



Form 1 - Responsible Authority Report (Regulation 12)

Property Location:	Lots 7,10,12,30,50,53,101 Kiln Road and Lot 802 South West Highway, Byford
Development Description:	Factory Expansion and Ancillary Development
DAP Name:	Metro Outer Joint Development Assessment Panel
Applicant:	Austral Bricks
Owner:	Bristle Holdings Pty Ltd
Value of Development:	\$55,000,000
LG Reference:	PA19/1121
Responsible Authority:	Shire of Serpentine Jarrahdale
Authorising Officer:	Ashwin Nair - Manager Statutory Planning and Compliance
DAP File No:	DAP/19/01712
Report Due Date:	20 August 2020
Application Received Date:	29 November 2019
Application Process Days:	90 days
Attachment(s):	1. Application Details 2. Summary of submissions 3. Council Minutes (extract)

Officer Recommendation:

That the Metro Outer JDAP resolves to:

1. **Refuse** DAP Application reference DAP/19/01712 and accompanying plans in accordance with Clause 68 of Schedule 2 (Deemed Provisions) of the *Planning and Development (Local Planning Schemes) Regulations 2015*, and the provisions of Shire of Serpentine Jarrahdale Town Planning Scheme No. 2, and pursuant to clause 24(1) and 26 of the Metropolitan Region Scheme for the following reasons:

Reasons

1. Insufficient information has been provided to adequately demonstrate that the proposal will not adversely impact the current and intended future amenity of the locality, specifically in respect of amenity impacts associated with dust and air emissions.
2. Insufficient information has been provided to adequately demonstrate that the proposal will not adversely impact the environment, specifically being Cardup Brook, the associated riparian vegetation and the quality of groundwater.
3. The subject land is designated to be zoned 'Rural' under the Council adopted proposed Local Planning Scheme No. 3. This represents a serious document likely to be adopted, to which regard must be given.

The proposal represents a non-conforming use under the 'Rural' zone of the land in the new Scheme. While the new Scheme contains a provision at Clause 23(1)(a) that enables a merits based assessment to be performed to consider an extension of a non-conforming use, there is no precise manner of use intensity or extension prescribed in the new Scheme. Therefore, taking into account Reasons 1 and 2, an extension of a non-conforming use which this proposal would represent under the new Scheme, is not consistent with orderly and proper planning.

Details: outline of development application

Insert Zoning	MRS:	'Rural' and 'Urban Deferred'
	TPS:	'Special Use'
Insert Use Class:		<i>"Extraction and storage of Shale and Clay and manufacture, storage and distribution of Masonry and related products".</i>
Insert Strategy Policy:		Shire of Serpentine Jarrahdale Rural Strategy Review 2013
Insert Development Scheme:		Shire of Serpentine Jarrahdale Town Planning Scheme No. 2
Insert Lot Size:		Lot 7 Kiln Road - 2.95ha Lot 10 Kiln Road - 2.6ha Lot 12 Kiln Road - 3.8ha Lot 30 Kiln Road - 1.7ha Lot 50 Kiln Road - 37.7ha Lot 53 Kiln Road - 0.68ha Lot 101 Kiln Road - 16.6ha Lot 802 South West Highway - 6.16ha
Insert Existing Land Use:		<i>"Extraction and storage of Shale and Clay and manufacture, storage and distribution of Masonry and related products".</i>

The application seeks approval for the expansion to the existing brickworks factory including the following elements:

- Expanding the current factory footprint by 8944m² (including internal equipment replacement);
- Upgraded baghouse scrubber;
- New hopper and conveyor;
- New primary crusher;
- Clay storage area located in existing unused pit area;
- Internal road upgrades, including widening of creek crossings;
- Rearrangement of storage areas;
- Clearing of a small area of vegetation to facilitate the development.

The current brickworks facility is also proposed to be upgraded to include the following:

- The installation of a natural gas fired kiln;
- Two new tunnel dryers and a batch dryer;

- A baghouse scrubber;
- New plant including robots;
- Reconfiguration of on-site drainage to capture stormwater.

Access to the site is proposed to remain from Kiln Road and the internal vehicle movement network is proposed to be upgraded as part of the proposal. This includes widening of two existing crossings over the Cardup Brook.

The number of employees at the site are proposed to be similar in number to the existing, which includes approximately 30 full time employees across all operations on the site. No public access is permitted to the site. Full details of the proposal are contained within **attachment 1**.

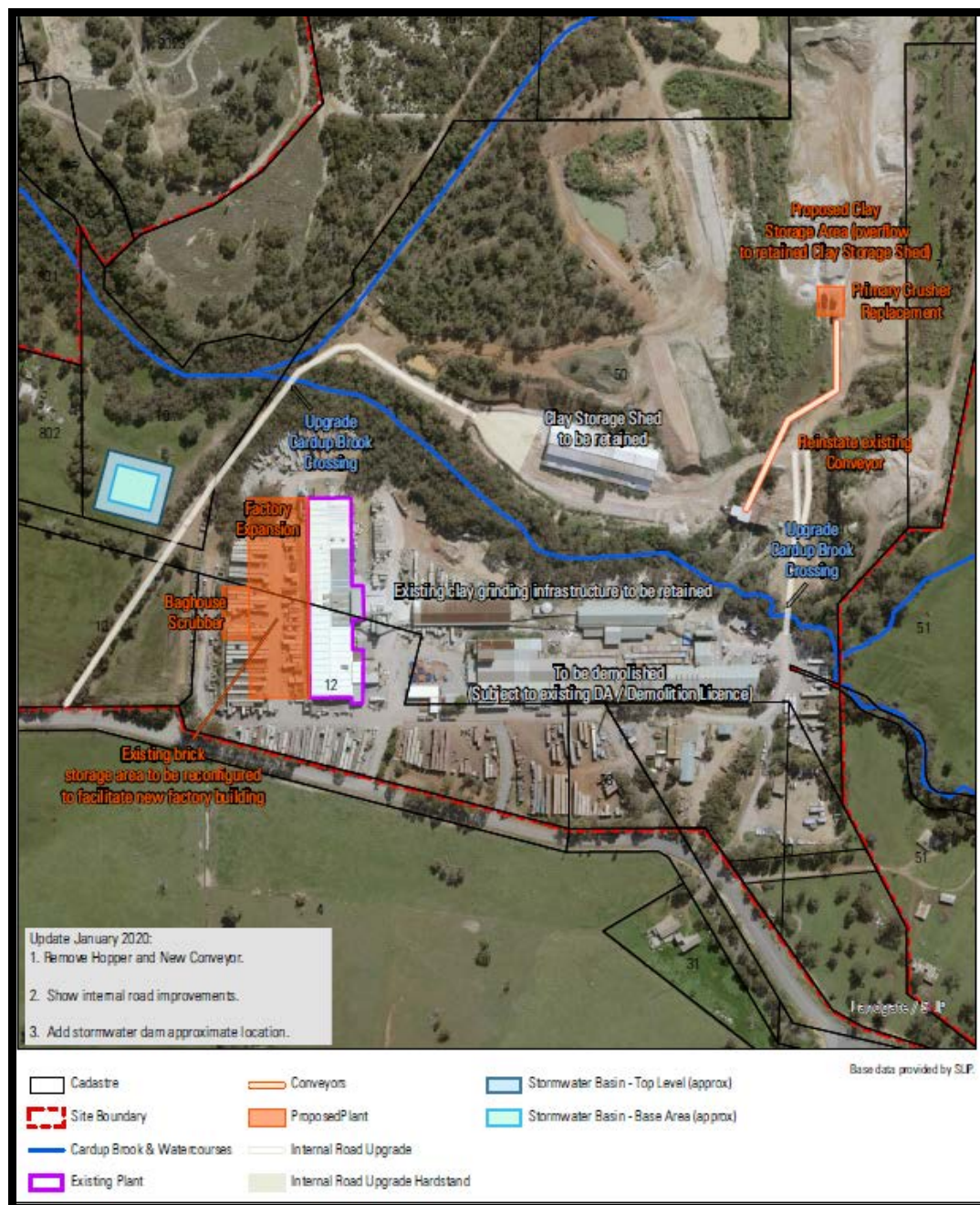
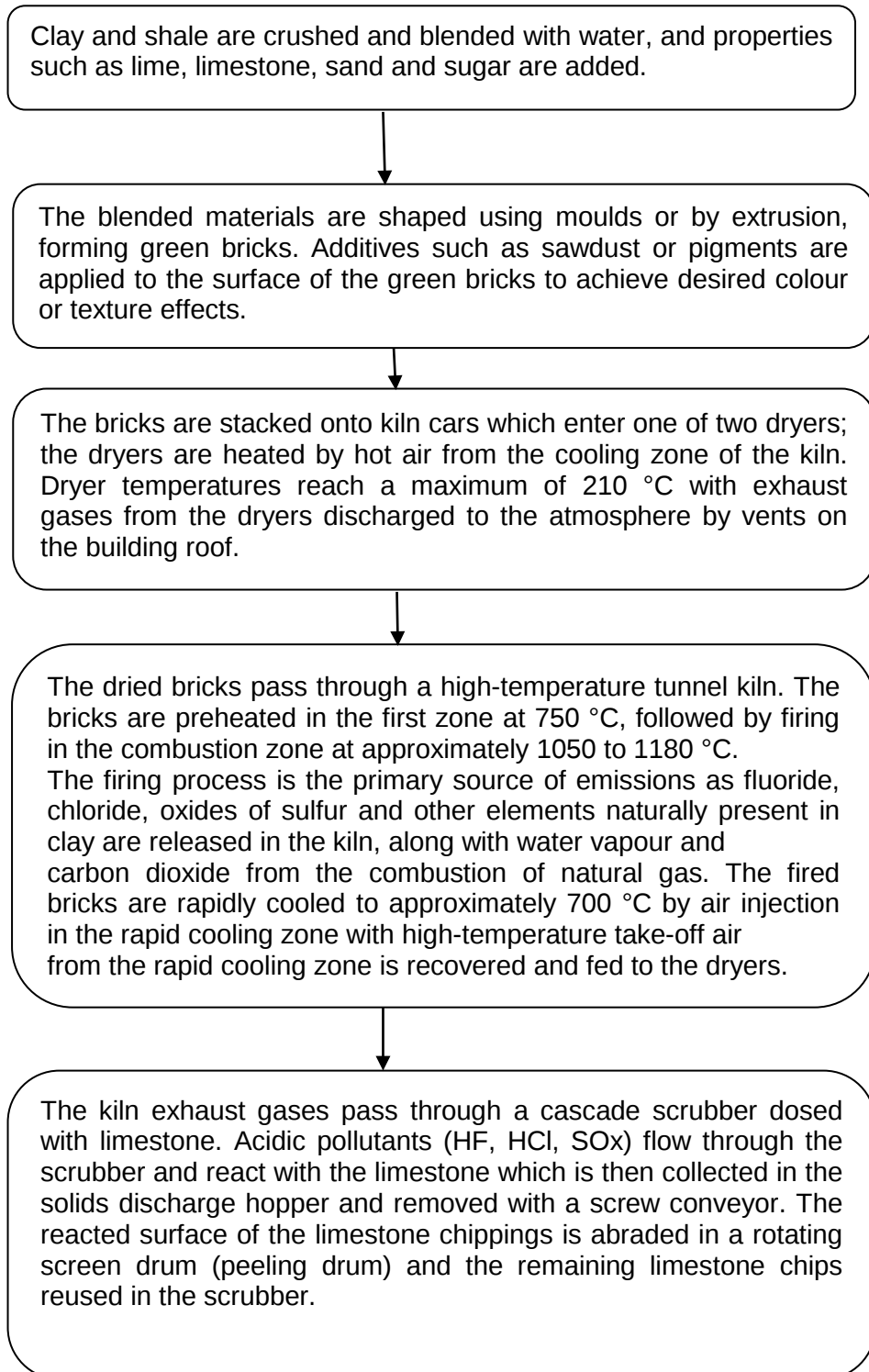


Figure 1: Site Plan

Details of operations:

The application explains that the brickworks currently has the capacity to produce approximately 200,000 tonnes of products annually. The brick making process is explained as:



The subject site is zoned 'Special Use' under the Shire's Town Planning Scheme No. 2 (TPS2). This states the permitted use of "*Extraction and storage of Shale and Clay and manufacture, storage and distribution of Masonry and related products*". The proposed use is considered to continue (and thus fall within the classification of) this land use.

