Decision Report

Application for Works Approval

Division 3, Part V *Environmental Protection Act 1986*

Licence Number	W6198/2018/1
Applicant	Denaya Nominees Pty Ltd
ACN	66109765219
File Number	DER2018/001566
Premises	Hamilton Hill Senior High School 8 Purvis Street Hamilton Hill WA 6163 Legal description - Lot 850 on Deposited Plan 404605 Certificate of Title Volume 2941 Folio 241
Date of Report	6 May 2019

1. Definitions

In this Decision Report, the terms in the Table below have the meanings defined.

Table 1: Definitions

Term	Definition
ACN	Australian Company Number
Category/ Categories/ Cat.	Categories of Prescribed Premises as set out in Schedule 1 of the EP Regulations
Decision Report	refers to this document.
Delegated Officer	an officer under section 20 of the EP Act.
Department	means the department established under section 35 of the *Public Sector Management Act 1994* and designated as responsible for the administration of Part V, Division 3 of the EP Act.
DWER	Department of Water and Environmental Regulation As of 1 July 2017, the Department of Environment Regulation (DER), the Office of the Environmental Protection Authority (OEPA) and the Department of Water (DoW) amalgamated to form the Department of Water and Environmental Regulation (DWER). DWER was established under section 35 of the *Public Sector Management Act 1994* and is responsible for the administration of the *Environmental Protection Act 1986* along with other legislation.
Emission	has the same meaning given to that term under the EP Act.
EP Act	*Environmental Protection Act 1986* (WA)
EP Regulations	*Environmental Protection Regulations 1987* (WA)
Licence Holder	means Cleanaway Pty Ltd
Noise Regulations	*Environmental Protection (Noise) Regulations 1997* (WA)
Occupier	has the same meaning given to that term under the EP Act.
Prescribed Premises	has the same meaning given to that term under the EP Act.
Premises	refers to the premises to which this Decision Report applies, as specified at the front of this Decision Report
Risk Event	As described in *Guidance Statement: Risk Assessment*

2. Purpose and scope of assessment

This Decision Report presents an assessment of potential environmental and public health risks from emissions and discharges from the construction and operation of a temporary crushing and screening plant on a demolition site as described in sections 3 and 4 below.

Denaya Nominees Pty Ltd (the Applicant) also propose to re-use the crushed and screened demolition waste material onsite as fill material. This activity has not been considered within this assessment as it is outside the scope of the application for construction and operation under Category 13 (crushing of building material). Any proposal to reuse the processed materials as fill material should take into consideration amendments to the *Environmental Protection Regulations 1987* and the revised *Landfill Waste Classifications and Waste Definitions 1996 (as amended 2018)* to ensure the material is suitable for use as 'fill' while not triggering any waste levy liability and licensing under the *Waste Avoidance and Resource Recovery Act 2007* (WARR Act) or EP Act respectively.

3. Application details

An application for a works approval (the Application) was received on 22 October 2018 from the Applicant for the installation and operation of a temporary crushing and screening plant at Lot 850 on Plan 404605 Hamilton Hill (the Premises).

The Delegated Officer determined that additional information was required to validate the Application and to complete the assessment of the Application. Requests to provide additional information were sent to the Applicant on 21 November 2018 and 21 December 2018. The Applicant provided the necessary additional information in December and February 2019 as listed in 2.

Table 2 lists the documents submitted during the assessment process.

Table 2: Documents and information submitted during the assessment process

Document/information description	Date received
Application Form	22 October 2018
Supporting document: *Licence Application for a Temporary Building Waste Crushing Facility at Hamilton Senior High School,* Aurora Environmental, 19 October 2018.	
Revised application form	4 December 2018
Additional information - Construction Noise Management Plan: *Hamilton Hill Senior High School Construction Noise Management Plan*, Herring Storer Acoustics, December 2018.	6 December 2018
Additional information – letter: Additional information – Hamilton Hill Senior High School Building Waste Crushing, Noel Davies, Aurora Environmental, 15 February 2019	15 February 2019
Additional information – Acoustic Assessment: *Hamilton Hill High School Demolition Site Crushing Works Acoustic Assessment*, Herring Storer Acoustics, January 2019	18 February 2019

4. Overview of premises

4.1 Classification of premises

The Prescribed Premises activities which relate to the proposed works and operation are outlined in Table 3.

