Decision Report

Application for Works Approval

Part V Division 3 of the *Environmental Protection Act 1986*

Works Approval Number	W6381/2020/1
Applicant	Cockburn Cement Limited
ACN	008 673 470
File Number	DER2020/000139
Premises	Cockburn Cement Kwinana Plant Lot 45 Leath Road KWINANA BEACH WA 6167 Lot 45 on Plan 91600 Certificate of Title Volume 2091 Folio 497 Part of Lot 251 on Deposited Plan 415974 Lease Reference: 1901069 Part of Lot 252 on Deposited Plan 415974 Lease Reference: WAPC/14/0079. As defined by the premises map in Schedule 1 and the coordinates in Schedule 3 of the Works Approval.
Date of Report	1 April 2021
Decision	Works approval granted

Chris Malley
Manager, Process Industries

An officer delegated by the CEO under section 20 of the EP Act

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1. Decision summary

This Decision Report documents the assessment of potential risks to the environment and public health from emissions and discharges during the construction and operation of the Premises. As a result of this assessment, works approval W6381/2020/1 has been granted.

2. Scope of assessment

2.1 Regulatory framework

In completing the assessment documented in this Decision Report, the department has considered and given due regard to its Regulatory Framework and relevant policy documents which are available at https://dwer.wa.gov.au/regulatory-documents.

2.2 Application summary

Cockburn Cement Limited (the applicant) holds licence L8683/2012/1 (existing licence) for the Cockburn Cement Kwinana Plant (CCKP) located in the Kwinana Industrial Area (KIA). The CCKP produces approximately 50,000 tonnes per annum (tpa) of hydrated lime and 410,000 tpa of cement products by co-milling and blending combinations of clinker, gypsum, shell sand or limestone, and slag.

On 20 March 2020, the applicant submitted an application (the application) for a works approval to the department under section 54 of the *Environmental Protection Act 1986* (EP Act). The application is to undertake construction works to upgrade and expand the cement production capacity. The proposed new grinding plant will deliver an output of 1.3 million tonnes per annum (Mtpa) increasing the overall cement production capacity to 1.53 Mtpa.

The application relates to category 43 and the assessed production capacity under Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations), which is defined in Works Approval W6381/2020/1. The infrastructure and equipment relating to the premises category and any associated activities which the department has considered in line with the *Guidance Statement: Risk Assessments* (DER 2017) are outlined in Works Approval W6381/2020/1.

The proposed works will include the construction of a direct conveyor interface between the Fremantle Ports Kwinana Bulk Terminal (KBT) to enable delivery of raw materials directly to the CCKP. The scope of the proposed key infrastructure / equipment includes:

- a 1,500 tonne per hour (tph) conveyor system from KBT's Bulk Berth No.2 to the new clinker storage shed. The portion of the proposed conveyor from the KBT Transfer Station to the new clinker storage shed is within the scope of the application, with the rest of this conveyor to be constructed by the Fremantle Ports Authority. The construction of the conveyor portion from the KBT Bulk Berth No.2 to the KBT Transfer station is being assessed through a separate works approval application submitted to the department by the Fremantle Ports Authority;
- a 400 tph clinker truck unloading and receival facility;
- an enclosed 110,000 tonne clinker storage shed, with two 280 tph reclaim conveyors;
- a raw material storage area will be created to store stockpiles of damp and wet raw materials, including limestone, slag and gypsum, immediately north of the clinker storage shed;
- a dedicated feed conveyor transporting slag to the mill day bins at a rate of 250 tph;
- a 300 tph additive feed hopper and eight day bins for the grinding mill feed. These bins will comprise two 300m^3 day bins for clinker, two 250m^3 day bins for slag, two 100m^3 day bins for gypsum and two 170m^3 day bins for shell sand / limestone;

- a grinding mill consisting of two enclosed 100 tph ball mills, at a fineness of 400m^2/kg (delivering an equivalent annual output of 1.3 Mtpa);
- the grinding mill will also include two 400m^3 receiving silos for off-spec product from the ball mills and four 10,000 litre self bunded tanks storage of grinding aids;
- a product transfer system and two bucket elevators to transfer finished product from the grinding mill to the finished product silos;
- eight finished product silos with 3,200 m^3 (or approximately 3,500 tonnes) storage capacity each (approximately 28,000 tonnes total storage capacity in total);
- a 60 tph product transporter (pipeline) to convey cement from the finished product silos to the existing bulk product silos;
- truck loading bays situated under the finished product silos and fitted with an enclosure;
- a truck wash down facility including a 25,000 L water supply / storage tank, oil water separator and sediment pit;
- drainage works including three new stormwater infiltration basins, site contouring and diversion bunds which will direct surface runoff into the basins; and
- auxiliary services including power, compressed air, fire water, process water and cooling ;

The proposed new grinding mill will result in the shutdown of one of the two existing cement ball mills. The proposed layout of the infrastructure associated with the expanded CCKP is depicted in Figure 1.

Figure 1: Premises layout map depicting both the proposed and existing infrastructure

2.3 Operation of the premises

Raw materials (clinker and slag) will be transported from Kwinana Bulk Berth No.2 to the premises via the new conveyor transport system. The conveyor system will deliver clinker to the new clinker storage shed, with slag being diverted for storage in an adjacent open stockpile. The new clinker storage shed will also have a clinker truck unloading facility comprising a feeder and bucket elevator to enable receipt of clinker from alternative sources. Two reclaim conveyors within precast tunnels beneath the stockpiled clinker will transfer the material to the mill day bins.

Cement additives (gypsum, shell sand /or limestone) will be stored in open stockpiles adjacent to the new clinker storage shed and will be manually loaded via front end loaders into an additive feed hopper. The additive feed hopper will load an inclined conveyor feeding the additives into the top of the mill day bins. Slag will be dried in the existing dryer circuit from where it will be transferred to a dedicated feed conveyor transporting to the mill day bins at a rate of 250 tph. There will be two day bins each for clinker, slag, gypsum and shell sand or limestone. Feed will be conveyed from these day bins to the new grinding mill via enclosed conveyors. These bins will be equipped with weigh feeders to dose the desired quantities into the ball mills.

The grinding mill will comprise two identical, independent ball mill circuits. Finished product which does not meet specifications will be diverted to the enclosed ‘off-spec bin’ for each milling circuit. These off-spec bin’s will feed back into the mill circuit via the main recirculation elevator and are also capable of feeding ‘off-spec’ product into the finished product silos. A truck out facility will also be provided for each ‘off-spec bin’.

Finished product which has reached the required specification will be transported to the finished product silos via a system of air slide conveyors and bucket elevators. A truck weighing bridge will be installed at each silo bank, with truck loading bays located under the final product silos. Finished product will also be capable of being transferred to the existing bulk product silos via a pneumatic transporter (pipeline).

A truck wash will be installed to clean trucks of dust prior to leaving the premises. Wash water will be filtered through a sediment pit and oil water separator prior to being returned to the recycled water tank for reuse. Water from the recycled water tank will be disposed of into storm water basin 1, should it be of suitable quality for disposal into this basin.

An indicative process flow diagram of the proposed cement milling plant upgrade is provided in Figure 2.

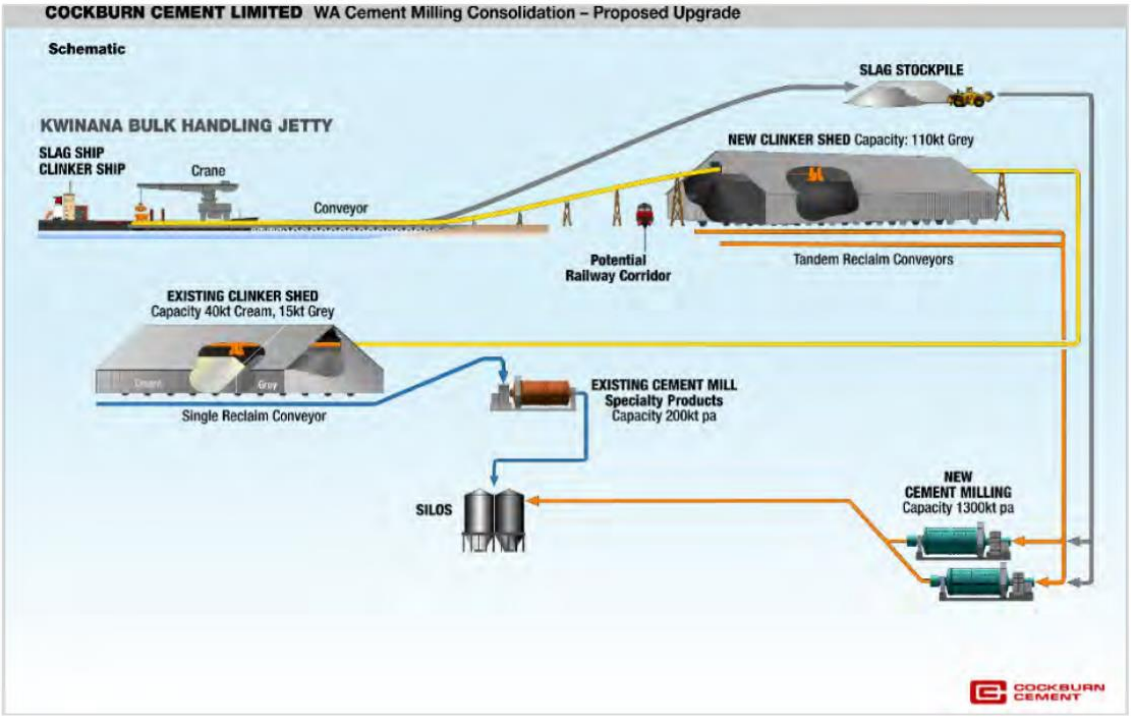

Figure 2: Process flow diagram for the upgraded cement milling operations.

3. Legislative context

3.1 *Contaminated Sites Act 2003*

The premises is situated within land classified under the *Contaminated Sites Act 2003* as 'Contaminated – restricted use'. Groundwater monitoring undertaken in 2001, identified the presence of nitrate contamination in the groundwater. Soil investigations carried out between 2000 and 2003 also identified widespread occurrences of industrial slag and cinders that were found to contain slightly elevated concentrations of heavy metals. A leachability study conducted on the impacted soils found no evidence of risk to the underlying groundwater from the leaching of soil contaminates.

