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.

SIGNIFICANCE CRITIERIA	**Very High**	**High**	**Medium**	**Low**	**Negligible (very-low)**	**Score**
Value	**16**	**8**	**4**	**2**	**1**	
Probability (likelihood) **(P)**	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.	
Extent (E)	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	
Duration (D)		Permanent	Long-Term	Medium-term	Short-term/temporary	
Magnitude (Intensity/ Severity) **(M)**	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	
Receiving environment (Consequence): **(RE)**	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	
FINAL RATING (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	5 to <10
Insignificant	Low	1 to <5

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

			WITHOUT MITIGATION						WITH MITIGATION						
No.	**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**
1	**Botanical**	**Geology & soils:** Potential impact on special habitats (e.g. true quartz or "heuweltjies")	-1	-4	-8	-2	-2	-3.4	-1	-2	-8	-1	-2	-2.8	Ensure good environmental control during the construction phase.
2		**Landuse and cover:** Potential impact on socio-economic activities.	-16	-4	-8	-2	-2	-6	-16	-2	-8	-1	-2	-5.8	Ensure good environmental control during the construction phase.
3		**Vegetation status: L**oss of vulnerable or endangered vegetation and associated habitat.	-16	-4	-8	-2	-2	-6	-8	-2	-8	-1	-2	-4.2	Incorporate larger trees within the settlement layout where possible (thus protecting a number of these indigenous trees).
4		**Conservation priority:** Potential impact on protected areas, CBA's, ESA's or Centre's of Endemism.	-1	-4	-8	-2	-2	-3.4	-1	-2	-8	-1	-2	-2.8	Incorporate larger trees within the settlement layout where possible (thus protecting a number of these indigenous trees).
5		**Connectivity:** Potential loss of ecological migration corridors.	-16	-4	-8	-2	-2	-6	-8	-2	-8	-1	-2	-4.2	Incorporate larger trees within the settlement layout where possible (thus protecting a number of these indigenous trees).
6		**Protected & endangered plant species:** Potential impact on threatened or protected plant species.	-16	-4	-4	-2	-2	-5.6	-2	-2	-4	-1	-2	-2.2	Search & rescue all Aloe plants.

	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		**Invasive alien plant species:** Potential invasive plant infestation as a result of the activities.	-8	-4	-4	-2	-2	-4	-2	-1	-4	-1	-2	-2	Special care must be taken during their removal (in order to avoid re-sprouting).
8		**Veld fire risk:** Potential risk of veld fires as a result of the activities.	-4	-4	-2	-4	-2	-3.2	-1	-1	-2	-1	-2	-1.8	Address fire danger throughout construction. See EMP
10		**Cumulative impacts:** Cumulative impact associated with proposed activity.	-16	-4	-4	-2	-2	-5.6	-16	-2	-4	-1	-2	-5	Minimise the impact on protected plant species and protect as many larger individual trees as possible incorporating them into the town layout.
11	Heritage	Loss of Heritage resources	-1	-1	-8	-1	-1	-2.4	-1	-1	-4	-1	-1	-1.6	No specific mitigation. Please see EMP
10	Palaeontological	Loss of Palaeontological heritage resources	-1	-1	-1	-1	-4	-1.6	-1	-1	-1	-1	-4	-1.6	No specific mitigation. Please see EMP
11	Freshwater	Destruction of aquatic habitat, drainage lines through construction activities	-16	-2	-8	-8	-2	-7.2	-16	-2	-8	-8	-2	-7.2	- Do not disturb any land outside of designated site - Construct outside of rainy season - Upgrade roads with paved surfaces - Construct underground storm water system.

	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
12	**Socio-economic**	Job Creation – Construction phase	16	4	2	2	8	6.4							
13	**Socio-economic**	Job Creation – Operational phase	4	1	8	1	8	4.4							
14	**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.
15	**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