Decision Report

Application for Works Approval

Division 3, Part V *Environmental Protection Act 1986*

Works Approval Number	W6373/2020/1
Applicant	Omya Australia Pty Ltd
ACN	97 001 682 533
File Number	DER2020/000104
Premises	26-28 Tomlinson Road WELSHPOOL, WESTERN AUSTRALIA Lot Number 13 Diagram of Plan 8957 Certificate of Title Volume 1917 Folio 862
Date of Report	28 July 2020
Status of Report	Final

Table of Contents

1. Defined meanings of terms and acronyms

In this decision report, the terms and acronyms in Table 1 have the meanings defined.

Table 1: Defined meanings of terms and acronyms

Terms and acronyms	Defined meanings
AACR	Annual Audit Compliance Report
Applicant	Omya Australia Pty Ltd
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 under section 20 of the EP Act
Department	the department 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 EP Act
DWER	Department of Water and Environmental Regulation
EP Act	*Environmental Protection Act 1986* (WA)
EP Regulations	*Environmental Protection Regulations 1987* (WA)
m^3	cubic metres
mg/L	milligrams per litre
Noise Regulations	*Environmental Protection (Noise) Regulations 1997* (WA)
Premises	the premises to which this Decision Report applies, as specified at the front of this Decision Report
Risk Event	as defined in *Guidance Statement: Risk Assessment*
TSP	total suspended particles
µm	micrometre, micron. Equal to 1 x 10^{-6} metres

2. Purpose and scope of assessment

2.1 Application details

The Decision Report is prepared for the assessment of an application for a works approval to construct two packaged granulation processing plants at Omya Australia, Tomlinson Road, Welshpool (the Premises).

The proposed activities within the Premises fall under the definition of prescribed premises in accordance with Category 33: chemical blending of Schedule 1 of the *Environmental Protection Regulations 1987*. A works approval is required for the construction and installation of the two granulation processing plants.

This Decision Report presents an assessment of potential environmental and public health risks from emissions and discharges from the Premises during construction and operation.

Table 2 lists the documents submitted during the assessment process.

Table 2: Documents and information submitted during the assessment process

Document/information description	Date received
Package with application form and supporting documentation.	24 February 2020
RFI response received	29 April 2020

3. Background

The Premises has existing mineral processing infrastructure and equipment that has been operated for many years by Commercial Minerals Limited under Registration 0374. Omya Australia will use the existing equipment in a similar manner to the previous owners to produce a range of industrial mineral products.

The works approval application relates to the installation of two packaged granulation processing plants. This modular equipment is entirely self-contained and each plant consists of an infeed system and various internal material transfer equipment for drying, screening, mixing and granulation of product, see Figure 3.

Various industrial premises are located nearby and the nearest sensitive receptor (residential housing) is about 790 m to the north-west.

Table 3 list the prescribed premises category that has been applied for.

Table 3: Prescribed premises category

Classification of Premises	Description	***Approved Premises production or design capacity or throughput***
Category 33	Chemical blending or mixing: premises on which chemicals or chemical products are mixed, blended or packaged in a manner that causes or is likely to cause a discharge of waste into the environment.	35,040 tonnes per year

4. Overview of the Premises

4.1 Operational aspects

The proposed development involves the installation of two modular granulation plants for granulation of agricultural products, namely limestone. Each modular granulation plant consists of 12 pre-fabricated modules which will be assembled together on site.

