



Works Approval

Works Approval Number	W6075/2017/1
Works Approval Holder	Piacentini and Son Pty Ltd
ACN	18 008 797 715
Registered business address	Boyanup Picton Road PICTON WA 6229
File Number	DER2017/000345
Duration	29 March 2018 to 24 January 2019
Date of issue	29 March 2018
Prescribed Premises	Category 70: Screening etc. of material
Premises	Harewood Road Quarry Lots 2 and 3 Minninup Road DALYELLUP Legal description - Lot 2 on Plan 407125 and Lot 3 on Plan 407125 Dalyellup

This Works Approval is granted to the Works Approval Holder, subject to the following conditions, on 29 March 2018, by:

Date signed: 29 March 2018

Tim Gentle

Manager Licensing – Resource Industries

an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

Explanatory notes

These explanatory notes do not form part of this Works Approval.

Defined terms

Definition of terms used in this Works Approval can be found at the start of this Works Approval. Terms which are defined have the first letter of each word capitalised throughout this Works Approval.

Department of Water and Environmental Regulation

The Department of Water and Environmental Regulation (DWER) is established under section 35 of the *Public Sector Management Act 1994* and designated as responsible for the administration of Part V, Division 3 of the *Environmental Protection Act 1986* (WA) (EP Act). The Department also monitors and audits compliance with licences and works approvals, takes enforcement action and develops and implements licensing and industry regulation policy.

Works Approval

Section 52 of the EP Act provides that an occupier of any premises commits an offence if any work is undertaken on, or in relation to, the premises which causes the premises to become, or to become capable of being, Prescribed Premises, except in accordance with a works approval.

Section 56 of the EP Act provides that an occupier of Prescribed Premises commits an offence if Emissions are caused or increased or permitted to be caused or increased, or Waste, noise, odour or electromagnetic radiation is altered or permitted to be altered from Prescribed Premises, except in accordance with a works approval or licence.

Categories of Prescribed Premises are defined in Schedule 1 of the *Environment Protection Regulations 1987* (WA) (EP Regulations).

This Works Approval does not authorise any activity which may be a breach of the requirements of another statutory authority including, but not limited to, the following:

- conditions imposed by the Minister for Environment under Part IV of the EP Act;
- conditions imposed by DWER for the clearing of native vegetation under Part V, Division 2 of the EP Act;
- any requirements under the *Waste Avoidance and Resource Recovery Act 2007*;
- any requirements under the *Environmental Protection (Controlled Waste) Regulations 2004*; and
- any other requirements specified through State legislation.

It is the responsibility of the Works Approval Holder to ensure that any action or activity referred to in this Works Approval is permitted by, and is carried out in compliance with, statutory requirements.

The Works Approval Holder must comply with the Works Approval. Contravening a Works Approval Condition is an offence under s.55 of the EP Act.
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Responsibilities of Works Approval Holder

Separate to the requirements of this Works Approval, general obligations of Works Approval Holders are set out in the EP Act and the regulations made under the EP Act. For example, the Works Approval Holder must comply with the following provisions of the EP Act:

- the duties of an occupier under s.61; and

- restrictions on making certain changes to Prescribed Premises unless the changes are in accordance with a Works Approval, Licence, closure notice or environmental protection notice (s.53).

Strict penalties apply for offences under the EP Act.

Reporting of incidents

The Works Approval Holder has a duty to report to the Department all Discharges of Waste that have caused or are likely to cause Pollution, Material Environmental Harm or Serious Environmental Harm, in accordance with s.72 of the EP Act.

Offences and defences

The EP Act and its regulations set out a number of offences including:

- Offence of emitting an Unreasonable Emission from any Premises under s.49.
- Offence of causing Pollution under s.49.
- Offence of dumping Waste under s.49A.
- Offence of discharging Waste in circumstances likely to cause Pollution under s.50.
- Offence of causing Serious Environmental Harm (s.50A) or Material Environmental Harm (s.50B).
- Offence of causing Emissions which do not comply with prescribed standards (s.51).
- Offences relating to Emissions or Discharges under regulations prescribed under the EP Act, including materials discharged under the *Environmental Protection (Unauthorised Discharges) Regulations 2004 (WA)*.
- Offences relating to noise under the *Environmental Protection (Noise) Regulations 1997 (WA)*.

Section 53 of the EP Act provides that a Works Approval Holder commits an offence if Emissions are caused, or altered, from a Prescribed Premises unless done in accordance with a Works Approval, Licence or the requirements of a closure notice or an environmental protection notice.

Defences to certain offences may be available to a Works Approval Holder and these are set out in the EP Act. Section 74A(b)(iii) provides that it is a defence to an offence for causing Pollution, in respect of an Emission, or for causing Serious Environmental Harm or Material Environmental Harm, or for discharging or abandoning Waste in water to which the public has access, if the Works Approval Holder can prove that an Emission or Discharge occurred in accordance with a Works Approval.

This Works Approval specifies the Emissions and Discharges, and the limits and Conditions which must be satisfied in respect of specified Emissions and Discharges, in order for the defence to offence provision to be available.

Authorised Emissions and Discharges

The specified and general Emissions and Discharges from the Works authorised through this Works Approval are authorised to be conducted in accordance with the Conditions of this Works Approval.

Amendment of Works Approval

The Works Approval Holder can apply to amend the Conditions of this Works Approval under s.59 of the EP Act. An application form for this purpose is available from DWER.

The CEO may also amend the Conditions of this Works Approval at any time on the initiative

of the CEO without an application being made.

Duration of Works Approval

The Works Approval will remain in force for the duration set out on the first page of this Works Approval or until it is surrendered, suspended or revoked in accordance with s.59A of the EP Act.

Suspension or revocation

The CEO may suspend or revoke this Works Approval in accordance with s.59A of the EP Act.

Definitions and interpretation

Definitions

In this Works Approval, the terms in Table 1 have the meanings defined.

Table 1: Definitions

Term	Definition
Books	has the same meaning given to that term under the EP Act.
CEO	means Chief Executive Officer. CEO for the purposes of notification means: Director General Department Administering the <i>Environmental Protection Act 1986</i> Locked Bag 33 Cloisters Square PERTH WA 6850 info@dwer.wa.gov.au
Condition	means a condition to which this Works Approval is subject under s.62 of the EP Act.
Department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> and designated as responsible for the administration of Part V, Division 3 of the EP Act.
Department Request	means a request for Books or other sources of information to be produced, made by an Inspector or the CEO to the Works Approval Holder in writing and sent to the Works Approval's address for notifications, as described at the front of this Works Approval, in relation to: (a) compliance with the EP Act or this Licence; (b) the Books or other sources of information maintained in accordance with this Licence; or (c) the Books or other sources of information relating to Emissions from the Premises.
Discharge	has the same meaning given to that term under the EP Act.
DWER	Department of Water and Environmental Regulation
Emission	has the same meaning given to that term under the EP Act.
Environmental Harm	has the same meaning given to that term under the EP Act.
EP Act	means the <i>Environmental Protection Act 1986</i> (WA).
EP Regulations	means the <i>Environmental Protection Regulations 1987</i> (WA).
Pollution	has the same meaning given to that term under the EP Act.

Premises	refers to the premises to which this Works Approval applies, as specified at the front of this Works Approval and as shown on the map in Schedule 1 to this Works Approval.
Prescribed Premises	has the same meaning given to that term under the EP Act.
Serious Environmental Harm	has the same meaning given to that term under the EP Act.
Unreasonable emission	has the same meaning given to that term under the EP Act.
Works	refers to the Works described in Schedule 2, at the locations shown in Schedule 1 of this Works Approval to be carried out at the Premises, subject to the Conditions.
Works Approval	refers to this document, which evidences the grant of the works approval by the CEO under s.54 of the EP Act, subject to the Conditions.
Works Approval Holder	refers to the occupier of the Premises being the person to whom this Works Approval has been granted, as specified at the front of this Works Approval.

Interpretation

In this Licence:

- (a) the words 'including', 'includes' and 'include' will be read as if followed by the words 'without limitation';
- (b) where any word or phrase is given a defined meaning, any other part of speech or other grammatical form of that word or phrase has a corresponding meaning;
- (c) where tables are used in a Condition, each row in a table constitutes a separate Condition;
- (d) any reference to an Australian or other standard, guideline or code of practice in this Works Approval means the version of the standard, guideline or code of practice in force at the time of granting of this Works Approval and includes any amendments to the standard, guideline or code of practice which may occur from time to time during the course of the Works Approval; and
- (e) unless specified otherwise, any reference to a section of an Act refers to that section of the EP Act.

Conditions

Infrastructure and equipment

1. The Works Approval Holder must install and undertake the Works for the infrastructure and equipment:
 - (a) specified in Column 1;
 - (b) to the requirements specified in Column 2; and
 - (c) at the location specified in Column 3.of Table 2 below.
2. The Works Approval Holder must not depart from the requirements specified in Column 2 of Table 2 except:
 - (a) where such departure does not increase risks to public health, public amenity or the environment; and
 - (b) all other Conditions in this Works Approval are still satisfied.
3. Subject to Condition 2, upon completion of the Works specified in Column 1 of Table 2, the Works Approval Holder must provide to the CEO a report/engineering/building certification from a suitably qualified professional confirming each item of infrastructure or component of infrastructure specified in Column 1 of Table 2 below has been constructed with no material defects and to the requirements specified in Column 2.
4. Where a departure from the requirements specified in Column 2 of Table 2 occurs and is of a type allowed by Condition 2, the Works Approval Holder must provide to the CEO a description of, and explanation for, the departure along with the certification required by Condition 2(b).

Table 2: Infrastructure and equipment requirements table

Column 1	Column 2	Column 3
Infrastructure/ Equipment	Requirements (design and construction)	Site plan reference
Temporary noise screening bund	Location, construction and dimensions sufficient to ensure that the requirements of the <i>Environmental Protection (Noise) Regulations 1997</i> will be met at all times.	Infrastructure as shown in plan of initial construction of the temporary noise bund in Schedule 1
Crushing and vibrating screen	Operations shall only occur within the extraction slot.	Area depicted in Premises map as depicted in Schedule 1

Emissions

5. The Works Approval Holder must not cause any Emissions from the Works authorised through this Works Approval except for general Emissions described in Column 1 of Table 3, subject to the exclusions, limitations or requirements specified in Column 2, of Table 3.

Table 3: Authorised Emissions table

Column 1	Column 2
Emission type	Exclusions/Limitations/Requirements
General Emissions (excluding Specified Emissions)	
Emissions which arise from undertaking the Works set out in Schedule 2.	Emissions excluded from General Emissions are: • Unreasonable Emissions; or • Emissions that result in, or are likely to result in, Pollution, Material Environmental Harm or Serious Environmental Harm; or • Discharges of Waste in circumstances likely to cause Pollution; or • Emissions that result, or are likely to result in, the Discharge or abandonment of Waste in water to which the public has access; or • Emissions or Discharges which do not comply with an Approved Policy; or • Emissions or Discharges which do not comply with prescribed standard; or • Emissions or Discharges which do not comply with the conditions in an Implementation Agreement or Decision; or • Emissions or Discharges the subject of offences under regulations prescribed under the EP Act, including materials discharged under the <i>Environmental Protection (Unauthorised Discharges) Regulations 2004</i>.

