

**CONCRUSH PROPOSED  
INCREASE TO THROUGHPUT  
CAPACITY, TERALBA NEW  
SOUTH WALES**

Preliminary Environmental Assessment

**FINAL**

September 2017



# CONCRUSH PROPOSED INCREASE TO THROUGHPUT CAPACITY, TERALBA NEW SOUTH WALES

Preliminary Environmental Assessment

## FINAL

Prepared by  
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on behalf of  
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# 1.0 Introduction

Concrush Pty Ltd (Concrush) was established in 2002 after recognising the need for a construction and demolition recycling facility in the Lake Macquarie region. Concrush operates a resource recovery facility on part of Lot 2 DP 220347 at 21 Racecourse Road in Teralba, NSW (refer to **Figure 1.1**). Concrush currently recycles approximately 9,000 tonnes of waste material per month and store up to 30,000 tonnes of waste material on site at any one time in accordance with the existing site Environmental Protection Licence (EPL) No. 13351.

Concrush currently recycles waste building material, primarily consisting of waste concrete, bricks, tiles, asphalt, concrete washout and road base with secondary processing of green waste/timber and the recovery of steel (the reinforcing steel). The bulk concrete waste products are brought to site and stockpiled before being crushed in accordance with market demand. The crushed concrete material is sold for use as a road base and as free draining material for civil construction. The mulched timber is sold for landscaping or other appropriate purposes. While the reinforcing steel extracted from the crusher is sold to a steel recycling facility as required.

Following strong demand for their recycling service, Concrush is seeking an increase to the processing and storage capacity of the existing facility. Concrush is seeking approval for an increase in throughput capacity to up to 250,000 tonnes of waste material recycled per annum. It is anticipated that this would consist of approximately 90% construction and demolition waste and 10% green waste. Concrush will require a waste storage capacity on-site that is sufficient for this level of throughput. The proposed increase in throughput capacity can be achieved with only minor additions to the existing facility, the works required include (refer to **Figure 1.2**):

- construction of hardstands (no excavation required) for processing and stockpiling areas
- construction of concrete walls and concrete material storage bays by using 1 cubic metre concrete building blocks
- construction of a vehicle washing bay
- installation of five water tanks with associated poly pipe and pumps and
- establishing additional waste stockpiles and maintaining the height of existing stockpiles (up to 8 metres)
- establishing additional processing areas
- establishing landscape mounds on perimeter and installing security fencing and lighting.

The capital investment value of the Project is approximately \$2 million over 5 years. The majority of the site is heavily disturbed, however the Project may require the removal of some isolated saplings and grasses due to the additional stockpiling/processing areas. A conceptual site layout is provided in **Figure 1.2**. Concrush is committed to the conservation and protection of the environment from further degradation by reducing the amount of waste going to landfill, the impact on natural resources and working within the community and local industry towards an ecologically sustainable future. The Project would increase the amount of building and construction waste able to be recycled in the Lake Macquarie region, rather than being sent to local landfills.

The Project is State Significant Development (SSD) and requires approval under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). The Minister for Planning is the consent authority for the Project. An Environmental Impact Statement (EIS) will be prepared to assess the potential environmental and social impacts of the Project.





### Legend

 Concrush Recycling Facility

FIGURE 1.1  
Locality Plan



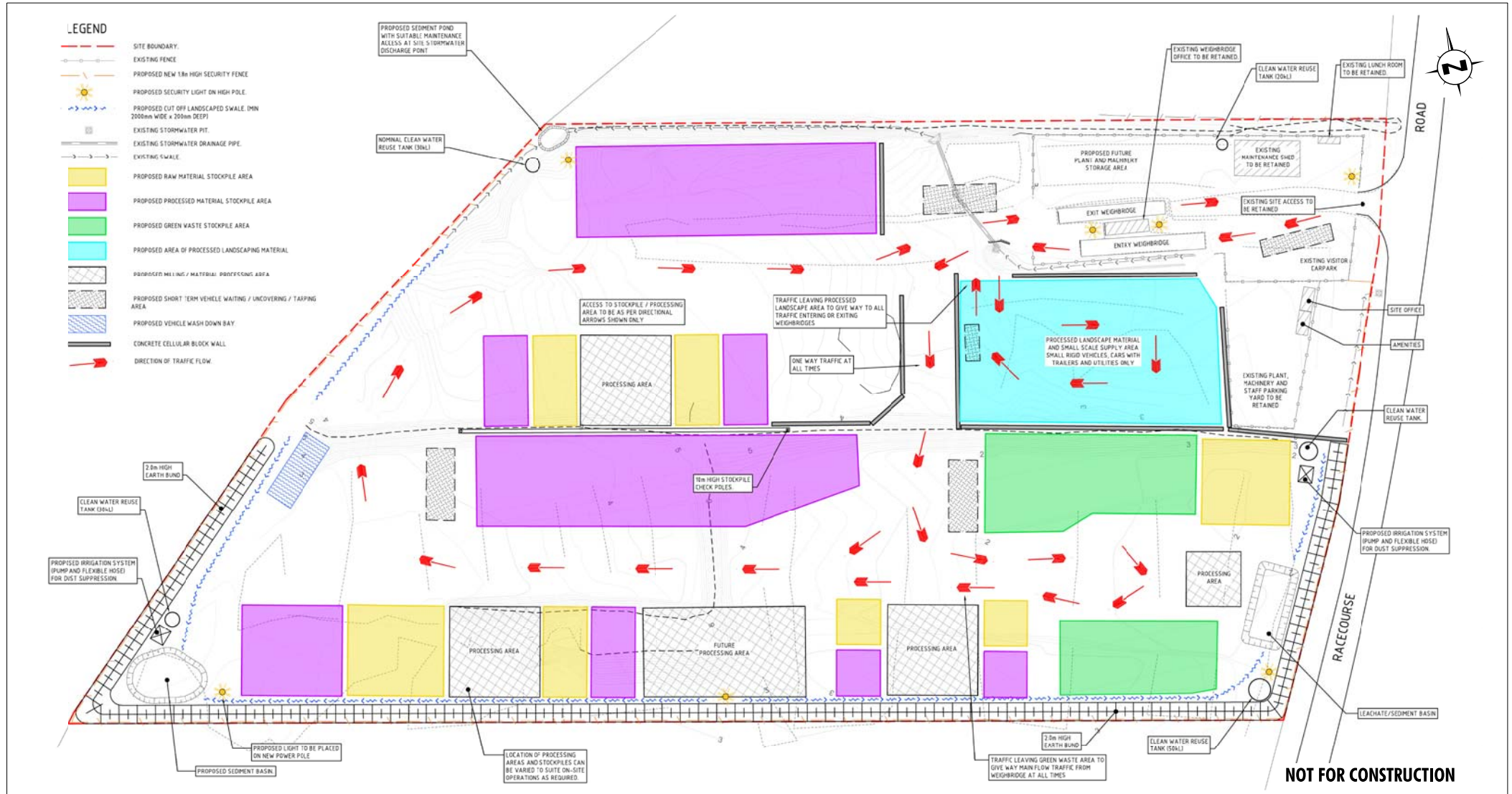


FIGURE 1.2

Conceptual Site Plan

0 20 40 80 m  
1:1 500

Data Source: Northrop (July 2017)

