

Development Application – Keysbrook Mineral Sand Mining

Statutory Assessment

| Scheme Policy Plan | Element | Discussion | Compliance Demonstrated? |
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| Town Planning Scheme No. 2 | Rural Zone Clause 5.10 | <p>The application is for a proposed “Industry Extractive” in the rural zone. The purpose of the rural zone in TPS2 is to facilitate rural uses.</p> <p>“Extractive Industry” is an “AA” use in the “Rural” zone, and is therefore not approved unless Council exercises discretion to approve the use. Any application for an “AA” use should be considered according to its individual planning merit, in consideration of the objectives of the rural zone and whether the form, scale and function of a proposal is a rural pursuit or associated activity that can be accommodated within the rural zone.</p> <p>The purpose and intent of the rural zone is <i>“to allocate land to accommodate the full range of rural pursuits and associated activities conducted in the Scheme area.”</i></p> <p>Council does not have any specific criteria to determine whether a proposal is a rural pursuit or an associated activity. However, the Shire’s Rural Strategy identifies rural objectives and land uses, which can provide a guide to consideration of rural pursuits and associated uses.</p> <p>Policy objectives for the Rural Policy Area, which applies to the areas of the subject land proposed for mining activities, place focus on the retention of agricultural enterprises. Consistent with these objectives, the rural policy area lists a range of desirable, conditional, and undesirable land uses that may be considered.</p> <p>The application proposes approximately 400 hectares of mineral sand mining across several allotments with a total site area of approximately 940 hectares within the Serpentine Jarrahdale Shire. The mining operations include extraction of ore, screening, and transport as slurry to a processing plant on an adjacent allotment in the Shire of</p> | No |

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| | | <p>Murray.</p> <p>Whilst the proposal falls within the definition of Industry Extractive under TPS2 and the “AA” land use permissibility reflects that definition, the scale, form, and function of the application requires recognition that it is a mining operation; this is consistent with the definition of the proposal as a mineral sands mine through previous approval under the <i>Environmental Protection Act 1986</i>.</p> <p>Mining or Industry Extractive are not included by the Rural Strategy within the list of land uses that may be considered within the rural policy area, and would not be consistent with policy objectives provided, as the mining of land is not associated with an agricultural enterprise. A mining operation would not be considered a rural pursuit or associated activity, having no relation to agricultural purposes.</p> <p>Whilst the application is for a temporary land use over approximately ten years, the lack of any information regarding rehabilitation in the likelihood of land degradation due to significant wind erosion, the risk of longer term loss of agricultural use in the area is present.</p> <p>Whilst an Industry Extractive is an “AA” use within the rural zone, the significant scale of the application, and the function of proposed extraction as a mining operation, is such that it is unlikely the proposal could be accommodated within the rural zone under TPS2.</p> | |
| | <p>Purpose of the land Clause 6.4.2(a)</p> <p>Purpose of the locality Clause 6.4.2(b)</p> | <p>The purpose of the land and locality, consistent with its rural zoning under TPS2 and rural delineation under the Shire of Serpentine-Jarrahdale Rural Strategy is for rural and associated uses. The Rural Strategy focuses clearly on the protection and facilitation of rural land for agricultural purposes, and it is unlikely a mining operation could be considered consistent with the purpose of the land and locality. However, it is noted that the proposed development has a temporary nature, therefore could be entertained subject to justification that the future rural use of the subject land, and current land use of adjacent landholdings, can be maintained.</p> <p>There are a number of dwellings located within the recommended buffer from mining activities. Adjacent and nearby properties are used for a range of agricultural uses, including farming land, stud farming operations and produce businesses.</p> | No |

