Decision Report

Application for Licence

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

Licence Number	L9245/2020/1
Applicant	Landmark Operations Limited
ACN	008 743 217
File Number	DER2020/000167
Premises	Landmark Fertiliser Bunbury 12 Allnut Court Davenport WA 6230 Legal description – Lot 2 on Deposited Plan 90542 Certificate of Title Volume 2078 Folio 199 As defined by the Premises maps attached to the issued licence
Date of Report	15 June 2020
Proposed Decision	Licence granted

Caron Goodbourn Digitally signed by Caron Goodbourn Date: 2020.06.15 14:38:22 +08'00'

Manager, Process Industries
INDUSTRY REGULATION

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

Table of Contents

1. Decision summary

This Decision Report documents the assessment of potential risks to the environment and public health from emissions and discharges during the operation of the Premises. As a result of this assessment, Licence L9245/2020/1 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://www.der.wa.gov.au.

2.2 Application summary and overview of Premises

On 20 March 2020, the applicant submitted an application for a licence to the department under section 57 of the *Environmental Protection Act 1986* (EP Act).

The application is to seek a licence relating to the receipt, blending and dispatch of bulk and packaged fertilisers at the Premises. The Premises is located within a light industrial area in Davenport, a suburb of the City of Bunbury, approximately 3.5 km southeast of the Bunbury city centre.

A Works Approval to construct the Premises was issued on 6 June 2019, with compliance reporting submitted on 17 March 2020.

The Premises relates to category 33: Chemical blending or mixing and the assessed production capacity (18,000 tonnes per year) under Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations) as defined in Licence L9245. The infrastructure and equipment relating to the premises category, considered by the department in line with *Guidance Statement: Risk Assessments* (DER 2017), are outlined in Licence L9245.

3. 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.

3.1 Source-pathways and receptors

3.1.1 Emissions and controls

The key emissions and associated actual or likely pathway during premises operation which have been considered in this Decision Report are detailed in Table 1 below. Table 1 also details the proposed control measures the applicant has proposed to assist in controlling these emissions, where necessary.

Emissions and controls for operation of the Premises were previously risk assessed and documented in the works approval W6216 Decision Report ((DWER, June 2019 – available at https://www.der.wa.gov.au/our-work/licences-and-works-approvals/current-licences). At that time the risk from potentially contaminated stormwater affecting soil and groundwater through direct off-site discharge and in-situ infiltration to groundwater resulting in a negative impact on adjacent sensitive receptors was assessed as high risk. However, during progress with the

works and issues encountered with the installation of groundwater monitoring bores, further changes and improvements to the capture and management of potentially contaminated stormwater were made which included the following:

- a requirement to line the stormwater basins/vegetated swales (Basin 1 and Basin 2) with a HDPE liner (thus preventing infiltration to groundwater); and
- installation of a collection sump, pumping station and pipeline to periodically convey captured stormwater from the lower basin (Basin 2 at the south east boundary of the Premises) up to the existing connection to the City of Bunbury drainage system.

Otherwise, there is a rock armoured overflow spillway in the south-east corner of Basin 2, which would discharge stormwater off-site to the adjacent reserve in the event of a >10year Annual Recurrence Interval (ARI) storm event. For the purposes of occasional sampling and monitoring of off-site stormwater discharge, a rising-stage water sampler has been installed within Basin 2.

The as-built design features of the stormwater management system are shown in Figure 1 below.