File Name (A4): R01/3972\_005.dgn  
20170913 14.24



## 2.0 Project Description

### 2.1 The Project area

The Project area is situated within the suburb of Teralba, in the Lake Macquarie local government area. It covers an area of approximately 2.4 hectares and is located approximately 200 metres to the west of the proposed Bunderra residential estate. The environment surrounding the Project area includes a range of different land uses including Racecourse Road and Cockle Creek immediately to the east, to the north is a wrecker's yard including car sales, to the west is Teralba Colliery and Macquarie Coal Preparation Plant and to the south is a scrap metal recycling yard. Access to the Project area is via a driveway on Racecourse Road.

The Project area is predominantly devoid of vegetation (with the exception of some isolated shrubs and grass) as a result of the previously approved land uses. There are trees planted along the existing Concrush boundaries, which act as a visual screen for adjacent properties and as wind break.

### 2.2 Existing Operations

#### 2.2.1 Existing Infrastructure and Equipment

Existing infrastructure includes:

- an office demountable building
- a lunch room
- the weighbridge office
- inbound and outbound weigh bridges
- concrete product storage bays
- a colorbond enclosure - for maintenance activities and storage of equipment
- a shipping container – used primarily for the storage of oils and the site spill kit
- concrete blocks and signage for the direction of traffic
- fencing

The equipment currently in use at the Concrush facility includes:

- a Primary Jaw Crusher – which does the majority of crushing work and would need replacing with a similar crusher in about 5 years
- a Cone Crusher
- one front end loader
- three excavators including attachments (sheers, pulverisers and buckets)
- two multi deck screens
- one retail tractor – primarily used for street sweeping and loading small trailers
- a water cart – which is based at the facility permanently

### 2.2.2 The Recycling Process

Concrush receives stockpiles and recycles waste building material prior to processing. Concrush currently has approval to recycle waste building material, primarily consisting of waste concrete with secondary processing of waste timber and recovery of steel (the reinforcing steel).

The waste materials currently received by Concrush include:

- Demolished Concrete
- Bricks/Pavers/Roof Tiles
- Ceramic Wall & Floor Tiles
- Concrete Washout
- Wet Concrete
- Clean Mixed – Concrete/Brick/Pavers/Tiles
- Clean Rock/Sandstone/Clay/Soil
- Road Base
- Reclaimed asphalt pavement
- Ballast
- Stumps
- Soil

The facility processes approximately 9,000 tonnes of waste material per month and stores up to 30,000 tonnes of waste material on site at any one time. The bulk broken concrete, bricks and tiles are brought to site by approved contractors/local residents and stockpiled. An excavator then feeds the stockpiled material into a primary jaw crusher. The primary jaw crusher operates most days and feeds a cone crusher and multi deck screens. The products are then relocated by front end loader to individual stockpiles on site for quality control and compliance testing.

The crushed concrete material is stored and then sold for use as a stable fill for road base and as free draining fill for subsurface drains and retaining walls. The mulched timber resource is stored onsite then sold for landscaping purposes. While the reinforcing steel extracted from the crusher is sold to a steel recycling facility as required. The products that Concrush produces for sale are summarised in **Table 2.1**. Domestic building waste represents only a small portion of Concrush's waste recycling business. Nevertheless, Concrush encourages local residents to use the facility for recycling their domestic building waste as it provides residents with a sustainable alternative to dumping at a landfill.

The green waste is stockpiled on site until the stockpile size reaches approximately 600 tonnes at which time a contractor is brought to site to mulch the stockpiled green waste. A front-end loader is then used to move the mulch to the corresponding product stockpile ready for sale.

### 2.2.3 The Products

The products that Concrush produces for sale are summarised in **Table 2.1**.

**Table 2.1 Concrush Products**

Product Type	Description / Uses
<b>Pavement Materials</b>	
20mm Recycled Concrete Base	The recycled concrete is a high quality material that compacts easily. This is an excellent road base and pavement making material.
20mm Recycled Blended Base	Demolished concrete, brick, roof tiles, ceramic tiles, road base and asphalt are crushed and blended to form this product. This is an excellent road base and pavement making material.
Recycled Concrete Packing Fines	This product is an excellent bedding material and can be used for many construction applications.
<b>Drainage Aggregates</b>	
10mm and 20mm Recycled Concrete Aggregate	This is an excellent drainage and filter material that is commonly used as drainage medium for backfilling pipes and in subsurface drains and as a filter medium for retaining walls.
70mm Recycled Concrete Cobble	This is an excellent drainage material and is commonly used as a filter medium for retaining walls, for the construction of site access/haul roads and as coarse fill.
<b>Decorative Aggregate</b>	
10mm and 20mm Recycled Decorative Aggregate	This product is composed of demolished brick, pavers and roof tiles. It is commonly used for various decorative landscaping applications.
<b>Mulches</b>	
Recycled Forest Mulch (Coarse)	This mulch is suitable for commercial, domestic and household landscaping applications. It can also be used in rehabilitation and bank stabilisation.
Recycled Premium Mulch (Fine)	It is high quality, dark and finely graded mulch that is suitable for commercial, domestic and household landscaping applications.

Concrush also buy and re-sell landscape products to supplement production processes and satisfy customer demands. These products include road base, aggregates, sands, soils and mulches.

## 2.2.4 Environmental Performance

Concrush have effective and well established environmental management measures in place including a suite of environmental management plans that provide for the proactive management of the key environmental issues for the facility. These include an Operational Environmental Management Plan (OEMP) that is supported by a number of separate management plans, including:

- a Noise Management Plan
- an Air Quality Management Plan

- an Odour Management Plan
- a Dust Management Plan
- a Water Management Plan
- a Waste Management Plan
- a Concrete & Demolition Materials Management Plan
- a Pasteurised Garden Organics Management Plan.

### 2.2.5 Landownership

Concrush currently leases a portion of Lot 2 DP 220347 from B & S Scrap Metals Pty Ltd. Concrush are proposing to extend the leased area to include the additional disturbance area associated with the Project and have a lease option in place.

## 2.3 The Project

A summary of the Project is provided in **Table 2.2** below.