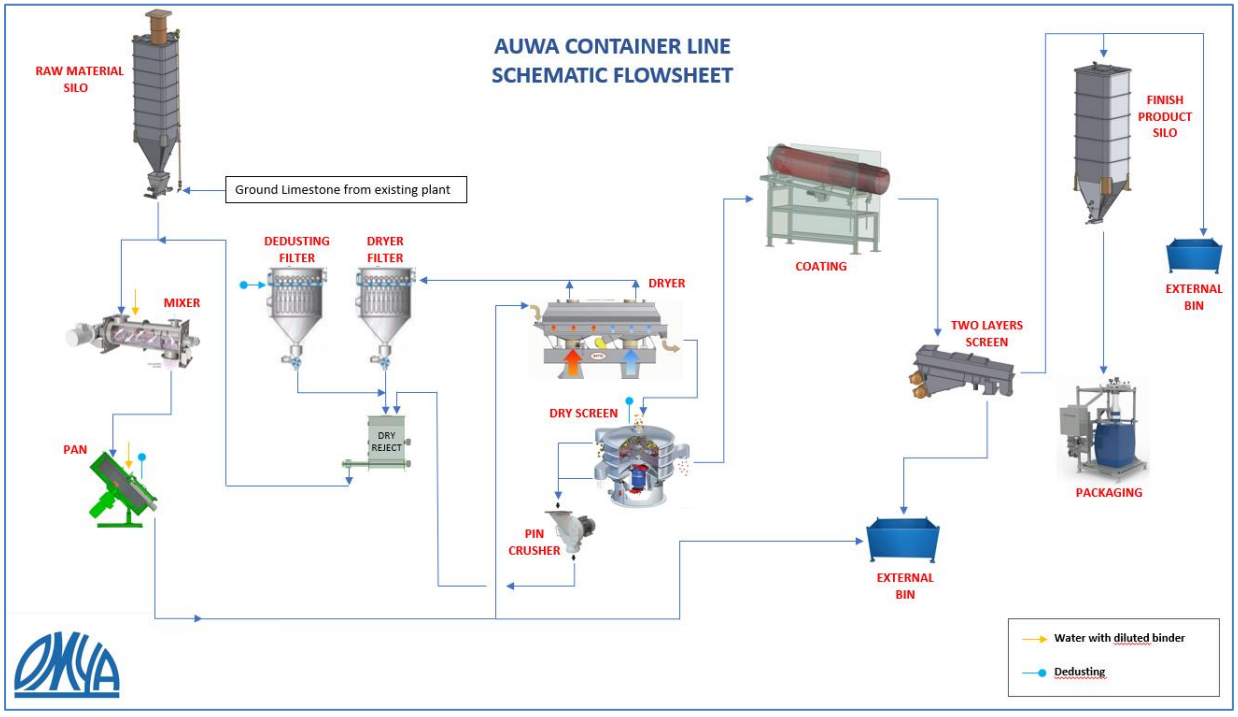
The overall dimension of each assembled modular plant will be W 7.6 m x L 16.3 m x H 13.7 m with a maximum output of two (2) tonnes of dry product per hour per plant. This provides a theoretical maximum site annual output of 35,040 tonnes per year. This production volume is not expected to be achieved in any year due to the need for maintenance, and planned and unplanned downtime of the equipment. The actual production rate will also depend on market demand which is untested.

Granulation is a mechanical process that allows larger diameter parts (granules) to be achieved by adhering smaller product particles (powder) to one another. There are different methods to granulate powder, which can be divided into two main categories: dry or wet granulation.

Figure 1 shows the process flow where the system to be installed uses wet granulation technology, where ground natural limestone ($CaCO_3$) powder (approx. 20 µm) is dried using an energy efficient gas fired fluid bed dryer process to remove any excess water. Undercover storage of raw materials will be maximised to enhance dryer fuel efficiency. A liquid binder consisting of a mixture of water and molasses (the biodegradable by-product of sugar cane refining) is then added and a granulation pan processes the limestone/molasses material into granules.

The purpose of the modular granulation system is to create granules between 2-6 mm in diameter to be used in the agricultural industry to increase the fertility of agricultural soil by changing its pH and for other applications in agriculture.

Figure 1: Omya granulation plant process flow diagram



4.2 Infrastructure

The infrastructure, as it relates to the new modular granulation plants is detailed in Table 4. A site plan showing the siting of the two granulation processing plants is given in Figure 2 and a design layout of the plant is given in Figure 3.

Table 4: Omya Australia facility works approval infrastructure

Infrastructure	Design and construction / installation requirements
Mixer, granulation pan	Throughput: maximum of 3 tonnes per hour
Gas fired fluid bed dryer	Throughput: maximum 2.5 tonnes per hour, power consumption 400 kW
Dryer dust filter	Nederman cassette-type filter with maximum design flow rate of 6,500 m^3/h. Filter ensuring emissions from the stack are less than 50 mg/m^3. Filter is fitted with an alarm system, and the cleaning phase and status is monitored electronically.
General dust filter	Nederman cassette-type filter with maximum design flow rate of 7,000 m^3/h. Filter ensuring emissions from the stack are less than 50 mg/m^3. Filter is fitted with an alarm system, and the cleaning phase and status is monitored electronically.
Silo dust filter	WAMFLO round dust collector design with vertically mounted filter elements and air jet or mechanical vibrated cleaning system. Maximum design flow rate of 1,515 m^3/h and filter ensuring emissions from the stack are less than 50 mg/m^3. Filter is fitted with an alarm system, and the cleaning phase and status is monitored electronically.