The investigations carried out included a preliminary assessment of human health risk to determine the site's suitability for the continuation of the current industrial land use. The premises appears suitable for the continuation of industrial and commercial land uses. As a consequence of the aforementioned contamination documented at the site, the site is restricted to use for industrial and commercial land uses only.

3.2 Development Approval

On 27 May 2020, The City of Kwinana Council resolved to support the submission of the development application for the expanded CCKP to the Metro Outer Joint Development Assessment Panel. The Metro Outer Joint Development Assessment Panel approved the development application on 22 June 2020.

3.3 *Environmental Protection (Kwinana) (Atmospheric Wastes) Regulations 1992*

The *Environmental Protection (Kwinana) Atmospheric Wastes) Policy 1999* and the *Environmental Protection (Kwinana) (Atmospheric Wastes) Regulations 1992* (combined referred to as Kwinana EPP) were established for protection of air quality within a defined policy

area. The Kwinana EPP establishes ambient air quality standards and limits for sulphur dioxide and total suspended particulates (TSP) within three defined areas (Area's A, B and C) within the City of Cockburn, City of Kwinana and City of Rockingham. The existing CCKP and the proposed expansion area are both situated within Area A.

4. Air quality impact assessment

The applicant commissioned Environmental Technologies and Analytics to undertake an air quality assessment to determine the potential environmental impact of depositional dust and particulate matter emissions from the expanded CCKP on nearby sensitive receptors. The air quality assessment considered TSP, particulate matter with an aerodynamic diameter of 10µm or less (PM_{10}), particulate matter with an aerodynamic diameter of 2.5µm or less ($PM_{2.5}$) and depositional dust. Modelling which supported the air quality assessment was conducted using the AERMOD dispersion model to predict ground level concentrations of TSP, PM_{10}, $PM_{2.5}$ and deposited dust across the model domain.

Scenarios modelled comprised:

1. operation of the existing CCKP in isolation;
2. operation of the existing CCKP, inclusive of background concentrations of the aforementioned pollutants from other emission sources in the region;
3. operation of the expanded CCKP in isolation; and
4. operation of the expanded CCKP, inclusive of background concentrations of the aforementioned pollutants from other emission sources in the region.

For assessment of cumulative ground level concentrations, PM_{10} and $PM_{2.5}$ monitoring data recorded in 2015 from the DWER South Lakes monitoring station was used to represent background ground level concentrations. Environmental Technologies and Analytics analysis of data from the South Lakes Monitoring Station determined that 2015 had the highest 90^{th} percentile concentrations of both PM_{10} and $PM_{2.5}$. The background 24-hour TSP concentration was assumed to be 57 $\mu g/m^3$, which is double that of the 90^{th} percentile PM_{10} concentration recorded at the South Lakes monitoring station in 2015.

Particulate matter emission sources included in the model comprised horizontal and vertical point sources. An emission rate of 15 mg/m^3 was modelled for all sources which was considered to be suitably conservative given the design criteria for dust control equipment on the modelled point sources is ≤10 mg/m^3. Stockpiles and vehicular movements were not included in the model as they were considered to generate negligible contributions to dust emissions, since these sources are managed in accordance with an existing dust management plan.

Assessment criteria adopted by the applicant for the air quality assessment are summarised in Table 1and comprised the *National Environmental Protection Measure (NEPM) for Ambient Air Quality* (NEPM) for PM_{10} and $PM_{2.5,}$ the Kwinana EPP for TSP and the Victorian Environmental Protection Authority's *Protocol for Environmental Management: Mining and Extractive Industries* (EPA Victoria) for depositional dust. The Delegated Officer determined these criteria are relevant to the air quality assessment prepared by the applicant and are appropriate to assess the predicted ground level concentrations of the aforementioned pollutants resulting from the existing and expanded CCKP operations.

Modelling was used to predict ground-level concentrations of the aforementioned pollutants at the nearest residential sensitive receptors and meteorological stations near the boundary of the Kwinana Area C buffer (Medina 1 and 2, Abercrombie Road and Wattleup, illustrated in Figure 4). A summary of the predicted ground level concentrations at the sensitive receptors for the modelled scenarios undertaken is included in Table 1. The air quality assessment concludes that $PM_{2.5}$, PM_{10} and TSP concentrations at the modelled sensitive receptors will comply with the Kwinana EPP Area C and NEPM air quality criteria (Table 1). The predicted concentrations

at these receptors are less than 18% of the criteria when the expanded CCKP is considered in isolation. With background levels included for assessment of cumulative impact, predicted ground level concentrations are up to 64% of the NEPM 24-hour and annual PM_{10} criteria, and 98.8% of the NEPM annual $PM_{2.5}$ criterion (Abercrombie Road). It is noted that the input background particle concentrations are close to the criterion value and the expanded CCKP predicted contribution is less than 4% of the NEPM annual $PM_{2.5}$ criterion.

The air quality assessment and modelling was reviewed by the department. There were some minor issues noted with the modelling methodology and also contingency planning for upset conditions appears to be limited. However, correction of these issues was unlikely to change the overall conclusions of the modelling assessment and overall it was considered that the modelling methodology and inputs were appropriate.

The applicant's air quality assessment did not address predicted impacts on nearby industrial receptors. The Delegated Officer assessed the potential impact on nearby industrial receptors through interpretation of the contour plots provided in the air quality assessment. This identified that exceedances of the air quality criteria could occur at nearby industrial receptors for both the existing and expanded CCKP scenarios. When the existing CCKP was considered in isolation, the NEPM 24 hour PM_{10} and $PM_{2.5}$ criteria could be exceeded at nearby industrial receptors. When background emission concentrations were considered alongside the existing CCKP, the Kwinana EPP 24 hour TSP standard and NEPM 24 hour PM_{10} and $PM_{2.5}$ criteria could be exceeded, in addition to the annual average NEPM $PM_{2.5}$ criteria.

The above review also identified that exceedances of the 24 hour NEPM PM_{10} and $PM_{2.5}$ criteria could occur when the expanded CCKP was considered in isolation. When background emission concentrations were included, the Kwinana EPP 24 hour TSP and NEPM 24 hour PM_{10} and $PM_{2.5}$ criteria could be exceeded along with the annual NEPM $PM_{2.5}$ criteria. Notable predicted exceedances identified during this review comprised the apparent exceedance of the Kwinana EPP TSP 24 hour standard with a ground level concentration of 190 $\mu g/m^3$ at nearby industrial premises. This exceedance was indicated by modelling plots, when the expanded CCKP was considered alongside background TSP concentrations. Furthermore, the air quality model plots indicated an apparent exceedance of the NEPM PM_{10} 24 hour criteria of approximately 128 $\mu g/m^3$ at nearby industrial receptors when the expanded CCKP was modelled alongside background concentrations. It was also observed that close examination of such near-field effects was difficult owing to the relatively coarse cartesian grid resolution used in the air quality model (200 metres).

However, the Delegated Officer noted aspects of the applicant's predictive air quality model that likely contributed to the above findings. It depicts the existing CCKP operations as comprising 36 point emission sources and the expanded CCKP as comprising 87 point emission sources. The model also included several conservative assumptions including use of an estimated emission rate of $15mg/m^3$ from emissions sources which is potentially 50% higher than expected emission rates. Other conservative assumptions also included continuous emissions from emission sources which are anticipated to intermittent in nature (i.e. the finished product silos, the 'off-spec' bins, the clinker shed, the clinker reclaiming infrastructure, the additive hopper and the truck loading infrastructure). In addition, the air quality model included discharges from the conveyor transfer points, bucket elevators and day bins, which the applicant advises will not discharge into the air but rather into the next conveyor or bucket elevator in the process, or back into the day bins. Collectively, these observations are likely to have contributed to conservative overestimations of predicted impacts at ground level.

Table 1 CCKP existing and expansion scenario air quality assessment predicted ground level concentrations

Receptor	Scenario		24-hr TSP (µg/m^3) *Area A Criteria - 150 µg/m^3* *Area B and C Criteria - 90 µg/m^3*(1)	24-hr PM_{10} (µg/m^3) *Criteria - 50 µg/m^3*(2)	Annual PM_{10} (µg/m^3) *Criteria - 25 µg/m^3*(3)	24-hr $PM_{2.5}$ (µg/m^3) *Criteria - 25 µg/m^3*(4)	Annual $PM_{2.5}$ (µg/m^3) *Criteria - 8 µg/m^3*(5)	Dust deposition rate *Criteria – 2 g/m^2*(6)
Medina 1	Existing CCKP	No background	1.62	1.2	0.1	0.98	0.08	0.008
		With background (cumulative)	58.62	29.70	15.7	14.38	7.68	NA
	Expanded CCKP	No background	3.71	2.48	0.17	2.07	0.14	0.028
		With background (cumulative)	60.71	30.98	15.77	15.47	7.74	NA
Medina 2	Existing CCKP	No background	1.83	1.22	0.14	1.03	0.11	0.006
		With background (cumulative)	58.83	29.72	15.74	14.43	7.71	NA
	Expanded CCKP	No background	3.75	2.49	0.21	2.12	0.18	0.023
		With background (cumulative)	60.75	30.99	15.81	15.52	7.78	NA
Abercrombie Road	Existing CCKP	No background	2.56	1.96	0.2	1.57	0.16	0.013
		With background (cumulative)	59.56	30.46	15.80	14.97	7.76	NA
	Expanded CCKP	No background	7.18	5.24	0.37	4.40	0.31	0.04
		With background (cumulative)	64.18	33.74	15.97	17.80	7.91	NA
Wattleup	Existing CCKP	No background	2.47	1.86	0.13	1.45	0.1	0.01
		With background (cumulative)	59.47	30.36	15.73	14.85	7.7	NA
	Expanded CCKP	No background	4.83	3.49	0.22	2.86	0.18	0.036
		With background (cumulative)	61.83	31.99	15.82	16.26	7.78	NA

Note 1: Criteria derived from the Kwinana EPP. The Kwinana EPP defines standards as ambient concentrations that are desirable not to exceed and limits as ambient concentrations that are not to be exceeded. It should be noted under the Kwinana EPP, Area's A – B have a 24 hour limit of 260 µg/m^3 and Area C has a 24 hour limit of 150 µg/m^3.