**Table 2.2 Summary of the Project**

Project Component	Changes proposed as part of the Project
Production Capacity	Total production capacity of up to 250,000 tonnes per year.
Storage Capacity	Concrush will require a storage capacity on-site that is sufficient to operate at the proposed level of throughput.
Waste Received & Recycled	Please refer <b>Section 2.2.2</b> for a list of the waste material received by Concrush. It is anticipated that waste would consist of approximately 90% construction and demolition waste and 10% green waste.
Products	Refer to <b>Table 2.1</b> .
Disturbance Area	Additional approximately 2.4 hectares will be disturbed as part of the Project (for a total of 4.8 hectares – refer <b>Figure 5.1</b> ).
Mode of Transport	Receive waste material and distribute products via road. No change.
Hours of Operation	24 hours per day, 7 days per week. No change.
Employment	Currently employ 5 full time staff and 2 casual staff. Proposed to increase by 2 (for a total of 9)
Construction Phase	Two week construction phase. The construction activities will be undertaken between the hours of 7.00 am to 6.00 pm Monday to Friday and 8.00 am to 1.00 pm on Saturdays.

Project Component	Changes proposed as part of the Project
Infrastructure	<p>Proposed infrastructure layout as shown on <b>Figure 1.2</b>, including:</p> <ul style="list-style-type: none"> <li>• construction of hardstands (no excavation required) for processing and stockpiling areas</li> <li>• construction of concrete walls and concrete material storage bays using 1 cubic metre concrete building blocks</li> <li>• construction of a vehicle washing bay</li> <li>• installation of water tanks with associated poly pipe and pumps</li> <li>• establishing additional waste stockpiles and maintaining the height of existing stockpiles (up to 8 metres)</li> <li>• establishing additional processing areas</li> <li>• establishing landscape mounds on perimeter and installing security fencing and lighting.</li> </ul>
Equipment	<p>Only change to equipment will be the addition of a Trommel screening machine for sorting of green waste. The Primary Jaw Crusher will also be replaced with a newer and larger model.</p>
Traffic	<p>No change to traffic and access routes.</p> <p>Heavy Vehicle numbers to increase as part of the Project – final numbers will be determined as part of the Traffic and Transport Assessment that will be undertaken as part of the EIS.</p>

## 2.4 Need for the Project

The NSW government and specifically the Environment Protection Authority currently operate a 5 yearly Waste Avoidance Resource Recovery Strategy (WARR). The WARR outlines future directions and supports investment in infrastructure, encourage innovation and improve recycling behaviour (EPA 2017). Two key elements of the WARR that the proposed project will help achieve are detailed below:

- Increasing construction and demolition waste recycling to 80%.
- Increasing waste diverted from landfill to 75%.

The proposed project would allow for an increase in production capacity and assist in achieving the goals outlined in above.

Further, the proposed increase to throughput capacity will allow Concrush to respond to the ongoing strong demand for their products. The facility will also continue to make a contribution to the local and regional economies through employment of 9 people during operations when at full capacity. The capital expenditure during the construction phase of approximately \$1 million will also add to the local and regional economies, further enhancing the economic benefits of the Project. The capital commitment required for this project is \$2 million over 5 years.



## 3.0 Planning Considerations

### 3.1 NSW Legislation

#### 3.1.1 Environmental Planning and Assessment Act 1979

Under Schedule 1, Clause 23 (3) of the State Environmental Planning Policy (State and Regional Development) 2011, the project is classed as State Significant Development (SSD). Therefore the Project requires approval under Part 4 of the EP&A Act. The Minister for Planning is the consent authority for the Project.

#### 3.1.2 Protection of the Environment Operations Act 1997

The NSW Protection of the Environment Operations Act 1997 (PoEO Act) and the NSW Protection of the Environment Operations (General) Regulation 2009 sets out the general obligations for environmental protection for development in NSW. The Project is classified as a premises-based scheduled activity under Schedule 1, Clause 34 'Resource recovery' of the PoEO Act. Specifically, the Project involves the 'recovery of general waste' and would result in more than 2,500 tonnes of waste being on site at any one time and would process more than 12,000 tonnes of waste per year. The operation of the Project will require the existing site EPL No. 13351 to be updated.

#### 3.1.3 Environmental Planning Instruments

##### 3.1.3.1 State Environmental Planning Policy (State and Regional Development) 2011

The Project falls under Schedule 1, Clause 23 (3) of the State and Regional Development SEPP as it is "development for the purpose of resource recovery or recycling facilities that handle more than 100,000 tonnes per year of waste".

Therefore, the project is considered to be SSD and requires approval under Part 4 of the EP&A Act. The Minister for Planning is the consent authority for the Project.

##### 3.1.3.2 Lake Macquarie Local Environmental Plan 2014

Under the Lake Macquarie Local Environmental Plan (LEP) 2014 the site is zoned IN1 – General Industrial. The Objectives of this zone are:

- To provide a wide range of industrial and warehouse land uses.
- To encourage employment opportunities.
- To minimise any adverse effect of industry on other land uses.
- To support and protect industrial land for industrial uses.

The Project is classified as a *resource recovery facility*, which means a building or place used for the recovery of resources from waste, including works or activities such as separating and sorting, processing or treating the waste, composting, temporary storage, transfer or sale of recovered resources, energy generation from gases and water treatment, but not including re-manufacture or disposal of the material by landfill or incineration. *Resource recovery facilities* are permitted with consent under the IN1 zone. Therefore the Project is permissible under the IN1 zone.

### 3.1.4 Other NSW Legislation

The applicability of relevant legislation covering the potential impacts of the activity and the permissibility of the actions included in the project are shown in **Table 3.2**.

**Table 3.1 NSW Legislation Potentially Applicable to the Project**

Legislation and application	Comments	Applicable	Permissible
Biodiversity Conservation Act 2016	The purpose of this Act is to maintain a healthy, productive and resilient environment for the greatest well-being of the community, now and into the future, consistent with the principles of ecologically sustainable development. The Act commenced on the 25 August 2017. The Project may require some minor clearing of vegetation. An ecological assessment will be completed as part of the EIS.	✓	N/A
Coastal Management Act 2016	The purpose of this Act is to manage the coastal environment of New South Wales in a manner consistent with the principles of ecologically sustainable development for the social, cultural and economic well-being of the people of the State. The Act will replace the <i>Coastal Protection Act 1979</i> .	✓	N/A
Roads Act 1993	Consent under section 138 of the Act is required for undertaking works on a road. This Act is not applicable to the Project as no proposed works within a road corridor are anticipated.	N/A	N/A
Noxious Weeds Act 1993	Any Noxious weeds will be removed and disposed of at an appropriate waste facility.	✓	✓
SEPP 55 – Remediation of Land	The SEPP aims to provide for a state wide planning approach to the remediation of contaminated land. A search of the EPA's contaminated land register confirms that the Project area contains existing contamination. There is no excavation proposed therefore the Project will not disturb the existing contamination.	✓	✓

