

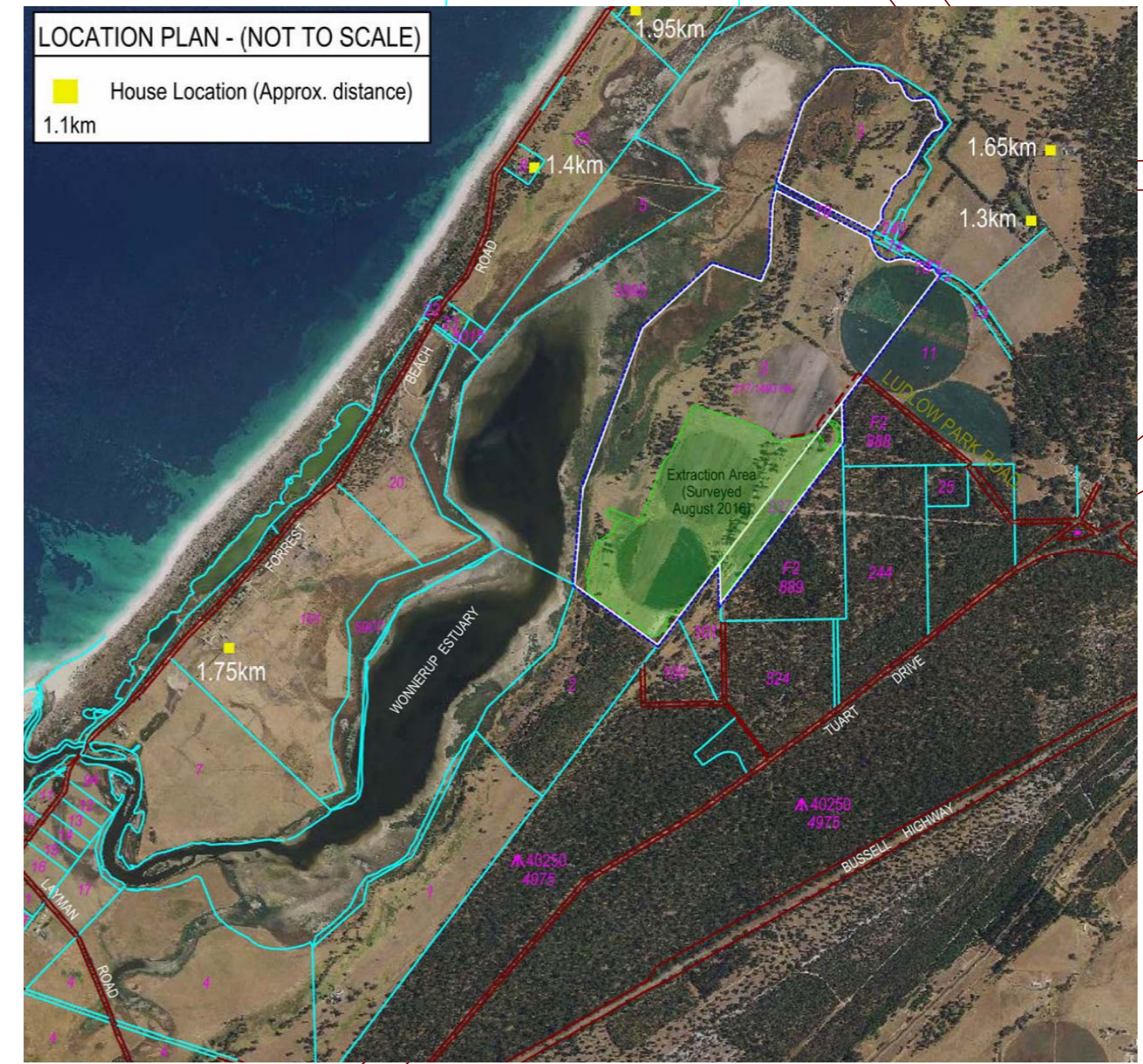
ROCK EXTRACTION CONDITIONS
 Rock extraction comprises a total area of approximately 63 hectares.