Note 2,3, 4 and 5: Criteria derived from the *National Environmental Protection Measure (NEPM) for Ambient Air Quality*.

Note 6: Criteria derived from the Victorian EPA's *Protocol for Environmental Management: Mining and Extractive Industries*.

5. Noise impact assessment

The applicant commissioned Herring Storer Acoustics (HSA) to carry out an acoustic assessment to determine whether the proposed expansion of the CCKP is likely to comply with the assigned noise levels prescribed in the *Environmental Protection (Noise) Regulations 1997* (the Noise Regulations). Noise modelling was undertaken to predict the noise levels received at nearby sensitive receptors under the following scenarios:

- Operation of the existing CCKP;
- Operation of the expanded CCKP; and
- Operation of the expanded CCKP, inclusive of cumulative noise emissions from the Kwinana Industrial Area (KIA), using the Kwinana Industrial Council's (KIC) cumulative model.

The acoustic modelling incorporated 'worst case' wind conditions. These wind conditions comprise a temperature inversion in conjunction with light winds travelling in the direction from noise source to the receivers. The sound power levels used in the acoustic modelling were based on measurements of the existing plant and equipment at the CCKP. The noise emissions from the proposed expansion were based on similar equipment or noise data from Adelaide Brighton plants in other Australian locations.

The predicted change in noise levels received at all modelled residential receptors from the expanded CCKP are detailed in Table 2. The proximity of these receptors to the premises location is depicted in Figure 3. The modelling predicts that noise levels received at the modelled residential receptors will comply with the assigned noise levels in the Noise Regulations over a 24-hour period. The highest predicted overall noise level associated with the expanded CCKP is 27 dB at Medina, approximately 8 dB lower than the night-time assigned noise level at this location. The acoustic model predicted that the noise levels received at each of the modelled residential receptors would increase by between 3 and 6dB in response to the expansion of the CCKP. As predicted noise levels associated with the expanded CCKP are more than 5 dB below the assigned levels, the applicant does not expect to significantly contribute to the noise level received at the modelled sensitive receptors.

Table 2: Predicted change in the noise levels received at the modelled residential receptors from the expanded CCKP (background noise emissions not included).

Residential Receptor	Predicted noise levels	
	Existing Operations, L_{A10} dB(A)	Existing and Expanded Operations, L_{A10} dB(A)
East Rockingham	15	18
Hillman	7	13
Leda	13	18
Calista	18	22
Medina	23	27

HSA added the predicted noise emissions from the expanded CCKP to the KIC predicted night time 'worst case' noise emissions model to determine whether noise emissions from the expanded CCKP would be significant in the context of the cumulative noise emissions. The cumulative assessment determined that noise received at the modelled residential receptors is dominated by the overall noise emissions from the KIA, with the predicted contribution from the expanded CCKP deemed to be relatively insignificant. The cumulative noise modelling did however predict that under 'worst case' noise transmission conditions, noise levels received at night at the modelled sensitive receptors would be between 35 dB and 40 dB, therefore exceeding the night time assigned level.

The acoustic modelling conducted by HSA was reviewed by the department and was found to have utilised an appropriate methodology and algorithms, along with assumptions and input data which seem acceptable and reliable. The modelled noise emission levels for both the existing and expanded operations are considered reasonable and reliable.

The modelled results indicated that together with the proposed expansion, noise emissions from CCKP would comply with the Noise Regulations at all noise sensitive premises, which appeared correct to the Delegated Officer, as the highest predicted overall noise level associated with the proposed expansion is 27 dB(A) at Medina, at least 8 dB lower than the nigh-time assigned noise at this location. As noise emissions from CCKP will not 'significantly contribute' to a level of noise which exceeds the assigned level, as specified in Regulation 7(2) of the Noise Regulations, no noise controls were proposed by HSA.

As stated by HSA, the cumulative noise emissions from the KIA have already exceeded the assigned levels at a number of noise sensitive receptors. Because of the large number of noise emitters within KIA, the assigned level at the noise sensitive receptors can still be cumulatively exceeded, even if each of the industries can manage its noise emissions to meet a noise level 5 dB below the assigned level at these receptors. In a situation like KIA, meeting a level 5 dB below the 'assigned level' at the noise sensitive receptors may not be sufficient. Noise emissions from CCKP with the proposed expansion, though relatively insignificant, still will contribute to the cumulative noise emission levels from KIA, particularly at Medina, where the noise emission level from Cockburn Cement will be increased from 23 dB(A) to 27 dB(A).

Although the Delegated Officer agrees that noise emissions from the expanded CCKP will comply with the assigned noise levels at all noise sensitive receptors and at the adjacent industrial premises boundaries, the proposed expansion will likely significantly increase the overall noise emission levels from Cockburn Cement (from 3 to 6 dB). The risk assessment of noise and any controls on a works approval will need to take into account the fact that the cumulative noise emission levels from KIA have already exceeded assigned levels at noise sensitive receptors.

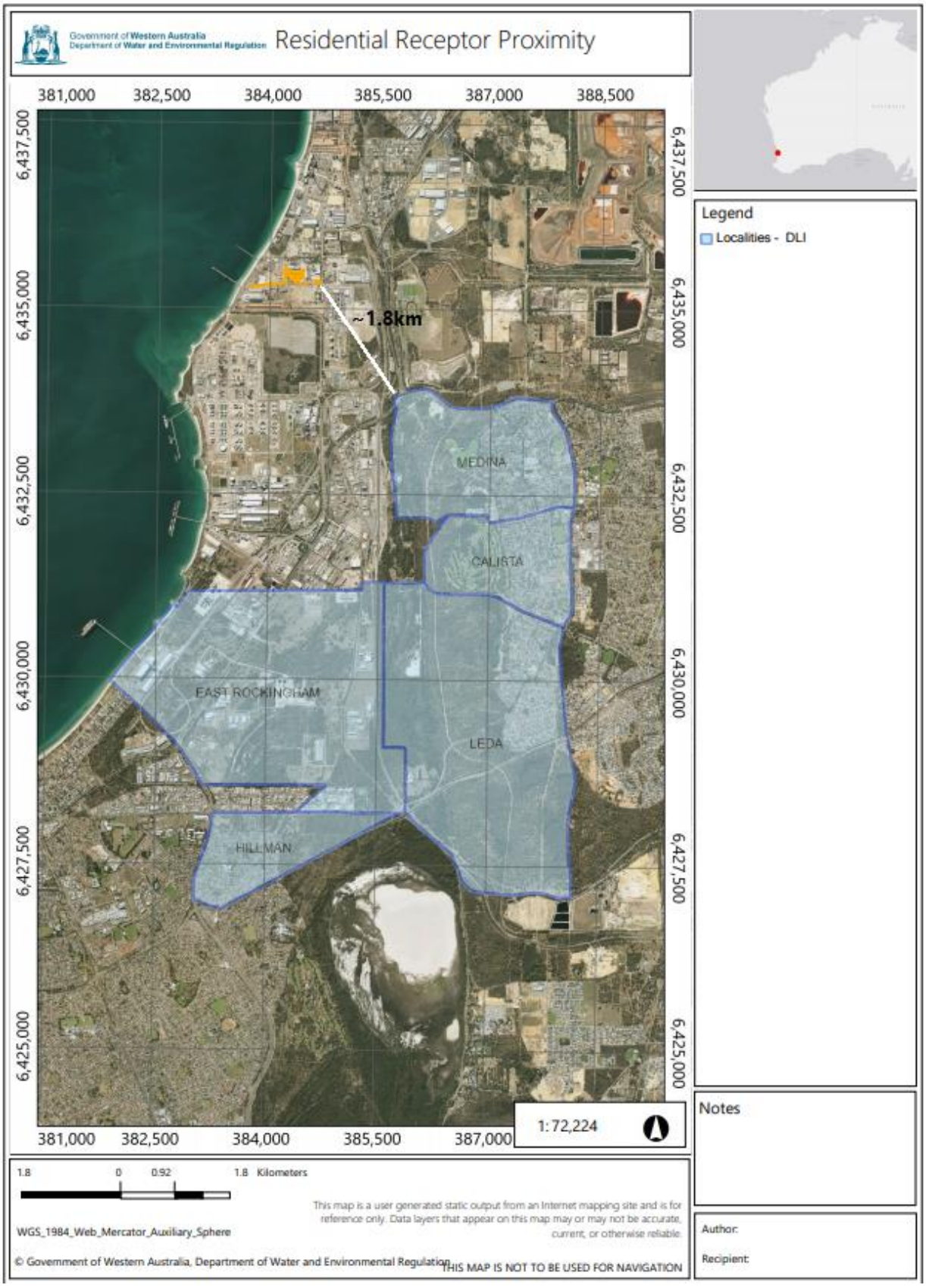

Figure 3: The proximity of the proposed infrastructure to the boundaries of the nearby suburban localities the subject of the acoustic modelling.

6. Risk assessment

The department assesses the risks of emissions from prescribed premises and identifies the potential source, pathway and impact to receptors in accordance with the *Guidance Statement: Risk Assessments* (DER 2017).

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.

6.1 Source-pathways and receptors

6.1.1 Emissions and controls

The key emissions and associated actual or likely pathways during premises construction and operation which have been considered in this Decision Report are detailed in Table 3 below. Table 3 also details the control measures the applicant has proposed to assist in controlling these emissions, where necessary.