Legislation and application	Comments	Applicable	Permissible
SEPP 14 – Coastal wetlands	No SEPP 14 Wetland is located within the Project area, however there is a SEPP 14 Wetland located approx. 275 metres to the north of the Project area. There is also a SEPP 14 wetland located approximately 190 metres to the south (downstream) of the Project area. Indirect Impacts to SEPP 14 wetlands will need to be considered as part of the environmental assessment process.	✓	✓
SEPP 26 – Littoral Rainforests	No SEPP 26 land will be impacted by the proposed works as determined using SEPP 26 mapping.	N/A	N/A
SEPP 44 – Koala Habitat Protection	If tree removal is not required then no impacts to koalas are anticipated. This will be confirmed as part of the EIS.	✓	N/A
SEPP 71 Coastal Protection	The Project area falls within the Coastal Zone as defined by the SEPP 71 mapping. No change to the existing land use is proposed and the Project is unlikely to result in negative impacts to the sensitive coastal zone.	✓	✓

## 3.2 Commonwealth Legislation

### 3.2.1 Environmental Protection and Biodiversity Conservation Act 1999

The Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) aims to protect matters of national environmental significance (MNES) including:

- world heritage properties
- places listed on the National Heritage Register
- Ramsar wetlands of international significance
- threatened flora and fauna species and ecological communities
- migratory species
- Commonwealth marine areas
- The Great Barrier Reef Marine Park
- nuclear actions (including uranium mining) and
- actions of development for coal seam gas or large coal mining on water resources (otherwise known as the ‘water trigger’).

If an action (or proposal) would, or is likely to, have a significant impact on any MNES, it is deemed to be a Controlled Action and requires approval from the Minister for the Environment and Energy or the Minister's delegate. To determine whether a proposed action would, or is likely to be, a Controlled Action, an action may be referred to the Department of the Environment and Energy (DoEE). The Project is not located within or near:

- a world heritage property
- places listed on the National Heritage Register
- a Ramsar wetland of international significance
- the Great Barrier Reef Marine Park
- a commonwealth marine area.

The Project is not a nuclear action nor is a large coal mining action. The Project area is already heavily disturbed, however there may be some minor clearing of vegetation required. The Project is unlikely to have a significant impact on any MNES, although this will be confirmed as part of the Environmental Impact Statement.

### **3.2.2 Native Title Act 1993**

The Native Title Act is administered by the National Native Title Tribunal. The Tribunal is responsible for maintaining a register of native title claimants and bodies to whom native title rights have been granted. The Act prescribes that native title can be extinguished under certain circumstances, including the granting of freehold land. The Project is wholly located within freehold land and there are no areas of Crown Land or Commonwealth land located within the Project area.

## 4.0 Stakeholder Consultation

### 4.1 Authority Consultation

The following key organisations will be consulted during the preparation of the EIS:

- NSW Department of Planning and Environment
- Environment Protection Authority
- Office of Environment and Heritage
- NSW Department of Primary Industries
- NSW Roads and Maritime Service
- Lake Macquarie City Council.

### 4.2 Community Consultation

As outlined above, the Project area is situated within the suburb of Teralba in the Lake Macquarie local government area. It covers an area of approximately 2.4 hectares and is located approximately 200 metres to the west of the proposed Bunderra residential estate.

Concrush is a well-established operation with significant links with the local community. Effective and meaningful community engagement will be a critical component of the Project. A comprehensive Stakeholder Engagement Strategy will be developed for the Project. The strategy will identify the potentially impacted people or groups and other stakeholders relevant to the Project, the methods of engagement to be used to most effectively engage with these stakeholders, the timing of consultation and the feedback mechanisms required. The outcomes of the consultation undertaken in accordance with the strategy will be included in the EIS.



## 5.0 Preliminary Environmental Assessment

### 5.1 Environment and Community Context

The environment surrounding the Project area includes a range of different land uses. To the east is Racecourse Road and Cockle Creek, to the north is a wrecker's yard including car sales, to the west is Teralba Colliery and Macquarie Coal Preparation Plant and to the south is a scrap metal recycling yard.

As shown on **Figure 5.1**, the nearest residential areas are:

- Boolaroo - located approximately 330 metres to the south-east of the Project area
- Argenton - located approximately 1.1 kilometres to the north-east of the Project area and
- Teralba – located approximately 1.3 kilometres to the south-west of the Project area.

In addition, there is a large portion of land to the east of the Project area, which has been remediated following the demolition of the former Pasminco lead smelter. This land, called the Bunderra Estate, is now zoned R3 – medium density residential under the Lake Macquarie LEP. Once Bunderra Estate is developed, it will bring residents to within 200 metres of the Project area.

#### 5.1.1 Existing and Proposed Land Use

The Project area is currently used by Concrush for 'concrete crushing, grinding and separating works' in accordance with the 2002 development consent from Lake Macquarie City Council. The site would continue to be used for 'concrete crushing, grinding and separating works' during the operation of the Project.

### 5.2 Preliminary Environmental Risk Analysis

To assist in identifying the key environmental and community issues requiring further assessment, a preliminary environmental risk analysis has been completed for the project and is included in **Appendix 1**. The preliminary environmental risk analysis identifies those key issues requiring detailed investigation in the EIS, as being noise, air quality, traffic and soil and water.

The proposed approach for assessment of the key environment and community issues is discussed in **Section 5.3**, whilst an overview of other issues is provided in **Section 5.4**.

### 5.3 Key Environment and Community Issues

#### 5.3.1 Noise and Vibration

Concrush are committed to implementing reasonable and feasible management strategies to minimise noise impact from the Project on the local community. Potential Noise impacts associated with the Project include:

- construction noise generation associated with the construction of material storage bays, and other construction activities
- increased potential for noise impact to receivers located to the east, due to the establishment of the yet to be developed medium density residential area approximately 200 metres from the Project area

- increased potential for noise impact to receivers located to the south-east (Boolaroo) as a result of noise generating activities extending to the south (i.e. increasing footprint of the facility)
- increase in noise generation due to the proposed increase in throughput capacity (i.e. crushing and mulching activities will occur more frequently)
- noise generation from the increase in the number of heavy vehicles associated with the Project.

The EIS will include a quantitative assessment of the potential noise impacts of the Project on surrounding receivers including impacts from construction, operation and road transportation. The comprehensive specialist noise impact assessment will be undertaken in accordance with the NSW Industrial Noise Policy (INP) (EPA, 2000). The noise assessment will also detail the proposed reasonable and feasible noise mitigation and management measures that would be implemented.