Table 3: Prescribed Premises Categories

Classification of Premises	Description	Approved Premises production or design capacity or throughput
Category 13	Crushing of building material: premises on which waste building or demolition material (for example bricks, stones or concrete) is crushed or cleaned.	10,000 tonnes per annum

4.2 Description of proposed activity

The Applicant proposes to crush and screen up to 10,000 tonnes of concrete and bricks sourced from the demolition of the Hamilton Hill High School which is located within the Premises.

The works proposed are limited to the installation of a mobile crushing and screening plant and installation of associated emissions control infrastructure and equipment.

The Applicant expects the crushing operation to occur for a period of only two weeks, operating between the hours of 7am to 5pm from Monday to Saturday.

The crushing and screening process involves the following:

- Material to be processed will be stockpiled adjacent to the mobile plant. These materials will be concrete, bricks, rock, rubble masonry materials and soil.
- Material will be fed through the plant to reduce the particle size to less than 19mm.
- Any ferrous materials in the waste stream being crushed will be removed with the use of an electromagnet fitted to a conveyor belt.
- Ferrous materials will be stored in a skip bin pending recycling off-site.
- Crushed material will be screened and the oversize material will be re-circulated by the integrated screen for further crushing.

The proposed premises infrastructure, as it relates to Category 13 activities, is detailed in Table 4.

Table 4: Proposed infrastructure

Infrastructure	
Ref	**Prescribed Activity Category 13**
1	Mobile crushing and screening plant: Kleeman EVO 110 Mobile Crusher with integrated screen (with continuous recirculation of oversize material) and a 24m stacking product conveyor
2	Front end loaders and excavator
3	Sprinklers for stockpiled product

Infrastructure	
4	Water tanker
5	Sea containers to act as noise barriers
6	4x Portable asbestos fibre monitors

5. Time limited operation

The Applicant has requested that the option of commencing time limited operations under a Works Approval is considered by DWER in this assessment, due the short-term nature of operational activities (approximately 14 days) and due to the cost associated with a delay in operations pending the submission and determination of the associated Licence Application.

Conditions can be included in the works approval to regulate emissions and discharges that arise during the time limited operational phase. The period of operations under the works approval will be restricted to 90 calendar days to allow for the assessment of the associated licence application. Transition to operations under licence conditions can commence when the licence is granted.

Where infrastructure and operation of the premises meet the design and operational specifications, the Department can apply the findings of the works approval assessment in its licence decision, streamlining this process. The time limited operational phase conditions of the works approval may be transferred, as appropriate, into the operating licence.

Where the operation of the premises does not meet the construction and design specifications as assessed in the works approval application, it is likely that the premises will be unable to comply with time limited operational phase conditions. Under these circumstances, the works approval holder will need to apply for an amendment to the works approval, in order to allow for reassessment of emissions and discharges. Operations will need to cease in this period, but if the amendment is granted, time limited operation may be allowed to recommence.

Where an occupier is not compliant with one or more conditions of a works approval, the occupier may have an obligation to report a discharge of waste under section 72 of the EP Act, or may otherwise be committing an offence under Part V Division 1 of the EP Act. The Department will consider any offences in accordance with its Compliance and Enforcement Policy.

DWER understands that the proposed crushing works may be completed prior to the cessation of the time limited operational phase and hence there may not be a need for the Applicant to apply for a licence, however this would be at the Applicants risk should operations continue beyond the period of operations to be set under the works approval.

6. Environmental siting

The distances to residential and sensitive receptors are detailed in Table 5.

