PROJECT IMPACT ASSESSMENT, SIGNIFICANCE AND MITIGATION MEASURES SUMMARY

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

Positive environmental impacts are also listed. All positive impacts need to be enhanced or increased where possible but positive impacts are not rated or given a score since the rating is based on risks.

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:

- Likelihood (Probability)
- Extent (Severity)
- Duration (Frequency)
- Consequence (Receiving Environment and Toxicity)

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

Enviro Africa 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) significance.

Note: i. One environmental aspect or project activity e.g. site clearance may have multiple impacts in different areas.

ii. The various impacts per aspect/project activity are documented in the Quantification of Aspects and Impact/s Significance Rating form (Table 2 Annexure B).

iii. 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	Moderately High	Medium	Moderately Medium	Low	Very Low	Score
Value	**32**	**16**	**8**	**4**	**2**	**1**	
Likelihood / Probability (L/P)	Impact will definitely occur	Very likely for impact to occur	Impact may occur once annually	Impact may occur less than once annually but at least twice every five years	Impact may occur one to two times (maximum) in project's life	Very unlikely for impact to occur / Impact will not occur	
Extent / Severity (E/S)	Impact potentially reaches beyond national boundaries	Impact has definite provincial potential national consequences	Impact will a potentially affect neighbouring province	Impact confined to local province	Impact confined to local region but not province wide	Impact confined to project property / site	
Duration / Frequency (D/F)	Continual / daily occurrence	Impact will occur once a week	Impact will occur once a month	Impact will occur once a year	Impact will occur once every ten years	Possible that impact will never occur in Project's	
Consequence: Receiving environment (C: 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	Disturbed area undergoing rehabilitation / recovering from prior impacts	Disturbed area, already in need of rehabilitation prior to impact	
Consequence: Toxicity (C:T)	Impact is poisonous to natural environment and is not contained - no rehabilitation possible - permanent irreversible impact	Impact is potentially poisonous to natural environment and is not contained – only partial rehabilitation possible – potential permanent irreversible impact	Impact is potentially poisonous to natural environment and is partially contained – some rehabilitation possible and is potentially reversible	Impact is potentially poisonous to natural environment and is partially contained – complete rehabilitation possible	Impact is potentially poisonous to natural environment but is completely contained	Impact is not poisonous to natural environment	
FINAL RATING (average score)							

ENVIRONMENTAL RATING SIGNIFICANCE KEY:

SIGNIFICANCE	RATING	Final rating score / value range
Very Significant	**Very High**	**25 to 32**
Significant	**High**	**19 to <25**
Increasing Significance	**Medium**	**13 to <19**
	Moderately Medium	**6 to <13**
Insignificant	**Low**	**3 to <6**
	Very Low	**1 to <3**

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

A. ASPECT/ACTIVITY: Transport of Equipment/Material to Site (pre-construction site establishment)

NO.	IMPACT	L/P	E/S	D/F	C: RE	C: T	Pre-Mitigation Score (Baseline)	L/P	E/S	D/F	C: RE	C: T	Post-Mitigation Score (Impact assessment)	Short Description of Mitigation Measures
1	Particulate and gaseous emissions due to use of vehicles/machinery													
2	Potential impedance of normal traffic flow on main access road													
3	Animal/human interaction/accident with vehicles													
4	Vehicle accident													
5	Spillages of fuel/oil/HCSs from vehicles/vehicle loads													
6	Noise from heavy vehicles													
7	Potential littering along route from drivers/personnel in vehicles													
8	Impact of slowed traffic due to possible abnormal loads being transported on public roads													
9	Aesthetic/visual impact of stored/parked vehicles and equipment													

B. ASPECT/ACTIVITY: Site clearance/''grub and clear''

NO.	IMPACT	L/P	E/S	D/F	C: RE	C: T	Pre-Mitigation Score (Baseline)	L/P	E/S	D/F	C: RE	C: T	Post-Mitigation Score (Impact assessment)	Short Description of Mitigation Measures
1	Demarcation of protected trees to be avoided during site clearance or for which permits must be applied for removal c.f. biodiversity specialist report													
2	Particulate and gaseous emissions due to use of vehicles/machinery													
3	Dust (particulate) generation													
4	Biodiversity (flora) removal													
5	Potential protected tree removal/ relocation													
6	Topsoil removal/stockpiling													
7	Heritage discovery (archaeological or palaeontological) due to excavation													
8	Habitat loss (faunal affect)													
9	Animal interaction/fatalities													
10	Visual impact of site clearance/dust													

C. ASPECT/ACTIVITY: Site establishment

NO.	IMPACT	L/P	E/S	D/F	C: RE	C: T	Pre-Mitigation Score (Baseline)	L/P	E/S	D/F	C: RE	C: T	Post-Mitigation Score (Impact assessment)	Short Description of Mitigation Measures
1	Temporary roads for site establishment													
2	Access control/fencing													
3	Demarcation of lay down area													
4	Ablutions for site labour													
5	Littering													
6	Habitat loss (faunal affect)													
7	Animal interaction/fatalities													
8	Visual impact of site clearance/dust													
9	Resource use: water													
10	Resource use: land													
11	Resource use: hydrocarbons/fuels													
12	Storage of fuels/hazardous chemical substances													
13	Noise													
14	Local employment opportunities													

D. ASPECT/ACTIVITY: Construction

NO.	IMPACT	L/P	E/S	D/F	C: RE	C: T	Pre-Mitigation Score (Baseline)	L/P	E/S	D/F	C: RE	C: T	Post-Mitigation Score (Impact assessment)	Short Description of Mitigation Measures
1	Access control/fencing													
2	Demarcation of lay down area													
3	Ablutions for site labour													
4	Littering													
5	Habitat loss (faunal affect)													
6	Animal interaction/fatalities													
7	Aesthetic impact during construction													
8	Resource use: water													
9	Resource use: land													
10	Resource use: hydrocarbons/fuels													
11	Storage of fuels/hazardous chemical substances													
12	Noise													
13	Local employment opportunities													

E. ASPECT/ACTIVITY: Operation/Maintenance

NO.	IMPACT	L/P	E/S	D/F	C: RE	C: T	Pre-Mitigation Score (Baseline)	L/P	E/S	D/F	C: RE	C: T	Post-Mitigation Score (Impact assessment)	Short Description of Mitigation Measures
1	Access control/fencing													
2	Demarcation of lay down area													
3	Ablutions for site labour													
4	Littering													
5	Habitat loss (faunal affect)													
6	Animal interaction/fatalities													
7	Aesthetic impact during construction													
8	Resource use: water													
9	Resource use: land													
10	Resource use: hydrocarbons/fuels													
11	Storage of fuels/hazardous chemical substances													
12	Noise													
13	Local employment opportunities													