

## PROJECT IMPACT ASSESSMENT, SIGNIFICANCE AND MITIGATION MEASURES SUMMARY

The following impact rating approach used by EnviroAfrica CC is a basic exponential rating system to assess actual and potential negative and positive environmental impacts.

Environmental activities or aspects are identified, based on:

- the phases of the project,
- the nature (or description) of the actual and potential impacts of the activities.

For every project activity or aspect, various environmental impacts are listed. Every negative impact is allocated a -value as per each of the following criteria:

- Probability (Likelihood)
- Extent
- Duration (Frequency)
- Consequence (Receiving Environment)
- Magnitude (Intensity/severity)

Every negative impact is allocated a +value as per each of the following criteria:

- Probability (Likelihood)
- Extent
- Duration (Frequency)
- Magnitude (Intensity/severity)

Once a value is allocated for each of the criterion, the scores are averaged to determine the final impact rating see Table 1 below.

EnviroAfrica then further assesses environmental significance, based on the nature of the impact, as per the score and colour key which forms part of Table 1 below. This results in impacts having either a low (indicated in green), medium (indicated in yellow) or high (indicated in orange and red) negative significance, and a low (light blue), medium (blue) or a high (dark blue) positive significance


**Note:** i. As a baseline, impact rating values/scores are allocated taking the **worst case** scenario into account i.e. with no mitigation. The baseline rating is compared with those after mitigation has been taken into account i.e. the post-mitigation rating. Post mitigation rating is used for the actual impact assessment.

| <b>SIGNIFICANCE<br/>CRITERIA</b>                             | <b>Very High</b>  | <b>High</b>   | <b>Medium</b>   | <b>Low</b>   | <b>Negligible (very-low)</b>   | <b>Score</b> |
|--|---|---|---|--|--|--------------|
| <b>Value</b>   | <b>16</b>   | <b>8</b>  | <b>4</b>  | <b>2</b>   | <b>1</b>   |              |
| <b>Probability<br/>(likelihood)<br/>(P)</b>                  | Definite. Impact will definitely occur (impact will occur regardless of any prevention measures)  | Highly probable. Very likely for impact to occur.   | Probable. Impact may likely occur.  | Improbable. Impact may occur. Distinct Possibility   | Improbable. Low likelihood/unlikely for impact to occur.   |              |
| <b>Extent<br/>(E)</b>  | Impact potentially reaches beyond national boundaries   | Impact has definite provincial/potential national consequences  | Impact confined to regional area/ town  | Impact confined to local region and impact on neighbouring properties  | Impact confined to project property / site   |              |
| <b>Duration (D)</b>  | Permanent   | Long-Term   | Medium-term   | Short-term   | Very short/ temporary  |              |
| <b>Magnitude<br/>(Intensity/ Severity)<br/>(M)</b>           | It is expected that the activity will have a very severe to permanent impact on the surrounding environment. Functioning irreversibly impaired. Rehabilitation often impossible or unfeasible | It is expected that the activity will have a severe impact on the surrounding environment. Functioning may be severely impaired and may be temporarily cease. Rehabilitation will be needed to restore system integrity | It is expected that the activity will have an impact on the surrounding environment, but it will maintain its function, even if moderately modified (overall integrity not compromised). Rehabilitation easily achieved | It is expected that the activity will have a perceptible impact on the surrounding environment, but it will maintain its function, even if slightly modified (overall integrity not compromised). Rehabilitation easily achieved | It is expected that the impact will have little or no effect on the integrity of the surrounding environment |              |
| <b>Receiving<br/>environment<br/>(Consequence):<br/>(RE)</b> | Very sensitive, pristine area – protected site or species permanently or seasonally present   | Unused area containing only indigenous fauna / flora species  | Unused area containing indigenous and alien fauna / flora species   | Semi-disturbed area already rehabilitated / recovered from prior impact, or with moderate alien vegetation   | Disturbed area/ transformed/ heavy alien vegetation  |              |
| <b>FINAL RATING</b> (average score)                          |   |   |   |  |  |              |