Figure 2: Omya Australia site layout

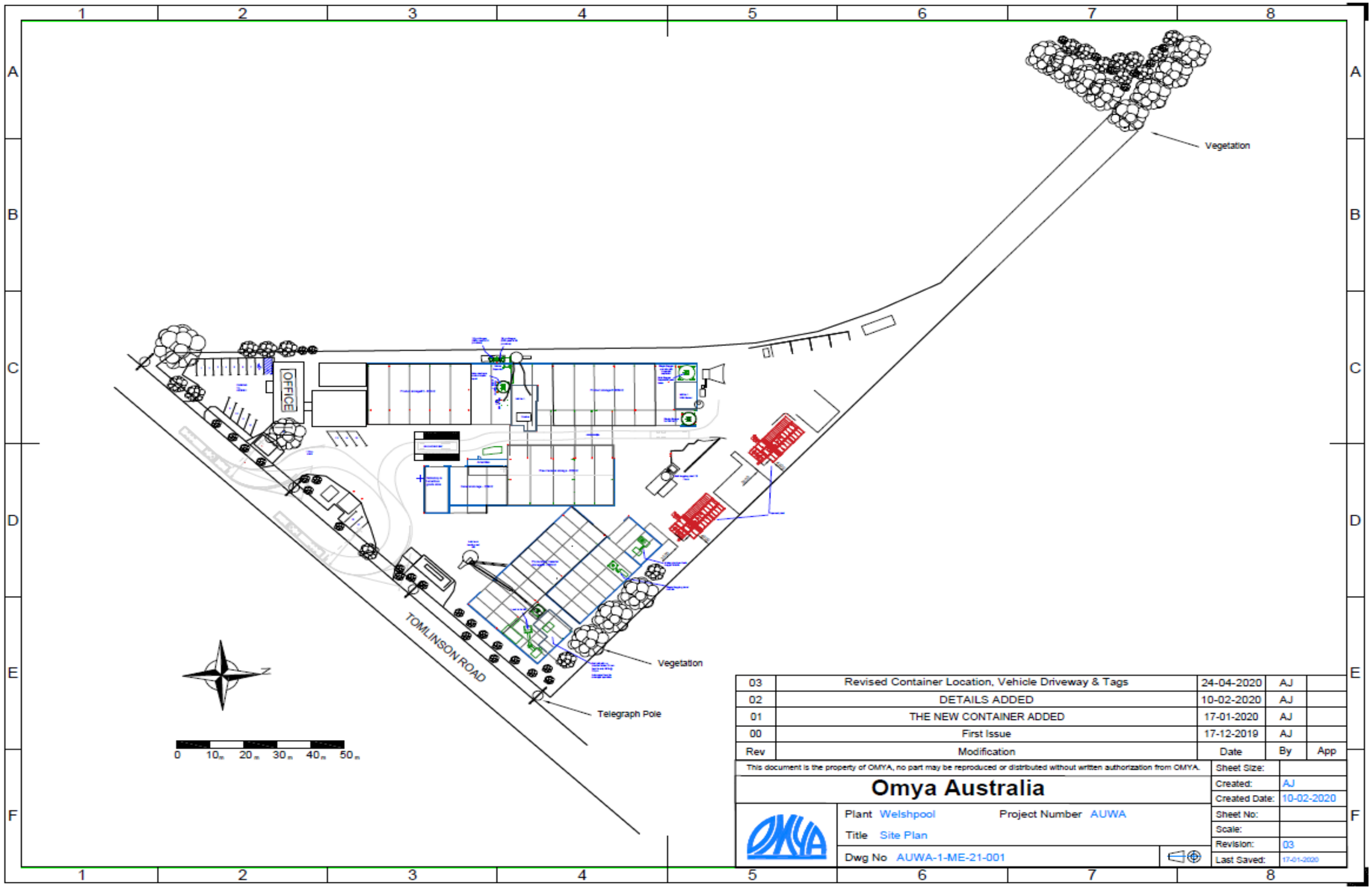
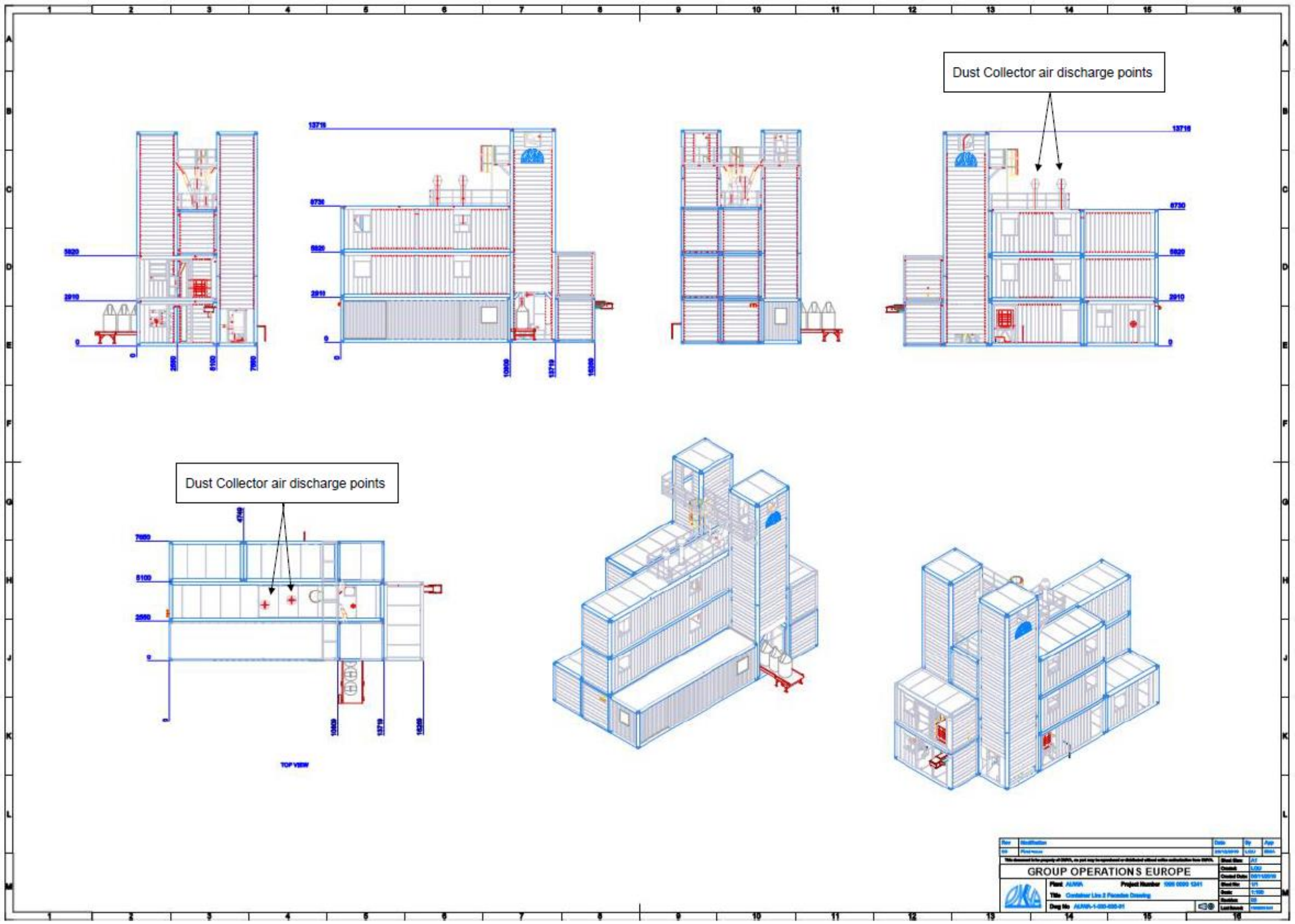


Figure 3: Granulation processing plant layout



4.3 Proposed Works

The Premises currently contain a number of buildings and an external hardstand. The rest of the infrastructure specified in Table 4 will be constructed under the works approval.