Record-keeping

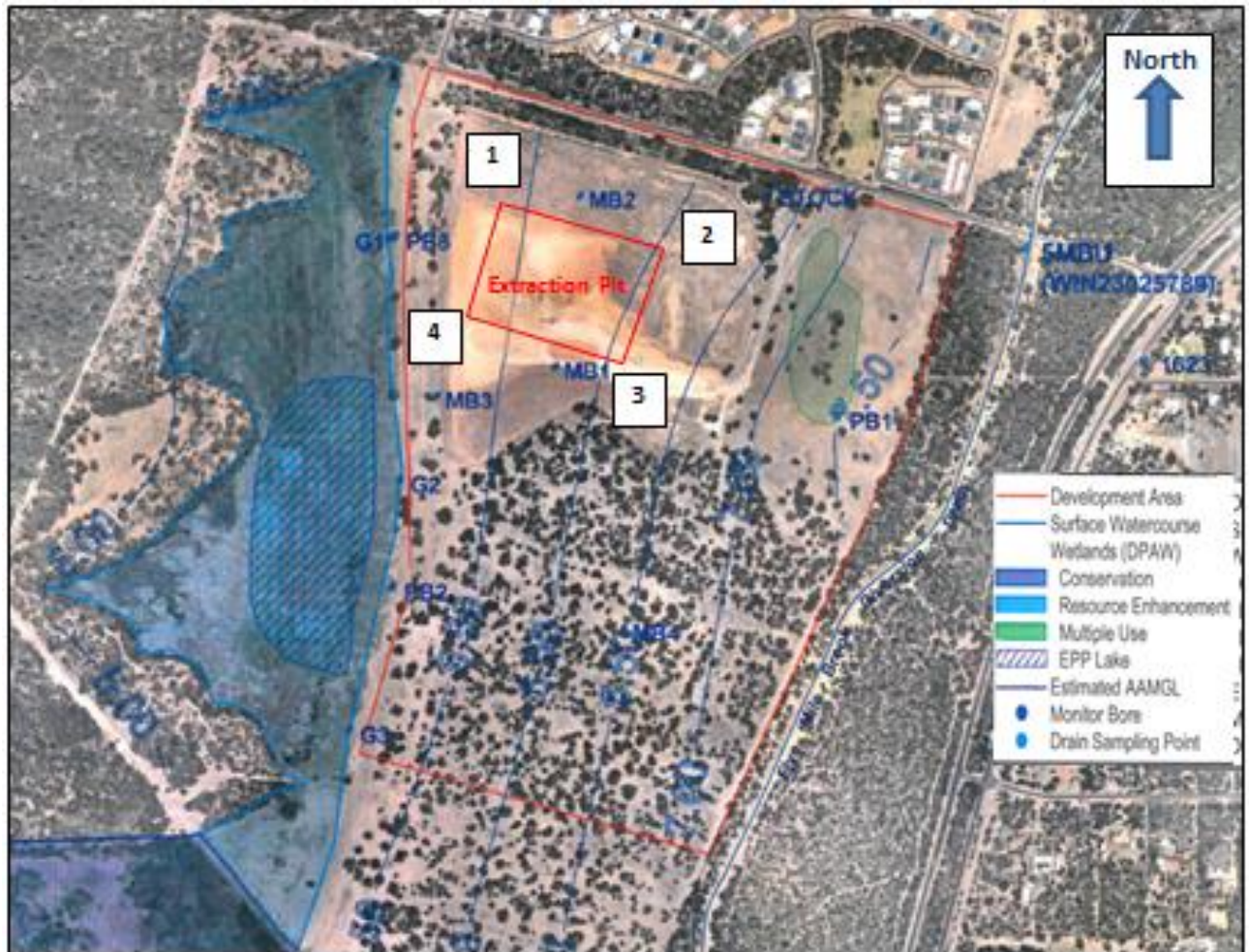
- 6.** The Works Approval Holder must maintain accurate Books including information, reports and data in relation to the Works and the Books must:
- be legible;
 - if amended, be amended in such a way that the original and subsequent amendments remain legible or are capable of retrieval;

- (c) be retained for at least 3 years from the date the Books were made;
 - (d) be available to be produced to an Inspector or the CEO.
- 7.** The Works Approval Holder must comply with a Department Request within 14 days from the date of the Department Request or such other period as agreed to by the Inspector or the CEO.

Schedule 1: Maps

Premises map

The Premises are shown in the map below.



Premises boundary

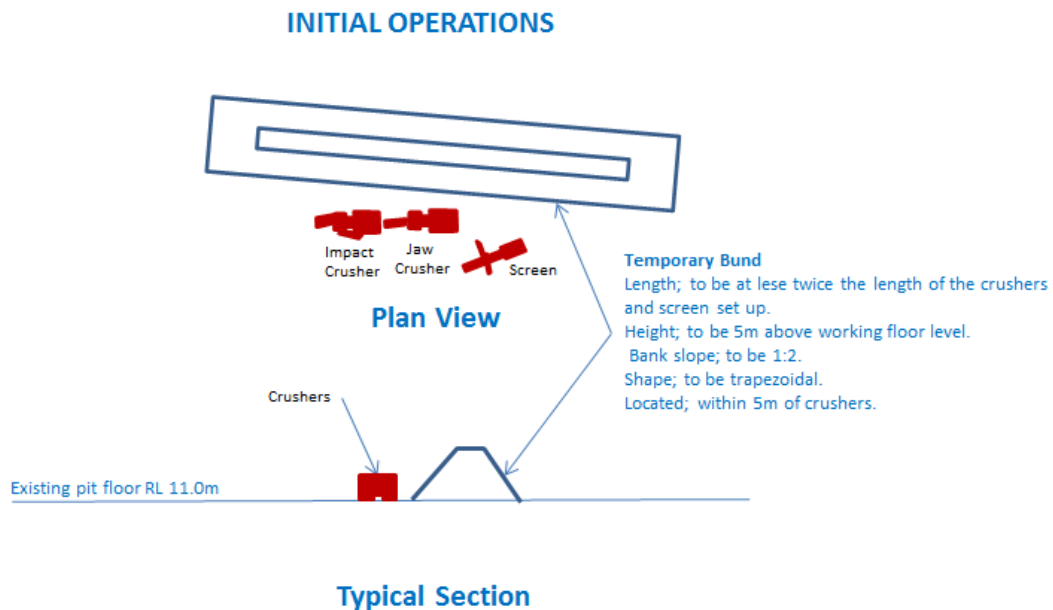
The Premises boundary is defined by the coordinates in Table 4.

Table 4: Premises boundary coordinates

Point No.	Easting	Northing
1	371170	6302187
2	371370	6302626
3	371320	6301926
4	371120	6302037

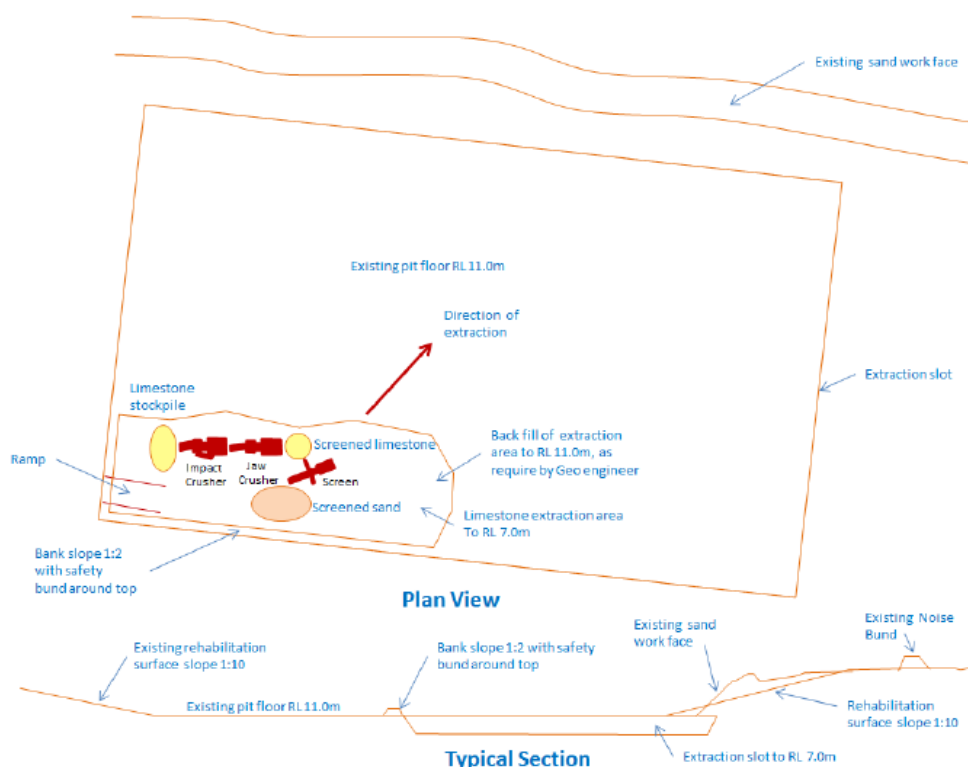
Plan of the initial construction of the temporary noise bund

The construction design of the temporary noise bund infrastructure referenced in Table 2 is depicted below.



Plan of the processing plant within the extraction slot

The initial positioning of the crushing and screening plant and direction of extraction within the approved extraction slot. No activity shall occur outside the extraction slot indicated below.



Schedule 2: Works

At the time of assessment, Emissions and Discharges from the Works listed in Table 5 were considered in the determination of the risk and related Conditions for the Works Approval.

Table 4: Authorised Works

Works	Specifications/Drawings
Temporary Northern Noise bund	Plans in Schedule 1
Crusher and vibrating screens with related conveyors and stockpilers	Plans in Schedule 1

Site layout

The infrastructure and equipment are set out on the Premises in accordance with the site layout specified on the plans and map in Schedule 1.



Application for Works Approval

Division 3, Part V *Environmental Protection Act 1986*

Works Approval Number W6075/2017/1

Applicant Piacentini and Son Pty Ltd

ACN 18 008 797 715

File Number DER2017/000345 & DER2018/000286

Premises Harewood Road Quarry
Lots 2 and 3 Minninup Road DALYELLUP

Legal description –
Lot 2 on Plan 407125 and Lot 3 on Plan 407125 Dalyellup

Date of Report 29 March 2018

Status of Report Final

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1. Definitions of terms and acronyms

In this Decision Report, the terms in Table 1 have the meanings defined.

Term	Definition
Ambient Air Quality NEPM	National Environmental Protection (Ambient Air Quality) Measure
ACN	Australian Company Number
AHD	Australian Height Datum
ASS	Acid Sulfate Soils
Category/ Categories/ Cat.	categories of Prescribed Premises as set out in Schedule 1 of the EP Regulations
Decision Report	this document.
Delegated Officer	an officer delegated under section 20 of the EP Act.
DWER	Department of Water and Environmental Regulation
EIL	Extractive Industry Licence
EPA	Environmental Protection Authority
EP Act	<i>Environmental Protection Act 1986 (WA)</i>
EP Regulations	<i>Environmental Protection Regulations 1987 (WA)</i>
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999 (Cth)</i>
Works Approval Holder	Piacentini & Son Pty Ltd
m ³	cubic metres
MS	Ministerial Statement
Noise Regulations	<i>Environmental Protection (Noise) Regulations 1997 (WA)</i>
PM	Particulate Matter
PM ₁₀	used to describe particulate matter that is smaller than 10 microns (µm) in diameter
Primary Activity	has the same meaning given to that term under the EP Act.
Premises	refers to the premises to which this Decision Report applies, as specified at the front of this Decision Report
third party approval	Approval granted by another regulator such as Shire of Capel EIL.
tpa	tonnes per annum
UDR	<i>Environmental Protection (Unauthorised Discharges) Regulations 2004 (WA)</i>
µg/m ³	micrograms per cubic metre
µg/L	micrograms per litre
WAPC	Western Australian Planning Commission

2. Purpose and scope of assessment

2.1 Background

Piacentini & Son Pty Ltd (**Piacentini**) wish to develop a limestone resource. The resource lies beneath and within the their existing sand extraction sites at Lot 2 and Lot 3 Minninup Road, Dalyellup located approximately 8 kilometres (km) south of the city of Bunbury. The application is to crush and screen up to 47,000 tonnes per annum of limestone over the next two years.

The proposed activity is a prescribed activity **Category 70** under schedule 1 of the *Environmental Protection Regulations 1987 (EP Regulations)* as described in Table 1.

Table 1: Prescribed Premises Category

Classification of Premises	Description	Approved Premises production or design capacity or throughput
Category 70 More than 5,000 but no more than 50,000 tonnes per annum.	Screening, etc. of material: premises (other than premises within category 5 or 8) on which material extracted from the ground is screened, washed, crushed, ground, milled, sized or separated.	47,000 tonnes per year

Mining, free digging, excavating and quarrying do not constitute screening etc. of materials and therefore do not fall within the scope of category 70 works approval and registration.

