Amendment Report

Application for Licence Amendment

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

Licence Number	L9126/2018/1
Licence Holder	WA Gravel Pty Ltd
ACN	611 058 050
File Number	DER2018/000488-1
Premises	Hoddy's Well Quarry Lot 22 Chitty Road HODDY'S WELL WA 6566 Legal description - Lot 22 on Deposited Plan 420530 Certificate of Title Volume 4015 Folio 45 **As defined by the Premises map attached to the Revised Licence**
Date of Report	1 March 2023
Decision	Revised licence granted

Alana Kidd

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Date: 2023.03.01 13:56:35 +08'00'

Alana Kidd
MANAGER, RESOURCE INDUSTRIES
REGULATORY SERVICES
an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

Table of Contents

1. Decision summary

Licence L9126/2018/1 is held by WA Gravel Pty Ltd (Licence Holder) for the Hoddy's Well Quarry (the Premises), located at Lot 22 (Deposited Plan 420530) Chitty Road, Hoddys Well WA 6566.

This Amendment Report documents the assessment of potential risks to the environment and public health from proposed changes to the emissions and discharges during the operation of the Premises. As a result of this assessment, Revised Licence L9126/2018/1 has been granted.

The Revised Licence issued as a result of this amendment consolidates and supersedes the existing Licence previously granted in relation to the Premises. The Revised Licence has been granted in a new format with existing conditions being transferred, but not reassessed, to the new format.

2. Scope of assessment

2.1 Regulatory framework

In completing the assessment documented in this Amendment Report, the Department of Water and Environmental Regulation (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 Amendment summary

On 8 March 2022, the Licence Holder submitted an application to the department to amend Licence L9126/2018/1 under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act). The following amendments are being sought:

- An expansion of the prescribed premises boundary to align with the Lot 22 boundary. This is due to an additional 5.28 hectare (ha) extraction area (Stage 2 extraction) where it is proposed that the crushing and screening plant will operate.
- The addition of a mobile crushing plant (Rotary Impact Crusher) to licenced operations. The crusher will operate along with screening operations at the bottom of the pit, approximately 4m below ground level. Crushing is proposed to occur along with screening and extraction over seven campaigns over seven years.
- Construction of three new stormwater detention ponds associated with stage 2 extraction. These ponds will be constructed down gradient of excavation areas to ensure all stormwater is retained within the pit, and will also serve as silt traps to avoid any sedimentation issues. The current licence approves two detention ponds within the 4.3467 ha extraction area (Stage 1 extraction). Since extraction has progressed into Stage 2, one detention basin has been removed and one remains down gradient of the Stage 1 extraction area (Figure 2).

No change to the previously assessed Category 12 production capacity of 90,000 tonnes per annual period is proposed.

Excavation stages

Table 1 below shows the timeline of staged activities planned to occur at the premises over the next seven years. The Licence Holder confirmed that during each year, the staged activities will not occur simultaneously, but in succession one after another, reducing the risk of cumulative emissions impacting on nearby rural residences.

Table 1: Excavation stages timeline

Staged activity	2022		2023		2024		2025		2026		2027		2028		2029	
Topsoil and overburden stripping for boundary stockpiles/bunds using bulldozer and front-end loader.																
Ripping and blading 90,000 tonnes of gravel and excavation to stockpiles using bulldozer and front-end loader																
Crushing and screening of 90,000 tonnes of gravel																
Loading of gravel and transport offsite																
Progressive rehabilitation of completed extraction areas																

Excavated gravel material will be stockpiled, screened and crushed, with the final product being stockpiled for loading. Loading operations are to occur within the pit with trucks driving down into the pit to be loaded with the gravel product via a CAT 966 loader. The trucks will enter and leave the premises via the existing access road off Chitty Road which leads to the pit.

2.3 Legislative context and approvals

Table 2 summarises existing approvals relevant to the assessment.

Table 2: Relevant approvals

Legislation	Number	Approval Holder	Approval
Environmental Protection Act 1986 (EP Act)	CPS 7592/1	A1 Gravel Pty Ltd	Native vegetation clearing issued on 19 April 2018 for the clearing of 3.88 ha of native vegetation on the premises within a footprint of 9.55ha, for the purpose of conducting an extractive industry. The approved clearing area footprint of 9.55ha includes both extraction areas (refer Figure 2). Permit expires 19 May 2032.
Planning and Development Act 2005	7CHIT/A4575/EXT1 OPA34032	A1 Gravel Pty Ltd (a company also owned by Darren Best who is the property owner and Licence Holder)	An Extractive Industry Licence (EIL) was issued by the Shire of Toodyay on 8 March 2018. The EIL has been issued for 5 years for an extraction area restricted to a maximum of 5.28ha.
Planning and Development Act 2005	7CHIT/A4575/EXT1 OPA26521	WA Gravel Pty Ltd	An Extractive Industry Licence (EIL) was issued by the Shire of Toodyay on 1 July 2016. The EIL has been issued for 10 years and requires a clearing permit to be issued, prior to any clearing on the premises. The extraction area has been restricted to a maximum of 4.3467 ha.

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 *Guideline: Risk assessments* (DWER 2020).

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 construction and operation which have been considered in this Amendment Report are detailed in Table 3 below. Table 3 also details the proposed control measures the Licence Holder has proposed to assist in controlling these emissions, where necessary.

Table 3: Licence Holder controls

Emission	Sources	Potential pathways	Proposed controls
Construction and site preparation			
Dust	• vegetation clearing • D8 Bulldozer used for ripping and blading (ripping and blading ~ 3 weeks per year) and excavating • 2 x FEL Caterpillar 966 front end loaders used for excavating (campaign use ~ 11 weeks per year) • vehicle movements • lift-off from topsoil/overburden and gravel stockpiles • earthworks e.g.stockpiling and new detention ponds •mobilisation/positioning of screening/crushing equipment;	air/windborne pathway	• Stockpiles of topsoil/overburden limited to 2m tall • Internal haul roads have been surfaced to minimise dust lift-off • Existing native vegetation buffers maintained along the western boundary to assist with containing dust lift-off from open areas • Water will be sourced from nearest available commercial scheme source (Bakers Hill or Toodyay public standpipes within 20km distance) • Raw material will be sprayed with sprinklers linked to a 15,000kL water cart before being placed into the crusher in the drier months • Estimated water volumes for water cart application over open extraction areas/overburden stockpiles and the unsealed haul road are 825kL/year • Estimated water volumes for dust suppression circuits on the screen, conveyor and crusher are 1,125kL/year • Water cart application over dust prone areas to reduce dust lift off e.g. wetting down of roads when required • Visual monitoring will be undertaken to confirm dust management measures are effectively maintaining dust emissions at acceptable levels • Site induction includes awareness of dust generation and management measures to be