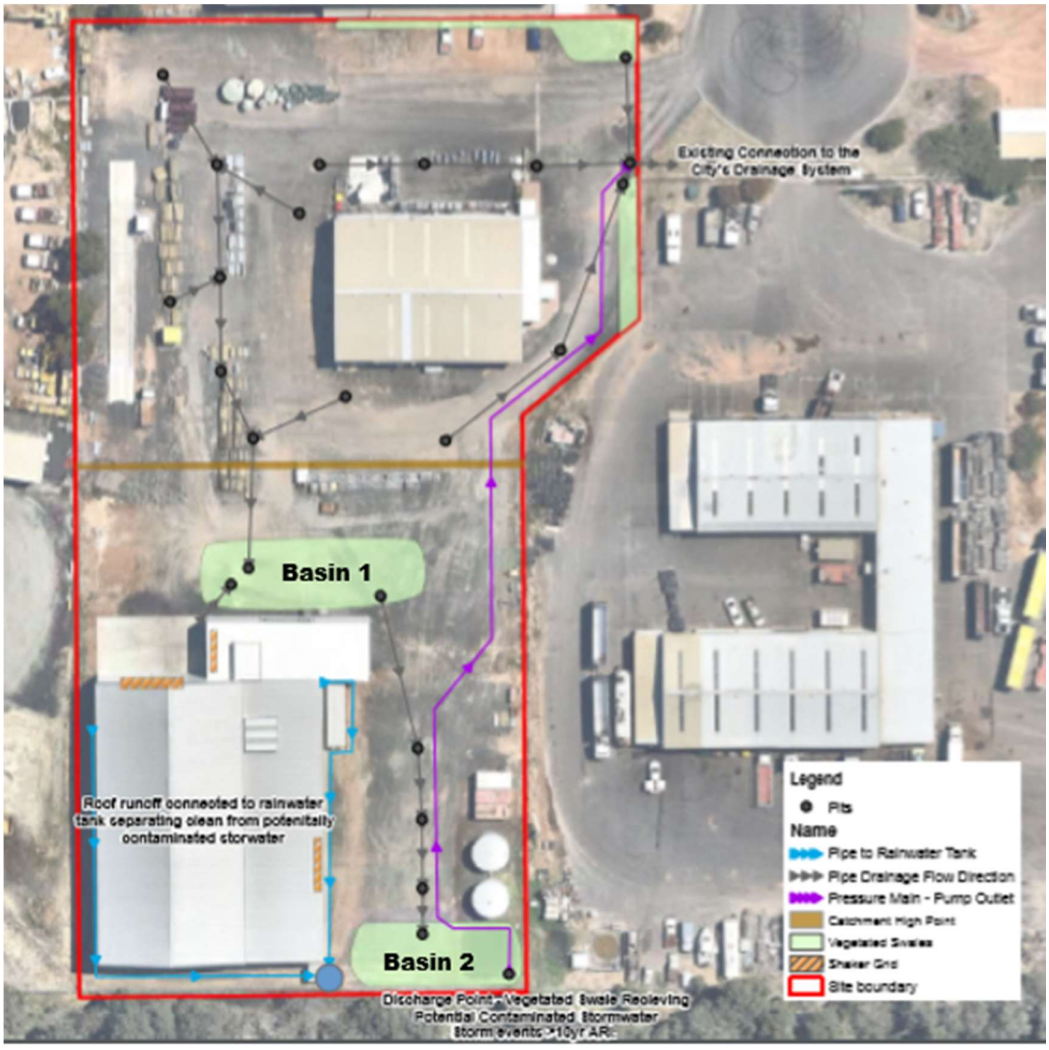

Figure 1: Stormwater management system
(Adapted from Attachment 2B, Cardno, 31 March 2020)

Table 1: Proposed applicant controls - operation

Emission	Sources	Potential pathways	Proposed controls
Dust	*Receipt, storage and dispatch of bulk fertilisers;* *Blending / mixing and packaging of fertiliser products; and* *Vehicle movements (trucks, front end loaders, forklifts and mechanical sweeper).*	*Air/windborne pathway to human receptors working or residing off-site and / or vegetation in adjacent lot*	• *Low speed limits for all delivery/dispatch vehicles (15km/hr) apply.* • *All fertilisers are stored and processed (blended or bagged) inside the shed.* • *Shed doors are kept closed at all times other than when receiving bulk deliveries or loading out bagged product.* • *Bulk loading of vehicles occurs only in the covered canopy area.* • *Loaded trucks are tarped securely and tailgates sealed.* • *Use of a dust suppression cone in the loading system.* • *Weekly housekeeping inspections of the whole site.* • *Regular cleaning schedules (minimum of weekly) using a mechanical sweeper, both inside the shed and on all trafficable and yard surfaces.* • *Immediate clean-up of fertiliser spills should they occur.* • *A liquid dust suppressant product will be added to blended product prior to bagging or dispatch as required.*
Noise	*Operation of fertiliser blending and packaging equipment; and* *Vehicle movements (trucks, front end loaders, forklifts and mechanical sweeper).*	*Air/windborne pathway to human receptors working or residing off-site*	• *Shed doors closed at all times when operating the blending and/or bagging equipment.* • *Equipment to be fitted with noise attenuation devices to minimise noise emissions.* • *Limited hours of operation from 8am to 5.30pm Monday – Saturday.* • *Perform regular inspection and maintenance of vehicles and equipment.* • *Trucks, front end loaders and forklifts are driven by licensed operators in a responsible manner to ensure that noise emissions are minimised.*
Contaminated stormwater	*Storage and disposal of contaminated stormwater*	*Seepage to soil and groundwater*	• *Ensure all fertiliser product is stored inside the fertiliser shed.* • *Shed doors are kept closed at all times other than when receiving bulk deliveries or loading out bagged product.* • *Bulk loading of vehicles occurs only in the covered canopy area.* • *Loaded trucks are tarped securely and tailgates sealed.* • *Regular housekeeping inspections of the whole site.* • *Regular cleaning (use of mechanical sweeper) both inside the shed and on all trafficable and yard surfaces.* • *Immediate clean-up of fertiliser spills should they occur.* • *Minimising the volume of potentially contaminated stormwater by re-directing uncontaminated stormwater away from areas of potential contamination.* • *Using HDPE lined biofiltration basins to detain and treat all potentially contaminated stormwater prior to discharge from the site.*