- Maximum depths of excavation will be 2 metres below the existing surface (dependent on the depth of rock), tapering out to a natural surface level on the lowest side of the excavation area.
- The overburden topsoil is to be stripped over a maximum area of approximately 5000m² at any one time to a depth of 100 - 150mm, taking the seed and humus matter which is to be stockpiled. Refer to the cross section details on this plan, which indicate the proposed excavation floors and side slope batters (where required).
- Side batters not to be steeper than 1:10.
- Pit sides and floor to be contour ripped prior to respreading of topsoil.
- Stockpiled topsoil to be respread to a depth of 100 - 150mm at the completion of each stage of excavation.
- Where possible, cleared timber from the extraction area shall be used productively, i.e. millable timber to be milled, other timber to be used for firewood or mulched for use as groundcover / stabilisation during rehabilitation works.
- Topsoil to be mulched and / or seeded with an appropriate agricultural seed mix to assist with stabilisation.
- Rehabilitation works to be carried out within each stage prior to commencement of extraction in subsequent stages.

LEGEND

- Extent of Pit (Area - 63 Ha)
- Staging Boundary
- Natural Surface Contour

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NOTE
 This is a site survey and the boundaries shown should be used as a reference only as they have not been re-established as part of this survey.

This site survey was carried out using GPS survey equipment.

Coordinates are MGA94 Zone 50.

Boundary marks were not looked for during this survey.

Cadastral boundaries shown in this survey have been obtained from Landgate and are subject to survey.

A boundary re-survey by a Licensed Surveyor is strongly recommended before the commencement of any construction work close to the property boundaries.

Heights are AHD.

Scale = 1:1500 (A2).

NOTE
 For the sake of clarity, individual spot heights have been omitted from this Plan. Refer to the digital data for this information.

This drawing is the property of BSO Development Consultants and shall not be copied, displayed or reproduced in whole, or in part, for any other purpose than was originally intended unless written consent is given by BSO Development Consultants.

No.	Revision	App.	Date
2.	Cross section modified	HJB	12-9-16

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EXTRACTIVE INDUSTRIES PLAN
LOTS 3 & 237 LUDLOW PARK ROAD
LUDLOW

CITY OF BUSSELTON

CLIENT	J. FORREST	DATE	19-August-2016
DRAWN BY	HJ BURTON	PLOT	Draw2332-L3&237
SCALE (A2)	1:4000	MAGNET JOB	2332 DTM Lot 3 South.mjo
DATUM	AHD (GPS)	FILE	2332
		Rev	2

Chief Executive Officer
City of Busselton
Locked Bag 1
BUSSELTON WA 6280

Dear Sir or Madam,

RE: APPLICATION FOR EXTRACTIVE INDUSTRIES AND CRUSHING LICENCE ON LOTS 3 AND 237 (No. 130) LUDLOW PARK ROAD, WONNERUP.

We act for John Forrest, the owner of Lots 3 and 237, which gain access from Ludlow Park Road in Wonnerup. Lot 3 contains an area of 217.15 hectares, while Lot 237 contain an area of 11.837 hectares which has been mostly cleared for many years for grazing and pastoral uses. The subject land is located behind the old Ludlow townsite and gains its access through to Tuart Drive via Ludlow Park Road. This roadway only serves properties owned by our client.

The BCP Group have been removing some sand from a smaller pit located in the southwestern corner of this application area however, this application is for limestone removal and crushing and should be treated as a separate process altogether. Likewise, it is lodged as a separate application to the sand extraction currently before the City (Reference DA16/0590).

In accordance with the adopted Extractive Industry Policy, the following information is enclosed:

- i) **Development Application Form;**
- ii) **Credit Card Authority Form (application and advertising fee);**
- iii) **Social Impact Statement;**
- iv) **Four Copies of Site Plan; and**
- v) **Draft Dust Management Plan.**

We will now address each of the details outlined within the Policy on Pages 27 and 28.

1.0 LOCATION AND SITE DETAILS

1.1 Property Details and Location on Property

The enclosed location plan and site plan identifies the proposed extraction area quite clearly. The subject land is located within *Extractive Industry Policy Area No. 3 – Extractive Industry Less Constrained*.

Extractive Industry will be expected to be approved within Policy Area 3, where such operations can meet the requirements of this Policy and the Scheme.

