

Thank you for organising this meeting for Andre. For info, this meeting relates to action 1 in the attached Minutes which Shire of SJ offered to lead. Invites for this meeting will be the five Peel LG planning officers. Invites for this meeting include:

Objectives: Place

Outcome: 2.1 - A diverse, well planned built environment.

Strategy: 2.2.1 - Develop, maintain and implement plans for the management and maintenance of Shire controlled parks, reserves and natural assets.

Purpose

The purpose of this Policy is to guide the assessment and comment on extractive industries. In the Shire of Serpentine Jarrahdale extractive industries include extraction of sand, gravel, clay, soil, rock, stone, minerals, or similar substance. The extraction of materials other than minerals usually involves less invasive and smaller scale processes. The extraction of minerals is in effect mining and is therefore more substantial and assessed more rigorously. Whilst the definition of an extractive industry includes a mineral, applications for such extraction on crown and most private land is exempt from formal consideration under the Scheme under section 120 of the Mining Act. In such cases this Policy will be used as a relevant guide under the Scheme to provide comment on such proposals. In the Shire some minerals (particularly mineral sands) are situated on private land with pre-1899 title and as such may not be covered by the Mining Act. Such proposals still require assessment under the Scheme, Local Law and Environmental Legislation. The occurrence of Minerals Sands within the Shire is outlined at Appendix A.

The level of detail and information to be submitted with an extractive industry application for minerals is more comprehensive than other extractive industries.

This Policy is in place to ensure that extractive industries are suitably located where they will not cause disruption to amenity, the environment or the proper functioning of the transport network.

License applications are also assessed under the Policy as required under the Local Law and ongoing compliance is a focus for such licenses in addition to general considerations.

This policy shall apply across the entire municipality of the Shire of Serpentine Jarrahdale.

This policy shall be used in the following circumstances:

- (a) when proponents are preparing applications for development approval or a license under the applicable Local Law for extractive industry
- (b) when the Shire is assessing and ultimately determining an application for development approval under Town Planning Scheme No. 2 or license application under the Local Law
- (c) when the Shire is assessing and ultimately providing a recommendation on applications for development approval under the Metropolitan Region Scheme.
- (d) when the Shire is commenting on a Mining proposal



This Local Planning Policy is not applicable to all proposals for extractive industry for:

- Extraction of materials ancillary to normal rural activity, where for use on the same site, and where no processing of the material is required; and
- Extraction of material coming under the definition of Public Works. Notwithstanding that there is no requirement to obtain development approval for a public work, it should be undertaken in accordance with the requirements of this Policy.

Policy Objectives

Development should result in the following objectives being met:

- Extractive industries do not adversely affect the environment or amenity of the locality during or after extraction.
- Extractive industries are located in the most appropriate areas of the Shire.
- Extractive industries are sited and operated to meet the varied needs of the community.
- Extraction occurs where the available haulage routes and road hierarchy are satisfactory or can be upgraded to support an extractive industry without affecting the sustainability of the transport resource.
- To maintain a general presumption against the extraction of minerals including mineral sands within the Shire of Serpentine Jarrahdale, unless the proponent has demonstrated that net social, economic and environmental benefits will be delivered in the short, medium and long term.
- To clearly outline the matters that are required to be addressed by proponents that are seeking approval for general extraction and more detailed matters for mineral extraction within the Shire.
- To ensure that the assessment of mineral extraction proposals is comprehensive and consistent with orderly and proper planning principles.
- To provide clarity of the development assessment process for proponents and the broader community.
- To inform the community/stakeholders of the importance of a rigorous assessment process and the reasoning for the Shire's policy stance.

Definitions

For the purpose of this Policy, terms used have the following meaning:

Extractive Industry means an industry which involves -

- a) the extraction of sand, gravel, clay, soil, rock, stone, minerals, or similar substance from the land, and also includes the management of products from any of those materials when the manufacture is carried out on the land from which any of the materials so used is extracted or on land adjacent thereto, and the storage of such materials or products; and
- (b) the production of salt by the evaporation of salt water.

Sensitive Landuses means those uses that are sensitive to noise, disruption of visual amenity or any other nuisance resulting from the extractive industry. Sensitive land uses include residential development, hospitals, hotels, motels, hostels, caravan parks, schools, nursing homes, child care facilities, shopping centres, playgrounds and some public buildings. Some commercial, institutional and industrial land uses which require high levels of amenity or are sensitive to particular emissions may also be considered "sensitive land uses". Examples include some retail outlets, offices and training centres, and some types of storage and manufacturing.