The subject site is zoned 'Rural' under Proposed Shire of Serpentine Jarrahdale Local Planning Scheme No. 3 (LPS3) whereby the land use of 'Industry' is prohibited. LPS3 has been advertised, has had submissions in response to advertising considered, and has been adopted by Council (subject to modifications) and sent to the Western Australian Planning Commission and Hon Minister for final approval. This took place on 7 July 2020. As such, it is a planning instrument being seriously considered for adoption.

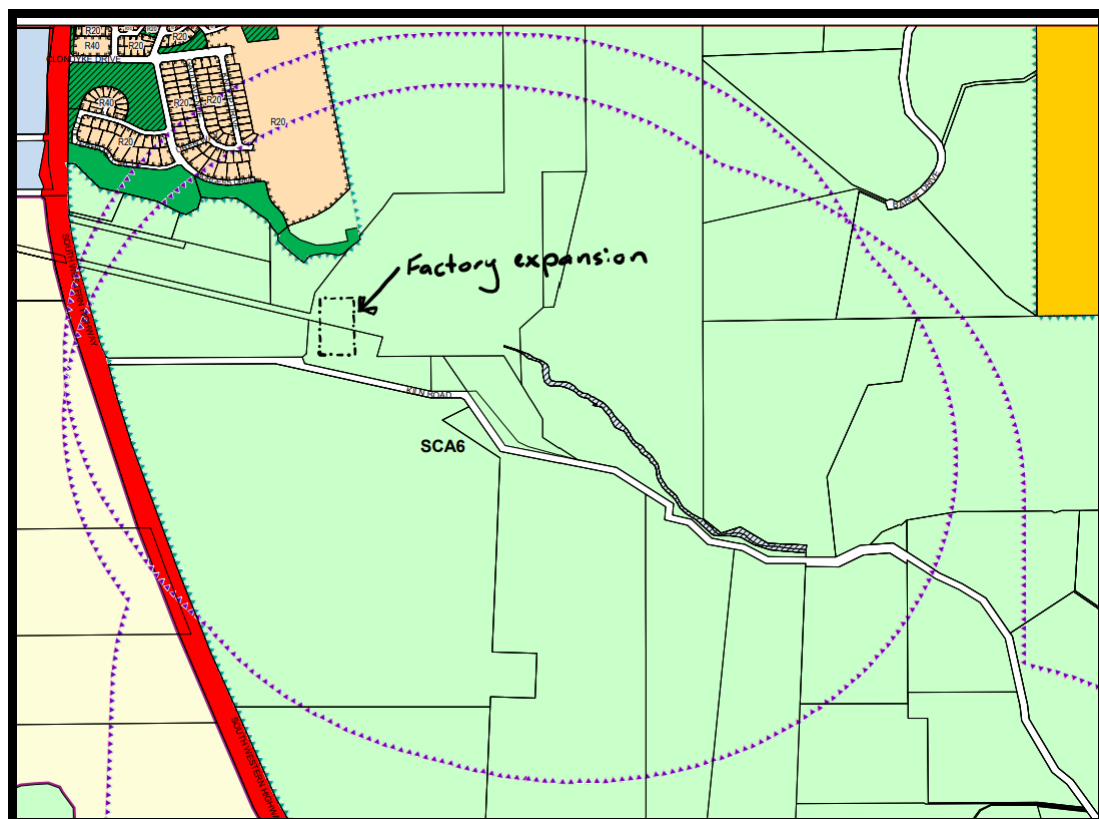
The proposal would represent a non-conforming use under LPS3. In accordance with Clause 23(1)(a) of LPS3:

23. Changes to non-conforming use

- (1) A person must not, without development approval-
(a) alter or extend a non-conforming use of land

The strategic intent of the area under LPS3, is to provide and safeguard rural land use and associated rural amenities for the land and its locality.

The subject land also has an associated proposed Special Control Area 5 (Extractive Industry Separation Distance of 1000m) and Special Control Area 6 (Industry Buffers Separation Distance of 1000m). These are shown following:



The subject land is also located within Special Control Area No. 2 (Darling Scarp Landscape Protection).

Background:

The site comprises of nine lots, with a total area of 119.18ha, located to the south of Byford, within the Darling Scarp. The brickworks were initially established in 1914 and is the only remaining brickworks within the Shire. There is an associated cultural heritage value with the ongoing use of the land.

Clay extraction was carried out in the northern area of the site and was completed approximately 5 years ago. The brickworks manufacturing plant is located towards the south of the site adjacent to Kiln Road. The site is also utilised for the storage of bricks and masonry products.

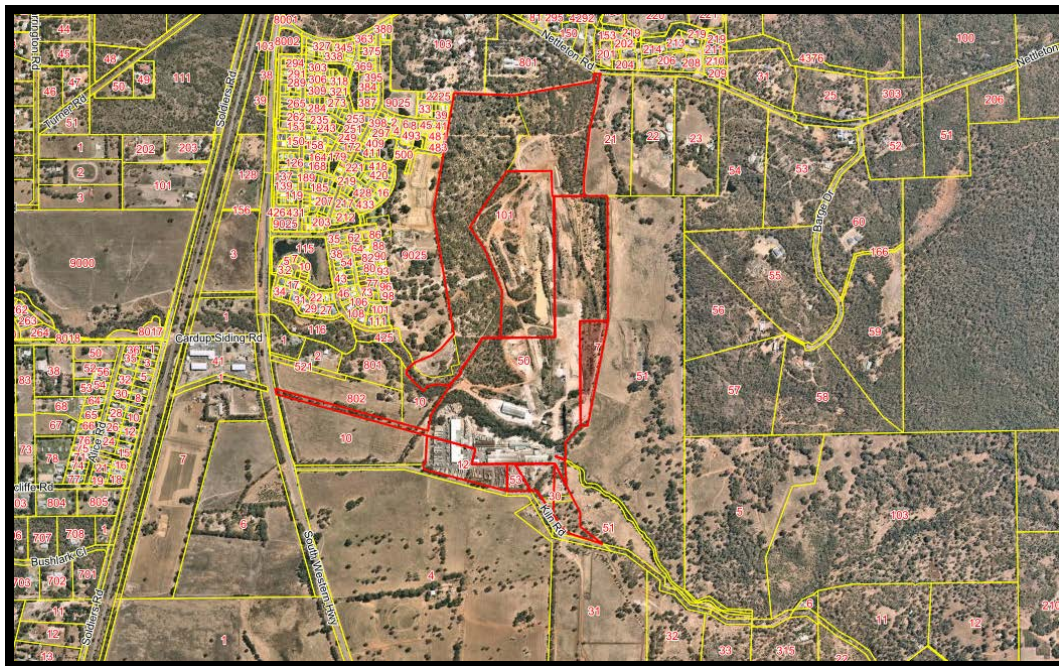


Figure 2: Aerial Image

The Cardup Brook traverses the property from east to west, with a portion of Bush Forever extending along the western boundary. The proposed works will not impact on the Bush Forever site. Water is not used from the brook.

The immediate surrounding area is predominantly residential to the west, and rural to the east and south. Residential development is located approximately 180m to the western lot boundary and approximately 420m to the factory building.

Legislation and Policy:

Legislation

- *Planning and Development Act 2005;*
- *Planning and Development (Development Assessment Panels) Regulations 2011*
- *Planning and Development (Local Planning Schemes) Regulations 2015*

- *Metropolitan Region Scheme (MRS)*
- *Shire of Serpentine-Jarrahdale Town Planning Scheme No. 2 (TPS2)*
- *Draft Shire of Serpentine Jarrahdale Local Planning Scheme No. 3 (LPS3)*
- *Environmental Protection (Noise) Regulations 1997.*

State Government Policies

- State Planning Policy 3.7 - Planning in Bushfire Prone Areas (SPP3.7)
- Environmental Protection Authority Guidance for the Assessment of Environmental Factors Separation Distances between Industrial and Sensitive Land Uses (2005)
- State Planning Policy 4.1 - State Industrial Buffer Policy (SPP 4.1)

Local Strategies

- Rural Strategy Review 2013
- Draft Local Planning Strategy

Local Policies

Local Planning Policy 4.3 - Landscape Protection

Recent legislative change

The Planning and Development Amendment Bill 2020 (WA) received Royal Assent on 7 July 2020, which means that the new provisions in the Planning and Development Act 2005 (WA), to allow the Western Australian Planning Commission (WAPC) to determine development applications for “significant development” proposals, are now law.

New development proposals within the Perth metropolitan area, with an estimated cost of \$20,000,000 or more, are now subject to a new WAPC development approval pathway. This would be in place of the decision making responsibility of the Development Assessment Panel, and also the Shire’s role in preparing the Responsible Authority Report.

Consultation:

Public Consultation

The application was advertised for a period of 21 days from 20 May 2020 to 11 June 2020. Letters were sent to surrounding landowners within a 2km radius of the site. An advertisement was also placed in the Examiner newspaper for the same period and on the Shire’s website. The applicant also displayed a sign advertising the proposal located on land at the intersection of Kiln Road and South Western Highway, in accordance with Local Planning Policy 1.4 - Public Consultation for Planning Matters.

The advertising timeframe was later extended by a further three weeks at the request of community members until 2 July 2020.

As part of the consultation, 41 submissions were received from surrounding landowners. 33 submissions raised objections to the proposal, 4 submissions were

in support, 2 provided no comments and a further 2 considered that a public health environmental review should be sought.