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| | | <p>Submissions raise concern regarding land use conflict between the proposed mining operations, and adjacent agricultural pursuits, with the potential for livestock and crops to be severely impacted upon by noise and/or dust with the viability of agricultural enterprises compromised.</p> <p>Whilst no management plans or details were submitted as part of the development application to enable consideration of these issues, impact assessments and management plans submitted to the EPA as part of the environmental assessment were obtained by the Shire and independently reviewed by specialist noise and health impact consultants.</p> <p>Review of noise impact assessment and management plans notes a few shortcomings that the Noise Management Plan does not respond to, specifically consideration of the potential impacts on the surrounding agricultural land-uses, particularly in terms of the potential for impacts to livestock.</p> <p>With regard to the influence of dust on food production, the specialist review of dust management elements suggests that the statement within the application that the proposal would not “adversely affect end food production” is not accompanied by any justification.</p> <p>The above suggests that impact on rural businesses in the area cannot be properly considered without further information from the applicant.</p> <p>Future rural use of the land is dependent on successful rehabilitation. It is recognized that, due to the local conditions with summer extreme wind and high groundwater in winter, the window to undertake rehabilitation activities may be quite reduced. No rehabilitation plan has been submitted to the Shire to demonstrate rehabilitation can be undertaken to support future, quality rural enterprises on the subject land.</p> <p>The application lacks sufficient information to demonstrate that the proposal will not impact on existing and future rural uses and justify that it is consistent with the purpose of the locality and land.</p> | |
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| | <p>Characteristics/ subject to inundation Clause 6.4.2(c)</p> | <p>Due to shallow groundwater, and the low lying nature of the subject land, it would be expected that the site would be subject to inundation.</p> <p>The application states that water storage will be treated in accordance with the Water Management Plans as required by environmental approval. However, no water management plans were submitted to the Shire as part of the application.</p> <p>The application also states that <i>“There will be no disruption to the existing creeks flowing through the subject site and therefore flood events can be accommodated through the natural drainage systems.”</i> however no detail or management plans were submitted to demonstrate the conclusion, with the application again referring to the environmental approval under the <i>Environmental Protection Act 1986</i>.</p> <p>Review of hydrogeology elements and documentation suggests that in general the proponent has addressed most issues associated with the hydrogeology of the project. However, some key issues were identified regarding groundwater modelling, including:</p> <ul style="list-style-type: none"> • The modelling does not consider the cumulative effects of impacts on the Superficial Aquifer through abstraction from the Leederville Aquifer, dewatering of the Superficial Aquifer for ore extraction, and other groundwater users in the area. • Underestimation of likely groundwater decline from abstraction from the Leederville Aquifer. • Insufficient measurement of water quality of the Leederville and Superficial Aquifers in the mine area and an assessment of the cumulative quality impacts of mixing of both water resources during production and subsequent disposal in mine pits. • Possible impacts of post closure landforms with regard to increasing evaporation from the Superficial Aquifer. <p>The above issues are of concern, as underestimation of groundwater decline brings the potential to reduce the availability of other water users in the area, including domestic and drinking water for residents. Also, the potential for increased evaporation from the superficial aquifer due to post closure landform, i.e. less clearance to groundwater with potential for groundwater to break the surface resulting in greater evaporation, can lead to significant, permanent decline in groundwater.</p> | |
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| | <p>Authority comments Clause 6.4.2(e)</p> | <p>The proponent argues throughout the document that: <i>“Issues relating to environmental and biodiversity concerns have been comprehensively addressed through the environmental assessment process that generated the Ministerial Approval and will culminate in a determination by the Federal Minister under the EPBC Act. Orderly and proper planning does not require further consideration of these issues.”</i></p> <p>However, advice from the Environmental Protection Authority (EPA) states that the EPA’s assessment of the project related to the environmental impacts from the project and did not consider the project in the context of planning schemes. The Shire is not prevented from applying additional or stricter conditions, if these are required under the TPS. A number of issues considered in the EPA’s assessment have relevance to amenity and nuisance requirements of TPS2 and were not considered by the EPA in that context, therefore are considered as appropriate.</p> <p>Further, the EPA commented that the project is mining of minerals, and there is some question as to whether an extractive industry licence is appropriate as the Model Scheme Text excludes mining from the definition of ‘Industry – Extractive. It is noted that TPS2 predates the model scheme text and therefore does not preclude mining within the definition of “extractive industry”, however in recognition of the nature of the proposal, for determination of recommended buffers etc and application of relevant planning policy, the application is considered as a mining operation and not a basic raw material extractive industry.</p> <p>Submission from the Department of Health advises that the application suggests the proponent does not fully understand the issues associated with potential health and amenity, and it is not appropriate to assume that there will be no adverse impacts. Noting the previous environmental assessment and conditions applied under the <i>Environmental Protection Act 1986</i>, the Department of Health also notes that environmental protection does not always cover health concerns.</p> <p>Given the information provided, comments and conclusions related to public health are unsubstantiated and unsupported, and as such not acceptable to the Department of Health.</p> <p>Comments and recommended conditions from other authorities are included within the</p> | <p>n/a</p> |
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| | | <p>schedule of submissions.</p> | |
| | <p>Submissions Clause 6.4.2(f)</p> | <p>57 submissions were received. Generally, submissions suggest community opposition to the proposal, on the grounds that mining operations would affect lifestyle, agricultural pursuits, and the local environment. Summary of the specific issues and concerns raised follows.</p> <p>Dust Generation Local wind conditions and fragile soils already generate dust, and the proposed scale and stage size of application would hinder the success of proposed control measures.</p> <p>There was concern that the proposal doesn't sufficiently consider the health implications, including rainwater contamination and respiratory issues.</p> <p>There was concern dust would impact on livestock, with a resultant loss in income.</p> <p>Groundwater Abstraction and Dewatering There was significant concern that the volume of groundwater to be abstracted, and the scale of dewatering required, would threaten the availability of groundwater for domestic and rural uses, particularly in the context of a drying climate.</p> <p>There was concern for potential loss of income from poorer quality pasture, and insufficient water availability for agricultural uses.</p> <p>Several submissions were also concerned about the potential environmental impact of proposed abstraction.</p> <p>Heavy Vehicles Submissions were concerned with the use of local roads by heavy vehicles, suggesting that the planned haulage route includes unsuitable roads, school bus routes, and would pass through North Dandalup townsite with potential impacts on schools.</p> <p>Several submissions were also concerned with dust generation from trucks using unsealed roads, and potential decline in the condition of local roads.</p> | <p>n/a</p> |