This **Decision Report** sets out Department of Water and Environmental Regulation (**DWER**) assessment and decision making in relation to an application for works approval and registration under Division 3, Part V of the EP Act for this proposal.

The **scope of assessment** for this Decision Report relates to the risk of emissions to public health and the environment during construction and active crushing and screening operations namely;

- Mobile primary crusher, Vibrating screen and related conveyors and materials stackers;

This assessment has resulted in the DWER issuing Works Approval W6075/2017/1 and Registration R2466/2018/1 in Attachment 1 and 2.

2.2 Application details

An application was received by DWER on 2 March 2017. Following requests from DWER, additional information was supplied on 25 May 2017 and 2 March 2018 respectively.

Table 2 lists the documents submitted during the assessment process.

Table 2: Documents and information submitted with the application for the assessment process

Document/information description	Date received
Piacentini Crushing Dalyellup DER Application for Works Approval – Revision 1.	2 March 2017
Piacentini Crushing Dalyellup 4 ordinary Council Minutes 21 December 2016 - minutes 21/12/2016	
Piacentini Crushing Dalyellup Company ASIC Extract	
Piacentini Crushing Dalyellup Extractive Industry Licence – Lots 2 and 3 Minninup Road approval EIL & DA letter.	
Piacentini Crushing Dalyellup Premises Titles	
Piacentini Harewoods Quarry Crushing Operations costings by email	25 May 2017
Coordinates of the extraction slot	1 March 2018
Copy of the Planning Commission subdivision approval – application no. 155519	2 March 2018

Piacentini wishes to obtain the limestone resource (approximately ninety four thousand tonnes) that exists within and beneath the existing limesand extraction pit located at Dalyellup. The Limestone resource is weathered and broken and exists within the existing lime sand resource. Crushing and screening will be required to separate the limestone from the sand. The materials stockpiled at the Harewood Road quarry will be used for local market supplies and contracts plus for future use when the land becomes available for residential development.

Crushing and screening is not expected to exceed forty seven thousand tonnes per annum therefore category 70 works approval and registration will be assessed in this report.

Piacentini has also provided evidence of legal ownership of the land and has legal occupancy of the land.

Key Finding: The Delegated Officer has determined that Piacentini & Son Pty Ltd is the legal occupier of Lot 2 and Lot 3 Minninup Road Dalyellup and the proposed activity is prescribed and subject to regulation under the provisions of the EP Act.

3. Overview of Premises

3.1 Operational aspects

The Harewood Road quarry located at Lot 2 and Lot 3 Minninup Road Dalyellup has operated as a sand extraction pit at this locality since 2007 and is the subject of Shire of Capel **development approval** (DA) and **extractive industry licence** (EIL) that when issued have regard to the **Shire of Capel extractive industries local law (2016)**. This application is to quarry limestone deposit from an **extraction slot** within and below the base of the existing limesand operation to a depth of 7 metres AHD.

The existing operation at the premises is indicated by the purple boundary as shown in Figure

Figure 1: Existing Premise Location

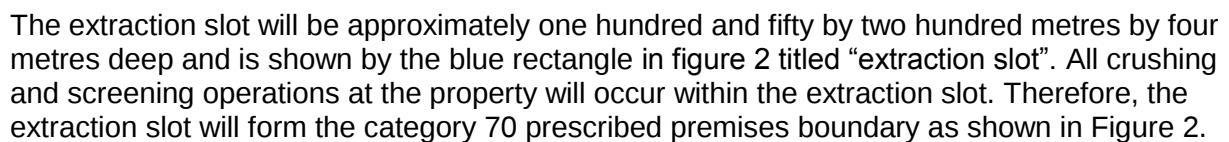


Figure 10 is a detailed topographic map of the 2016 Volume (Q1320E11) to original 2008 Surface (including Stockpiles). The map shows various blocks (Block 1 to Block 6), stockpiles (Limestone, Extraction slot), and survey control points. A small inset map in the top left shows the location of the study area within a larger regional context. The map includes contour lines, a north arrow, and a scale bar.

Block Piles Surveyed 20/10/2015
 Block 1 (Grand) - 99,261 m³
 Block 2 (Grand) - 4,907 m³
 Block 3 (Grand) - 1,489 m³
 Block 4 (Limestone) - 372 m³
 Block 5 (Grand) - 1,250 m³
 Block 6 (Grand) - 1,250 m³
 Block 7 (Grand) - 1,778 m³
 Block 8 (Grand) - 1,250 m³
 Total Stockpile Volume = 204,480 m³

2016 Volume (Q1320E11) to original 2008 Surface (including Stockpiles)
 Cont. 1,478,000 m³
 P.B. 5,415 m³
 Net: 1,503,415 m³

2016 Volume (Q1320E11) to original 2008 Surface (including Stockpiles)
 Net: 1,503,415 m³

2016 Volume Excluding Stockpiles
 1,181,024 m³

Total Extraction Volume From 20/10/2015 (Excluding Stockpiles)
 Net: 1,181,024 m³

SURVEY CONTROL

Point	Easting	Northing	Elevation
9000	31461.55	101300.23	17.14
9002	31841.84	101548.01	10.12

NOTES
 1) Stock Pile 4, 5, 6, 7, 8 - Grand
 2) P.B. Area including sub-surface material - 50.00 m³
 3) P.B. Area including sub-surface material - 50.00 m³

3.2 Infrastructure

The limestone crushing and screening facility infrastructure, as it relates to Category 70 activities, is detailed in Table 4 and with reference to the proposed layout of the extraction slot crushers and stockpiles is shown below in figure 3.

Figure 3: Proposed Layout of Extraction Slot – Crusher and Stockpiles

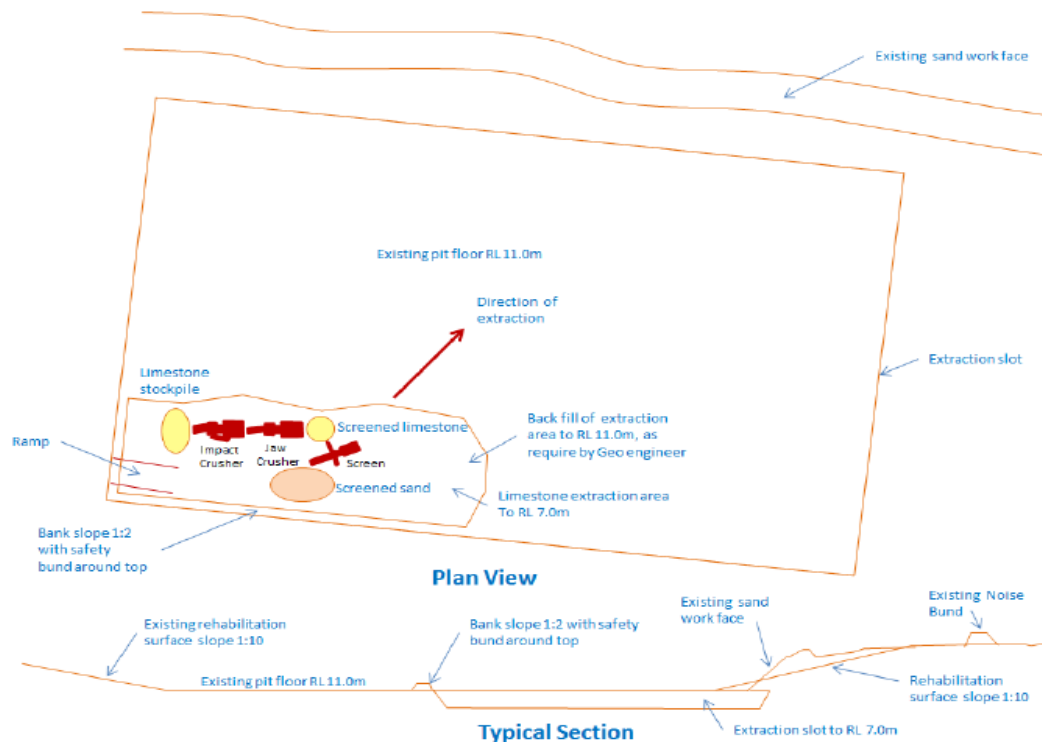


Table 4 lists the infrastructure associated with the prescribed premises category 70 operation.

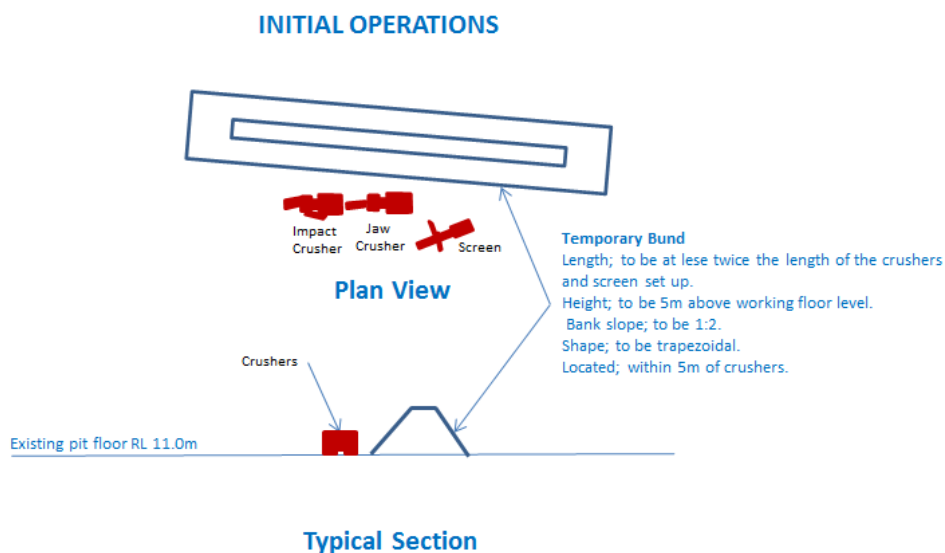
Table 3: Harewood Road Quarry Category 70 infrastructure

Infrastructure		
Prescribed Activity Category 70		Site Plan Reference
Crushing and screening of not more than 50,000 tonnes per year of material (limestone and sand) into various sizes and stockpiles on the premises.		
1	Mobile Crushing and screening plant including: - Jaw Crusher (Terex Finlay J1175 - 2500) - Impact Crusher - Sand screening plant (Terex Finlay 693) - Conveyors and Super-track materials stacker	Figure 3
2	Operational vehicles including CAT330 excavator and CAT980G frontend loader, light vehicles, water truck and haulage trucks	Figure 3
3	Acoustic and fugitive dust barrier – Piacentini must ensure crushing and screening plant is located on the pit floor to ensure existing barriers plus the pit working face act as an acoustic and dust barrier.	Figure 3

Existing infrastructure		
1	Existing acoustics bund to north, east and west of limesand quarry plus the construction of a temporary bund 5 metres high.	Figure 4
2	100m sealed haulage road from the quarry to Harewood Road crossover.	Figure 2
3	Administrative building, lunch room, toilet and staff carpark	Figure 2
4	Machinery parking and refueling area	Figure 2
5	Groundwater bore, standpipe and water storage tank	Figure 2
6	Groundwater monitoring network	Figure 5
Directly related activities		
1	Limestone and sand extraction, crushing, screening and material stockpiling.	Figure 2
2	Loading of stockpile material into haulage trucks and truck movements within the premises .	Figure 2
3	Water cart to prevent dust lift-off from stockpiles and internal trafficable areas	

Initial operations will require the construction of a temporary bund of length twice that of the crushing and screening plant and at least 5 metres high above the existing working floor levels with bank slopes of 1:2 of trapezoidal shape and within 5 metres of the crushing and screening plant. Figure 4 below is a plan of the temporary bund constructed for initial operations. Once the extraction pit floor reaches the maximum depth, the screening plant will be located into the limestone extraction slot as indicated by the proposed layout of extraction slot in Figure 3.

Figure 4: Initial operations temporary bund



3.3 Exclusions to the Premises

The existing sand extraction activity was excluded from this assessment as the extracted material was historically trucked from this premises and screened at an alternative location operated by Piacentini. The amendment to the Extractive Industry Licence (EIL) granted by the Shire of Capel in January 2017 to include crushing and screening operations triggered the premises to become prescribed under the provisions of the EP Act. The existing sand extraction activity does not constitute a prescribed activity under the EP Act..

