



## BASIC ASSESSMENT REPORT

(For official use only)

**File Reference Number:**

**Application Number:**

**Date Received:**


Basic assessment report in terms of the Environmental Impact Assessment Regulations, 2010, promulgated in terms of the National Environmental Management Act, 1998(Act No. 107 of 1998), as amended.

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**Kindly note that:**

1. This **basic assessment report** is a standard report that may be required by a competent authority in terms of the EIA Regulations, 2014 and is meant to streamline applications. Please make sure that it is the report used by the particular competent authority for the activity that is being applied for.

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2. The report must be typed within the spaces provided in the form. The size of the spaces provided is not necessarily indicative of the amount of information to be provided. The report is in the form of a table that can extend itself as each space is filled with typing.
3. Where applicable **tick** the boxes that are applicable or **black out** the boxes that are not applicable in the report.
4. An incomplete report may be returned to the applicant for revision.
5. The use of “not applicable” in the report must be done with circumspection because if it is used in respect of material information that is required by the competent authority for assessing the application, it may result in the rejection of the application as provided for in the regulations.
6. This report must be handed in at offices of the relevant competent authority as determined by each authority.
7. No faxed or e-mailed reports will be accepted.
8. The report must be compiled by an independent environmental assessment practitioner (EAP).
9. Unless protected by law, all information in the report will become public information on receipt by the competent authority. Any interested and affected party should be provided with the information contained in this report on request, during any stage of the application process.
10. A competent authority may require that for specified types of activities in defined situations only parts of this report need to be completed.

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## SECTION A: ACTIVITY INFORMATION

Has a specialist been consulted to assist with the completion of this section?

 YES  NO

If YES, please complete form XX for each specialist thus appointed:

Any specialist reports must be contained in Appendix D.

### 1. ACTIVITY DESCRIPTION

Describe the activity, which is being applied for, in detail

Granor Passi Langkloof (Pty) Ltd. proposes to construction effluent evaporation ponds for their plant at Louterwater, where juice concentrate is extracted. The proposed site is located on Portion 3 and Portion 10 of the Farm Grootkloof No. 301 to the north-east of Louterwater, which is situated along the R62.

#### Existing Works:

At present, effluent from the various processes is collected and pumped via a 1.7 km pipeline to the existing effluent evaporation ponds located north-east of the plant. The evaporation ponds consist of three primary ponds, a secondary pond system consisting of approximately 25 channels of varying lengths and an emergency, or tertiary pond. The ponds cover a combined area of approximately 58,000 m<sup>2</sup>.

The existing effluent evaporation ponds are operational, however routine maintenance cannot be carried out as no alternative system to dispose of effluent is in place. The construction of additional effluent evaporation ponds is proposed to function in a duty/ standby configuration to allow for maintenance to be carried out when required.

The existing site is located on Portion 8 of the Farm Grootkloof No. 301, west of the proposed ponds.

#### Proposed Works:

The proposed evaporation ponds will be located in a shallow valley to the east of the existing ponds and will be constructed immediately downstream of the exiting primary ponds. The proposed evaporation ponds will only consist of secondary and tertiary ponds as the existing primary ponds will be utilised for

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both the new and proposed evaporation ponds.

- Secondary Ponds

The Secondary ponds will be constructed downstream of the existing primary ponds. A clay lined effluent channel will be constructed to connect the existing primary pond to the head of the new secondary ponds.

The new secondary ponds will be similar in operation to the existing evaporation ponds and consist of a series of channels connected with overflow weirs. They will be constructed down valley with one below the other. The flow will cascade down into the channels, only flowing from one to the next when the preceding channel is full. The channel will extend almost the full width of the valley.

The channels will be constructed using a cut to fill operation with selected excavated clay material from the upstream channel being used to construct the downstream channel embankment. The in situ clay material will be ripped and compacted to form a clay liner.

The channel will have a trapezoidal shape with upstream and downstream embankment slope of 1V:1H and a crest width of 1,5 m. The channel will be 2 m wide (invert) and have a maximum water depth of 1 m with a 300 mm free board. The area of the embankments above the water level will be grassed.

Effluent will flow from one channel to the next via a 1 m wide stone pitched (light stone pitching 200 mm thick in accordance with of SANS 1,200 DK). The overflow velocity during peak flow rates will be less than 1 m/s, thus not contributing to scouring and erosion.

The secondary ponds will have a surface area of 10,200 m<sup>2</sup>.

- Tertiary (Emergency) Pond:

The tertiary or emergency pond will be constructed downstream of the secondary ponds. If required, effluent will flow via a clay lined effluent channel from the secondary ponds to the inlet of the tertiary pond.

The pond will be constructed using a cut to fill operation. Selected excavated clay material will be used to construct the embankment. The in situ clay material will be ripped and compacted to form a clay liner.

The upstream and downstream slope of the embankment will be 1V:3H and have a crest width of 2 m. The height of the embankment measured from the lowest point downstream is 3 m. The upstream and downstream embankments will be grassed.

The pond will have a capacity to store 2,800 m<sup>3</sup> of effluent, which is more than one month's

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discharge from the plant during the peak season. This should provide sufficient storage for effluent while providing enough time to take remedial action to prevent effluent from being discharged into the downstream environment.

The tertiary pond will have a freeboard of 500 mm and provision has been made for the controlled release of effluent in emergencies through a scour valve controlled 110 mm diameter pipeline, should this be required to protect the integrity of the pond wall.

- Effluent channels

The effluent channels will be lined with clay and be trapezoidal in shape. The channels will have side slopes of 1V:1H and will be a minimum of 500 mm deep. The gradient of the channel will be limited to 10% to ensure that the maximum velocity does not exceed 2.0 m/s to prevent scouring and erosion.

Design drawings of the described ponds and channels are included in Appendix C of this report.

## 2. FEASIBLE AND REASONABLE ALTERNATIVES

**“alternatives”**, in relation to a proposed activity, means different means of meeting the general purpose and requirements of the activity, which may include alternatives to—

- (a) the property on which or location where it is proposed to undertake the activity;
- (b) the type of activity to be undertaken;
- (c) the design or layout of the activity;
- (d) the technology to be used in the activity;
- (e) the operational aspects of the activity; and
- (f) the option of not implementing the activity.

Describe alternatives that are considered in this application. Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity could be accomplished in the specific instance taking account of the interest of the applicant in the activity. The no-go alternative must in all cases be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed. The determination of whether site or activity (including different processes etc.) or both is appropriate needs to be informed by the specific circumstances of the activity and its environment. After receipt of this report the competent authority may also request the applicant to assess additional alternatives that could possibly accomplish the purpose

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and need of the proposed activity if it is clear that realistic alternatives have not been considered to a reasonable extent.

**Paragraphs 3 – 13 below should be completed for each alternative.**

### ***Description of Alternatives***

During the planning and design stage of the project, a few alternatives were considered:

#### **Site Alternatives:**

Granor Passi Langkloof (Pty) Ltd owns and operates the Louterwater plant where juice concentrate is extracted. Effluent from the various processes is collected and pumped to the existing effluent evaporation ponds located approximately 1.5 km north east of the plant.

The main purpose of the proposed evaporation ponds is to operate as an alternative system to the existing evaporation ponds. Although the existing ponds are operational and functioning as intended, routine maintenance cannot be carried out on the ponds as there is no alternative system to dispose of the effluent. The proposed evaporation ponds will be located in a shallow valley to the east of the existing ponds and will be constructed immediately downstream of the existing Primary ponds. The proposed evaporation ponds will only consist of Secondary and Tertiary ponds as the existing Primary ponds will be utilised for both the new and proposed evaporation ponds. Therefore, the proposed ponds need to be in close proximity to the existing site with similar geometry in order to operate in a duty/ standby configuration to allow maintenance to be carried out when needed.

The proposed site is located on Portion 3 and Portion 10 of the Farm Grootkloof No. 301, owned and leased respectively by the applicant (Granor Passi) and has adequate space to accommodate the additional ponds. The site was identified by Granor Passi due to the availability of the land, suitable ground conditions and practical considerations with regards to the operation and maintenance of the proposed and existing site. There are also no nearby residencies to the site that could be receptors for potential impacts such as dust, noise or odours. Therefore, no alternative site locations have been considered.

#### **Activity Alternatives:**

The proposed ponds are a duplication of the existing ponds. The ponds were planned to accommodate future growth of the Louterwater plant where fruit juice is extracted, and in order to carry out maintenance of the existing ponds. The development is aimed specifically at addressing this future growth demands and therefore no activity alternatives have been considered.

#### **Layout Alternatives:**

A geotechnical investigation was conducted by SRK between April and July 2016 and was summarised as a part of the report "Effluent Evaporation Ponds, Design Report, 501573/1 Rev 1" (July 2016). The dominant ground profile is

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characterised by a top layer of aeolian fine sand with a thickness ranging 0.3 - 0.7 m; which is underlain by thin gravel layer (~0.1 m thick); which is underlain by a fissured clay with a minimum thickness ranging between 0.6 and 1.6 m. The basal contact of the clay was not intersected. Subordinate ground profiles include aeolian sand overlying coarse gravel; clay overlying clayey gravel and quartzitic sandstone bedrock.

A sample of the excavated clay material was collected and submitted to a laboratory for testing. The average hydraulic conductivity of the clay was determined to be  $9.5 \times 10^{-9}$  m/s, which is considered to be practically impervious.

It was recommended that the footprint of the development be moved so that it is situated on the clay material identified as the dominant ground profile. It was also recommended that the aeolian sand horizon and the discontinuous gravel should be removed, as these pose a risk due to estimated high permeability.

#### **Technological Alternatives:**

No other technological alternatives were considered due to the successes with the original system and the potential to share the Primary ponds for use in the new proposed system. The Department of Water and Sanitation has visited the site on various occasions and expressed that satisfaction with the existing system (the need for a Water Use License to be discussed below).

#### **No-go Alternative:**

This alternative would result in no maintenance of the existing ponds being possible. Therefore no expansion of the plant would be possible as the current evaporation ponds would not be able to handle the increasing effluent without proper maintenance. Groundwater and surface water resources could also be affected if the existing ponds are not maintained (see impacts section below).



### 3. ACTIVITY POSITION

Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in degrees and decimal minutes. The minutes should have at least three decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection.

List alternative sites if applicable.