Minerals means naturally occurring substances obtained or obtainable from any land by mining operations carried out on or under the surface of the land, but does not include —

- (a) soil; or



- (b) a substance the recovery of which is governed by the Petroleum and Geothermal Energy Resources Act 1967 or the Petroleum (Submerged Lands) Act 1982; or
- (c) without limiting paragraph (b), geothermal energy resources as defined in the Petroleum and Geothermal Energy Resources Act 1967 section 5(1); or
- (d) a meteorite as defined in the Museum Act 1969; or
- (e) any of the following substances if it occurs on private land —
 - (i) limestone, rock or gravel; or
 - (ii) shale, other than oil shale; or
 - (iii) sand, other than mineral sand, silica sand or garnet sand; or
 - (iv) clay, other than kaolin, bentonite, attapulgite or montmorillonite;

Mineral Sands means sand containing economic quantity of titanium minerals.

Development – as per definition provided in the Planning and Development Act 2005.

Extraction Area means the extent of land proposed to be used for ground-disturbing activities

Operational Area means the extent of land proposed to be used for extraction and all associated activities.

Status

- (a) Relationship to Town Planning Scheme No.2
This Policy is a planning Policy prepared, advertised and adopted pursuant to Clause 9.1 of Town Planning Scheme No.2 (TPS2). Under Clause 9.2 of TPS2 all planning policies are documents supporting the Scheme. The Policy augments and is to be read in conjunction with the provisions of TPS2 relating to development applications.
- (b) Relationship to other State Planning Policies (SPPs)
This policy has due regard to, and should be read in conjunction with the entire State Planning Policy suite. Particularly but not limited to State Planning Policy 4.1 State Industrial Buffer Policy and Guidance Note 3 – Separation Distances Between Industrial and Sensitive Land Uses (EPA – 2005).
- (c) Relationship to other Local Planning Policies (LPPs)
This policy has due regard to, and should be read in conjunction with the Shire's entire Local Planning Policy suite.
- (d) Relationship to the Shire of Serpentine Jarrahdale Local Law
This policy is to be considered in the assessment of license applications.
- (e) Other documents which have the potential to influence mineral extraction applications (and have ultimately guided the preparation of this Policy) include:
 - Mining Act 1978
 - Local Government Act 1995
 - Guidelines for Mining Proposals in Western Australia (February 2006)
 - Environmental Protection Authority (EPA) Part IV Environmental Protection Act 1986
 - Environment Protection and Biodiversity Conservation Act (EPBC Act) 1999.
- (f) Other guidelines and Regulations of relevance include:
 1. Quarry Rehabilitation Guidelines (1990) (DOME).
 2. Extractive Industries within Public Drinking Water Source Areas (Water and Rivers Commission Water Quality Protection Rate)
 3. Environmental Protection (Noise) Regulations
 4. Dust Control Guidelines (1990): Guidelines for assessment and control of dust and windborne material for land development sites (DEP)
 5. Land Development Sites and Impacts on Air Quality Guidelines (1999 – Draft) (DGP)



6. Environmental Code of Practice for Extractive Industries (1990) (EPA)

Policy

1. To enable an assessment of any proposal the following information is required to be submitted.
2. Two copies of a site plan, including a plan of the area of extraction at a scale of not less than 1:500, must be submitted that includes the following information:
 - Area depth and volume of extraction (existing and proposed final contours at 1 metre intervals)
 - Distances from lot boundaries and all dwellings and other sensitive uses within a 1km radius of the extraction site
 - Road frontages and property access
 - Details of existing and surrounding land uses
 - Existing vegetation, wetlands and watercourses, and distance to the proposed area of extraction
 - Area height and volume of material and top soil stockpiles
 - Site plans, floor plans and elevations of any building associated with the proposal
3. A report will also be required to accompany the above plans, detailing the following:
 - Type of material to be excavated
 - Details of methods of extraction, including crushing, blasting or extraction only
 - Hours of operation (including crushing, blasting and excavation)
 - Storage of chemicals
 - Estimated completion date
 - Type of equipment to be used including size of trucks and machinery
 - Maintenance and any refueling of trucks on site
 - Number of truck movements per day/week
 - Details of staging
 - Proposed haulage routes and destinations
 - Proposed road warning signage
 - Visual impact assessment, with particular reference to major roads; tourist routes/interest points, and surrounding properties/structures
 - Drainage implications including surface and ground water impacts
 - Proposed end use of site
 - A detailed rehabilitation plan including types of materials, staging, source of materials, re-contouring, replacement of topsoil, screen planting and re-vegetation (vegetation species and densities)
 - Details of dieback management techniques
 - Management techniques to address potential conflict with surrounding land uses and protection of environmental attributes
 - Any other assessment the Shire may require, including Aboriginal and European Heritage considerations if within a known area of concern
 - Justification for any variation from Shire requirements
4. With respect to applications for extractive industries involving extraction of minerals, Appendix B of this Policy is also required to be addressed.



5. In determining the suitability of any extractive industry proposal for a particular site the following policy measures will be assessed. If the Acceptable Development Criteria are met the proposal may be considered more appropriate. If the Acceptable Development Criteria are not met then the proponent must demonstrate how the proposal still meets the Performance Criteria.