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| | | <p>Lifestyle Submissions specifically identified that their choice to live in the local area was for a quiet, rural lifestyle and a mining operation would affect that.</p> <p>Submissions were also concerned that the character and beauty of the local area would be compromised by a mining operation.</p> <p>Noise Submissions were concerned that noise would impact on residents and livestock. A number specifically noted that sensitive land uses, which had time restrictions, did not include stables although horses would be affected.</p> <p>Submissions noted that noise carries great distances due to local conditions, and were concerned with 24 hour operations.</p> <p>Several submissions also questioned the efficacy of noise monitoring and the process of responding to complaints.</p> <p>Property Values A number of submissions were concerned that proposed mining would result in declining property values, and questioned whether compensation would be provided.</p> <p>Some submissions specifically noted that any loss in property value would impact on their imminent retirement.</p> <p>Future development A number of submissions suggested that the proposed mining would inhibit future development or subdivision potential of the area.</p> <p>Community benefit Several submissions suggested that the proposal presented no benefit to the local community, and would only present impacts without sufficient contribution to community infrastructure or programs.</p> | |
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| | <p>Visual impact Several submissions were concerned with the visual impact of the proposed mining operations, particularly noting the prominence of the area from vantage points on the scarp, and the impact on local tourism.</p> <p>Ability to meet obligations Several submissions were not confident in the proponent's ability to meet rehabilitation and management obligations. Submitters were concerned that financial or other reasons would result in costs or long term impact to ratepayers and local residents.</p> <p>Groundwater contamination Several submissions were concerned that proposed mining would result in contamination of groundwater resources, which is an important source of domestic and rural water.</p> <p>Rehabilitation A number of submissions were concerned that successful rehabilitation is due to local conditions, particularly that summer extreme wind and winter high groundwater levels would limit the time when works could take place. This would be exacerbated by the large areas requiring rehabilitation.</p> <p>Submissions also suggest that the revegetation proposed cannot be achieved as the project area has decreased since the environmental assessment, therefore land available for revegetation is reduced and the ratios presented cannot be achieved.</p> <p>Vegetation Several submissions state that all existing remnant vegetation should be retained, due to potential impacts on salinity, biodiversity, and threatened cockatoos.</p> <p>Buffer to nearby properties Several submissions are concerned that the proposal provides insufficient buffer between the proposed excavation area and adjacent property boundaries. Submissions suggest increasing the distance between the proposed excavation area and dwellings and agricultural activities.</p> <p>Several submissions are concerned that internal haul roads are placed adjacent to property</p> | |
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| | <p>boundaries.</p> <p>Land degradation Several submissions are concerned with erosion and potential land degradation, as a result of extreme wind conditions and fragile soil.</p> <p>Submissions suggest the proposal presents significant risk to important farming land in proximity to Perth.</p> <p>Community consultation Several submissions are concerned that community consultation by the proponent has been insufficient.</p> | |
| <p>Orderly and proper planning Clause 6.4.2(g)</p> | <p>See discussion related to the purpose of the land and locality, amenity, and nuisance.</p> <p>Whilst significant environmental impacts have been addressed at the state level through approval in accordance with the <i>Environmental Protection Act 1986</i> (EP Act), that legislation does not consider environmental issues (including dust and noise) as they relate to amenity, land use conflict, public health, and potential nuisance. Beyond direct impact of noise and dust on amenity, local environmental impacts, as distinct to the regional scale of impact considered by the EPA, can present local amenity impacts and therefore require consideration in that context.</p> <p>Orderly and proper planning requires the consideration of all elements related to amenity, potential land use conflict, health, social impact, and nuisance to address impacts outside the narrow environmental scope of the EP Act.</p> <p>In general, insufficient information has been provided within the application to demonstrate that potential impacts on adjacent land uses and residents can or will be managed in accordance with the requirements of orderly and proper planning.</p> | No |
| <p>Preservation of amenity Clause 6.4.2(h)</p> | <p>Visual amenity: Visual impact assessment provided by the applicant does not recognise the visual amenity value of a pastoral landscape, instead discusses it as a modified and degraded landscape. The visual impact assessment focuses on the visual impact of clearing rather than the scale</p> | No |

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| | | <p>of mining proposed within a valued pastoral landscape, and does not adequately consider the likely visual impact the proposal would have on the locality.</p> <p>The site is visible from key vantage points along the Darling Scarp and could be expected to present visual impacts, which may affect on tourism. A visual impact assessment formed part of the development application, and was subject to independent review from a specialist landscape consultant. The review identified that the visual impact assessment stated many assessment outcomes, however lacked evidence or justification to quantify outcomes, specifically, the VIA did not:</p> <ul style="list-style-type: none"> • Relate the project site at a scale or format that would enable the reader to sufficient interpret the visual elements of the proposal. • Adequately describe the visual landscape character with supporting text, images, or maps. • Adequately describe the view experience of the landscape. • List or illustrate visual management objectives. • Adequately justified statements to convince the reader that there would be minimal impact on landscape character. <p>The review suggests that it is difficult to demonstrate if the visual mitigation recommendations included within the application are appropriate for managing the impact on the landscape character as the impacts have not been adequately documented or justified. The review recommends the VIA is repeated to include sufficient supporting information, or undertaken by a suitably qualified consultant with a strong understanding of landscape.</p> <p>Other amenity factors: The application suggests that <i>“Issues relating to dust and noise have been comprehensively addressed through the environmental assessment process that culminated in the Ministerial Approval, which found that no nuisance would be created.”</i></p> <p>However, the EPA and environmental assessment does not consider issues as they relate to amenity, public health, and potential nuisance, and did not consider impact on amenity from visual impact or the amenity of people’s lifestyles due to conflicts with existing surrounding land uses, e.g. keeping of horses or rural pursuits affected by proposed mining operations (see previous discussion regarding economic benefits).</p> | |
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| | | <p>Overall, the application does not appear to provide sufficient justification to support statements that amenity and health impacts would be minimal with the implementation of proposed dust and noise mitigation and landscaping.</p> | |
| | <p>Nuisance Clause 7.2</p> | <p>The application suggests that <i>“Issues relating to dust and noise have been comprehensively addressed through the environmental assessment process that culminated in the Ministerial Approval, which found that no nuisance would be created.”</i></p> <p>However, the environmental assessment process undertaken under the <i>Environmental Protection Act 1986</i> focusses on environmental impacts, and does not consider dust and noise in the context of amenity, nuisance, or human health. This conclusion is supported by advice received by both the Environmental Protection Authority and the Department of Health. Issues surrounding amenity, nuisance and health, therefore, are required to be considered under TPS2.</p> <p>The buffer to sensitive land uses does not meet recommendations of EPA guidance, and no justification or supporting information to reduce recommended buffers is provided. Therefore nuisance presented to adjacent residences and agricultural business cannot be discounted, and could be considered likely. See detailed discussion below regarding appropriate buffers within SPP 4.1.</p> <p>Dust</p> <p>The specialist review of health impact considered dust and radiation impacts, and suggest that the management plans submitted are in accordance with relevant guidelines and regulations. However, the review notes that, although the application states that <i>“There will be no health or mental health impacts (e.g. respiratory disease, depression and lowered immunity) on local residents, visitors to the subject site or surrounding area, or those involved in undertaking the proposal, including exposure to airborne contaminants, radiation and dust”</i>, there is limited evidence supporting the statement. The review concludes that the application does not provide complete justification for predicting no health or mental health impacts or impacts on food production from the proposal, and a more comprehensive summary on the justification for statements in the application would better inform decisions made on the proposal.</p> | <p>No</p> |