A full summary of the submissions with the applicant's response is contained within **attachment 2**. The objections to the proposal are summarised in the table below:

Issue Raised	Officer's comment in respect of the issue
Traffic	Noted - refer to Traffic and Access section of report.
Dust	Supported - refer to Dust section of report.
Air Emissions/pollution	Supported - refer to Air Emissions section of report.
Contamination/pollution of groundwater, surface water and the brook.	Noted - refer to Environmental Considerations section of report.
Noise	Noted - refer to Noise section of report.
Proximity to residential properties/reduction in buffer	Noted - refer to amenity section of report.
Loss of Vegetation	Noted - refer to Environmental Considerations section of report.
Amenity/Impact on rural lifestyle	Noted - refer to Amenity section of report.
The development should be located in an industrial area/relocated to West Mundijong	Noted - under the new LPS3 proposed to be zoned 'Rural'. Non-conforming use rights would protect existing use in a general sense, and include ability to extend. Refer to report discussion.
Residents had been advised that the brickworks were to close	Noted - this is however not a consideration under the planning framework.
Zoning under LPS3	Noted - under the new LPS3 proposed to be zoned 'Rural'. Non-conforming use rights would protect existing use in a general sense, and include ability to extend. Refer to report discussion.

Consultation with other Agencies or Consultants

MRWA

The application was referred to MRWA however no submission was received.

Department of Health

The application was referred to the Department of Health however no submission has been received.

Department of Biodiversity Conservation and Attractions (DBCA):

The DBCA raised no objections to the proposal and noted it would be subject to approval by the Department of Water and Environment Regulation in relation to works, emissions and removal of vegetation.

Department of Planning, Lands and Heritage - Indigenous Affairs:

The Department advised that on review of the Register of Places and Objects, the DPLH Aboriginal Heritage Database and plans provided, concludes that the works are not within the boundary of any known Aboriginal Sites or Places and therefore no approvals under the *Aboriginal Heritage Act 1972* are required.

Department of Water and Environment Regulation (DWER)

DWER do not object to the proposal however have provided comments and recommendations as follows:

Issue: Industry Regulation

Recommendation

While the Department is yet to receive a Part V of the Environmental Protection Act 1986 (EP Act) application for the brickworks expansion proposal, it is currently assessing a works approval application for a batch dryer. The Austral application for the batch dryer includes copies of a Shire of Serpentine-Jarrahdale's development application approval from February 2019.

The site is currently a prescribed premises and operating under licence L9025/2017/1.

Part V assessment will consider land to the west of the premises, which is already zoned for residential homes (confirmed by Shire of Serpentine-Jarrahdale), as 'sensitive receptor'.

Issue: Native Vegetation

Recommendation

Based on the information provided it is likely that the proposed clearing for the factory expansion is exempt from the requirement for a clearing permit under Regulation 5, Item 1 of the Environmental Protection (Clearing of Native Vegetation) Regulations 2004 (the Clearing Regulations).

The proposed clearing to upgrade the eastern Cardup Creek crossing (eastern crossing) is likely to be exempt under Regulation 5, Item 12 of the Clearing Regulations. However, the proposed clearing to upgrade the western Cardup Creek crossing is unlikely to be exempt as it occurs within an Environmentally Sensitive Area (ESA) (Bush Forever site 271), and the Regulation 5, Item 12 exemption doesn't apply within an ESA.

DWER has not yet received an application for a clearing permit relating to this proposal.

Issue: Acoustic Report

Recommendation

The technical adequacy of the acoustic assessment provided by Lloyd George Acoustics (LGA) for this proposal is reliant upon an earlier acoustic study completed by a different acoustic consultant - EcoAcoustics.

The Lloyd George Acoustics report and its outcomes are based on noise modelling of sources operational at the time of the EcoAcoustics surveys, DWER's interpretation of the survey and estimated source noise levels for some plant. As such, the actual noise levels from these sources may be different.

Should the Shire require technical advice regarding the adequacy of the Lloyd George Acoustics acoustic report, please provide the original EcoAcoustics document, upon which assumptions are based, to the Department.

Issue: Proposed River Crossing Upgrades

Recommendation

The proponent may require a Permit to Interfere with the Bed or Banks of a Watercourse, under the Rights in Water Irrigation Act 1914. The proponent is advised to contact the Kwinana-Peel Regions Licencing Program on 9550 4222 to determine if a permit is required.

Issue: Stormwater Management

Recommendation

The Department recommends the Stormwater Management Plan (July 2016) for the site be updated to reflect the current and proposed changes to the site's drainage management with the intent to minimise the potential for pollutants and sediment discharging into water courses. The overall stormwater management plan is to incorporate all proposed updates to infrastructure and practices. The plan is to be in accordance with relevant guidelines published in the Stormwater management manual for Western Australia, Water quality protection note 15: Basic raw materials extraction (DWER, 2019) and Water quality protection note 52: Stormwater management at industrial sites (DWER, 2010).

DWER - Contaminated Sites Branch

The site was originally reported to the department as a suspected contaminated site under the CS Act in 2007 as a result of suspected diesel fuel leakages from a pipe line and an underground storage tank.

Land at Lots 12, 50, 53 Kiln Road and Subject B on Deposited Plan 404710 (part of Lot 30 Kiln Road) [depicted in Attachment 1] was subsequently classified under the CS Act as possibly contaminated - investigation required in July 2007. Following the submission and review of additional technical information, the reasons for classification were updated in February 2011 and March 2020.

The classification was based soil investigations, carried out in 2008 and 2014, which found that hydrocarbons (such as from diesel) were present in soils at multiple locations within the former manufacturing plant and storage facilities. A groundwater investigation, carried out in 2014, found that hydrocarbons (such as from diesel) were present in groundwater in the vicinity of a former diesel aboveground storage tank. The hydrocarbon impacts identified are contained within the site boundaries and continue to be managed under the CS Act.

Based on available information, and given that the proposal will not require a change to a more sensitive land use (e.g. residential, public open space, primary school), the department has no objection to the proposed development at the Cardup Brickworks site from a contaminated sites perspective and recommends that the approval should not include a contamination condition.

However, given the risks associated with the potential disturbance of hydrocarbon impacted soils, the department recommends that the approval include the following advice note:

Advice:

Due to the presence of hydrocarbons (such as from diesel) in soil beneath the site, a site-specific health and safety plan is recommended to address the risks to the health of any workers undertaking intrusive works until further notice.

Following the submission received by DWER, the Eco Acoustics report was provided for further advice. An additional submission was provided as follows:

DWER's Environmental Noise Branch (ENB) has reviewed the development application document, as well as the two noise assessment reports prepared by Lloyd George Acoustics (LGA) and EcoAcoustics in 2020 and 2017, respectively. Both the LGA and EcoAcoustics reports predicted that noise from the existing brickworks operation complied with the Environmental Protection (Noise) Regulations 1997 (Noise Regulations) at all times, including night time. LGA also predicted that noise from the brickworks with the proposed expansion would be able to be managed to comply with the Noise Regulations at the closest noise sensitive premises at night. ENB's technical comments are below:

- 1. The methodology of LGA's noise modelling seems correct. Most of the input data and assumptions adopted for the noise modelling seem reasonable;*
- 2. The modelled noise emission levels for eight operation scenarios (both existing and future) also seem reasonable. However, it is noted that LGA's assessment was based on the noise monitoring data collected by EcoAcoustics in 2017. ENB is not able to comment on the reliability of the noise data collected by EcoAcoustics in 2017, due to the lack of detailed information in EcoAcoustics' report.*
- 3. LGA's report stated that 'tonality would not be present in the noise emissions', which is possibly true for such an operation. However, ENB note that tonality was not actually investigated and assessed. As indicated by LGA that 'Should tonality be present, this would result in an exceedance and the source of noise would need to be addressed to remove the tonality or reduce in level'. Hence there is still a risk that noise emissions from the operation may not comply, if the noise is actually found tonal at the receiving location; and*
- 4. The modelled results indicate that night-time LA10 assigned noise levels are only marginally achieved for the existing operation, and marginally achieved or exceeded for the future operation at two closest residences (47 Burgess Drive and 1511 SW Highway). Although the measures recommended by LGA may be able to ensure night-time noise compliance, there is still a risk of noise non-compliance at night, due to the small margin.*

Notwithstanding the above comments, ENB considers that noise from the proposed expansion operation should be able to be managed to comply with the Noise Regulations at the neighbouring noise sensitive receivers at night. This is because most of the major equipment and plant will be operated inside sheds or buildings,

which can provide a variety of effective options of further reducing the noise emissions, when required.

Planning Assessment:

Town Planning Scheme No. 2

The subject site is zoned 'Special Use' under TPS2. Clause 5.11 of TPS2 states the *"purpose and intent of the Special Use Zone is to permit the use of land for any specific use not considered appropriate or desirable in any other zone and being a use which Council considers may satisfy a specific need in the locality where the use is proposed"*.

TPS2 goes on to state that a description of the land and the special use to be permitted, together with any special conditions are contained within Appendix 2.

Appendix 2 - Special Use Zones of TPS2 states that the use of *"Extraction and storage of Shale and Clay and manufacture, storage and distribution of Masonry and related products"* is a permitted use.

There are no further development standards prescribed for this 'Special Use' zone under TPS2.

Draft Local Planning Scheme No. 3 (LPS3)

As previously stated, LPS3 has been advertised and submissions considered. Council considered these submissions at its Special Council Meeting on 22 June 2020, and concluded on 29 June 2020. Council resolved to retain the advertised zoning of 'Rural' for the subject land. Under the Proposed LPS3, the proposed land use of 'Industry' is prohibited in the 'Rural' zone. Non-conforming use right provisions exist within LPS3, that are relevant in respect of the continuation of a use which is no longer permitted.

LPS3 is adopted by Council (subject to modifications) and has been sent to the Western Australian Planning Commission (WAPC) and Hon Minister for final approval. LPS3 is therefore a planning instrument being seriously considered for adoption.

Once LPS3 has been formally adopted, the subject site would have non-conforming use rights. In this case, Clause 22 of LPS3 states the following:

"(1) Unless specifically provided, this Scheme does not prevent -

(a) the continued use of any land, or any structure or building on land, for the purpose for which it was being lawfully used immediately before the commencement of this Scheme; or

(b) the carrying out of development on land if

(i) before the commencement of this Scheme, the development was lawfully approved; and

(ii) (ii) the approval has not expired or been cancelled. (2)

(2) Subclause (1) does not apply if -

(a) the non-conforming use of the land is discontinued; and

(b) a period of 6 months, or a longer period approved by the local government, has elapsed since the discontinuance of the nonconforming use."

In addition, any further alterations or extensions would require development approval from the Shire.