Services (electricity, gas and water) are required to be installed which will involve the digging of trenching, laying of pipework, ducting and cabling.

Works are expected to take seven months to complete.

4.4 Exclusions to the assessment

The Premises are already registered under #0374. Existing buildings and infrastructure have not been assessed in this Decision Report.

5. Legislative context

Table 5 summarises approvals relevant to the assessment.

Table 5: Relevant approvals and tenure

Legislation	Number	Subsidiary	Approval
Development Approval	15/201259.1	City of Canning	Applicant applied for Development Approval with the City of Canning. This was granted on 19 May 2020.

5.1 Works approval and licence history

The Premises have existing mineral processing infrastructure and equipment operating for many years by Commercial Minerals Limited under Registration 0374. This works approval covers the additional infrastructure proposed by Omya Australia.

6. Consultation

The Works Approval application was advertised from the 11 June 2020 to 2 July 2020 and the City on Canning was contacted as a direct stakeholder. A response from the City of Canning was received on the 22 June 2020, confirming that a Development Application had been lodged by the Applicant. No third party submissions were received.

7. Siting and receptors

7.1 Siting context

The Premises are located in an industrial area in Welshpool, about 12 kilometres south-east of the Perth CBD. The Premises are triangular in shape, lying between Tomlinson Road to the south, RCR Mining Technologies to the east and the UNITRANS bulk transport warehouse to the west. The northern tip of the Premises abuts a drainage easement, see Figure 4.

Figure 4: Siting context of Omya Australia (premises in yellow)

7.2 Potential receptors

Specified ecosystems are areas of high conservation value and special significance that may be impacted as a result of activities or emissions and discharges from the Premises. The area surrounding the Premises is classified as industrial and general industry in nature. The distances to residential (sensitive) receptors and specified ecosystems are shown in Figure 4 and detailed in Table 6.

Table 6: Receptors and distance from Premises boundary

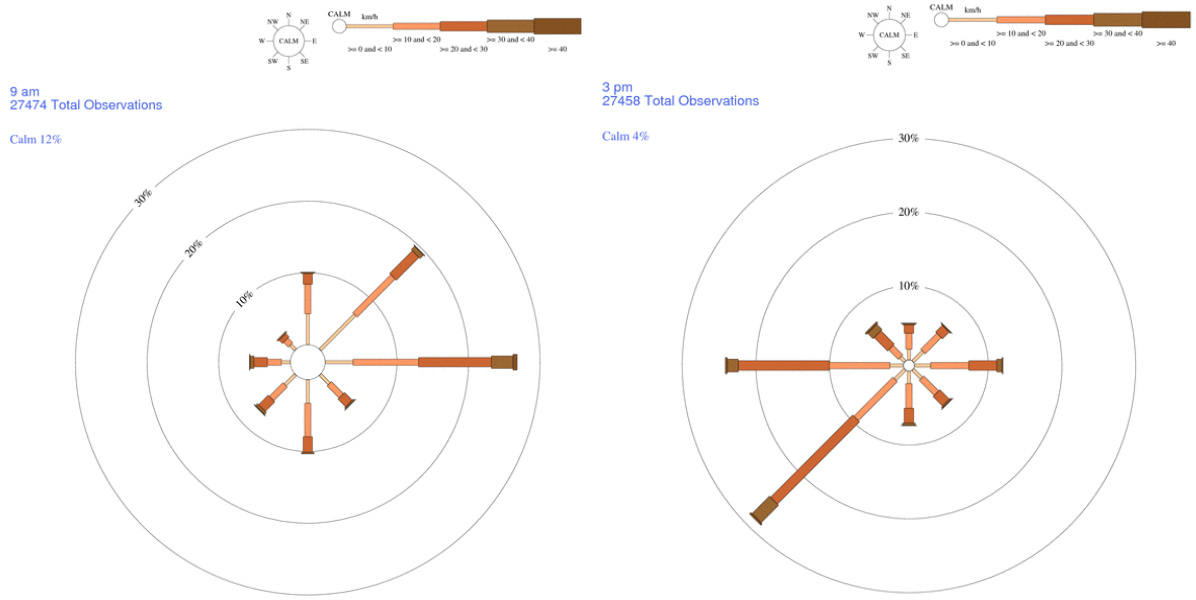
Flag	Potential receptor	Distance from the Premises
A	Residential premises	Approximately 790 m to the north-west from the granulation processing plants in Carlisle South.
	Commercial and industrial businesses and premises	Immediately adjacent are other industrial premises.
B	Threatened Ecological Communities and Priority Ecological Communities	Approximately 760 m south-east, Banksia Dominated Woodlands of the Swan Coastal Plain. Also found to the north and west.
C	Bushforever site	Approximately 2,600 m to the south-east.

