

ENVIRONMENTAL IMPACT ASSESSMENT METHODOLOGY

1) INTRODUCTION

The purpose of this document is to qualitatively determine the significance of potential environmental impacts that could occur as a result of a proposed project and its related aspects and activities.

*It is important to note that for this methodology 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.

2) METHODOLOGY

2.1) Ranking Impact Criteria

Each potential environmental impact was ranked according to specific criteria namely Extent, Intensity/Severity and Duration. Each criterion was assigned a qualitative rating and corresponding score Table: 1.

Table: 1 Qualitative ratings and scores for the Criteria used to determine the Consequence of an impact.

RATING	DEFINITION OF RATING FOR EACH CRITERIA	ALLOCATED SCORE
1) EXTENT - <i>The area over which the impact will be experienced</i>		
Local	Confined to project or study area or part thereof i.e. site.	1
Regional	The region, which may be defined in various ways i.e. cadastral, catchment, topographic.	2
(Inter) National	Nationally or beyond.	3
2) INTENSITY/SEVERITY - <i>The magnitude of the impact in relation to the sensitivity of the receiving environment, taking into account the degree to which the impact may cause irreplaceable loss of resources.</i>		
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 manner.	2
High	Site- specific and wider natural and/or social functions and processes are severely altered or permanently cease.	3
3) DURATION - <i>The timeframe over which the impact will be experienced.</i>		
Short- term	Up to 2 years	1
Medium- term	2 to 15 years	2
Long- term	More than 15 years	3

2.2) Determining Consequence

The combined scores from the Impact Criteria were added and allocated to a Consequence Rating as seen in Table: 2

Combined Score (A+B+C)	1 to 3	4	5 to 6	7	8 to 9
Consequence Rating	Very Low	Low	Medium	High	Very High

2.3) Deriving Probability

The probability of the potential impact occurring was subjectively derived from a probability classification table. Table: 3

Table: 3 Probability Classifications

PROBABILITY- <i>The likelihood of the impact occurring</i>	
Improbable	< 40% chance of occurring
Possible	40% - 70% chance of occurring
Probable	> 70% - 90% chance of occurring
Definite	> 90% chance of occurring

2.4) Deriving Impact Significance

The Significance of each potential impact was determined by considering the Consequence and Probability of the impact and assigning a Significance rating from the table below. Table: 4

Table: 4 Possible Impact Combinations and their corresponding subjective significance rating

POSSIBLE IMPACT COMBINATIONS		
SIGNIFICANCE RATING	CONSEQUENCE	PROBABILITY
INSIGNIFICANT	Very Low	Possible
	Very Low	Improbable
VERY LOW	Very Low	Definite
	Very Low	Probable
	Low	Possible
	Low	Improbable
LOW	Low	Definite
	Low	Probable
	Medium	Possible
	Medium	Improbable
MEDIUM	Medium	Definite
	Medium	Probable
	High	Possible
	High	Improbable
HIGH	High	Definite
	High	Probable
	Very High	Possible
	Very High	Improbable
VERY HIGH	Very High	Definite
	Very High	Probable

2.5) Impact Status

The Status of each potential environmental impact was subjectively ranked using the following table. Table: 5

Table: 5 Status of Potential Impact rating

STATUS OF POTENTIAL IMPACT	
Positive (+ve)	Indicates whether impact is positive (a benefit)
Negative (-ve)	Indicates whether impact is negative (a cost)
Neutral (ne)	Indicates whether impact has no positive or negative impact

2.6) Degree of Confidence

The degree of confidence of the Environmental Assessment Practitioner in ranking and predicting potential impacts based on available information and experience was ranked according to the following table. Table: 6

Table: 6 Degree of confidence of EAP

CONFIDENCE OF ENVIRONMENTAL ASSESSMENT PRACTITIONER	
Degree of confidence is based on available information and experience of EAP	Low
	Medium
	High

2.7) Other Considerations

Other aspects that were taken into consideration were:

- Impacts were described before and after proposed mitigation and management measures were implemented;
- All impacts were evaluated over their full life cycle for the proposed development including construction and operational phases and
- The impact evaluation took into account the cumulative effects of other activities which have occurred or are in the process of occurring within the study