3.1.2 Receptors

In accordance with the *Guidance Statement: Risk Assessment* (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.

Figure 2 and Table 2 below provide 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)).

Table 2: Sensitive human and environmental receptors and distance from prescribed activity

Human receptors	**Distance from prescribed activity**
Closest residential receptors	*220m southwest from the southwest corner of the premises boundary.* *There are numerous residential lot boundaries within 500m of the southwest corner of the premises.*
Closest industrial lots	*Lots 25 - 28 inclusive on Palmer Crescent immediately adjacent to the western boundary of the Premises;* *Lot 1, 10 Allnut Court, immediately adjacent to the northern boundary of the Premises; and* *Lot 3, 18 Allnut Court, immediately adjacent to the eastern boundary of the Premises.*
Environmental receptors	**Distance from prescribed activity**
Surface water	*A constructed drain 70m south of the southern boundary, discharges to the Preston River approximately 2.3km away.*
Conservation Category Wetlands	*A conservation category wetland area is denoted within Crown Reserve 32719 immediately adjacent to the southern boundary of the Premises.*
Threatened and priority ecological communities and flora	*Two areas of Banksia Woodland are noted to occur within the Crown Reserves immediately south and to the northwest of the Premises. Two threatened/priority flora sites are located within these same areas (Crown Reserves 32719 and 32722 to the south and northwest of the Premises respectively), approximately 160 to 310 metres from the Premises boundary.*