Table 3: Proposed emission sources and applicant controls during the construction and operation of the premises

Emission	Sources	Potential pathways	Proposed controls
Construction			
Dust	Clearing of remnant vegetation, earthworks, erection of structures and movement of vehicles and equipment on unsealed areas.	Air / windborne pathway	• Dampening roads, tracks and material stockpiles during construction; • Covering trucks transporting loose materials; and • Stabilising and rehabilitating disturbed areas as soon as practicable.
Noise			• Construction works will be limited to between 7:00am and 7:00pm, Monday to Saturday. Construction works will not be undertaken on Sundays or public holidays.
Chemical storage	Spills of chemicals and hydrocarbons used by vehicles and equipment to undertake construction activities at the premises.	Seepage through the soil profile into groundwater	• The existing site storage areas for lubricants, oils, chemicals and hydrocarbons at the site will be used to support construction activities; and • Any additional chemical and hydrocarbon storage required to support construction activities will comprise a designated, contained, covered area featuring self-bunded containers or designated bunding pallets;
Commissioning and Operation			
Dust	Receival and transport of materials used in cement product manufacturing.	Air / windborne pathway	• All conveyors will be covered on three sides; and • The transfer stations situated along the conveyor network will be enclosed with dust collectors.
	Storage of materials used in cement product manufacturing.		• The new clinker storage shed will comprise a fully enclosed structure; • Dust collectors will be installed in the new clinker storage shed; • Heavy equipment access doors will be provided at both the eastern and western end of the new clinker storage shed; • The new clinker storage shed will be maintained at negative pressure during periods of material loading and material movement; and • Smaller quantities of material bought to the premises by truck will be deposited into unloaders which include dust collectors.
	Clinker reclaiming circuit		• The clinker reclaiming circuit will be contained in a fully enclosed structure; and • The clinker reclaiming circuit will be fitted with dust collectors.
	Production of cement product lines		• All day bins will be fitted with dust collectors; • The ball mills will be situated within a completely enclosed structure; • The feed from the day bins to the ball mills will be via conveyors covered on three sides; • All bucket elevators will be fully enclosed and connected to dust collectors • Each grinding mill ball circuit will have an independent dust collection system which is separate from the mill ventilation system; • All dust collectors will be fitted with bag filters, which will not exceed an air to cloth ratio of $2m^3/min/m^2$; • Dust collectors will meet design criteria of $<10mg/m^3$ particulate matter; • Broken bag detectors will be fitted to all dust collector units and will notify the plant control system in the event of a dust collector malfunction through alarms; • The discharge from the grinding mill dust collectors will be ducted to an independent induced draft fan for each ball mill circuit. This in turn will discharge into an independent exhaust stack for each circuit; and • Instrumentation to sense differential pressure and automatically clean the grinding mill dust collectors will be installed across these dust collectors.
	Off-spec bins		• Each of the bins will be fully enclosed; and • Each of the bins will be fitted with a dust collector.
	Product transfer system		• The product transfer systems will be fully enclosed.
	Storage of final products prior to dispatch.		• All bucket elevators feeding the finished product silo's will be fully enclosed and connected to dust collectors; • Final products will be stored within enclosed silos each fitted with a dust collector; and • A high-level warning indicator and a relief valve will be installed at each silo.
	Finished product dispatch		• Dust collectors will be installed on the finished product dispatch system; • The truck loading bays will be constructed under the finished product silo's; and • The truck loading bays will be enclosed.
	Discharge from dust collectors (except of those linked to the grinding mill).		• All dust collectors will be fitted with bag filters, which will not exceed an air to cloth ratio of $2m^3/min/m^2$; • Dust collectors will meet design criteria of $<10mg/m^3$ particulate matter; • Broken bag detectors will be fitted to all dust collector units and will notify the plant control system in the event of a dust collector malfunction through alarms; and • All dust collectors will discharge into a hopper, vessel, enclosed conveyor, the next stage of a transport process, building, transfer tower, or to an outlet which is within one metre of the ground.
Noise	Receival, storage, movement and processing of raw materials to create finished products. The movement and storage of finished products prior to dispatch to customers.		• Noise levels will not exceed 80 dB at 1 metre from the perimeter of the grinding mill building.
Contaminated storm water	Spilt raw materials and chemical and hydrocarbon contamination from spills.	Infiltration through the storm water basins to groundwater.	• Storm water basins 6, 7 and 8 will only receive non-contaminated surface water flows for disposal; • Storm water basin 1 will only receive non-contaminated surface water flows and recycled water from the truck wash area recycled water tank; • The raw material stockpile area will be contoured to create a shallow basin and be surrounded by an earthen swale; • The earthen swale surrounding the raw material stockpile area will divert uncontaminated storm water into storm water basin 7; • The shallow basin established in the raw material stockpile area will be sized to capture the first 30 minutes of a 20-year annual recurrence interval rainfall event; • The road between the silo loading area and the truck wash will be designed to direct storm water into a first-flush concrete sediment trap; and • The first-flush concrete sediment trap will be installed up-gradient of storm water disposal basin 1 and will be sized to collect the first 30 minutes of a 20-year annual recurrence interval rainfall event

Emission	Sources	Potential pathways	Proposed controls
Sediment and hydrocarbon contaminated water from truck washing activities	Cleaning of trucks prior to leaving the premises.		• The truck wash water will be sent to a sump and a sediment tank, prior to progressing through a primary and secondary settlement tank; • The sump will be constructed out of concrete and have a minimum capacity of 5,000 litres, with the sediment tank appropriately designed and sized to allow particulate matter to settle out and prevent this material drying out; • Sediment levels in the sediment tank will be monitored; • Sediment which accumulates in the sediment tank will be periodically cleaned out and disposed of to a licensed waste facility; • Oily water generated from the oily water separator will be contained in a dedicated tank. This oily water will be periodically removed from site for disposal at an appropriately licensed waste facility; and • Recycled wash water stored in the recycled water tank at the truck wash area will be periodically replaced with freshwater. Prior to being replaced the recycled water will be tested. If the quality of this water is acceptable, this water will be discharged into storm water basin 1 for disposal. If the water quality is not acceptable, it will be pumped into a tanker truck and disposed of off-site at an appropriately licensed facility.
Chemical spills	Chemical storage areas at the premises	Seepage through the soil profile into groundwater.	• Existing site storage areas for chemicals and hydrocarbons will be used to support the expanded CCKP. Grinding aids will be stored within four self bunded tanks, each with a capacity of 10,000 litres; and • Grinding aid tanks will be located adjacent to the new grinding mill and situated next to a dedicated sealed and bunded hardstand area, to prevent spills during replenishing of the grinding aids.

6.2 Receptors

In accordance with the *Guidance Statement: Risk Assessments* (DER 2017), the Delegated Officer has excluded employees, visitors and contractors of the applicant's from its assessment. Protection of these parties often involves different exposure risks and prevention strategies, and is provided for under other state legislation.

Table 4 below provides a summary of potential human and environmental receptors that may be impacted as a result of activities upon or emission and discharges from the prescribed premises *(Guidance Statement: Environmental Siting* (DER 2016)). The distance between the premises and human and environmental receptors is shown in Figure 4.

Table 4: Sensitive human and environmental receptors and their distance from the premises

Human receptors	**Distance from the premises**
Industrial Receptors	Approximately 30 metres east of the premises boundary.
Thomas oval	Approximately 2.9 kilometres south east of the premises.
Kwinana golf course	Approximately 4 kilometres south east of the premises.
Residential receptors	• Abercrombie Road, situated approximately 2.8 kilometres south east of the premises; • Medina, situated approximately 2.9 kilometres south east of the premises; and • Wattleup, situated approximately 3.7 kilometres north east of the premises.
Environmental receptors	**Distance from the premises**
Important wetlands – Western Australia	Spectacles swamp is situated 5.3 kilometres east southeast of the premises.
Parks and Wildlife Managed Lands and Waters	Beeliar Regional Park is situated approximately 1.5 kilometres north of the premises.

Figure 4: Distance to sensitive human receptors

6.3 Risk ratings

Risk ratings have been assessed in accordance with the *Guidance Statement: Risk Assessments* (DER 2017) for each identified emission source and takes into account potential source-pathway and receptor linkages as identified in Section 6.1. Where linkages are in-complete they have not been considered further in the risk assessment.

Where the applicant has proposed mitigation measures/controls (as detailed in Section 6.1), these have been considered when determining the final risk rating. Where the Delegated Officer considers the applicant's proposed controls to be critical to maintaining an acceptable level of risk, these will be incorporated into the works approval as regulatory controls.

Additional regulatory controls may be imposed where the applicant's controls are not deemed sufficient. Where this is the case the need for additional controls will be documented and justified in Table 5.

Works Approval W6381/2020/1 that accompanies this Decision Report authorises construction, commissioning of infrastructure and time-limited operations. The conditions in the issued Works Approval, as outlined in Table 5 have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

An amendment to the existing licence L8683/2012/1 will be required to authorise emissions associated with the ongoing operation of the Premises. A risk assessment for the operational phase has been included in this Decision Report, however conditions for an amended licence will not be finalised until the department assesses the licence amendment application.

Table 5: Risk assessment of potential emissions and discharges from the premises during construction, commissioning and operation