1.2 Contoured Topography of Site and Surrounds

The site plan incorporates Landgate 2016 digital aerial photography, together with 0.25 metre contours from a detailed site survey carried out by BSO Development Consultants in August 2016.

Drainage patterns within this locality and the property are well defined. A number of drains (both natural and constructed) are maintained within and adjacent to the property to accommodate seasonal overland water flows.

The majority of this 63 hectare area from which limestone will be removed is dominated by two large horticultural irrigation pivots. Consequently, the area is very flat.



1.3 Existing and Surrounding Landuses including Extractive Industry.

Land use abutting and within the property is all grazing, pastoral and horticultural land use. BCP Group operate a sand extraction from the southernmost corner of this property, supplying brickies sand locally. State Forest exists to the south, managed by the Department of Parks and Wildlife, while there are extensive wetlands to the west.

1.4 Property Access

Access to the proposed extraction will be via Ludlow Park Road, the same access currently being utilized by the BCP Group. Ludlow Park Road is virtually a private access – only our client uses it for access. To this end, upgrading of the roadway is considered unnecessary rather, its upkeep and maintenance during extraction could be the responsibility of the landowner, given he is the sole user of this roadway.

1.5 Existing Vegetation

The proposed extraction area is mostly cleared horticulture and pastureland, and it will be returned to pasture following sand extraction. Some of the individual paddock trees may be removed to access the limestone however, many will be retained where this is practical.

A clearing permit is not considered necessary from the Department of Environment Regulation.

1.6 Existing and Surrounding Watercourses, Dams and Wetlands – Drainage Management.

Extraction of limestone for crushing will be carried out to maintain the natural drainage direction to the north and west. No drainage structures are expected to be required for this proposal.

Our clients are committed to closely monitoring drainage/run-off within the excavation areas and will address any problems which may arise.

2.0 SCALE AND NATURE OF OPERATON

2.1 Size and Depth of Pits

It can be seen from the site plan that limestone extraction is proposed up to a total area of approximately 63 hectares, mostly occupied by two large pivot irrigation sytems. The limestone is located at a depth of 0.75 – 1.2 metres, and is generally 2 – 3 metres thick. The proposal is to remove 1 metre of this limestone before replacing the sand and topsoil and reactivating the horticultural irrigation pivots.

Our client does not expect to encounter ground water at that depth.

The overburden topsoil is to be stripped over a maximum area of approximately 5000m² at any one time to a depth of 100-150mm, taking the seed and humus matter which is to be stockpiled. Please refer to the cross section details on the site plan, which indicate the proposed excavation floors and it will be noted that the extraction area will be set back at least 20 metres from the property boundaries.

The limestone will be stockpiled and crushed in batches, with the crusher most likely to be located in the northern sector of the application area as indicated on the plan.



2.2 Onsite Maintenance of Vehicles

Vehicles shall not be serviced on site, except in the case of a breakdown. This would more likely take place back at the existing machinery sheds.

2.3 Estimated Amount of Resource for Extraction.

It is estimated that the total maximum volume of limestone to be removed from this property will be approximately 500,000 banked cubic metres. The crushing process will require licensing through the Department of Environment Regulation.

2.4 Period Over Which Operation Will Occur

The landowner requests that the permit be given the longest lifespan allowable (5 years).

2.5 Proposed Operating Times

Operation of the pit will be constrained between the hours of 7am and 6pm Monday to Friday, and it is not proposed to include public holidays. Should individual contracts require operation outside these times, our clients are committed to notifying Council accordingly, outlining the specific details of the contract.

It should also be noted that trucks may not operate on designated school bus routes between 7.30 – 8.40am and 3.20 – 4.20pm, Monday to Friday, during school periods.

2.7 Types of Equipment to be Used

As the proposal is for the extraction of lateritic limestone, it is anticipated that equipment will be limited to trucks (rigid body and trailer or semi-trailer), excavators fitted with rockbreakers and front end loaders.

The type of crusher to be utilized is unknown at this time however, its location is remote and it will not cause a nuisance to any adjoining landowners, either from dust or noise.

