
email: admin@lundstrom-environmental.com.au
www.Lundstrom-Environmental.com.au

NOISE MANAGEMENT PLAN

Prepared for ACPH Civil and Plant Hire
For Lot 1123, 81 Lawson Road, Palmer
Shire of Collie

1. INTRODUCTION

This Noise Management Plan (NMP) has been prepared in accordance with guidelines published by the Environmental Protection Authority (EPA, 2007). Noise will be managed under Part V of the *Environmental Protection* Act 1986 (EP Act) and subsidiary regulations, including *Environmental Protection (Noise) Regulations 1997*.

This NMP should be read in conjunction with the report entitled "*Development Approval Application and Environmental Management Plan Lot 1123, 81 Lawson Road, Palmer, Shire of Collie"***,** prepared for ACPH Civil and Plant Hire by Lundstrom Environmental Consultants Pty Ltd in August 2025.

The objectives of this NMP are as follows:

- To describe the nature of the proposed operation;
- To identify any sources of noise that might arise from these operations;
- To identify the proximity of any sensitive premises in this regard;
- To identify measures that will limit the generation of noise from the operations;
- To identify measures that will limit the impact of noise on sensitive premises.

2. SITE BACKGROUND

2.1 Locality and Ownership

Locality: Lot 1123, 81 Lawson Road,
Palmer
Shire of Collie

Ownership: ACPH Civil and Plant Hire

The property is situated approximately 1km north of the intersection of Lawson Road and Collie-Williams Road and approximately 10km northeast of Collie. The site is currently surrounded by low quality farmland to the west and south and on the east and north by State Forest.

Figure 1 shows the site and surrounds, and Figure 2 indicates the proposed extraction operation area covered by this application.

2.2 Land Use

The surrounding farm lots are currently used for sheep and cattle grazing and lot 1123 is surrounded by public State Forest to the east and north. Approximately 12.2ha of the 40ha of lot 1123 has now almost been completed for gravel extraction and the remainder is still used for cattle and sheep grazing by the landowner. The gravel extraction operations have occurred on the site since 2009.

The area is zoned as "Rural" in terms of the Shire of Collie Planning Scheme 6. A small crib house and toilet facility exists on the northern boundary of the Stage 1, on Lot 1123.

3. PROPOSED WORKS AND POTENTIAL IMPACTS

3.1 Proposed Extraction Activities

ACPH propose to extract gravel from Stage 2, of the total area 7.4ha in two stages (Area 1 – 3.9ha and Area 2 – 3.5ha), as shown in Figure 3. The excavation will proceed to a maximum depth of approximately three metres. This DA application is for 5 years.

The Development Approval is required, for the purpose of undertaking the following activities on the land:

- Within each area of extraction, approximately 100mm of topsoil will be removed from the extraction area prior to the commencement of each area, with only the area targeted for immediate extraction being open. Topsoil will be stockpiled separately along the edges of the extraction area, with stockpiles being no more than 2 m high and 12m wide, with batter of 1:3 metres.
- Within each current stage of extraction, a bulldozer will rip and blade material to a raw material stockpile. Overburden stockpiles will be placed along the edges of the extraction area.
- The raw material will be loaded into the 20T jaw crusher and once processed, it will be automatically fed into the screening plant to grade the material depending on size required, after which a stacker creates a product stockpile. The product stockpile will be no more than 5m high and 30m wide, with batter of 1:3 metres.
- The excavation campaign which includes the removal of topsoil and overburden, excavation, crushing and screening stockpiling of gravel resource, will occur for 8 weeks during the summer months and material is stockpiled for future use.
- Cartage campaigns involve the removal of material from stockpiles, loading of trucks by front end loader and cartage by road trucks to mainly civil construction sites of private local sales. Cartage operations casually occur 6 days per week November to May.
- A mobile crushing and screening plant will process the material for approximately 8 weeks per year on site. Trucks will enter the pit and be loaded from the stockpile by a front-end loader.
- Overburden and Product stockpiles will be placed in such a way, that they will act as a noise buffer between the crusher and the sensitive receptors.
- Extraction activity will proceed to a depth of no more than 3m.
- Once extraction in the active area has been completed, topsoil will be respread, and the area ripped on the contour. Batters will be smoothed to 1:4 and the base of the pit levelled out.
- The extraction will be conducted as per the proposed areas of extraction shown in Table 1 and Figure 2. Each area of extraction will be progressively rehabilitated back to pasture after completion of extraction activities. This ensures that the area of disturbed land is kept to a practical minimum.
- To minimise open areas exposed to wind erosion as far as practicable, annual assessment of areas suitable for stabilisation is completed, and soil stabilisation works is carried out.
- Trucks will enter the pit from via Norm Road and be loaded from the stockpile by a front-end loader.
- Rehabilitation and stormwater management measures will be implemented.
- There will be no blasting in this operation.

- Batters of 1:4 metres will be maintained throughout the operation. Where possible, topsoil will be replaced and seeded with pastures on a progressive basis, in fully extracted areas, prior to the commencement of winter, to bend with the existing landscape as much as possible. The end use of the site is for grazing.

Table 1 provides a description of all activities, their duration, aspect and an assessment of potential for noise impacts.

Table 1: Summary of Noise Generating Activities

Activity	Duration	Equipment to be used	Comments
Strip and stack topsoil. Rip and blade laterite to crusher sites.	Up to 8 weeks per annum	D10 Bulldozer CAT 980 front end loader (FEL)113dB(A)	Initial impact on the closest residents within 1km will be moderate, but this will decrease, as the stockpile of topsoil will be pushed to edges of proposed extraction area. As well as crushing and screening plant will be surrounded by product stockpile attenuating noise from the plant.
Crushing, screening and stockpiling of gravel	Up to 8 weeks per annum	20T jaw crusher 20T screening plant Excavators	The crushing and screening plant will be surrounded by the product stockpiles, thereby attenuating noise from the plant. Late model equipment will be utilised with reduced noise level outputs.
Loading of trucks from stockpiles.	A maximum of 14 (in and out) loaded trucks out per day.	Semi (30 tonnes) Six-Wheeler (20 tonnes) CAT 980 FEL	Loading area surrounded by stockpiles. Machine reverse alarms with lower frequency output units will be utilized.
Rehabilitation of completed stages.	Up to 3 weeks per year from 2025 to 2030.	D9/D10 Bulldozer CAT 980 FEL	Moderate noise levels for limited period.

3.2 Potential Sensitive Receptors

3.2.1 Residential Dwellings

The Environmental Protection Authority (EPA) draft Environmental Assessment Guidelines "Separation distances between Industrial and sensitive land uses" lists the generic buffer for extractive industries where "grinding and milling works but no blasting" are proposed as 500 to 1 000m, depending on the type of processing (EPA, 2015). The operation is considered "low scale", as the total extraction area is 7.4ha, with approximately 3.9ha being disturbed initially then rehabilitated, and the next 3.5ha being disturbed thereafter. A 500m buffer would be adequate for sensitive receptors.

The closest structures to the outer boundaries of the extraction area are identified in Figure 1. There are three structures located within 1km of the proposed extraction area as shown in Table 2.

There are three structures within 1km of the closest boundary of the gravel operation area. Structure 1, 2 and 3 listed in the table 2 are owned by the owner [redacted] and are not considered to be a sensitive receptor. The gravel extraction operation on Lot 1123 has been carrying on since 2009; the owner has no objections to the operations, please see Letter of No-Objection attached as Appendix 3. Structure 4 is a sensitive receptor;

however, it is more than 1km from the closest boundary of Stage 2 and will not be impacted by the proposed gravel extraction operation.

Table 2: Structures within 1km radius of the proposed extraction area

Reference No. on Figure 1	Lot no.	Owner	Residential Status	Distance to closest Gravel operation area (metres)	Distance to the Crusher position (metres)
Structure 1	1123	[redacted]	Spare house, occasionally used by family members	105 SW	528 SW
Structure 2	345		Shed	325 SW	755 SW
Structure 3	763		Owner's residence	753 NW	972 NW
Structure 4	73		Unknown	1048 SW	1476 SW

The crusher position is further away from the structures and will be screened by the overburden and topsoil stockpile 2m high along the edges of extraction area and product stockpile 5m high positioned around the crusher.

4. NOISE ASSESSMENT

The operations have not caused any issues in the past with noise. The proposed development will generate some operational noise during periods of stripping, crushing, and screening, but this will be limited to approximately 8 weeks per year. Mitigation measures will be implemented which will limit the impact of operational noise.