Table 1

Performance Criteria	Acceptable Development
Element: Amenity	
<p>PC1.1.1 Development does not prejudice the productive use of agricultural land on site or in the surrounding locality.</p> <p>PC1.1.2 Development does not unduly disrupt surrounding residents by way of vehicular traffic, noise, blasting and dust vibration.</p> <p>PC1.1.3 Consultation has occurred with the local community and relevant government departments.</p> <p>PC1.1.4 The site is able to be rehabilitated in a way that is compatible with the long term planning for the site and surrounding area.</p>	<p>AD1.1.1 Development is located away from sensitive landuses unless appropriate measures can be taken to ameliorate adverse impacts.</p> <p>AD1.1.2 Hours of operation are limited to 7am to 7pm Monday to Friday and 7am to 1pm on Saturday. No operation on recognised public holiday days.</p> <p>AD 1.1.4 Extraction of material occurs from only one site per property at any one time.</p> <p>AD1.1.5 Sites are filled with clean material only.</p>
Element: Environmental	
<p>PC1.2.1 Development is located so as to minimise impact upon native flora and fauna; groundwater quality, quantity and use; surface drainage and surface water quality including discharge of sediment and sites of cultural and/or historic significance on or near the land.</p>	<p>AD1.2.1 Development does not prejudicially effect native flora and fauna; groundwater quality, quantity and use; surface drainage and surface water quality including discharge of sediment and sites of cultural and/or historic significance on or near the land.</p> <p>AD1.2.2 Dieback is managed in accordance with Best Practice Guidelines – Management of Phytophthora Dieback in Extractive Industries (2005 – Dieback Working Group).</p> <p>AD1.2.3 Sites can be suitably rehabilitated in accordance with an agreed management plan.</p>
Element: Buffers	
<p>PC1.3 Development is sited in accordance with the principles of State Planning Policy 4.1 State</p>	<p>AD1.3.1 Quarry of hard rock (including blasting), crushing and screening - requires a buffer distance of 1000m.</p>



<p>Industrial Buffer Policy and Guidance Note 3 – Separation Distances Between Industrial and Sensitive Land Uses (EPA – 2005).</p>	<p>Quarry (not hard rock). Processing rock ore etc by blasting, grinding and milling works – material processed by grinding, milling or separated by sieving, aeration etc - requires a buffer distance of 1000m. Quarry (no blasting) - material processed by grinding, milling or separated by sieving, aeration etc - requires a buffer distance of 500m. Sand and limestone extraction no grinding or milling Works - Requires a buffer distance of 500m.</p>
<p>Element: Visual Impact</p>	
<p>PC1.4 Development is unobtrusive and does not prejudicially affect the natural landscape.</p>	<p>AD1.4.1 Development is to be visually inevent in the landscape when viewed from major travel routes.</p>
<p>Element: Transport</p>	
<p>PC1.5 Development satisfactorily addresses the following issues:</p> <ul style="list-style-type: none"> • Proximity to and interaction with school bus routes; • Conditions and nature of roads to be used; • Impact on higher traffic volume on higher risk roads; • Size of trucks and number of truck movements; • Access points to the operation site; • Existence of any other extractive industry or heavy haulage in the vicinity and cumulative effects on the transport network; and • Comments of Main Roads WA. 	<p>AD1.5.1 Development is located in proximity to heavy haulage routes. AD1.5.2 Development which does not utilise school bus routes for haulage purposes. AD1.5.3 Development where a road maintenance agreement has been entered into with the Shire prior to operation, or where financial contributions have been made to ensure the upgrading of roads where necessary to improve the standard of access.</p>

6. Local Law Specific Policy Requirements

6.1 Local Law License Conditions and Compliance

The initial licence issued to an extractive industry upon receiving planning approval to commence will be one year. The duration of a licence, where the licence is being renewed, will be determined through a compliance system.

Compliance System

Audits are undertaken by Shire staff to review compliance with extractive industry licence conditions. During audits areas of non-compliance are recorded. These areas of noncompliance will be determined to be minor, major or critical as per this policy and assigned points accordingly. The length of licence will be calculated on the total number of noncompliance points accumulated at the most recent audit undertaken in the six months prior to licence renewal. Points achieved in a previous audit will be added to the total score if there has been no action to become compliant or work towards a solution on this issue.



Non Compliance Points:

The points for each category of non-compliance are:

- Critical: 10 points
- Major: 5 points
- Minor: 1 point

Length of Licence:

The length of licence will be determined by the total score of non-compliance as follows:

- 0- 2 points: 5 year licence
- 3-5 points: 3 year licence
- 5-10 points: 1 year licence
- Council Policies Page 155
- E15/5096 Updated July 2017
- 11 or more points: 6 month licence – this must be resolved by Council

Category of Non Compliance

Scoring of non-compliance against conditions will be determined by one of two systems. Firstly some conditions will have to be placed on the licence as a critical, major or minor category at the time the extractive industry licence is approved. This is the score noncompliance will receive for these conditions. The categorisation of these conditions will be determined as per table 2. Other conditions will not have a category placed against them as it is the severity and number of non-compliances that will affect the rating. These will be determined at the time of audit using Table 3.