**Alternative:**

Alternative S1<sup>1</sup> (preferred or only site alternative)

Alternative S2 (if any)

Alternative S3 (if any)

**Latitude (S):**

**Longitude (E):**

33°	47'0.43	23°	40'19.72
0	'	0	'
0	'	0	'

**In the case of linear activities:**

**Alternative:**

Alternative S1 (preferred or only route alternative)

- Starting point of the activity
- Middle point of the activity
- End point of the activity

Alternative S2 (if any)

- Starting point of the activity
- Middle point of the activity
- End point of the activity

Alternative S3 (if any)

- Starting point of the activity
- Middle point of the activity
- End point of the activity

**Latitude (S):**

**Longitude (E):**

0	'	0	'
0	'	0	'
0	'	0	'

0	'	0	'
0	'	0	'
0	'	0	'

0	'	0	'
0	'	0	'
0	'	0	'

<sup>1</sup> "Alternative S.." refer to site alternatives.





For route alternatives that are longer than 500m, please provide an addendum with co-ordinates taken every 250 meters along the route for each alternative alignment.

#### 4. PHYSICAL SIZE OF THE ACTIVITY

Indicate the physical size of the preferred activity/technology as well as alternative activities/technologies (footprints):

**Alternative:**

- Alternative A1<sup>2</sup> (preferred activity alternative)
- Alternative A2 (if any)
- Alternative A3 (if any)

**Size of the activity:**

47,900 m <sup>2</sup>
m <sup>2</sup>
m <sup>2</sup>

or, for linear activities:

**Alternative:**

- Alternative A1 (preferred activity alternative)
- Alternative A2 (if any)
- Alternative A3 (if any)

**Length of the activity:**

m
m
m

Indicate the size of the alternative sites or servitudes (within which the above footprints will occur):

**Alternative:**

- Alternative A1 (preferred activity alternative)
- Alternative A2 (if any)
- Alternative A3 (if any)

**Size of the site/servitude:**

293 Ha (Farm 3/301 = 127.4 Ha & 10/301 = 166 Ha)
m <sup>2</sup>
m <sup>2</sup>

#### 5. SITE ACCESS

Does ready access to the site exist?

If NO, what is the distance over which a new access road will be built

<del>YES</del>
N/A

<sup>2</sup> "Alternative A.." refer to activity, process, technology or other alternatives.



Describe the type of access road planned:

N/A

Include the position of the access road on the site plan and required map, as well as an indication of the road in relation to the site.

## 6. SITE OR ROUTE PLAN

A detailed site or route plan(s) must be prepared for each alternative site or alternative activity. It must be attached as Appendix A to this document.

The site or route plans must indicate the following:

- 6.1 the scale of the plan which must be at least a scale of 1:500;
- 6.2 the property boundaries and numbers of all the properties within 50 metres of the site;
- 6.3 the current land use as well as the land use zoning of each of the properties adjoining the site or sites;
- 6.4 the exact position of each element of the application as well as any other structures on the site;
- 6.5 the position of services, including electricity supply cables (indicate above or underground), water supply pipelines, boreholes, street lights, sewage pipelines, storm water infrastructure and telecommunication infrastructure;
- 6.6 all trees and shrubs taller than 1.8 metres;
- 6.7 walls and fencing including details of the height and construction material;
- 6.8 servitudes indicating the purpose of the servitude;
- 6.9 sensitive environmental elements within 100 metres of the site or sites including (but not limited thereto):
  - rivers;
  - the 1:100 year flood line (where available or where it is required by DWA);
  - ridges;
  - cultural and historical features;

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- areas with indigenous vegetation (even if it is degraded or invested with alien species);
- 6.9 for gentle slopes the 1 metre contour intervals must be indicated on the plan and whenever the slope of the site exceeds 1:10, the 500mm contours must be indicated on the plan; and
- 6.10 the positions from where photographs of the site were taken.

## 7. SITE PHOTOGRAPHS

Colour photographs from the centre of the site must be taken in at least the eight major compass directions with a description of each photograph. Photographs must be attached under Appendix B to this form. It must be supplemented with additional photographs of relevant features on the site, if applicable.

## 8. FACILITY ILLUSTRATION

A detailed illustration of the activity must be provided at a scale of 1:200 as Appendix C for activities that include structures. The illustrations must be to scale and must represent a realistic image of the planned activity. The illustration must give a representative view of the activity.

## 9. ACTIVITY MOTIVATION

### 9(a) Socio-economic value of the activity

What is the expected capital value of the activity on completion?

R 2.4 Million
---------------

What is the expected yearly income that will be generated by or as a result of the activity?

Nil
-----

Will the activity contribute to service infrastructure?

	NO
--	----

Is the activity a public amenity?

	NO
--	----

How many new employment opportunities will be created in the development phase of the activity?

1,000 man hours
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What is the expected value of the employment opportunities during the development phase?	Approximately R 25,000
What percentage of this will accrue to previously disadvantaged individuals?	<90%
How many permanent new employment opportunities will be created during the operational phase of the activity?	Nil
What is the expected current value of the employment opportunities during the first 10 years?	Nil
What percentage of this will accrue to previously disadvantaged individuals?	Nil

**9(b) Need and desirability of the activity**

Motivate and explain the need and desirability of the activity (including demand for the activity):

The existing plant where juice concentrate is extracted has doubled in terms of production (amount of fruit being processed) over the last few years. The plant is constantly expanding and it is estimated that production will double again sometime in the future. The effluent ponds have reached a point where an increase in capacity of the ponds is critical to sustain the current and future effluent loads. It is estimated that 9.4 mega litres of effluent is discharged to the existing evaporation ponds annually. To date, the existing ponds have been able to hold all the effluent being discharged from the plant, and with minimal maintenance. It is uncertain how long the existing ponds will be able to keep up with the increasing demand and therefore alternative ponds need to be made available.

Although the existing effluent evaporation ponds are operational, routine maintenance cannot be carried out as no alternative system to dispose of effluent is in place. The construction of additional effluent evaporation ponds is proposed to function in a duty/ standby configuration to allow for maintenance to be carried out when required.

Indicate any benefits that the activity will have for society in general:

No benefits to society in general are anticipated during construction or operational phase.

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Indicate any benefits that the activity will have for the local communities where the activity will be located:

Employment opportunities equal to approximately 1,000 man hours will be created during the construction phase. No other benefits to local communities are anticipated during construction or operational phases.

### 10. Applicable legislation, policies and/or guidelines

List all legislation, policies and/or guidelines of any sphere of government that are applicable to the application as contemplated in the EIA regulations, if applicable:

Title of legislation, policy or guideline:	Administering authority:	Date:
National Environmental Management: Waste Act (NEM:WA, Act 59 of 2008)	DEDEAT	10 March 2009
GN R.921 Item 1 Category A	DEDEAT	29 November 2013
National Environmental Management Act (NEMA, Act 107 of 1998)	DEDEAT	27 November 1998
National Environmental Management Act (NEMA, Act 107 of 1998), 2014 Environmental Impact Assessment Regulations	DEDEAT	8 December 2014
GN R983 12 (xii) (a)	DEDEAT	December 2014
GN R983 19 (i)	DEDEAT	December 2014
GN R983 27	DEDEAT	December 2014
National Water Act (Act 36 of 1998)	DWS	26 August 1998
National Heritage Resources Act (Act 25 of 1999)	SAHRA	28 April 1999
Government Gazette No. 38108: Guideline Series 9 Need and Desirability	DEA	10 January 1992
Government Gazette No. 35769: Guideline Series 7 Public Participation in the EIA process	DEA	October 2012
Eastern Cape Biodiversity Conservation Plan	DEA	2007

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## 11. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

### 11(a) Solid waste management

Will the activity produce solid construction waste during the construction/initiation phase?

YES	<input checked="" type="checkbox"/>
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If yes, what estimated quantity will be produced per month?

Minor quantities
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Excavation material will be used to construct the pond walls which will result in only minor quantities of solid waste, e.g. rocks.

How will the construction solid waste be disposed of (describe)?

Construction solid waste will be removed by means of skip on trucks that is to be transported to a licensed landfill site.

Where will the construction solid waste be disposed of (describe)?

Construction waste will be disposed of at the nearest licensed landfill site, probably the Louterwater Landfill Facility.

Will the activity produce solid waste during its operational phase?

<input checked="" type="checkbox"/>	NO
-------------------------------------	----

If yes, what estimated quantity will be produced per month?

N/A
-----

How will the solid waste be disposed of (describe)?

N/A

Where will the solid waste be disposed if it does not feed into a municipal waste stream (describe)?

N/A

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If the solid waste (construction or operational phases) will not be disposed of in a registered landfill site or be taken up in a municipal waste stream, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Can any part of the solid waste be classified as hazardous in terms of the relevant legislation?

	NO
--	----

If yes, inform the competent authority and request a change to an application for scoping and EIA.

Is the activity that is being applied for a solid waste handling or treatment facility?

	NO
--	----

If yes, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

### 11(b) Liquid effluent

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system?

	NO
--	----

If yes, what estimated quantity will be produced per month?

N/A	
-----	--

Will the activity produce any effluent that will be treated and/or disposed of on site?

	NO
--	----

If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Note that no effluent will be produced by the proposed activities (effluent ponds), however effluent from the Granor Passi plant will be disposed of in these ponds. Approximately 25.826 m<sup>3</sup> of liquid effluent will be produced per day, which will then be pumped to the various effluent ponds.

Will the activity produce effluent that will be treated and/or disposed of at another facility?

	NO
--	----

If yes, provide the particulars of the facility:

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Facility name:	N/A		
Contact person:	N/A		
Postal address:	N/A		
Postal code:	N/A		
Telephone:	N/A	Cell:	N/A
E-mail:	N/A	Fax:	N/A

Describe the measures that will be taken to ensure the optimal reuse or recycling of waste water, if any:

In the Granor Passi plant, concentrated fruit juice is extracted from the fruit by boiling the fruit to a concentrate. The hot water that is produced as a result of the evaporation process is believed to be in the region of 25,000 liter per day and is reused in the plant for washing of equipment and floors etc.

The steam that is produced in the process is reused in the boilers and it is estimated that about four tons of water is reused in the boilers per day.

### 11(c) Emissions into the atmosphere

Will the activity release emissions into the atmosphere?

If yes, is it controlled by any legislation of any sphere of government?

If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

YES	
	NO

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If no, describe the emissions in terms of type and concentration:

General vehicle and machinery emissions and dust will be created during the construction phase. During the operational phase, vapour from the effluent ponds could lead to some odours in close proximity to the ponds. Note that no receptors occur near the ponds that could be influenced by these odours.

**11(d) Generation of noise**

Will the activity generate noise?

YES	
	NO

If yes, is it controlled by any legislation of any sphere of government?