4. Legislative context

Table 5 summarises approvals relevant to the assessment of this primary activity.

Table 4: Relevant approvals and tenure

Legislation	Number	Subsidiary	Approval
<i>Environmental Protection Act 1986</i> http://www.epa.wa.gov.au/sites/default/files/1683_B1108.pdf http://www.epa.wa.gov.au/sites/default/files/B1108_App15.pdf	<i>Bulletin Number 1108</i> <i>EPA Assessment No. 1394),</i>	<i>Western Australian Planning Commission</i>	<i>Lot 313 -317 Harewoods Road Dalyellup has been deemed a deferred factor in Appendix 15</i>
<i>Rights in Water and Irrigation Act 1914</i>	<i>GWL 163556</i>	<i>Department of Water</i>	<i>Licence for extract 25000 kL/yr.</i> <i>Expires on 24 January 2019.</i>
<i>Planning and Development Act 2005</i>	<i>PA189/2016 IPA2254</i>	<i>Shire of Capel</i>	<i>Extractive Industry Licence.</i> <i>Expires on 24 January 2019.</i>
<i>Planning and Development Act 2005</i>	<i>DP407125</i>	<i>Greater Bunbury Regional Scheme</i> <i>Western Australian Planning Commission</i>	<i>Development Approval delegated to Shire of Capel.</i> <i>Limited till 24 January 2019.</i>
<i>Planning and Development Act 2005</i>	<i>App No. 155519</i> <i>Freehold (green title) subdivision</i>	<i>Western Australian Planning Commission</i>	<i>Approval dated 8 February 2018 till 8 February 2022.</i> <i>Subject to conditions</i>

4.1 Part IV of the EP Act

4.1.1 Background

The Greater Bunbury Region Scheme (GBRS) was last amended in 2005 and serves as a guide to regulate the use and development of land within its bounds. Lot 2 and Lot 3 Minninup Road Dalyellup are subject to the GBRS with a land use of Industry to be converted to residential zoning in future.

4.1.2 Ministerial Statement 697

Supporting land planning documents provided with the application indicate the land rezoning was delayed following discussions between the **Environmental Protection Authority (EPA)** and the **Western Australia Planning Commission (WAPC)**. The applicant indicates that in 2005 the EPA notified the proponent of relevant conditions pursuant to the Urban Deferred status granted under the Greater Bunbury Region Scheme (GBRS) assessed under section 48 of the EP Act and conditioned by Ministerial Statement (MS) 697 assessment number 1394.

At the conclusion of its assessment the EPA was of the opinion that Lots 2 to 5 Minninup Road should be conserved as an ecological linkage due to the regionally significant vegetation and that sand and limestone extraction was incompatible with the GBRS. An independent assessment was completed in 2006 for the limesand extraction and resulted in the landowner negotiating a land exchange with the EPA and WAPC to provide the ecological linkage required by the GBRS and allowing the extractive industry operations to be approved in 2007.

4.2 Other relevant approvals

4.2.1 Planning approvals

The Development Approval (DA) and Extractive Industry Licence (EIL) for Lots 2 and 3 Harewood Road Dalyellup were granted by the Shire of Capel in their own right and under delegation from WAPC on 3 January 2017. The DA and EIL were conditional and limited to expire on 24 January 2019 and included due consideration of Town Planning Scheme No.7, Greater Bunbury Regional Scheme – October 2007 and the Shire of Capel Extractive Industry Local Laws.

The following conditions are a summary of the DA and EIL approvals relevant to this assessment;

- Development limited to the Shire's report (for renewal) dated 10 October 2014 and Amendment of EIL Report dated 9 September 2016;
- The approval is limited until 24 January 2019;
- The EIL is Issued in accordance with the Shire of Capel Extractive Industry Local laws – 2016 and EIL conditions;
- Noise and Dust management plan submitted prior to commencement;
- Access to the site to be a sealed crossover for a distance of 100 meters from Harewoods Road;
- A maximum of 200,000 m³ of material can be stored and stabilized on the premises at any one time;
- Operational hours to be from 7.00am, to 5.00 pm Monday to Friday; and 7.00 am to 12.00 noon on Saturday. No operations are permitted on Sundays or public holidays.
- Processing screening plant and crushing plant may only operate on site in accordance with DWER authorization;
- Depth of excavation shall be limited to 7 metres AHD. No over-excavation below agreed level is permitted.

- Minimum setbacks for the industry are as follows:
 - Forty (40) meters from the Harewoods Rd and Minninup Rd reserves;
 - Forty (40) metres from the Eastern boundary;
 - Twenty (20) metres from the Southern boundary;
 - No operations are permitted within the setback areas; and,
 - The vegetation within the Harewoods Road 40m setback shall be maintained.
- Safety practices for persons employed or visiting shall be in accordance with the DME, *Mine Safety and Inspections Act 1994* and Regulations 1995.
- Precautions against wind-blown material shall be made in accordance with the approved Dust Management Plan;
- No discharge of storm water other than pre-development runoff in defined natural watercourses.
- Detailed survey of EIL site submitted annually by 16 November.
- No soil material to be imported into the site.

4.2.2 Subdivision approval

Piacentini applied to the Western Australian Planning Commission (WAPC) to subdivide the existing property into a residential property on 2 August 2017. Subdivision approval was granted on 8 February 2018 with a four year conditional requirement plus submission of a deposited plan notifying all conditions of Application Number 155519 had been fulfilled such that the subdivision could commence.

4.2.3 Environment Protection and Biodiversity Conservation Act 1999 (Cth)

The crushing and screening of material proposal was not referred nor assessed under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act) as the site does not impinge on Matters of National Environmental Significance.

4.3 DWER Part V of the EP Act

4.3.1 Applicable regulations, standards and guidelines

The legislative framework for this assessment is the EP Act and EP Regulations.

DER guidance statements which inform this assessment are:

Guidance Statement: Regulatory Principles (July 2015)

Guidance Statement: Setting Conditions (October 2015)

Guidance Statement: Licence Duration (August 2016)

Guidance Statement: Publication of Annual Audit Compliance Reports (May 2016)

Guidance Statement: Decision Making (February 2017)

Guidance Statement: Risk Assessments (February 2017)

Guidance Statement: Environmental Siting (November 2016)

4.3.2 Works approval and licence history

There have been no previous works approvals or licences issued for the prescribed activity at this property because the primary activity of crushing and screening did not occur.

4.3.3 Groundwater Well Licence

Groundwater Well Licence (GWL) number GWL163556 with an entitlement of 25,000 kilolitres

per annum (kL/a) was issued on 2 November 2015 and expires on 24 January 2019. Groundwater is abstracted from the shallow aquifer within the Stratham-Gelorup subarea of the Bunbury Groundwater Area and the entitlement authorises groundwater use for industrial purposes associated with the operations at the property.

4.3.4 Clearing

Clearing permit CPS701/1 for the clearing of 25.33 hectares of native vegetation by mechanical removal was granted on 11 June 2007 and expired 11 June 2011. Land clearing is not required for this project to continue operating. The limestone extraction slot is within the existing sand extraction area that has been fully cleared.

Key Finding: The Delegated Officer has determined the key legislative requirements are;

1. The operation of an extractive industry operation at Lot 2 and Lot 3 Minninup Road Dalyellup meets planning requirements under the Regional scheme;
2. A DA and EIL for the crushing and screening of limestone have been granted by the Shire of Capel expiring on 24 January 2019.
3. This proposal does not require EPBC Act authorisation nor a clearing permit;
4. A current GWL exists for the term of the industrial activity which expires on 24 January 2019.

5. Noise modelling data

5.1 Noise emissions

Noise emissions from the extraction of material from the quarry and from the crushing and screening operations are regulated under the *Environmental Protection (Noise) Regulations 1997* (Noise Regulations), which is administered by DWER, an assessment of noise impacts from the entire Harewood Road quarry operation will be considered in this Decision Report.

5.2 Modelling of noise emissions

An **acoustic assessment** was undertaken for Piacentini by Lloyd George Acoustics on 15 September 2016 by creating a noise model using *SoundPLAN 7.4* software with the *CONCAWE* algorithms as they include the influence of wind and atmospheric stability. The input data required in the model included meteorological information, topographical data, ground absorption and the source (equipment/plant) sound power levels.

The acoustics assessment predicted the noise emissions for the following scenarios;

1. Existing bunds and plant at 11m AHD in extraction slot;
2. Existing bunds and plant at 11m AHD plus Temporary 5m bund in extraction slot;
3. Existing bunds and plant at 7m AHD in floor of extraction slot; and
4. Existing bunds and plant at 7 m AHD in the floor and midway within the extraction slot.

The modelling and assumptions were reviewed by DWER where it was determined that the modelling input data, source sound power levels and model scenarios comply with the Noise Regulations.

Key finding: The noise modelling determined that;

1. Compliance with the Noise Regulations will be achieved for the initial operational phase of crushing and screening limestone on the existing pit floor

at 11 m AHD with the plant located south of a 5m high temporary bund.

2. Compliance with the Noise Regulations will be achieved in the second phase, when the crushing and screening equipment is located on the extraction slot floor at 7m AHD (furthest from the Dalyellup and Gelorup residences) plus the scenario when the equipment is located midway towards the Dalyellup residents.
3. Modelling is not necessary with the extraction slot located at its closest point to the Dalyellup residents because it is accepted that the extraction slot will move closer to the existing acoustic barrier provided by the previous sand extraction operations. The existing barrier has a height greater than 17m and up to 22m AHD.
4. Noise levels received by Gelorup residences east of Bussell Highway are similar for all phases of the operation and are compliant with the Noise Regulations.
5. The proposed primary activity of crushing and screening limestone will interchange with the existing sand excavation operations (that is, they will not occur simultaneously) therefore accumulative noise was not required to be modelled.

6. Consultation

The application was advertised on the DWER website on 17 August 2017 for a comment period ending on 7 September 2017. No submissions were received.

Letters inviting comments on this application were sent to Shire of Capel. Comments received highlighted the EIL conditions and explained the approval expires on 24 January 2019.

Previous consultation

As required by the Shire of Capel Development Approval process consultation was undertaken by the Shire between 4 and 6 October 2016 and included an advisory letter sent to all residences within 500m of the site (256 residences in total), a notice erected at Lot 2 Minninup Road, a notice in the local newspaper, a notice on council's website and a referral letter to five government agencies. The consultation period was extended to 42 days to allow sufficient time for local residents and State Government agencies to provide their advice. Twenty (20) objections were received by the Shire of Capel mainly from nearby landowners.

The objections related to noise, vibration, fugitive dust, increased traffic movements, duration of extraction activities, source of water supply and the company's obligations to address statutory approval terms and conditions.

After consideration of the 20 objections received, the Shire approved the extractive industry development on 5 January 2017 with conditional approval that addresses matters raised by the community.

DWER has reviewed the extensive consultation completed during the Shire of Capel planning process and considers the matters raised relevant to the prescribed activity (screening of limestone material) have been adequately addressed.

Noise and fugitive dust emissions have adequate conditions imposed under the Extractive Industry Licence as described above in section 4.2.1.