Risk Event					Risk rating[1] C = consequence L = likelihood	Applicant controls sufficient?	Applicable works approval conditions	Reasoning
Source/Activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Applicant controls**				
Construction								
Vehicle and equipment movements, clearing of remnant vegetation and the establishment of the proposed infrastructure.	Dust Noise	Air/windborne pathway causing impacts to health and amenity	Industrial receptors in the local area. Sensitive receptors situated between 2.8 and 3.7 kilometres from the premises.	Refer to Section 6.1	C = Minor L = Rare **Low Risk**	Y	NA	When the controls proposed by the applicant are considered alongside the industrial nature of the existing activities at the premises, its immediate surrounds and the distance between the premises and sensitive receptors, the construction activities are unlikely to impact the health and amenity of personnel at nearby industrial premises or the occupants of sensitive receptors. In addition to the above, the construction works undertaken at the premises will be subject to the requirements of the Noise Regulations.
Storage of chemicals and hydrocarbons used to support the operation of vehicles and equipment during the construction of the premises infrastructure.	Spills of chemicals and hydrocarbons.	Seepage through the soil profile, leading to the contamination of underlying groundwater resources.	The Cockburn Groundwater Area.		C = Slight L = Rare **Low Risk**			Given the controls proposed by the applicant, the storage of chemicals and hydrocarbons for construction activities is not anticipated to result in significant spills with the potential to adversely impact local groundwater resources.
Commissioning and Operation (including the time-limited-operations phase)								
Receival, storage, movement and processing of raw materials to create finished products. The movement and storage of finished products prior to dispatch to customers.	Dust and Particulate Matter	Air/windborne pathway causing impacts to health and amenity	Industrial receptors in the local area.	Refer to Section 6.1	C = Moderate P = Possible **Medium Risk**	Y	Conditions 1, 2 and 3. Conditions 4, 5, 6, 7, 8, 9 and 10. Conditions 14 and 15. Conditions 16, 17, 18, 19, 20, 21, 22, 23 and 26. Conditions 27 and 28.	As discussed in Section 4 of this report, the Delegated Officer notes that the air quality model provided by the applicant contained several conservative assumptions and did not assess the impact of the expanded CCKP on nearby industrial receptors. The Delegated Officer assessed the potential impact of the expanded CCKP on nearby industrial receptors through an interpretation of the contour plots provided in the air quality assessment. The interpretation of the contour plots determined that the existing and expanded CCKP could result in exceedances of air quality criteria at nearby industrial receptors when these developments were considered in isolation, as well as when background pollutant concentrations were considered. A review of ambient monitoring data reported to the department determined the Kwinana EPP 24 hour TSP standard and NEPM PM_{10} 24 hour average criteria are already exceeded in Area's A and B of the Kwinana EPP, periodically. It was also identified that there were a number of factors that likely contributed to overestimations in predicted ground level impacts. The modelling outcome is likely to be partly in response to the extensive number of proposed point source emissions to air of a smaller scale (e.g. silo vents, building vents and reclaiming circuits) in addition to existing sources. The applicant agreed to amend the construction of these point emission sources such that they discharge into either enclosed infrastructure or an outlet situated within one metre of the ground. These infrastructure changes are consistent with the requirements in r.7 of the *Environment Protection (Concrete Batching and Cement Product Manufacturing) Regulations 1998* (the concrete batching regulations). As a result of these changes, only the four emission points associated with the grinding mill will remain as pojnt source emissions to air. Requirements governing the management of additive and aggregate stockpiles at the premises have also been included in the works approval by the Delegated Officer, in lieu of air quality modelling quantifying the impact of emissions from these stockpiles on nearby industrial receptors. A more detailed risk assessment of particulate emissions on industrial receptors is provided in Section 6.4 of this report.
			Sensitive receptors situated between 2.8 and 3.7 kilometres from the premises.		C = Minor P = Rare **Low Risk**	Y	Conditions 1, 2 and 3. Conditions 4, 5, 6, 7, 8, 9 and 10. Conditions 14 and 15. Conditions 16, 17, 18, 19, 20, 21, 22, 23 and 26. Conditions 27 and 28.	As discussed in Section 4 of this report, the air quality criteria were initially at risk of being exceeded. However, as also discussed in Section 4 of this report, this was based on a number of factors in the air quality model which likely contributed to overestimations of the predicted impact. The modelled high impact was a result of the large number of proposed smaller point sources to air (e.g. silo vents, building vents and reclaiming circuits) in addition to existing sources. The applicant amended the construction of these point emission sources such that they discharge into either enclosed infrastructure or an outlet situated within one metre of the ground, as described in the concrete batching regulations. As a result of these changes, only the four emission points associated with the grinding mill will remain as emission points to air that may have off site impacts. In addition, the sensitive receptors modelled in the air quality model are situated a minimum of 2.8 kilometers from the premises. The aforementioned infrastructure changes and their anticipated impact on air emissions from the premises, alongside the distance between the premises and sensitive receptors, have contributed to the assessed 'low risk' outcome. A more detailed risk assessment of particulate emissions on sensitive receptors is provided in Section 6.5 of this report.
Receival, storage, movement and processing of raw materials to create finished products. The movement and storage of finished products prior to dispatch to customers	Noise	Air/windborne pathway causing impacts to health and amenity	Industrial receptors in the local area. Sensitive receptors situated between 2.8 and 3.7 kilometres from the premises.	Refer to Section 6.1	C = Moderate P = Possible **Medium Risk**	N	Conditions 1, 2 and 3. Conditions 4 and 5. Conditions 11, 12, and 13. Conditions 14 and 15. Conditions 16, 17 and 18. Conditions 27 and 28.	The applicant's noise impact assessment, including modelling, is discussed in Section 5 of this report. The modelled results indicated that together with the proposed expansion, noise emissions from the CCKP would comply with the Noise Regulations at all noise sensitive premises. The highest predicted overall noise level associated with the proposed expansion is 27 dB(A) at Medina, at least 8 dB lower than the night-time assigned noise at this location therefore assessed not to 'significantly contribute' to a level of noise which exceeds the assigned level under r. 7(2) of the Noise Regulations. However, cumulative noise emissions from the KIA have already exceeded the assigned noise levels at a number of noise sensitive receptors. Because of the large number of noise emitters within the KIA, the assigned noise levels at the noise sensitive receptors can still be cumulatively exceeded, even if each of the noise sources in the KIA can manage its noise emissions to meet a noise level 5 dB below the assigned level when received at these receptors. The Delegated

Risk Event					Risk rating[1] C = consequence L = likelihood	Applicant controls sufficient?	Applicable works approval conditions	Reasoning
Source/Activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Applicant controls**				
								Officer noted that predicted noise emissions from the expanded CCKP, though relatively insignificant when considered in isolation, will still contribute to the cumulative noise emissions from the KIA received at nearby sensitive receptors. This is particularly notable at Medina, where the expansion of the CCKP will increase the noise level received at this receptor from the CCKP from 23 dB(A) to 27 dB(A). Taking the applicant's noise impact assessment into account, the Delegated Officer will require the applicant to undertake a noise monitoring and validation program during the environmental commissioning period. The noise monitoring and validation program will be required to determine if noise levels at the premises boundary meet the assigned levels in the Noise Regulations and are consistent with its noise impact assessment predictions.
Contaminated storm water	Sediment and contaminant laden water.	Seepage through the underlying soil profile leading to the contamination of underlying groundwater resources. Infiltration or intentional disposal of contaminated water through the storm water disposal basins leading to the contamination of underlying groundwater resources.	The Cockburn Groundwater Area.		C = Minor L = Unlikely **Medium Risk**	Y	Conditions 1, 2 and 3. Conditions 4 and 5.	The potential sources of storm water contamination (outside of truck loading activities) at the premises are sediment originating from the raw material stockpiles to be established at the premises, along with the heavy vehicles which are operating in the raw material stockpile area. All other activities, besides truck loading activities, will take place within enclosed buildings. The applicant has proposed to contour the raw material stockpile area to create a basin which will capture sediment from the raw material stockpile area. The raw material stockpile area will be surrounded with an earthen swale to prevent clean storm water from entering this area. Chemicals and hydrocarbons spilled in this area from vehicles and equipment will be managed according to existing chemical spill procedures at the premises. Clean storm water re-directed by the aforementioned earthen swale will be sent to storm-water basin 7 for disposal. The road linking the truck loading area to the truck wash area will direct storm-water towards a first flush concrete sediment trap, to allow any cement residue on the trucks deposited on this road to be captured during rainfall events. Given the above controls proposed by the applicant, it is considered unlikely that the operation of the premises will result in adverse impacts to local storm water quality. The Delegated Officer notes the applicant has not provided any further information regarding how contaminated storm water contained at the premises will be disposed of. The Delegated Officer has therefore placed conditions on the Works Approval which prevent the disposal of contaminated storm water through the storm water basins.
Truck wash water					C = Minor L = Unlikely **Medium Risk**	N	Conditions 1, 2 and 3. Conditions 4 and 5. Conditions 14 and 15. Conditions 16, 17 and 18. Conditions 19 and 20. Conditions 24, 25 and 26. Conditions 27 and 28.	The truck wash water system is designed to act as a closed system which directs the wash water through a sump, a sediment tank, primary and secondary settlement tanks and an oil water separator before sending this water to a recycled water tank. The recycled water tank will be periodically refilled with fresh water. Water in the recycled water tank will be tested prior to refilling. Recycled water which is of suitable quality will be discharged to storm water basin 1 for disposal via evaporation and infiltration, with recycled water which does not meet this standard contained for off-site disposal. Therefore, no environmental discharges of water laden with contaminants are anticipated to occur as a result of truck washing activities at the expanded CCKP. The Delegated Officer notes the applicant has not provided design criteria for the oil water separator or minimum criteria for the truck wash water to meet prior to disposal through storm water basin 1. The Delegated Officer has therefore specified limits truck wash water must meet prior to disposal through storm water basin 1 to ensure the disposal of this water remains consistent with WQPN 68.
Chemical and Hydrocarbon Storage	Spills of chemicals and hydrocarbons.	Seepage through the soil profile, leading to the contamination of underlying groundwater resources.			C = Minor L = Unlikely **Medium Risk**	Y	Conditions 1, 2 and 3.	Existing chemical and hydrocarbon storage areas will be used for any additional storage of chemicals and hydrocarbons. Additional grinding aids required to support operations at the premises will be stored within four self bunded storage tanks, each with a capacity of 10,000 litres. These storage tanks will be situated with an adjacent sealed and bunded hardstand to capture spills during refilling and handling of the grinding aids. Given the controls proposed by the applicant, it is considered unlikely that significant spills and seepage of chemicals and hydrocarbons will occur at the premises.

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the *Guidance Statement: Risk Assessments* (DER 2017).

Note 2: Proposed applicant controls are depicted by standard text. **Bold and underline text** depicts additional regulatory controls imposed by department.

6.4 Risk Assessment – Particulate Emissions Received at Industrial Receptors

6.4.1 Description of Risk Event

Particulate matter will be discharged into the environment during the different stages of cement manufacturing and distribution from the expanded CCKP. These emissions have the potential to adversely impact the health and amenity of people at nearby industrial receptors.

6.4.2 Identification and general characterisation of the emission

Emissions of particulate matter are expected to result from the receival, storage and processing of raw ingredients, and the storage and distribution of finished products on the premises. Key particulate matter emission sources from the expanded CCKP are anticipated to include the new clinker storage shed, off-spec bins, finished product silos, truck loading infrastructure and the grinding mill.

As discussed in Section 4 of this report, the applicant's air quality modelling assessment predicts that particulate matter emissions from the existing CCKP have the potential to result in the exceedance of air quality criteria (Kwinana EPP and NEPM) at nearby industrial receptors, even when background pollutant concentrations were not considered. The air quality model assumed the emission controls described in Section 6 would be fully implemented and the emission rate from each emission source would be 15mg/m^3 (150% of the design criteria of 10mg/m^3 for the dust controllers), to ensure emission contributions from each emission source were conservative in nature. As was also discussed in Section 4, other assumptions made in the air quality model contributed to its conservative nature.

A review of ambient monitoring data reported to the department for monitoring stations in the Kwinana EPP Area's A and B determined the Kwinana EPP 24 hour TSP standard and NEPM PM_{10} 24 hour average criteria are already exceeded periodically. A review of DWER's internal incident reporting system determined that no complaints have been received regarding dust and particulate matter emissions from the existing CCKP since 2007, with the exception of a self-reported incident from October 2017 when dust from a cleared area blew into a neighbouring premises.