### 5.3.2 Air Quality and Odour

Concrush is committed to implementing reasonable and feasible air quality management measures as part of the Project. Emissions to air at industrial sites such as the Concrush facility can occur from a variety of activities including material handling, material transport, material processing and wind erosion. These emissions would mainly comprise of particulate matter (commonly referred to as dust and including total suspended particulates (TSP), PM<sub>10</sub> and PM<sub>2.5</sub>) although there would be relatively minor emissions from machinery exhausts such as carbon monoxide (CO), oxides of nitrogen (NO<sub>x</sub>) and particulate matter.

Accordingly the potential air quality issues associated with the Project would likely be:

- dust (that is, particulate matter in the form of TSP, deposited dust, PM<sub>10</sub> or PM<sub>2.5</sub>) from general operating activities and
- emissions of substances from machinery exhausts, that is, diesel exhaust emissions.

The air quality impact assessment will be completed in accordance with current EPA guidelines, including the *Approved Methods of the Modelling and Assessment of Air Pollutants in New South Wales* (EPA 2016). The air quality impact assessment will include:

- a gap analysis and collation of baseline data
- an analysis of the existing environment
- identification of all fixed and mobile air pollution sources
- estimation of the Project specific emissions for the development
- prediction of air quality impacts using an appropriate air dispersion model
- assessment of impacts in accordance with regulatory and legislative requirements
- an outline of the appropriate management and mitigation measures.



### Legend

- Existing Concrush Recycling Facility
- Proposed Site Extension

FIGURE 5.1

Surrounding Land Use

### 5.3.3 Traffic and Transport

The proposed increase to throughput capacity would result in an increase in the number of heavy vehicles accessing the facility. The increase in heavy vehicle numbers has the potential to result in traffic and transport impacts to the local road network. To assess the potential impacts associated with the increase in traffic, a specialist quantitative traffic impact assessment will be completed. The traffic impact assessment will be completed in accordance with the requirements of the *Guide to Traffic Generating Developments* (RTA 2002) and will include:

- a review of existing traffic count data for the nearby or potentially affected road network
- an assessment of the existing road network that will be used in the construction and operation phases
- an assessment of the adequacy of intersections and the general traffic routes to accommodate the proposed increase in vehicle numbers during construction
- assessment of the traffic and transport impacts during both the construction and operational phases of the Project
- identification of any impact mitigation measures required.

### 5.3.4 Soil and Water

The Project lies within the Cockle Creek Catchment, which drains into Lake Macquarie. The Project has the potential to result in soil and water impacts. The EIS will include an assessment of the potential soil, groundwater and surface water impacts of the Project. This assessment will include:

- a detailed water balance for the Project
- wastewater predictions and mitigation measures
- erosion and sediment controls to be installed during the construction phase
- details of the operational stormwater management system.

The Lake Macquarie LEP mapping indicates that part of the Project area falls within a 'flood planning area'. Potential flooding impacts will be considered as part of the EIS.

#### 5.3.4.1 Acid Sulfate Soils

The Lake Macquarie LEP mapping indicates that the Project area is Class 2 acid sulfate soils land. As outlined in the Lake Macquarie LEP, development consent is required when works are proposed to be undertaken below the natural ground surface and for which the water table is likely to be lowered. The Project area is located in proximity to Cockle Creek and a number of SEPP 14 wetlands.

The EIS will assess the potential for disturbance of acid sulfate soils and if disturbance is likely, will detail the mitigation and management measures that will need to be implemented during construction of the Project.

#### 5.3.4.2 Contamination

A search of the EPA's contaminated land register confirms that the Project area contains existing contamination. The project will not require excavation of the known contamination. The potential contamination impacts of the proposed project are considered minor and will be assessed as part of the EIS.

## 5.4 Other Environment and Community Issues

### 5.4.1 Waste

The project is not expected to result in a substantial amount of waste. Notwithstanding the EIS will:

- identify, classify and quantify the likely waste streams that would be generated through the construction and operation of the Project
- detail the measures to be implemented to ensure that the Project is consistent with the *NSW Waste Avoidance and Resources Recovery Strategy 2007*.

### 5.4.2 Aboriginal Archaeology and Non-Aboriginal Heritage

The Project area is located on land that has been clearly disturbed by past approved land use developments. It is proposed to undertake heritage assessments as described below.

#### 5.4.2.1 Aboriginal Archaeology

A basic and extensive search of the Office of the Environment and Heritage's Aboriginal Heritage Information Management System (AHIMS) was undertaken on the 17 July 2017. The results of this search indicate that no known Aboriginal sites or places have been recorded within the Project area. However, there are 95 recorded Aboriginal sites or places recorded within a 4 kilometre radius of Lot 2 DP 220347. The east portion of the site is mapped as a sensitive aboriginal landscape area under Lake Macquarie LEP.

Due to the proximity of the Project area to Cockle Creek, a preliminary Aboriginal Cultural Heritage assessment will be undertaken in accordance with Steps 1-3 and the desktop component of Step 4 of *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW* (DECCW 2010). The assessment will include both desktop study and fieldwork. Should impacts to sites/areas of sensitivity be unavoidable, further archaeological investigation would then be undertaken. The results of this assessment will be documented in the EIS.

#### 5.4.2.2 Non-Aboriginal Heritage

A desktop assessment will be undertaken with consideration of the relevant Heritage Council of NSW guidelines, including *Assessing Heritage Significance*, *Statements of Heritage Impact*, *Archaeological Assessment* and *Assessing Significance for Historical Archaeological Sites and 'Relics'* and of the principles contained in the *Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance 1999* (Australia ICOMOS 2000). The results of this desktop assessment will be documented in the EIS.

### 5.4.3 Ecology

The NSW Parliament passed the Biodiversity Conservation Bill in November 2016, and the new legislation came into force on 25 August 2017. As a result, SSD requires the assessment of biodiversity impacts to be undertaken in accordance with the Biodiversity Assessment Method (BAM).

Applications for developments that require assessment under the Biodiversity Offsets Scheme must set out how the proponent proposes to avoid, minimise and offset those impacts. A key change in this legislation is the requirement to offset impacts on all native vegetation and habitats (not just significant impacts or impacts on threatened entities).



The Project may require the removal of some vegetation in the southern portion of the site. As such, an ecological assessment will be completed as part of the EIS. This assessment will include a determination regarding any potential offsetting that may be required for the Project.

#### **5.4.3.1 SEPP 14 Wetlands**

No SEPP 14 Wetland is located within the Project area and the Project will not result in a direct impact to SEPP 14 wetlands, however there is a SEPP 14 Wetland located approximately 275 metres to the north of the Project area. There is also SEPP 14 wetland located approximately 190 metres to the south (downstream) of the Project area. Indirect impacts to SEPP 14 wetlands will be considered as part of the EIS. The SEPP 14 legislation is due to be repealed by the Coastal Management SEPP which is yet to come into effect. The EIS will consider impacts to wetlands under the relevant legislation at the time of preparation.