Noise attenuation measures will be implemented as mentioned below:

1. Hours of operation will be restricted to between 0700 and 1800 on weekdays and between 0700 and 1600 on Saturdays, excluding public holidays, November to May. No crushing will take place on Saturdays.

2. Late model equipment will be utilised with reduced noise level outputs.

3. The crushing and screening plant will be positioned more than 500m away from the sensitive receptor Structure 4. The closest sensitive premises is Structure 1 which is 528 m away from the crusher, as shown in Figure 1.

4. The topsoil and product stockpiles positions are as shown in Figure 2 and will provide noise attenuation from extraction activity.

5. During the actual mining phase, topsoil and overburden will be pushed up in bunds along the edges of the proposed area as shown in Figure 2 and will be no more than 3m high and 18m wide, with the batters of 1:3 metres.

6. The product stockpile will be no more than 5 metres high, and will be positioned in front of the crusher, acting as noise barrier between the noise generating activities and the structures existing on the south and west of the operation.

7. The product stockpile will maximize the buffering of noise that might occur from the loading of trucks after mining operations have ceased.

8. The red 'earthy' colour of the crushed gravel tends to blend in with the natural environment, limiting the visual impact of the proposed stockpiles.

9. Only broad band reversing warning devices (croakers) will be utilised on all heavy machinery and trucks.

10. If a D10 dozer is to be used for the operations, it is to be fitted with CAT noise suppression.

11. All plant will be maintained in good condition with efficient mufflers and noise shielding.

12. A complaints register will be implemented, with any complaints being formally recorded.

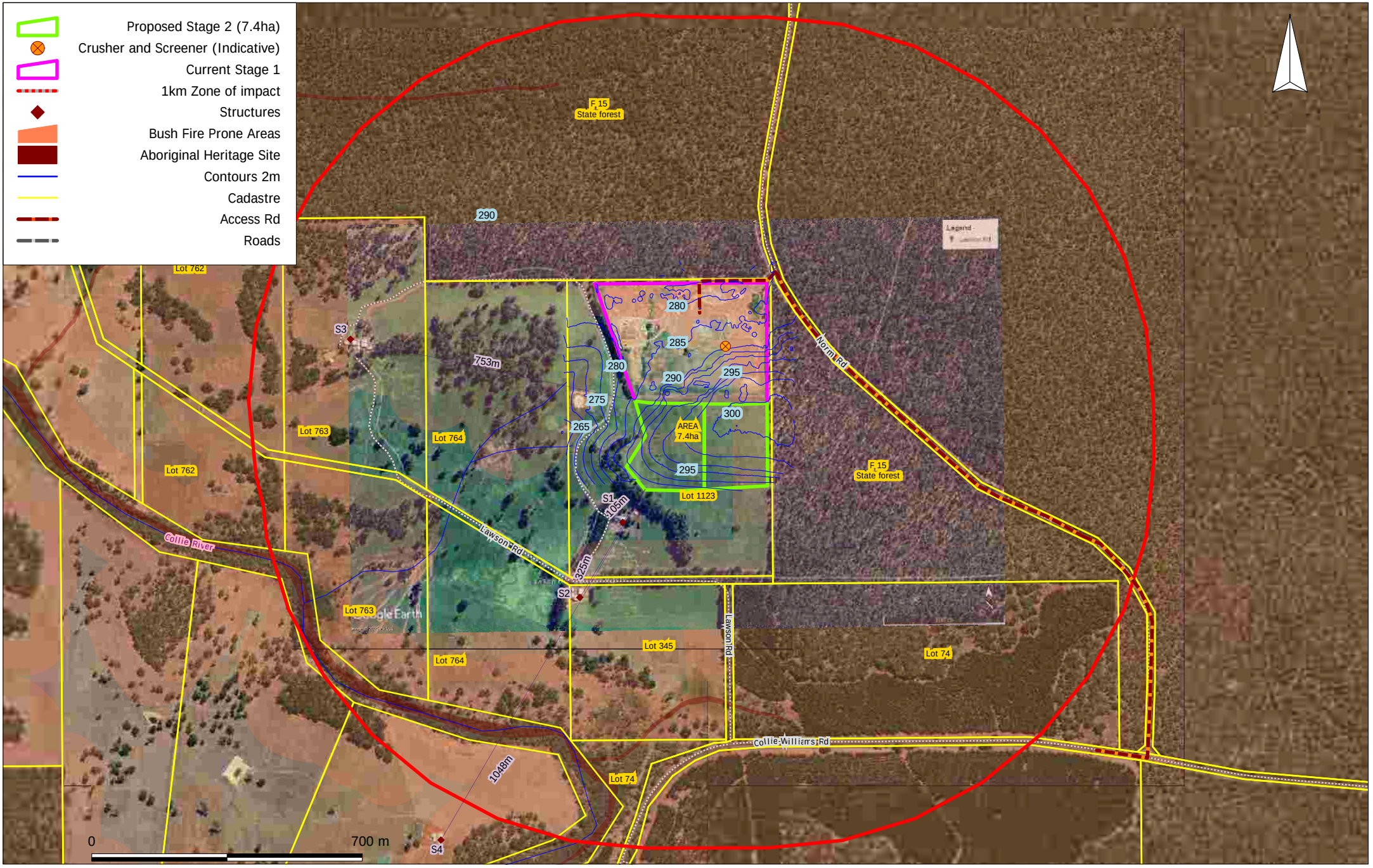
13. The signage on the gate will include the contact telephone number of the site supervisor to allow for quick reaction to any complaints that may arise.

5. REFERENCES

Environmental Protection Authority (EPA) (2015). Draft Environmental Assessment Guidelines for Separation distances between industrial and sensitive land uses. Western Australia, September 2015.

Landgate (2023). Lot 1123 Lawson Road, Palmer, Shire of Collie. [Online] https://maps.slip.wa.gov.au/landgate/locate/. Accessed: May 2023.

FIGURES



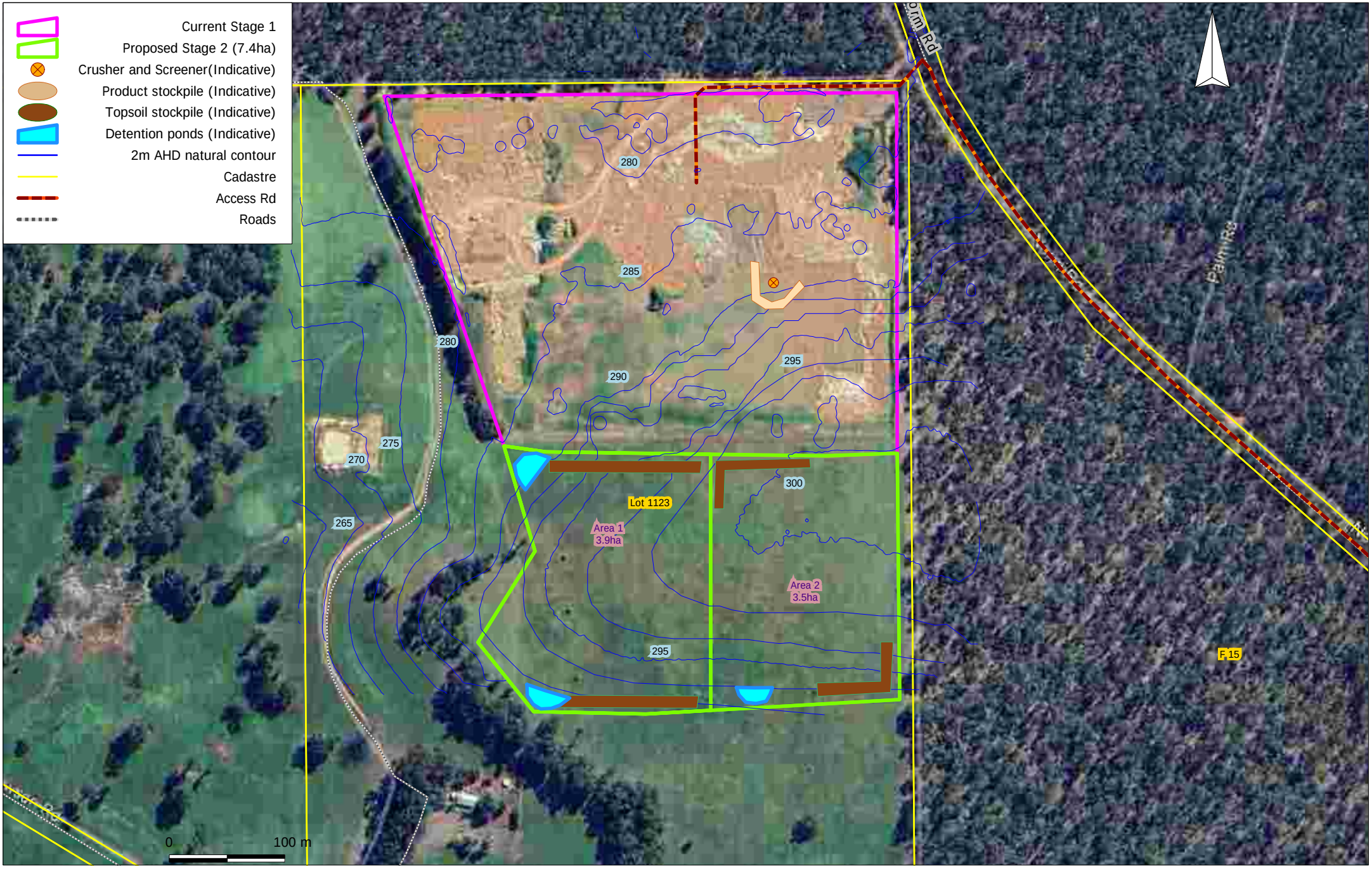
Lundstrom Environmental Consultants Pty Ltd
Applecross WA 6153
Mob: 0417934863
admin@lundstrom-environmental.com.au