If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

If no, describe the noise in terms of type and level:

During the construction period, some noise will be generated due to the use of machinery for the clearing of vegetation and activities, however, there are no receptors close to the site that could be affect by noise.  
No noise will be created during the operational phase.

**12. WATER USE**

Please indicate the source(s) of water that will be used for the activity by ticking the appropriate box(es)

<input type="checkbox"/> municipal	<input type="checkbox"/> water board	<input type="checkbox"/> groundwater	<input type="checkbox"/> river, stream, dam or lake	<input type="checkbox"/> other	<input checked="" type="checkbox"/> the activity will not use water
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If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate

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the volume that will be extracted per month:

N/A	
YES	

Does the activity require a water use permit from the Department of Water and Sanitation?

If yes, please submit the necessary application to the Department of Water Affairs and attach proof thereof to this application if it has been submitted.

The applicant is a registered water user in terms of Section 21 (a) and (b) of the National Water Act (Act No. 36 of 1998). Furthermore, the applicant received exemption from licensing of the existing effluent ponds. See proof attached as Appendix G.

The relevant application requirements were discussed during the pre-application site meeting with officials from the Department of Water & Sanitation (DWS) in September 2016. See minutes of this meeting in Appendix G. The necessary applications will be submitted to the DWS once all the required documentation and designs are available.

### 13. ENERGY EFFICIENCY

Describe the design measures, if any, that have been taken to ensure that the activity is energy efficient:

No electricity is required for the operation of the proposed facility.

Describe how alternative energy sources have been taken into account or been built into the design of the activity, if any:

Not applicable.

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## SECTION B: SITE/AREA/PROPERTY DESCRIPTION

### Important notes:

- For linear activities (pipelines, etc) as well as activities that cover very large sites, it may be necessary to complete this section for each part of the site that has a significantly different environment. In such cases please complete copies of Section C and indicate the area, which is covered by each copy No. on the Site Plan.

Section C Copy No. (e.g. A):

- Paragraphs 1 - 6 below must be completed for each alternative.

- Has a specialist been consulted to assist with the completion of this section?

YES	
-----	--

If YES, please complete form XX for each specialist thus appointed:

All specialist reports must be contained in Appendix D.

### 1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

#### Alternative S1:

	1:20 – 1:15	1:15 – 1:10	
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#### Alternative S2 (if any):

Flat	1:50 – 1:20	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5
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**Alternative S3 (if any):**

Flat	1:50 – 1:20	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5
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**2. LOCATION IN LANDSCAPE**

Indicate the landform(s) that best describes the site:

2.1 Ridgeline

2.2 Plateau

**2.3 Side slope of hill/mountain**

2.4 Closed valley

**2.5 Open valley**

2.6 Plain

2.7 Undulating plain / low hills

2.8 Dune

2.9 Seafront

**3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE**

**Geology:**

According to the booklet “The Geology of the Oudtshoorn Area” by D.K. Toerien (1979) of the Geological Survey (that includes the Louterwater area), the geology of the proposed site and immediate surroundings comprises formations of the Table Mountain Group (TMG). The TMG formations are mainly arenaceous (sandstone) except for the Cedarberg Formation which is argillaceous (shaley). The site itself is underlain by the Goudini Formation which comprises supermature quartzitic sandstone and is between 280 and 330 m thick. The formation is rich in iron and manganese and often weathers to have a brownish appearance at the surface.

According to the geotechnical investigation, a clay layer was intersected below the site, with a minimum thickness of between 0.6 and 1.6 m bgl. The average hydraulic conductivity of the clay was determined to be practically impervious.

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### **Hydrogeology:**

A Hydrogeological Impact Assessment was undertaken as part of this process. The specialist report is included in Appendix D. The description below is an extract from this report.

- The geology underlying and surrounding the Site comprises formations of the TMG. These formations comprise mainly quartzitic sandstones, except for the Cedarberg Formation, which comprises shale. No faults have been mapped for the study area and the beds dip 30° to the south.
- The electrical conductivity of groundwater within the TMG varies between 10 and 100 mS/m (the limit in drinking water according to the SANS 241:2015 Standard is 170 mS/m). The water may be manganese and iron rich. High yielding boreholes can be developed in the TMG if scientific methods for borehole siting are used.
- According to the NGA of the DWS, no registered or licensed boreholes are recorded within a 1 km radius of the Site. Within a 5 km radius, five boreholes were identified; and within a 10 km radius, 14 boreholes (with data recorded) were identified. Water levels in the boreholes ranged between 1.4 and 34 m bgl.
- The surface water and shallow groundwater flow direction is assumed to follow the surface contours, and from the Site, will be in a northern direction towards a drainage, from where it will move in a western direction.
- During the hydrocensus, no boreholes were located within a 1 km radius of the Site.
- According to the geotechnical investigation, a clay layer was intersected below the site, with a minimum thickness of between 0.6 and 1.6 m bgl. The average hydraulic conductivity of the clay was determined to be practically impervious.
- The potential impact that was identified for the Site and surrounding area is pollution of the groundwater resource by the effluent from the ponds. The pathway of effluent to the groundwater is via the clay / an inconsistency in the clay layer, to the fractures of the fractured bedrock and the groundwater. The project engineer have designed the ponds be founded in the clay layer underlying the Site. The clays are practically impermeable and, should the layer be laterally consistent, will create a barrier to prevent the effluent from seeping into the groundwater. However, should the clay layer not be laterally present across the Site, then contaminants from the effluent may reach the groundwater.
- Mitigation measures include the following:  
During excavation to found the ponds, it must be ensured that the clay is present throughout the base of

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the ponds. Should fractured bedrock be exposed during excavation, then excess clay that has been exposed in other parts of the site must be used to cover the fractured bedrock completely, with the clay layer being between 300 and 600 mm thick. The sidewalls of the ponds should also comprise clays in order to prevent lateral movement of the pollutants.

**Shallow Groundwater Drainage:**

The site is situated on a gradient that dips towards the north. The drainage from the site is therefore in a northern direction towards a drainage line situated approximately 450 m to the north of the site. From here, flow is in a western direction towards a larger drainage. There is insufficient data to calculate the groundwater flow direction and is therefore assumed to be in the same direction as surface drainage, i.e. north.

The Hydrogeological Specialist Report (Appendix D) concluded that the potential impact identified for the site and surrounding area is pollution of the groundwater resource by the effluent from the ponds. The pathway of effluent to the groundwater is via the clay/ an inconsistency in the clay layer, to the fractures of the fractured bedrock and the groundwater. The project engineer has designed the ponds to be founded in the clay layer underlying the site. The clays are practically impermeable and, should the layer be laterally consistent, will create a barrier to prevent the effluent from seeping into the groundwater.

**Surface Water:**

The site is situated within a drainage line that runs in a northerly direction towards a non-perennial stream situated approximately 450 m downstream of the site. From here, flow is in a westerly direction towards the larger perennial Louterwater River (NFEPA Class D: Largely Modified) which is situated approximately 3 km from the site (BGIS, 2016). There are various farm dams downstream of the proposed site in the non-perennial stream.

The site falls within the L82C quaternary drainage region, as well as a Freshwater Aquatic Critical Biodiversity Area (CBA 2) which signifies that it is in a near natural state. Aquatic CBAs are grouped into Aquatic Biodiversity Land Management Classes (ABLMC) that suggest catchment transformation thresholds. The table below sets out the thresholds for Aquatic CBA 2.

ABLMC	CBA Code	Description of CBAs	ABLMC Transformation Threshold
ABLMC 2a	A2a, A3b	Important sub-catchments, Primary catchment	Less than 15% of the total area of the sub-quaternary catchment

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		management areas for E2 estuaries.	
ABLMC 2b	A2b	Catchments of free flowing rivers important for fish migration.	Less than 20% of sub-quaternary catchment

If a land use change is planned in an ABLMC 1 or 2, its impact on the extent of transformation in that sub-quaternary catchment should be assessed. This should be done as follows:

- Firstly, find the extent of existing transformation in the catchment from the tables in the ECBCP (e.g. 15% or 20%);
- Secondly, check the area to see if any further transformation has taken place since these estimates were done. If this is the case, calculate the current percentage transformation of the sub-quaternary catchment; and
- Finally, calculate whether the proposed development will exceed the recommended transformation threshold for that sub-quaternary catchment.

According to the transformation data from the ECBCP, 5.75% of the catchment has been transformed. Therefore, even if additional transformation occurred since the development of this data layer (in 2007), it seems that the catchment is still well within the threshold which allows for additional development.

Is the site(s) located on any of the following (tick the appropriate boxes)?

	Alternative S1:	Alternative S2 (if any):	Alternative S3 (if any):												
Shallow water table (less than 1.5m deep)	<table border="1"> <tr><td>YES</td><td>NO</td></tr> <tr><td></td><td></td></tr> </table>	YES	NO			<table border="1"> <tr><td>YES</td><td>NO</td></tr> <tr><td></td><td></td></tr> </table>	YES	NO			<table border="1"> <tr><td>YES</td><td>NO</td></tr> <tr><td></td><td></td></tr> </table>	YES	NO		
YES	NO														
YES	NO														
YES	NO														
Dolomite, sinkhole or doline areas	<table border="1"> <tr><td>YES</td><td>NO</td></tr> <tr><td></td><td></td></tr> </table>	YES	NO			<table border="1"> <tr><td>YES</td><td>NO</td></tr> <tr><td></td><td></td></tr> </table>	YES	NO			<table border="1"> <tr><td>YES</td><td>NO</td></tr> <tr><td></td><td></td></tr> </table>	YES	NO		
YES	NO														
YES	NO														
YES	NO														
Seasonally wet soils (often close to water bodies)	<table border="1"> <tr><td>YES</td><td>NO</td></tr> <tr><td></td><td></td></tr> </table>	YES	NO			<table border="1"> <tr><td>YES</td><td>NO</td></tr> <tr><td></td><td></td></tr> </table>	YES	NO			<table border="1"> <tr><td>YES</td><td>NO</td></tr> <tr><td></td><td></td></tr> </table>	YES	NO		
YES	NO														
YES	NO														
YES	NO														

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Unstable rocky slopes or steep slopes with loose soil	YES	NO	YES	NO	YES	NO
Dispersive soils (soils that dissolve in water)	YES	NO	YES	NO	YES	NO
Soils with high clay content (clay fraction more than 40%)	YES	NO	YES	NO	YES	NO
Any other unstable soil or geological feature	YES	NO	YES	NO	YES	NO
An area sensitive to erosion	YES	NO	YES	NO	YES	NO

If you are unsure about any of the above or if you are concerned that any of the above aspects may be an issue of concern in the application, an appropriate specialist should be appointed to assist in the completion of this section. (Information in respect of the above will often be available as part of the project information or at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by the Council for Geo Science may also be consulted).