The Delegated Officer notes that reducing the number of particulate matter emission sources within the expanded CCKP will reduce the risk of air quality criteria exceedances at receptors. Several particulate matter emission sources within the expanded CCKP can be configured to prevent the emission of particulate matter into the atmosphere with simple infrastructure changes. This includes configuring infrastructure including the new clinker storage shed, the clinker reclaiming infrastructure, the clinker truck receival and unloading facility, the finished product silos, finished product discharge system and 'off-spec' bins to discharge particulates into a hopper or an outlet situated within one metre of the ground. These changes will align this infrastructure with requirements contained in Regulation 7 of the concrete batching regulations, which requires discharges from cement silos to be directed into a weigh hopper or an outlet within one metre of the ground.

The applicant has reconfigured the proposed infrastructure at the premises. Consequently, all emissions sources associated with the expanded CCKP (with the exception of the grinding mill process and vent filters) have been reconfigured to discharge their emissions into enclosed infrastructure or an outlet within one metre of the ground. This has reduced the number of point emission sources to the air proposed as part of the expanded CCKP from 53 to four.

The Delegated Officer has established an emission limit from the grinding mill vent and process filters of 50 mg/m^3 during the premises commissioning and operational phases. This represents an increase in the particulate matter emission limit originally established through this works approval of 10mg/m^3. The Delegated Officer established this revised emission limit on the

grounds that this limit is the criteria for air cleaning systems in Regulation 7 of the concrete batching regulations and is readily achievable with contemporary dust collectors used in cement production applications. This emissions limit is also anticipated by the Delegated Officer to ensure air quality criteria are met, when considered in the context of the applicant reconfiguring the majority of proposed emission sources at the premises to discharge within enclosed infrastructure or outlets within one metre of the ground.

In addition to the above, the applicant's design criteria for the dust collectors associated with the grinding mill is 10mg/m^3. Therefore any exceedance of the new particulate matter emissions limit of 50mg/m^3 during either commissioning or operations would not be likely to result due to either the need to stabilise dust collectors after installation or an erroneous reading during air emissions monitoring campaigns. Such an exceedance would reflect sub-par performance of the dust collectors, requiring the applicant to take steps to resolve this exceedance.

The Delegated Officer also notes that limiting the height of additive and aggregate stockpiles and requiring working faces to be stabilised in a timely manner, will reduce the potential for particulate matter and dust emissions from these stockpiles to impact nearby industrial receptors.

6.4.3 Description of potential adverse impact from the emission

Particulate matter has the potential to impact human health as it can affect both the respiratory and cardiovascular systems, following both long and short-term periods of exposure. Long term repeated exposure to particulate matter is more detrimental than short term sporadic exposure, with the most severe effects being reduced life expectancy due to long-term exposure. PM_{10} and $PM_{2.5}$ pose greater health risks as they may be drawn deep into the lungs. Particulate matter greater in size than 10 µm is generally associated with nuisance or amenity impacts with a lower potential for health impacts as particles are typically trapped within the nose, mouth or throat. In addition to particle size, the health impacts of particulate matter are influenced by the chemical composition of the particles and mass concentration of airborne particles.

Dust can also cause nuisance or amenity impacts as it has the potential to interfere with both personal convenience and comfort.

6.4.4 Criteria for assessment

Refer to Table 1 in Section 4.

6.4.5 Applicant controls

Refer to Section 6.1.

6.4.6 Consequence

The nearest receptors are the industrial premises in the immediate vicinity of the expanded CCKP. Based on modelling results, particulate matter emissions from the expanded CCKP are predicted to exceed specific consequence criteria for public health at nearby industrial receptors. These exceedances were predicted to occur both when the expanded CCKP was considered in isolation and when background emissions sources were included in the air quality modelling.

As stated earlier, the applicant has reconfigured the majority of the emission sources from the expanded CCKP to discharge into enclosed infrastructure or within outlets situated within one metre of the ground. This has significantly reduced the number of air emission sources associated with the expanded CCKP to only the process and vent filters associated with the grinding mill. In light of the proposed infrastructure changes, the specific consequence criteria are now considered to be at risk of not being met at nearby industrial receptors.

The Delegated Officer therefore considers the consequence of the particulate matter emissions

to be **Moderate**.

6.4.7 Likelihood of the Risk Event

The Delegated Officer considered the following:

- the close proximity of industrial premises to the expanded CCKP;
- the 24 hour, seven day a week nature of the expanded CCKP operations;
- reported ambient air quality monitoring results from Area's A and B indicate that particulate matter air quality criteria are periodically exceeded in the Kwinana Industrial Area;
- the air quality modelling predictions and the limitations of the air quality model; and
- the reconfiguration of the air emission sources at the expanded CCKP, with the majority of emission sources discharging into enclosed infrastructure or within outlets situated within one metre of the ground.

The Delegated Officer has determined that the likelihood air quality criteria for particulate matter will be exceeded and adversely impact the health and amenity of people at nearby industrial receptors in response to the operation of the expanded CCKP will probably not occur in most instances. Therefore, the Delegated Officer considers the likelihood to be **Unlikely.**

6.4.8 Overall rating of the Risk Event

The Delegated Officer has compared the consequence and likelihood ratings described above with the risk rating matrix contained in the *Guidance Statement: Risk Assessments* and determined that the overall rating for the risk of particulate emissions from the expanded CCKP adversely impacting the health and amenity of people at nearby industrial receptors is **Medium**.

6.5 Risk Assessment – Particulate Matter Emissions at Residential Receptors

6.5.1 Description of Risk Event

Particulate matter will be discharged into the environment during the different stages of cement manufacturing and distribution from the expanded CCKP. These emissions have the potential to adversely impact the health and amenity of people at nearby residential receptors.

6.5.2 Identification and general characterisation of the emission

Emissions of particulate matter are expected to result from the receival, storage and processing of raw ingredients, and the storage and distribution of finished products on the premises. Key particulate matter emission sources from the expanded CCKP are anticipated to include the new clinker storage shed, off-spec bins, finished product silos, truck loading infrastructure and the grinding mill.

As discussed in Section 4 of this report, the air quality model predicts that particulate matter concentrations at the modelled residential receptors are likely to comply with the relevant air quality criteria in the expanded CCKP scenario, with the exception of the annual $PM_{2.5}$ ground level concentrations. The annual $PM_{2.5}$ ground level concentrations are at risk of exceeding the relevant air quality criteria at the modelled residential receptors due to elevated background $PM_{2.5}$ ground level concentrations. The predicted particulate matter concentrations at the modelled residential receptors comprise a low percentage of the relevant standards when the expanded CCKP is considered in isolation, with the predicted ground level concentrations of these pollutants increasing significantly once background sources are included.

As discussed in Section 6.4.2 of this report, the Delegated Officer noted that reducing the number of particulate matter emission sources within the expanded CCKP will reduce the risk

of air quality criteria exceedances at receptors. As was also discussed in Section 6.4.2 of this report, several particulate matter emission sources within the expanded CCKP can be configured to prevent the emission of particulate matter into the atmosphere with simple infrastructure changes. The applicant has reconfigured these emission sources, thereby reducing the number of point emission sources to the air proposed as part of the expanded CCKP from 53 to four.

In addition, the Delegated Officer has also established an emission limit from the grinding mill vent and process filters of 50 mg/m^3 during the premises commissioning and operational phases, as discussed in Section 6.4.2 of this report.

6.5.3 Description of potential adverse impact from the emission

As discussed in Section 6.4.3 of this report.

6.5.4 Criteria for assessment

Refer to Table 1 in Section 4.

6.5.5 Applicant controls

Refer to Section 6.1.

6.5.6 Consequence

The nearest sensitive receptors comprise residential developments at least 2.8 kilometres from the expanded CCKP. Based on modelling results, particulate matter emissions from the expanded CCKP are predicted to be close to exceeding specific consequence criteria for public health. These exceedances were predicted to occur when the expanded CCKP was considered alongside background emissions sources in the air quality modelling.

As stated earlier in this report, the applicant has reconfigured the majority of the emission sources from the expanded CCKP to discharge into enclosed infrastructure or within outlets situated within 1 metre of the ground, thereby significantly reducing the number of air emission sources associated with the expanded CCKP. As a result of the aforementioned infrastructure changes, specific consequence criteria for public health at nearby sensitive receptors are likely to be met.

The Delegated Officer therefore considers the consequence of the particulate matter emissions to be **Minor**.

6.5.7 Likelihood of the Risk Event

The Delegated Officer considered the following:

- the distance between the expanded CCKP and the sensitive receptors (a minimum of 2.8 kilometres);
- the 24 hour, seven day a week nature of the expanded CCKP operations;
- the air quality modelling predictions and the limitations of the air quality model; and
- the reconfiguration of the air emission sources at the expanded CCKP such that the majority of emission sources will discharge into enclosed infrastructure or within outlets situated within one metre of the ground.

The Delegated Officer has determined the likelihood that air quality criteria for particulate matter will be exceeded and adversely impact the health and amenity of people at nearby residential receptors may only occur in exceptional circumstances. Therefore, the Delegated Officer considers the likelihood to be **Rare.**

6.5.8 Overall rating of the Risk Event

The Delegated Officer has compared the consequence and likelihood ratings described above with the risk rating matrix contained in the *Guidance Statement: Risk Assessments* and determined that the overall rating for the risk of particulate emissions from the expanded CCKP adversely impacting the health and amenity of people at sensitive receptors is **Low**.

7. Consultation

Table 6 provides a summary of the consultation undertaken by the department.

Table 6: Consultation

Consultation method	Comments received	Department response
Application advertised on the department's website (9 April 2020 – 30 April 2020).	None received	N/A
Local Government Authority advised of proposal (18 June 2020).	None received	N/A
Applicant comments on draft Works Approval and Decision Report Documents.	The applicant responded on 26 February 2021. Comments and suggested amendments and changes are summarised in Appendix 1. Typographic errors were also identified. Updated drafts were further provided to the applicant for a shortened comment period. The applicated advised of no further comments on 31 March 2021.	Refer to Appendix 1, typographic errors were corrected where identified.