Scale: 1:12000
Original Size: A4
Air Photo Source: Google Earth Sept 2023
Datum: GDA94
Projection: Australia MGA94 (50)

Client: ACPH
Project: Gravel Extraction
Location: Lot 1123 Lawson Rd, Palmer, Collie

Figure 1:
Site and Surrounds

Z:\Other Clients and Projects\ACPH\Lawson Rd Lot 1123_1123_SoCo_Gr\EIL\2025-South Area\Management Plans\Dust Management\Drawings\F1 Site and surrounds.map 14/08/2025 La



Lundstrom Environmental Consultants Pty Ltd
Applecross WA 6153
Mob: 0417934863
admin@lundstrom-environmental.com.au

Scale: 1:4200
Original Size: A4
Air Photo Source: Google Earth Sept 2023
Datum: GDA94
Projection: Australia MGA94 (50)

Client: ACPH
Project: Gravel Extraction
Location: Lot 1123 Lawson Rd, Palmer, Collie

Figure 2:
Proposed Extraction Operations

Z:\Other Clients and Projects\ACPH\Lawson Rd Lot 1123_1123_SoCo_Gr\EIL\2025-South Area\Management Plans\Dust Management\Drawings\F2 Proposed Extraction Area.map 14/08/2025

LUNDSTROM ENVIRONMENTAL CONSULTANTS PTY LTD

ACN 600 398 945

896 Canning Hwy
Applecross
WA 6153

Mob: 0417934863
email: admin@lundstrom-environmental.com.au
www.Lundstrom-Environmental.com.au

DUST MANAGEMENT PLAN

Prepared for ACPH Civil and Plant Hire
For Lot 1123, 81 Lawson Road, Palmer
Shire of Collie

1. INTRODUCTION

This Dust Management Plan (DMP) has been prepared in accordance with guidelines published by the Department of Environment and Conservation (DEC) (Jan. 2011), now the Department of Water and Environmental Regulation (DWER). This Dust Management Plan should be read in conjunction with the report entitled **"***Development Approval Application and Environmental Management Plan Lot 1123, 81 Lawson Road, Palmer, Shire of Collie"*, prepared for ACPH Civil and Plant Hire by Lundstrom Environmental Consultants Pty Ltd in August 2025.

The objectives of this DMP are as follows:

- To describe the nature of the proposed operation;
- To identify any sources of dust that might arise from these operations;
- To identify the proximity of any sensitive premises in this regard;
- To identify measures that will limit the generation of dust from the operations;
- To identify measures that will limit the impact of dust on sensitive premises.

2. SITE BACKGROUND

Locality: Lot 1123, 81 Lawson Road, Palmer, Shire of Collie
Ownership: ACPH Civil and Plant Hire

The property is situated approximately 1km north of the intersection of Lawson Road and Collie-Williams Road and approximately 10km northeast of Collie. The site is currently surrounded by low quality farmland to west and south and on the east and north by the State Forest.

Figure 1 is a recent aerial photograph showing the property and its surrounds. Figure 2 indicates the proposed operations areas covered by this application.

2.1 Land Use

The surrounding farm lots are currently used for sheep and cattle grazing and lot 1123 is surrounded by public State Forest to the east and north. Approximately 12.2ha of the 40ha of lot 1123 has now almost been completed for gravel extraction and the remainder is still used for cattle and sheep grazing by the landowner.

The gravel extraction operations have occurred on the site since 2009. The area is zoned as "Rural" in terms of the Shire of Collie Planning Scheme 6. A small crib house and toilet facility exists on the northern boundary of the on Lot 1123.

2.2 Geology and Soils

A thin layer of farmland quality topsoil with depth approximately 100mm, overlies sandy gravels and laterite. The underlying geology of deeply weathered granitic rocks of the Yilgarn Craton (GeoVIEW 2023).

The landform is deeply dissected laterite plateau, bedrock geology of deeply weathered mantle over granite rocks. The soil characteristic is loamy gravel, duplex sandy gravel, red and brown loamy earth (often friable), shallow and deep sandy gravel, wet and semi-wet soils, and loamy duplex (Landgate 2023).

Caprock thickness varies from 2 to 3m, and maximum excavation depth are approximately 1 to 3m below current ground level.

2.3 Nuisance Potential of materials

The crushed material texture is predominantly gravel with moderate amounts of sand and trace amounts of fines (clays and silts), with grain size distribution (ISO 14688-1) being approximately as follows:

Gravel (>2.0mm):	45%
Sand (0.063<2.0mm):	16%
Fines (Silt & Clay; <0.063mm):	5.5%

(The particle size analysis laboratory report is included as Annexure 3)

During strong winds the potential exists for fine particles (including fine sand) to become airborne especially when they are disturbed by excavation activities.

In its in-situ state, the laterite is a cemented pisolitic material and has no loose fines. However, during the crushing operation very fine particles of less than PM50 (particulate matter with diameter 50 micrometers) are produced as fugitive dust and require suppression as is discussed in Section 4 below.

It is estimated from the particulate size distribution graph shown in Annexure 3, that the potential for total suspended particles (TSP) less than PM50 is approximately 7.5%. Mitigation measures are discussed in Section 4 below.

Potentially significant sources of airborne particulates from the site have been assessed as being limited to:

- Dust lift-off from exposed extraction areas or rehabilitated surfaces
- Dust lift-off from stockpiles (topsoil and extracted product)
- Dust lift-off from haul roads and tracks resulting from light vehicle and heavy earthmoving traffic
- Dust generation from crushing and screening processes, loading and transportation of extracted material.

The majority of airborne particulates from the site are likely to be visible dust.

Mitigation measures for the operations are discussed in Section 4 below.

2.4 Potentially Sensitive Receptors

The Environmental Protection Authority (EPA) draft Environmental Assessment Guidelines “Separation distances between Industrial and sensitive land uses” lists the generic buffer for extractive industries where “grinding and milling works but no blasting” are proposed as 500 to 1 000m, depending on the type of processing (EPA, 2015).

The operation is considered "low scale", as the total extraction area is 7.4ha, with approximately 3.9ha being disturbed initially then rehabilitated, and the next 3.5ha being disturbed thereafter. A 500m buffer would be adequate for sensitive receptors.

The closest structures to the outer boundaries of the extraction area are identified in Figure 1. There are three structures located within 1km of the proposed extraction area as shown in Table 1.

Table 1: Structures within 1km radius of the proposed extraction area

Reference No. on Figure 1	Lot no.	Owner	Residential Status	Distance to closest Gravel operation area (metres)	Distance to the Crusher position (metres)
Structure 1	1123	[redacted]	Spare house, occasionally used by family members	105 SW	528 SW
Structure 2	345		Shed	325 SW	755 SW
Structure 3	763		Owner's residence	753 NW	972 NW
Structure 4	73		Unknown	1048 SW	1476 SW

There are three structures within 1km of the closest boundary of the gravel operation area. Structures 1, 2 and 3 listed in the Table 1 are occupied or tenanted by the owner Michael Britten. The gravel extraction operation on Lot 1123 has been carrying on since 2009; the owner has no objections to the operations, please see Letter of No-Objection attached as Appendix 3. Structure 4 is a sensitive receptor; however, it is more than 1km from the closest boundary of Stage 2 and will not be impacted by the proposed gravel extraction operation.

The crusher position is further away from the structures and will be screened by the overburden and topsoil stockpile 2m high along the edges of extraction area and product stockpile 5m high positioned around the crusher.