Emission	Sources	Potential pathways	Proposed controls
			utilised by all personnel on site • Onsite vehicle speed average of 25-30 km/hr • A contact number for complaints is advertised on the site notice board at the entrance to the property
Noise	• vehicle and mobile plant movements • earthworks	air/windborne pathway	• Croaker broadband frequency with no tonality reversing alarms will be used on all site vehicles • Existing native vegetation buffers maintained along the western boundary to assist with noise attenuation • 100m long bund made out of gravel stockpiles up to 9m tall maintained to the east and north east of the operating pit to reduce noise impacts to sensitive nearby residential receptors
Sediment laden stormwater	• crushing and screening of material, • run off from stockpiles and/or stored product, earthworks etc.	Overland runoff	• Operations to be managed in accordance with 'Water Quality Protection Note 15 – Extractive Industries Near Sensitive Water Resources' • The pit is approximately 3-5m below ground level and combined with the gentle slopes of the extraction area, most stormwater is naturally retained within the pit • Four detention ponds to retain surface water within the pit and contain the 10 year, 2 hour average return interval storm event. Detention ponds also serve as silt traps to avoid any sedimentation issues
Hydrocarbons and/or chemical spills	vehicle and mobile machinery spills and/or leaks	seepage to soils and infiltration to groundwater	• Licence Holder has a Hydrocarbon Management Plan which specifies the following controls; • No fuel stored onsite • All plant and equipment refuelled by a mobile fuel truck, when required • Refuelling is done in the morning and plant and equipment is empty during the night • Refuelling trucks are fitted with automatic snap-off nozzles to prevent overfilling and spillage • No major servicing, which could lead to fuel and oil spills, takes place on the site. • Spills are cleaned up and contaminated soil transported to a licensed waste disposal site
Operation			
Dust	• crushing and screening of gravel material • stockpiling of gravel	air/windborne pathway	• Dust suppression circuit comprising of misting systems/sprinklers on screen and crusher • Spray bar on each conveyor to dampen gravel prior to stockpiling

Emission	Sources	Potential pathways	Proposed controls
	product • vehicle and mobile plant movements • lift-off from topsoil/overburden and gravel stockpiles		• The crushing and screening will be timed to occur during the wetter months with spraying where necessary to keep the material damp during the crushing and screening. • A 4m high earth bund comprising of product stockpiles will be constructed around the crushing and screening plant • Stockpiles of topsoil/overburden limited to 2m tall • Product stockpiles remain within the pit for loading. The product stockpiles are pea gravel which will develop an iron oxide coating after wetting which inhibits the generation of dust. • Loading operations occur within the pit with trucks driving down to collect material. A water cart will spray the material being loaded to reduce dust emissions. • Internal haul roads have been surfaced to minimise dust lift-off • Existing native vegetation buffers maintained along the western boundary to assist with containing dust lift-off from open areas • Water sourced from nearest available commercial scheme source (Bakers Hill or Toodyay public standpipes within 20km distance) • Raw material sprayed with sprinklers linked to a 15,000kL water cart before being placed into the crusher in the drier months • Estimated water volumes for water cart application over open extraction areas/overburden stockpiles and the unsealed haul road are 825kL/year • Estimated water volumes for dust suppression circuits on the screen, conveyor and crusher are 1,125kL/year • Water cart application over dust prone areas to reduce dust lift off e.g. wetting down of roads when required • Visual monitoring undertaken to confirm dust management measures are effectively maintaining dust emissions at acceptable levels • All truck loads leaving the site are to be covered • Site induction includes awareness of dust generation and management measures to be utilised by all personnel on site • Progressive rehabilitation/ stabilization of complete areas using pasture species on completed areas

Emission	Sources	Potential pathways	Proposed controls
			• Onsite vehicle speed average of 25-30 km/hr • A contact number for complaints is advertised on the site notice board at the entrance to the property.
Noise	• D8 Bulldozer for excavating, ripping and blading (ripping and blading ~ 3 weeks per year) • 2 x FEL Caterpillar 966 front end loader for excavating (campaign use ~ 11 weeks per year) • Terex Finlay Crusher and Screen (operated ~ 8 – 10 weeks per year); • Packaged genset to run screen; and • Various size trucks including 14t medium rigid, 24t semi-rigid and 38t truck and trailer, to haul product away.	air/windborne pathway	• The crusher/screener operating at the bottom of the pit at topographic low points, approximately 4m below ground level and therefore the edges of the pit will act as a noise barrier • A 4m high earth bund constructed around the crushing and screening plant • 100m long bund made out of gravel stockpiles up to 9m tall maintained to the east and north east of the operating pit to reduce noise impacts to nearby sensitive residential receptors • Remnant vegetation provides some noise attenuation • Limited operating hours as per the EIL • A contact number for complaints is advertised on the site notice board at the entrance to the property • Croaker' broadband frequency with no tonality reversing alarms will be used on all site vehicles
Potentially contaminated stormwater	crushing and screening of material, vehicle spills, lift-off from stockpiles and/or stored product, earthworks etc	seepage to soils and infiltration to groundwater	• Operations to be managed in accordance with 'Water Quality Protection Note 15 – Extractive Industries Near Sensitive Water Resources' as per EIL requirement • The pit is approximately 3-4m below ground level and combined with the gentle slopes of the extraction area, most stormwater is naturally retained within the pit. • Four detention ponds retain surface water within the pit and contain the 10 year, 2 hour average return interval storm event. Detention ponds also serve as silt traps to avoid any sedimentation issues.
Hydrocarbon and/or chemical spill	spills from equipment and vehicles	seepage to soils and infiltration to groundwater mixing with stormwater to drain to surface water	• Licence Holder has a Hydrocarbon Management Plan which specifies the following controls; • No fuel stored onsite • All plant and equipment refuelled by a mobile fuel truck, when required • Refuelling is done in the morning and plant and equipment is empty during the night • Refueling trucks are fitted with automatic snap-off nozzles to prevent overfilling and spillage • No major servicing, which could lead to fuel

Emission	Sources	Potential pathways	Proposed controls
			and oil spills, take place on the site. • Spills are cleaned up and contaminated soil transported to a licensed waste disposal site

3.1.2 Receptors

In accordance with the *Guideline: Risk assessments* (DWER 2020), the Delegated Officer has excluded employees, visitors and contractors of the Licence Holder'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 *(Guideline: Environmental siting* (DWER 2020)).