### **5.4.4 Greenhouse Gas and Energy**

The Project includes the transport and consumption of raw materials; the operation of plant and machinery; and the transport of recycled products to consumers. The Project is expected to have the following greenhouse gas and energy considerations:

- the construction of new site infrastructure will generate additional Scope 3 emissions associated with consuming concrete, steel and diesel
- the increase in throughput capacity will generate additional Scope 1 and 2 emissions associated with consuming liquid fuels and electricity and
- the increase in operational throughput will generate additional Scope 3 emissions associated with sourcing input materials (feedstock and consumables) and transporting products.

The EIS will include a quantitative assessment of the potential greenhouse gas emissions of the Project, and a qualitative assessment of the potential impacts of these emissions on the environment. The EIS will document the measures that would be implemented on site to ensure that the Project is energy efficient.

#### **5.4.5 Hazard**

As part of the EIS, a preliminary risk screening will be completed in accordance with *State Environmental Planning Policy No. 33 – Hazardous and Offensive Development* (SEPP 33) (DoP 2011). This will include a clear indication of class, quantity and location of all dangerous goods and hazardous materials associated with the development. If the preliminary screening indicates that the Project is “potentially hazardous” a Preliminary Hazard Analysis (PHA) would then be prepared in accordance with *Hazardous Industry Planning Advisory Paper No. 6 – Guidelines for Hazard Analysis* (DoP 2011) and *Multi-Level Risk Assessment* (DoP 2011).

#### **5.4.6 Visual**

The proposed capacity increase does involve changes to the disturbance footprint and the appearance of the facility which has the potential to result in visual impacts. Accordingly, the EIS will include an assessment of the potential visual impacts of the Project on the amenity of the surrounding area.

#### **5.4.7 Bushfire**

The Project area is not identified as bushfire prone land however the southern boundary of Lot 2 DP 220347 and the adjoining lots to the south and west/northwest are identified as bushfire prone land by the Lake Macquarie Bushfire Prone Land Map. Accordingly the EIS will include an assessment of the bushfire threat applicable to the Project and identify any management and mitigation measures required.

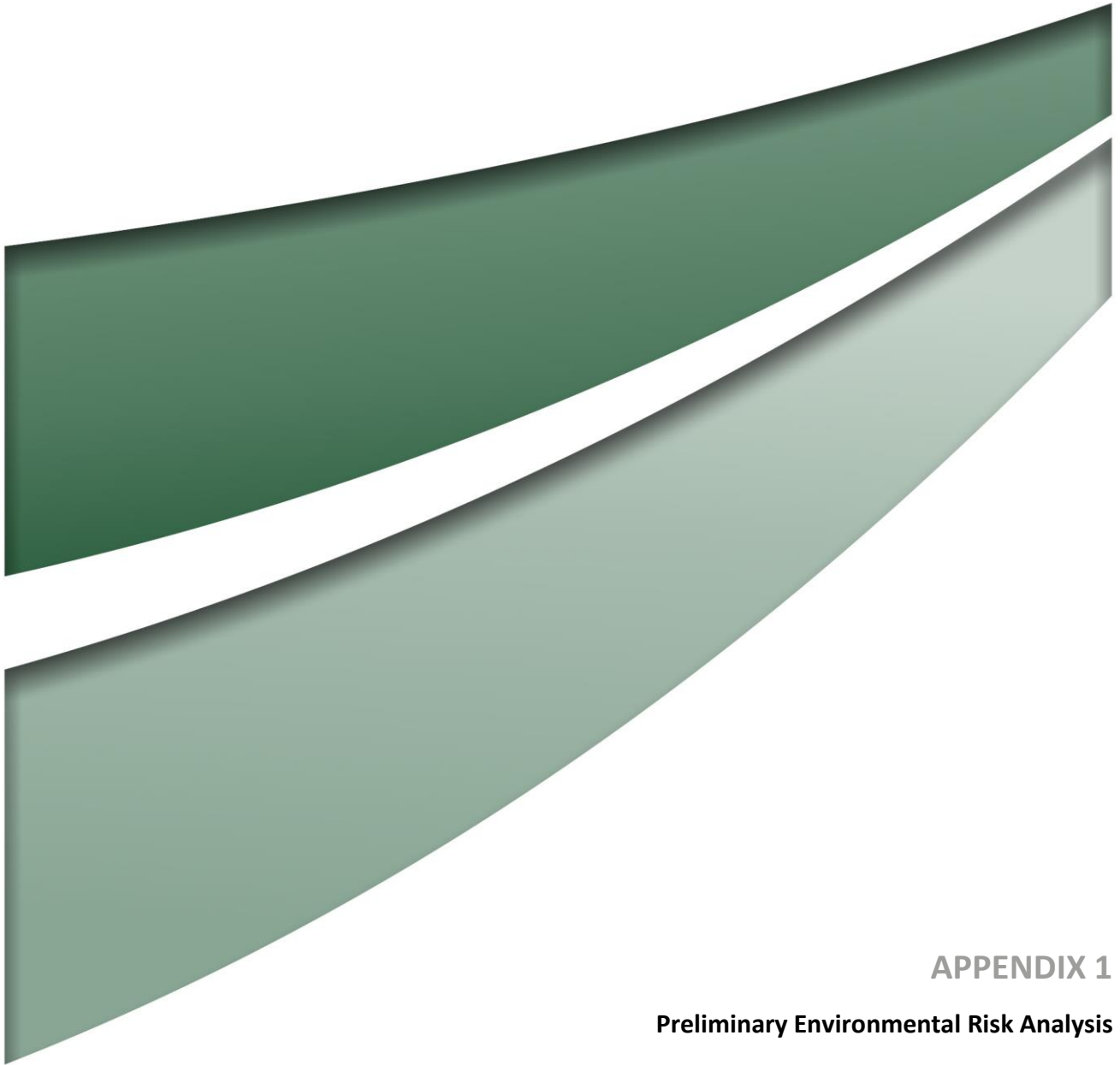
### **5.4.8 Socio-Economic**

The Project will likely result in positive socio-economic benefits on a local, regional and state level. A Socio-economic Impact Assessment (SEIA) will form part of the EIS for the Project. The SEIA will include specific consideration of the economic costs and benefits of the project and will reflect recent state government changes to requirements on state significant infrastructure development. The SEIA will include:

- profiling and planning
- impact scoping
- impact assessment and strategy development and
- reporting of SEIA.

## 6.0 Project Timing

Concrush are planning to submit the EIS to DP&E for review in Quarter 1 of 2018.