Table 5: Residential and sensitive receptors

Residential and sensitive premises	Distance from Prescribed Premises
Residential areas	Residences bordering the western Premises boundary located approximately 20 metres from the Premises boundary and 215 metres from the proposed crusher location. Residences bordering the northern Premises

Residential and sensitive premises	Distance from Prescribed Premises
	boundary located approximately 20 metres from the Premises boundary and 250 metres from the proposed crusher location. Residences located approximately 140 metres south-west of the Premises boundary and 410 metres from the proposed crusher location. Residences located approximately 140 metres east of the Premises boundary and 230 metres from the proposed crusher location.

The distances to environmental receptors are shown in Table 6.

Table 6: Environmental receptors

Environmental receptors	Distance from Prescribed Premises
Threatened ecological community – Banksia Dominated Woodlands of the Swan Coastal Plain	Intersecting the eastern Premises boundary and immediately south-east of the Premises boundary.
Areas relating to vegetation complexes commitments and quenda commitments in Perth and Peel Green Growth Plan	Within the southernmost area of the Premises and immediately south of the Premises boundary.
Underlying groundwater	Estimated at approximately 53.2m below ground level (DWER 2019).

7. Legislative context and other approvals

The relevant approvals provided by the Applicant are listed in Table 7.

Table 7: Relevant approvals

Legislation	Number	Approval
Planning and Development (Local Planning Schemes) Regulations 2015	6030860 – DA18/0913	Development Approval from the City of Cockburn for a temporary crushing facility at the Premises, requiring that works be completed within 90 days of the Approval being granted. A modification to the Development Approval was approved on 2 May 2019. Requiring that works be completed within 45 days of the modification being granted.

8. Risk assessment

Table 8: Risk assessment – construction

Risk Event					Consequence rating	Likelihood rating	Risk	Reasoning	Regulatory controls (refer to conditions of the granted instrument)
Source/Activities	**Potential emissions**	**Potential receptors**	**Potential pathway & receptor (impact)**	**Applicant controls**					
Installation of crushing an screening plant and associated infrastructure/equipment.	Dust	Residential receptors – nearest located 20m west of the Premises boundary and 215m west of the crusher location	Air/wind dispersion and inhalation resulting in amenity and health impacts	None specified	Low level impacts to amenity **Minor**	Impact is not expected to occur **Rare**	**Low**	Dust emissions caused by the installation of the required equipment would be minimal due to the very short duration and minimal vehicle movement and works required.	None specific to emissions during construction/installation
	Noise		Air/wind dispersion resulting in amenity impact	None specified	Minimal impacts to amenity **Slight**	Impact will probably not occur in most circumstances **Unlikely**	**Low**	The acoustic assessment provided in the Application does not consider noise emissions from the installation of the necessary equipment at the Premises. The noise emissions caused by the installation of the required equipment would be minimal due to the very short duration and minimal works required.	None specific to emissions during construction/installation

Table 9: Risk assessment – operation

Risk Event					Consequence rating	Likelihood rating	Risk	Reasoning	Regulatory controls (refer to conditions of the granted instrument)
Source/Activities	**Potential emissions**	**Potential receptors**	**Potential pathway & receptor (impact)**	**Applicant controls**					
Crushing and screening demolition material. Demolition stockpiles – movement and lift-off when static. Vehicle movement.	Dust	Residential receptors – nearest located 20m west of the Premises boundary and 215m west of the crusher location	Air/wind dispersion and inhalation resulting in amenity and health impacts	Stockpiles of material will be wetted prior to crushing with sprinklers or water tanker Misting water sprays at mouth of crushing plant Dribble bar on the plant conveyor between crusher and screen Spray nozzles fitted to plant discharge belt Vehicle speed restricted to 10km/h or less Wet down trafficked areas with water tanker Stockpile heights restricted to 3.5m Mulch to be applied to fines stockpile if needed Routine removal of accumulations of fine dust on trafficked surfaces Dust generating activities halted if dust emissions observed and during periods of strong winds towards receptors	Low level impacts to amenity **Minor**	Impact will probably not occur in most circumstances **Unlikely**	**Medium**	The short duration of the operation (maximum two weeks) reduces the degree of impact of dust emissions during operation. The effective implementation of the applicants proposed controls are expected to prevent dust emissions causing an amenity impact in most circumstances.	**Works Approval conditions:** Works Conditions 1 and 2: Infrastructure and equipment for dust suppression to be installed as per the Applicant's proposed controls. Time limited operations Condition 6: Water sprays and dribble bar must be operating when plant is operating Condition 8: Material to be crushed or relocated must be damp at time of crushing or relocation Condition 9: Stockpile must be maintained below a maximum height of 3.5m Condition 9: Stockpile surfaces must be maintained in a damp state or otherwise covered to prevent dust lift off Condition 10: Unsealed access areas must be maintained in a damp state Condition 11: Vehicles must not exceed a speed of 10km/hr within the Premises Condition 12: Visible dust must not