2.5 Prevailing Winds

Wind rose for station Collie (8.8km) is obtained from DWER and wind roses for station Collie East (7.6km) are obtained from Willy Weather website and is attached as Annexure 1.

The wind roses from 2018 to 2023 show that prevailing winds are from the south-west. Only Structure S3 is to the west, but it is greater than 700m away from the pit. The closest residence is not windward of the pit. Hence the 'Isolated land uses affected by one wind direction' has been selected in the site risk assessment (Annexure 2).

The Wind roses have been included in Annexure 1.

3. PROPOSED WORKS AND POTENTIAL IMPACTS

ACPH propose to extract gravel from Stage 2, of the total area 7.4ha in two stages (Area 1 – 3.9ha and Area 2 – 3.5ha), as shown in Figure 2. The excavation will proceed to a maximum depth of approximately three metres. This DA application is for 5 years.

The Development Approval is required, for the purpose of undertaking the following activities on the land:

- Within each area of extraction, approximately 100mm of topsoil will be removed from the extraction area prior to the commencement of each area, with only the area targeted for immediate extraction being open. Topsoil will be stockpiled separately along the edges of the extraction area, with stockpiles being no more than 2 m high and 12m wide, with batter of 1:3 metres.
- Within each current stage of extraction, a bulldozer will rip and blade material to a raw material stockpile. Overburden stockpiles will be placed along the edges of the extraction area.
- The raw material is loaded into the 20T jaw crusher and once processed, it is automatically fed into the screening plant to grade the material pending on size required, after which a stacker creates a product stockpile. The product stockpile will be no more than 5m high and 30m wide, with batter of 1:3 metres.
- The excavation campaign which includes the removal of topsoil and overburden, excavation, crushing and screening stockpiling of gravel resource, will occur for 8 weeks during the summer months and material is stockpiled for future use.
- Cartage campaigns involve the removal of material from stockpiles, loading of trucks by front end loader and cartage by road trucks to mainly civil construction sites of private local sales. Cartage operations casually occur 6 days per week November to May.
- A mobile crushing and screening plant will process the material for approximately 8 weeks per year on site. Trucks will enter the pit and be loaded from the stockpile by a front-end loader.
- Overburden and Product stockpiles will be placed in such a way that they will act as a noise buffer between the crusher and the sensitive receptors.
- Extraction activity will proceed to a depth of no more than 3m.
- Once extraction in the active area has been completed, topsoil will be respread, and the area ripped on the contour. The batters will be smoothed to 1:4 and the base of the pit levelled out.
- The extraction will be conducted as per the proposed stages of extraction shown in Figure 2. Each stage is progressively rehabilitated back to pasture after completion of extraction activities. This ensures that the area of disturbed land is kept to a practical minimum.
- To minimise open areas exposed to wind erosion as far as practicable, annual assessment of areas suitable for stabilisation is completed, and soil stabilisation works is carried out.
- Trucks will enter the pit from via Norm Road and be loaded from the stockpile by a front-end loader.
- Rehabilitation and stormwater management measures will be implemented.
- There will be no blasting in this operation.
- Batters of 1:4 will be maintained throughout the operation. Where possible, topsoil will be replaced and seeded with pastures on a progressive basis, in fully extracted areas, prior to the commencement of winter, to bend with the existing landscape as much as possible. The end use of the site is for grazing.

3.1 Plant and Equipment to be used

Equipment to be used in these operations includes:

- D10 Bulldozer
- Large Front-End Loader (CAT 980 or equivalent)
- 20T jaw crusher
- 20T screening plant

- Excavators
- Semi (30 tonnes)
- Six-Wheeler (20 tonnes)

3.2 Summary of Mining Actions

Table 2 provides a description of all activities, their duration, aspect and an assessment of potential for dust impacts.

Table 2: Aspects and Impacts of Dust Generating Activities

Activity	Duration	Aspect	Impact
Topsoil Stripping and stockpiling	Up to 8 weeks per annum	Disturbance of grass and soil exposes ground to wind erosion	Dust may create an amenity issue with nearby residents.
Rip and blade laterite to crusher site	Up to 8 weeks per annum	Actions may release dust into the atmosphere	Fine red dust may create an amenity issue with nearby residents
Crushing, screening and stockpiling of gravel	Up to 8 weeks per annum	Crushing and screening actions may release dust into the atmosphere	Fine red dust may create an amenity issue with nearby residents
Loading of trucks from stockpiles	5 years at a maximum of 14 (In and out) loaded trucks per day.	Loading of gravel may release dust into the atmosphere	Fine red dust may create an amenity issue with nearby residents
Transport of gravel from site	5 years at a maximum of 14 (In and Out) loaded trucks per day.	Dust could escape from trucks in transit	Amenity, health or traffic safety issue
Rehabilitation of completed stages	Up to 3 weeks per year from 2025 to 2030.	Disturbance of topsoil could release dust into the atmosphere	Dust may create an amenity issue with nearby residents

3.3 Site Risk Assessment and Classification

Based on the risk assessment conducted (Annexure 3), the classification derived is “Medium risk” (Classification 3). Measures for managing dust impacts are discussed in Section 4 below. A Letter of No-Objection from the owner of all the 3 structures within 1km of the extraction area boundary is attached as Appendix 3 to the main report.

4. MEASURES PROPOSED FOR MANAGING DUST

This report has identified the potential dust generating activities associated with the proposed development and has also identified the potentially sensitive receptors. The measures that are proposed to manage dust impacts are listed below:

- A 15kl water cart will be on site during periods when the internal access road is being constructed, material is being moved or crushing is being conducted. When dust is caused to occur during these periods, the water cart will be employed to damp down the areas of concern.
- Water for dust suppression will be obtained from commercial water source in the local area. The applicant ACPH, has made an application to Water Corporation for a hydrant standpipe.
- If necessary, loads will be dampened prior to loading/unloading.
- If dust can be seen to be carried outside the Site, the source of dust will be identified, and measures implemented to prevent or minimize further dust emissions.

- If there are high winds and conditions are dusty, then operations will be stopped until such time as adequate wetting down has occurred, or conditions have changed.
- Crushing and stockpiling activities will be in topographic low points with raw and processed stockpiles arranged such that windbreaks are created to further prevent impacts from fugitive dust.
- A polymer-based spray-on-soil stabilizer will be applied to topsoil and overburden stockpiles if they do not stabilize by crusting and grass re-growth.
- Handling of materials will be kept to a minimum.
- Internal roads will be surfaced with gravel. A 20km per hour speed limit will always apply to trucks on these internal roads.
- Unsealed roads being used for heavy vehicle traffic within the operational area will be treated with dust suppressant additives such as Erosionex where appropriate.
- Truck loads will always be covered by tarpaulins and dampened when fully loaded, prior to leaving the extraction area, so that no dust is generated in transit.
- Only up to 3.9ha of land will be extracted at a time; the next 3.5ha will be disturbed after and whole areas will be progressively rehabilitated back to pasture after completion of extraction activities as shown in Figure 2. This will ensure that the area of disturbed land is stabilized, and the disturbed area exposed at any time is kept to a practical minimum to prevent dust emission.
- Employees and contractors working on site will be provided with information on how to minimise dust emissions.
- No burning of waste will occur.
- When the site is not in operation, the dust management plan will continue to be implemented by the Operations Manager.
- A notice will continue to be erected at the front gate that provides emergency contact details for the Operations Manager.
- A complaints system will continue to be in place, and these will be recorded by the Operations Manager and acted on promptly.
- Visual monitoring will be undertaken to confirm dust management measures are effectively maintaining dust emissions at acceptable levels.