## ENVIRONMENTAL RATING SIGNIFICANCE KEY:

### Negative Impacts

| SIGNIFICANCE            | RATING    | Final rating score / value range |
|-------------------------|-----------|----------------------------------|
| Very Significant        | Very High | >11 to -16                       |
| Significant             | High      | >-7 to -11                       |
| Increasing Significance | Medium    | >-4 to -7                        |
| Insignificant           | Low       | -2 to -4                         |
|                         | Very Low  | -1 to <-2                        |



### Positive Impacts

| SIGNIFICANCE            | RATING | Final rating score / value range |
|-------------------------|--------|----------------------------------|
| Significant             | High   | 10 to 16                         |
| Increasing Significance | Medium | 4 to <10                         |
| Insignificant           | Low    | 1 to <4                          |

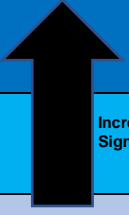


Table 1: Environmental Significance Rating Methodology (rating criteria and significance key)

| No. | ASPECT    | IMPACT   | WITHOUT MITIGATION |        |          |           |                       | Without Mitigation Score (Baseline) | WITH MITIGATION |        |          |           |                       | With Mitigation Score (Impact assessment) | Short Description of some of the pertinent mitigation/ enhancement measures   |
|-----|-----------|--|--------------------|--------|----------|-----------|-----------------------|-------------------------------------|-----------------|--------|----------|-----------|-----------------------|---|---|
|     |           |  | Probability        | Extent | Duration | Magnitude | Receiving Environment |                                     | Probability     | Extent | Duration | Magnitude | Receiving Environment |   |   |
| 1   | Botanical | <b>Geology &amp; soils:</b><br>Potential impact on special habitats (e.g. true quartz or "heuweltjies")        | -1                 | -1     | -8       | -1        | -4                    | -3                                  | -1              | -1     | -8       | -1        | -4                    | -3  | No mitigation proposed  |
| 2   |           | <b>Landuse and cover:</b><br>Potential impact on socio-economic activities.                                    | -1                 | -1     | -8       | -1        | -4                    | -3                                  | -1              | -1     | -8       | -1        | -4                    | -3  | Potential positive impact   |
| 3   |           | <b>Vegetation status:</b><br>Loss of vulnerable or endangered vegetation and associated habitat.               | -8                 | -2     | -8       | -8        | -4                    | -6                                  | -4              | -1     | -4       | -2        | -4                    | -3  | Establish ecological corridors next to significant water courses. Protect the 4 protected trees. Apply for permits for other protected species.         |
| 4   |           | <b>Conservation priority:</b> Potential impact on protected areas, CBA's, ESA's or Centre's of Endemism.       | -8                 | -2     | -8       | -8        | -4                    | -6                                  | -4              | -1     | -4       | -2        | -4                    | -3  | Establish ecological corridors next to the most significant water courses.  |
| 5   |           | <b>Connectivity:</b><br>Potential loss of ecological migration corridors.                                      | -8                 | -2     | -8       | -8        | -4                    | -6                                  | -4              | -1     | -4       | -2        | -4                    | -3  | Establish ecological corridors next to the most significant water courses.  |
| 6   |           | <b>Watercourses and wetlands:</b> Potential impact on natural water courses and it's ecological support areas. | -8                 | -4     | -8       | -8        | -8                    | -7.2                                | -4              | -1     | -4       | -2        | -8                    | -3,8                                      | Establish ecological corridors of at least 3-5m next to the most significant water courses, which will ensure drainage and protect riparian vegetation. |