Key Finding: The Delegated Officer has determined the key consultation findings are;

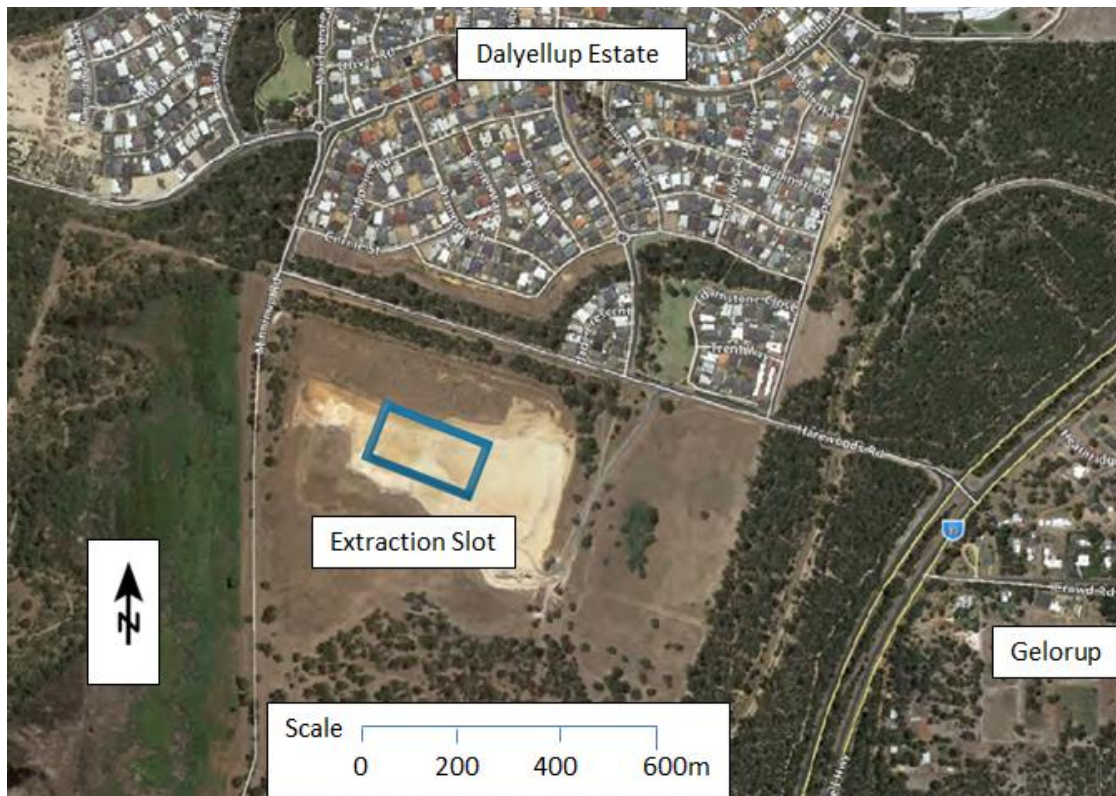
1. DWER received no public submissions when the application was advertised on 17 August 2017 closing 7 September 2017;
2. The Shire of Capel consultation process attracted 20 submissions from 256 residence located at Dalyellup within 500m of the property boundary. The submissions related to noise, vibration, fugitive dust, increased traffic movements, duration of extraction activities, source of water supply and the company's obligations to address statutory approval terms and the conditions of the Extractive Industry Licence issued by the Shire.

7. Location and siting

7.1 Siting context

The Harewood Road quarry is located approximately 8 km south of Bunbury in the south west of Western Australia. The property is zoned 'Rural' under the greater Bunbury Regional Scheme. The quarry is located on the second dunal system of the Swan Coastal Plain. Figure 5 depicts the location of the premises in relation to sensitive receptors.

Figure 5: Location of the Premises in relation to sensitive receptors



7.2 Residential and Sensitive Premises

The distances to residential and sensitive receptors are detailed in Table 6.

Table 5: Receptors and distance from activity boundary

Sensitive Land Uses	Distance from Prescribed Activity
Residential Premises	The nearest residence is located 75m north from the boundary of the property and 200m from the proposed limestone extraction slot. 43 residents are between 250m and 350m from the boundary of the property located north in the Dalyellup Estate. There are a further 224 residential properties between 350m to 500m are located north in the Dalyellup Estate and east at Gelorup from the property boundary.

7.3 Specified ecosystems

Specified ecosystems are areas of high conservation value and special significance that may be impacted as a result of activities at or Emissions and Discharges from the Premises. The distances to specified ecosystems are shown in Table 7. Table 7 also identifies the distances to other relevant ecosystem values which do not fit the definition of a specified ecosystem.

The table has also been modified to align with the *Guidance Statement: Environmental Siting*.

Table 6: Environmental values

Specified ecosystems	Distance from the Premises
Geomorphic Wetlands	Resource Enhancement wetland is located approximately 150m to the west. Conservation wetland is located 1100m south south west. Multiple Use wetland is located approximately 270m to the east. EPP Lake is located 120m west south west of the primary activity area.
Threatened Ecological Communities and Priority Ecological Communities	A vegetative buffer is located 800m east of the proposed extraction slot and consists of Banksia Woodland Threatened Ecological Community (TEC). This TEC also occurs immediately north of the property opposite Harewoods Road within the Dalyellup estate.
Biological component	Distance from the Premises
Threatened/Priority Flora	Located approximately ~ 160m south of the existing sand quarry is a priority 2 species. A priority 4 species is located ~300m south east from the active sand quarry.
Threatened/Priority Fauna	Based on fauna surveys there have been confirmed sightings of the threatened species Baudin, Carnaby and Red Tailed Black cockatoo immediately east, north west and south of the existing Harewood Road quarry. This proposal does not require clearing of native vegetation therefore the threat of this proposal to these species is minimal

7.4 Groundwater and water sources

The distances to groundwater and water sources are shown in Table 8.

Table 7: Groundwater and water sources

Groundwater and water sources	Distance from Premises	Environmental value
Public drinking water source areas	Premises is located within the Bunbury Water Reserve.	The reserve is a <i>Priority 3</i> groundwater area, which allows a variety of uses. Including extractive industry projects.
Major watercourses/waterbodies	The <i>Five Mile Brook Drain</i> is located approximately 420 metres to the east.	Land drainage during high rainfall or flooding events and is an important water link between coastal plain wetlands.
Bunbury Groundwater Area RIWI Act 1914	Depth to the highest recorded groundwater table from the base of the extraction slot is estimated to be 5.5m AHD in the west and 7.0m AHD in the east of the extraction slot.	The Shire of Capel Extractive Industry Local Laws require a minimum of 2 metres vertical separation distance from the base of the excavation to estimated maximum water table height. Therefore the extraction floor depth should be 7.5m AHD in the west and 8.0m AHD in the east.

The Bunbury Shallow Drilling Groundwater Investigation (Commander, 1982) describes the groundwater in the vicinity of the site comprising a Superficial aquifer at an elevation of 5 m Australian Height Datum (AHD), that is in direct contact with the deeper Yarragadee aquifer. Shallow groundwater flows generally westward beneath the site and discharges to the coastal swamps and the ocean. The average seasonal variation in the water table is approximately one metre.

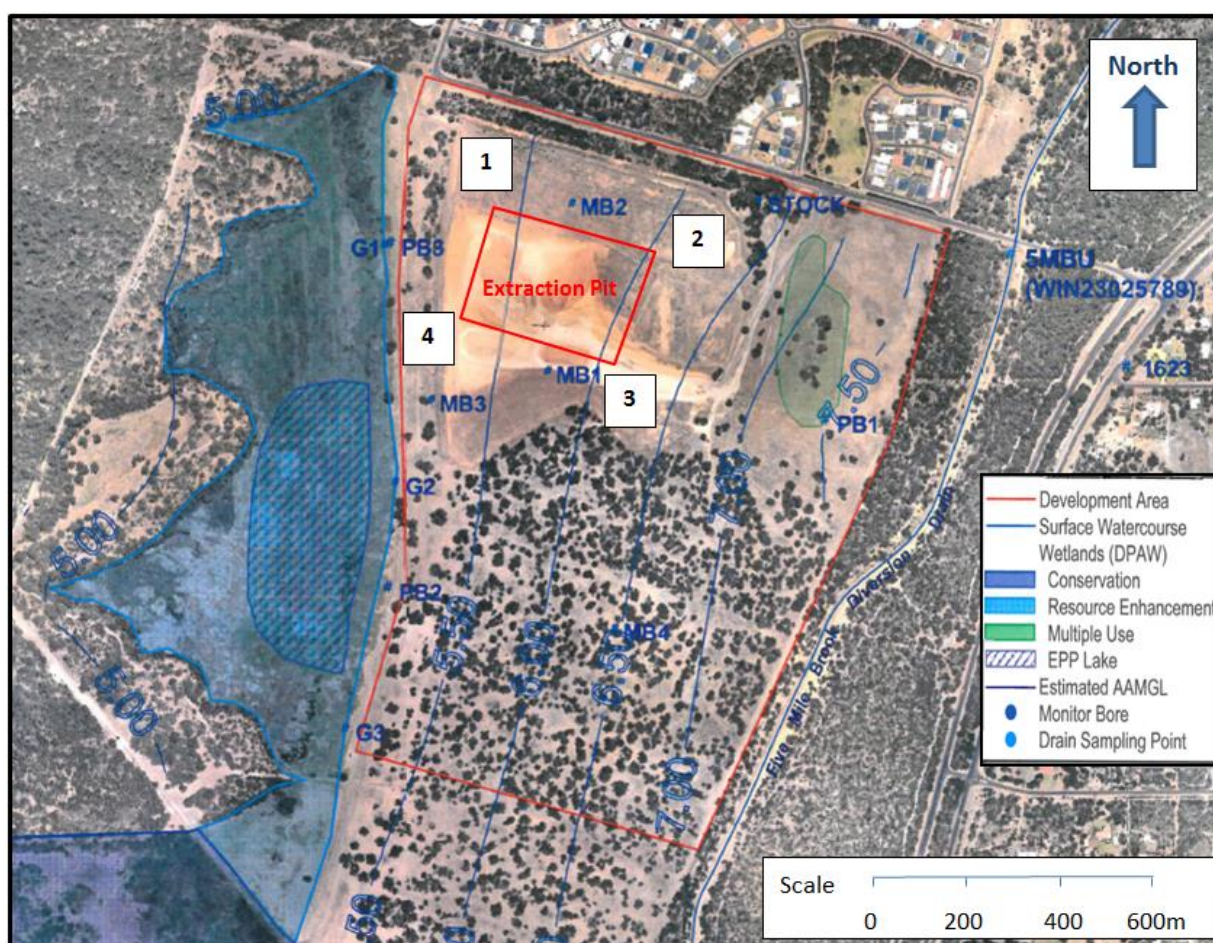
Groundwater from the shallow (Superficial) aquifer is used in the surrounding area for domestic rural-residential uses to the east in Gelorup. This aquifer is also used for rural stock water supply and irrigation of gardens and Public Open Space in the Dalyellup estate to the north. The underlying deeper Yarragadee aquifer is used for public drinking water supply by Water Corporation plus Bunbury Water Board to the north of the proposed extraction slot.

Groundwater levels have been measured by Piacentini's consultant in up to nine bores monitoring the shallow aquifer surrounding the development since 2002, 2003, 2004, 2008, 2013 and 2016. Figure 6 shows the bore locations plus indicates the estimated average annual maximum groundwater level (AAMGL) contour derived from the bore data in metres AHD. Table 9 summarises the water level data collected at the site since 2002 to 2016.

Table 9 – Groundwater levels recorded since 2002 to 2016

Bore (Figure 5)	Water Level (m AHD)						
	21/11/02	5/05/03	7/08/03	30/01/04	1/07/08	30/10/13	13/10/16
DoW 1623					6.20	6.97	7.03
MB1	4.56	4.19	4.43	4.52			
MB2	4.48	4.15	4.34	4.46			
MB3	4.38	4.01	4.40	4.21			
MB4	4.89	4.44	4.69	4.89			
Stock Bore	4.79	4.39	4.84	4.90			6.37
G1					4.44	4.82	
G2					4.31		
G3					4.12		
PB1							7.67
PB2							4.87
PB3							5.28

Figure 6 – Hydrology of Lot 2 and Lot 3 Harewoods Road Dalyellup



The EIL issued to Piacentini by the Shire of Capel condition number (g), limits the excavation slot depth to 7 metres AHD. This would result in a vertical separation between the excavation slot floor and groundwater of 1 metre AAMGL in the east to 1.5 metres to the west. .

7.5 Other site characteristics

The locations of other receptors are shown in Table 9.

Table 8: Other landscape features, relevant factors or receptors

Other receptors or areas of concern	Location
System 6 Conservation Reserve (C71)	275 m to the east
Clearing Regulations - Environmentally Sensitive Area (Bush Forever)	Intersects lot 2 and lot 3 of active quarry area and is a separation distance boundary from the Geomorphic Wetlands located west of the property.

7.6 Soils type

Dominant soils are shallow yellow sands overlaying limestone (Northcote et al. 1960-1968). Surface Geology is Tamala Limestone: predominately calcarenite (from available GIS dataset – Surface Geology). There is a very low level risk of potential acid sulfate soils being generated by activities at this Premises.