Table 4: Sensitive human and environmental receptors and distance from prescribed activity

Human receptors	Distance from prescribed activity
Residential Premises:	Farm house 1 - 984 Chitty Rd – approximately 700m north-east of the new 5.28 ha extraction area Farm house 2 - 931 Chitty Rd – approximately 850m east of the new 5.28 ha extraction area
Toodyay townsite	14km southwest
Environmental receptors	**Distance from prescribed activity**
Surrounding vegetation	Vegetation within the premises comprises regrowth of open wandoo woodland with occasional jarrah over scattered *Banksia sessilis* (parrot bush) and *Macrozamia riedeii* (zamia).
Threatened – Endangered Fauna	20 mapped occurrences of *Calyptorhynchus* sp. 'white-tailed black cockatoo within the premises boundary. Premises in the confirmed breeding range of Carnaby's cockatoo, within a mapped feeding area and within a close proximity to a mapped roosting area for Carnaby's cockatoo. (managed under CPS 7592/1 issued on 19 April 2018 – requiring installation of nesting boxes and complete revegetation of extraction area)
Watercourses/waterbodies	Tributaries to the Avon River, which is located approximately 12km to the north of the premises: • A minor, ephemeral creek line ~850m southwest of the premises • A minor, ephemeral creek line ~ 700m northwest • Jim Crow Gully, a minor non perennial watercourse is located ~ 1.3km northwest
RIWI Act – Surface Water Areas and Irrigation Districts	The Premises is within the Proclaimed Avon River Catchment Area
Groundwater	The floor of the pit will be at least 15m above winter groundwater levels.