In this regard, Clause 23(1) states:

"(1) A person must not, without development approval-

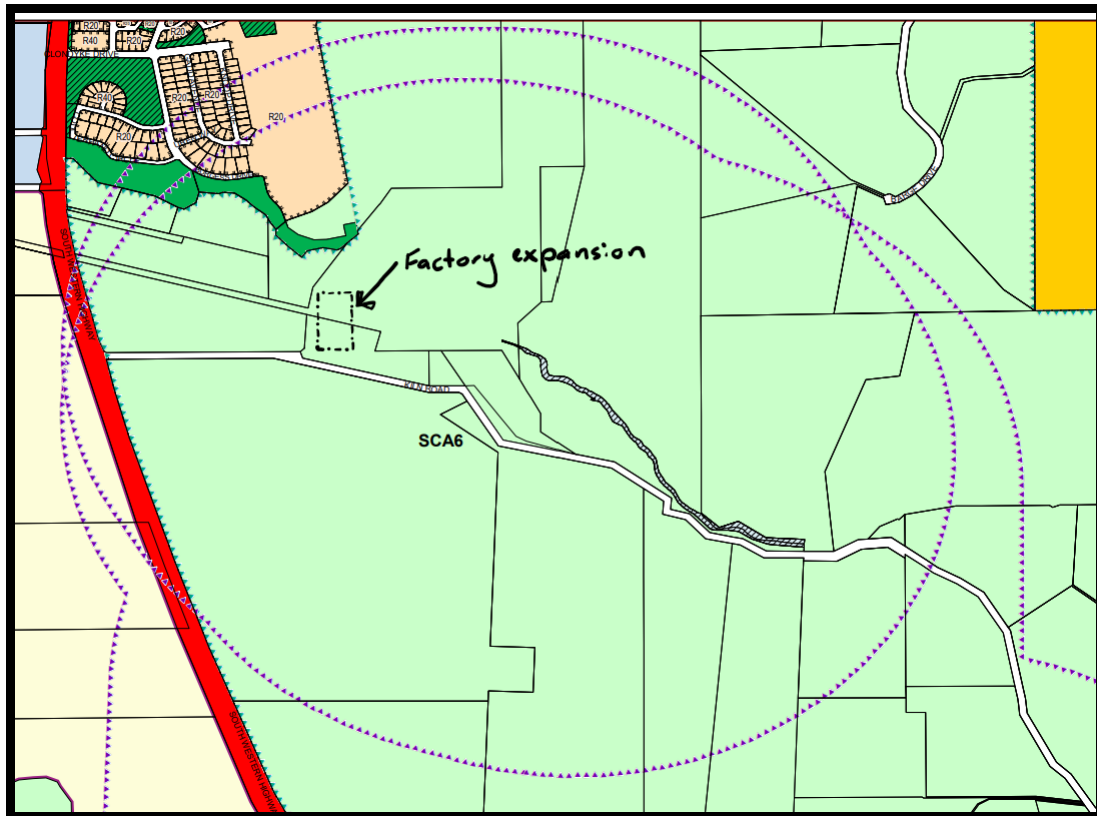
(a) alter or extend a non-conforming use of land;"

While the new Scheme contains a provision at Clause 23(1)(a) that enables a merits based assessment to be performed to consider an extension of a non-conforming use, there is no precise manner of use intensity or extension prescribed in the new Scheme in respect of an extension.

The subject site also falls within Special Control Area 5 of LPS3, the purpose of which is to identify land for extractive industries with appropriate separation distances. As previously stated, clay extraction is no longer being undertaken from the site however, this designation under LPS3 acknowledges the presence of raw materials and allows for this type of land use in this area that may not be typical within the zone or the Darling Scarp.

The subject site is also within Special Control Area 2 - Darling Scarp Landscape Protection which aims to preserve the amenity of the Darling Scarp and its landscape characteristics. This Special Control Area specifically seeks to maintain the integrity of the landscape in the line of sight view corridor along scenic routes including South Western Highway and is supplemented by Local Planning Policy 4.3 - Landscape Protection.

Finally, the subject site also falls within Special Control Area 6 of LPS3, which deals with control development within close proximity of a site which has an associated buffer. In respect of SCA5 and 6, a 1000m area is depicted under Draft LPS3 as follows:



State Planning Policy 3.7 – Planning in Bushfire Prone Areas

The subject site lies within a bushfire prone area and therefore subject to the provisions of SPP3.7. The intent of SPP3.7 is to *“implement effective, risk-based land use planning and development to preserve life and reduce the impact of bushfire on property and infrastructure”*.

SPP3.7 requires the application to include a Bushfire Management Plan (BMP) with an assessment against the Guidelines for Planning in Bushfire Prone Areas (the Guidelines). The submitted BMP recommends the implementation of an asset protection zone around the existing and proposed development on the site. This would result in the removal of a small portion of the vegetation on the western side of the site, outside of the Bush Forever site and away from Cardup Brook.

The BMP contains an assessment against the bushfire criteria and meets acceptable solutions for all four elements (Location, Siting and Design, Vehicular Access and Water). In addition to the above, the Bushfire Management Plan recommends seven ongoing management actions to be undertaken by Austral Bricks, which would be required to be complied with by way of condition, these measures include maintaining the APZ, vehicular access routes and water supply tanks.

Form of Development and Visual Impact

The proposed extension to the factory would measure 172m x 52m (8,944m²) with a wall height of 10m and a ridge height of 12m, higher than the existing building. The proposed bag house scrubber would have a height of 28.5m and be incorporated within the proposed extension. The new crusher would be located within the existing conveyer system, as shown in figure 2, with a height of 12m. The figures below depict the elevation plans.

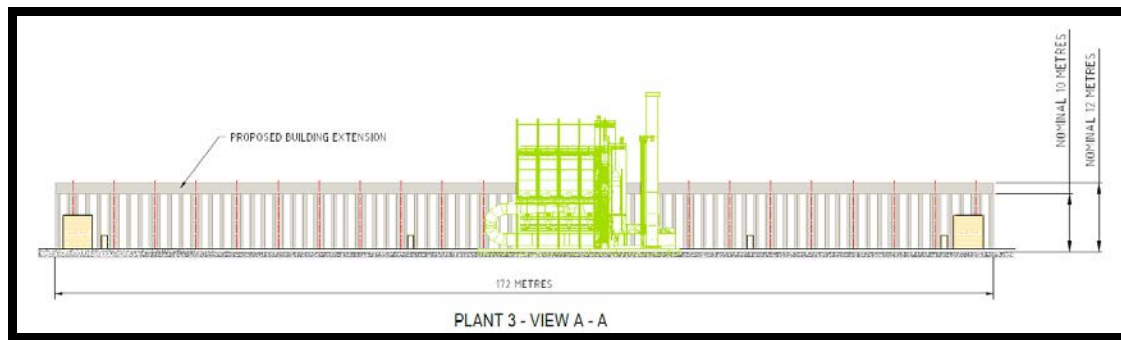


Figure 3: Elevation of Extension

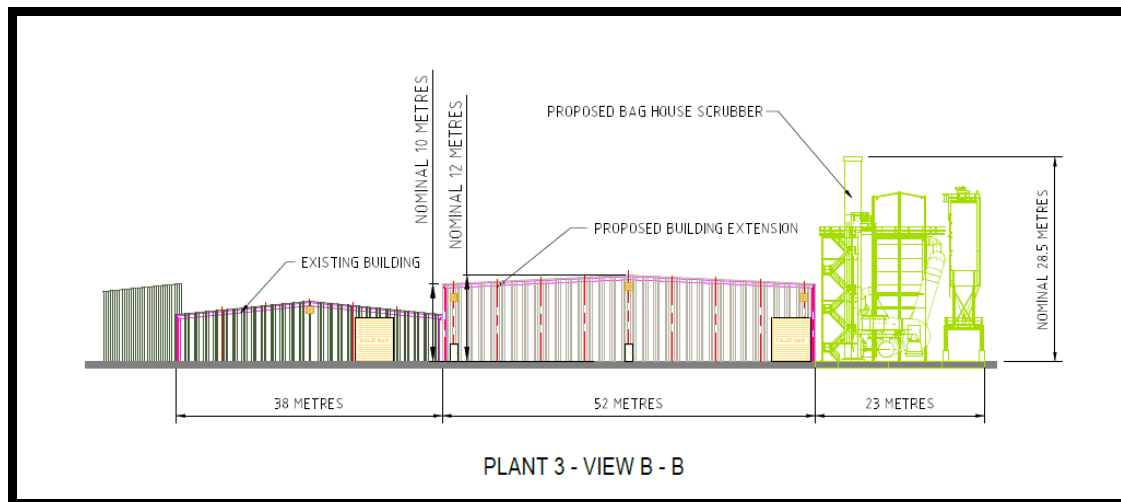


Figure 4: Elevation of Extension

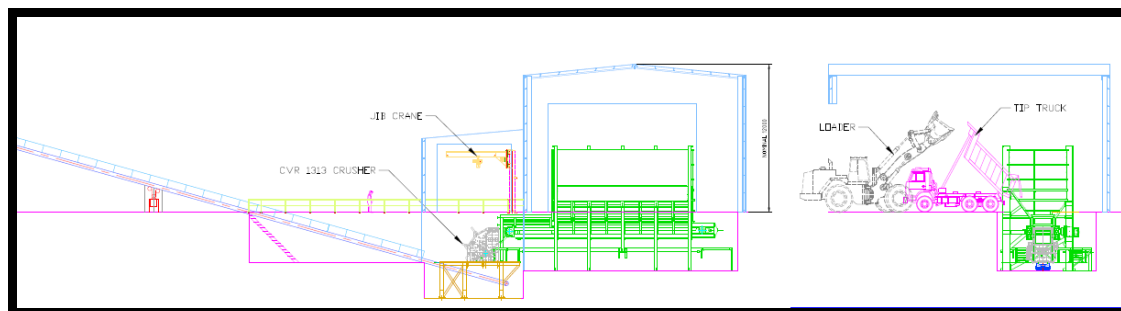


Figure 5: Elevation of Crusher

The brick kilns are listed as a heritage site in the Shire of Serpentine-Jarrahdale Municipal Heritage Inventory. The heritage site is described as a set of industrial buildings set back some distance from the main highway and within substantial grounds. The building features prominent chimney stacks. The site is mapped across Lot 53, part of Lot 30, part of Lot 12 and the southern section of Lot 50. The brick kilns and chimney stacks are located within a shed on Lot 50 only.

The factory extension would be set back approximately 572m from the western lot boundary of Lot 10, 276m from the northern lot boundary and 41m from the south. It

is considered that the siting, scale of external appearance of the proposed extension is typical of a factory style building and consistent with the design of existing development on the site.