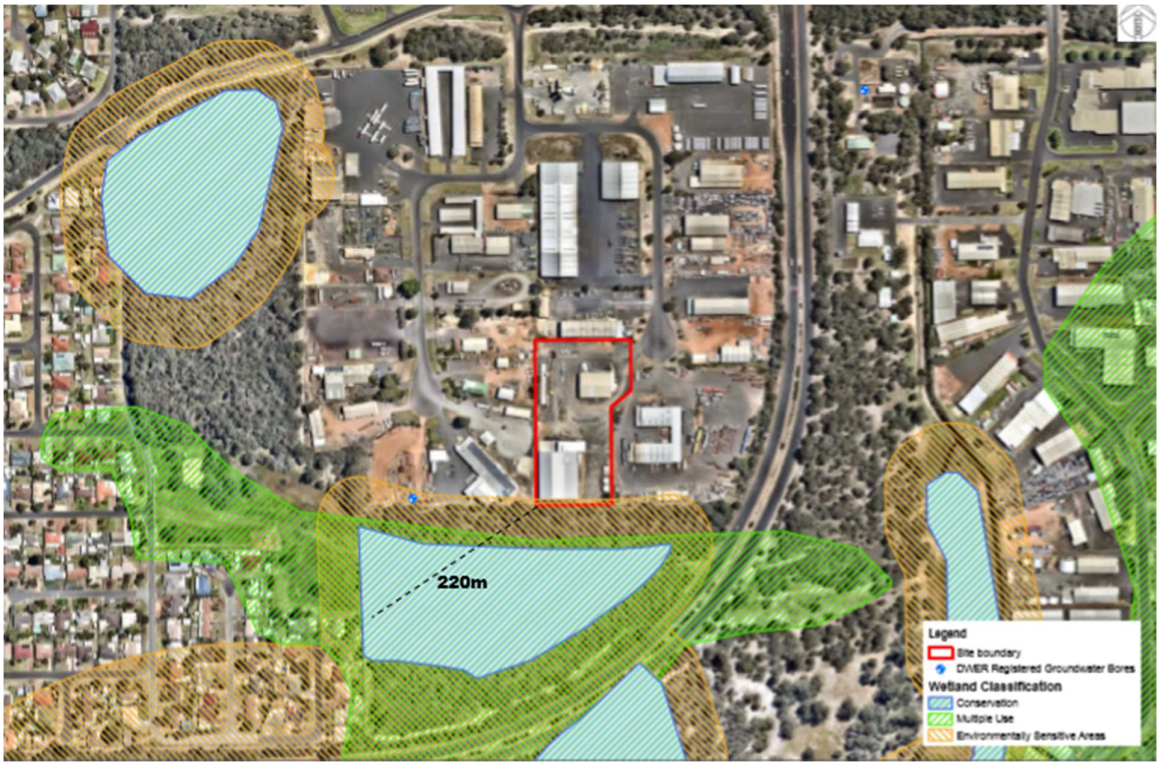

Figure 2: Distance to sensitive receptors
(adapted from Siting and Location Plan, Attachment 7, Cardno, 31 March 2020. Premises boundary is shown in red.)

3.1.2.1 Soils

Based on bore logs recorded during installation of monitoring bores at the Premises in August 2019, fine grained greyish brown sands and greyish-brown, fine to medium grained clayey-sands were encountered across the Premises in the surface substrate at depths ranging from 2.0 to 5.0m below ground level. This soil substrate is underlain by a shallow weathered layer of stiff, dry heavy clay (grey – dark grey) with basalt chip inclusions. Refusal at the end of each bore was inferred to be caused by the presence of rock/basalt.

3.1.2.2 Groundwater

The location of the monitoring bores MB1 – MB4 are shown in Figure 3 below. The groundwater flow direction based on levels recorded in August 2019, show groundwater flows from north (9.14mAHD) to south (8.87mAHD). The depth to the surficial groundwater table was recorded at between 0.59 (MB3) to 0.87m (MB4) below ground level.

Figure 3: Groundwater monitoring bores

Groundwater sampling was undertaken at three of the four newly installed wells in December 2019 (Note: MB2 could not be accessed at the time due to civil works being undertaken). Samples were tested for a range of parameters including pH, electrical conductivity, nutrients, dissolved metals and dissolved major ions. Test results are presented in Table 3 below.

DWER notes that based on these initial groundwater monitoring results that high levels of total nitrogen and total phosphorus are evident in monitoring bores MB1 and MB4. Given the flow direction of north to south for the shallow surficial groundwater table, whilst the location of MB1 denotes an up-gradient bore site it is noted as being adjacent to bulk fertiliser truck delivery and dispatch routes.

Table 3: Groundwater quality monitoring results

Parameter	Unit	Bore MB1	Bore MB3	Bore MB4
pH	-	7.07	7.38	7.01
Electrical conductivity @25°C	µS/cm	746	506	271
Total dissolved solids (Calculated)	mg/L	485	329	176
Total hardness as $CaCO_3$	mg/L	21	63	36
Total alkalinity as $CaCO_3$	mg/L	235	110	62
Sulfate as SO_4	mg/L	42	23	19
Chloride	mg/L	52	56	28
Calcium	mg/L	5	22	6
Magnesium	mg/L	2	2	5
Sodium	mg/L	159	59	42
Potassium	mg/L	1	2	2
Ammonia as N	mg/L	0.58	4.60	0.10
Nitrite as N	mg/L	<0.01	<0.01	0.01
Nitrate as N	mg/L	0.01	0.02	2.71
Total Kjeldahl Nitrogen	mg/L	18.9	5.9	19.2
Total Nitrogen	mg/L	18.9	5.9	21.9
Total Phosphorus	mg/L	2.69	0.14	1.31
Reactive Phosphorus	mg/L	<0.01	<0.01	<0.01
Arsenic	mg/L	0.015	0.002	<0.001
Cadmium	mg/L	<0.0001	<0.0001	<0.0001
Chromium	mg/L	0.003	<0.001	<0.001
Copper	mg/L	0.012	0.002	<0.001
Nickel	mg/L	0.008	<0.001	0.001
Lead	mg/L	<0.001	<0.001	<0.001
Zinc	mg/L	<0.005	<0.005	<0.005
Mercury	mg/L	<0.0001	<0.0001	<0.0001
Fluoride	mg/L	<0.1	<0.1	<0.1

(Tabulated from data provided in Attachment 8C, Cardno, 31 March 2020)

3.2 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 3.1. 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 3.1), 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 licence 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 4.