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| | | <p>Noise</p> <p>With respect to noise, the review of the Noise Impact Assessment and Noise Management Plan submitted to the EPA as part of the environmental assessment, considers “that the work undertaken is of sufficient rigour to suggest that the issue of noise has been adequately investigated and addressed”, however note a few shortcomings that the Noise Management Plan does not respond to:</p> <ul style="list-style-type: none">• Cumulative impacts of noise generated from operations and traffic.• Consideration of the prevailing local meteorological conditions that might have an influence on the noise levels measured at any of the sensory receptors (e.g. katabatic winds from the Darling Scarp).• Potential impacts of noise emissions on native fauna populations.• Consideration of the potential impacts on the surrounding agricultural land-uses, particularly in terms of the potential for impacts to livestock.• A newly constructed shed which has been adapted as a residence within 250 metres of the excavation area; it is unclear whether this has been considered as a “sensitive premises” for the purpose of any noise assessment.• Only the closest residences were included in the noise assessment report – there are residences 400 metres from the mine area that were not included in the assessment, and at least 19 residences within 1 kilometre of excavation activities requiring large areas of the proposed excavation to restrict night time mining. <p>Assessment of the impact of noise on the amenity of people’s lifestyles has not been considered where the proposed land use may conflict with the existing surrounding land uses, eg keeping of horses.</p> <p>Water</p> <p>The potential impact of proposed dewatering and groundwater abstraction on nearby domestic bores is not well considered by the proposal. There is potential for the mining operations to affect the availability of groundwater for abstraction by nearby residents and businesses.</p> <p>Whilst the application states there will be monitoring of groundwater levels, no management plans or detail is provided to demonstrate there will be no impact on water availability to nearby landholdings and residents.</p> | |
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| | | <p>The application suggests that the potential impacts on the amenity and lifestyle opportunities for existing and future residents and visitors to the Shire are limited and that amenity concerns as they relate to environmental issues were addressed in the Ministerial Approval. However, the EPA and environmental assessment does not consider issues as they relate to amenity, public health, and potential nuisance, and did not consider impact on amenity from visual impact or the amenity of people's lifestyles due to conflicts with existing surrounding land uses, e.g. keeping of horses or rural pursuits affected by proposed mining operations.</p> <p>Overall, the application does not appear to provide sufficient justification to support statements that amenity and health impacts would be acceptable.</p> | |
| | <p>Tree Preservation and Planting Clause 7.13</p> | <p><i>Kingia australis</i> is a slow growing and long-living plant known to be difficult to propagate. Many specimens occur within the proposed mining area.</p> <p>On page 56 of Response to Submissions (2007) public concerns for Kingias were expressed. The loss of mature trees and <i>Kingia</i> specimens would impact on the local identify of the area. The mining area requires modification to exclude remnant trees and <i>Kingia</i> from mining operations, consistent with Scheme provisions for tree preservation.</p> <p>The application suggests that proposed rehabilitation will result in greater vegetation and landscape amenity in the longer term. However, the location of proposed planting has not been provided, nor can rehabilitation be guaranteed as the Rehabilitation and Vegetation Management Plan has not been provided.</p> <p>Further, no information is available to demonstrate that alteration of the ground will not permanently remove the ability for the local flora to establish, thrive, and mature into large sizes as currently on site. Information providing examples of successful rehabilitation of similar proposals demonstrating that re-vegetation can be successful is required.</p> | <p>No</p> |

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| State Planning Policy 2: Environment and Natural Resources | Water Resources Air Quality Soil and Land Quality Biodiversity | <p>Previous discussion regarding “orderly and proper planning”, “Characteristics/ subject to inundation” and comments by the EPA apply.</p> <p>Potential groundwater decline is a key risk of the proposal, with inadequate groundwater modelling provided to demonstrate otherwise.</p> <p>A Water Management Plan, Landscape and Rehabilitation Management Plan, Weed and Dieback Management Plan, Nutrient Management Plan, Acid Sulphate Soils Management Plan, Noise Management Plan, Air Quality and Dust Management Plan in accordance with the requirements of Ministerial Statement No.810 should all be submitted to the Shire for consideration, to determine whether other local environmental impacts can be sufficiently managed to satisfy the requirements of TPS2.</p> | No |
| | Agricultural Lands and Rangelands | <p>The subject land is an important example of farming land in proximity to the Perth Metropolitan Region.</p> <p>There is potential for significant land degradation, with wind erosion due to high intensity of local wind conditions. Submissions note local instances of severe wind erosion and difficulties in controlling and rehabilitating such areas.</p> <p>No information regarding rehabilitation has been provided to justify that rehabilitation of a very significant area is possible in the context of local conditions. The application does not demonstrate that the proposed mining operations will not impact on the long term viability of the subject land for agricultural uses.</p> | No |
| | Minerals, Petroleum and Basic Raw Materials | <p>State policy states that mineral extraction should be regarded as generally acceptable, subject to assessment on their individual merits in rural areas.</p> <p>Any individual merit cannot be determined for the application. The nature and scale of the proposal is inconsistent with the purpose of the locality to protect and facilitate agricultural uses, presents significant risk to the amenity of the region, and insufficient information is available to demonstrate that the proposal appropriately manages impact on amenity.</p> | No |
| | Marine Resources and | Not relevant to the application | n/a |