|    | ASPECT           | IMPACT  | Probability | Extent | Duration | Magnitude | Receiving Environment | Without Mitigation Score (Baseline) | Probability | Extent | Duration | Magnitude | Receiving Environment | With Mitigation Score (Impact assessment) | Short Description of some of the pertinent mitigation/enhancement measures  |
|----|------------------|---|-------------|--------|----------|-----------|-----------------------|-------------------------------------|-------------|--------|----------|-----------|-----------------------|---|---|
| 7  |                  | <b>Protected &amp; endangered plant species:</b> Potential impact on threatened or protected plant species. | -8          | -4     | -8       | -8        | -4                    | 6.4                                 | -2          | -1     | -4       | -2        | -4                    | 2.6                                       | Establish ecological corridors next to significant water courses. Protect the 4 protected trees. Apply for permits for other protected species. |
| 8  |                  | <b>Invasive alien plant species:</b> Potential invasive plant infestation as a result of the activities.    | -2          | -2     | -4       | -8        | -4                    | -4                                  | -1          | -1     | -1       | -1        | -4                    | -1.6                                      | Special care must be taken during their removal (in order to avoid re-sprouting).   |
| 9  |                  | <b>Veld fire risk:</b> Potential risk of veld fires as a result of the activities.                          | -2          | -2     | -2       | -2        | -4                    | -2.4                                | -1          | -1     | -1       | -1        | -4                    | -1.6                                      | Address fire danger throughout construction. See EMP  |
| 10 |                  | <b>Cumulative impacts:</b> Cumulative impact associated with proposed activity.                             | -8          | -4     | -8       | -8        | -8                    | -7.1                                | -4          | -4     | -4       | -4        | -8                    | -6  | Establish ecological corridors next to significant water courses. Protect the 4 protected trees. Apply for permits for other protected species. |
| 11 | Heritage         | Loss of Heritage resources  | -1          | -1     | -1       | -1        | -1                    | -1                                  | -1          | -1     | -1       | -1        | -1                    | -1  | No specific mitigation. Please see EMP  |
| 10 | Palaeontological | Loss of Palaeontological heritage resources   | -1          | -1     | -1       | -1        | -1                    | -1                                  | -1          | -1     | -1       | -1        | -1                    | -1  | No specific mitigation. Please see EMP  |
| 11 | Freshwater       | Clearing of vegetation, levelling of land   | -4          | -4     | -4       | -8        | -4                    | -4.8                                | -2          | -2     | -2       | -2        | -2                    | -2  | See specific recommendations in Section 10.3.3 and 12 of the EIR  |
| 12 |                  | Drainage Line reconstruction  | -4          | -4     | -4       | -4        | -4                    | -4                                  | -2          | -2     | -2       | -2        | -2                    | -2  |   |

|    | ASPECT         | IMPACT  | Probability | Extent | Duration | Magnitude | Receiving Environment | Without Mitigation Score (Baseline) | Probability | Extent | Duration | Magnitude | Receiving Environment | With Mitigation Score (Impact assessment) | Short Description of some of the pertinent mitigation/ enhancement measures   |
|----|----------------|---|-------------|--------|----------|-----------|-----------------------|-------------------------------------|-------------|--------|----------|-----------|-----------------------|---|---|
| 13 |                | Installation of infrastructure, irrigation            | -4          | -4     | -4       | -4        | -4                    | -4                                  | -2          | -2     | -2       | -2        | -2                    | -2  |   |
| 14 |                | Operation of vineyards                                | -4          | -4     | -8       | -4        | -8                    | -5.6                                | -2          | -2     | -8       | -2        | -2                    | -3.2                                      |   |
| 15 | Socio-economic | Job Creation – Construction phase                     | 16          | 4      | 2        | 2         |                       | 6                                   |             |        |          |           |                       |   |   |
| 16 | Socio-economic | Job Creation – Operational phase                      | 16          | 4      | 8        | 2         |                       | 7.5                                 |             |        |          |           |                       |   |   |
| 17 | Visual         | Potential visual impact on the area                   | -4          | -2     | -8       | -2        | -2                    | -3.6                                | -4          | -2     | -8       | -1        | -2                    | -3.4                                      | Construction of development according to the EMP.   |
| 18 | Dust           | Potential impact of dust from construction activities | -8          | -2     | -4       | -2        | -2                    | -3.6                                | -4          | -2     | -4       | -1        | -2                    | -2.6                                      | The proposed development should be phased and site clearing confined to the specific areas under construction. Dust suppression measures must be implemented. Construction in accordance with the EMP |