Risk Event					Consequence rating	Likelihood rating	Risk	Reasoning	Regulatory controls (refer to conditions of the granted instrument)
Source/Activities	**Potential emissions**	**Potential receptors**	**Potential pathway & receptor (impact)**	**Applicant controls**					
				Staff training					cross the Premises boundary Condition 26: A complaints management process must be implemented **Licence conditions:** As per time limited operations above
Crushing and screening demolition material. Movement of stockpiled demolition materials.	Noise	Residential receptors – nearest located 20m west of the Premises boundary and 215m west of the crusher location	Air/wind dispersion resulting in amenity impact	Double height shipping containers (total height of 4.2m) positioned around plant as noise barriers as shown in Appendix 1. Complaints management procedure includes noise monitoring (at the point of complaint) in response to a complaint, review of work practices and the potential to increase the number of shipping containers acting as noise barriers if complaints are received.	Low level impacts to amenity **Minor**	Impact could occur at some time **Possible**	**Medium**	See appendix 1 for the summary and consideration of the acoustic assessment provided within the Application. The short duration of the operation (maximum two weeks) reduces the degree of impact of noise emissions during operation.	**Works Approval conditions:** <u>Works</u> Conditions 1 and 2: Plant and shipping containers must be installed to the height and at the location specified within the acoustic assessment undertaken. <u>Time limited operations</u> Condition 6: Plant and shipping containers must be maintained in the location specified at installation Condition 13: Crushing operations must only occur between the hours of 7am to 5pm from Monday to Saturday Condition 20: Upon receiving a complaint regarding noise emissions, noise monitoring must be undertaken at the complainants location to determine compliance with Noise Regulations Condition 26: A complaints management process must be implemented **Licence conditions:** As per time limited operations above