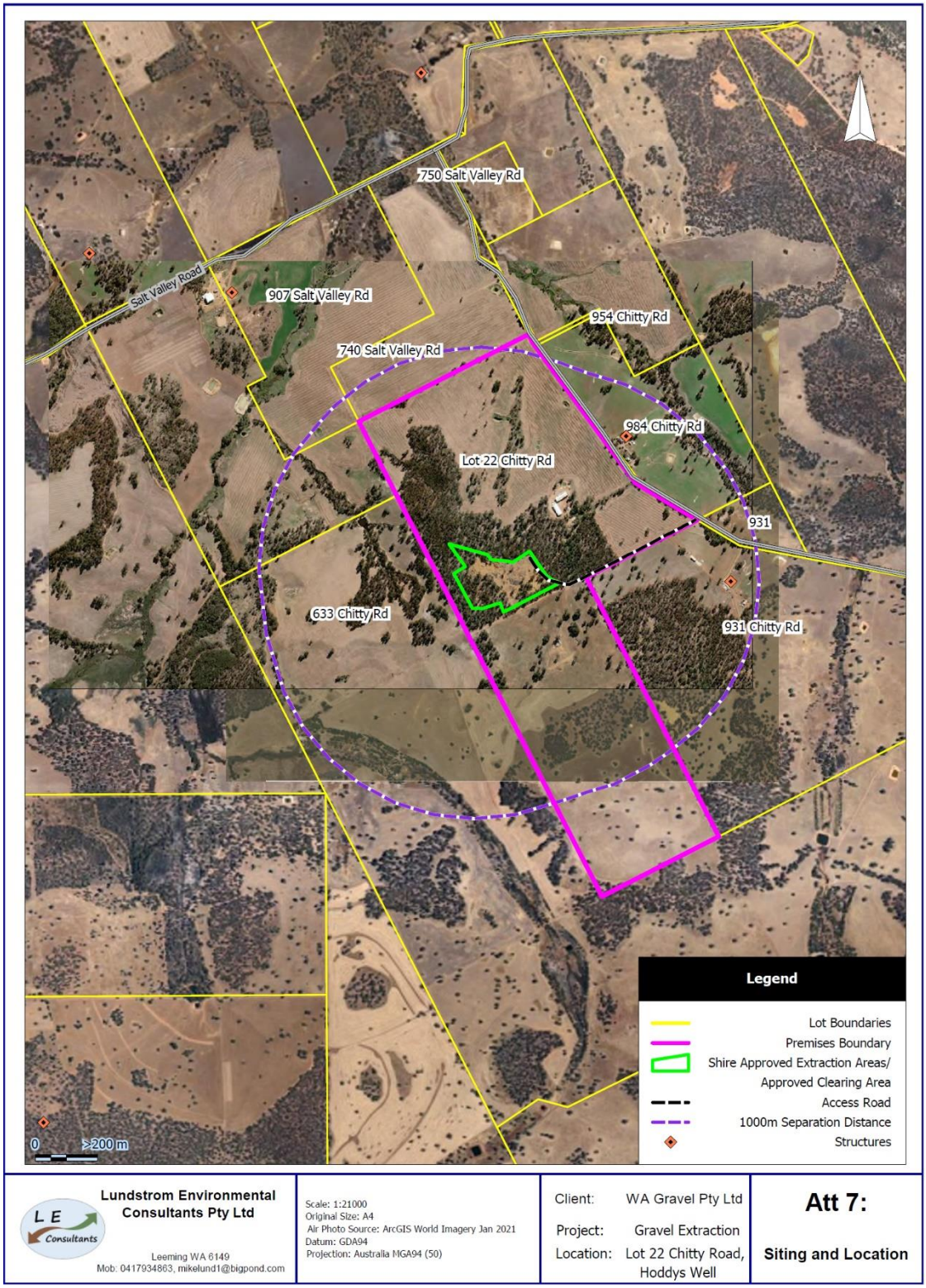

Figure 1: Distance to sensitive receptors

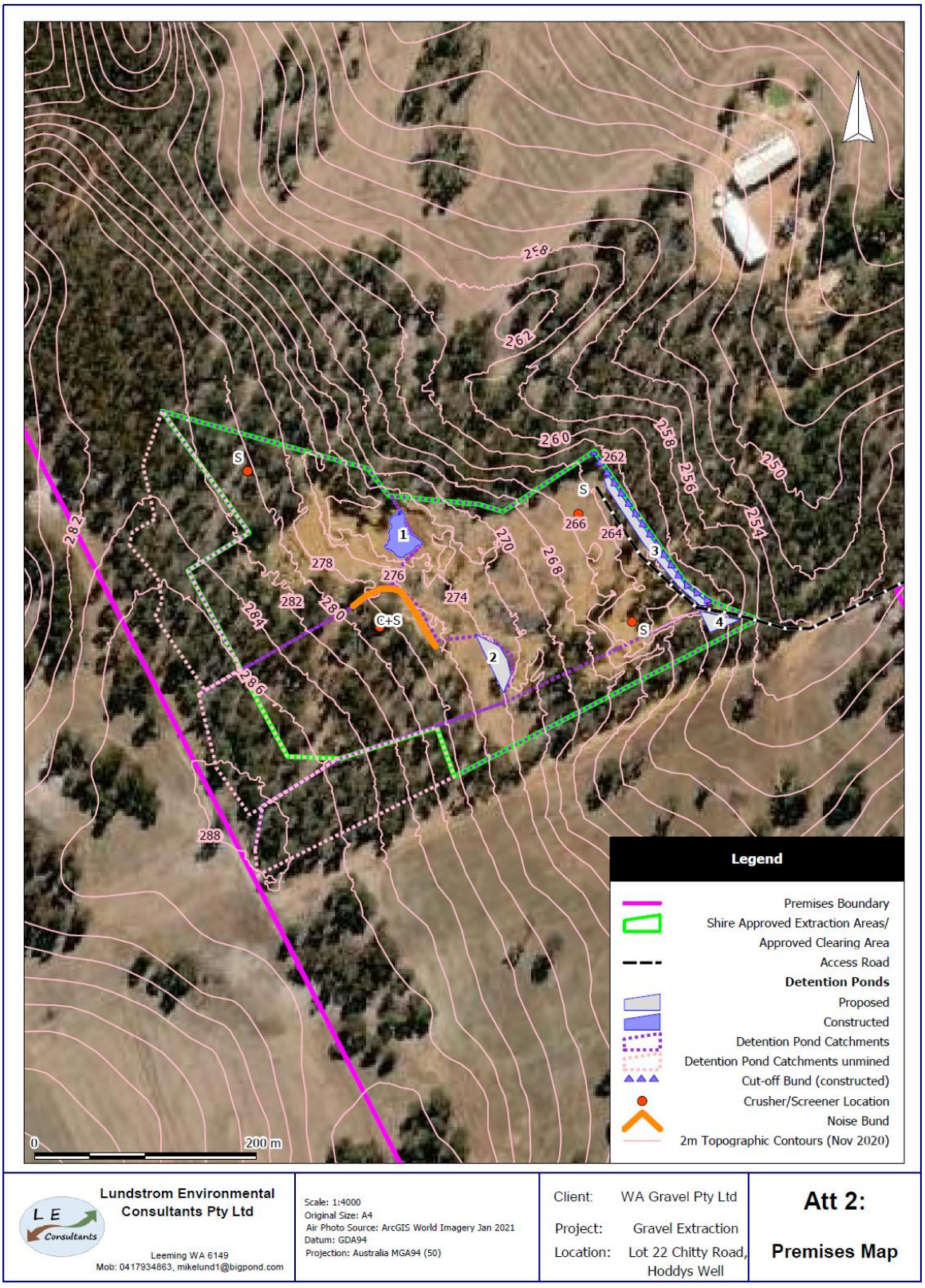

Figure 2: Location of crushing and screening plant

3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020) for those emission sources which are proposed to change and takes into account potential source-pathway and receptor linkages as identified in Section 3.1. Where linkages are incomplete they have not been considered further in the risk assessment.

Where the Licence Holder 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 Licence Holder'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 Licence Holder's controls are not deemed sufficient. Where this is the case the need for additional controls will be documented and justified in Table 5**.**

The Revised Licence L9126/2018/1 that accompanies this Amendment Report authorises emissions associated with the operation of the Premises i.e. category 12 activities.

The conditions in the Revised Licence have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

Table 5: Risk assessment of potential emissions and discharges from the Premises

Risk Event					Risk rating[1] C = consequence L = likelihood	Licence Holder's controls sufficient?	Conditions[2] of licence	Justification for additional regulatory controls
Source/Activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Licence Holder's controls**				
Construction (including mobilization of plant to site, and minor earthworks)								
Topsoil ripping and placement of topsoil/overburden in stockpiles; Clearing of vegetation; Mobilisation/positioning of screening/crushing equipment; Earthworks including construction of an additional three detention ponds and 4m earthen bund around crusher and screen	Dust	Air/windborne pathway causing impacts to health and amenity Deposition on vegetation potentially leading to reduced ecological function	984 Chitty Rd ~700m north-east 931 Chitty Rd ~850m east Avon River Tributaries; minor, ephemeral creek line ~ 850m south-west minor, ephemeral creek line ~ 700m northwest Jim Crow Gully, ~ 1.3km northwest	Refer to Section 3.1	*C = Minor* *L = Rare* ***Low Risk***	*Y*	Condition 1 Table 1: Infrastructure and equipment requirements – water cart	Given the proposed dust controls, and the short-term nature of the construction works, the risk of dust emissions impacting upon sensitive receptors is low and acceptable. Additional regulatory controls are not required. Occupational dust generated from the quarrying operations falls under the *Mines Safety and Inspection Act 1994* and Regulations 1995 which is overseen by the Department of Mines Industry Regulation and Safety (DMIRS).
	Noise	Air/windborne pathway causing impacts to health and amenity	984 Chitty Rd ~700m north-east 931 Chitty Rd ~850m east	Refer to Section 3.1	*C = Minor* *L = Rare* ***Low Risk***	*Y*	Condition 1 Table 1: Infrastructure and equipment requirements – noise bund	Noise controls proposed by the Licence Holder, as listed in Section 3.1, are deemed satisfactory to reduce risk to acceptable levels. No additional regulatory controls required. The *Environmental Protection (Noise) Regulations 1997* also apply. Noise exemptions during construction activities are included with the Regulations to enable site construction activities to be carried out.
Mobilisation/positioning of screening/crushing equipment;	Sediment laden stormwater	Stormwater from operational areas	Proclaimed Avon River Catchment Area Avon River	Refer to Section 3.1	*C = Minor* *L = Rare*	*Y*	Condition 1 Table 1: Infrastructure and equipment requirements	Given the significant distance between the quarry pit and the Avon River tributaries (>700m) it is unlikely that sediment laden stormwater from site preparation and construction operations will reach these

