

## 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 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 (likelihood) (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 (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 (Intensity/ Severity) (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 environment (Consequence): (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 (average score)</b>						

**ENVIRONMENTAL RATING SIGNIFICANCE KEY:**

**Negative Impacts**

SIGNIFICANCE	RATING	Final rating score / value range
Very Significant	Very High	-12 to -16
Significant	High	-9 to <-12
Increasing Significance	Medium	-6 to <-9
Insignificant	Low	-3 to <-6
	Very Low	-1 to <-3



**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)**

No.	ASPECT	IMPACT	WITHOUT MITIGATION						WITH MITIGATION						Short Description of some of the pertinent mitigation/ enhancement measures
			Probability	Extent	Duration	Magnitude	Receiving Environment	Without Mitigation Score (Baseline)	Probability	Extent	Duration	Magnitude	Receiving Environment	With Mitigation Score (Impact assessment)	
1	Botanical	Loss of Kathu Bushveld	-16	-1	-16	-16	-16	-13	-16	-1	-16	-8	-16	-11,4	Design the final layouts of the residential area at Uitkoms to cater for the loss of as few <i>Acacia erioloba</i> (camelthorn) trees as possible. Plant <i>Acacia erioloba</i> trees in the green open spaces to offset any trees that would be lost during construction. - <i>Boophone disticha</i> (gifbol) that are easily identified should be located, rescued and replanted in areas of similar habitat where there will be no development
	Botanical No-Go Option	Loss of Kathu Bushveld	-1	-1	-8	-1	-16	-5,4							
2		Loss of Ecological Processes	-16	-1	-8	-4	-16	-9	-16	-1	-8	-4	-16	-9	No mitigation possible
	Botanical No-Go Option	Loss of Ecological Processes	-4	-1	-8	-1	-16	-6						0	
3	Heritage	Loss of archaeological resources	-8	-1	-16	-8	-16	-9,8	-1	-1	-8	-1	-16	-5,4	No development must take place in the south-western corner of the property alongside Frikkie Meyer Street, which has been set aside as Private Open Space. - A Heritage Management Plan must be prepared and implemented. - Should any unmarked human burials or heritage resources, be uncovered during construction activities, these must immediately be reported to the archaeologist, or Ms Natasha Higgitt at the South African Heritage Resources Agency

4	<b>Palaeontology</b>	Loss of Palaeontological heritage resources	-4	-1	-8	-4	-8	-5	-1	-1	-8	-1	-8	-3,8	ECO and / or the Site Engineer responsible for the development must remain aware that all sedimentary deposits have the potential to contain fossils. If any substantial fossil remains (e.g. vertebrate bones, teeth, horn cores) are found during construction SAHRA should be notified immediately. - A chance-find procedure should be implemented.
5	<b>Socio-economic</b>	Creation of employment and business opportunities during the construction phase	8	4	4	4		5	16	4	4	4		7	Where reasonable and practical the proponent should appoint local contractors and implement a „locals first“ policy, especially for semi and low-skilled job categories. Where feasible, efforts should be made to employ local contractors that are compliant with Broad Based Black Economic Empowerment (BBBEE) criteria.
6		Potential impacts on family structures and social networks associated with the presence of construction workers	-4	-4	-4	-2		-3,5	-4	-4	-4	-2		-3,5	The developer should seek as far as is possible to appoint a local or regional contractor/s from the local area for the bulk services and housing contracts. The movement of construction workers on and off the site should be closely managed and monitored by the contractors.
7		Safety and security risk posed by presence of construction workers on site	-4	-4	-8	-8		-6	-4	-4	-8	-4		-5	The construction area should be fenced off prior to the commencement of the construction phase. This is to reduce the risk posed by workers on the adjacent residential areas and the activities at the Kathu Equestrian Centre. No construction workers, with the exception of security personnel, should be allowed to stay on site overnight. Building contractors appointed by the developer must ensure that workers are transported to and from the site on a daily basis;

8	Potential noise, dust and safety impacts associated with construction related activities and the movement of construction traffic to and from the site	-4	-4	-4	-8	-8	-5,6	-4	-4	-4	-4	-8	-6	The proposed development should be phased and site clearing confined to the specific areas under construction. Dust suppression measures must be implemented. The movement of heavy construction vehicles along Frikkie Meyer Street should be timed to avoid peak traffic hours.
9	Provision of housing	-8	-2	-8	-4		-5,5	16	2	8	4		7,5	A landscaping plan should be developed that makes provision for tree planting and creation of green open spaces as part of the urban design plan. A Management and Maintenance Plan and programme for the public open spaces should be developed and implemented.
10	Creation of employment and business opportunities	4	4	8	2		4,5	16	4	8	2		7,5	The proponent and the GLM should inform local community leaders, organizations and councillors of the potential job opportunities associated with the different components associated with the operational phase of the development. The proponent in consultation with the GLM should look to identify employment opportunities for members from the local HD communities.
11	Broadening the rates base	-8	-4	-8	-2		-5,5	8	4	8	2		5,5	
12	Potential risks to the Kathu Equestrian Club include loss of grazing land, safety and security and impact on horses	-8	-2	-8	-4		-5,5	-8	-2	-8	-2		-5	Establishment of a new irrigated, grazing paddock in the area to the north-east of the existing paddock area of the club house. A buffer should be established between the houses located in eastern section of the development and the track section of the equestrian estate where horses are galloped. Strict rules governing access by residents to the area managed by the equestrian club should be established.

13		Potential benefits to the Kathu Equestrian Club include establishment of irrigated grazing paddock, improved safety and security and removal of squatters	-8	-2	-8	-4		-5,5	8	2	8	4		5,5	
	<b>Socio-economic No-Go Option</b>	The no-development option would result in the lost opportunity for the local economy the GLM and residents who would benefit from the development (Without mitigation assumes no developmen - With mitigation assumes development)	-16	-2	-8	-4		-7,5	16	2	8	4		7,5	The development of the proposed Uitkoms Residential Development would represent an enhancement measure.
13	<b>Traffic</b>	Potential impact on traffic	-4	-2	-2	-4	-2	-2,8	-4	-2	-2	-2	-2	-2,4	Provision of turning lanes
14	<b>Visual</b>	Potential visual impact on the area	-8	-2	-8	-4	-8	-6	-8	-2	-8	-4	-8	-6	Construction of development according to the EMP. Sensitive placement of houses. Design the final layouts of the residential area at Uitkoms to cater for the loss of as few Acacia erioloba (camelthorn) trees as possible. Plant Acacia erioloba trees in the green open spaces to offset any trees that would be lost during construction.
15	<b>Dust</b>	Potential impact of dust from construction activities	-4	-4	-4	-4	-8	-4,8	-4	-4	-4	-2	-8	-4,4	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