The material to be screened from within the extraction slot is unconsolidated weathered

limestone pebbles scattered amongst the yellow builders sand at a ratio of 1 limestone to 5 sand. The unconsolidated weather limestone is soft and will not require crushing to reduce it size. It is considered to be poor quality material with a specific use within a local domestic market.

7.7 Meteorology

Meteorological conditions such as wind direction and speed, land temperature and rainfall can influence the pathway that fugitive dust and nuisance noise may discharge and therefore impact the environment or sensitive receptors. These conditions are discussed below.

7.7.1 Regional Climate Aspects

The locality has a Mediterranean climate with hot dry summers and cool wet winters.

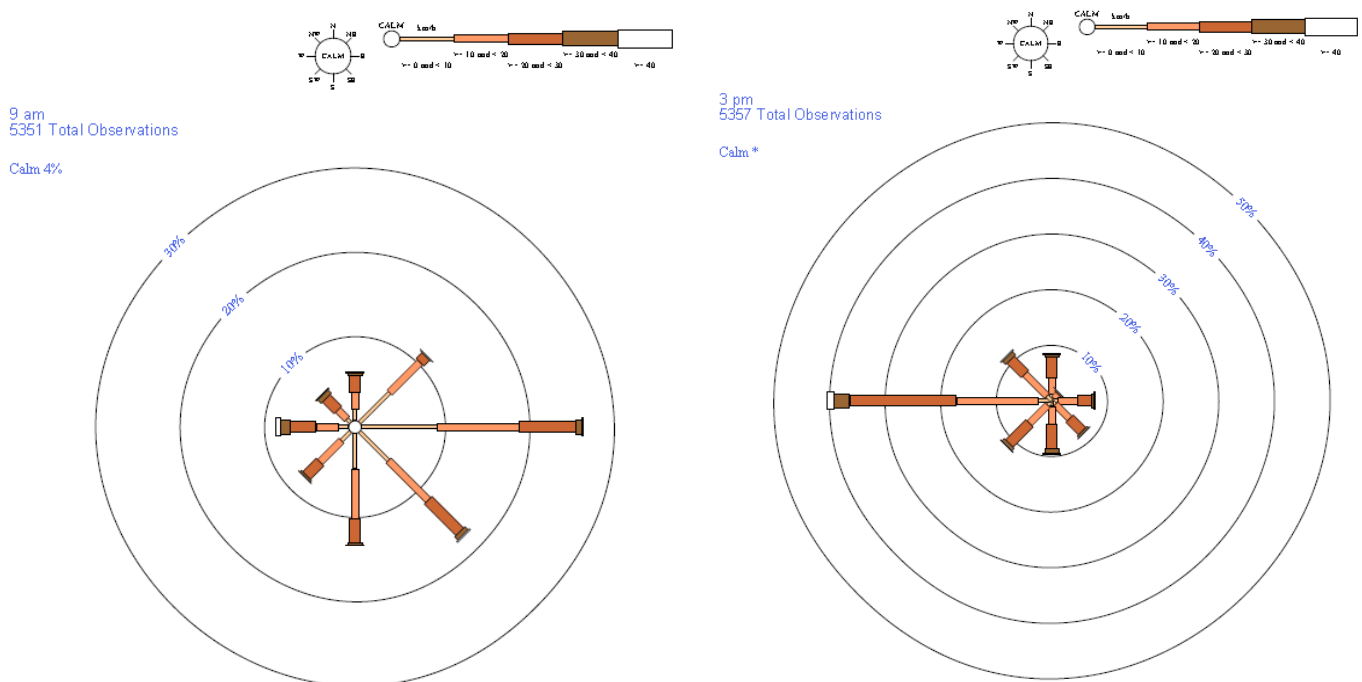
Winds are predominately from the east to the southeast quadrants in the mornings and from the west in the afternoons.

Climate statistics for the local area are provided below. Wind roses, rainfall and temperature graphs presented in Figures 7 to 9 are from observations from the Bunbury Air Quality Metrological Station.

7.7.2 Wind direction and speed

The wind rose indicated the winds are predominantly from the east to southeast in the mornings and westly in the afternoons.

Figure 7: Wind Rose for Bunbury – 1995 to 2010.



7.7.3 Rainfall and Land Temperature

The mean rainfall and maximum temperature for the period 1995 to 2017 for Bunbury locality is detailed in Figures 8 and 9.

The mean maximum rainfall occurs in July annually with approximately 140 mm with mean maximum temperature of 30°C occurring in the month of February annually.

Figure 8: Mean rainfall and maximum temperature plot for Bunbury – 1995 to 2017

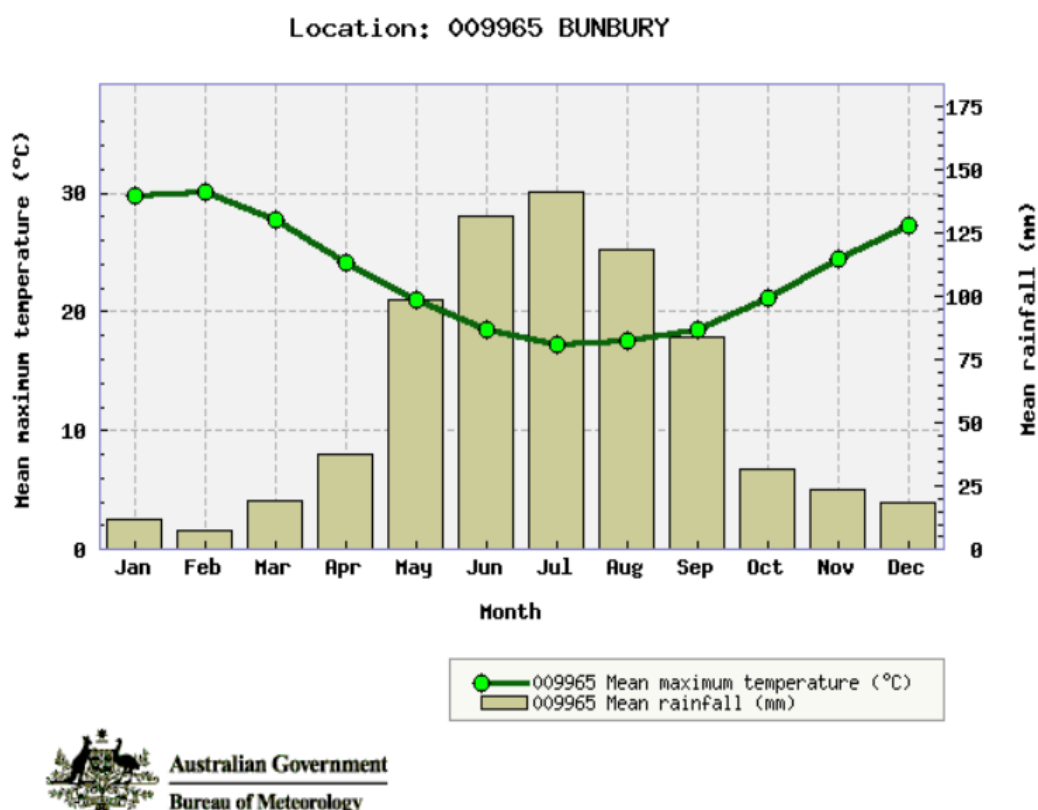


Figure 9: Mean rainfall and maximum temperature table for Bunbury – 1995 to 2017

Statistics	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	Years
Mean maximum temperature (°C) for years 1995 to 2017	29.8	30.1	27.7	24.2	21.0	18.5	17.3	17.6	18.5	21.1	24.4	27.3	23.1	22
Statistics	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	Years
Mean rainfall (mm) for years 1995 to 2017	12.0	7.6	19.4	37.4	99.0	132.2	141.5	118.4	84.3	32.1	23.7	18.2	725.1	22

12.3 = Not quality controlled

8. Risk assessment

8.1 Confirmation of potential impacts

Identification of key potential emissions, pathways, receptors and confirmation of potential impacts are set out in Table 9 and Table 10 below. The Tables identify which potential emissions will be progressed to a full risk assessment. Some potential emissions/impacts may not receive a full risk assessment where a potential receptor or pathway cannot be identified or where the emission/impacts are regulated by other legislation.

Table 9. Identification of emissions, pathway and receptors during construction

			Potential Emissions	Potential Receptors	Potential Pathway	Potential Impacts	Continued to detailed risk assessment?	Reasoning
Source (see Section 4.2 for infrastructure references)	Construction, mobilisation and positioning of plant and infrastructure	Construction of Temporary bund in the Extraction slot	Fugitive dust emissions	Residence in the Dalyellup Estate and Gelorup special residential (see Figure 1)	Air (windborne)	Amenity impacts may include visible dust and deposition of material.	No	The EIL required a revised Dust Management Plan to address fugitive dust during construction of the bunds and mobilisation of the screening plant. Community complaints will be investigated and mitigation as required by the Dust Management Plan and conditioned by the EIL.
		Construction of		Vegetation adjacent to extraction slot	Air (windborne)	Potential smothering suppression of photosynthetic and respiratory functions	No	Any impact would be negligible.

			Potential Emissions	Potential Receptors	Potential Pathway	Potential Impacts	Continued to detailed risk assessment?	Reasoning
	Construction, mobilisation and positioning of plant and infrastructure	Temporary bund in the Extraction slot	Noise	Residences in the Dalyellup Estate and Gelorup special residential properties.(see Figure 1)	Air	Impacts on amenity and potential impacts on mental health.	No	Construction noise will be managed to comply with the Noise Regulations, EP Act, Noise Management Plan and conditions of the EIL.
			Acid Sulfate Soils. Release of sulfuric acid metals and metalloids	N/A	N/A	N/A.	No	<i>Soils are calcareous limestone that will not generate acid sulfate soils</i>
			Stormwater contaminated with sediment load following construction activities.	Wetlands and EPP Lakes located 120 m down gradient of Extraction slot boundary	Direct topographic discharge during significant rainfall events	Erosion and scouring of ground. Overland sedimentation inhibiting vegetation growth and survival. Increased turbidity of Wetlands and EPP lake may limit light availability to submerged macrophytes (aquatic plants) inhibiting growth by preventing photosynthesis.	No	<i>Premises boundary bunds plus soil characteristics prevent runoff. Potential stormwater emissions managed by third party approval and the general provisions of the EP Act and the Unauthorised Discharges Regulations.</i>

			Potential Emissions	Potential Receptors	Potential Pathway	Potential Impacts	Continued to detailed risk assessment?	Reasoning
	Construction, mobilisation and positioning of plant and infrastructure	Mobilization of crushing and screening plant into extraction slot	Fugitive dust emissions	Residences of the Dalyellup estate and Gelorup special residential properties (see Figure 1)	Air (windborne)	Amenity impacts may include visible dust and deposition of material.	No	<i>Mobilisation is expected to be completed within two days and is regulated by the general provisions of the EP Act, EIL provisions and Dust Management Plan.</i>
				Vegetation adjacent to extraction slot	Air (windborne)	Potential smothering suppression of photosynthetic and respiratory functions	No	<i>Mobilisation is expected to be completed within two days and regulated by the general provisions of the EP Act and conditions of the EIL.</i>
			Noise	Residences of the Dalyellup estate and Gelorup special residential properties (see Figure 1)	Air (windborne)	Impacts on amenity.	No	<i>Mobilisation noise is managed to comply with the Noise Regulations and general provisions of the EP Act.</i>

			Potential Emissions	Potential Receptors	Potential Pathway	Potential Impacts	Continued to detailed risk assessment?	Reasoning
			Refuelling machinery with hydrocarbons. Leaks or spills causing hydrocarbon discharge to land	Ecosystems adjacent to refuelling area	Direct discharge	Soil contamination inhibiting vegetation growth and consequences for survival and health of fauna.	No	<i>No Bulk containers stored on site. Refuelling completed by mobile tanker. Plant and equipment maintained off-site. Regulated by other third party approval (EIL) and general provisions of the EP Act.</i>