2.8 Staging of Operation

The site plan shows clearly the proposed area of excavation. Our clients are committed to rehabilitating the pastured areas upon completion of the extraction and this rehabilitation will be commissioned at an appropriate time of the season when the respread topsoil will germinate and stabilise quickly ie. during the months of late May to September.

The majority of the area is dominated by the two large horticulture areas which are irrigated by pivots. Our client will be keen to get these areas back into production as quickly as possible, so it is expected that each of these areas will be extracted separately in a relatively short period of time. The limestone will be stockpiled for crushing and this will occur over a period of time, determined by the requirements of specific contracts.



3.0 **RESOURCE HAULAGE – TRAFFIC IMPACT ASSESSMENT**

3.1 **Number of Truck Movements Per Day/Week**

Assessment of the estimated banked volume of 500,000 cubic metres against the truck movement calculations contained within the Policy, leads to an average removal volume of 164 truck cubic metres per day (five days per week over five years).

Based on the 19 cubic metre capacity of a semi-trailer, this equates to just nine truck movements per day.

Obviously, this is likely to fluctuate however, at this stage, average truck movements are all that can be estimated. Our client is committed to notifying the City of any larger contracts which may be secured, if an approval is issued.

3.2 **Size of Trucks**

The size of trucks will be limited by the designations specific to heavy haulage routes within this locality. It is anticipated that haulage will be limited to the use of semi-trailers and rigid truck/trailer combinations whose combined mass and overall length will not exceed 42.5 tonnes and 19 metres respectively.

3.3 **Access to Operation Site**

Access to the proposed extraction will be via Ludlow Park Road out on to Tuart Drive, the same access currently being utilized by the BCP Group. Ludlow Park Road is virtually a private access – only our client uses it for access. To this end, upgrading of the roadway is considered unnecessary rather, its upkeep and maintenance during extraction could be the responsibility of the landowner, given he is the sole user of this roadway.

3.4 **Haulage Routes and Destinations**

The haulage routes and destinations will be subject to specific contracts. Obviously, trucks will have to utilise the identified heavy haulage routes which may be accessed directly from Tuart Drive.

Our clients are committed to advising Council of specifics as contracts are prepared.

3.5 **Location of Road Signage**

Our clients are committed to maintaining the existing road signage as required by Council which is specific to their proposal.

3.6 **Road Maintenance and/or Upgrading**

As Ludlow Park Road is used exclusively by our client, it is considered appropriate that he be responsible for its maintenance for the course of the extraction. No upgrades are considered necessary.

4.0 **ENVIRONMENTAL CONSIDERATIONS**

4.1 **Noise, Dust, Vibrations**

The extraction site is a significant distance from adjoining residences and noise from the operation will only occur during normal, daylight operating hours. The excavation and



processing of limestone will be staged (ie. Extraction, pre-crushing movement/stock pile, crushing then removal from stockpile off site). Due to the various steps involved with intermittent stockpiling, none of the noise will be continuous ie. There could be a few days of excavation followed by one day of crushing.

A draft Dust Management Plan is supplied, the landowners acknowledge that if water carts or spraying is required during crushing, then a Licence for this use will need to be secured from the Department of Water.

4.2 Dieback Status

The subject land is dieback indeterminate to the best of our clients' knowledge and it is not expected that dieback will be introduced by haulage vehicles because the crushed limestone will generally be used in newer subdivisions and the trucks will be travelling primarily on bitumen roads.

4.3 Visual Impact Management

The excavation areas will not be visible from existing roads or adjoining properties.

4.4 Drainage Implications

The extraction of limestone as proposed is not expected to exacerbate drainage problems or interfere with natural drainage patterns. Our clients are committed to closely monitoring drainage/run-off within the excavation areas and will address any problems which may arise.

4.5 Proposed End Use of Site / Rehabilitation

As previously discussed, our clients are proposing to reinstate the topsoil following extraction of the limestone deposits and return the area to either pastured paddock or irrigated, horticultural areas as quickly as possible.

We trust that sufficient information has been supplied for your assessment of our Clients' proposal for the extraction of sand, and if any further information is required, please do not hesitate to contact the undersigned.