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| | Aquaculture | | |
| | Landscape | <p>Previous discussion regarding visual impact also applies.</p> <p>The location of the proposed mine occupies a prominent position in the landscape, with vantage points from areas in the region, particularly along the scarp. Mining operations will impact the natural attributes of subject land, the environment in local and regional contexts, everyday lives and the wellbeing of residents and visitors.</p> <p>The application does not recognise the philosophical and broader understandings of landscape; landscape is not only a still picture but is what surrounds us. Landscape is a cohesive suite of images we perceive: the presence (or absence) of flora, fauna, water, terrain, soil and air, the shapes and patterns made by the contributing elements. All of those fulfil a psychological need and contribute to complex aesthetic, emotional and spiritual experiences in people. Within Serpentine Jarrahdale Shire, there is a strong focus on the importance of the landscape and its beauty to the community and the community's lifestyle. The importance of the landscape is not recognised by the application.</p> | No |
| | Greenhouse Gas Emissions and Energy Efficiency | <p>The application states that operations will be as energy efficient as practicable with power generated on site or drawn from mains supply. The application does not consider emissions associated with transport or fuel.</p> <p>No strategies or detail is provided to demonstrate how the proposal will meet best practice for emissions reduction consistent with similar industry.</p> <p>The application suggests that as operations will not trigger mandatory reporting under the <i>National Greenhouse and Energy Reporting Act 2007</i>, issues related to climate change and energy consumption do not require further consideration, in accordance with orderly and proper planning.</p> <p>However, this is an incorrect conclusion. The legislation referred to does not provide any requirement to achieve efficiencies or meet best practice in emissions, only that operations over a certain trigger require reporting. There is not yet any current legislation at the state or Commonwealth level that mandates or encourages efficiencies in energy and fuel to manage greenhouse emissions. Therefore, where there is a basis in planning policy, greenhouse gas emissions and energy efficiency are valid planning considerations.</p> | No |

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| <p>State Planning Policy 2.1: Peel Harvey Coastal Plain Catchment</p> | | <p>See previous discussion regarding “Orderly and Proper Planning”.</p> <p>The application suggests that the environmental objectives of SPP2.1 are satisfied by the Ministerial Approval under the <i>Environmental Protection Act 1986</i> and that orderly and proper planning does not require further consideration of issues.</p> <p>No information regarding water quality management is provided within the application. The application proposes “extensive rehabilitation of the natural environment” however does not include any information regarding the actual area of vegetation to be replaced.</p> <p>Insufficient information is available to demonstrate the proposal is in accordance with the policy principles.</p> | <p>-</p> |
| <p>State Planning Policy 2.5: Agricultural and Rural Land Use Planning</p> | <p>5.4.3 Mineral and Basic Raw Material Resource Areas</p> | <p>State policy states that mineral extraction should be regarded as generally acceptable, subject to assessment on their individual merits in rural areas.</p> <p>Any individual merit cannot be determined for the application. The nature and scale of the proposal is inconsistent with the purpose of the locality to protect and facilitate agricultural uses, presents significant risk to the amenity of the region, and insufficient information is available to demonstrate that the proposal appropriately manages impact on amenity.</p> | <p>No</p> |
| | <p>Protection of agricultural resources</p> | <p>Insufficient information is provided within the application to demonstrate that the proposal will not cause any land use conflict with or threaten the viability of agricultural pursuits on adjacent and nearby properties. Submissions have raised serious concern regarding the impact of dust and noise on stud farming, and crops in the area.</p> <p>No information is provided regarding management of erosion and rehabilitation to ensure the land is returned to a productive capacity to support future agriculture. Significant wind in the local area, and high potential for wind erosion, coupled with the significant mining pits proposed raises serious concern with the ability to control land degradation to ensure future agricultural potential is not lost.</p> <p>The potential for groundwater decline presents long term risks to other agricultural</p> | <p>No</p> |

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| | | activities in the area that rely on groundwater resources. | |
| State Planning Policy 2.9: Water Resources | | <p>Previous discussion regarding “orderly and proper planning”, “Characteristics/ subject to inundation” and comments by the EPA apply.</p> <p>Potential groundwater decline is a key risk of the proposal, with inadequate groundwater modelling provided to demonstrate otherwise.</p> | |
| State Planning Policy 4.1: State Industrial Buffer Policy | Buffer for extractive industries. | <p>TPS2 does not define any off-site buffer areas as required under SPP4.1 and therefore must rely upon the Environmental Protection Authority’s Guidelines.</p> <p>Environmental Protection Authority’s Guidance Statement No 3 – Separation Distances Between Industrial and Sensitive Land Uses provides a list of generic separation distances:</p> <ul style="list-style-type: none"> • Open cut mining – which would be more applicable to the proposed scale of operations than ordinary sand extraction which is much smaller scale – requires a buffer of 1,500 to 3,000 metres to manage dust, noise, and risk. • Case by case determination of buffers for mine dewatering to manage noise and dust. • 500 metres for screening to manage noise and dust. • 1000 to 2000 metres for dry processing only of mineral sands– wet processing to produce mineral concentrate is proposed which could justify a greater buffer requirement – to manage hydrogen sulphide, noise, dust, and odour. <p>Reduction of the generic buffers can be justified by detailed assessment and management plans. It is noted the proposal has been supported by noise and dust management plans, although these were not specifically submitted in support of the application.</p> <p>The application discusses only a 300 metre buffer in the context of offsite buffers, with a conclusion that an offsite buffer area is not required. It is not known why the discussion focuses on offsite buffers, which would affect the use of land owned by a third party, rather than modification of the extraction area to achieve required buffer distances, which is more appropriate. The application does not map nearby sensitive uses. The scale of plans does include any detail or enable any determination of setbacks from property boundaries, with excavation immediately up to property boundaries suggested by the application.</p> | No |