Risk Event					Consequence rating	Likelihood rating	Risk	Reasoning	Regulatory controls (refer to conditions of the granted instrument)
Source/Activities	**Potential emissions**	**Potential receptors**	**Potential pathway & receptor (impact)**	**Applicant controls**					
Crushing and screening demolition material. Demolition material stockpiles – movement and lift-off when static.	Asbestos fibres from waste materials being released into the air during handling and crushing	Residential receptors – nearest located 20m west of the Premises boundary and 215m west of the crusher location	Air/wind dispersion and inhalation resulting in health impacts	Dust controls as listed above. Independent verification that any asbestos material has been removed from the buildings prior to demolition and removed off-site, with the exception of one small building in the north eastern corner of the Premises which was not inspected. Airborne asbestos fibre monitoring during demolition and crushing: • 4 portable asbestos fibre monitors deployed each day (location of monitors to be determined on a daily basis) • Monitor filters tested at NATA accredited laboratory overnight Visual inspection by of stockpiled materials to be crushed Visual inspection of crushed material Sampling and testing of crushed material in accordance with Department of Health guidance.	Ongoing medical treatment or loss of life **Severe**	Impact would only occur in exceptional circumstances **Rare**	**High**	The likelihood of asbestos being present in the demolition material to be crushed is expected to be low due to the majority of the buildings being inspected for asbestos materials prior to demolition and all material to be crushed being sourced from within the Premises (therefore there is a lower contamination risk than accepting waste from other Premises). Regulatory controls such as inspection procedures and sampling and testing would be sufficient to address the risk of asbestos being contained in the one small building that was not inspected.	**Works Approval conditions:** Works – N/A Time limited operations Controls consistent with the Department of Environment and Conservation, 2012. *Guidelines for managing asbestos as construction and demolition waste recycling facilities*: Condition 7: restrictions not allowing waste to be accepted from off-site. Condition 15: Asbestos and asbestos containing material cannot be crushed or screened Condition 16: Inspection procedures must be followed for demolition material prior to crushing Conditions 16 and 17: Specified actions to be taken if asbestos is detected in waste demolition material Condition 18: Stockpiles of tested and untested waste are clearly separated and labelled. Condition 19: Sampling and testing requirements for processed material **Licence conditions:** As per time limited operations above
Crushing and screening demolition material. Handling and stockpiling demolition material.	Stormwater and dust suppression water runoff	Waterbodies receiving runoff via stormwater drains	Impact to water quality (elevated turbidity) due to sediment input from runoff. An amenity impact may be experienced at the immediately adjacent residences if runoff is flowing into the surrounding streets. It is unclear if there is a pathway offsite and via street stormwater drains to a water body.	Containment of water on site (means of doing this are not specified)	Minimal impact to amenity Minimal off-site impact at local scale **Minor**	Impact would only occur in exceptional circumstances **Rare**	**Low**	Provided that the dust suppression water runoff is contained within the Premises as proposed by the Applicant, no impact is expected to occur.	**Works approval conditions:** Works – N/A Time limited operations Condition 14: All runoff water must be contained within the Premises **Licence conditions:** As per time limited operations above

9. Consultation

Table 10: Summary of comments received

Method	Comments received	DWER response
Application advertised on DWER website	No comments were received	NA
City of Cockburn notified	No comments were received	N/A
Applicant provided with draft Works Approval and Decision Report for comment on 26 March 2019	Response received from Applicant on 8 April 2019. Additional clarification provided as requested by DWER. Applicant requested time limited operations be granted under the Works Approval and waived remaining comment period.	Works Approval and Decision Report updated in response to additional clarification provided. Works Approval and Decision Report amended to allow time limited operations under the Works Approval.
Applicant provided with draft Works Approval and Decision Report for an additional comment period on 12 April 2019	Response received from Applicant on 16 April 2019. Additional clarification provided as requested by DWER. Waived remaining comment period.	Works Approval and Decision Report updated in response to additional clarification provided regarding actions taken in response to noise complaints.

10. Conclusion

This assessment of the risks of activities on the premises has been undertaken with due consideration of a number of factors, including the documents and policies specified in this decision report (summarised in Appendix 2).

Based on this assessment, it has been determined that the issued Works Approval will be granted subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

DWER notes that it may review the appropriateness and adequacy of controls at any time and that, following a review, DWER may initiate amendments to the approval under the EP Act.

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A/MANAGER WASTE INDUSTRIES
REGULATORY SERVICES
Delegated Officer under section 20 of the *Environmental Protection Act 1986*

Appendix 1: Noise emissions assessment

An acoustic assessment based on modelled noise emissions from the crusher was provided within the Application. The modelling included sound barriers (shipping containers) surrounding the crusher. The crusher location and barrier configuration is shown in Figure 1.

Figure 1: Crusher and sea container barrier configuration (Herring Storer Acoustics 2019)

Regulations 7 and 8 within the *Environmental Protection (Noise) Regulations 1997* (Noise Regulations) set out assigned levels (at the premises receiving the noise) which the Premises must not cause or significantly contribute to. The assigned levels which apply to the receptors adjacent to the Premises, during the crusher operation hours are shown in Table 11.

Table 11: Assigned noise levels at receptors

Type of premises receiving noise	Time of day	Assigned level (dB)		
		$L_{A\ 10}$	$L_{A\ 1}$	$L_{A\ max}$
Noise sensitive premises: highly sensitive area	0700 to 1900 hours Monday to Saturday	45 + influencing factor	55 + influencing factor	65 + influencing factor

Influencing factors, which attempt to estimate background noise levels, have been applied due to the presence of a major road within 100m of the receptor location R1 and within 450m of receptor locations R2, R3 and R4. The influencing factors as calculated within the acoustic assessment provided to DWER and the adjusted assigned levels are shown in Table 22.