Table 2

Category	Community concern	Compliance history of operator	Consequence
Minor (1)	None or little valid community concern within the past 2 years on this issue.	No major or critical non-compliance relating to this issue in the past 5 years and all issues remedied.	No significant environmental impacts would occur from non-compliance.
Major (5)	Valid community concern within the past 2 years by up to 10 affected residents.	Major or critical non-compliance history relating to this issue in the past 5 years but all issues have remedied.	Significant environmental impacts would occur from non-compliance that could be remedied in the short term (1 month).
Critical (10)	Valid community concern has been raised and significant concerns have been demonstrated to the Shire within the past two years by more than 10 affected residents a year.	Non-compliance history relating to this issue in the past 5 years which exceeds 3 major non-compliances or one critical non-compliance and has been remedied or any non-compliance that has not been remedied.	Significant environmental impacts would occur from non-compliance that could not be remedied in the short term (1 month).

Table 3

Condition	Critical (10)	Major (5)	Minor (1)
Plans Required eg. vegetation, landscape, water, noise, dust.	No plan submitted for approval and 3 months has passed since first licence and site works commence or due date as specified in licence conditions.	Plans submitted over 30 days late.	Plan submitted prior to commencement of site works for approval or due date as specified in licence conditions but not of approval standard at present



Local Planning Policy: 4.10 Extractive Industries (Including Extraction of Mineral Sand and Other Minerals)

	Requests ignored for plans.		OR plans submitted between 10-30 days late.
Site Operations Requirements relating to site operations eg. water quality testing, blasting notification, dust management.	No notification to the Shire within 5 working days of confirmation of critical or major non-compliance and/or no written report within one month with evidence to satisfy the Executive Manager Strategic and Community Planning that measures have been undertaken to prevent a recurrence.	Notification to the Shire within 5 working days of confirmation of critical or major non-compliance and written report within one month with evidence to satisfy the Executive Manager Strategic and Community Planning that measures have been taken to prevent a recurrent.	Notification to the Shire within 24 hours of confirmation of critical or major non-compliance and written report within 5 working days when evidence to satisfy the Executive Manager Strategic and Community Planning that measures have been undertaken to prevent a recurrence.
Site Management and Operations Requirements relating to site management eg. watercourses, weed management.	Noncompliance occurred and remedial action undertaken by next audit or no notification of breach of licence condition received for critical or major non-compliances.	Noncompliance occurred and not remediated or no commencement of actions to remedy if long term approach, required within 12 weeks of non-compliance occurrence OR no communication and reporting on remediation being undertaken provided to the Shire on a major or critical non-compliance.	Noncompliance occurred but remediated or commence actions to remedy if long term approach required within 4 weeks of occurrence and this is supported in writing to the Shire.
Rehabilitation Condition eg revegation site stabilisation.	Revegetation not completed in accordance with approved plans and licence conditions or revegetation not commenced or there has been no effort to rectify areas of revegetation.	Revegetation not completed in accordance with approved plans and licence conditions but report submitted to the Shire with a plan of action and timeframe commitment to complete required works.	Revegetation not being completed within proposed timeframe but has been commenced in accordance with approved plans. This excludes where genuine attempts to undertake revegetation has occurred but failed and is being replanted at the next appropriate planning season.

Licence Conditions Approval

The proposed licence conditions will be drafted and sent to the operator prior to them being presented to Council for adoption. The proposed licence conditions will be sent to the operator with a minimum of three weeks to comment. These comments will be taken into consideration in determining or recommending the licence approval.

Audits

The frequency of full site audits is determined by the risk of the operation as established in the assessment of the length of the licence.

Total audit score	Length of licence	Frequency of site audits
0 – 2	5 years	1/year – Every 12 months
3 – 5	3 years	1/year – Every 12 months
6 – 10	1 year	2/year – Every 6 months
11+	6 months	2/year – Every 6 months



The operator will be notified of an audit by the Shire officers with at least two weeks' notice. The Shire will provide the operator at the time of notification of the audit a copy of the audit table which they will be audited against. This will allow the operator 2 weeks to provide or seek any clarification on any areas listed in the audit. The process for audits is detailed below:

1. Compliance Audit Only (May for 6 and 12 month licences and October for 3 and 5 year licenses).
2. Letter sent to operator advising of site inspection minimum 2 weeks prior with audit assessment sheet attached.
3. Site audit undertaken by planning and environmental officers against current extractive industry licence and planning approval.
4. Operators sent a letter advising of any non-compliances within 2 weeks of site audit and given due dates for remediating areas of non-compliance.