5. REFERENCES

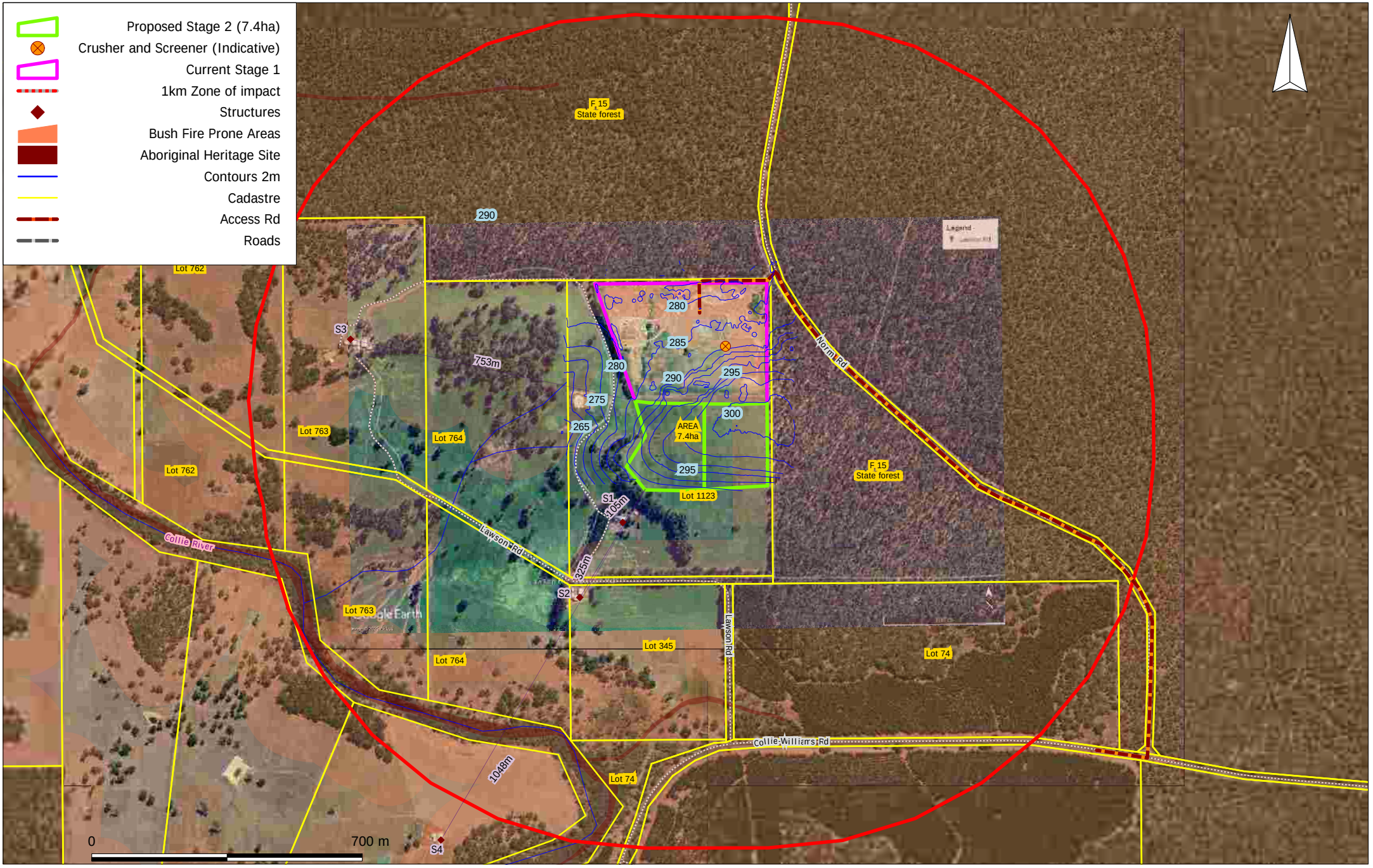
Department of Environment and Conservation (DEC) (2011). A guideline for managing the impacts of dust and associated contaminants from land development sites, contaminated sites remediation and other related. activities.

Environmental Protection Authority (EPA) (2015). Draft Environmental Assessment Guidelines for Separation distances between industrial and sensitive land uses. Western Australia, September 2015.

Landgate (2023). Lot 1123 Lawson Road, Palmer, Shire of Collie. [Online] https://maps.slip.wa.gov.au/landgate/locate/. Accessed: May 2023.

Willy Weather (2023). Collie-east weather station Wind Rose, south-west, WA. Accessed: May 2023.

FIGURES



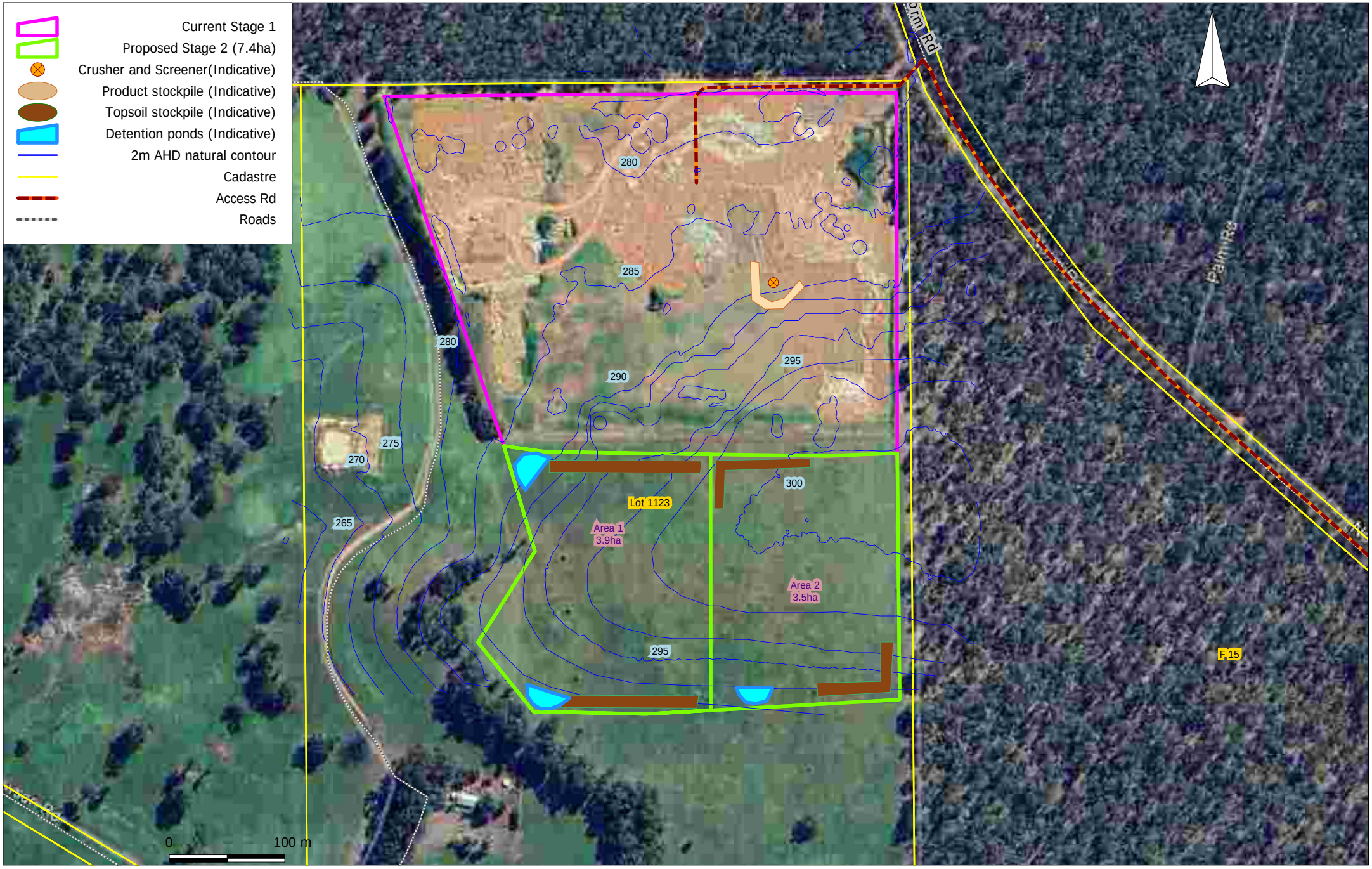
Lundstrom Environmental Consultants Pty Ltd
Applecross WA 6153
Mob: 0417934863
admin@lundstrom-environmental.com.au

Scale: 1:12000
Original Size: A4
Air Photo Source: Google Earth Sept 2023
Datum: GDA94
Projection: Australia MGA94 (50)

Client: ACPH
Project: Gravel Extraction
Location: Lot 1123 Lawson Rd, Palmer, Collie

Figure 1:
Site and Surrounds

Z:\Other Clients and Projects\ACPH\Lawson Rd Lot 1123_1123_SoCo_Gr\EIL\2025-South Area\Management Plans\Dust Management\Drawings\F1 Site and surrounds.map 14/08/2025 La



Lundstrom Environmental Consultants Pty Ltd
Applecross WA 6153
Mob: 0417934863
admin@lundstrom-environmental.com.au

Scale: 1:4200
Original Size: A4
Air Photo Source: Google Earth Sept 2023
Datum: GDA94
Projection: Australia MGA94 (50)

Client: ACPH
Project: Gravel Extraction
Location: Lot 1123 Lawson Rd, Palmer, Collie