8. Decision making

The Delegated Officer has determined to grant a works approval to expand the existing CCKP and increase its production capacity to 1.53 Mtpa. This determination is a result of the controls proposed by the applicant. In addition, supplementary controls have been required by the Delegated Officer in response to the outcomes of the air quality and noise modelling assessments undertaken in support of this application, as detailed earlier in this report. When the aforementioned controls are implemented, the Delegated Officer does not anticipate off site impacts will arise from the operation of the expanded CCKP at either nearby industrial receptors or the nearest residential receptors. Controls will be imposed on the works approval to specify infrastructure design and construction requirements.

Controls specifying requirements pertaining to the commissioning of the infrastructure and time limited operation of the infrastructure have also been imposed on the works approval to allow for these activities to occur and ensure they do not result in unacceptable risks to public health and the environment. The controls included are based on those proposed by the applicant.

An amendment to existing licence L8683/2012/2 will be required following construction and commissioning of the works, to include the infrastructure associated with the expanded CCKP and authorise ongoing operations.

9. Conclusion

Based on the assessment in this Decision Report, the Delegated Officer has determined that a works approval will be granted, subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

References

1. Cockburn Cement Limited 2016, *Cockburn Cement Limited Kwinana storm water management plan*, Reference: KWN-HSE-PL-1600, Perth, Western Australia.
2. Department of Environment Regulation (DER) 2016, *Guidance Statement: Environmental Siting*, Perth, Western Australia.
3. DER 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia
4. DER 2017, *Guidance Statement: Risk Assessments*, Perth, Western Australia.
5. Department of Water 2013, *Water quality protection note (WQPN) 68: Mechanical equipment wash down*, Perth, Western Australia.
6. Environmental Technologies & Analytics 2020, *Cockburn Cement Kwinana Plant upgrade: air quality assessment, Final Report Version 2.* Prepared for Cockburn Cement Limited, Project Number: 1153, Perth, Western Australia.
7. Golder Associates Pty Ltd 2020, *Cockburn Cement Kwinana Plant Cement Milling Upgrade* (and attachments), Reference No. 1792429-005-L-Rev0, West Perth, Western Australia.
8. Golder Associates Pty Ltd 2020, *Application for a Works Approval under the Environmental Protection Act 1986 – Request for Further Information – W6381/2020/1 – Initial Response*, Reference No. 1979429-010-L- Rev0.
9. Herring Storer Acoustics 2020, *Acoustic assessment Cockburn Cement Kwinana expansion for Golder Associates Pty Ltd*, Reference: 26061-5-20175, Como, Western Australia
10. Cockburn Cement Limited 2021, *Draft Works Approval and Decision Report Review: W6381/2020/1, and associated attachments (DWERDT420899)*, Perth, Western Australia.

Appendix 1: Summary of applicant's comments on risk assessment and draft conditions

Condition	Summary of applicant's comment	Delegated Officer (DO) response
Condition 5, Table 1; and Condition 18, Table 5. Requirement to keep the clinker storage shed under negative pressure at all times.	The applicant advised that based on their operational experience, the potential for dust generation from the clinker storage shed occurs during times of material loading and material movements. The applicant advises that when the clinker is being loaded, all de-dust systems will be in operation. This system will be a fully automated process and therefore material handling without the de-dust system operating and creating a negative pressure operating environment will not occur.	The DO accepted the applicant's advice and amended the requirements of Table 1 and Table 5 to require the clinker storage shed to be maintained at negative pressure only during times of material loading and movement.
Condition 5, Table 1; and Condition 18, Table 5. Product transfer system requirements	The applicant advises that the product which has reached the required product quality specification is to be transported to the silo storage banks via a system of air slide conveyors and bucket elevators and then stored in the eight new steel silos. Finished product will also be conveyed to the existing bulk product silos for packing plant and bulk despatch. Given the above, the applicant advised that a more accurate description of this infrastructure would be a 'fully enclosed product transfer system'.	The DO accepted the applicant's advice and amended the requirements of Table 1 and Table 5 to require the final product to only be transported to the silos by a fully enclosed product transfer system.
Condition 5, Table 1; Condition 18, Table 5 and Schedule 2, Table 11, Truck wash area requirements.	The applicant provided an updated description of the truck wash down area to be installed as part of the expansion of the CCKP.	The DO accepted the provided description of the truck wash area and updated the wording of the Table 1, Table 5 and Table 11 to reflect this description of the truck wash area.
Condition 6, Table 2.	The applicant clarified the title of emissions points N29A, N29B, N30A and N30B, associated with the grinding mill.	The DO updated the wording Table 2 to reflect the correct titles for emissions points N29A, N29B, N30A and N30B.
Condition 7, Table 3 and Condition 20, Table 7.	The applicant requested an 'assessment reference value' or 'target' in lieu of a 'limit' for particulate matter emissions, to validate actual particulate matter emissions performance during commissioning period. The applicant further stated that DWER had acknowledged in a meeting held on 9 February 2021 that the performance of the bag houses may fluctuate during the commissioning of this infrastructure. The applicant advised that they disagreed with setting a compliance limit during the environmental commissioning period, particularly in the context of the *Guideline: Industry Regulation Guide to Licencing,* which recognises in Section 4.2 that "It is	The DO took into account the applicant's reasoning and formed the view that a particulate limit of 50 mg/m^3 was an appropriate limit to apply to both commissioning and time limited operational phases to ensure protection of amenity and human health taking into account modelling and applicant's source reconfigurations. The limit is also achievable for contemporary baghouse systems in this industry and the limit is consistent with the Concrete Batching Regulations.

Condition	Summary of applicant's comment	Delegated Officer (DO) response
	recognised that in optimising operations, emissions higher than normal operation may occur in the short term until the plant is stabilised."	
Condition 8, Table 4; and Condition 21, Table 8.	The applicant requested US EPA Method 17 be included as an acceptable methodology to sample particulate matter emissions, since this method will allow emissions information to be obtained, while reducing manual handling by emissions sampling technicians.	The DO agreed with this change and added US Method 17 as an acceptable methodology for particulate matter emissions sampling to Table 4 and Table 8.
Condition 19, Table 6.	The applicant advised that there was typographical where Condition 19 referenced Table 7 instead of Table 6. The applicant also applicant clarified the title of emissions points N29A, N29B, N30A and N30B, associated with the grinding mill.	The DO clarified the wording of Condition 19 to refer to Table 6. The Department also updated the wording of Table 6 to reflect the correct titles for emissions points N29A, N29B, N30A and N30B.
Condition 30(c)	The applicant advised there was a typographical error in the wording of this condition, since this Condition should refer to Conditions 8, 21 and 24.	The DO updated the condition to refer to conditions 8, 21 and 24.
Schedule 1, Figure 2.	A revised figure depicting the location of all proposed infrastructure associated with the expanded CCKP was submitted by the applicant.	Figure 2 of the Works Approval was updated to the figure submitted by the applicant depicting the proposed infrastructure.
Schedule 1, Figure 3.	A revised figure depicting the location of discharge points N29A, N29B, N30A and N30B was provided by the applicant.	Figure 3 of the Works Approval was updated to the figure submitted by the applicant depicting the proposed emission discharge points to the air.
Schedule 2, Table 11 (New Clinker Storage Shed)	The applicant advised that they have not yet decided whether the unloaders collecting clinker bought to site by truck will have in-built dust collectors or be connected to a standalone external unit.	The DO updated the wording of the table to require unloaders used to receive clinker brought to site by truck to include dust collectors.
	The applicant advised the discharge points for dust collectors should include outlets within one meter of the ground, hoppers, vessels, enclosed conveyors, buildings, transfer towers or otherwise into an enclosed space.	The DO revised the discharge points dust collectors (except those associated with the grinding mill) can discharge into to include those provided by the applicant. The DO also incorporated this requirement into row 15 of Table 11, since these discharge point requirements apply to all dust collectors associated with the expanded CCKP (with the exception of those linked to N29A, N29B, N30A and N30B).
Schedule 2, Table 11 (Additive feed hopper and day bins)	The applicant advised that the additives used in the cement manufacturing process are damp and wet products. Therefore, the installation of dust collectors is not necessary on the additive feed hopers.	The DO updated the wording of the table to remove the requirement for the additive hopper to be fitted with dust collectors..

Condition	Summary of applicant's comment	Delegated Officer (DO) response
Schedule 2, Table 11 (Grinding mill).	The applicant advised that the overall annual production from the expanded CCKP remains fixed at 1.53 Mtpa. The applicant clarified that the grinding circuit has a designed throughput of 100 tph of cement at a fineness of 400 m^2/kg.	The DO amended the description of the grinding mills to include the fineness criteria provided by the applicant.
Schedule 2, Table 11 (Grinding mill).	The applicant clarified that the stacks linked to the grinding mill each have a height of 50 metres above ground level.	The DO accepted this confirmation of the grinding mills height and updated the wording of Table 11 to reflect this clarification.
	The applicant clarified that Instrumentation to sense differential pressure and automatically clean the ball mill dust collectors will be installed across the ball mill dust collectors and not within the grinding mill stacks.	The DO updated the wording of this table to reflect this clarification of the dust collector cleaning instrumentation.
	The applicant advised that where noise mitigation is required in the design of the expanded CCKP, acoustic design selections will be aimed at achieving a lower sound power emission (if there are no adverse constraints). The requirement for further noise attenuation controls and their specific design thereof will be assessed during the detailed design phase through a comparison of the selected equipment sound power levels versus the defined sound power levels used in the acoustic assessment.	The DO removed all references to specific noise mitigation controls from the Grinding Mill description contained in Table 11. The DO determined that the Works Approval already requires the applicant to undertake a noise emission verification program during the environmental commissioning period through conditions 11-13. These conditions require this program be undertaken by an appropriately qualified person, detail the methodology to be used to perform the investigations undertaken under this program and the requirements of the reports detailing the outcomes of the noise monitoring and verification program. Condition 13 requires the applicant, where the noise verification program indicates that noise emissions do not comply with the relevant assigned levels in the *Environmental Protection (Noise) Regulations 1997*, to prepare a report to ensure the operation of the premises will no longer lead to any contravention of these regulations. Condition 15 requires the submission of this report to the Department.
Schedule 2, Table 11 (Product transfer system)	The applicant clarified that the pneumatic transport system discharges the combined product and transporting air stream into the receiving silo or hopper. This infrastructure is in turn vented through their respective nuisance filters with outlets comprising an enclosed vessel or a vent within 1 metre of the ground, with no other emissions associated with the operation of this infrastructure. The applicant advised that the transport rate in the works approval infrastructure table should be described as 'a nominal 60 tonnes per hour. The actual transport rate achievable will depend on final transport distance and the properties of the material being transported. The applicant further	The DO amended the description of the product transfer system provided in Table 11 to reflect the additional information provided by the applicant.