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| | | Further information detailing property setbacks and specifying buffers to sensitive land uses (incorporating issues identified in the noise review) is required to demonstrate compliance with industrial buffer policy. | |
| Shire of Serpentine-Jarrahdale Rural Strategy | Rural Policy Area | <p>Policy objectives for the Rural Policy Area, which applies to the areas of the subject land proposed for mining activities, place focus on the retention of agricultural enterprises. Consistent with these objectives, the rural policy area lists a range of desirable, conditional, and undesirable land uses that may be considered.</p> <p>Mining or Industry Extractive are not included within the list of land uses that may be considered within the rural policy area, and would not be consistent with policy objectives as the mining of land is not associated with an agricultural enterprise.</p> <p>No information is provided regarding management of erosion and rehabilitation to ensure the land is returned to a productive capacity to support future agriculture. Significant wind in the local area, and high potential for wind erosion, coupled with the significant mining pits proposed raises serious concern with the ability to control land degradation to ensure future agricultural potential is not lost.</p> <p>Whilst the proposal is temporary in nature, insufficient information or justification regarding rehabilitation and prevention of land degradation is provided to demonstrate the long term use of the subject land for agricultural and associated pursuits is possible.</p> | No |
| Local Planning Policy No 21: Management Plans | | <p>LPP21 requires submission of detailed management plan. Whilst the application suggests that environmental issues have been dealt with through the <i>Environmental Protection Act 1986</i>, management aspects associated with amenity, nuisance, traffic, etc, has not been considered through that process.</p> <p>No detailed management plan has been submitted to demonstrate that:</p> <ul style="list-style-type: none"> • Dust can be managed, in the context of very strong local winds; • Noise can be managed, from both operations and associated heavy and light vehicle traffic; • Fauna will not be impacted through clearing or encounter; • Weeds will be managed; • Local hydrology will be maintained; | No |

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| | | <ul style="list-style-type: none"> • Fire risk across the subject land can be managed; and • The vegetation can be restored to a similar, or better, species diversity and condition. | |
| Local Planning Policy No 22: Water Sensitive Urban Design | | <p>Previous discussion regarding “characteristics of the land” also apply.</p> <p>The application proposes significant abstraction of groundwater from the Leederville Aquifer, without support from adequate groundwater modelling. Significant water resources are required for the mining process and dust suppression. Opportunities and strategies for water recycling are not discussed.</p> | No |
| Local Planning Policy No. 30: Mineral Sands Extraction | Objectives | <p>The policy includes the objective <i>“To maintain a general presumption against the extraction of mineral sands within the Serpentine-Jarrahdale Shire, unless the proponent has demonstrated that net social, economic and environmental benefits will be delivered in the short, medium and long term.”</i></p> <p>Generally, insufficient information or commitment is provided within the application to demonstrate any social, economic, or environmental benefits will be delivered.</p> | No |
| | Water resources | <p>See discussion regarding “Orderly and Proper Planning”, “Characteristics of the land” and “SPP2” .</p> <p>Potential groundwater decline is a key risk of the proposal, with inadequate groundwater modelling provided to demonstrate otherwise.</p> <p>There are a number of waterways and wetlands within the proposed mining area. The proponent states: (Dot points Section 10.6 page 44)</p> <p><i>The generic considerations are the appropriate buffers or setback to water resources, rehabilitation of water resource areas, improvement of the water quality, reduced nutrient exports, and the preparation of a management plan.</i></p> <p><i>There are a range of measures that will be undertaken as part of the Ministerial Approval to ensure the protection of the water resource, including:</i></p> <ul style="list-style-type: none"> • <i>Watercourses to be protected by preventing mining or the clearing of trees within 20</i> | - |

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| | | <p>metres of the banks of identified watercourses or within 100 metres to the boundary of conservation category wetlands;</p> <ul style="list-style-type: none"> • Significant levels of rehabilitation that will reduce soil erosion and therefore reduce turbidity downstream; • Extraction of water to not materially affect the quality and quantity of groundwater or the health of native vegetation; and • The monitoring of groundwater and minimises the impacts associated with discharge of excess water. <p>The efficacy of soil erosion control with rehabilitation cannot be determined without information and management plans. The impact of dewatering on wetlands and watercourses to be retained is not discussed and cannot be demonstrated in the absence of detailed management plans.</p> <p>Further, the management of dewatering to ensure there is potential for natural recharge and reduce any impacts caused by higher than normal flow rates and volumes in the area and subcatchments flows are delivered to must be addressed – management may require the creation of detention basins. The use of basins has not been discussed in the application.</p> <p>Insufficient information is available to determine whether the proposal will impact on local hydrology.</p> | |
| | Soil profile | <p>See discussion regarding “Orderly and Proper Planning” and “SPP2”.</p> <p>No information is provided regarding management of erosion and rehabilitation to ensure the land is returned to a productive capacity to support future agriculture. Significant wind in the local area, and high potential for wind erosion, coupled with the significant mining pits proposed raises serious concern with the ability to control land degradation to ensure future agricultural potential is not lost.</p> | No |
| | Native terrestrial vegetation | <p>See discussion regarding “Orderly and Proper Planning” and “SPP2”.</p> <p>The proponent states; <i>The Ministerial Approval requires the re-establishment of self-sustaining local provenance</i></p> | - |