Table 22: Assigned noise levels including adjustment for the influencing factor*

Receptor location	Influencing factor (IF)	Assigned level (including adjustment for the IF) (dB)
	Traffic factor	
R1	6	51
R2	2	47
R3	2	47
R4	2	47

*The information in this table has been sourced from the Acoustic Report (Herring Storer Acoustics 2019)

The calculated noise levels at residential receptors adjacent to the Premises are provided in Table 13. A map of the location of these receptors is shown in Figure 2.

Table 13: Calculated noise levels at residential receptors

Receptor location	Modelled noise level (L_{A10} dB(A))
R1	46
R2	38
R3	44
R4	44

Figure 2: Location of residential receptors used within noise modelling (Herring Storer Acoustics 2019)

The acoustic assessment states that annoying noise characteristics (such as tonality) would be masked by the ambient noise level due to the location of the receptors around major roads (Stock and Forrest roads). The calculated noise levels were therefore not been adjusted for annoying characteristics within the acoustic report provided to DWER.

The acoustic assessment concludes that the noise emissions associated with the crusher have been calculated to comply with the assigned noise levels, given the proposed hours of operation and the proposed sea container noise barriers.

DWER's Noise Management Branch has noted that the tonal characteristics of the equipment to be used within the operation may be masked at receptors R1 and R4 due to their proximity to Stock Road, however this may not be the case at R2 and R3. A conservative approach, which assumes that noise emissions from the operation would be tonal at all receptors, would require an adjustment to the modelled noise levels of +5dB.

DWER's Noise Management Branch has also noted that the acoustic assessment provided does not consider the noise emissions from the front end loader (or any addition equipment) which will be used in the crushing operation. DWER has calculated that the use of one front end loader would be likely to increase the predicted noise levels at the residential receptors by approximately 1dB.

Considering the increase in the predicted noise levels at the receptors based on the tonal characteristics and the inclusion of a front end loader, a potential exceedance of up to 3dB has been calculated for receptors R3 and R4. This indicates that the noise emissions from the operations have the potential to not meet the assigned noise levels at the neighbouring noise sensitive premises. If however tonality is not discernible during operation, the noise emissions are expected to meet the assigned noise levels.

Key findings

The Delegated Officer has reviewed the information in relation to noise emissions from the Premises and finds that the risk of amenity impacts due to noise emissions from the Premises is acceptable on the basis that tonality may not be experienced at the noise sensitive receptors, in which case the noise emissions are likely to comply with the *Environmental Protection (Noise) Regulations 1997*. However, based on the potential for marginal exceedance of the assigned noise levels at the noise sensitive premises, if a noise complaint is received, the Applicant will be required to undertake noise monitoring to assess compliance with the Noise Regulations (noting that this is a control proposed by the Applicant).

Appendix 2: Key documents

Document title	In text ref	Availability
Hamilton Hill High School Demolition Site Crushing Works Acoustic Assessment, Herring Storer Acoustics, January 2019	Herring Storer Acoustics 2019	DWER records (A1766243)
Perth Groundwater Map – Department of Water and Environmental Regulation	DWER 2019	Available at http://www.water.wa.gov.au/maps-and-data/maps/perth-groundwater-atlas Accessed 20 March 2019
DER, July 2015. *Guidance Statement: Regulatory principles.* Department of Environment Regulation, Perth.	-	accessed at www.dwer.wa.gov.au
DER, October 2015. *Guidance Statement: Setting conditions.* Department of Environment Regulation, Perth.	-	
DER, November 2016. *Guidance Statement: Risk Assessments*. Department of Environment Regulation, Perth.	-	
DER, November 2016. *Guidance Statement: Decision Making*. Department of Environment Regulation, Perth.	-	