Figure 2:
Proposed Extraction Operations

Z:\Other Clients and Projects\ACPH\Lawson Rd Lot 1123_1123_SoCo_Gr\EIL\2025-South Area\Management Plans\Dust Management\Drawings\F2 Proposed Extraction Area.map 14/08/2025

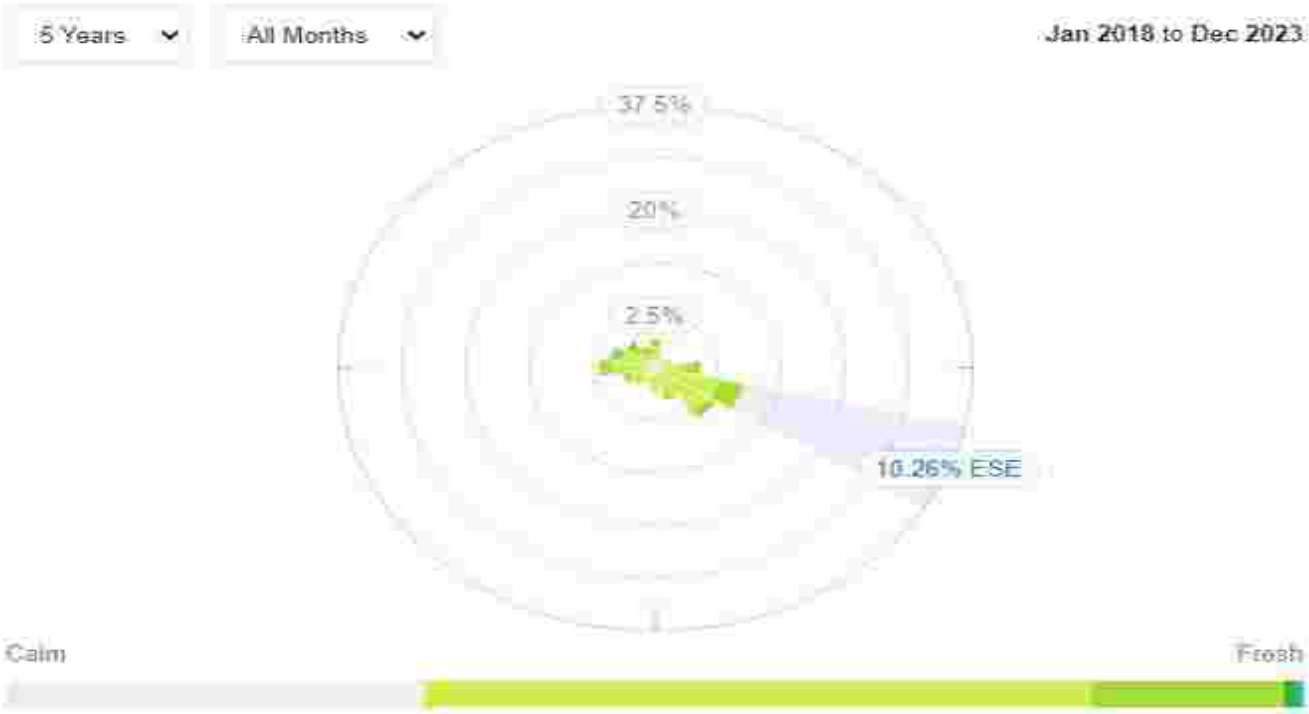
ANNEXURE 1

Wind roses


Wind Rose
5 Years
December
Dec 2018 to Dec 2023
17.5%
10%
2.5%
16.72% ESE
Calm
Moderate


Wind Rose
5 Years
January
Jan 2018 to Jan 2023
22.5%
12.5%
2.5%
1.15% NE
Calm
Fresh

Wind Rose


5 Years
All Months
Jan 2018 to Dec 2023
37.5%
20%
2.5%
10.26% ESE
Calm
Fresh

ANNEXURE 2

Site Classification Assessment Chart

Appendix 1: Site risk assessment/classification for activities generating uncontaminated dust

Sheet 1: Site classification assessment chart

Part A. Nature of site

Item	Score options				Allocated score
1. Nuisance potential of soil. when disturbed	Very low **1**	Low.....**2**	Medium.....**4**	High.....**6**	2
2. Topography and protection provided by undisturbed vegetation	Sheltered and screened.....**1**	Medium screening....**6**	Little screening.....**12**	Exposed and wind prone.....**18**	12
3. Area of site disturbed by the works	Less than 1ha.....**1**	Between 1 and 5ha..**3**	Between 5 and 10ha.....**6**	More than 10ha.....**9**	3
4. Type of work being done	Roads or shallow trenches.....**1**	Roads, drains and medium depth sewers.....**3**	Roads, drains, sewers and partial earthworks.....**6**	Bulk earthworks and deep trenches.....**9**	9
				TOTAL score for Part A	26

Part B. Proximity of site to other land uses

Item	Score options				Allocated score
1. Distance of other land uses from site	More than 1km.....**1**	Between 1km and 500m.....**6**	Between 100m and 500m.....**12**	Less than 100m.....**18**	12
2. Effect of prevailing wind direction (at time of construction) on other land uses	Not affected.....**1**	Isolated land uses affected by one wind direction.....**6**	Dense land uses affected by one wind direction.....**12**	Dense/ sensitive land uses highly affected by prevailing winds.....**18**	6
				TOTAL score for Part B	18

SITE CLASSIFICATION SCORE (A X B) = 468

ANNEXURE 3

Particle size analysis laboratory report

SOIL CLASSIFICATION TEST REPORT

Report No.	22 BY 141-142/1	Field No.	N/A
Project No.	N/A		
Date Sampled	28/04/2022	Date/s Tested	11-13/05/2022
Local Govt Authority	Collie		
Road	Collie Williams Road 10.0 SLK		
Location	ACPH Britten Pit		

Sample No.	22 BY 141	22 BY 142		
Reference No.				
Depth, (mm)	S/P	S/P		
Sample Location	West Side of Stockpile	North Side of Stockpile		
Field Description	Sandy Gravel	Sandy Gravel		
Proposed Use	Base Course	Base Course		
PSD WA 115.1	**Sampling Method:**	WA 100.1	**Preparation Method:**	WA 105.1
Percent Retained on Sieve Size 37.50 mm	0	0		
Sieve Size (mm)	**% Passing**	**% Passing**		
125.00	-	-	-	-
106.00	-	-	-	-
75.00	-	-	-	-
53.00	-	-	-	-
37.50	100	100	-	-
26.50	-	-	-	-
19.00	99	98	-	-
13.20	-	-	-	-
9.50	66	71	-	-
6.70	-	-	-	-
4.75	44	46	-	-
2.36	29	30	-	-
1.18	22	22	-	-
0.600	20	19	-	-
0.425	19	18	-	-
0.300	18	17	-	-
0.150	14	13	-	-
0.075	10	9	-	-
0.0135	6	5	-	-
LL WA 120.2 (%)	26	25	-	-
PL WA 121.1 (%)	15	16	-	-
PI WA 122.1 (%)	11	9	-	-
LS WA 123.1 (%)	3.5	3.5	-	-
GROUP SYMBOL AS 1726 - Tables 9 & 10 (Laboratory classification elements only)	GP-GC	GP-GC		