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| | | <p><i>native vegetation for clearing under the Proposal, at a ratio of not less than 1.4:1 (1.4 hectares of revegetation per 1 hectare of vegetation cleared) and the re-establishment of functioning pasture. The Proposal will therefore increase the quality of the existing natural environment (which has been degraded by the existing ‘Rural’ pursuits).</i></p> <p>The Ministerial Conditions do not adequately define the information required to demonstrate to the Shire that revegetation will result in better local environmental outcomes.</p> <p>Negotiation of the refined plans for rehabilitation, weed and dieback management, nutrient management, water management etc. , must include consultation with the Shire to ensure local impacts are properly considered and managed. It is again noted that the EPA advice suggests that where required, the Shire may apply additional or more stringent conditions to manage local impacts on vegetation.</p> <p>The application does not include any detail regarding re-establishment of vegetation, except providing a ratio for revegetation. However, further information is required, particularly:</p> <ul style="list-style-type: none"> • Detail regarding vegetation to be removed within the current application area; as the Ministerial Approval covers a much greater area than applied for here, including the age and habitat value of remnant trees to consider whether a 1:4 ratio of revegetation would sufficiently offset the removal of old, large trees • The location of proposed revegetation • The timing of proposed revegetation to determine how loss of habitat is managed in the context of staging of mining operations • Defining how revegetation is to be protected and the legal responsibility for ongoing maintenance and security • Species to be planted, planting density, placement in the landscape, completion criteria, and maintenance period <p>Section 10.5.2 Land use conflict – Agricultural land use <i>“It is expected that a number of the 10 years will be set aside for the establishment of rehabilitation and decommissioning where farming practices can still occur. It is expected that rehabilitated land will be made available to the landowner after two growing seasons.”</i></p> | |
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| | | <p>There may be conflict between future agricultural land use and the re-establishment of self-sustaining local provenance native vegetation for clearing under the Proposal, at a ratio of not less than 1.4:1. Securing survival of the replacement vegetation for the long term should require a caveats on the title for the land rehabilitated requiring the maintenance of the vegetation and its protective fencing by landholders after the land is returned to them. In this way the vegetation might be protected, and not threatened by future agricultural uses of the subject land.</p> <p>Final paragraph Page 14 <i>“An environmental corridor linkage will be established, running north-south. This corridor will connect to creek lines that run east-west. The majority of riparian vegetation on the subject site has been cleared. As part of the corridor linkage planting, both upland and lowland species will be replanted. Replanting will redress the current dominance of the existing upland community remnants.”</i></p> <p>The location and dimensions of the proposed environmental corridor and creeklines is not provided to enable strategic consideration of how the proposed linkages would function. This information is required.</p> <p>Deeper sand hills (uplands) will be more difficult to rehabilitate – there will be a tendency to replant lowland species. Detailed revegetation plans are required to demonstrate that the proposed rehabilitation and revegetation can be achieved, considering local winds which may lead to soil erosion, the current degraded nature of most of the site and the general difficulty experienced in revegetating such landscapes, and the likelihood of significant weed invasions of revegetated areas.</p> | |
| | Native terrestrial fauna | See discussion regarding “Orderly and Proper Planning” and “SPP2”. | - |
| | Other environmental impacts | See discussion regarding “Orderly and Proper Planning” and “SPP2”. | - |
| | Visual impact | See previous discussion regarding visual impact. | No |
| | Community | This development is likely to have social impacts on the surrounding community, due to the impacts on amenity. Concerns of this nature were brought to the attention of the Minister during the appeals process in the EIA and the comment was made that the | No |

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| | | <p>proponent had committed to monetary involvement in the community on an annual basis. However this Proponent Commitment was not included in the final Minister statement.</p> <p>The application does not discuss or qualify statements with regard to predicted impacts to community, in the context of township proximity or residences surrounding the site.</p> <p>There have been discussions held with the local community with the proponents via Sandra Jamieson in regard to investment in the local community by way of purchase of an additional 1.4 Tanker Fire appliance for the Keysbrook Volunteer Bush Fire Brigade Station to supplement the emergency services in the vicinity of the site. The cost of the required fire appliance is currently \$155,000.00.</p> <p>This investment is considered to be essential to service the additional needs of the Keysbrook community and allegedly at the top of the proponents list of community projects and yet it is not mentioned in the plan and therefore not able to be enforced.</p> <p>It is also normal in these instances for the developer to provide water supplies situated on the boundary of the site with a view to excise, free of charge, that portion of the land to council together with the bore, tank, hardstand and associated fixtures for use towards the shires long term fire fighting capabilities on conclusion of the development.</p> | |
| | <p>Employment opportunities</p> | <p>Review of social impacts and elements identified that a socio-economic review was not undertaken as part of the application, or previous assessment under the Environmental Protection Act 1986.</p> <p>Details on specific employment opportunities are generalist and the potential for these to be sourced locally with existing skills or the actual diversity of employment opportunities presented by the application is not discussed. Additional information is required to qualify the likelihood of employment outlined in the application being met with existing local skill sets.</p> <p>Further, the development application does not include any reference to local sourcing for construction purposes and a procurement policy, which were components of the documentation prepared as part of the environmental assessment under the Environmental Protection Act 1986. Specific details or plans relating to locally sourced</p> | <p>No</p> |

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| | | products and services is required. | |
| | Health impacts | <p>Submission from the Department of Health advises that the application suggests the proponent does not fully understand the issues associated with potential health and amenity, and it is not appropriate to assume that there will be no adverse impacts. Noting the previous environmental assessment and conditions applied under the <i>Environmental Protection Act 1986</i>, the Department of Health also notes that environmental protection does not always cover health concerns.</p> <p>Given the information provided, comments and conclusions related to public health are unsubstantiated and unsupported, and as such not acceptable to the Department of Health.</p> <p>The specialist review of health impact considered dust and radiation impacts, and suggest that the management plans submitted are in accordance with relevant guidelines and regulations. However, the review notes that, although the application states that “<i>There will be no health or mental health impacts (e.g. respiratory disease, depression and lowered immunity) on local residents, visitors to the subject site or surrounding area, or those involved in undertaking the proposal, including exposure to airborne contaminants, radiation and dust</i>”, there is limited evidence supporting the statement. The review concludes that the application does not provide complete justification for predicting no health or mental health impacts or impacts on food production from the proposal, and a more comprehensive summary on the justification for statements in the application would better inform decisions made on the proposal.</p> <p>Mental Health Landscapes affect our wellness; it is widely recognised that landscape elements have relaxing and healing powers with aesthetic, emotional and spiritual benefit. Until disturbed, the presence is constant; it changes with seasons or weather but is reliable and stable. The vastness or emptiness of open paddocks is equally as significant as intimate enclosed / vegetated spaces. Both are respected and needed.</p> <p>Local residents who choose to value the local landscape will always have a deep respect for it. Most residents would not take it for granted and, when facing a potential threat to it, would expect that “their” landscape will be perceived as an asset and seek its</p> | No |