Yours faithfully



PETER HARDING
MANAGING DIRECTOR
BSO DEVELOPMENT CONSULTANTS
12th September 2016

Encl: As listed



Draft Dust Management Plan
Lot 3 and 237 on P 3280,
130 Ludlow Park Road WONNERUP

OVERVIEW

The following management plan for dust and air pollution has been prepared in respect to limestone extraction and crushing works at Lot 3 (No. 130) Ludlow Park Road, Wonnerup. The work site conditions are such that the wind conditions may subject adjacent reserves and residences to nuisance from dust and wind borne material from the pit site during the course of the extraction.

DUST CONTROL - RESPONSIBILITY

The landowner is responsible for controlling and minimizing the generation of dust on the work site. They will comply with the provisions included in "*A guideline for managing the impacts of dust and associated contaminants from land development sites, contaminated sites remediation and other related activities*", published by the Department of Environment and Conservation in March 2011.

A site classification in accordance with the guidelines is attached to the end of this document.

The objective is to put in place measures to control and limit dust and air pollution generated from site works carried out by abstraction works from the commencement date to completion.

PREVENTATIVE MEASURES

The landowner will apply working methods to minimize dust and air pollution generation and will monitor weather forecasts for wind velocity and direction and personnel will be placed on standby to undertake dust suppressions measures as required. Timing of construction to coincide with favourable weather conditions, i.e. at times of low winds.

A water cart and other methods of dust and air pollution control will be provided as required in compliance with the guidelines.

PUBLIC NOTIFICATION

If required, residents will be advised by letter drop or information board on site to advise the adoption of adequate measures to prevent the generation of unacceptable levels of dust. Notification will include contact details of stakeholders in the event of a complaint.

DUST NUISANCE – COURSE OF ACTION

Acceptable dust level at the work site will be estimated by visible dust crossing the site boundary and by comment from affected residents, indicating the potential for adverse dust impacts and the control measures to be implemented.

A register will be maintained to record dust related complaints from members of the public, issues arising and actions taken.

ENVIRONMENTAL PROCEDURE

AIR QUALITY (DUST CONTROL AND PLANT EMISSIONS)

Risk Detail

The potential for wind blown dust to be generated on a construction site is high. The amount of dust generated depends on planning, weather, activities, materials being worked, controls in place etc.

The other form of air pollution potentially generated on a construction site is from plant emissions. Such emissions are usually as a result of poorly maintained or old equipment being used.

Preventative Measures

The following preventative measures can be used to limit the amount of dust generated on site:

- (a) Programming work so that large sections of bare areas are not exposed at any one time, less than 2 Hectares to be open / un-rehabilitated.
- (b) use of water carts, sprinkler systems on stockpiles
- (c) limiting traffic to haul roads/definition of trafficable areas
- (d) All trucks will be tarped (covered) when leaving the site laden
- (e) use of dust screens (shade cloth or similar on boundary fences)
- (f) use of hydro seeding to stabilize areas that would otherwise be left bare for extended periods of time and pose a dust hazard
- (g) maintaining machinery in accordance with manufacturers specifications so that emissions would comply with the State Environment Protection Policy (The Air Environment)
- (h) replacing old machinery when no longer operating efficiently
- (i) keeping dust suppression equipment on line for when it is needed
- (j) assessing whether dust-generating activities should be stopped in circumstances where preventative measures are not controlling the problem i.e. during periods of high wind speeds
- (k) vegetation should be mulched where possible, not burned on site
- (l) no fires permitted on site unless necessary approval has been obtained
- (m) ensure smooth surface areas are ripped or left rough to lower wind velocity at soil surface

Objective

Dust generation to be minimized and controlled at all sites. Plant to be kept in good working order.

Target

Minimal dust moving off site and minimum dust on site. Zero complaints from residents, public, client, EPA or council. Plant to be operated according to manufacturer's specifications.

Maintenance

Dust control measures are to be maintained and soil will not be allowed to accumulate behind dust screens or other controls. Plant to be regularly serviced.

Measurement

Dust Measurement is to be by observation of the site manager and by comment from affected residents. Review of enquiry/complaint register to assess whether target has been met.

If machinery is emitting smoke continuously for longer than 10 seconds, during normal operation, then that piece of machinery will be serviced or replaced.