Audit and Assessment of Licence lengths (October)

1. Letter sent to operator advising of site inspection a minimum 2 weeks prior with audit assessment sheet attached.
2. Site audit undertaken by planning and environmental officers against current extractive industry licence and planning approval. Council Policies Page 158 E15/5096 Updated July 2017
3. Assessment for length of licence undertaken in accordance with PP14 using completed audit results.
4. Draft assessment including recommendation of licence length sent to operator by 7 November for comment.
5. Comments due back from operators by 21 November.
6. Mediation between operator and officers undertaken if there is disagreement and option given to operator to attend December Concept Forum to present issue/s to Council.
7. Item put to December Ordinary Council Meeting on the length of the extractive industry licence for decision with both officers recommendation and any comment provided on audit and assessment results from the operator.

Approval process for documents required in licence conditions:

1. Where documents are required to be submitted by a date as set out in licence conditions, the Shire will acknowledge receipt of those documents within 5 working days and will assess the documents within 3 months of receipt.
2. Further information or modifications may be requested from the Shire which will also be assessed within 3 months of receipt.
3. Where documents are acknowledged as being received by the Council but are not assessed within 3 months of receipt they will be deemed to be approved.
4. Plans will not be accepted for assessment within 3 months of the licence renewal date.



6.2 Objections to an Extractive Industry License under the Local Law

Section 9.5 of the Local Government Act 1995 (the Act) provides:

9.5. Objection may be lodged

- (1) An affected person may object to a decision if the person has not lodged an appeal against the decision.
- (2) The objection is made by preparing it in the prescribed form and lodging it with the local government in the prescribed manner within 28 days after the right of objection arose [i.e. within 28 days after the decision], or within such further time as the local government may allow.

To ensure that the rights of an applicant, to lodge an objection with Council, against any decision in respect of an extractive industry licence are not diminished, the period for lodging objections shall be within 28 days after the date of the letter giving notice of the Council's decision.

6.3 Cost Recovery for Consideration of Applications Involving Mineral Extraction

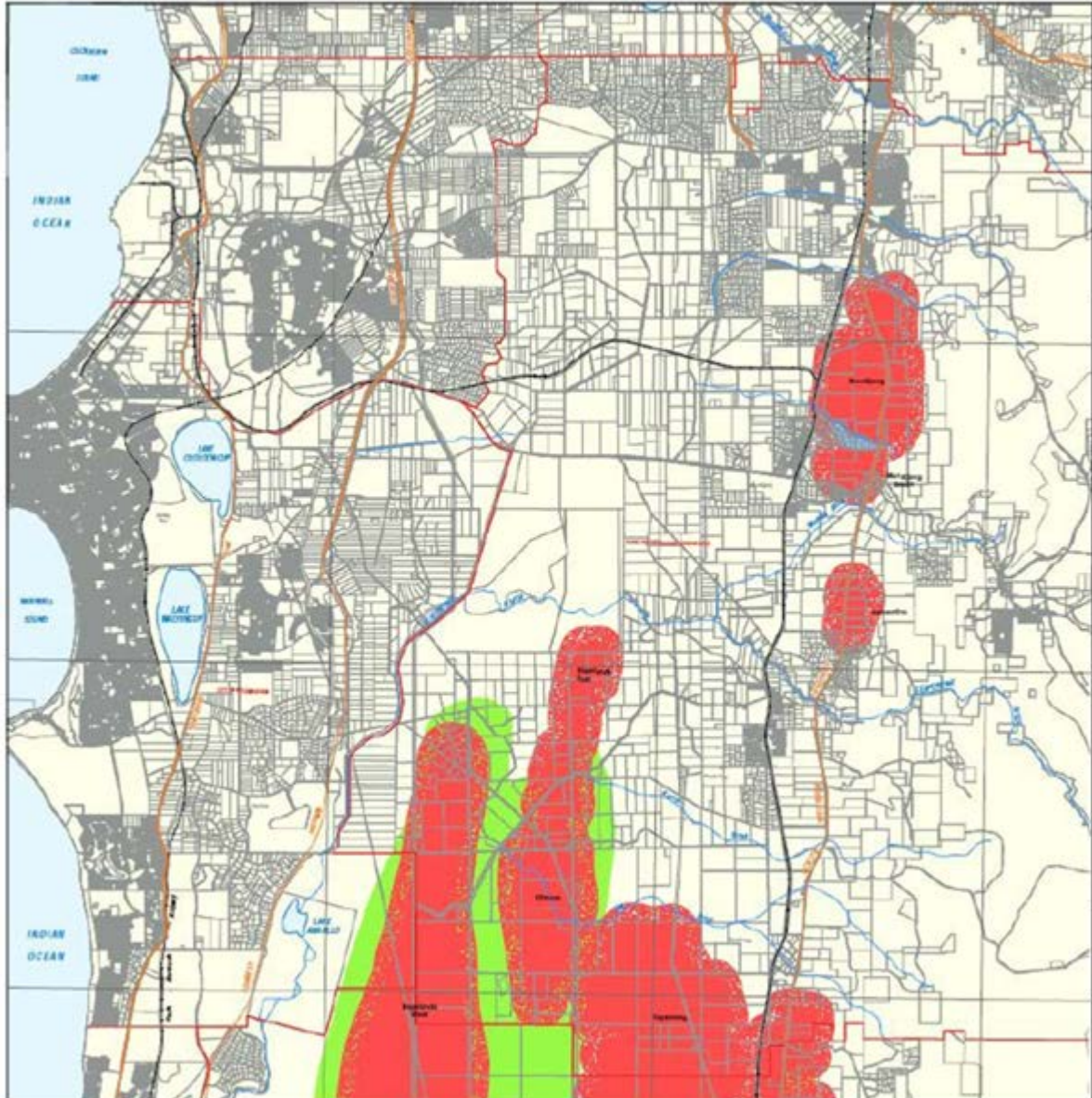
The Shire shall seek to recover from proponents, to the maximum extent practicable, the costs associated with the assessment of proposals. The costs that the Shire shall seek to recover shall include but not be limited to the following:

- (a) costs and expenses of advertising the application and advertising matters related to the application.
- (b) costs and expenses of any specific assessment that is required in relation to the application, for example, environmental assessment.
- (c) costs and expenses of consultation procedures required in relation to the application.
- (d) costs and expenses of technical resources and equipment such as computer modelling.
- (e) costs and expenses of specialist advice required in relation to the application, for example, advice in relation to heritage matters.

The Shire shall reserve the right to require an applicant to pay estimated costs and expenses that may be incurred by the local government before the costs and expenses are actually incurred. Where any moneys paid in advance by an applicant to a local government for estimated costs or expenses that are not incurred by the local government are to be refunded to the applicant upon a formal determination being made on the application.



APPENDIX A – KNOWN MINERAL SANDS DEPOSITS





**Appendix B – Relevant Matters to be Addressed with Documentation for
Applications for Mineral Extraction**

General

1. the proposed scale, form and function of the proposal.
2. the proposed staging and timing for the operation.
3. the plant and equipment to be used within the operational area.
4. the financial viability of the proposal, in terms of its potential to deliver identified positive impacts and minimise negative impacts in the short term (0-5 years), medium term (5-15 years) and long term (15 years +). The timeframes shall be considered to be from the commencement date of ground-disturbing activities.
5. All proposed management arrangements, strategies and plans, including timing (short-term, medium-term and long-term), actions, responsibilities and contingencies.

Water Resources

6. the potential for the ground water levels to be lowered in the local vicinity of mining operations and the associated impacts including ecological, domestic, industry and rural use of this natural resource.
7. the potential for contamination of ground water in the local and downstream area of mining operations.
8. the potential impacts on drinking water supplies.
9. the potential for the disturbance of the land to increase salinity and acidity in surrounding water and soils.
10. the potential for short-term, medium-term and long-term damage to the above ground and below ground stream zones and natural aquifers.

Soil Profile

11. the potential impact of acid sulphate soils, poorly structured soils, dispersive or sodic soils and any potentially hazardous compounds.

Native terrestrial vegetation

12. the potential impact on vegetation identified by the State Government of Western Australia as being of regional significance.
13. the potential impact on biodiversity values identified in the Shire of Serpentine Jarrahdale adopted Local Biodiversity Strategy.
14. the potential impact on management plans adopted by the Shire of Serpentine Jarrahdale and other public authorities.
15. the potential for destruction of wildlife habitats.
16. the potential for weed infestation.
17. the potential for the spread of *Phytophthora cinnamomi* (dieback).
18. the potential for impact on matters identified as being of significance under the Environmental Protection and Biodiversity Conservation Act 1999.

Native terrestrial fauna

19. the potential impact on fauna identified by the State Government of Western Australia as being of regional significance.
20. the potential for impact on matters identified as being of significance under the Environmental Protection and Biodiversity Conservation Act 1999.
21. the potential impacts on habitat and ecological corridors for fauna.



22. the potential impact on fauna from accidents, including motor-vehicle conflicts.
23. the potential for competition from, and overgrazing by, farm and feral herbivores and other animals, for example rabbits, goats and honey bees.

Other environmental impacts.

24. the potential for erosion impacts, both directly and in-directly from activities within the operational area.
25. the potential impact on wetland values identified as being of significance under the State Government of Western Australia's Geomorphic Wetland Dataset for the Swan Coastal Plain.
26. proposed measures for the rehabilitation of the operational area including actions, responsibilities and contingencies.
27. the potential impact on sites identified as being of Aboriginal Heritage Significance.

Visual impact

28. the potential for visual impact from extraction areas. To enable the potential impacts to be properly considered, at a minimum the following information should be provided:
 - size of footprint of the altered area(s).
 - depth.
 - configuration of outer boundary.
 - terrain / topography.
 - angle of faces.
 - length of time faces are exposed before being re-contoured and re-vegetated.
 - time sequence for planting exposed surfaces.
 - planting programs, including screen planting.
 - siting, design and maintenance of plant and buildings.
 - location of powerlines, pipelines and other services.
 - alignment and design of access roads and rail links.
 - changes to original landscape, especially landform, drainage patterns, vegetation and other characteristics of the original landscape unit; and lighting.
29. Potential visual impact of residue areas. To enable the potential impacts to be properly considered, at a minimum, the following information should be provided:
 - Landfill and mining residue mounds.
 - placement of the mounds in locations avoiding further environmental degradation.
 - height above surrounding landscape.
 - size of footprint.
 - configuration of footprint.
 - steepness of the angle of outer slopes.
 - regularity and angularity of outer slopes (both vertical and horizontal profile).
 - length of time the outer slopes are exposed before they are vegetated.
 - dust control.
 - time sequence for vegetation of separate mounds.