Table 10: Identification of emissions, pathway and receptors during operation

			Potential Emissions	Potential Receptors	Potential Pathway	Potential Impacts	Continued to detailed risk assessment?	Reasoning
Source (see Section 3.1 for infrastructure)	Processing, movement and storage of material extracted from the ground	Operation of crushing and screening plant, transfer and stockpiling of materials.	Fugitive dust emissions	Residences of Dalyellup Estate and Gelorup residential properties <i>(see Figure 1)</i>	Air (windborne)	Amenity impacts may include visible dust and dust coating on surfaces.	Yes	<i>A dust management plan is required under the EIL. Assessment required to ensure this is adequate to manage dust from the screening operation.</i>

			Potential Emissions	Potential Receptors	Potential Pathway	Potential Impacts	Continued to detailed risk assessment?	Reasoning
	Processing, movement and storage of material extracted from the ground	Operation of crushing and screening plant, transfer and stockpiling of materials.		Vegetation adjacent to mining areas	Air (windborne)	Potential smothering suppression of photosynthetic and respiratory functions	No	Emissions will be regulated by the general provisions of the EP Act. Other third party approval addresses this emission.
			Noise	Residences of Dalyellup Estate and Gelorup residences (see Figure 1)	Air (windborne)	Impacts on amenity.	Yes	<i>Assessment required to ensure operations can comply with requirements of the Environmental Protection (Noise) Regulations 1997</i>
			Leaks and spills of hydrocarbons.	Land and groundwater	Land and Soil	Potential contamination of soil and leaching to groundwater	No	<i>Spills Kits and Operational procedures by Licence Holder reduce potential. No hydrocarbons stored onsite. Emissions regulated under the general provisions of the EP Act and UDR's.</i>

			Potential Emissions	Potential Receptors	Potential Pathway	Potential Impacts	Continued to detailed risk assessment?	Reasoning
		Stormwater management	Stormwater contaminated with increased sediment load including screened fines.	Land Wetlands and EPP Lakes located 120 m down gradient of Extraction slot boundary	Direct topographic discharge during significant rainfall events	Erosion and scouring of ground. Overland sedimentation inhibiting vegetation growth and survival. Increased turbidity to wetlands and EPP Lakes that could limit light availability to submerged macrophytes (aquatic plants) inhibiting growth by preventing photosynthesis.	No	<i>Premises boundary bunds plus soil characteristics prevent runoff. Potential stormwater emissions managed by third party approval and the general provisions of the EP Act and UDR's.</i>
		Acid Sulfate Soils	Release of sulfuric acid metals and metalloids	N/A	N/A	N/A.	No	<i>Soils are predominately limestone that will not generate acid sulfate soils</i>

8.2 Consequence and likelihood of risk events

A risk rating will be determined for risk events in accordance with the risk rating matrix set out in Table 14 below.

Table 11: Risk rating matrix

Likelihood	Consequence				
	Slight	Minor	Moderate	Major	Severe
Almost certain	Medium	High	High	Extreme	Extreme
Likely	Medium	Medium	High	High	Extreme
Possible	Low	Medium	Medium	High	Extreme
Unlikely	Low	Medium	Medium	Medium	High
Rare	Low	Low	Medium	Medium	High

DER will undertake an assessment of the consequence and likelihood of the Risk Event in accordance with Table 15 below.

Table 12: Risk criteria table

Likelihood		Consequence		
The following criteria has been used to determine the likelihood of the Risk Event occurring.		The following criteria has been used to determine the consequences of a Risk Event occurring:		
			Environment	Public health* and amenity (such as air and water quality, noise, and odour)
Almost Certain	The risk event is expected to occur in most circumstances	Severe	- onsite impacts: catastrophic - offsite impacts local scale: high level or above - offsite impacts wider scale: mid-level or above - Mid to long-term or permanent impact to an area of high conservation value or special significance[^] - Specific Consequence Criteria (for environment) are significantly exceeded	- Loss of life - Adverse health effects: high level or ongoing medical treatment - Specific Consequence Criteria (for public health) are significantly exceeded - Local scale impacts: permanent loss of amenity
Likely	The risk event will probably occur in most circumstances	Major	- onsite impacts: high level - offsite impacts local scale: mid-level - offsite impacts wider scale: low level - Short-term impact to an area of high conservation value or special significance[^] - Specific Consequence Criteria (for environment) are exceeded	- Adverse health effects: mid-level or frequent medical treatment - Specific Consequence Criteria (for public health) are exceeded - Local scale impacts: high level impact to amenity
Possible	The risk event could occur at some time	Moderate	- onsite impacts: mid-level - offsite impacts local scale: low level - offsite impacts wider scale: minimal - Specific Consequence Criteria (for environment) are at risk of not being met	- Adverse health effects: low level or occasional medical treatment - Specific Consequence Criteria (for public health) are at risk of not being met - Local scale impacts: mid-level impact to amenity
Unlikely	The risk event will probably not occur in most circumstances	Minor	- onsite impacts: low level - offsite impacts local scale: minimal - offsite impacts wider scale: not detectable - Specific Consequence Criteria (for environment) likely to be met	- Specific Consequence Criteria (for public health) are likely to be met - Local scale impacts: low level impact to amenity
Rare	The risk event may only occur in exceptional circumstances	Slight	- onsite impact: minimal - Specific Consequence Criteria (for environment) met	- Local scale: minimal to amenity - Specific Consequence Criteria (for public health) met

[^] Determination of areas of high conservation value or special significance should be informed by the *Guidance Statement: Environmental Siting*.

* In applying public health criteria, DER may have regard to the Department of Health's *Health Risk Assessment (Scoping) Guidelines*.

“onsite” means within the Prescribed Premises boundary.

8.3 Acceptability and treatment of Risk Event

DWER will determine the acceptability and treatment of Risk Events in accordance with the Risk treatment table 16 below:

Table 13: Risk treatment table

Rating of Risk Event	Acceptability	Treatment
Extreme	Unacceptable.	Risk Event will not be tolerated. DWER may refuse application.
High	May be acceptable. Subject to multiple regulatory controls.	Risk Event may be tolerated and may be subject to multiple regulatory controls. This may include both outcome-based and management conditions.
Medium	Acceptable, generally subject to regulatory controls.	Risk Event is tolerable and is likely to be subject to some regulatory controls. A preference for outcome-based conditions where practical and appropriate will be applied.
Low	Acceptable, generally not controlled.	Risk Event is acceptable and will generally not be subject to regulatory controls.

8.4 Risk Assessment - Fugitive Dust (operations)

8.4.1 Description of risk event

Fugitive dust may be generated by vehicle movement on unsealed roads, stockpiles, exposed areas, processing (crushing and screening) and during transfer of materials. Depending on length of exposure, density and material type, dust may cause health and amenity impacts.

8.4.2 Identification and general characterisation of emission

Dust, or particulate matter (**PM**), can have detrimental effects on the human respiratory system. PM less than 10 µm in diameter (**PM10**) poses greater health risks as they may be drawn deep into the lungs, whilst larger particulates are typically trapped in the nose, mouth or throat.

Elevated Total Suspended Particulates (**TSP**) can impact ambient environmental quality by visual impacts, and deposition of dust on homes and personal belongings.

Dust has the potential to also suffocate local vegetation species, causing impacts to vegetation health.

This proposal is for up to 47,000 tonnes of material extracted per year.

Activities likely to generate fugitive dust emissions include:

- front end loader operations, and loading of material onto the processing unit;
- crushing and screening of limestone and sand;
- conveying of sized product to stockpiles;
- lift-off from product stockpiles; and
- truck movements, including wheel-generated dust and potentially dust from product

carried by the trucks if loads are not adequately covered.

Up to 267 dwellings are located between 200 and 500 m of the extraction slot and due to the location of the dwellings, fugitive dust emissions would likely have maximum impact in the hot, dry summer conditions with winds from the south east through to the south west (refer to sections 7.7.2 and 7.7.3).

The Applicant expects that an average of 100 tonnes per hour of limestone will be crushed and screened per day. Peak crushing times will occur most frequently in spring and summer when dust levels may be higher due to lack of moisture and more regular higher winds.

Current sand extraction has been undertaken at this quarry since 2007 and no complaints of dust have been reported from this operation (DWER – Incident system search conducted March 2018).

8.4.3 Criteria for assessment

There are no directly applicable ambient air quality standards for the premises. Therefore the assessment criteria has been determined from the **Ambient Air Quality NEPM** which provides a benchmark against which the risk of adverse health effects arising from exposure to PM10 (from any source) can be assessed (but is not considered a compliance standard), and is shown in Table 14. Note that NEPM concentrations are related to the receiving location, not concentrations of emissions discharged at the premises boundary.

Table 14: Ambient Air Quality NEPM – Standards for pollutants

Pollutant	Averaging period	Maximum concentration standard	Maximum allowable exceedances
Particulates as PM10	24 hours	50 µg/m ³	None
	Annual	25 µg/m ³	

8.4.4 Applicants controls

The Applicant has submitted a Dust Management Plan (Dust MP, 2017) and this assessment has reviewed this plan which contain the controls for fugitive dust set out in Table 15 below.

Table 15: Proponent infrastructure controls for fugitive dust emissions

Site Infrastructure/Activity	Description	Operation details	Reference Figure
Controls for dust			
Extraction slot	Material extraction confined to extraction slot shown in Figure 2.	Crushing and screening operations will commence in the extraction slot behind a 5m high temporary bund at 11m AHD then relocated into the floor of the extraction slot at 7m AHD. The existing west, north and east noise bunds vary in height	Figure 3

Site Infrastructure/Activity	Description	Operation details	Reference Figure
		between 17m AHD to 22m AHD.	
Stockpiles of topsoil and overburden not required as noise bund material.	Topsoil and overburden removed for each excavation stage and stockpiled for later use.	Stockpiled adjacent to the corresponding stage of each excavation area.	NA
Bore, tank and standpipe	Water source for dust suppression.	Located in northeast corner of the premises.	NA
Water cart	NA	Available at all time for dust suppression purposes..	NA
Internal roads	Crossover to Harewood Road sealed for 100 metres.	Existing sealed road.	NA
	Internal quarry unsealed roads surfaced with limestone.	Application of water by water cart to limestone roads when under heavy use. Occasional use of water additives/coagulates over gravel tracks.	NA
Trucks	After loading of final product	Trucks loaded with final product covered with suitable tarpaulins before leaving site.	NA
Crushing and screening plant and processing stockpiles.	Processing plant - Terex Finlay J1175 crusher, Impact crusher and Terex Finlay 693 screener (or similar) and Material stacker.	Plant and process stockpiles located within extraction slot below existing 11m AHD quarry floor level.	Figure 3
Monitoring			
Observational management	Daily visual monitoring of weather conditions and on-going monitoring of gravel tracks, access to Harewood Road, stockpiles and activity areas for dust lift off for preparation of requirements for dust suppression. When dust controls are ineffective, works will be temporarily suspended, with application of water to critical areas causing dust lift-off.		
Complaints	Immediate investigation and follow up. Cause of dust nuisance and eliminate/action taken. Details of the investigation, actions and resolution documented. Complainants and regulators advised of complaint handling and resolution process, including receipt of a copy of the Complaint Report.		

Site Infrastructure/Activity	Description	Operation details	Reference Figure
Dust Monitoring	24 hour monitoring at selected sites to quantify dust emissions resulting from operations at the property.		

8.4.5 Key findings

The fugitive dust emission information has been reviewed for the premises and the following key points noted:

- Operations will be limited to within the “extraction slot”.
- The closest dwelling from extraction slot boundary is 200m to the north with 267 receptors greater than 200m and less than 500m distant.
- A water cart will be available at all times for dust suppression purposes.
- Water will be sourced from a licensed bore on the premises for dust suppression at the crushing and screening plant.
- Visual dust monitoring will be conducted by an authorised Piacentini staff who will implement management actions.
- Dust monitoring proposed in the Dust Management Plan required by the EIL
- Dust Management Plan requires dust complaints to be investigated, actioned, and recorded.

8.5 Risk assessment – noise (operation)

8.5.1 Description of Risk Event

Noise emissions from the Harewood Road Quarry (quarry pit and processing area) could contribute to an exceedance of the assigned levels at the boundary of adjacent rural lots (noise sensitive premises) or within 15 m of residential premises (highly sensitive premises).