#### 4. GROUNDCOVER

Indicate the types of groundcover present on the site:

**4.1 Natural veld – good condition <sup>E</sup>**

**4.2 Natural veld – scattered aliens <sup>E</sup>**

4.3 Natural veld with heavy alien infestation <sup>E</sup>

4.4 Veld dominated by alien species <sup>E</sup>

4.5 Gardens

4.6 Sport field

4.7 Cultivated land

4.8 Paved surface

4.9 Building or other structure

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#### 4.10 Bare soil

The location of all identified rare or endangered species or other elements should be accurately indicated on the site plan(s).

Natural veld - good condition <sup>E</sup>	Natural veld with scattered aliens <sup>E</sup>	Natural veld with heavy alien infestation <sup>E</sup>	Veld dominated by alien species <sup>E</sup>	Gardens
Sport field	Cultivated land	Paved surface	Building or other structure	Bare soil

If any of the boxes marked with an “E” is ticked, please consult an appropriate specialist to assist in the completion of this section if the environmental assessment practitioner doesn’t have the necessary expertise.



### Vegetation Description:

The vegetation type occurring on site is Kouga Grassy Sandstone Fynbos which is classified as *Least Threatened* according to Mucina and Rutherford (2006). It consists of low shrubland with sparse, emergent tall shrubs that is dominated by grasses in the undergrowth, or grassland with scattered ericoid shrubs. The lower dry slopes, where leaching is less severe and nutrient levels are higher, support a higher grassy cover.

Endemic plants typically occurring in this vegetation type include *Freylinia crispa*, *Argyrolobium parviflorum*, *A. trifoliatum*, *Cullumia cirsioides*, *Eriocephalus tenuipes*, *Euchaetis vallis-simiae*, *Sutera cinerea*, *Lampranthus lavisii*, *Annesorhiza thunbergii*, *Aster laevigatus*, *Centella didymocarpa*, *Peucedanum dregeanum*, *Cyrtanthus flamosus*, *C. labiatus*, *C. montanus*, *Gladiolus uitenhagensis*, *Gasteria glauca* and *Restio vallis-simius*.

The site falls within a terrestrial Critical Biodiversity Area (CBA 3) that forms part of the CBA network of the Eastern Cape Biodiversity Conservation Plan (2007) and is classified as “Other Natural Areas” (ONA T3) according to the ECBCP Handbook (2007). These Terrestrial CBA 3 areas are defined as vulnerable vegetation types identified through the ECBCP systematic conservation assessment, and a Functional Landscape according to its Biodiversity Land Management Class (BLMC 3). Areas that are classed as BLMC 3 should be managed for sustainable development, keeping natural habitat intact in wetlands (including wetland buffers) and riparian zones. Environmental authorisations should support ecosystem integrity. However, note that this vegetation is classified *Least Threatened*.

Furthermore, the site does not fall within an endangered ecosystem according to the National List of threatened terrestrial ecosystems (SANBI BGIS, 2016). This is in accordance with the NEM:BA Section 52 List of endangered ecosystems.

During the recent site visit conducted by SRK Consulting (in April 2016), the condition of the relatively small site could be described as partly natural with some Kikuyu around the existing evaporation ponds and dams. There is a large number of *Elytropappus rhinocerotis* around the site, which is usually an indication that an area has been previously disturbed or overgrazed (SANBI, <http://www.plantzafrica.com/plantefg/elytrorhino.htm>). According to the landowner (pers. comm.), the site was previously used for lucern and wheat cultivation.

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## 5. LAND USE CHARACTER OF SURROUNDING AREA

Indicate land uses and/or prominent features that currently occur within a 500 m radius of the site and give description of how this influences the application or may be impacted upon by the application:

### **5.1 Natural area**

- 5.2 Low density residential
- 5.3 Medium density residential
- 5.4 High density residential
- 5.5 Informal residential
- 5.6 Retail commercial & warehousing
- 5.7 Light industrial
- 5.8 Medium industrial<sup>AN</sup>
- 5.9 Heavy industrial<sup>AN</sup>
- 5.10 Power station
- 5.11 Office/consulting room
- 5.12 Military or police base/station/compound
- 5.13 Spoil heap or slimes dam<sup>A</sup>
- 5.14 Quarry, sand or borrow pit

### **5.15 Dam or reservoir**

- 5.16 Hospital/medical centre
- 5.17 School
- 5.18 Tertiary education facility
- 5.19 Church
- 5.20 Old age home
- 5.21 Sewage treatment plant<sup>A</sup>
- 5.22 Train station or shunting yard<sup>N</sup>
- 5.23 Railway line<sup>N</sup>
- 5.24 Major road (4 lanes or more)<sup>N</sup>
- 5.25 Airport<sup>N</sup>
- 5.26 Harbour
- 5.27 Sport facilities
- 5.28 Golf course
- 5.29 Polo fields
- 5.30 Filling station<sup>H</sup>
- 5.31 Landfill or waste treatment site

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5.32 Plantation

**5.33 Agriculture**

**5.34 River, stream or wetland**

5.35 Nature conservation area

5.36 Mountain, koppie or ridge

5.37 Museum

5.38 Historical building

5.39 Protected Area

5.40 Graveyard

5.41 Archaeological site

5.42 Other land uses (describe)

If any of the boxes marked with an "N" are ticked, how will this impact / be impacted upon by the proposed activity.

N/A

If any of the boxes marked with an "An" are ticked, how will this impact / be impacted upon by the proposed activity.

If YES, specify and explain:

N/A

If any of the boxes marked with an "H" are ticked, how will this impact / be impacted upon by the proposed activity.

If YES, specify and explain:

N/A

**6. CULTURAL/HISTORICAL FEATURES**

Are there any signs of culturally or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including Archaeological or palaeontological sites, on or close (within 20m) to the site?

	NO
NO	

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If YES, explain:

N/A

If uncertain, conduct a specialist investigation by a recognised specialist in the field to establish whether there is such a feature(s) present on or close to the site.

Briefly explain the findings of the specialist:

According to the Phase 1 Archaeological Impact Assessment (AIA) (attached in Appendix D), a few isolated Middle Stone Age stone artefacts were documented amongst the dense vegetation cover and diggings. It is therefore possible that similar stone artefacts will be uncovered during the excavation and construction activities. Four ceramic fragments were documented, however, no historically associated sites were identified which may indicate that these fragments may be more modern than historically significant.

According to the specialist report, the proposed development would have negative implications on the archaeological heritage remains documented and occurring below the dense vegetation cover during all phases of the development. However, it is unlikely that the artefacts documented and that may possibly be uncovered occur *in situ*. The artefacts have been graded as having a *low cultural significance*.

Will any building or structure older than 60 years be affected in any way?

	<del>NO</del>
	<del>NO</del>

Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?

If yes, please submit or, make sure that the applicant or a specialist submits the necessary application to SAHRA or the relevant provincial heritage agency and attach proof thereof to this application if such application has been made.

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## SECTION C: PUBLIC PARTICIPATION

### 1. ADVERTISEMENT

The person conducting a public participation process must take into account any guidelines applicable to public participation as contemplated in section 24J of the Act and must give notice to all potential interested and affected parties of the application which is subjected to public participation by—

- (a) fixing a notice board (of a size at least 60cm by 42cm; and must display the required information in lettering and in a format as may be determined by the competent authority) at a place conspicuous to the public at the boundary or on the fence of—
  - (i) the site where the activity to which the application relates is or is to be undertaken; and
  - (ii) any alternative site mentioned in the application;
- (b) giving written notice to—
  - (i) the owner or person in control of that land if the applicant is not the owner or person in control of the land;
  - (ii) the occupiers of the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;
  - (iii) owners and occupiers of land adjacent to the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;
  - (iv) the municipal councillor of the ward in which the site or alternative site is situated and any organisation of ratepayers that represent the community in the area;
  - (v) the municipality which has jurisdiction in the area;
  - (vi) any organ of state having jurisdiction in respect of any aspect of the activity; and
  - (vii) any other party as required by the competent authority;
- (c) placing an advertisement in—
  - (i) one local newspaper; or
  - (ii) any official *Gazette* that is published specifically for the purpose of providing public notice of applications or other submissions made in terms of these Regulations;
- (d) placing an advertisement in at least one provincial newspaper or national newspaper, if the activity has or may have an impact that extends beyond the boundaries of the metropolitan or local municipality in which it is or will be undertaken: Provided that this paragraph need not be complied with if an advertisement has been placed in an official *Gazette* referred to in subregulation 54(c)(ii); and

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- (e) using reasonable alternative methods, as agreed to by the competent authority, in those instances where a person is desiring of but unable to participate in the process due to—
- (i) illiteracy;
  - (ii) disability; or
  - (iii) any other disadvantage.

## 2. CONTENT OF ADVERTISEMENTS AND NOTICES

A notice board, advertisement or notices must:

- (a) indicate the details of the application which is subjected to public participation; and
- (b) state—
  - (i) that the application has been submitted to the competent authority in terms of these Regulations, as the case may be;
  - (ii) whether basic assessment or scoping procedures are being applied to the application, in the case of an application for environmental authorisation;
  - (iii) the nature and location of the activity to which the application relates;
  - (iv) where further information on the application or activity can be obtained; and
  - (iv) the manner in which and the person to whom representations in respect of the application may be made.

## 3. PLACEMENT OF ADVERTISEMENTS AND NOTICES

Where the proposed activity may have impacts that extend beyond the municipal area where it is located, a notice must be placed in at least one provincial newspaper or national newspaper, indicating that an application will be submitted to the competent authority in terms of these regulations, the nature and location of the activity, where further information on the proposed activity can be obtained and the manner in which representations in respect of the application can be made, unless a notice has been placed in any *Gazette* that is published specifically for the purpose of providing notice to the public of applications made in terms of the EIA regulations.

Advertisements and notices must make provision for all alternatives.

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#### 4. DETERMINATION OF APPROPRIATE MEASURES

The practitioner must ensure that the public participation is adequate and must determine whether a public meeting or any other additional measure is appropriate or not based on the particular nature of each case. Special attention should be given to the involvement of local community structures such as Ward Committees, ratepayers associations and traditional authorities where appropriate. Please note that public concerns that emerge at a later stage that should have been addressed may cause the competent authority to withdraw any authorisation it may have issued if it becomes apparent that the public participation process was inadequate.