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| | | <p>protection.</p> <p>The application states that the proposal will not affect the residents' wellbeing and amenity of the location, however this is unsubstantiated. Significant disturbance to the landscape, across a significant area of 400 hectares, and the constant presence of machinery, trucks, and associated dust, fumes, and noise can cause or exacerbate stress-related disorders, and depression. The pastoral landscape appreciated by the community would be perceived to be replaced by ugliness. This would lead to severe impacts on people's amenity and can be very damaging to health and wellbeing.</p> <p>The most affected would be older residents, who may see the next decade as the last one of their life. Other heavily affected group in the community will be children and the youth. Their attitudes are formed by their surrounding environment. A significant area affected by a mining operation "next door" for at least 10 years leaving behind a vastly changed and disturbed landscape would influence everyone's attitude.</p> <p>The negative influence may be mitigated by treating all aspects of the location: people, landscape, water, flora, fauna, land, peaceful lifestyle, with deep respect. Lack of respect will be damaging, deforming and unacceptable. Those residents located outside the immediate area, particularly in the Escarpment which has a full view of the proposed operations, the residents' families, plus all visiting friends and tourists coming to the region would also be affected by operations.</p> | |
| | Sensory receptors | <p>Review of social elements notes that noise and dust received a high degree of community comment and concern through the environmental assessment under the <i>Environmental Protection Act 1986</i>. Some measures are outlined in the application, however no detail or management plans were provided.</p> <p>Due to the high level of community interest in noise and dust items, general good practice consultation should consider reporting and feedback mechanisms to community relating to noise and dust, and overall project information and progress, as well as complaints management and investigation. Issue resolution and responsiveness may impact the community's perception of amenity values in the future.</p> <p>It is evident from the submissions received and the sentiments expressed at the public</p> | n/a |

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| | | <p>information evenings that there is a common concern and perception among many residents that the proposal will adversely impact on their health and environment. As identified by the specialist consultant reviews, whilst dust and noise can likely be sufficiently mitigated to not impact on physical health with the provision of further justification, the prospect for this concern to be realized is compounded by the lack of consultation with the community. Hence, if the proposal had been subject to greater levels of meaningful consultation and the collaborative development of monitoring, reporting, and feedback protocols, there may have been lesser concern around such issues.</p> | |
| | Transport | <p>No heavy vehicles are proposed within the Serpentine Jarrahdale Shire.</p> <p>Any use of local roads by other vehicles, for example workers accessing the site, and potential impact on local traffic, has not been detailed in the proposal. However, due to the small number of employees proposed, and the location of the primary processing plant within the Shire of Murray, there is unlikely to be significant use of local roads within Serpentine Jarrahdale Shire.</p> | Yes |
| | Amenity | See previous discussion on amenity. | No |
| | Economic impacts | <p>The application suggests the application will not impact on tourism or rural businesses in the locality. However, there is limited information provided to support these statements. The site is visible from key vantage points along the Darling Scarp and could be expected to present visual impacts, which may affect on tourism. See discussion regarding visual amenity.</p> <p>The likely amenity impacts of the development have the potential to affect not only the lifestyle, but the livelihoods of many of the community. See discussion regarding purpose of the land and locality.</p> <p>In addition, the potential for property devaluation/saleability in the short, medium or long term is present. There is potential for economic disadvantage through this loss of livelihood and property “damage” and therefore has the potential for social impacts on those who have been economically disadvantaged.</p> <p>No socio-economic review was undertaken to support the application. Economic data is</p> | No |

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| | | <p>not provided to support statements that the project will provide positive or not impact negatively on economic matters. There were statements in documentation prepared as part of the environmental assessment relating to local investment activities and procurement opportunities and programs, however no detail is provided in the development application.</p> <p>The application states that agricultural land values will be reinstated within two years of rehabilitation. No details of community development programs, procurement policies or plans and actual employment plans and skills details are provided.</p> <p>The potential for local/regional financial benefits associated with the construction program, quoted as \$18million, are not discussed in the application in quantitative terms or any qualitative planning details provided.</p> | |
| | Land use planning | See specific discussion of particular scheme and policy elements above. | No |
| | Climate change | See previous discussion on climate change and energy consumption. | No |
| | Energy consumption | | No |
| | Infrastructure provision | <p>The application does not provide detail on the possible Western Power supply corridor or required transformer upgrades to manage power supply. These details are required to consider any linear power corridor impacts and the potential for any additional mine power requests to impact on local or regional supply.</p> <p>No information is provided to demonstrate mitigation and protection measures for the gas pipeline corridor on Lot 63.</p> | No |
| | Mine closure | No information is provided on mine closure or rehabilitation. | No |
| | Ancillary legislation | The application has been assessed and approved with conditions under the Commonwealth <i>Environmental Protection and Biodiversity Conservation Act 1999</i> and the state <i>Environmental Protection Act 1986</i> . | Yes |
| | Miscellaneous | <p>Fire Management</p> <p>The application makes no reference to risk assessment or mitigation as per the requirements of AS/NZS 4360 or LPP No21 or WAPC DC 3.7 and 4.2.</p> | No |

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| | | <p>A Fire Management Plan (FMP) is required.</p> <p>As the development covers a number of properties there will need to be included within the FMP continuous access throughout the development for emergency services especially when the topography is changed by the mining activities, it is also essential that this includes emergency access routes to the water supplies contained within the site if they are not sited adjacent to a road reserve.</p> <p>It is accepted that this may, at various stages, create firebreaks that surround assets whilst not actually conforming to the strict legal requirements of the Firebreak Notice. The schedule and application of these variations will need to be included in the FMP and agreed to by Council's Emergency Service Department.</p> <p>Water supplies for the site are required to be installed with approved fire fighting appliance fittings.</p> <p>The FMP will need to include agreed access to the site to provide 24 hour access to emergency services</p> | |
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