LPP4.3 aims to protect the landscape values of the scarp as viewed from South Western Highway. Views from South Western Highway are depicted in the images below:

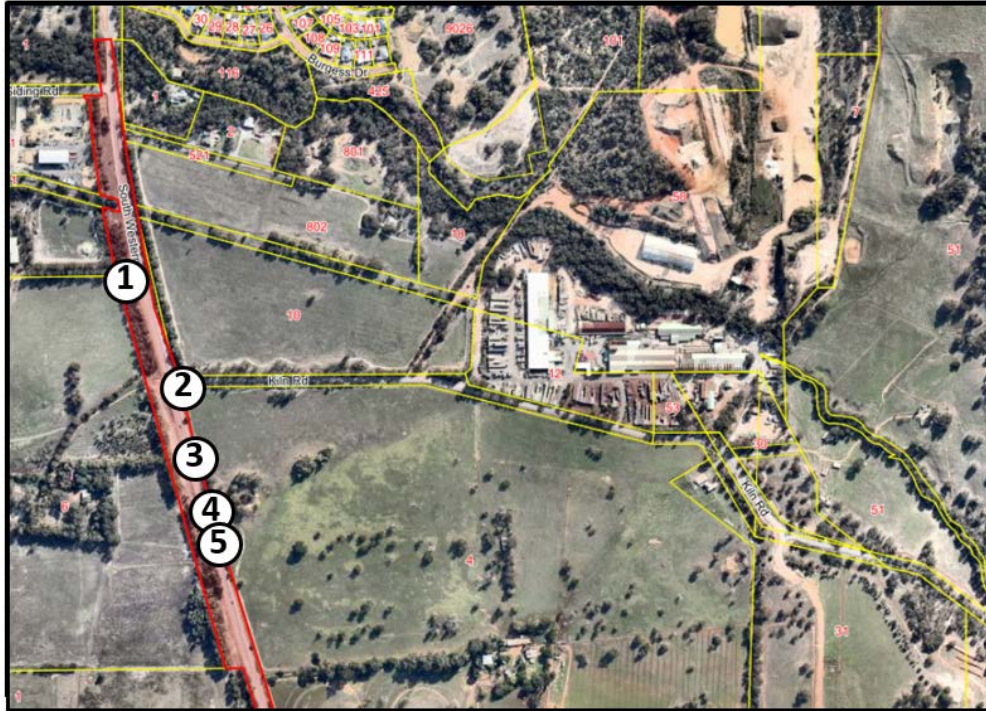


Figure 6: Map showing location from where the photographs were taken



Photograph 1



Photograph 2



Photograph 3



Photograph 4



Photograph 5

The subject site is generally screened from South Western Highway and it is considered that the addition to the factory would not adversely impact on the landscape character of the Scarp, as viewed from South Western Highway.

Amenity

The potential amenity impacts from the proposal are noise, dust and gaseous emissions from operations. Several objections were received during the consultation process in relation to these factors, stating current operations were causing an adverse impact on the amenity of surrounding landowners. It is noted that this application will, through factory and process expansion, lead to an objective for increase operations. Objections were also received in relation to the buffer for the site having been previously reduced.

The Environmental Protection Authority Guidance Statement No. 3 - Separation Distances between Industrial and Sensitive Land Uses (Guidance Statement) sets out generic separation distances between industrial land uses and sensitive receptors (dwellings). If there are sensitive receptors within the separation distance, there is a requirement for specific management plans to be prepared to ensure that surrounding landowners are afforded a suitable level of residential amenity.

In addition, State Planning Policy 4.1 - State Industrial Buffer Policy (SPP 4.1) provides guidelines for the protection and long-term security of industrial zones, transport terminals other utilities and special uses while also providing for the safety and amenity of surrounding land uses. The objectives of the policy are:

1) To provide a consistent Statewide approach for the definition and securing of buffer areas around industry, infrastructure and some special uses.

2) To protect industry, infrastructure and special uses from the encroachment of incompatible land uses.

3) To provide for the safety and amenity of land uses surrounding industry, infrastructure and special uses.

4) To recognise the interests of existing landowners within buffer areas who may be affected by residual emissions and risks, as well as the interests, needs and economic benefits of existing industry and infrastructure which may be affected by encroaching incompatible land uses.

The subject operations are considered to fit within the category of 'clay bricks or ceramic/refractory products works' under the Guidance Statement which is described as premises on which fired clay bricks, tiles, pipes or pottery are manufactured. The general separation distance under the Guidance Statement is 300m-1000m. The map below shows the areas that are within 1km of the factory extension and the upgraded conveyor system as shown in green below:

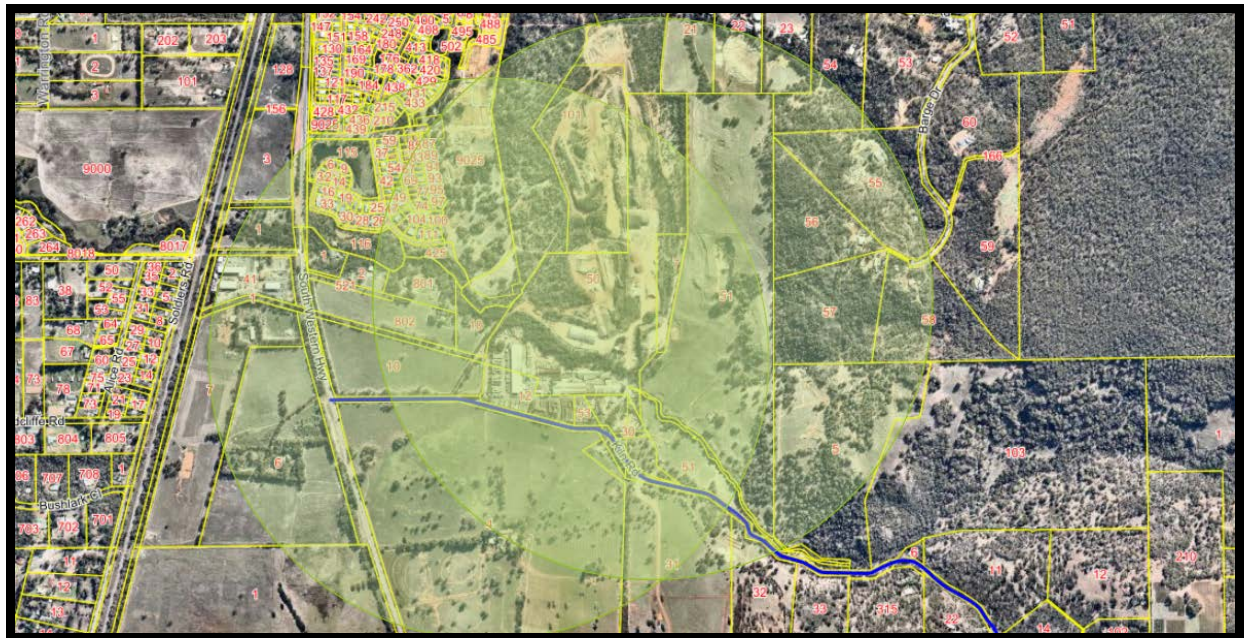


Figure 7: Area of Sensitive Receptors within 1km

The majority of sensitive receptors within the recommended separation distance are located within the Byford on the Scarp residential estate. The separation distances for this site have previously been considered by the Shire as part of the stages of the subdivision of Byford on the Scarp, as noted in the objections. As part of the consideration for the Byford on the Scarp subdivision, specifically stages 7 and 8, the site was considered constrained due to operations at the subject site, particularly extraction from the northern pit (Lots 4, 50, and 101 Kiln Road). A Dust Buffer report was prepared by Aspen Living and presented to the Department of Environment and Conservation (DEC) recommending that the northern part of the dust buffer be reduced to allow for the subdivision to go ahead.

The reduction of the buffer related to dust being generated from the northern extraction pit of the Austral Bricks operations. At the Ordinary Council Meeting of 25 July 2011, Council resolved to grant development approval and an extractive

industries licence to Austral Bricks at Lots 7, 50 and 101 Kiln Road, Byford for shale and clay extraction for a period of five years, expiring 31 December 2015. As part of this approval, conditions were imposed limiting the period of extraction until 31 July 2013, with only site rehabilitation to occur after this time. The approvals required for extraction to cease from the northern pit by 31 July 2013.

At this time, the subdivision for Byford on the Scarp was before the SAT for determination and the Shire was requested to consider the modification to the buffer to allow for subdivision to go ahead. The amended buffer is shown on Figure 8 below. Council at its ordinary council meeting of February 2012 had resolved to defer consideration of the buffer to enable the following to occur:

- (1) Austral Bricks gaining necessary approvals for the proposed expansion of the southern pit, for shale and clay extraction, at Lots 6 Shale Road and Lots 3 & 50 Kiln Road, Cardup;*
- (2) The submission and approval of a dust management plan by Austral Bricks, as required by condition 4 on the planning approval dated 25 July 2011 for shale and clay extraction at Lots 7, 50 & 101 Kiln Road, Byford; and*
- (3) The submission of a summary dust monitoring report by Austral Bricks, providing dust monitoring data and comparisons against National Environment Protection Measure (NEPM) for Ambient Air Quality criteria for PM10 particles with relevant weather monitoring information and notifications of any exceedances and corrective actions.*

In accordance with 1) above, Council subsequently granted the approvals for extraction at the southern pit (Lots 6, Shale Road and Lot 3 and 50 Kiln Road) on 11 June 2012.

In accordance with 2) and 3) above, a Dust Management Plan was provided to the Shire and deemed acceptable. The applicant was also undertaking dust monitoring with the results being provided to the Shire on an annual basis.

Once these matters had been dealt with, a further report was presented to Council at its Council meeting of 25 June 2012 to reconsider the buffer modification which would then be conveyed to the WAPC and SAT as part of the subdivision review.

At this meeting, Council resolved as follows:

"That Council:

- (1) Note that a dust management plan has been submitted to the Shire, consistent with the requirements set out in condition 4 of the Development Approval granted for the northern/existing extractive industry operation for Austral Bricks.*
- (2) Note the findings from the initial period of dust monitoring completed by Austral Bricks, with the review of the Dust monitoring results to date indicating that the performance criteria are being met with no exceedances of the 24 hour guideline as a result of operations on site.*
- (3) Note that Council at its meeting of 11 June 2012 resolved to grant necessary approvals for the proposed Southern operations of Austral Bricks.*
- (4) Based on the above, note that the matters outlined in the Council decision of 27 February 2012 have now been satisfied and resolves to support the proposed modification to the buffer requirements, as illustrated in OCM172.2/06/12.*

(5) Advise relevant stakeholders, including the WAPC, DoH, DEC and the SAT of its decision.

COUNCIL NOTE: Council supported the officer recommendation on the clear understanding that the Extractive Industry will close by July 2013."