#### 5. COMMENTS AND RESPONSE REPORT

The practitioner must record all comments and respond to each comment of the public before the application is submitted. The comments and responses must be captured in a comments and response report as prescribed in the EIA regulations and be attached to this application. The comments and response report must be attached under Appendix E.

#### 6. AUTHORITY PARTICIPATION

Authorities are key interested and affected parties in each application and no decision on any application will be made before the relevant local authority is provided with the opportunity to give input. The planning and the environmental sections of the local authority must be informed of the application at least 30 (thirty) calendar days before the submission of the application.

List of authorities informed:

Authority/Organisation of State	Contact person (Title, Name and Surname)	Tel No	Fax No	e-mail	Postal address
DEDEAT	Andries Struwig	0415085840	0415085865	<a href="mailto:andries.struwig@deaet.ecape.gov.za">andries.struwig@deaet.ecape.gov.za</a>	Private Bag X5001 Greenacres 6057

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Authority/Organ of State	Contact person (Title, Name and Surname)	Tel No	Fax No	e-mail	Postal address
DWS	Maneli Mzukisi			<a href="mailto:ManeliM@dws.gov.za">ManeliM@dws.gov.za</a>	
DWS	Landile Jack	043-7010291		<a href="mailto:JackL@dwa.gov.za">JackL@dwa.gov.za</a>	Pvt Bag 7019, East London, 5200
DWS	Paul Chilton			<a href="mailto:ChiltonP@dws.gov.za">ChiltonP@dws.gov.za</a>	
DWS	Lawry Neville			<a href="mailto:LawryN@dws.gov.za">LawryN@dws.gov.za</a>	
DWS	Lungiswa Mgxwati	041-5010717		<a href="mailto:MgxwatiL@dwa.gov.za">MgxwatiL@dwa.gov.za</a>	Pvt Bag X6041, PE, 6000
DWS	David Bligh			<a href="mailto:BlighD@dws.gov.za">BlighD@dws.gov.za</a>	
DAFF	Gcinile Dumse			<a href="mailto:GcinileD@daff.gov.za">GcinileD@daff.gov.za</a>	
ECPHRA	Sello Mokhanya	043-7450888	043-722 1749	<a href="mailto:smokhanya@ecphra.org.za">smokhanya@ecphra.org.za</a>	PO Box 759, Southern Wood, East London
Eastern Cape Department of Agriculture and Rural Development	Thozi Manyisana	040-6093472/74	040-636 3462	<a href="mailto:thozi.manyisana@agr.e-cprov.gov.za">thozi.manyisana@agr.e-cprov.gov.za</a> <a href="mailto:thozi.manyisana@gmail.com">thozi.manyisana@gmail.com</a>	Private Bag X0040, Bhisho, 5605

List of authorities from whom comments have been received:

Department of Water & Sanitation (DWS):

Correspondence dated 26 February 2016 from Mr Mzukisi Maneli noted the following:

The proposed activity of disposal of wastewater from the fruit processing plant into the evaporation dams will constitute water use activity (Section 21 g) as in accordance with Section 40 of the National Water Act, 1998 (Act No. 36 of 1998).

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An application must be lodged with the Department to have such an activity authorised by providing the following:

- Completed water use application forms;
- Copies of the property title deeds and certified copy of the identity document;
- A copy of the licence processing fee of R114;
- An Integrated Water and Waste Management Plan (IWWMP) as per the relevant guideline;
- A detailed Geohydrological Report reflecting the hydrocensus, pump tests and data for the groundwater resource in the area; and
- A report/ drawings on the Civil Design structures proposed.

The above correspondence is attached hereto as Appendix E.

## 7. CONSULTATION WITH OTHER STAKEHOLDERS

Note that, for linear activities, or where deviation from the public participation requirements may be appropriate, the person conducting the public participation process may deviate from the requirements of that subregulation to the extent and in the manner as may be agreed to by the competent authority.

Any stakeholder that has a direct interest in the site or property, such as servitude holders and service providers, should be informed of the application at least 30 (thirty) calendar days before the submission of the application and be provided with the opportunity to comment.

Has any comment been received from stakeholders?



If "YES", briefly describe the feedback below (also attach copies of any correspondence to and from the stakeholders to this application):

N/A



## SECTION D: IMPACT ASSESSMENT

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2010, and should take applicable official guidelines into account. The issues raised by interested and affected parties should also be addressed in the assessment of impacts.

### 1. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

List the main issues raised by interested and affected parties.

1. Mr M. Maneli (Department of Water and Sanitation) on 26 February 2016:

- The proposed activity of disposal of wastewater from the fruit processing plant into the evaporation dams will constitute water use activity (Section 21g) as in accordance with Section 40 of the National Water act, 1998;
- An application must be lodged with the Department to have such an activity authorised by providing various documents; and
- You must liaise with the department for pre-application consultation meeting on the water use(s) triggered by the proposed activity.

Response from the practitioner to the issues raised by the interested and affected parties (A full response must be given in the Comments and Response Report that must be attached to this report):

1. A pre-application site meeting was held with officials of DWS to determine the site-specific requirements for the WULA (see minutes of the meeting included in Appendix G). As soon as all the information is available, SRK will submit the required Water Use License Application forms.



## 2. IMPACTS THAT MAY RESULT FROM THE PLANNING AND DESIGN, CONSTRUCTION, OPERATIONAL, DECOMMISSIONING AND CLOSURE PHASES AS WELL AS PROPOSED MANAGEMENT OF IDENTIFIED IMPACTS AND PROPOSED MITIGATION MEASURES

List the potential direct, indirect and cumulative property/activity/design/technology/operational alternative related impacts (as appropriate) that are likely to occur as a result of the planning and design phase, construction phase, operational phase, decommissioning and closure phase, including impacts relating to the choice of site/activity/technology alternatives as well as the mitigation measures that may eliminate or reduce the potential impacts listed.

### Impact Rating Methodology

The potential impacts discussed below have been rated using SRK Consulting's standards rating method. This method is described in Appendix H. The complete rating table is also included in Appendix H.

### Alternative (preferred alternative)

#### **Direct impacts: (Construction)**

#### **Potential negative impacts:**

##### 1. Impacts on Surface Water

The proposed site is located in a drainage line within a shallow valley that flows in a northerly direction which connects to a non-perennial river approximately 450 m downstream of the site. A large farm dam occurs in this stream approximately one kilometre downstream of the site. No wetlands were identified within 500 m of the study area.

The clearing of vegetation and excavation of the effluent ponds might lead to increased sedimentation of the drainage line which could in turn affect other downstream natural aquatic resources as well as the farm dam. Increased sedimentation in runoff could impact on vegetation and biota of downstream systems, but could also influence the geomorphology and overall functioning, in severe circumstances, of downstream dams and watercourses.

In addition, construction activities could cause contamination of streams and rivers if proper management is not practiced. Accidental spills of hydrocarbons (oils, diesel, etc.) or leakage of such substances from construction machinery may enter the aquatic systems directly, through surface runoff during rainfall events or subsurface movement and then migrate to downstream systems. Such chemicals, fuels or pollutants would alter the water quality, having an effect on aquatic ecology in the form of biodiversity loss, i.e. the loss of vegetation and fauna that are sensitive to changes in water quality (especially from toxicant inputs). Solid waste in the form of general litter left by labourers such as construction materials (gloves, excess materials, cement, etc.) can also affect the watercourses downstream. It can provide a barrier to water movement and

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may also alter the quality of water within the resource negatively.

The final significance rating for this impact is MEDIUM (-ve) without mitigation. If appropriate mitigation is implemented, the impact could be reduced to be VERY LOW.

**Mitigation Measures:**

- Clearing of vegetation should be kept to a minimum, keeping the width and length of the earth works to a minimum;
- Should a site camp be required, the office and site camp shall be established as far as is practicable from any watercourse or drainage line (with a minimum of 50 m away);
- Excavated or spoil material (including any foreign materials) as well as topsoil stockpiles should not be placed within close proximity (at least 50 m) of watercourses and should be stockpiled in a position that does not negatively alter the course of surface water flows on the site in order to reduce the possibility of material being washed downstream;;
- During construction in the drainage line, suitable sediment barriers (e.g. silt fences, sandbags or hay bales) must be immediately downstream of active work areas as necessary, to trap any excessive sediments;
- Proper stormwater control measures to be implemented during the construction phase to prevent sediment, from cleared areas, flowing into watercourses downstream;
- The proper storage and handling of hazardous substances (hydrocarbons and chemicals) needs to be administered, , e.g. storage within secondary containment and on impermeable surfaces away from water resources;;
- No storage or maintenance of machinery within 50 m of a watercourse;
- Appropriate solid waste management facilities must be provided on-site during construction and adequate signage be provided;
- Spill kits must be kept on site and workers must be trained on their use. Spillages should be cleaned up immediately and any contaminated soil from the construction site must be removed and disposed of at a permitted waste disposal facility;
- Washing of mechanical plant must be conducted off site. No wash water from washing of mechanical plant or equipment to be discharged to any watercourse;
- No mixing of cement should be allowed within 50 m of a watercourse;
- Drip-trays must be provided beneath standing vehicles and machinery, and routine checks should be done to ensure that these are in a good condition;
- Disturbed areas should be rehabilitated immediately after construction in the relevant area (using topsoil);
- Rehabilitated areas should be monitored and measures must be implemented to ensure that topsoil does not wash away;
- Control measures to prevent erosion of the construction footprint during rehabilitation must be implemented. As a minimum these should include scarifying the topsoil on the construction footprint

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in a direction that is perpendicular to the drainage line (i.e. along the contours) in order to limit sedimentation from washing into and along the drainage line; and

- If sedimentation and erosion of the site is observed after construction, erosion berms are recommended to be installed and/ or sediment barriers (e.g. silt fences, sandbags or hay bales) immediately downstream of the rehabilitated areas (particularly on channel banks) as necessary, to trap any excessive sediments.

No-go Alternative:  
None.

2. Impacts on Groundwater:

The storage and handling of environmentally hazardous materials during the construction phase (e.g. cement, oils and fuels) has the potential to impact on groundwater resources if not correctly managed.

The final significance rating for this impact is LOW (-ve) without mitigation. If appropriate mitigation is implemented, the impact could be reduced to be INSIGNIFICANT.