The conditions in the issued Licence, as outlined in Table 4 have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

Table 4: Risk assessment of potential emissions and discharges from the Premises during operation

Risk Event					Risk rating[1] C = consequence L = likelihood	Applicant controls sufficient?	Conditions[2] of licence	Justification for additional regulatory controls
Source/Activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Applicant controls**				
Receipt, storage and dispatch of bulk fertilisers; Blending / mixing and packaging of fertiliser products; and Vehicle movements.	*Dust*	*Air/windborne pathway causing impacts to health and amenity of people working or residing off-site*	*Residential premises located 220m SW of the Premises. Surrounding industrial premises lots*	*Refer to Section 3.1*	*C = Minor L = Possible* ***Medium Risk***	*Y*	*Conditions 1 and 6.*	*N/A*
	Noise	*Air/windborne pathway causing impacts to health and amenity of people working or residing off-site*		*Refer to Section 3.1*	*C = Slight L = Unlikely* ***Low Risk***	*Y*	*Conditions 1 and 6.*	*N/A – The Premises is operating within a light industrial area with surrounding industrial lot operators contributing to cumulative noise levels. EP Noise Regulations apply*
	Fertiliser contaminated stormwater – Generated as a result of rain interacting with fertiliser dust and/or (granulated / crystalline) fertiliser spilt or tracked out of the storage & processing shed, or onto trafficable surfaces.	*Overland runoff and infiltration to groundwater potentially causing ecosystem disturbance or impacting surface water quality*	*Conservation category wetlands / threatened ecosystem (Banksia woodland) & threatened/priority flora within adjacent Crown Reserves. Surface water in constructed drain 70m south of Premises boundary, discharging to Preston River.*	*Refer to Section 3.1*	*C = Moderate L = Possible* ***Medium Risk***[3]	*N*	*Conditions 1 and 6.* ***Condition 3, 4.***	*Minor modification to applicant control for routine cleaning of trafficable areas to specify scheduled cleaning in advance of predicted rainfall (Condition 1 – stormwater management operational requirement)..* ***Condition 3*** *- Groundwater monitoring is required to verify potential impacts of fertiliser contaminated stormwater given the presence of the shallow surficial aquifer (less than 1 metre below ground level) and adjacent sensitive receptors immediately south of the premises boundary.* ***Condition 4*** *– For the first (annual) flush of stormwater generated by rainfall that results in stormwater from Basin 2 being pumped off-site to the existing drainage system, and in the event of off-site discharge of stormwater via the overflow spillway following a significant rainfall event, water quality sampling and testing is required. A limited set of water quality monitoring parameters are required for testing consistent with the range of pollutants potentially linked to fertiliser products received and dispatched from the premises. Analysis and review of test results will provide an indication as to whether or not stormwater is being contaminated by fugitive emissions of fertiliser*

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.
Note 3: The assessed risk of off-site impacts from the discharge of fertiliser contaminated stormwater have reduced from high risk as initially assessed in the Works Approval W6216 Decision Report (DWER, June 2019), to medium risk. This is a result of modifications made to new infrastructure installed under the works approval in consultation with DWER, including the HDPE lining of the two vegetated swales/basins receiving potentially contaminated stormwater and the installation of a pumping station and pipeline to convey the majority of captured stormwater off-site via the existing city stormwater drainage system (Cardno, March 2020) *Refer to Section 3.1.1.*

4. Consultation

Table 5 provides a summary of the consultation undertaken by the department.