- success of vegetation programs.
 - distance to nearest public viewpoints.
 - screening of visually sensitive areas.
 - simulated views of the residue areas from the major view points into the site.
 - drainage issues (catchment, patterns, quality of runoff, etc).
30. Potential impact on the natural character landscape, including but not limited to the following:
- Vegetation: height, patterns, predominant species type, density, colour, textures, understorey layers and percentage of canopy cover. Examples of individual vegetation features include variation in woodland species, individual trees, and wildflowers patterns.
 - Waterform: size, extent, depth, colour, common surface texture for example, rippled, flat or choppy, as well as the edge characteristics of the water body eg embankment slope, line of the coast or rock boulders that border a waterform. Linear forms include streams and rivers. Open water bodies include lakes and estuaries. Examples of individual waterform features include: rock pools, waterfalls, rock seepages, fast-flowing stream, rapids or still water pools.
 - Soils and exposed rock (describe rock form and surface soil colour and texture).
31. Potential impact on rural character elements, including but not limited to:
- agricultural crop patterns, colour and scale.
 - plantation density and location, scale, colours, textures.
 - remnant vegetation stands.
 - individual remnant or exotic trees.
 - presence of natural features such as landform and valley slopes.
 - location and rural character of farm homesteads, associated buildings and views to the surrounding land.
 - settlement pattern of rural towns.
 - land tenure and zoning.
 - diversity in agricultural land uses.
 - mining activities (eg quarries).
 - utilities (including powerlines, water pipelines, wind turbines, mobile phone towers).
 - road patterns and character.
 - roadside vegetation pattern, density and naturalness.
 - ephemeral features such as wildflowers, fauna, and water conditions; and individual features such as windmills, historic buildings, bridges, fences, livestock and landmarks that are perceived as rural icons of cultural significance.
- 32 Potential impacts on built environment characteristics, including but not limited to the following:
- settlement patterns.
 - land tenure and zoning.
 - general road layout.
 - streetscapes (general, parking, freeways, main streets, residential).
 - buildings (general, residential, commercial, industrial, community, institutional, transport).
 - pedestrian ways.



- trees in streets, gardens and parks.
- public open space (vegetation and parks in built areas).
- open space (including semi-public and private areas).
- colour and style of built forms.
- location and design of industry and commercial areas (including ports).
- height, colour and siting of buildings, utility towers, power poles and lines.
- individual features in a built area, such as historic buildings and features, landmarks, artworks, railway stations and other unique built structures.

33. Visual impact assessments should be undertaken by proponents in a manner consistent with the following document:

“Visual Landscape Planning in Western Australia - a manual for evaluation, assessment, siting and design”
Western Australian Planning Commission, 2007.

Existing landscape units should be a subject of visual evaluation at local and regional level. The evaluation should include:

- description of full characteristics contributing to landscape typology of existing landscapes on the subject land.
- complexity (variety) of landscape character units and physiographic units.
- visibility (short and long-distance views to the site, visually sensitive areas).
- existing quality (visual amenity) / degree of existing degradation.
- intangible qualities of landscapes; spiritual connection to the land (Aboriginal significance, cultural heritage, ethical issues, etc).

The visual evaluation of the proposed changes shall include:

- Simulated views (computer/photographic) of the proposed site from key viewing locations (travel routes, tourist destinations, etc) into the site.
- Cross-sections determining visibility objective and screening needs.

The visual evaluation of the proposed rehabilitation of the land (landscape and physiographic units shall include:

- Short-term.
- Long-term.

Community

34. the potential impacts on access to community services and facilities.
35. the potential impacts on access to recreation opportunities.
36. the potential impacts on the accommodation of future population growth and provision of housing choice and diversity to suit the needs of different households, including specialist housing needs, and the services they require.
37. the potential impacts on the provision land for a range of accessible community resources, including affordable housing, places of employment, open space, education, health, cultural and community services.
38. the potential impacts on the integration of land use and transport planning and promotion of patterns of land use which reduce the need for transport, promote the use of public transport and reduce the dependence on private cars.



39. the potential impacts on the encouragement of safe environments, high standards of urban design and a sense of neighbourhood and community identity.
40. the potential impacts on the promotion of commercial areas as the focus for shopping, employment and community activities at local, district and regional levels.

Employment opportunities

41. the potential for short, medium and long term employment opportunities.
42. the absolute number of employment opportunities that will likely result.
43. the type of employment opportunities that will likely result.
44. the potential to source labour locally.
45. the diversity of employment opportunities that will likely result.