Condition	Summary of applicant's comment	Delegated Officer (DO) response
	advised that the transport capacity of the product transfer system would not alter total annual plant output. All equipment throughput rates are nominal design figures and may vary subject to final configuration and the different material properties associated with the respective product range.	
Schedule 2, Table 11 (Truck wash area)	The applicant clarified the minimum capacity of the recycled water tank to be installed in the truck wash area, the minimum capacity and construction specifications of the sump, the construction specifications of the truck wash area hardstand and the methods used to store hydrocarbons and other contaminants removed by the oil water separator prior to disposal offsite.	The DO updated the description of the truck wash area to reflect the additional information provided by the applicant.
Schedule 2, Table 11 (Grinding mill and site drainage)	The applicant provided additional information regarding stormwater management and the storage of chemicals and hydrocarbons at the premises.	The DO updated the description of the stormwater management and chemical storage infrastructure to reflect the additional information provided by the applicant.
Schedule 2, Table 11 (Bucket elevators)	The applicant clarified that the bucket elevators would be connected to dust collectors instead of being fitted with dust collectors.	The DO updated the description of the bucket elevators to reflect the additional information provided by the applicant.
	The applicant clarified that the dust collectors fitted to the bucket elevators would discharge into the next stage of the transport process, rather than the next bucket elevator in the process	The DO incorporated all the discharge point requirements for dust collectors into row 15 of Table 11, since these discharge point requirements apply to all dust collectors associated with the expanded CCKP (with the exception of those linked to N29A, N29B, N30A and N30B).
Schedule 2, Table 11 (Grinding aid storage)	The applicant clarified the storage infrastructure and associated hardstand to be installed to allow the volume of grinding aid stored at the site to be increased.	The DO updated the description of the grinding aid storage infrastructure to reflect the additional information provided by the applicant.
Section 6	The applicant detailed their thoughts on the risk assessment undertaken for particulate matter emissions from the expanded CCKP leading to a "High" risk rating being assigned for both nearby industrial receptors and sensitive residential receptors. This was despite the difference in the proximity of the industrial and sensitive receptors to the expanded CCKP. The applicant requested that the risk assessment for industrial receptors and sensitive receptors be separated to more accurately reflect the relative risk to these receptors posed by particulate matter emissions. In addition, the Applicant also requested the risk assessment contained in the decision report remove references to air quality criteria being 'close to exceedance at nearby residential receptors' in Section 6.3.6 of the report. The Applicant stated that Table 1 depicts modelled particulate matter concentrations at the residential receptors as not approaching any of the applicable air	The DO acknowledges the applicants comments and notes that the initial risk assessment for particulate matter emissions, based on the air quality modelling provided by the applicant, depicted potential exceedances of air quality criteria occurring at both industrial and residential receptors. In the context of residential receptors, when background levels were included for assessment of the expanded CCKP, predicted ground level concentrations were up to 98.8% of the NEPM annual $PM_{2.5}$ criterion at Abercrombie Road. It was previously noted that the input background particulate concentrations are close to the criterion value and the expanded CCKP predicted contribution is less than 4% of the NEPM annual $PM_{2.5}$ criterion. However, the near exceedance of this criteria in the vicinity of residential receptors remains the reason air quality criteria were identified

Condition	Summary of applicant's comment	Delegated Officer (DO) response
	quality standards. The applicant requested that the risk ranking applicable to industrial receptors be revised from 'High' to 'Medium' to reflect a consequence ranking of 'Major' and a likelihood of ranking 'Unlikely'. The applicant requested this change in ranking on the grounds that while the air quality model provided did not fully evaluate the impact on nearby industrial receptors, this model is acknowledged by the air quality consultant which prepared it and the Department as representing an 'Unlikely' scenario. The applicant therefore requested reconsideration of the likelihood of specific air quality criteria being exceeded to 'Unlikely' as this was a more realistic and representative assessment in their view. The applicant acknowledged that the consequence rating has been determined as Major, based on the overestimated possible local scale impact above a policy standard at the nearby industrial receptors. The applicant also requested that the Department consider a likelihood of "Unlikely" and a consequence of "Slight", with a final risk rating of "Low" for sensitive receptors. This request was made in light of the conservative nature of the air quality modelling undertaken and the knowledge that the results of the air quality modelling are below all the standards and limits at the 'sensitive receptor' locations. In addition, the applicant argued that the distance to sensitive receptors (>2.9 km), further reduced the likelihood of impacts from particulate matter emissions at these sensitive receptors.	as being 'close to exceedance at nearby residential receptors' in Section 6.3.6 of the previous version of the draft report. The risk rating of particulate matter emissions on industrial and residential receptors from the expanded CCKP was re-assessed, given the reconfiguration of emission point infrastructure undertaken by the applicant. The outcomes of this revised risk assessment, along with the Delegated Officer's reasoning, are detailed in Section 6 of this report resulting in an assessed medium risk for industrial receptors and low risk for sensitive receptors (e.g. residential, dwellings).

Appendix 2: Application validation summary

SECTION 1: APPLICATION SUMMARY (as updated from validation checklist)					
Application type					
Works approval	☒				
Licence	☐	Relevant works approval number:		None	☐
		Has the works approval been complied with?		Yes ☐ No ☐	
		Has time limited operations under the works approval demonstrated acceptable operations?		Yes ☐ No ☐ N/A ☐	
		Environmental Compliance Report / Critical Containment Infrastructure Report submitted?		Yes ☐ No ☐	
		Date Report received:			
Renewal	☐	Current licence number:			
Amendment to works approval	☐	Current works approval number:			
Amendment to licence	☐	Current licence number:			
		Relevant works approval number:		N/A	☐
Registration	☐	Current works approval number:		None	☐
Date application received		20 March 2020			
Applicant and Premises details					
Applicant name/s (full legal name/s)		Cockburn Cement Limited			
Premises name		Cockburn Cement Limited – Kwinana Cement and Lime Manufacturing Facility.			
Premises location		Lot 45 on Plan 91600 Part of Lot 251 on Deposited Plan 415974 Part of Lot 252 on Deposited Plan 415974			
Local Government Authority		City of Kwinana			
Application documents					
HPCM file reference number:		DWERDT265077			
Key application documents (additional to application form):		Included in the above HPCM Reference Document.			

Summary of proposed activities or changes to existing operations.	Construction and operation of an expanded cement and lime manufacturing facility which will include the following infrastructure: • 1,500 tonne per hour conveyor from Fremantle Ports' Kwinana Bulk Berth No.2 to the new clinker shed; • 400 tonne per hour clinker truck unloading and recieval facility; • Enclosed clinker storage shed with two 280 tonne per hour reclaim conveyors and 110,000 tonne clinker storage capacity; • A grinding plant consisting of two enclosed 100 tonne per hour ball mills (delivering an equivalent annual output of 1.3 million tonnes); and • Eight finished product silos with 3,200 m^3 (or approximately 3,500 tonnes) storage capacity each (approximately 28,000 tonnes total). The proposed works will increase the capacity of the existing cement and lime manufacturing facility to 1,530,000 tonnes.

Category number/s (activities that cause the premises to become prescribed premises)

Table 1: Prescribed premises categories

Prescribed premises category and description	Proposed production or design capacity	Proposed changes to the production or design capacity (amendments only)
Category 43: Cement or lime manufacturing: premises on which - a) clay, limes and or limestone material is used in a furnace or kiln in the production of cement clinker or lime; or b) cement clinker, clay, limestone or similar material is ground.	1,530,000 tonnes per annum.	N/A

Legislative context and other approvals

Has the applicant referred, or do they intend to refer, their proposal to the EPA under Part IV of the EP Act as a significant proposal?	Yes ☐ No ☒	N/A
Does the applicant hold any existing Part IV Ministerial Statements relevant to the application?	Yes ☐ No ☒	N/A
Has the proposal been referred and/or assessed under the EPBC Act?	Yes ☐ No ☒	N/A
Has the applicant demonstrated occupancy (proof of occupier status)?	Yes ☒ No ☐	Certificate of Title for Lot 45 on Plan 91600. Lease for Part of Lot 252 on Deposited Plan 415974 has an initial term of 46 years and 6 months, with an option to renew for 49 years. Lease for Part of Lot 251 on

		Deposited Plan 415974 has an initial term of 11 years and 6 months, with two options to renew for a term of five years each. Both leases commenced 10 June 2019.
Has the applicant obtained all relevant planning approvals?	Yes ☐ No ☐ N/A ☒	Planning approval applications to be prepared and submitted for parallel assessment during the works approval assessment.
Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal?	Yes ☐ No ☒	Applicant proposes to use the Regulation 5, Item 1 exemption for clearing for a building or other structure to support the clearing necessary to construct the expansion.
Has the applicant applied for, or have an existing CAWS Act clearing licence in relation to this proposal?	Yes ☐ No ☒	N/A
Has the applicant applied for, or have an existing RIWI Act licence or permit in relation to this proposal?	Yes ☐ No ☒	N/A
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?	Yes ☐ No ☒	N/A
Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?	Yes ☐ No ☒	N/A
Is the Premises subject to any other Acts or subsidiary regulations (e.g. *Dangerous Goods Safety Act 2004, Environmental Protection (Controlled Waste) Regulations 2004, State Agreement Act xxxx*)	Yes ☒ No ☐	Environmental Protection (Noise) Regulations 1997.
Is the Premises within an Environmental Protection Policy (EPP) Area?	Yes ☒ No ☐	Environmental Protection (Kwinana) (Atmospheric Wastes) Policy 1999.
Is the Premises subject to any EPP requirements?	Yes ☒ No ☐	Site is subject to SO_2 requirements of Kwinana EPP.
Is the Premises a known or suspected contaminated site under the *Contaminated Sites Act 2003*?	Yes ☒ No ☐	Classification: contaminated – restricted use Date of classification:7 November 2008.