Risk Event					Risk rating[1] C = consequence L = likelihood	Licence Holder's controls sufficient?	Conditions[2] of licence	Justification for additional regulatory controls
Source/Activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Licence Holder's controls**				
Vehicle movements; and Earthworks		draining to non-operational areas and potentially causing erosion and sedimentation issues and poor surface water quality	Tributaries; minor, ephemeral creek line ~ 850m south-west minor, ephemeral creek line ~ 700m northwest Jim Crow Gully, ~ 1.3km northwest		***Low Risk***		– stormwater management infrastructure	tributaries. The Licence Holder has anticipated that the permeable nature of the gravel within the operational area means it is unlikely that any expression of surface water will exist, even after heavy winter rains. The stormwater controls listed in Section 3.1, including construction of detention ponds reduces risk to acceptable levels and have been conditioned within the amended licence. No additional regulatory controls required. Notably condition (a)xvii of the EIL already requires that 'the operations are managed in accordance with 'Water Quality Protection Note – Extractive Industries Near Sensitive Water Resources'. The general provisions of the *Environmental Protection Act 1986* and *the Environmental Protection (Unauthorised Discharges) Regulations 2004* also apply.
Plant and/or vehicle leaks and spills	Hydrocarbons and/or chemical spills	Hydrocarbon leak or spill within the pit contaminating soil, potentially infiltrating to groundwater Hydrocarbon leak or spill mixing with stormwater and draining to nearby surface water	Proclaimed Avon River Catchment Area Avon River Tributaries; minor, ephemeral creek line ~ 850m south-west minor, ephemeral creek line ~ 700m northwest Jim Crow Gully, ~ 1.3km northwest Groundwater >15m from	Refer to Section 3.1	*C = Minor* *L = Rare* ***Low Risk***	*Y*	No conditions proposed. Other regulatory controls apply such as the general provisions of the *Environmental Protection Act 1986* and the *Environmental Protection (Unauthorised Discharges) Regulations 2004*.	Notably condition (a)xvii of the EIL already requires that '*the operations are managed in accordance with 'Water Quality Protection Note – Extractive Industries Near Sensitive Water Resources'*. Given the controls proposed in the Hydrocarbon Management Plan and the short-term nature of the construction and site preparation works, the risk to receptors is low.

Risk Event					Risk rating[1] C = consequence L = likelihood	Licence Holder's controls sufficient?	Conditions[2] of licence	Justification for additional regulatory controls
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Licence Holder's controls				
			bottom of pit					
Operation								
Additional 5.28 ha gravel extraction area and crushing operations with operations including: Ripping and blading gravel using bulldozer to a stockpile (3 weeks per year) Excavation of gravel using front end loader and bulldozer Mobile crushing and screening for approximately 8-10 weeks per year Topsoil and overburden spreading and excavated area ripped on the contour for revegetation Vehicle movements	Dust	Air/windborne pathway causing impacts to health and amenity	984 Chitty Rd ~700m north-east 931 Chitty Rd ~850m east	Refer to Section 3.1	C = Minor L = Rare **Low Risk**	*Y*	Condition 1 Table 1: Infrastructure and equipment requirements – screening and crushing plant, stockpiling and water cart controls Conditions 2,3,4	The EPA recommended distance between hard rock quarries and sensitive residential receptors is 1km, due to noise and dust risks (EPA, 2005). Residences 931 and 984 Chitty Road are less than the recommended 1km separation distance from the quarry, so operation of the proposed crusher is considered to have a higher risk to public health and amenity unless adequately controlled. Notably thus far, there have been no complaints from neighbouring residences in relation to dust. The quarry site is bounded by significant vegetation buffers on the western, northern and eastern sides and scattered vegetation to the south, which reduces the risk of dust emissions reaching the two nearby residential receptors located in a north-eastern and eastern direction. The EILs for the site already requires site operations to manage dust emissions, and includes two conditions relating specifically to dust. Condition(a)xiv. of the EIL already requires that '*measures are to be taken to minimise the amount of dust pollution associated with the extraction site and are to comply with the Environmental Protection Act 1986 and the Department of Environmental Regulation Guidelines',* and condition(a)xix. of the EIL requires that '*All truck loads leaving the site are to be covered*' . Given the existing EIL dust conditions, and the controls proposed, dust risk to receptors is low and no additional regulatory controls are required.
Additional 5.28 ha gravel extraction area and crushing operations with operations	*Noise*	*Air/windborne pathway causing impacts to*	984 Chitty Rd ~700m north-east	*Refer to Section 3.1*	*C = Minor* *L = Rare*	Y	Condition 1 Table 1: Infrastructure and equipment requirements	The Licence Holder estimates that mobile crushing and screening plant will be used on site for approximately eight to ten weeks per year. Therefore, the risk of noise emissions impacting on the amenity

Risk Event					Risk rating[1] C = consequence L = likelihood	Licence Holder's controls sufficient?	Conditions[2] of licence	Justification for additional regulatory controls
Source/Activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Licence Holder's controls**				
including: Ripping and blading gravel using bulldozer to a stockpile (3 weeks per year) Excavation of gravel using front end loader and bulldozer Mobile crushing and screening for approximately 8-10 weeks per year Topsoil and overburden spreading and excavated area ripped on the contour for revegetation Vehicle movements		*health and amenity*	931 Chitty Rd ~850m east		***Low Risk***		– noise bunds and croaker reversing alarms	of sensitive residential receptors will be infrequent and temporary in nature. The Licence Holder provided a revised noise assessment that included the proposed crushing equipment. The assessment predicted that noise levels at all stages of gravel extraction, including crushing and screening, will comply with *the Environmental Protection (Noise) Regulations 1997.* DWER's Noise Branch noted that noise emission levels from the crushing and screening operation, while significantly increased from the previous screening only operation, still comply with the daytime assigned noise level of 45 dB(A) at the closest residences. Considering that the crushing and screening phase will be about 8-10 weeks per year and noise emission levels are still predicted to be lower than that from the ripping and blading phase, the noise branch determined that the introduction of the mobile crusher will not significantly increase the noise impact on the neighbouring residences. The noise branch also made note of the potential for both extraction areas approved under separate EILs to be operated simultaneously, which would likely result in non-compliance with the noise regulations due to cumulative emissions. This was raised with the Licence Holder who confirmed that the two excavation areas will not be operated simultaneously as there will be no additional plant or equipment which could result in cumulative impacts. Therefore, the noise controls proposed by the Licence Holder at section 3.1 are sufficient to manage noise emissions from the proposed crushing operations. These controls have been added to the amended licence. Notably condition (a)Xiii of the EIL already requires that '*the noise generated by the development is not to exceed the levels as set out under the Environmental Protection (Noise) Regulations 1997*.