This produced a then buffer plan, as shown following:

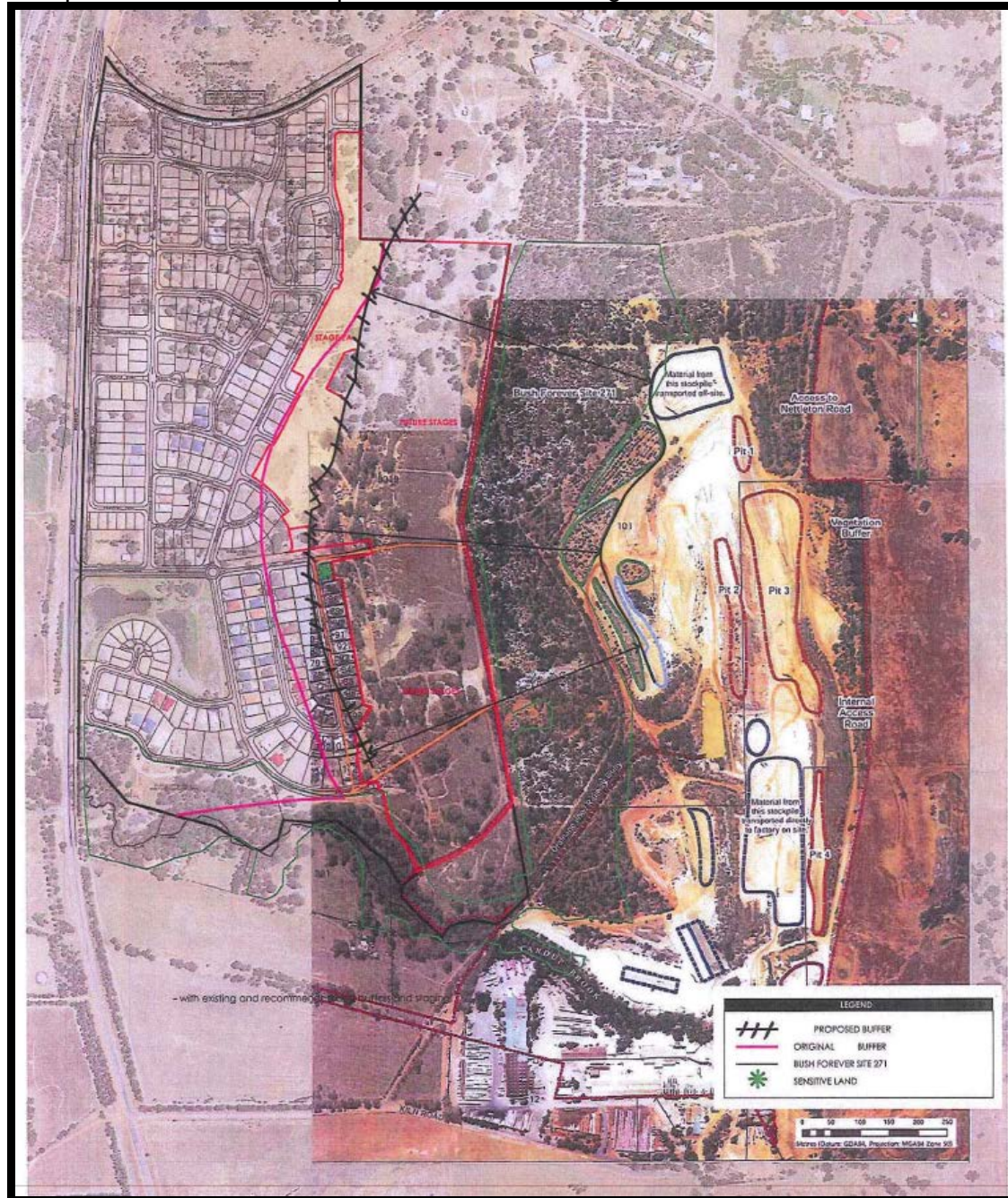


Figure 8: Modified Buffer Plan

Subsequent to this, the buffer was further modified by way of decision of the Shire and Department of Environmental Protection, in accordance with the Environmental Conditions listed under Appendix 11 of TPS2. This provides at condition 2:

2 Areas Affected by Gaseous Emissions, Dust and Noise

2-1 Residential Development is not permitted within the areas shown as follows on figures 1-3 inclusive in Minister for the Environment's Statement No. (insert relevant statement number):

- gaseous emissions - residential development exclusion area;
- particulates and dust - residential development exclusion area; and
- noise - residential development exclusion area;

unless the Council and the Department of Environmental Protection agree in writing that appropriate modelling or monitoring of the emissions has been undertaken and that a modified residential development exclusion area is appropriate.

This produces a current buffer, with the development exclusion area depicted by the green line / light orange area:

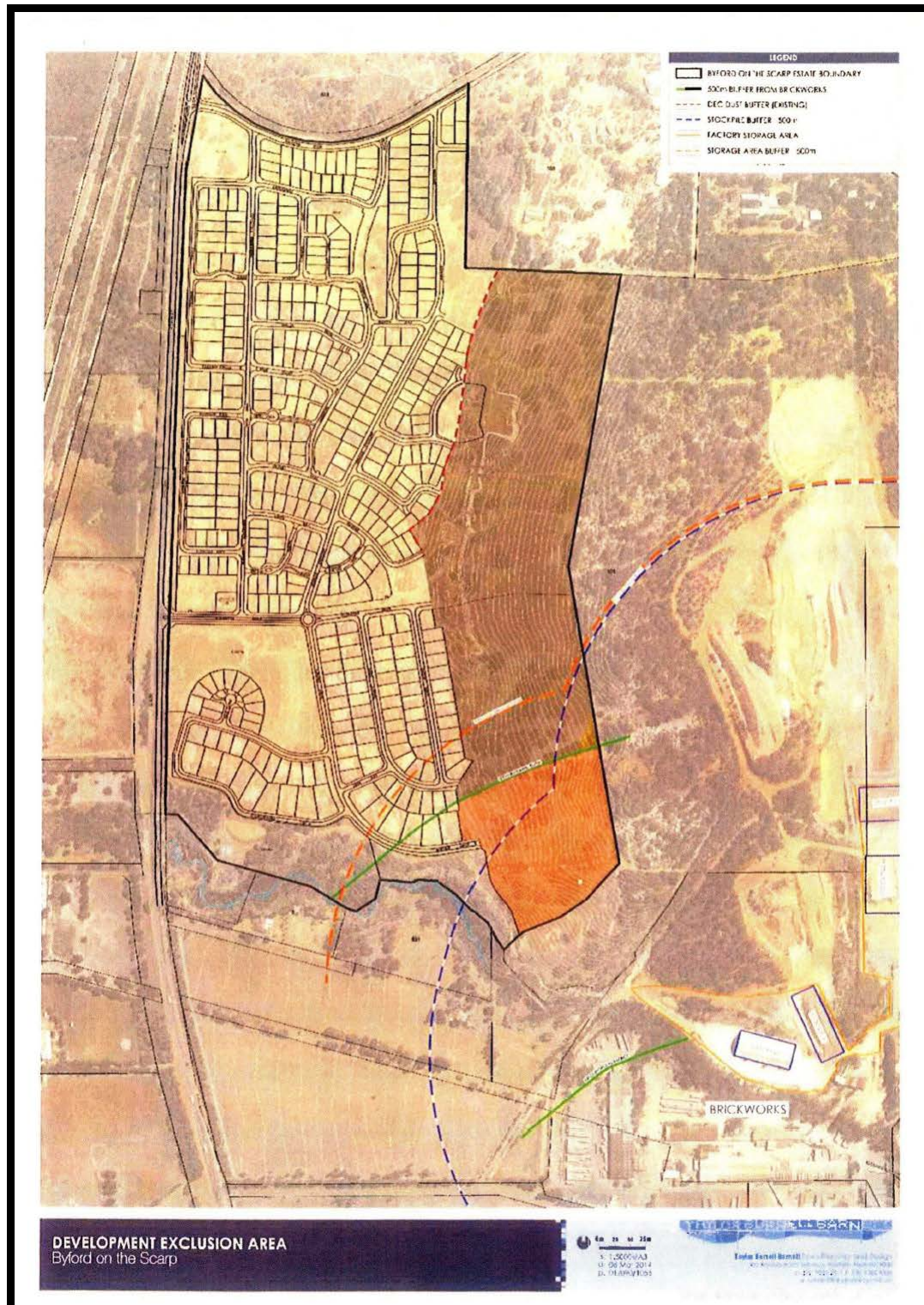


Figure 9: Modified Buffer Plan

Notwithstanding the former and existing buffer requirements relating to extraction and current operations, technical reports have been submitted as part of this application to address impacts on amenity from this new proposal that seeks an expansion of the factory - and thus operations. This is important to consider as part of this merits based planning assessment, particularly whether the intensity, scale and processes

involved will not pose an unacceptable impact on current or intended future amenities of the locality.

Noise:

An Environmental Noise Assessment prepared by Lloyd George was submitted as part of the application which identifies the main noise source as the manufacturing process as well as truck movements. It is worth noting that the Lloyd George Acoustic Assessment uses data inputs from a previously undertaken Acoustic Assessment carried out by Eco-Acoustics in 2017. The primary purpose of Eco-Acoustic assessment was to satisfy a condition of the DWER works approval in 2016. Noise levels measured from the boundary of the property were used as inputs in modelling noise emissions for the purposes of the Lloyd George Noise assessment. Sound power levels of new equipment were provided by the equipment manufacturer.

Noise was measured at the boundary of the subject site. Noise was also measured at a sensitive receptor in Coulterhand Circuit, Byford for a duration of one week. Noise was determined as compliant with the assigned levels however, it is noted that a noise contour map was not provided to support the conclusions of the study or detail the operations that were being undertaken at the site over the week. It is also noted that boundary noise measurements were not taken in a location in close proximity to measure noise from the crusher.

The assessment finds that generated noise is compliant with the assigned levels during the day with the exception of Lot 802 South Western Highway, which is owned by the same landowner as the subject application.

At night, the new masonry plant building and its dryer flues would result in a moderate noise increase with an exceedance of the assigned noise level at 1151 South Western Highway. To ensure compliance, it would be necessary to ensure the sound pressure level from each individual dryer stack does not exceed 69 dB(A) at 3m. This may require the fitting of silencers to each dryer stack.

The assessment also recommends that the dust collector on the crusher is fitted with quiet options from the manufacturer to ensure it emits no more than 85 dB(A) sound pressure level at 3m. This would ensure noise receivers west of the enclosure are not adversely affected. The assessment also recommends that De-hacker noise emission outside the masonry plant building is contained to 70 dB(A) at 3 metres.

Officers note that the acoustic assessment did not consider site specific meteorological conditions. No information was provided to confirm that consideration had been given to site-specified katabatic winds moving east to west across the Scarp. In addition, no information has been provided to demonstrate that, from a noise perspective, the proposed location of the equipment would be the least impacting. It does not appear whether alternative sites on the overall landholding, particularly those located further away from residential communities, were considered.

Officers note that the assessment indicates compliance with the Noise Regulations, with criteria to enable this. Officers however are unable to determine if site specific meteorological conditions may exacerbate (or reduce) noise impacts, as this has not been a modelled basis of the assessment.

Dust:

A Dust Management Plan (DMP) for the entire operation has been submitted as part of the current application. A DMP specific to the proposal has not been provided. The

applicant considers that dust management for the proposal would not differ substantially from the current plan.

The submitted DMP identifies dust generating activities as follows:

- Machinery and vehicle movements;
- Raw material stockpiling;
- Clay preparation; and
- Sand or dust carried by water.

Management measures to control the dust from these activities include the following measures:

- Use of water carts;
- Vehicles requiring to drive over the cattle grids after driving on unsealed areas;
- Chemical dust suppressants will be used on unsealed areas if they are planned to be unused for extended periods;
- Weather conditions will be monitored by the operator.
- If dust cannot be controlled, dust generating operations should cease until weather permits;
- A street sweeper will be used on a weekly basis as a minimum;
- Water sprayers installed to the crusher area if required;
- Covers fitted and maintained on the conveyors; and
- Visual checks of the Cardup brook to be undertaken during rainfall events.

The DMP also includes a complaints management procedure and all complaints are to be recorded, investigated and all actions taken to rectify the issue and prevent it from re-occurring.