DUST AND AIR POLLUTION

Pollution relating to Dust and Airborne Pollution is caused by but not limited to;

Dust	Plant and Equipment Movements and Wind erosion
Airborne Pollution	Vehicle Exhaust, Burning off and Fires, Odors or Toxic Gas

The Landowner and Operators are aware of what caused the pollution, and how it can be minimized on the extraction site.

Control measures that The Landowner can use include;

Dust	Use Water Cart or other means to keep tracks and work areas free of dust. Contain Plant movements to a minimum and do not destroy any more vegetation than is required.
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Ceasing operation during particularly windy periods.

Air Pollution	Maintain exhaust and engine systems to reduce exhaust emission.
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Supervisors and key staff including operators shall assess the risks associated with the pollution hazard, and take the necessary action from control measures above. Where a different type of pollution occurs, the Construction Manager shall be notified and new control measures developed, and passed onto the employees by Environmental Instructions through the toolbox meetings.

All employees are encouraged to notify supervisors of incidents, or practices that cause pollution of any kind, to allow them to be adequately controlled.

Site Classification.

Sheet 1: Site classification assessment chart

Part A. Nature of site

Item	Score options				Allocated score
1. Nuisance potential of soil, when disturbed	Very low.....1	Low.....2	Medium.....4	High.....6	2
2. Topography and protection provided by undisturbed vegetation	Sheltered and screened.....1	Medium screening...6	Little screening.....12	Exposed and wind prone.....18	1
3. Area of site disturbed by the works	Less than 1ha.....1	Between 1 and 5ha..3	Between 5 and 10ha.....6	More than 10ha.....9	1
4. Type of work being done	roads or shallow trenches.....1	roads, drains and medium depth sewers.....3	Roads, drains, sewers and partial carthworks.....6	Bulk earthworks and deep trenches.....9	9
TOTAL score for Part A					13

Part B. Proximity of site to other land uses

Item	Score options				Allocated score
1. Distance of other land uses from site	More than 1km.....1	Between 1km and 500m.....6	Between 100m and 500m.....12	Less than 100m.....18	6
2. Effect of prevailing wind direction (at time of construction) on other land uses	Not affected.....1	Isolated land uses affected by one wind direction.....6	Dense land uses affected by one wind direction.....9	Dense/sensitive land uses highly affected by prevailing winds.....12	6
TOTAL score for Part B					12

SITE CLASSIFICATION SCORE (A X B) = 156

Classification 1 (score under 199, considered negligible risk)

Provisions:

- None required.

Contingency arrangements:

- None required.

NOTE: between the 1st October and 31st March all classification increase by 1 ie. Classification 2. The following therefore applies:-

Classification 2 (score between 200 and 399, considered low risk)

Provisions:

- The developer shall supply a contingency plan to the local government, which shall detail the activities to be undertaken should dust impacts occur.

Contingency arrangements:

- Include an allowance for water-cart operation, wind fencing and surface stabilisation during the construction period for the purposes of dust suppression.
- All areas of disturbed land should be stabilised to ensure that the disturbed area exposed at any time is kept to a practical minimum.

Monitoring requirements:

- Complaints management system in place (complaints recorded and acted on promptly).
- Notice to be erected at the site, providing contact details of the person to be contacted and works.

Notice to residents

Land development is being carried out in your area by:

_____ (Name of developer)

The development commencement date is: _____

Completion date is expected to be: _____

A site risk assessment has been conducted in consultation with the City of Busselton.

It has been agreed by all parties concerned that the:

Cell G sand extraction under City Reference _____ must adopt adequate measures to prevent the generation of unacceptable

levels of dust. You are advised that the developer of the site has agreed to implement the provisions as outlined in the Department of Environment and Conservation's '*A guideline for managing the impacts of dust and associated contaminants from land development sites, contaminated sites remediation and other related activities*' (A copy of this guideline may be obtained from your local government). Should you feel that excessive dust or other air pollutants are being generated due to the site works, you are advised to contact the site engineer for the developer:

_____ (Name of engineer) by telephoning _____ to discuss the issue.

The Environmental Health Officer at the City of Busselton may be contacted on 9781 0463.