Comments / Distribution
TRIM File No. 22/349
MM: T Spivey
TOM: S Arnold

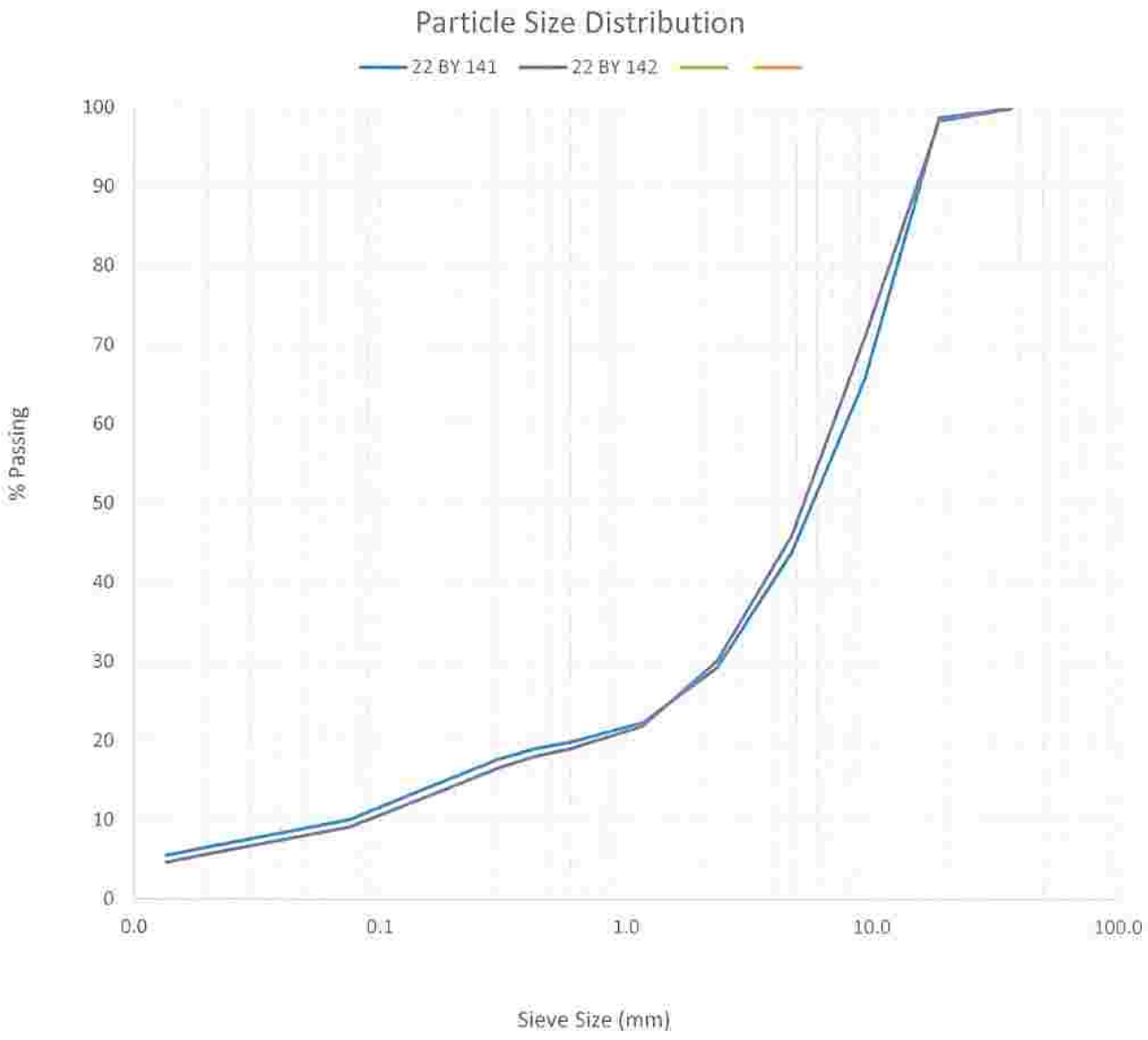
Approved Signatory

Name KLEYN Chris (TOM)
Function Technical Officer
Date 2/06/2022

MAIN ROADS Western Australia
South West Region
Robertson Drive
PO Box 5010
BUNBURY WA 6231
Tel: (08) 9725 5677 Fax: (08) 9725 5666

SOIL CLASSIFICATION TEST REPORT

Report No. 22 BY 141-142/1



MAIN ROADS Western Australia
South West Region
Robertson Drive
PO Box 5010
BUNBURY WA 6231
Tel: (08) 9725 5677 Fax: (08) 9725 5666

Dry Density/Moisture Content Relationship Test Report

Sampling Method: WA 100.1 Preparation Method: WA 105.1

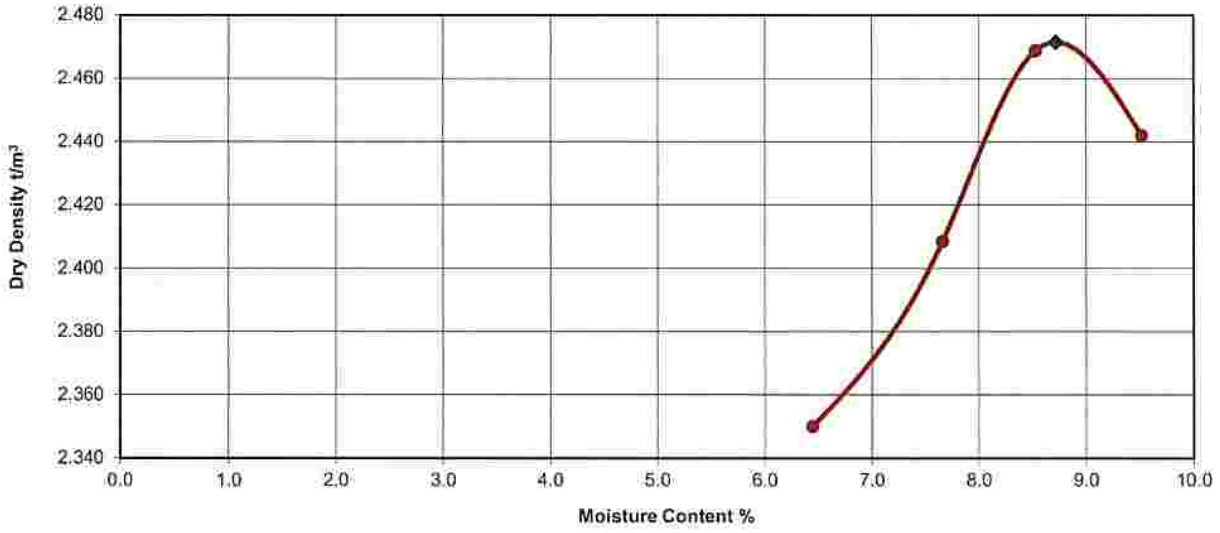
Report No.	22 BY 141-142/1	Reference No.	N/A	Field No.	N/A
Date Sampled	28/04/2022	Date Received	28/04/2022	Date/s of Test	10-11/05/2022
Proposed Use	Base Course			Project No.	
Local Govt Authority	Collie				
Road	Collie Williams Road 10.0 SLK				
Section	ACPH Briten Pit				

Sample No.	Location	Depth (mm)	Curing Period (Days)	Curing Period (Hrs)	Stabiliser Added %
22 BY 141	West Side of Stockpile	S/P	Water 0.74	Stabiliser -	-
				-	-
				-	-

Moisture Content ☑ WA 110.1 ☐ WA 110.2 Stabiliser Used Not Applicable

Field Description Sandy Gravel

DD / MC Relationship



Sample Number		22 BY 141		
Test Method		WA 115.2, WA 133.1		
Maximum Dry Density t/m³		**2.471**		
Optimum Moisture Content %		**8.7**		
Percentage Retained %	37.5 mm	**0**		
Percentage Retained %	19.0 mm	**1**		

Comments / Distribution
TRIM File No. 22/349
MM; T Spivey
TOM: S Arnold

Approved Signatory

Name KLEYN Chris (TOM/A)
Function Technical Officer Materials
Date 2/06/2022

MAIN ROADS Western Australia
South West Region
Robertson Drive
PO Box 5010
BUNBURY WA 6231
Tel: (08) 9725 5677 Fax: (08) 9725 5666

MAXIMUM DRY COMPRESSIVE STRENGTH TEST REPORT

Report No.	22 BY141-142/1	Reference No.	N/A	Field No.	N/A
Date Sampled	28/04/2022	Date Received	28/04/2022	Date/s of Test	10-11/05/2022
Local Govt Authority	Collie			Project No.	
Road	Collie Williams Road 10.0 SLK				
Location	ACPH Britten Pit West Side of Stockpile				
Proposed Use	Base Course				
Field Description	Sandy Gravel				

Sampling Method: WA 100.1

Moisture Content Method: WA 110.1 Convection

Test Method		WA 140.1
Maximum Dry Compressive Strength	kPa	**6930**
Moisture Content at Maximum Dry Compressive Strength	%	**8.5**
Sample No.		**22 BY 141**

Comments / Distribution
TRIM File 22/349
MM: T Spivey
TOM: S Arnold

Approved Signatory

Name KLEYN Chris (TOM/A)
Function Technical Officer Materials
Date 2/06/2022

Accredited for compliance with ISO/IEC 17025 - Testing
ACCREDITATION No. 1989 SITE No. 2033

MAIN ROADS Western Australia
South West Region
Robertson Drive
PO Box 5010
BUNBURY WA 6231
Tel: (08) 9725 5677 Fax: (08) 9725 5666

MAXIMUM DRY COMPRESSIVE STRENGTH TEST REPORT

Report No.	22 BY141-142/1	Reference No.	N/A	Field No.	N/A
Date Sampled	28/04/2022	Date Received	28/04/2022	Date/s of Test	10-11/05/2022
Local Govt Authority	Collie			Project No.	
Road	Collie Williams Road 10.0 SLK				
Location	ACPH Britten Pit North Side of Stockpile				
Proposed Use	Base Course				
Field Description	Sandy Gravel				