## APPENDIX 1

### Preliminary Environmental Risk Analysis

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## Preliminary Environmental Risk Analysis

An environmental risk assessment has been undertaken for the Project to identify the key issues which warrant further detailed assessment and discussion. The methodology used for this process follows the general principles outlined in Australian Standard AS/NZS 4360:1999 Risk Management and Environmental Risk Management – Principles and Process (Standards Australia, 2000).

The method used for the environmental risk assessment encompasses the following key steps:

1. Establish the context for the risk assessment process
2. Identify environmental risks
3. Analyse risks
4. Evaluate risks to determine significant issues

Each of these steps is discussed further below.

### Establish the Context

The risk assessment undertaken for the Project considers risks to the natural environment and members of the public. The 'Project' was considered to be the processes and activities described in Section 2.2 of the Preliminary Environmental Assessment, categorised as shown in **Table 1**.

**Table 1 - Process Areas and Activities Considered**

Process Area	Process Boundary	Activities
Installation / construction	Installation and construction of proposed equipment to increase throughput	Construction of product stockpiles, product storage bays, car parking, washing bays, water tanks etc
Operation	Continued operations with increased throughout capacity	The receival, stockpiling, recycling (crushing / mulching), loading and distribution of concrete and green waste through the facility
Ancillary Areas	Other activities undertaken to support installation and operation	Storage & handling of goods, maintenance

### Risk Identification

Risk identification involves identifying the environmental risks to be managed, and in its simplest form involves the analysis of the severity and frequency of potential impacts and the operational processes underlying any impact.

In order to provide a systematic framework to identify environmental risks, the following process was used:

1. Select a component of the surrounding environment that may be impacted by the Project.
2. Identify the activities from Table 1 that may affect the surrounding environment.



- Identify the potential environmental impacts (positive or negative) for each value, as a result of these activities.

## Risk Analysis

Risks are typically analysed by combining possible consequences and their likelihood, in the context of existing measures to control the risk. The consequence and likelihood of each risk determines the level of risk.

Each risk was assessed using a five level qualitative ranking of consequence and likelihood as listed in **Table 2** and **Table 3** respectively. This yields a five by five risk analysis matrix and results in four levels of risk: “extreme”, “high”, “moderate” and “low”, as shown in **Table 4**.

**Table 2 - Qualitative Measures of Environmental Consequence**

Severity Level	Natural Environment	Legal / Government	Heritage	Community/Reputation/Media
(1) Insignificant	Limited damage to minimal area of low significance.	Low-level legal issue. On the spot fine. Technical non-compliance prosecution unlikely. Ongoing scrutiny / attention from regulator.	Low-level repairable damage to commonplace structures.	Low level social impacts. Public concern restricted to local complaints. Could not cause injury or disease to people.
(2) Minor	Minor effects on biological or physical environment. Minor short-medium term damage to small area of limited significance	Minor legal issues, non-compliances and breaches of regulation. Minor prosecution or litigation possible. Substantial hardship from regulator.	Minor damage to items of low cultural or heritage significance. Mostly repairable. Minor infringement of cultural heritage values.	Minor medium-term social impacts on local population. Could cause first aid injury to people. Minor, adverse local public or media attention and complaints.
(3) Moderate	Moderate effects on biological or physical environment (air, water) but not affecting ecosystem function. Moderate short-medium term widespread impacts (e.g. significant spills).	Serious breach of regulation with investigation or report to authority with prosecution or moderate fine possible. Substantial difficulties in gaining approvals.	Substantial damage to items of moderate cultural or heritage significance. Infringement of cultural heritage / scared locations.	Ongoing social issues. Could cause injury to people which requires medical treatment. Attention from regional media and/or heightened concern by local community. Criticism by NGOs. Environmental credentials moderately affected.
(4) Major	Serious environmental effects with some impairment of ecosystem function. Relatively widespread medium-long term impacts.	Major breach of regulation with potential major fine and/or investigation and prosecution by authority. Major litigation. Project approval seriously affected.	Major permanent damage to items of high cultural or heritage significance. Significant infringement and disregard of cultural heritage values.	On-going serious social issues. Could cause serious injury or disease to people. Significant adverse national media/public or NGO attention. Environment/management credentials significantly tarnished.

Severity Level	Natural Environment	Legal / Government	Heritage	Community/Reputation/Media
(5) Catastrophic	Very serious environmental effects with impairment of ecosystem function. Long term, widespread effects on significant environment (e.g. national park).	Investigation by authority with significant prosecution and fines. Very serious litigation, including class actions. License to operate threatened.	Total destruction of items of high cultural or heritage significance. Highly offensive infringements of cultural heritage.	Very serious widespread social impacts with potential to significantly affect the well being of the local community. Could kill or permanently disable people. Serious public or media outcry (international coverage). Damaging NGO campaign. Reputation severely tarnished. Share price may be affected.

**Table 3 - Qualitative Measure of Likelihood**

Level	Descriptor	Description	Guideline
A	Almost Certain	Consequence is expected to occur in most circumstances	Occurs more than once per month
B	Likely	Consequence will probably occur in most circumstances	Occurs once every 1 month – 1 year
C	Occasionally	Consequence should occur at some time	Occurs once every 1 year - 10 years
D	Unlikely	Consequence could occur at some time	Occurs once every 10 years – 100 years
E	Rare	Consequence may only occur in exceptional circumstances	Occurs less than once every 100 years

Source: AS/NZS 4360:1999 Risk Management

**Table 4 - Qualitative Risk Matrix**

Likelihood of the Consequence	Maximum Reasonable Consequence				
	(1) Insignificant	(2) Minor	(3) Moderate	(4) Major	(5) Catastrophic
(A) Almost certain	High	High	Extreme	Extreme	Extreme
(B) Likely	Moderate	High	High	Extreme	Extreme
(C) Occasionally	Low	Moderate	High	Extreme	Extreme
(D) Unlikely	Low	Low	Moderate	High	Extreme
(E) Rare	Low	Low	Moderate	High	High

Source: AS/NZS 4360:1999 Risk Management

The level of risk assessed was based on a risk level with the existing environmental management controls at Concrush in place. This allows for the identification of the extent of potential project related impacts and the identification of the major issues warranting further assessment.

Although the risk rating gives no quantification of the actual value of the risk for a particular aspect, it does allow a relative comparison between issues to enable risks to be prioritised, facilitate informed decisions about treating risks and help identify whether a risk is acceptable.

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**Table 5** shows the format used for the Project environmental risk assessment.