Health Impacts

46. the potential exposure of local residents, visitors and mining employees to airborne contaminants and radiation.
47. the potential health risks to local residents, visitors and mining employees from increased exposure to dust and radiation (eg respiratory disease, depression and lowered immunity).
48. the potential mental health impacts of the mining operations on nearby residents, including but not limited to, stress-related disorders.
49. the extent of emissions and their potential to unreasonably interfere with the health, welfare, convenience, comfort or amenity of people the potential for biophysical impacts of the proposal to significantly and adversely change people's social surroundings.
50. the protection of land and water from contamination and the potential risks to human health.
51. the potential for mosquito breeding and the associated risks of mosquito-borne disease.
52. the potential for end-product effects on food production (eg meat, milk, eggs) from exposure to emissions, on both a domestic and commercial basis.
53. the potential for cumulative health impact on local residents.

Sensory Receptors

54. the potential exposure of local residents, visitors and mining employees to dust.
55. the potential noise impacts associated with the mineral sands mine and its effect on adjacent and surrounding communities.
56. the potential impacts on the amenity and lifestyle opportunities for existing and future residents and visitors to the Shire of Serpentine Jarrahdale.

Transport

57. the proposed vehicle movements, including:
 - number of vehicles.
 - type of vehicles.
 - hours of operation.
 - travel routes to be used, including origin and destination.
58. the capacity and condition of the local transport networks (both road and rail) relevant to the operation.
59. the capacity and condition of the district transport networks (both road and rail) relevant to the operation.
60. the capacity and condition of the regional transport networks (both road and rail) relevant to the operation.



61. the potential impacts on other road and rail users, including congestion and vehicular accidents.
62. the potential impacts of proposed vehicular movements on the physical condition of road and rail infrastructure.

Amenity

63. the potential impacts on the amenity and lifestyle opportunities for existing and future residents and visitors to the Shire of Serpentine Jarrahdale.

Economic impacts

64. the potential impacts on the attractiveness of the area for tourism activities.
65. the potential impacts on the diversity of the economic base of the locality and the region.
66. the potential impacts on the feasibility of future land uses, both within and in proximity to the operational area.
67. the potential impacts on the protection of agricultural land resources from inappropriate uses.
68. the potential impacts on the promotion of local employment opportunities in order to reduce the time and cost of travel to work.
69. the potential impacts on the provision of sites for tourism accommodation and facilities taking account of their special location and servicing needs.

Land use planning

70. the degree of consistency (or otherwise) with relevant local government planning instruments including, but not limited to, the following:
 - District and local structure plans.
 - Local planning policies.
 - Local Planning Policy No. 30 Mineral Sands Extraction.
 - Detailed area plans.
 - Local Planning strategies.
71. the degree of consistency with state government planning instruments, including, but not limited to, the following:
 - sub-regional structure plans.
 - state planning policies.
72. the feasibility of future long-term land use planning, including development options (inter-generational equity).

Climate change

73. the extent to which the proposal will contribute to greenhouse gas emissions.
74. the extent to which climate change has been factored into the proposal as a risk.

Energy consumption

75. the extent to which non-renewable energy sources will be used within the operational area.
76. the extent to which renewable energy sources will be used within the operational area.

Infrastructure Provision

77. The potential impact on domestic infrastructure provision including electricity, gas, water, wastewater and telecommunications.



78. The potential impact on regional infrastructure provision including electricity, gas, water, wastewater and telecommunications.

Mine Closure

79. consideration of appropriate rehabilitation methods proposed in initial application stage.

80. consideration of material required for closure to eliminate the opportunity for mismanagement of closure.

81. consideration of post-mining land uses in the form of a Mine Closure Plan in early stages to allow for continual improvement and best practice.

Other Legislation

82. Consideration of ancillary legislation which may indirectly affect the proposal:

- Eg Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act). This legislation is the Australian Government's central piece of environmental legislation as it provides a legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places. It is important for the Proponent to be conscious of secondary and tertiary impacts as well as primary impacts in the initial development application phase. Proponents must refer to the Commonwealth if the proposal may potentially impact on any elements outlined in this Act.
- Mines Safety and Inspections Act 1994
- Environmental Protection Act 1986

83. Any other relevant Policy, Regulation or Guideline

Miscellaneous

84. Any other matter that the Shire considers to be relevant.

**References**

Name of Policy	Local Planning Policy 4.10: Extractive Industries (Including Extraction of Mineral Sands and Other Minerals)
Previous Policy	Local Planning Policy 30: Extractive Industries
Date of Adoption and Resolution Number	23 July 2018 - OCM063/07/18
Review dates and Resolution Numbers	
Next review date	
Related documents	Acts/Regulations <i>Local Government Act 1995</i> Plans/Strategies Strategic Community Plan 2017 - 2027 Policies References Delegations Work Procedures

Note: changes to references may be made without the need to take the Policy to Council for review.