Risk Event					Risk rating[1] C = consequence L = likelihood	Licence Holder's controls sufficient?	Conditions[2] of licence	Justification for additional regulatory controls
Source/Activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Licence Holder's controls**				
Additional 5.28 ha gravel extraction area and crushing operations with operations including: Ripping and blading gravel using bulldozer to a stockpile (3 weeks per year) Excavation of gravel using front end loader and bulldozer Mobile crushing and screening for approximately 8-10 weeks per year Topsoil and overburden spreading and excavated area ripped on the contour for revegetation Vehicle movements	Sediment laden stormwater	Overland runoff from stockpiles potentially causing ecosystem disturbance or impacting surface water quality	Vegetation within the premises: Proclaimed Avon River Catchment Area Avon River Tributaries; minor, ephemeral creek line ~ 850 m south-west minor, ephemeral creek line ~ 700m northwest Jim Crow Gully, ~ 1.3km northwest Groundwater >15m from bottom of pit	*Refer to Section 3.1*	*C = Minor* *L = Rare* ***Low Risk***	*Y*	Condition 1 Table 1: Infrastructure and equipment requirements – stormwater management infrastructure	The Licence Holder anticipates that due to the permeable nature of the gravel within the operational area, it is unlikely that any expression of surface water will exist, even after heavy rainfall. Furthermore, the pit will be approximately 3-4m below ground level and combined with the gentle slopes of the extraction area, most stormwater will naturally be retained within the pit. Given the permeable and sloped nature of the site, the short-term campaign nature of the works, the management measures proposed (use of detention ponds immediately downstream of excavation cells) and the distance to potential receptors, the risk of sediment laden stormwater impacting sensitive receptors is low and acceptable. Furthermore, an EIL condition requires quarry management in accordance with the DWER Water Quality Protection Note 15 – Extractive Industries near sensitive water resources.
Vehicle and machinery spills	Contamination of stormwater from hydrocarbons	Direct discharge to soil and draining to surface water and/or infiltration into groundwater		*Refer to Section 3.1*	*C = Minor* *L = Rare* ***Low Risk***	*Y*	Condition 1 Table 1: Infrastructure and equipment requirements– stormwater management infrastructure	The risk of contamination of surface water and ground water from hydrocarbons during quarry operations is deemed to be low, given the short-term campaign nature of the works, the management measures proposed (no fuel stored on site, no major servicing and snap off nozzles on refuelling truck) and the distance to potential receptors. Furthermore, an EIL condition requires quarry management in accordance with the DWER Water Quality Protection Note 15 – Extractive Industries near sensitive water resources.

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the *Guideline: Risk assessments* (DWER 2020).

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

4. Consultation

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

Table 6: Consultation

Consultation method	Comments received	Department response
Local Government Authority the Shire of Toodyay advised of proposal on 24 June 2022	The Shire responded on 7 July 2022 via email and a phone call also occurred confirming that the Licence Holder will be required to apply to the Shire for an amendment to their Development Approval (DA) and Extractive Industry Licence (EIL) due to the inclusion of the mobile crushing equipment as well as a few other areas the Shire required further clarification on such as rate of excavation, rehabilitation and surveying etc.	Given the minor nature of the required Shire approvals, the Delegated Officer determined the amended Part V licence can, if required, be issued prior to the changes to the DA and EIL.

5. Conclusion

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

5.1 Summary of amendments

Table 7 provides a summary of the proposed amendments and will act as record of implemented changes. All proposed changes have been incorporated into the Revised Licence as part of the amendment process.

Table 7: Summary of licence amendments

Condition no.	Proposed amendments
Cover page	Cover page updated to current licence template which includes description of prescribed premises category and assessed production capacity. DWER file number updated. Premises details updated to read correct Lot number being Lot 22 on Deposited Plan 420530.
Explanatory notes	Section deleted as part of update to new licence format. Section redundant as adequately covered by the EP Act.
Definitions and interpretations	Definitions section moved from start of the licence (after explanatory notes) to end of the licence (before Schedule 1) as part of update to new licence format. The definition of Annual Audit Compliance Report and Annual Environmental Report added to the table to replace the term 'compliance report'. The interpretations section deleted and replaced further down the revised licence by the new interpretation section with revised wording, as part of the update to new licence format.
Conditions emissions	Section and authorised emissions table deleted as part of conversion to new licence format. Authorised emissions adequately covered by EP Act.
Licence history	Licence history table added to the licence as part of conversion to new licence format.
Conditions	Title amended to 'Licence conditions'. Text added stating 'The licence holder must ensure