**Table 5 – Format for Preliminary Project Environmental Risk Assessment**

<b>Project Activities</b>	<b>Environmental Value</b>	<b>Potential Impacts/ Consequences</b>	<b>Status and Proposed Control</b>	<b>Risk Assessment</b>	<b>Further Assessment required</b>	<b>Key Issue</b>
Identifies the Project's activities that may affect the Environmental Value	Components of the surrounding environment that can be affected by the Project	This describes any change to the environment, whether adverse or beneficial, wholly or partly resulting from the Project's activities	Details current understanding of the existing environment and existing controls	Assessment of likelihood, consequence and risk score. Assumes existing controls in place	Identifies potential impacts that warrant further assessment based on risk of potential impacts	Highlights the key issues requiring further assessment

### **Risk Evaluation**

Risk evaluation concerns setting priorities for decisions about risk. The purpose of risk evaluation is to compare risks against significance criteria to determine the degree of assessment required. The application of significance criteria will reduce the number of activities that require specific management attention and provides an opportunity to prioritise environmental issues based on predetermined criteria.

Although guidelines and regulations provide great detail on risk identification and characterisation, there is less guidance on what constitutes an acceptable level of risk. This is because the development of risk acceptance criteria is quite subjective and is not an exact science or based on a complex formula. For each risk assessment process there is a degree of flexibility in defining its own criteria to determine which impacts are potentially “significant” and which are not. For the purposes of this Preliminary Environmental Assessment, significant risks have been defined as those with a risk rating of high or extreme, as defined by **Table 4**.

It is important to note that certain impacts associated with the Project's activities may be predetermined as significant by State or Federal legislation. These ‘regulated’ impacts, whilst not always rated as significant based on risk score alone, will also require further assessment to be undertaken.

## Concrush Pty Ltd – Teralba Facility Increase to Throughput Capacity

### Preliminary Environmental Risk Analysis

Activity	Environmental Value	Potential Impact	Status and Proposed Control	Risk Assessment			Further Assessment Requirements	Key Issue?
				C	L	R		
<b>Construction</b>								
	Ecology	Loss of native flora, fauna or endangered ecological communities	Undertake Ecological Assessment as part of EIS Prepare a CEMP	2	C	Moderate	Undertake Ecological Assessment as part of EIS	N
	Ecology – Impacts to aquatic ecology and wetlands	Impacts to aquatic ecology / SEPP 14 wetlands	Undertake Ecological Assessment as part of EISEIS will consider indirect impacts to SEPP 14 wetlands	2	C	Moderate	Undertake Ecological Assessment as part of EIS	N
	Noise	Noise Generation - impact to sensitive receivers specifically as a result of the construction phase	Further assessment and modelling to be done as part of EIS	2	D	Low	Undertake noise impact assessment as part of EIS	N
	Traffic and Transport	Any additional traffic required for construction	Further assessment and traffic modelling to be done as part of EIS	2	D	Low	Undertake Traffic Impact Assessment as part of EIS	N

Activity	Environmental Value	Potential Impact	Status and Proposed Control	Risk Assessment			Further Assessment Requirements	Key Issue?
				C	L	R		
<b>OPERATION PHASE</b>								
	Noise	Noise Generation - impact to sensitive receivers	Further assessment and modelling to be done as part of EIS Recommend mitigation measures to be implemented within the EIS Alter project design to reduce impacts (if necessary)	3	B	High	Undertake Noise Impact Assessment as part of EIS	Y
	Air Quality	Dust Generation - Impact to sensitive receivers and degradation of local air quality	Further assessment and modelling to be done as part of EIS Recommend mitigation measures to be implemented within the EIS Alter project design to reduce impacts (if necessary)	3	B	High	Undertake Air Quality Impact Assessment as part of EIS	Y
	Traffic and Transport	Increased traffic as a result of increased throughput capacity	Further assessment and modelling to be done as part of EIS	2	C	Moderate	Undertake Traffic and Transport Impact Assessment as part of EIS	Y
	Soil and Water	Erosion and Sediment Runoff	Review and update (if required) existing water management controls as part of EIS Explore water reuse onsite to save on potable water Additional assessment on planning the water management system	3	B	High	Assess impacts to soil, surface water and groundwater as part of EIS	Y
	Soil and Water	Flooding part of the site is identified as being flood prone	Assess flooding as part of the EIS	3	D	Moderate	Assess impacts to soil, surface water and groundwater as part of EIS	N
	Soil and Water	Disturbance of Acid Sulfate Soils	The site consists of Class 2 acid sulfate soils land. The implications of acid sulfate soils will be assessed in the EIS	1	E	Low	Assess impacts to soil, surface water and groundwater as part of EIS	N

Activity	Environmental Value	Potential Impact	Status and Proposed Control	Risk Assessment			Further Assessment Requirements	Key Issue?
				C	L	R		
	Soil and Water	Increase in water demand	Undertake review of the existing and proposed water demand for the operation	2	D	Low	Assess impacts to soil, surface water and groundwater as part of EIS	N
	Aboriginal Archaeology	Disturbance of Aboriginal Places or sites	AHIMS searches indicate there are no known sites or places within the Lot. There are 95 sites located within 4km radius of the Lot. Due Diligence Assessment to be done as part of EIS	1	E	Low	Undertake Due Diligence Assessment as part of the EIS	N
	Historic Heritage	Disturbance of sites of European Heritage significance	The Lake Macquarie Local Environmental Plan 2014 heritage map and register does not identify any heritage items within the site. Further desktop Assessment to be done as part of EIS	1	E	Low	Undertake Desktop Assessment as part of the EIS	N
	Waste (excluding concrete and other products)	Any operational waste	Minimal waste (excluding concrete and other products) is anticipated. A desktop assessment to be done as part of EIS	2	D	Low	Desktop Assessment to be done as part of EIS	N
	Greenhouse Gas and Energy	Generation of greenhouse gases / energy consumption	The EIS will include a quantitative assessment of greenhouse gas emissions of the project and qualitative assessment of the impact of these emissions on the environment	2	D	Low	Quantitative GHG assessment to be undertaken as part of the EIS	N
	Hazards	Injuries or deaths, environmental damage and loss of property	A preliminary risk screening to be completed as part of EIS	2	D	Low	A preliminary risk screening to be completed as part of EIS	N
	Visual	Changes to aesthetics of operations in landscape	Further assessment to be done as part of EIS	2	D	Low	Further assessment to be done as part of EIS	N
	Bushfire	Need for vegetation clearing	Further assessment to be done as part of EIS	2	D	Low	Further assessment to be done as part of EIS	N

Activity	Environmental Value	Potential Impact	Status and Proposed Control	Risk Assessment			Further Assessment Requirements	Key Issue?
				C	L	R		
	Contamination	Soil and/or water contamination from spills or leaks	Review any existing information and determine the need for further studies if required	2	D	Low	Review any existing information and determine the need for further studies if required	N
	Socio-Economic	Negative socio-economic impacts	A detailed Socio-economic Impact Assessment will be prepared as part of EIS including profiling, impact scoping, impact assessment and strategy development	2	D	Low	Further desktop assessment to be done as part of EIS	N



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