Table 5: Consultation

Consultation method	Comments received	Department response
Application advertised on the department's website 16/04/2020	*None received*	*N/A*
Local Government Authority advised of proposal 16/04/2020	*The City of Bunbury replied on 20/04/2020 confirming that the amended Development Approval DA/2017/272/2 was issued on 29 August 2018 under Town Planning Scheme No. 8 for applicant estimated product turnover of 18,000 tonnes per year.* *The City of Bunbury approved of changes to stormwater infrastructure on 23 October 2019.*	*N/A*
Applicant was provided with draft documents on 10/06/2020	*No comments provided, requested licence granted as soon as possible*	*N/A*

5. Conclusion

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

References

1. Cardno (31 March 2020), Licence Application – Lot 2 Allnut Court, Davenport;
2. Cardno (March 2020), Landmark Bunbury – Landmark Operations Pty Ltd Works Approval W6216/2019/1 – Completion of Works and Compliance Reporting.
3. Cardno (April 2020), Email correspondence – Detail on HDPE Basin 1 & 2 liners.
4. Department of Water and Environmental Regulation (DWER, June 2019), Works Approval W6216 Decision Report.
5. Department of Environment Regulation (DER) 2016, *Guidance Statement: Environmental Siting*, Perth, Western Australia.
6. DER 2017, *Guidance Statement: Risk Assessments*, Perth, Western Australia.
7. DER 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.

Appendix 1: Application validation summary

SECTION 1: APPLICATION SUMMARY (as updated from validation checklist)					
Application type					
Works approval	☐				
Licence	☒	Relevant works approval number:	W6216/2019/1	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 submitted?		Yes ☒ No ☐	
		Date Report received: 17 March 2020			
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)		Landmark Operations Limited			
Premises name		Landmark Fertiliser Bunbury			
Premises location		Lot 2 Allnut Court Davenport			
Local Government Authority		City of Bunbury			
Application documents					
HPCM file reference number:		DWERDT270207			
Key application documents (additional to application form):		Cardno (31 March 2020), Licence Application – Lot 2 Allnut Court, Davenport; Cardno (April 2020), Email correspondence – detail on HDPE Basin 1 & 2 liners & installed pump station; W6216/2019/1 – Hydrogeology Rev2; W6216/209/1 – Rising stage water sampler.			
Scope of application/assessment					
Summary of proposed activities or changes to existing operations.		N/A			

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

Table 1: Prescribed premises categories

Prescribed premises category and description	Proposed production capacity
Category 33: Chemical blending or mixing	18,000 tonnes per year

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 ☒	Referral decision No: Managed under Part V ☐ Assessed under Part IV ☐
Does the applicant hold any existing Part IV Ministerial Statements relevant to the application?	Yes ☐ No ☒	Ministerial statement No: EPA Report No:
Has the proposal been referred and/or assessed under the EPBC Act?	Yes ☐ No ☒	Reference No:
Has the applicant demonstrated occupancy (proof of occupier status)?	Yes ☒ No ☐	Certificate of title ☒ General lease ☐ Expiry: Mining lease / tenement ☐ Expiry: Other evidence ☐ Expiry:
Has the applicant obtained all relevant planning approvals?	Yes ☒ No ☐ N/A ☐	Approval: DA/2017/272/2 Expiry date: N/A – development to be commenced within 2 years of approval.
Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal?	Yes ☐ No ☒	CPS No: N/A No clearing is proposed.
Has the applicant applied for, or have an existing CAWS Act clearing licence in relation to this proposal?	Yes ☐ No ☒	Application reference No: N/A Licence/permit No: N/A No clearing is proposed.
Has the applicant applied for, or have an existing RIWI Act licence or permit in relation to this proposal?	Yes ☐ No ☒	Application reference No: Licence/permit No: Licence / permit not required.
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?	Yes ☐ No ☒	Name: N/A Type: Proclaimed Groundwater Area/Surface Water Area Has Regulatory Services (Water) been consulted? Yes ☐ No ☐ N/A ☒

Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?	Yes ☐ No ☒	Name: N/A Priority: N/A Are the proposed activities/ landuse compatible with the PDWSA (refer to WQPN 25)? N/A 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 ☒	
Is the Premises within an Environmental Protection Policy (EPP) Area?	Yes ☐ No ☒	
Is the Premises subject to any EPP requirements?	Yes ☐ No ☒	
Is the Premises a known or suspected contaminated site under the *Contaminated Sites Act 2003*?	Yes ☐ No ☒	Classification: N/A Date of classification: N/A