Mitigation Measures:

- Locate the construction site camp further than 50 m from the drainage line or any watercourse and preferably further away if possible;
- The proper storage and handling of hazardous substances (hydrocarbons and chemicals) needs to be administered, e.g. storage within secondary containment and on impermeable surfaces away from water resources;
- No storage or maintenance of machinery within 50 m of a watercourse;
- Appropriate solid waste management facilities must be provided on-site during construction and adequate signage be provided;
- Spill kits must be kept on site and workers must be trained on their use. Spillages should be cleaned up immediately and any contaminated soil from the construction site must be removed and disposed of at a permitted waste disposal facility;
- Washing of mechanical plant must be conducted off site. No wash water from washing of mechanical plant or equipment to be discharged to any watercourse;
- No mixing of cement should be allowed within 50 m of a watercourse; and
- Drip-trays must be provided beneath standing vehicles and machinery, and routine checks should be done to ensure that these are in a good condition.

No-go Alternative:  
None.

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3. Impacts resulting from clearing of vegetation (ecological impacts):

As described previously, the site is made up of Kouga Grassy Sandstone Fynbos which is classified as a least threatened vegetation type. The site falls within the CBA 3 network of the Eastern Cape Biodiversity Conservation Plan (2007) and is classified as “Other Natural Areas” (ONA T3). Although CBA 3 areas are defined as vulnerable vegetation types, certain land uses are permitted and others are permitted under specific conditions. Note however that Kouga Grassy Sandstone Fynbos is classified as a least threatened as mentioned above. The site does not fall within any Endangered Ecosystem types in terms of Section 52 of the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004). No protected plant and animal species were observed during SRK’s site visit, however, these might still occur on the site.

Clearing of vegetation on the site will however result in the loss of flora and would result in the area becoming more susceptible to invasive alien plant invasion and erosion if these impacts are not mitigated.

The final significance rating for this impact is LOW (-ve) without mitigation. If appropriate mitigation is implemented, the impact could be reduced to be INSIGNIFICANT.

Mitigation Measures:

- Clearing of vegetation should be kept to a minimum, keeping the width and length of the earth works to a minimum;
- The development footprint should be clearly demarcated prior to construction and not construction activities should be allowed outside the demarcated area;
- The position of the construction site camp should be chosen in consultation with the ECO and should preferably be on an already disturbed area;
- Permits to remove protected plant species should be obtained from the Department of Economic Development, Environmental Affairs and Tourism;
- Ensure invasive alien plants are regularly removed and appropriately disposed of;
- It is recommended that clearing activities during the construction phase be monitored by an ECO at least twice a month;
- Clear vegetation in a phased manner to allow fauna to move off-site (if any); and
- Walk through the site ahead of clearing to remove any small fauna that may be unable to escape (e.g. tortoises) and place these safely in adjacent undisturbed areas. If necessary, a professional should be contracted (e.g. for removal and relocation of snakes).

No-go Alternative:

Should the activity not take place, ecological impacts would not occur.

4. Air Quality/ Dust:

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Windblown dust from material stockpiles and excavated or cleared areas, and vehicle entrainment on dirt access roads might create a nuisance affect in the surrounding area during days when there are strong winds. However, there are no receptors (nearby residencies) in close proximity to the study area.

The final significance rating for this impact is VERY LOW (-ve) without mitigation. If appropriate mitigation is implemented, the impact could be reduced to be INSIGNIFICANT.

Mitigation Measures:

- Clearing of vegetation should be kept to a minimum, keeping the width and length of the earth works to a minimum;
- Dust suppression by wetting and/ or covering of stockpiles etc.; and
- Limit vehicle speeds for all vehicles on the site.

No-go Alternative:

None.

5. Noise Disturbance:

Construction activities will generate noise due to the operation of machinery and vehicles, potentially causing a nuisance in the surrounding area, however this impact is not considered to be significant as there are no receptors (nearby residencies) in close proximity to the site.

The final significance rating for this impact is VERY LOW (-ve) but can be reduced to INSIGNIFICANT (-ve) with mitigation.

Mitigation Measures:

- Construction should be limited to normal working hours as per the of the Environmental Conservation Act (Act 73 of 1989).

No-go Alternative:

None.

6. Waste Management:

General construction waste will be generated during the construction period. Lack of proper management of the waste on the site may lead to dumping and wind-blown litter creating a negative visual impact as well as impacting on the surrounding natural ecosystems as described above.

The final significance rating for this impact is LOW (-ve) without mitigation. If appropriate mitigation is implemented, the impact could be reduced to be INSIGNIFICANT.

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**Mitigation Measures:**

- All waste generated on site shall be collected and appropriately disposed of at a registered municipal landfill site;
- No on-site burning, burying or dumping of any waste materials, litter or refuse shall occur;
- Weekly litter inspections should be conducted and general housekeeping maintained;
- Hazardous waste (if applicable) should be disposed of at a registered hazardous landfill facility and proof of correct disposal should be obtained;
- Cleared alien vegetation should be disposed of so that it does not re-establish on site;
- All staff shall be trained on correct waste management; and
- Records of disposal of all waste generated on site shall be maintained for auditing purposes.

**No-go Alternative:**

None.

**7. Paleontological disturbance:**

According to the Heritage Screener (included in Appendix D) the proposed effluent evaporation ponds are underlain by the Goudini Formation which is of low fossil significance according to the SAHRIS palaeosensitivity map. This is supported by the Eastern Cape Palaeotechnical report by Almond, De Klerk & Gess (2009). Sparse marine or estuarine fossil assemblages are recorded within the more mudrock-rich part of the succession but only in the Western Cape. Therefore no palaeontological impact assessment was recommended for this development; however there is still a possibility that damage or destruction to paleontological resources may occur due to earthworks and excavations during construction, should anything be found on site.

The final significance rating for this impact is VERY LOW (-ve) without mitigation but can be reduced to INSIGNIFICANT with mitigation.

**Mitigation Measures:**

- All workers on site should be informed of the types of paleontological resources that may be found and the correct procedure to follow should any paleontological resources be found; and
- Should fossil remains be discovered during construction, these should be safeguarded (preferably in situ) and the ECO should alert the Eastern Cape Provincial Heritage Resources Authority (ECPHRA). Contact details: Mr Sello Mokhanya, 74 Alexander Road, King Williams Town 5600; Email: [smokhanya@ecphra.org.zaso](mailto:smokhanya@ecphra.org.zaso) so that appropriate mitigation (e.g. recording, sampling or collection) can be taken by a professional palaeontologist.

**No-go Alternative:**

None.

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8. Archaeological disturbance:

During the specialist study (see Appendix D) a few isolated Middle Stone Age stone artefacts were documented and it is therefore possible that similar stone artefacts will be uncovered during the excavation and construction activities. The proposed development could have a negative impact on the archaeological heritage remains documented and occurring below the vegetation. This includes the destruction of the possible in situ or collections of stone artefacts and/ or other associated material below ground that are not immediately visible on the surface. However, according to the specialist report, it is unlikely that the artefacts documented and those that may possibly be uncovered occur in situ. The artefacts have been graded as a having a *low cultural significance*.

The final significance rating for this impact is VERY LOW (-ve) but can be reduced to INSIGNIFICANT (-ve) with mitigation.

Mitigation Measures:

- If concentrations pre-colonial archaeological heritage material and/ or human remains (including graves and burials) are uncovered during construction, all work must cease immediately and be reported to the Albany Museum (046 622 2312) and/or the Eastern Cape Provincial Heritage Resources Agency (ECPHRA) (043 745 0888) so that systematic and professional investigation/excavation can be undertaken. Phase 2 mitigation in the form of test-pitting/sampling or systematic excavations and collections of the pre-colonial shell middens and associated artefacts will then be conducted to establish the contextual status of the sites and possibly remove the archaeological deposit before development activities continue; and
- A person must be trained as a site monitor to report any archaeological sites found during the development. Construction managers/ foremen and/ or the Environmental Control Officer (ECO) should be informed before construction starts on the possible types of heritage sites and cultural material they may encounter and the procedures to follow when they find sites.

No-go Alternative:

None.

***Potential positive impacts:***

9. Socio-economic:

The development will result in the creation of temporary job opportunities for the local labour force. This will also involve transfer of skills and the improvement of the quality of life for families of individuals employed.

The significance rating for this impact is VERY LOW (+ve) with or without mitigation.

Mitigation Measures:

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- Local contractors and labour should be considered for the construction phase.

No-go Alternative:

None.

***Indirect impacts:***

Some indirect impacts have been discussed above together with the direct impacts, i.e. impacts on surface water and more specifically downstream impacts of sedimentation and water contamination. See impact 1 above for a comprehensive discussion and rating.

***Cumulative impacts:***

None

***Direct impacts: (Operation)***

***Potential negative impacts:***

10. Impacts on Groundwater:

A Hydrogeological Impact Assessment has been conducted (see Appendix D for the report). The potential impact that was identified for the site and surrounding area is pollution of the groundwater resource by the effluent from the ponds. The pathway of effluent to the groundwater is via the clay/ an inconsistency in the clay layer, to the fractures of the fractured bedrock and the groundwater. The project engineer has designed the ponds to be founded in the clay layer underlying the site. The clays are practically impermeable and, should the layer be laterally consistent, will create a barrier to prevent the effluent from seeping into the groundwater. However, should the clay layer not be laterally present across the site, then contaminants from the effluent may reach the groundwater.

According to the design information, the ponds will not be deeper than 1 m bgl, and are planned to be founded in the clay material, which was found to be practically impermeable. If the clay layer is laterally consistent/ continuous (it is assumed that this is the case from the geotechnical investigation), the potential for contaminants from the ponds to reach the groundwater is regarded slim.

The final significance rating for this impact is HIGH (-ve) if no mitigation is implemented. However, should the important mitigation measures below be complied with, the significance of the impact could be reduced to LOW (-ve).

Mitigation Measures:

- During excavation to found the ponds, it must be ensured that the clay is present throughout the base

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of the ponds;

- It is recommended that the clay layer below the base of the ponds must be between 300 and 600 mm in thickness across the entire site;
- The clay must also be present on the sidewalls of the ponds in order to prevent lateral movement of pollutants in e.g. the sand or gravel material;
- Should fractured bedrock be exposed during excavation, then excess clay that has been exposed in other parts of the site must be used to cover the fractured bedrock completely; and
- Continues monitoring of the upstream and downstream boreholes is required to determine whether any contamination of the groundwater occurs.

No-go Alternative:

Should the activity not take place, impacts relating to groundwater might still occur due to the existing evaporation ponds leaching effluent into the soil and groundwater. It would not be possible to conduct the necessary maintenance on the existing ponds, which could lead to a higher impact over time. A significance rating of MEDIUM (-ve) has been assigned to this impact.