Sampling Method: WA 100.1

Moisture Content Method: WA 110.1 Convection

Test Method		WA 140.1
Maximum Dry Compressive Strength	kPa	**6240**
Moisture Content at Maximum Dry Compressive Strength	%	**7.5**
Sample No.		**22 BY 142**

Comments / Distribution
TRIM File:22/349
MM: T Spivey
TOM: S Arnold

Approved Signatory

Name KLEYN Chris (TOM/A)
Function Technical Officer Materials
Date 2/06/2022

MAIN ROADS Western Australia
South West Region
Robertson Drive
PO Box 5010
BUNBURY WA 6231
Tel: (08) 9725 5677 Fax: (08) 9725 5666

CALIFORNIA BEARING RATIO OF REMOULDED SPECIMENS TEST REPORT

WA 141.1 Sampling Method: WA 100.1 Sheet 6 of 6

Report No.	22 BY 141-142/1	Reference No.	Not Applicable
Field No.	N/A		
Date Sampled	28/04/2022	Date Received	28/04/2022
Date/s of Test	10-17/04/2022		
Local Govt Authority	Collie		
Road	Collie Williams Road 10.0 SLK		
Location	ACPH Britten Pit West Side of Stockpile		
Proposed Use	Base Course		
Project No.	N/A	Depth	S/P mm
Field Description	Sandy Gravel		

Sample No.			22 BY 141
Condition			Soaked
Period of Curing		days	0.97
% Retained 19 mm Sieve	WA 115.2	%	1
Material Retained 19 mm Sieve (Excluded/Replaced)			Excluded
Maximum Dry Density		t/m³	2.471
Optimum Moisture Content		%	8.7

Test Conditions of Specimen

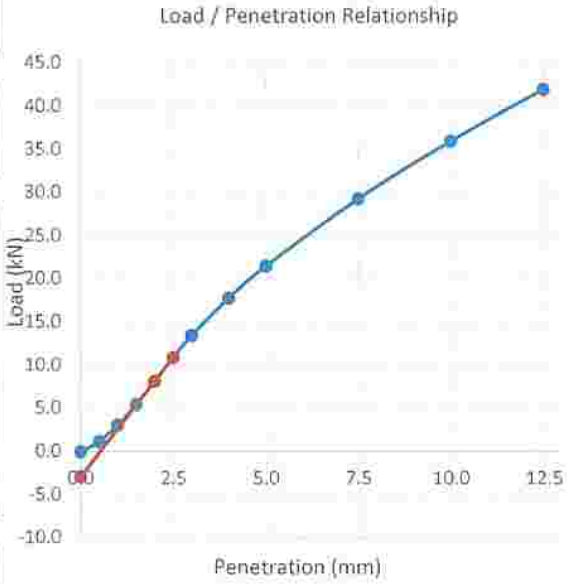
Surcharging of Specimen	kg	4.50
Period of Soaking	days	3.94

Compactive Effort Used in Moulding Specimen

Blows, layers, kg hammer	12	5	4.9

Test Results

Dry Density		
Specimen at Compaction	t/m³	2.369
Specimen after Soaking	t/m³	2.369
Dry Density Ratio		
Desired Dry Density Ratio	%	96.0
Specimen at Compaction	%	95.9
Specimen after Soaking	%	95.9
Moisture Content		
Specimen at Compaction	%	8.8
Specimen after Soaking	%	10.4
Top 30 mm Layer of Specimen After Penetration	%	9.5
Remainder of Specimen After Penetration	%	9.5
Moisture Ratio		
Desired Moisture Content Ratio	%	100.0
Specimen at Compaction	%	100.9
Specimen after Soaking	%	119.4
Top 30 mm Layer of Specimen After Penetration	%	108.9
Remainder of Specimen After Penetration	%	109.3
Specimen Swell	%	0.0
California Bearing Ratio	%	**120**
Penetration	mm	**5.0**



Comments / Distribution
TRIM File Nc 22/349
MM: T Spivey
TOM: S Arnold

Approved Signatory

Name KLEYN Chris (TOM)
Function Technical Officer Materials
Date 2/06/2022

MAIN ROADS Western Australia
South West Region
Robertson Drive
PO Box 5010
BUNBURY WA 6231
Tel: (08) 9725 5677 Fax: (08) 9725 5666

PHYTOPHTHORA DIEBACK AND EXTRACTIVE INDUSTRIES INFORMATION BROCHURE

for

ACPH Civil and Plant Hire

What is *Phytophthora* Dieback?

Phytophthora dieback is a soil-borne fungal pathogen that kills a wide range of plant species in the southwest of WA by destroying their root systems. There are many species of *Phytophthora* that occur worldwide. Although most *Phytophthora* species can cause plant disease, *Phytophthora cinnamomi* is the most frequently isolated *Phytophthora* species from native plant communities in WA's south west.

Impact of *Phytophthora* Dieback

Phytophthora Dieback occurs in all Southern Australian States and has had a significant impact on the biodiversity of native plants and animals from WA. It sometimes occurs in the nursery, mining, and forestry industries in WA.

According to CALM (2003), a conservative estimate places approximately 15-20% of the Jarrah forest as infested by *Phytophthora cinnamomi*. Furthermore, approximately 60% of the shrubland, *Banksia* woodland and Mallee woodland in the Stirling Range National Park are infected by the pathogen. Similarly, 70% of the *Shannon* and *D'Entrecasteaux* National Parks are also affected by *Phytophthora cinnamomi.*

Managing *Phytophthora* Dieback

The movement of large volumes of soil is a significant risk in terms of spreading *Phytophthora* dieback. The extractive industry has the opportunity to reduce the rate of spread of *Phytophthora* dieback by taking steps to minimise the accidental spread of the pathogen, with extraction in the >400 mm rainfall zone at greatest risk of spreading the pathogen.

In particular, operations occurring near native plant communities dominated with *Banksia* species and other Proteaceae may be at high risk. Different types of extracted materials have their different levels of inherent risk with regards to the likelihood of being infested with *Phytophthora* dieback and therefore these differences need to be taken into account. For example, sand and gravel which carries organic matter or topsoil can be infested *with Phytophthora*, whereas limestone and hard rock are normally dieback free.

Plants Susceptible to *Phytophthora* Dieback

Banksias, proteas, grass-trees and jarrah are amongst the plants that are highly susceptible to Phytophthora impacts, as are over 2,300 other native plants and some exotic plants. This includes 40% of WA's threatened flora.

The Dieback Working Group website provides a list of both susceptible and resistant species at https://www.dwg.org.au

Disturbed native vegetation, farmland, urban and other similar areas are not normally able to be assessed for the presence of *Phytophthora*, so if you have concerns with the use of particular extracted materials next to native vegetation or exotic plants, please contact either the Department of Biodiversity Conservation & Attractions or the Dieback Working Group.

Best Practice Management Techniques

Various practices are described by the Dieback Working Group[1] and are used by ACPH Civil and Plant Hire to minimise the risk of their operations acting as a vector for the transfer of the pathogen. The techniques described in this document are by no means all- encompassing but provide a summary.

Many resource sites, including ACPH Civil and Plant Hire site on Lawson Road, Palmer, are considered to be "excluded (not assessable)" for the presence of *Phytophthora* dieback, because they are located on areas of cleared vegetation. However, all of ACPH Civil and Plant Hire sites, including Lawson Road , are chosen because they present a minimal risk of dieback being present, including being elevated, and mostly containing species not favoured by *Phytophthora* such as pasture. Resources are then extracted, processed and managed according to best practice to provide the lowest possible *Phytophthora* risk.

Summary of Best Practice Techniques used by ACPH Civil and Plant Hire

- Training of staff on *Phytophthora* Dieback and management.
- No unauthorised entry is permitted.
- Vehicles must be “clean on entry”
- Areas are identified as follows:
  - Extraction and processing areas
  - Roads, including haul roads
  - Turn around points
  - Hygiene – quarantine points
  - Storage and stockpile areas
  - Water sources
- Surface water is contained on site.
- Stockpile areas are hard and well drained.
- Vehicles must be "clean on exit".
- Site and activities are secured by fencing, signage, training and other methods.
- Separate excavation and loading areas.
- Signs illustrate the status and measures required are used as applicable.
- Dieback free water is used.
- Customers are notified of the Dieback status of the site and the resource.
- Stockpiles are regularly checked for organic matter or topsoil contamination.

ACPH Civil and Plant Hire
Lot 2041 Patstone Rd, Collie WA 6225

INFORMATION FOR THIS BROCHURE HAS BEEN OBTAINED FROM:

Dieback Working Group.

Management of *Phytophthora* Dieback in Extractive Industries.