	that the following conditions are complied with' as part of conversion to new licence format.
Infrastructure and equipment Condition 1	Condition 1 updated to current licence format wording. Numbered column row deleted. Table numbering updated so Table becomes 'Table 1: Infrastructure and equipment requirements'. Infrastructure location column added to the table.
	Number of screening plant allowed at the premises added to site infrastructure and equipment column to provide clarity. Operation requirement for the screening plant updated so that gravel screen must always be operated behind a noise bund made from gravel stockpiles of no less than 4m in height and no more than 9m in height. Condition 3(b) requiring water sprays on screening plant conveyors to be operational whenever the screening plant is in use and condition 3(d) requiring excavation and screening activities on the Premises to be suspended if risk of fugitive dust impacting on sensitive receptors moved from specified actions section to Table 1. Reference to excavation deleted as DWER does not regulate extraction. The noise bund and mobile water cart conditions moved to separate new rows within the Table.
	1 x Mobile crushing plant added to Table 1 and the operational requirement for it to be operated at the bottom of the pit behind a noise bund made from gravel stockpiles no less than 4m in height and no more than 9m in height. Raw material to be sprayed with sprinklers before being placed into the crusher in the drier months. Condition 3(d) requiring excavation and screening activities on the Premises to be suspended if risk of fugitive dust impacting on sensitive receptors moved from specified actions section to Table 1 and updated to include crushing operations and delete reference to extraction as DWER does not regulate extraction.
	Noise bund operational requirement from the screening plant section moved to its own row in Table 1. Condition clarified that noise bund maintained to the east and north-east of the operating pit must be no less than 100m in length and made from product stockpiles no more than 9m in height. New noise bund control added to the licence. A second noise bund made from gravel stockpiles must be constructed and maintained to the east and north-east of the crushing and screening plant when the plant is operating. The stockpiles must be no less than 4m in height and no more than 9m in height.
	Stockpile operational requirements added to Table 1. Stockpiles of gravel material must not exceed 9m in height. Stockpiles of topsoil and/or overburden material must not exceed 2m in height. All stockpiles must maintain a natural angle of repose of 3:1 and be watered and stabilised as required to prevent visible dust lift off.
	Mobile equipment operational requirements added to Table 1. Mobile equipment operating at the premises includes but is not limited to: • 2 x CAT 966 front end loaders or equivalent • D8 Bulldozer or equivalent • Standard Rigid Truck or equivalent (14 tonnes) • Semi-loader (26 tonnes) or equivalent • Mobile refuelling truck All equipment and vehicles must be fitted with 'croaker' (broadband frequency with no tonality) reversing alarms to minimise noise emissions. Loading operations to occur within the pit with trucks driving down to collect the gravel product. Mobile refuelling trucks must be fitted with an automatic snap off nozzle to prevent overfilling and spillage. No fuel to be stored within the premises boundary. No major servicing, which could lead to fuel and oil spills is to take place within the

	premises.
	Water cart operational requirement from the screening plant section moved to its own row in Table 1. The condition revised so that the cart must be available 'at all times' during premises operation. Condition 3(b) requiring a water cart to operate proactively on the Premises when visible dust is generated from excavation and screening activities moved to Table 1 and updated to read dust generating activities instead of excavation and screening activities.
	Condition added to Stormwater management infrastructure section requiring surface water run-off from the operational area within the pit where the crushing and screening plant will operate, to be maintained within the excavation footprint.
Specified Actions	Section deleted as part of conversion to new template format. Condition 3(a) of licence relating to operating hours for the premises deleted from licence to avoid duplication of regulation as already regulated by the site's two EIL's. DWER also notes the two EIL's for the site have slightly differing operating hours. Condtion 3b),3c) and 3d) updated to include crushing operations and added to Table 1 as applicable.
Records and reporting	New section added to the licence as part of conversion to the new licence format.
Schedule 1: Maps	Figure 1 premises map updated to show Lot 22 boundary and Figure 2 added to Schedule 1 to show site infrastructure.
Schedule 2: Primary Activities	Redundant section deleted as part of conversion to new licence format.

References

1. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
2. Department of Water and Environmental Regulation (DWER) 2020, *Guideline: Environmental Siting*, Perth, Western Australia.
3. DWER 2020, *Guideline: Risk Assessments*, Perth, Western Australia.
4. Environmental Protection Authority (EPA) 2005, *Guidance for the Assessment of Environmental Factors: Separation Distances between Industrial and Sensitive Land Uses*, Western Australia.

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

Condition	Summary of Licence Holder's comment	Department's response
Request for comment on first draft sent 7 Nov 2022. Table 1: Infrastructure and equipment requirements	Email received 22 Nov 2022: Request to amend condition requiring stockpiles to be no more than 2m in height to a minimum height requirement of 4m. Request for extension until 8 December to provide outstanding information requested in highlighted text in drafts.	Response sent 24 Nov 2022: Condition amendment request accepted and extension granted.
	Email received 24 Nov 2022: Request for product stockpiles to be 7 – 9m tall. Explanation being that shorter stockpiles are impractical as they take up more space and are likely to be harder to manage for dust suppression. Once watered, the pea gravel stockpiles will also form an iron oxide crust which reduces potentially dust emissions.	Response sent 2 Dec 2022: Condition amendment request accepted. Licence Holder to confirm the location and maximum height of the topsoil/overburden stockpiles.
	Email received 5 Dec 2022: Request to remove condition requiring stockpiles of topsoil, overburden and/or gravel material are to be positioned either within the excavated pit area or in stockpiles around the northern and western boundary of the operational area to act as wind breaks. Reasoning being that the 2m tall stockpiles will not provide much wind sheltering and existing vegetation around the north and western boundaries of the site already act as a wind break.	Response sent 13 Dec 2022: DWER notes that the topsoil stockpile wind breaks were originally proposed by the Licence Holder, but can be removed as requested as they were not included in the revised noise modelling. Draft licence updated: • Noise bunds limited to min 4m and max 9m tall • Dimension requirements added to eastern noise bund • Noise bund around the crushing and screening plant only required when plant operating to provide greater operational flexibility • Gravel stockpiles limited to 9m tall and no location requirement • No location requirement for topsoil stockpiles but 2m
	Email received 8 Dec 2022: Updated premises infrastructure map provided. Noise bund dimensions specified as 9m H x 54m W x ~100m L.	

Condition	Summary of Licence Holder's comment	Department's response
		height restriction still applies Request for Licence Holder to provide a revised premises map as it is noted that the location of the access road and detention ponds has changed slightly in the new premises map provided.
	Email received 14 Dec 2022: Revised attachment 7 premises map provided. Request to remove stormwater diversion bunds at the upper south-western boundary of the pit as they are no longer proposed.	Response sent 15 Dec 2022: Explanation requested for why the diversion bunds are no longer necessary and what is proposed to prevent clean stormwater from entering into the extraction area?
	Email received 21 Dec 2022: Explanation provided that the diversion bund along the upper south-western boundary of the pit is not necessary because the upstream catchment is small, plus it has heavy vegetation so it's not much additional surface water runoff to manage. Latest figure with topographic contours providing showing that the catchment divide is located very close to the extraction boundary. Therefore it is more practical to size the detention ponds slightly larger to capture the additional surfacewater runoff from the small upstream unmined area.	Response sent 5 Jan 2023. Request for Applicant to provide calculations of the average runoff used to determine the four pond sizes, including the volume of run off from the non-mined area outside the extraction area.
	Email received 19 Jan 2023: Runoff calculations for the stormwater ponds provided.	Response sent 23 Jan 2023: Calculations acceptable and diversion bund condition removed.
	Email received 23 Jan 2023: Applicant advised that property details have changed. Revised figures and new certificate of title for Lot 22 provided.	Response sent 1 Feb 2023: Revised property details accepted, and drafts revised for second round of comments.
Request for comment on second revision drafts sent 1 Feb 2023.	Email received 28 Feb 2023: The Licence Holder advised they had no further comments to provide on the drafts apart from providing an updated Figure 2 for the decision report, which included the catchments of the detention ponds.	N/A – updated Figure 2 added to decision report and drafts updated ready for issuing.