7.3 Meteorology

7.3.1 Wind direction and strength

The following wind roses (Figure 5) provide the annual wind direction and strength (km/h) for 9 am and 3 pm between the years 1944 and 2016 at Perth Airport, about 5 km to the north-east of the premises. The region is characterised by predominately east to north-easterly morning winds to strong west to south-westerly afternoon winds.

Figure 5: Wind direction at Perth airport



It is important to note that these wind roses show historical wind speed and wind direction data for Perth airport weather station and should not be used to predict future data.

8. Risk assessment

8.1 Determination of emission, pathway and receptor

In undertaking its risk assessment, the department will identify all potential emissions pathways and potential receptors to establish whether there is a Risk Event which requires detailed risk assessment.

To establish a Risk Event there must be an emission, a receptor which may be exposed to that emission through an identified actual or likely pathway, and a potential adverse effect to the receptor from exposure to that emission. Where there is no actual or likely pathway and/or no receptor, the emission will be screened out and will not be considered as a Risk Event. In addition, where an emission has an actual or likely pathway and a receptor which may be adversely impacted, but that emission is regulated through other mechanisms such as Part IV of the EP Act, that emission will not be risk assessed further and will be screened out through Table 8.

The identification of the sources, pathways and receptors to determine Risk Events are set out in Table 7 and Table 8 below.

Table 7: Identification of emissions, pathway and receptors during construction

Risk Events				**Consequence rating***	**Likelihood rating***	**Risk***	**Reasoning**	**Regulatory controls (refer top conditions of the granted instrument)**
Sources/Activities	**Potential emissions**	**Potential receptors, pathway and impact**	**Applicant controls**					
Construction of infrastructure. Vehicle or mobile plant movement within the Premises during construction	Noise	Residential premises about 790 m to the north-west.	Only a few truck movements are anticipated during the construction phase of the project.	Slight	Rare	Low	Construction is of very short duration and it is modular infrastructure. Only a few truck movements are anticipated during the constructions phase of the project. No night time construction is planned. Distance to sensitive receptors.	The *Environmental Protection (Noise) Regulations 1997* (Noise Regulations) apply.

**Consequence ratings, likelihood ratings and risk descriptions are detailed in the department's Guidance Statement: Risk Assessments (February 2017)*

Table 8: Identification of emissions, pathway and receptors during operation

Risk Events				Consequence rating*	Likelihood rating*	Risk*	Reasoning	Regulatory controls (refer top conditions of the granted instrument)
Sources/Activities	**Potential emissions**	**Potential receptors, pathway and impact**	**Applicant controls**					
Premises operation	Noise	Air / wind dispersion causing amenity impacts. Residential premises about 790 meters to the north-west.	Attenuation of fan. Filter within granulation plant.	Slight	Rare	Low	Due to the siting of the infrastructure in an existing premises, the design of the infrastructure, the distance to nearest receptor and the general industrial zoning of the area the Delegated Officer considers the risk of noise emission to be low.	The Noise Regulations apply.
Premises operation	Dust		Dust filter will be cassette-type fitted with polyester filters.	Minor	Rare	Low	Due to the Applicant controls, the siting of the infrastructure in the existing premises, the design of the infrastructure, the department's familiarity with similar systems and the general industrial zoning of the area the Delegated Officer considers the risk of dust emission to be low.	Applicant controls, a TSP limit of 50 mg/m^3 and a one off stack test. A TSP concentration less than 50 mg/m^3 during normal operation is an appropriate and achievable standard for this type of equipment and referenced in regulation 7 of the WA *Environmental Protection (Concrete Batching and Cement Product Manufacturing) Regulations 1998*

9. Determination of Works Approval conditions

The conditions in the issued works approval in Attachment 1 have been determined in accordance with the *Guidance Statement: Setting Conditions*.