#### 11. Stormwater, erosion and surface water impacts:

Stormwater berms and channels shall be constructed upstream and next to the evaporation ponds to divert stormwater runoff around the ponds. The berms shall be constructed with selected excavated clay material.

The berm and channel will prevent stormwater runoff from entering the evaporation ponds. Due to the large volume of runoff and coupled with the fairly steep slope of the channel, velocities in excess of 3.0 m/s is expected. This will lead to scouring/ erosion of the channel which could also have indirect impacts such as sedimentation of downstream watercourses and dams.

The tertiary pond will have a clay liner and will have a capacity of more than one month's discharge from the Granor Passi plant during the peak season. This should provide sufficient storage for effluent while providing enough time to take remedial action to prevent effluent from being discharged into the downstream environment. However, provision has been made for the controlled release of effluent in emergencies through a scour valve controlled 110 mm diameter pipeline, should this be required to protect the integrity of the pond wall. During normal circumstances, no impacts are expected to downstream watercourses from these ponds.

The final significance rating for this impact is MEDIUM (-ve) if no mitigation is implemented. However, should the important mitigation measures below be complied with, the significance of the impact could be reduced to LOW (-ve).

Mitigation Measures:

- The in situ clay material in the channels will be ripped and compacted to form a clay liner;
- The berms will be grassed to prevent erosion;

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- The upstream and downstream slope of the berm will be 1V:1H and have a crest width of 500 m;
- Routine maintenance of stormwater channels must be conducted to prevent erosion of these channels; and
- Effluent should not be discharged from the tertiary pond without the necessary authorisation from the Department of Water and Sanitation. In addition, should discharge of water be considered, any discharge should comply with the Wastewater Discharge Standards (GNR 36820 of September 2016).

**No-go Alternative:**

Should the activity not take place, impacts to the downstream aquatic systems might still occur due to the existing evaporation ponds failing from a lack of maintenance or the inability to handle the increased capacity in effluent. A significance rating of MEDIUM (-ve) has been assigned to this impact.

**12. Air Quality (odours):**

Air quality levels at the evaporation ponds are more or less consistent with the agricultural land use in the area. The evaporation ponds would result in odours associated with waste produced from the fermentation process of fruit concentrate. The prevalent wind direction for the area is from the southeast in November to April, and west-northwest in May to October.

However, there are currently no receptors (nearby residencies) in close proximity to the site that could be influenced by the odours.

The final significance rating for this impact is VERY LOW (-ve). No specific mitigation is proposed.

**No-go Alternative:**

No additional impact, but the current odours from the existing ponds will remain.

***Potential positive impacts:***

**13. Social and Economic Impact:**

Upgrading the evaporation ponds will result in the plant being able to process more fruit, be more profitable, and thereby making it possible to increase the labour force and transfer of skills.

The significance rating for this impact is MEDIUM (+ve) without mitigation or enhancement measures. No specific mitigation or enhancement measures are proposed.

**Mitigation Measures:**

- Local contractors and labour should be considered for the operational phase.

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**No-go Alternative:**

Should the new ponds not be constructed, the necessary maintenance cannot be conducted on the existing ponds, which is required for the plant to function well and to its full capacity. No expansion will be possible as more waste effluent will be produced with more fruit being processed. A significance rating of MEDIUM (-ve) has been assigned to this impact.

**Indirect impacts:**

1. Economic Impacts:

The construction of new evaporation ponds would make it possible for the plant to expand, be more profitable, and employ more people (described and rated above).

2. Sedimentation of downstream aquatic resources:

Refer to above description under Surface Water.

**Cumulative impacts:**

None

*No closure or decommissioning of the activity is planned.*



### 3. ENVIRONMENTAL IMPACT STATEMENT

Taking the assessment of potential impacts into account, please provide an environmental impact statement that summarises the impact that the proposed activity and its alternatives may have on the environment after the management and mitigation of impacts have been taken into account, with specific reference to types of impact, duration of impacts, likelihood of potential impacts actually occurring and the significance of impacts.

#### Alternative A (preferred alternative): Summary Impact Rating Table

IMPACT	CONSTRUCTION				OPERATION				NO-GO	
	WITHOUT MITIGATION		WITH MITIGATION		WITHOUT MITIGATION		WITH MITIGATION			
Impacts on Surface Water	MEDIUM	- ve	VERY LOW	- ve	MEDIUM	-ve	LOW	-ve	MEDIUM	-ve
Impacts on Groundwater	LOW	- ve	INSIGNIFICANT	- ve	HIGH	- ve	LOW	- ve	MEDIUM	-ve
Ecological Impacts	LOW	- ve	INSIGNIFICANT	- ve	N/A	N/A	N/A	N/A	N/A	N/A
Air Quality/ Dust	VERY LOW	- ve	INSIGNIFICANT	- ve	VERY LOW	-ve	VERY LOW	-ve	N/A	N/A
Noise Disturbance	VERY LOW	- ve	INSIGNIFICANT	- ve	N/A	N/A	N/A	N/A	N/A	N/A
Waste management	LOW	- ve	INSIGNIFICANT	- ve	N/A	N/A	N/A	N/A	N/A	N/A
Paleontological disturbance	VERY LOW	- ve	INSIGNIFICANT	- ve	N/A	N/A	N/A	N/A	N/A	N/A
Archaeological disturbance	VERY LOW	- ve	INSIGNIFICANT	- ve	N/A	N/A	N/A	N/A	N/A	N/A
Socio-Economic	VERY LOW	+ ve	VERY LOW	+ ve	MEDIUM	+ ve	MEDIUM	+ve	MEDIUM	-ve

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### **Alternative A (preferred alternative)**

All the potential negative impacts identified (the most significant being those associated with groundwater and stormwater & erosion) can be reduced to low significance or less with effective mitigation as per the recommendations listed.

Positive socio-economic impacts associated with employment opportunities during the construction phase will be temporary and therefore rated as very low significance.

### **No-go alternative (compulsory)**

Should the development not continue, the existing evaporation ponds will fall into disrepair due to the inability to conduct necessary maintenance. This will have negative effects on the surrounding environment such as contamination of groundwater due to seepage, and sedimentation of surface water due to erosion and the lack of stormwater control. The positive socio-economic impacts will also not transpire.





## SECTION E: RECOMMENDATIONS OF PRACTITIONER

Is the information contained in this report and the documentation attached hereto sufficient to make a decision in respect of the activity applied for (in the view of the environmental assessment practitioner)?

YES	[Redacted]
YES	

Is an EMPr attached?

The EMPr must be attached as Appendix F.

If "NO", indicate the aspects that should be assessed further as part of a Scoping and EIA process before a decision can be made (list the aspects that require further assessment):

N/A

If "YES", please list any recommended conditions, including mitigation measures that should be considered for inclusion in any authorisation that may be granted by the competent authority in respect of the application:

An Environmental Management Programme (EMPr) has been compiled and can be found under Appendix F of this document.

It is recommended that an Environmental Control Officer be appointed to conduct independent audits to ensure compliance with the EMPr during construction.



## SECTION F: APPENDICES

The following appendixes must be attached as appropriate:

Appendix A: Site plan(s)

Appendix B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Specialist Reports

Appendix E: Comments and Responses Report

Appendix F: Environmental Management Programme (EMPr)

Appendix G: Other Information

Appendix H: Impact Rating Summary

Appendix I: Integrated Environmental Authorization and Waste License Application Form



## APPENDIX A: Site plan(s)

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## APPENDIX B: Photographs

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Photo 1 View of one of the primary ponds, towards the south



Photo 2 View of the secondary evaporation pond system, to the north



Photo 3 View of the existing secondary ponds, to the west



Photo 4 Close up view of one of the channels in the secondary pond system

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Photo 5 View of one of the more central secondary ponds indicating the reed beds and other established vegetation, towards the west.



Photo 6 View to the north of proposed site for the new evaporation ponds



Photo 7 Vegetation where proposed ponds will be located



Photo 8 Existing stormwater channels diverting stormwater flow around secondary evaporation ponds

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Photo 9 View of one of the test pits where the new evaporation ponds are proposed



Photo 10 Clay inside one of the test pits

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## APPENDIX C: Facility illustration(s)

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## APPENDIX D: Specialist reports

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## APPENDIX E: Comments and responses report (Public Participation Process)

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## Appendix E1: Public Participation Process

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## Appendix E1: Public Participation Process

### 1. Public Participation Activities:

The Public Participation Process that was undertaken to solicit public opinion regarding the proposed activity has included the following activities:

- a) Putting up an on-site poster of the proposed activities at the site on 28 April 2016 (see proof of placement in Appendix E2);
- b) Distribution of the Background Information Document (BID) from 12 May 2016 to identified Interested and Affected Parties (IAPs) and stakeholders. A copy of the BID is available under Appendix E2. The list of identified and registered authorities, stakeholders and IAPs is given in Appendix E4;
- c) Advertisements of the development in the local newspaper “Kouga Express” on 12 May 2016 (see proof of advertisement in Appendix E2);
- d) Provision of a 32 day comment period in response to the BID, on-site posters and advertisements;
- e) Collation of public and IAP comments to the BID, on-site posters and adverts, (including responses thereto) and inclusion thereof in the BAR (see Comments and Response Table in Appendix E3);
- f) Distribution of a hard copy of the BAR to all the relevant authorities and the Joubertina Public Library for review by IAPs;
- g) Provision of an electronic copy of the BAR to IAPs upon request;
- h) Distribution of the Executive Summary to all Stakeholders and IAPs registered for this process; and
- i) Provision of a 30 day comment period on the DBAR.

### 2. Availability of the Draft Basic Assessment Report

A hard copy of the complete Draft Basic Assessment Report is available for public review and comment at the Joubertina Public Library (18 Olivier Street, Joubertina). An electronic copy of the complete DBAR will be forwarded to IAPs upon request.