Officers consider that the DMP does not address dust from the specific proposed development, as it does not take account of (or thus plan and/or model) the following changes forming part of this proposal:

- Relocated raw materials storage;
- Crushing and raw materials;
- Screening of raw materials;
- Dust lift-off from roads and tracks generated by additional vehicle movements;
- Unloading of clay and raw materials from trucks;
- Dust lift-off from unsealed areas and roadways; and
- Inert waste management, such as crushing and screening which may occur.

Although dust management measures are presented as generic, the submitted information is not specific to the proposed operations and therefore provides no certainty that dust would not adversely impact the amenity of surrounding landowners. In addition, a Dust Assessment has not been prepared for the proposed operations to inform the DMP and detail the dust impacts.

Furthermore, the DMP itself recommends that it should be reviewed every three years as a minimum and was drafted in 2017. It is therefore considered that the DMP is:

- Out of date;
- Not specific to this proposal and the changes it includes;
- On this basis, insufficient to conclude that the proposal if approved, would have an acceptable impact on the current and intended future amenities of the locality, by way of dust (health and/or nuisance) impact.

Gaseous Emissions:

An Air Emissions Assessment has been provided as part of the application detailing the emissions from the proposed factory upgrades. The assessment identifies the main source of emissions as the two dryer exhausts with the pollutants of concern being acid gases. No nearby significant sources of acid gases were identified, and therefore the model has considered the brickworks in isolation.

Section 1.4 Topography of the assessment details that *“the brickworks is located on the Swan Coastal Plain at the foot of the Darling Scarp as shown in Figure 1.2. The brickworks is sited approximately 80m above sea level with the land to the east of the brickworks rising steeply up the scarp to a height of over 280 m.”*

The assessment uses meteorological data taken from the Bureau of Meteorology (BOM) between 2010 and 2014 from the Perth airport site, situated approximately 35km to the north. Officers, as part of the assessment, are not sufficiently confident in the use of meteorological data which from a site that is contextually different to the site in question. For example, a key influencing factor to the conditions of the area are the backdrop of the escarpment generating strong katabatic winds, and such winds are not noted as a feature common to the Perth Airport Site given its proximity away from the immediate rise of the escarpment.

The assessment also uses AERMOD air quality dispersion modelling which has not been verified for use in WA in accordance with the DWER Air Emission Guideline, however the report identifies that it is widely used across America and throughout Australia.

The assessment states that consideration has been given to the emissions from the brickworks under ‘normal operations’ however it is worth noting that no further information has been provided in relation to what the ‘normal operations’ entail. It is also noted that the scrubber can be bypassed if required due to fault or maintenance, which would result in different levels of emissions. The report does not consider the emissions in the scenario of the scrubber being bypassed, nor how potentially frequent this may occur.

In terms of the reliability of systems, officers noted that the DWER Licence for the Austral site at Bellevue, made specific recommendations in relation to

improvements required due to instances whereby abatement plant bypass has occurred. Officers would have a greater degree of confidence if modelling extended to consider the likelihood, magnitude and consequence of bypass events, given the similar technology being proposed was documented at the Bellevue site as having a high number of bypass events.

In the absence of an analysis which considers abnormal operations, it is unclear whether a bypass event would result in an unacceptable impact on amenity, or not. Given the risk of amenity impact on nearby residential communities, and that a number of submissions also raise concerns on this risk, officers would be better informed by analysis to show what likely number of bypass events could occur, and what impact in respect of air emissions this may have. This would enable officers to form a more informed planning assessment on whether such impacts are of a magnitude that could have an adverse impact on amenity or not.

For example, little to no bypass events would expect to confirm a little to negligible impact on amenity. However, consistent or frequent bypass events, on the other hand, could have a very real impact on amenity. Having a degree of analysis and modelling on this issue, would assist in concluding a position on this point.

In addition to this concern, the table below shows the maximum ground level concentrations predicted in the model domain and at the receptors. The highest ground level concentrations have been compared to the air quality guidelines values (DWER) and presented in the table as a percentage of the relevant criteria.

Table 4.1: 100th percentile and annual GLCs

Pollutant	AGV ($\mu\text{g}/\text{m}^3$)	Averaging period	Maximum GLC in domain ($\mu\text{g}/\text{m}^3$)	% of AGV	Maximum GLC at receptor ($\mu\text{g}/\text{m}^3$)	% of AGV
Combined acid gas	500	10 minute	324	65%	208	42%
	100	24 hour	39.7	40%	16.5	17%
HCl	140	1 hour	103	74%	66	47%
	100	24 hour	19.1	19%	7.9	8%
HF	100	24 hour	2.2	2%	0.33	0%
	2.9	24 hour	2.2	74%	0.33	11%
	1.7	7 days	0.79	47%	0.33	19%
	0.84	30 days	0.59	71%	0.24	29%
	0.5	90 days	0.48	95%	0.20	39%
SO ₂	524	1 hour	121	23%	78	15%
	210	24 hour	21.2	10%	8.4	4%
	52	Annual	3.4	7%	0.54	1%

These results have been summarised in the assessment as follows:

- the maximum predicted ground level concentrations of the modelled pollutants are below the air quality guideline values at all points in the model;
- the maximum predicted ground level concentrations for 24-hour and annual averaging periods generally occur close to the proposed emission

sources, to the west of the existing production building and brick storage yard;

- the maximum predicted ground level concentrations for a 1-hour average occurs to the east of the brickworks on the edge of the scarp in an area with no identified receptors; and
- The highest predicted ground level concentrations at any receptor occur at Receptors R0 and R15, as depicted on the plan below. Receptor R0 is to the west of the brickworks and is the closest receptor to the proposed emission sources (approximately 250m). Receptor R15 is northeast of the brickworks at the foot of the scarp (refer to Figure below).

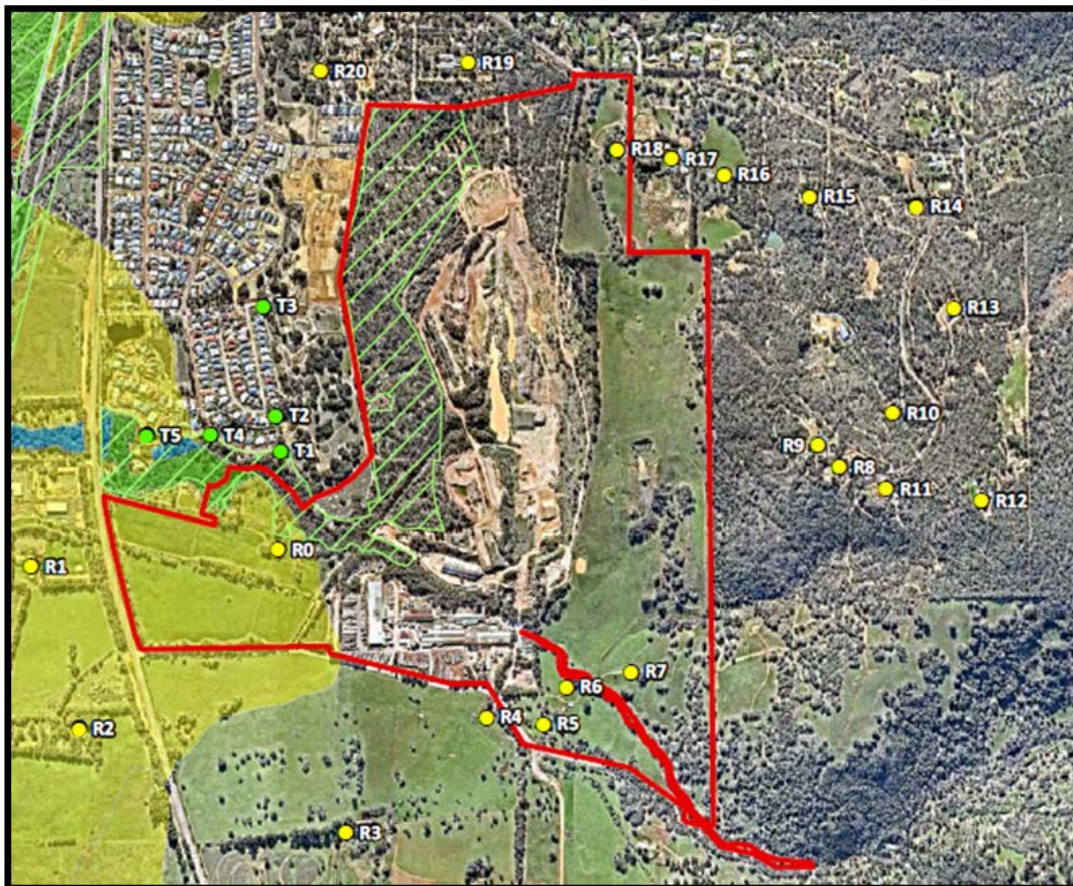


Figure 9: Sensitive Receptors

Officers note that averaged data ranges are used in terms of depicting what may be the air emission amenity outcome. While Officers note that the table demonstrates compliance with air quality guideline value, expressed as a percentage, the use of an average of values may not show what could be the maximum impact, nor the likely magnitude (number) of such impact events. Also, in noting the reliance on meteorological data from a site distant from the Kiln Road location, and different in its weather conditions in terms of wind, creates further uncertainty as to this amenity issue.

Submissions raise concerns of emission impacts on amenity, and thus officers consider it important to be able to conclude with greater certainty on this point.

In respect of the assessment undertaken by Officers, the issue of dust and air emissions is not able to be conclusively determined at this specific stage, based on the level of information presented. While planning decisions may impose to control air emissions and/or dust emissions, it is not clear as to whether such conditions could practically control such emissions without greater understanding as to their likelihood and consequence. The DWER also advised that it will assess any works approval application consistent with its Regulatory Framework, which is a further environmental risk assessment of emissions (e.g. dust, noise, air emissions) to determine if impacts are likely to be acceptable or not. Knowing the outcome of this assessment, to a preliminary extent, would assist the Officer assessment. As the DWER process would analyse the risks of emissions and discharges from the Premises, this is a further level of detail that could provide greater clarity to what is considered an important amenity issue that the planning assessment needs to consider.

Based on perming the merits based assessment, on the information provided by the application, officers are not able to conclude on the public health and amenity issue. Officers seek to reflect guidance provided in the planning framework, and decisions of the State Administrative Tribunal, which recommend adopting a precautionary approach in relation to matters of health and/or safety. This is supported by the following decisions of the Tribunal:

- *Fryer and City of Subiaco [2006] WASAT 199 at [103];*
- *Finlayson and City of Joondalup [2009] WASAT 47 at [33];*
- *Hopkins and Town of Vincent [2007] WASAT 149 at [38];*
- *Greenelm Pty Ltd and City of Swan [2010] WASAT 142 at [57].*

Traffic and Access

Access to the site would remain from Kiln Road via South Western Highway which is a Primary Distributor Road controlled by Main Roads Western Australia (MRWA). There is a speed limit of 110km/h in the close vicinity to Kiln Road. Both roads are on the Restricted Access Vehicle network (RAV4)

Clay deliveries are expected five days a week between 7:00am and 5:00pm and Saturday mornings from 7:00am until 12:00pm. Brick deliveries would occur weekdays between 5:00am and 4:00pm. Staff typically arrive at 5:00am and leave at 4:45pm.