Table 9 provides a summary of the conditions to be applied to this works approval.

Table 9: Summary of conditions to be applied

Condition reference	Grounds
Infrastructure and equipment Condition 1 and 2	These conditions are allowing the Applicant to construct the works and specify the requirements for these works.
Time limited operations Conditions 3 and 4	These conditions are necessary to allow the operation of the works following completion, during which time the Applicant can apply for the Licence for the Premises.
Emissions Conditions 5 and 6	These conditions are included to allow the Premises to have emissions and discharges during construction and during time limited operations.
Monitoring Conditions 7 and 8	These conditions are necessary requirements to allow the Department to ensure compliance with the conditions of the Works Approval.
Records and reporting Conditions 9, 10, 11 and 12	These conditions are necessary administration and reporting requirements to ensure compliance with the conditions of the Works Approval.

The Department notes that it may review the appropriateness and adequacy of controls at any time and that, following a review, the department may initiate amendments to the works approvals under the EP Act.

10. Applicant's comments

The draft Decision Report and the draft works approval were sent to the Applicant for comment on 7 July 2020. The Applicant provided comments on 15 July 2020 and 27 July 2020. Comments made by the Applicant were administrative in nature and requesting typographic errors be corrected. The Delegated Officer agreed to these revisions. No comments were made in relations to the conditions included in the draft works approval.

11. Conclusion

This assessment of the risks from the construction and operation of the granulation processing plants 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).

Based on the assessment, the Delegated Officer has determined that the construction and operations of the granulation processing plants presents a low risk to the surrounding environment and amenity and can therefore be approved. A works approval will be granted subject to conditions that are deemed necessary based on the environmental risk of the Premises as shown in Table 8. In accordance with the *Guidance Statement: Risk Assessments* (DER 2017) the Applicant's proposed controls, including a differential pressure monitor/transmitter, will be conditioned in the works approval as they control the assessed likelihood of the risk event.

Peter Knol
Senior Environmental Officer, Process Industries
Delegated Officer under section 20 of the *Environmental Protection Act 1986*

Appendix 1: Key documents

	Document title	In text ref	Availability
1.	Works Approval Application Form, Omya Australia Pty Ltd Supporting documentation: Works Approval W6373/2020/1	W6373/2020/1	DWER record (DWERDT269780)
2.	DER, July 2015. *Guidance Statement: Regulatory principles.* Department of Environment Regulation, Perth.	DER 2015a	Accessed at www.dwer.wa.gov.au
3.	DER, October 2015. *Guidance Statement: Setting conditions.* Department of Environment Regulation, Perth.	DER 2015b	
4.	DER, May 2016. *Guidance Statement: Publication of Annual Audit Compliance Reports*. Department of Environment Regulation, Perth.	DER 2016a	
5.	DER, August 2016. *Guidance Statement: Licence duration.* Department of Environment Regulation, Perth.	DER 2016b	
6.	DER, September 2016. *Guidance Statement: Environmental Standards*. Department of Environment Regulation, Perth.	DER 2016c	
7.	DER, November 2016. *Guidance Statement: Environmental Siting*. Department of Environment Regulation, Perth.	DER 2016d	
8.	DER, February 2017. *Guidance Statement: Land Use Planning.* Department of Environment Regulation, Perth.	DER 2017a	
9.	DER, February 2017. *Guidance Statement: Risk Assessments.* Department of Environment Regulation, Perth.	DER 2017b	
10.	DWER, June 2019. *Guideline: Decision Making.* Department of Water and Environmental Regulation, Perth.	DWER 2019a	
11.	DWER, June 2019. *Guideline: Industry Regulation Guide to Licensing.* Department of Water and Environmental Regulation, Perth.	DWER 2019b	
12.	DWER, June 2019. *Guideline: Odour*	DWER 2019c	

	Document title	In text ref	Availability
	emissions. Department of Water and Environmental Regulation, Perth.		
13.	National Environment Protection Assessment of Site Contamination Measure (ASC NEPM)	ASC NEPM 1999	Accessed at: http://nepc.gov.au/nepms/assessment-site-contamination

Attachment 1: Works Approval W6373/2020/1