**Table 2: Public Participation conducted to date**

Activity	Date
On-site poster	28 April 2016
Distribution of BID	12 May 2016
1st Public Comment Period	12 May 2016 - 13 June 2016
Advertisement (in Die Burger) to announce commencement of BA, register IAPs and availability of BID	12 May 2016
Distribution of DBAR	4 October 2016
2nd Comment Period (on BAR)	7 November 2016

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## APPENDIX E2: Proof of Newspaper Notice, BID and On-site Poster

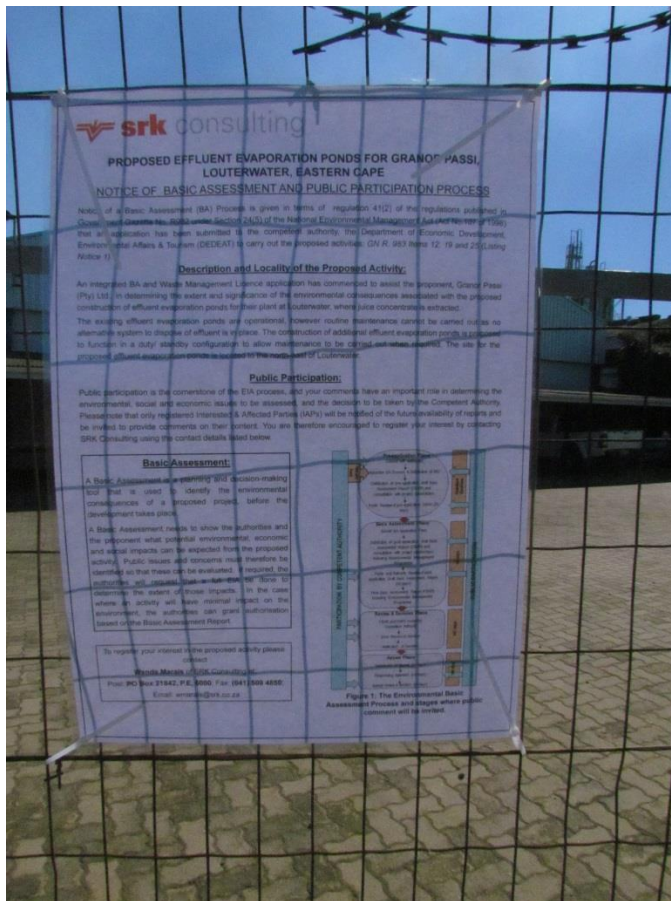
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**Proof of On-Site Posters:**



**Poster 1: Entrance to the Granor Passi fruit processing plant**

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## APPENDIX E3: Comments and Responses

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**Table 1: Issues Raised by Interested and Affected Parties in response to the BID**

Commentator	Comment / Issue Raised	Response (by SRK unless otherwise indicated)
M Maneli (DWS)	<p>The proposed activity of disposal of wastewater from the fruit processing plant into the evaporation dams will constitute water use activity (Section 21g) as in accordance with Section 40 of the National Water act, 1998.</p> <p>An application must be lodged with the Department to have such an activity authorised by providing various documents (list provided).</p>	<p>[SRK]: An application is in progress and will be submitted in due course.</p>
M Maneli (DWS)	<p>You must liaise with the department for Pre-Application consultation meeting on the water use(s) triggered by the proposed activity. Name and details of liaison officer provided.</p>	<p>[SRK]: A pre-application meeting was held on site between SRK and DWS on 5 September 2016 (meeting minutes attached to Appendix G).</p>

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## APPENDIX E4: IAP Correspondence on BID

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## Appendix E5: IAP Register

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## APPENDIX F: Environmental Management Programme (EMPr)

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## APPENDIX G: Other Information

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## APPENDIX H: Impact Rating Procedure & Rating Table

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## Impact Rating Procedure

The significance of an impact is defined as a combination of the consequence of the impact occurring and the probability that the impact will occur. The criteria used to determine impact consequences are presented in Table I-1 below.

**Table I-1: Criteria used to determine the Consequence of the Impact**

Rating	Definition of Rating	Score
<b>A. Extent– the area over which the impact will be experienced</b>		
None		0
Local	Confined to project or study area or part thereof (e.g. site)	1
Regional	The region, which may be defined in various ways, e.g. cadastral, catchment, topographic	2
(Inter) national	Nationally or beyond	3
<b>B. Intensity– the magnitude of the impact in relation to the sensitivity of the receiving environment</b>		
None		0
Low	Site-specific and wider natural and/or social functions and processes are negligibly altered	1
Medium	Site-specific and wider natural and/or social functions and processes continue albeit in a modified way	2
High	Site-specific and wider natural and/or social functions or processes are severely altered	3
<b>C. Duration– the time frame for which the impact will be experienced</b>		
None		0
Short-term	Up to 2 years	1
Medium-term	2 to 15 years	2
Long-term	More than 15 years	3

The combined score of these three criteria corresponds to a Consequence Rating, as follows:

**Table I-2: Method used to determine the Consequence Score**

Combined Score (A+B+C)	0 – 2	3 – 4	5	6	7	8 – 9
Consequence Rating	Not significant	Very low	Low	Medium	High	Very high

Once the consequence has been derived, the probability of the impact occurring will be considered using the probability classifications presented in Table I-3.

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**Table I-3: Probability Classification**

Probability– the likelihood of the impact occurring	
Improbable	< 40% chance of occurring
Possible	40% - 70% chance of occurring
Probable	> 70% - 90% chance of occurring
Definite	> 90% chance of occurring

The overall significance of impacts will be determined by considering consequence and probability using the rating system prescribed in the table below.

**Table I-4: Impact Significance Ratings**

Significance Rating	Possible Impact Combinations		
	Consequence		Probability
Insignificant	Very Low	&	Improbable
	Very Low	&	Possible
Very Low	Very Low	&	Probable
	Very Low	&	Definite
	Low	&	Improbable
	Low	&	Possible
Low	Low	&	Probable
	Low	&	Definite
	Medium	&	Improbable
	Medium	&	Possible
Medium	Medium	&	Probable
	Medium	&	Definite
	High	&	Improbable
	High	&	Possible
High	High	&	Probable
	High	&	Definite
	Very High	&	Improbable
	Very High	&	Possible
Very High	Very High	&	Probable
	Very High	&	Definite

Finally, the impacts will also be considered in terms of their status (positive or negative impact) and the confidence in the ascribed impact significance rating. The system for considering impact status and confidence (in assessment) is laid out in the table below.

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**Table I-5: Impact status and confidence classification**

Status of impact	
Indication whether the impact is adverse (negative) or beneficial (positive).	+ ve (positive – a 'benefit')
	– ve (negative – a 'cost')
Confidence of assessment	
The degree of confidence in predictions based on available information, SRK's judgment and/or specialist knowledge.	Low
	Medium
	High

The impact significance rating should be considered by authorities in their decision-making process based on the implications of ratings ascribed below:

- **Insignificant:** the potential impact is negligible and will not have an influence on the decision regarding the proposed activity/development.
- **Very Low:** the potential impact is very small and should not have any meaningful influence on the decision regarding the proposed activity/development.
- **Low:** the potential impact may not have any meaningful influence on the decision regarding the proposed activity/development.
- **Medium:** the potential impact should influence the decision regarding the proposed activity/development.
- **High:** the potential impact will affect the decision regarding the proposed activity/development.
- **Very High:** The proposed activity should only be approved under special circumstances.

Practicable mitigation measures will be recommended and impacts will be rated in the prescribed way both with and without the assumed effective implementation of mitigation measures. Mitigation measures will be classified as either:

- **Essential:** must be implemented and are non-negotiable; or
- **Optional:** must be shown to have been considered and sound reasons provided by the proponent, if not implemented.

## “No-Go” alternative

In the case of the “No-Go” alternative, no additional construction or clearing of vegetation would occur and the site would remain in its current condition until/ unless any other development is approved.

In most cases, the “No-Go” alternative approximates the baseline situation. In the sections assessing specific impacts below, the “No-Go” alternative is only assessed where the baseline descriptions do not fully capture current impacts.

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	Impact	Mitigation	Extent			Consequence	Consequence	Probability	Probability	Significance	Status	Confidence
			Intensity	Duration	Consequence							
<b>Construction</b>	Impacts on Surface Water	Without	2	2	2	6	Medium	3	Definite	Medium	- ve	medium
		With	1	1	1	3	Very low	2	Probable	Very Low	- ve	medium
	Impacts on Groundwater	Without	2	1	2	5	Low	2	Probable	Low	- ve	medium
		With	1	1	1	3	Very low	1	Possible	Insignificant	- ve	medium
	Impacts on Vegetation	Without	1	2	2	5	Low	2	Probable	Low	- ve	high
		With	1	1	1	3	Very low	1	Possible	Insignificant	- ve	high
	Air Quality/ Dust	Without	2	1	1	4	Very low	3	Definite	Very Low	- ve	high
		With	1	1	1	3	Very low	1	Possible	Insignificant	- ve	high
	Noise Disturbance	Without	2	1	1	4	Very low	3	Definite	Very Low	- ve	high
		With	1	1	1	3	Very low	1	Possible	Insignificant	- ve	high
	Waste Management	Without	2	2	1	5	Low	3	Probable	Low	- ve	high
		With	1	1	1	3	Very low	1	Possible	Insignificant	- ve	high
	Paleontological disturbance	Without	1	1	1	3	Very low	2	Probable	Very Low	- ve	high
		With	1	1	1	3	Very low	1	Possible	Insignificant	- ve	high
	Archaeological disturbance	Without	1	1	1	3	Very low	2	Probable	Very Low	- ve	high
		With	1	1	1	3	Very low	1	Possible	Insignificant	- ve	high
	Social & economic	Without	2	1	1	4	Very low	2	Probable	Very Low	+ ve	high
		With	2	1	1	4	Very low	3	Definite	Very Low	+ ve	high
<b>Operation</b>	Groundwater (only operation)	Without	2	2	3	7	High	2	Probable	High	- ve	high
		With	2	1	3	6	Medium	1	Possible	Low	- ve	high
	Stormwater and Erosion Impacts on Surface Water	Without	2	2	3	7	High	1	Possible	Medium	- ve	high
		With	2	1	3	6	Medium	1	Possible	Low	- ve	high
	Air quality (odours)	Without	1	1	3	5	Low	1	Possible	Very Low	- ve	high
		With	1	1	3	5	Low	1	Possible	Very Low	- ve	high
Socio-economic	Without	2	1	3	6	Medium	3	Definite	Medium	- ve	high	
	With	2	1	3	6	Medium	3	Definite	Medium	- ve	high	
<b>NO-ACC</b>	Surface Water	Without	2	1	3	6	Medium	2	Probable	Medium	- ve	Medium

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	<b>Groundwater</b>	Without	2	1	3	6	Medium	2	Probable	<b>Medium</b>	- ve	Medium
	<b>Socio Economic</b>	Without	2	1	3	6	Medium	3	Definite	<b>Medium</b>	- ve	Medium

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VERSION 1 dated 8 December 2014



## APPENDIX I: Integrated Environmental Authorisation and Waste License Application Form

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