8.5.2 Identification and general characterisation of emission

Noise generated from the processing of extracted material, loading and unloading of material stockpiles and vehicle movement within the Premises. Table 16 contains the sound power levels for the equipment used in the modelling described in section 5.1 and 5.2 above.

Table 16. Sound power levels of the equipment to be used at the quarry pit and processing area

Item (number of)	Sound Power Level dB(A)
Front End Loaders (Cat 980G or similar)	111
Excavator (Cat 330 or similar)	105
Crusher (Terex Finlay J1175 or similar)	113
Screener (Terex Finlay 693 or similar)	101
Material stacker	100

8.5.3 Description of potential adverse impact from the emission

Noise has the potential to impact on the amenity of residential receptors. Where assigned noise levels are exceeded regularly, health impacts may arise from stress and/or loss of sleep.

8.5.4 Criteria for assessment

The modelling undertaken for the operation of the quarry pit and processing areas indicates that the assigned levels prescribed by the *Environmental Protection (Noise) Regulations 1997* can be met.

8.5.5 Applicant controls

The Applicant is to construct a temporary noise bund on the existing pit floor to the north of the materials process plant as indicated in figure 4. The location of the noise bund is depicted in Figure 4 and will be at least twice the length of the crushers and screens, constructed 5 metres high above the working floor level with batters 1:2, trapezoidal shape and within 5 metres of the crushers.

This assessment has reviewed the controls set out in Table 17.

8.5.6 Key Findings

The noise emission information has been reviewed for the premises and the following key points noted:

- The closest dwelling from extraction slot boundary is 200m to the north with 267 receptors greater than 200m and less than 500m distant.
- Existing noise barriers of height 17m AHD to 22m AHD will remain in place during operations.
- Temporary 5m high noise bund be constructed within extraction slot during initial operations then removed once operations reach 7m AHD.
- All plant and equipment listed in Table 16 will only operate between the hours specified by the EIL. Being 0700 to 1700 Monday to Friday and from 0700 to 1200 on Saturday. No operations will occur on Sundays and public holidays.
- The EIL will expire on 24 January 2019;
- Noise Management Plan required by the EIL addresses equipment maintenance, product transport, operational criteria including stop work if necessary, staff training, complaints management and noise monitoring.
- Operations will be limited to within the “extraction slot”.

8.5.7 Consequence

8.5.8 The operational activities are expected to be managed to comply with the assigned levels prescribed in the *Environmental Protection (Noise) Regulations 1997*. Likelihood of Risk Event

Based on the Applicant's controls, impacts to amenity will not occur in most circumstances as noise will comply with the Noise Regulations.

Table 17: Applicant's proposed controls for operational noise

Site infrastructure	Description	Operation details	Reference to issued Works Approval plan
Controls for noise			
Temporary Noise bund	Located on the northern side of the material process plants and no more than 5m from the crusher.	Minimum of 5m in height and double the length of the process plant and trapezoidal is shape located on the existing quarry floor.	Plan of processing plant and stockpile locations within extraction slot.

8.5.9 Overall rating of risk of noise during operation

The operational activities are capable of being managed to comply with the assigned levels prescribed in the *Environmental Protection (Noise) Regulations 1997*.

A summary of the risk assessment and the acceptability or unacceptability of the risk events is set out in Table 16 below.

Table 16: Risk assessment summary

	Emission		Pathway and Receptor	Proponent controls	Impact	Risk Rating	Acceptability
	Type	Source					
1.	Fugitive dust	Internal roads, stockpiles, exposed areas, processing (crushing and screening) and transfer of materials.	Air/Wind Closest dwellings 200 m from boundary of extraction slot.	Infrastructure and management controls by Dust Management Plan.	Amenity impacts	Moderate consequence Possible Medium risk	Acceptable subject to regulatory controls (regulated through conditions of the EIL).
2.	Noise	Machinery and vehicles	Air/Wind Closest dwellings 200m from boundary of extraction slot.	Temporary 5m noise bund, existing 6 to 11m noise bund and Noise Management Plan.	Amenity impacts	Emissions capable of being managed to meet the requirement of the Noise Regulations	Acceptable

9. Determined Regulatory Controls

A summary of the risks with corresponding controls are set out in Table 20. The risks are set out in the assessment in section 8 and the controls are detailed in this section 9. Controls will form the basis of conditions in the works approval set out in Attachment 1.

Table 19: Summary of regulatory controls to be applied

		Controls (references are to sections below setting out details of controls)			
		9.1 Infrastructure and Equipment	9.2 Specified Action	Monitoring	Limits
Risk Items (see risk analysis in section 8)	1. Fugitive dust	•	•		
	2. Noise	•	•		

9.1 Siting of infrastructure

Siting of infrastructure is derived from final Application documents and management plans. The siting of the infrastructure as listed below is required to ensure compliance with the Noise Regulations, to manage dust and stormwater, and to provide regulatory oversight of commitments made by the Applicant.

Infrastructure	Siting requirements
Processing plant (crushing and screening) and processing stockpiles	Located in the extraction slot as indicated in Figure 2 and 3.
Existing acoustics barriers	Height of 17m to 22m AHD located west, north and east of the extraction slot as indicated in Figure 2.
Temporary acoustic barrier	Located in extraction slot existing floor at 11m AHD on the northern side of the material process plants and no more than 5m from the crusher plus minimum of 5m in high and double the length of the process plant and trapezoidal in shape with 1:2 batters as depicted in Figure 4.
Groundwater bore, tank and standpipe	Located at north east of premises for water supply for dust suppression.

9.1.1 Dust control infrastructure requirements

The dust control infrastructure requirements listed below are required to manage dust, and to provide regulatory oversight of commitments made by the Applicant.

The following infrastructure and equipment should be constructed, maintained and operated onsite for dust management:

Infrastructure	Requirements
Water cart	Available at all times when earthmoving, crushing, screening, or cartage activities is being conducted.
Bore, tank and standpipe	Maintained as a water source for dust suppression.

9.1.2 Noise infrastructure requirements

Noise emitted from premises has been assessed as likely compliant with the Noise Regulations with infrastructure constructed and equipment operating with the sound power levels listed. Infrastructure and equipment controls are derived from the Application documents and the Management plans submitted.

The following infrastructure and equipment should be constructed, maintained and operated onsite for noise management.

Infrastructure	Requirements
Existing acoustic barrier	Existing location and dimensions are adequate to ensure operations meet the requirements of the <i>Environmental Protection (Noise) Regulations 1997</i> . Existing noise barrier outside the extraction slot will remain during operations.
Temporary acoustic barrier	Construction and dimensions adequate to ensure operations meet the requirements of the <i>Environmental Protection (Noise) Regulations 1997</i> . Construction of the barrier with materials excavated from outside the extraction slot is not permitted. Acoustic barrier constructed within a 2 week period and prior to commencement of operation in extraction slot.
Front end Loader	Maximum sound power level 111 dB(A)
Excavator	Maximum sound power level 105 dB(A)
Crusher (Terex Finley J1175) or equivalent	Maximum sound power level 113 dB(A)
Screener (Terex Finley 693) or equivalent	Maximum sound power level 101 dB(A)
Material stacker	Maximum sound power level 100 dB(A)
Haulage Truck	Maximum sound power level 104 dB(A)

9.2 Specified actions

9.2.1 Specified actions – dust

The specified actions listed below are considered to be required controls to manage risk of dust.

Site infrastructure/activities	Specified requirements
Excavation area	Limited to excavation slot as indicated in Figure 2 and 3.
Water carts / sprays	Operated when visible dust is generated from external ground surfaces on the Premises. Operate proactively subject to weather forecasting over a 24 hour period.

Dust suppressants	Applied proactively. Re-apply proactively subject to visual inspection and weather forecasting over a 24 hour period.
Vehicles	Vehicle speeds limited to less than 25 km/h on areas of unconsolidated or unsealed road. All loaded trucks leaving the premises are to be covered to prevent dust generation.
Cessation of activities	Cease an activity causing visible dust lift-off where dust management measures have not prevented dust lift-off and there is a risk of dust affecting sensitive receptors (residences).
Complaints management system	As a minimum, records the number and details of complaints received concerning the environmental impact of the activities undertaken at the Premises and any action taken in response to the complaint.

9.2.2 Specified actions - noise

The specified actions below are required for compliance with the Noise Regulations. Specified actions for noise are derived from Application documents particularly the temporary noise bund construction plus following discussion.

The records of complaint procedure should be kept for possible review by DWER for compliance and enforcement purposes and to inform any future risk assessment as regulatory oversight.

Site infrastructure/activities	Specified requirements
Temporary acoustic barrier	Construction of the barrier with material excavated from outside the extraction slot is not permitted.
Complaints management system	As a minimum, records the number and details of complaints received concerning the environmental impact of the activities undertaken at the Premises and any action taken in response to the complaint.

9.3 Appropriateness of Works Approval conditions

The conditions in the issued Works Approval in Attachment 1 have been determined in accordance with DWER's *Guidance Statement: Setting Conditions*.

Condition Ref	Grounds
Infrastructure and Equipment conditions 1, 2, 3 & 4	These conditions are valid, risk based and consistent with the EP Act
Emissions condition 5	This condition is valid, risk-based and consistent with the EP Act.
Record-keeping conditions 6 & 7	These conditions are valid, risk based and consistent with the EP Act

DWER notes that it may review the appropriateness and adequacy of controls at any time and that, following a review, DWER may initiate amendments to the Works Approval under the EP Act.

10. Applicant's comments

The applicant was provided with the draft decision report and draft works approval on 28 March 2018. No comments and request to waiver submission period were provided by the applicant on 29 March 2018.

11. Conclusion

This assessment of the risks of activities on the premises has been undertaken with due consideration of a number of factors, including the documents and policies specified in this decision report (summarised in Appendix 1). The assessment was informed by a site visit by DWER officers on 20 July 2017 and 9 February 2018.

Based on this assessment, it has been determined that the Issued Works Approval will be granted subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

Tim Gentle

Manager Licensing – Resource Industries

Delegated Officer

under section 20 of the *Environmental Protection Act 1986*

Appendix 1: Key documents

	Document title	In text ref	Availability
1.	Piacentini & Son Pty Ltd Application for Works Approval and Registration <i>dated 22 February 2017</i>	Application	DWER record: A1387021 & A1402698
2.	Shire of Capel Ordinary Council minutes <i>dated 21 December 2016</i>	Shire of Capel minutes	DWER record: A1402776
3.	Piacentini & Son Pty Ltd ASIC	ASIC	DWER record: A1402695
4.	Piacentini & Son Pty Ltd amendment document supporting amendment of EIL <i>dated 9 September 2016 by Bills</i>	Supporting document	DWER record: A1402681
5.	Shire of Capel Extractive Industry Approval <i>dated 5 January 2017</i>	EIL / DA	DWER record: A1402793
6.	Environmental Acoustic Assessment by Lloyd George Acoustics <i>dated 15 September 2016</i>	Acoustics assessment	DER records: A1335327
7.	WAPC planning approval number 155519 <i>dated 8 February 2018</i>	155519	DER record: A1628852
8.	Ministerial Statement 697	MS 697	accessed at www.epa.wa.gov.au/
9.	Shire of Capel Extractive Industries Local Laws 2016	Local Law	Accessed at www.capel.wa.gov.au
10.	DER, July 2015. <i>Guidance Statement: Regulatory principles.</i> Department of Environment Regulation, Perth.	DER 2015a	accessed at www.dwer.wa.gov.au
11.	DER, October 2015. <i>Guidance Statement: Setting conditions.</i> Department of Environment Regulation, Perth.	DER 2015b	
12.	DER, August 2016. <i>Guidance Statement: Licence duration.</i> Department of Environment Regulation, Perth.	DER 2016a	
13.	DER, November 2016. <i>Guidance Statement: Risk Assessments.</i> Department of Environment	DER 2016b	

	Document title	In text ref	Availability
	Regulation, Perth.		
14.	DER, November 2016. <i>Guidance Statement: Decision Making</i> . Department of Environment Regulation, Perth.	DER 2016c	

Attachment 1: Issued Works Approval W6075/2017/1

Attachment 2: Issued Registration R2466/2018/1