Appendix 2: Application validation summary

<table>
<tr><th colspan="6">SECTION 1: APPLICATION SUMMARY</th></tr>
<tr><td colspan="6">Application type</td></tr>
<tr><td>Works approval</td><td>☐</td><td colspan="4"></td></tr>
<tr><td rowspan="5">Licence</td><td rowspan="5">☐</td><td>Relevant works approval number:</td><td></td><td>None</td><td>☐</td></tr>
<tr><td colspan="3">Has the works approval been complied with?</td><td>Yes ☐ No ☐</td></tr>
<tr><td colspan="3">Has time limited operations under the works approval demonstrated acceptable operations?</td><td>Yes ☐ No ☐ N/A ☐</td></tr>
<tr><td colspan="3">Environmental Compliance Report / Critical Containment Infrastructure Report submitted?</td><td>Yes ☐ No ☐</td></tr>
<tr><td colspan="4">Date Report received:</td></tr>
<tr><td>Renewal</td><td>☐</td><td>Current licence number:</td><td colspan="3"></td></tr>
<tr><td>Amendment to works approval</td><td>☐</td><td>Current works approval number:</td><td colspan="3"></td></tr>
<tr><td rowspan="2">Amendment to licence</td><td rowspan="2">☒</td><td>Current licence number:</td><td colspan="3">L9126/2018/1</td></tr>
<tr><td>Relevant works approval number:</td><td></td><td>N/A</td><td>☒</td></tr>
<tr><td>Registration</td><td>☐</td><td>Current works approval number:</td><td></td><td>None</td><td>☐</td></tr>
<tr><td colspan="2">Date application received</td><td colspan="4">8 March 2022</td></tr>
<tr><td colspan="6">Applicant and Premises details</td></tr>
<tr><td colspan="2">Applicant name/s (full legal name/s)</td><td colspan="4">WA Gravel Pty Ltd</td></tr>
<tr><td colspan="2">Premises name</td><td colspan="4">Hoddy’s Well Quarry</td></tr>
<tr><td colspan="2">Premises location</td><td colspan="4">Lot 8 Chitty Road
HODDY’S WELL WA 6566
Lot M1397 on Diagram 6089
Certificate of Title Volume 1051 Folio 86</td></tr>
<tr><td colspan="2">Local Government Authority</td><td colspan="4">Shire of Toodyay</td></tr>
<tr><td colspan="6">Application documents</td></tr>
<tr><td colspan="2">HPCM file reference number:</td><td colspan="4">DER2018/000488-1~1</td></tr>
<tr><td colspan="2">Key application documents (additional to application form):</td><td colspan="4">• Shire of Toodyay Extractive Industry Licence:
○ Application Date – 8 March 2018
○ Application Expiry – 8 March 2023</td></tr>
</table>

	○ Total excavation area – 5.28 ha ○ Excavation depth – not specified (refers to application documents) • Shire of Toodyay Extractive Industry Licence: ○ Application Date – 1 July 2016 ○ Application Expiry – 1 July 2026 ○ Total excavation area – 4.34 ha ○ Excavation depth – not specified (refers to application documents) • Emissions and Discharges – Water, Dust and Noise Management (extract from Shire Approved EIL Application).
Scope of application/assessment	
Summary of proposed activities or changes to existing operations.	• An additional 5.28 ha / 158,000 m^3 of gravel extraction over 5 years (~54,000t annual gravel extraction volume) is required to be added to the Hoddy's Well Quarry operations. • A mobile crushing (rotary impact crusher) and screening plant is proposed to be used on site for approximately eight to ten weeks per year. The crusher will be located within the excavation area (4m below ground level) behind stockpiles up to 5m in height. • Five new detention ponds (to contain the 10 year, 2 hour average return interval storm event, consistent with current Licence) to be constructed within the pit for each stage of operations.

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

Table 1: Prescribed premises categories

Prescribed premises category and description	**Assessed production or design capacity**	**Proposed changes to the production or design capacity (amendments only)**
Category 12 – Screening etc. of material: Premises (other than Premises within Category 5 or 8) on which material extracted from the ground is screened, washed, crushed, ground, milled, sized or separated.	90,000 tonnes per annual period.	No proposed change to the previously assessed production or design capacity.

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: N/A 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: N/A EPA Report No: N/A

Has the proposal been referred and/or assessed under the EPBC Act?	Yes ☐ No ☒	Reference No: N/A
Has the applicant demonstrated occupancy (proof of occupier status)?	Yes ☐ No ☒	Certificate of title ☐ General lease ☐ Expiry: Mining lease / tenement ☐ Expiry: Other evidence ☐ Expiry: Not required – Amendment.
Has the applicant obtained all relevant planning approvals?	Yes ☒ No ☐ N/A ☐	Approval: Shire of Toodyay Extractive Industry Licences Expiry date: N/A If N/A explain why?
Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal?	Yes ☒ No ☐	CPS No: CPS 7592/1.
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 Licence not required.
Has the applicant applied for, or have an existing RIWI Act licence or permit in relation to this proposal?	Yes ☐ No ☒	Application reference No: N/A Licence/permit No: N/A 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: N/A Has Regulatory Services (Water) been consulted? Yes ☐ No ☐ N/A ☒ Regional office: 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)? 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 ☒	N/A.
Is the Premises within an Environmental Protection Policy (EPP) Area?	Yes ☐ No ☒	N/A.
Is the Premises subject to any EPP requirements?	Yes ☐ No ☒	N/A.
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 The site is not listed on DWER's Contaminated Sites Database.