The internal vehicle movement network would be upgraded as part of the proposal to include the widening of two existing crossings over the Cardup brook. Expected traffic movements includes an average of 82 daily movements over 8 months of the year for clay trucks (truck and dog trailers), 58 daily movements throughout the year for brick trucks (prime move and semi-trailer) and a further 50 light vehicle movements on average per day.

A Traffic Impact Statement (TIS) was submitted as part of the application which concludes that the development would “not have unacceptable adverse impact on the surrounding road network including South Western Highway”.

A secondary analysis was also undertaken to assess the capacity of the road network 10 years after the commencement of operations (2030) to assess the impact of general traffic growth. The results show that the access intersection would still perform within capacity 10 years after commencement. It is also noted that with the upcoming Tonkin Highway extension, it is likely that this would reduce traffic and increase the capacity of South Western Highway.

As part of a swept path analysis using a 27.5m B-double template, the TIS did recommend that an upgrade of Kiln Road and South Western Highway intersection is undertaken to accommodate the volume of trucks.

Environmental Considerations

The main environmental impact considered resulting from the proposal is the potential for sediment (clay fines) to enter the Cardup Brook. It is important that measures are in place to manage this impact in accordance with the *Environmental Protection (Unauthorised Discharge) Regulations 2004*.

The Cardup Brook traverses the site, entering from the east of the site and exiting at the west. It is noted that objections to the proposal have been received during the consultation period in relation to the impact the existing development has on groundwater, surface water and the Cardup Brook. In this regard, the applicant has submitted a Stormwater Management Plan. This document was undertaken in 2011 to outline existing management mechanisms and makes recommendations for further stormwater treatment options. A Stormwater Management Plan dated 2016 and a Water Management Plan dated 2012 have also been submitted. No updated Water Management plan has been received as part of the current application.

Currently there are several sedimentation/settlement basins which treat stormwater runoff. The stormwater overflow passes through vegetated drainage channels which remove the finer suspended solids and soluble pollutants. The stormwater overflow is then infiltrated to groundwater, evaporated or enters the Cardup Brook.

There are two regional groundwater monitoring bores located on the site. Water quality testing results are provided to the Shire annually. The two components of largest risk from the operations are considered to be total suspended solids (TSS) and hydrocarbons. The submitted Stormwater Assessment Report details that there have been no instances where downstream concentrations of hydrocarbons were greater downstream than upstream.

The reports details that there have been instances where there has been an increase in TSS between the upstream and downstream locations. The report details that in order to reduce the fine sediments entering the Brook, alternative treatment mechanisms need to be employed. This includes further vegetating of the drains to encourage filtering of fine solids, maintenance of the v-notch weirs, re-contouring of one of the basins to detain stormwater, re-directing stormwater from one of the catchment areas, removal of one of the v-notch weirs and installing a vegetation stormwater retention basin. More comprehensive and effective treatment options for fine TSS include the construction of wetlands and/or the introduction of flocculants to settlement ponds.

The Stormwater Assessment Report provides recommendations to continue water monitoring and undertake initial works to the channels/weirs as listed above to ensure that the development does not adversely impact on the Cardup Brook. No information has been provided to demonstrate that these recommended works have been undertaken.

Since the operations commenced, the site has incrementally increased and there is no overall stormwater management plan for the site. The application seeks to improve on current stormwater management practices including the capture and reuse of stormwater within the brickmaking process through the construction of a retention pond. This retention pond would capture runoff from the roof and hardstand areas and reduce runoff into the Cardup Brook.

The detention basin would collect and store water runoff to be used during the production on site, reducing the demand on groundwater. The basin would also treat water to reduce/prevent discharge from the manufacturing process into the Cardup Brook which is the current mechanism. Water balance modelling has been provided as part of the application to demonstrate the required basin sizing based on water usage and discharge.

Due to the environmentally sensitive location of the site, given its proximity to the Brook, the management of water, sediment and erosion are considered material considerations as part of the assessment process. These measures should demonstrate that the proposal would not adversely impact on the brook prior to determination.

The storage of raw materials and clay is also a potential emission for turbidity contaminated stormwater to enter the Cardup ecosystem. The addition of water during crushing and grinding of raw materials, and the addition of small amounts of additives and colourants, places additional risk to surface water discharge into the Cardup brook ecosystem.

Information has been provided to outline the measures that would be put in place for sediment and erosion. These measures include:

- The sealing of the portion of the access tracks;
- Sweeping of bitumen paved areas;
- Annual sediment removal from swales, open channels and sediment ponds;
- Cattle grids in material movement areas to shake down vehicles
- Retention of 10 year 2 hour ARI event;
- Filtration of pollutants provided by vegetated water storage areas:
- Rock pitching (or similar) to prevent erosion of discharge points;
- Water quality monitoring for TSS and turbidity; and;
- Annual review of controls to determine effectiveness of stormwater management.

It is considered that these measures demonstrate that sediment and erosion from the proposal can be managed, however a specific management plan has not been provided.

The application also proposed to upgrade two crossings over the Cardup Brook to improve access around the site. It is considered that further information is required in this regard in terms of cross sections and how erosion, sediment and bed and banks degradation from these crossings would be managed so as to not adversely impact on the Brook.

It is also considered that water quality monitoring should be undertaken to ensure that the proposal does not adversely impact on the quality or quantity of water in the Brook. The Deemed Provisions requires for a local government to have due regard to environmental impacts and therefore it is considered the monitoring plan should form part of the overall stormwater management plan and the results provided to the Shire on a seasonal basis, should the application be approved.

As part of the application, a risk assessment in the form of a matrix was provided in accordance with the Department of Water and Environment Regulation (DWER) Guidance Statement: Risk Assessments (2017). This sets out risks and management measures for risks including native vegetation, fauna, water, land, heritage, and offsite impacts. All the risks are considered by the applicant to be either 'low' or 'medium' risk.

Vegetation

A Flora and Fauna Survey was submitted as part of the application that concludes that there is no declared rare flora identified across the site. The survey identified two fauna habitats (Eucalypt Forest and Riparian Channel).

The proposal seeks to remove an area of vegetation for the proposed new brickworks structure to ensure an adequate asset protection zone is maintained for bushfire management. The plan below shows the asset protection zone required and the impact this would have on vegetation.

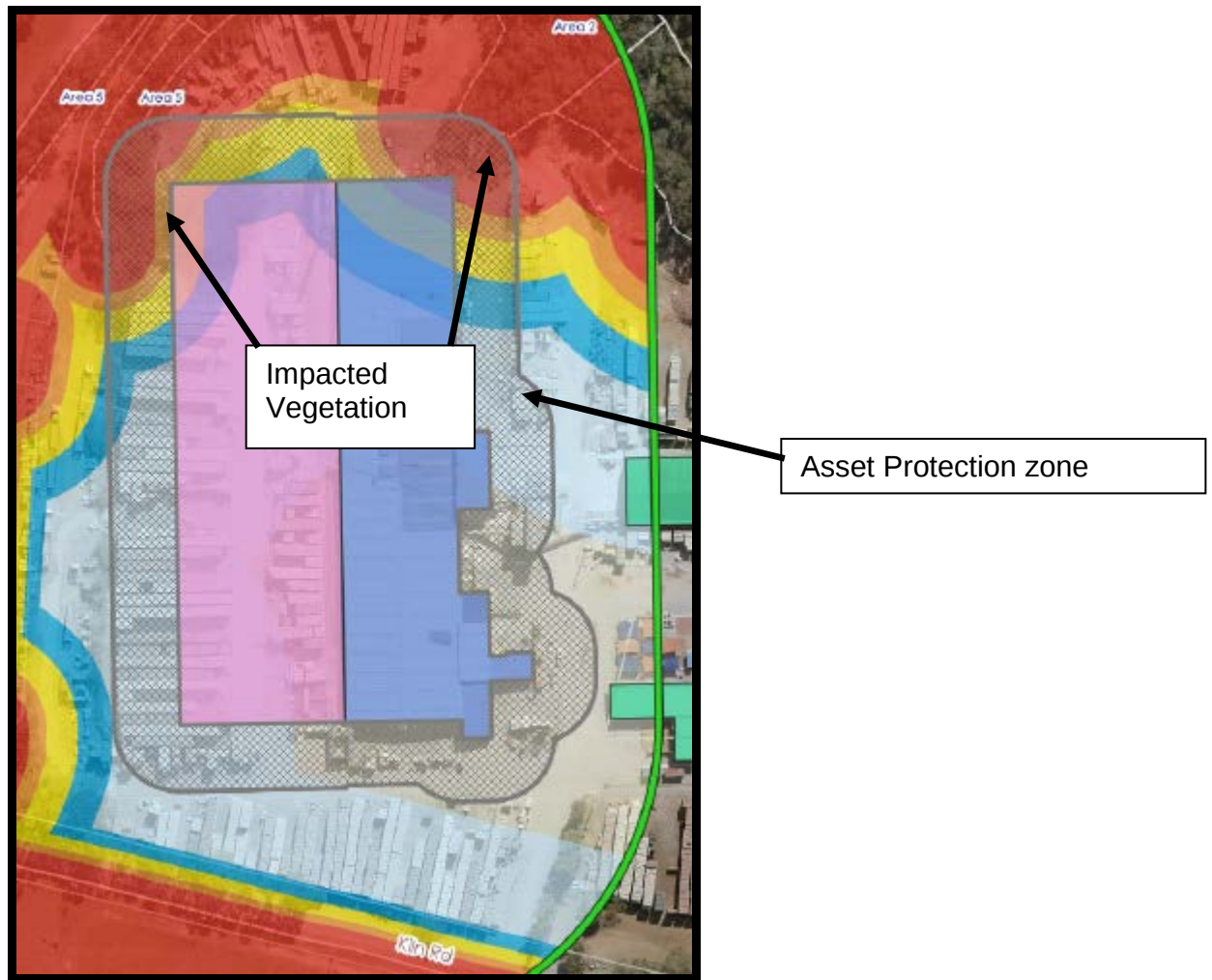


Figure 10: Asset Protection Zone

This vegetation does not lie within the Bush Forever site. The trees to be removed are *Eucalyptus rudis* (flooded gums). It is considered that the removal of the vegetation shown in the APZ would not result in a critical loss in terms of environmental values.

Council Recommendation:

Conclusion:

The application seeks approval for the expansion to an existing brickworks. The merits based assessment performed for the application, concludes there to be insufficient information to be able to determine that the proposal will not pose an acceptable impact on amenity, both current and intended future. The proposal would also represent a non-conforming use under the 'Rural' zone of the land in the new LPS3.

While the new Scheme contains a model provisions at Clause 23(1)(a) that enables a merits based assessment to be performed to consider an extension of a non-conforming use, there is no precise manner of use intensity or extension prescribed

in the new Scheme. Therefore, taking into account the assessment which is unable to conclude an acceptable level of amenity being maintained, it is not consistent with orderly and proper planning to grant approval based on the information accompanying the application.

Notwithstanding the careful assessment of information provided, the potential impacts have not been clearly demonstrated.

The proposal is therefore recommended for refusal.