

MINIMUM REQUIRED STANDARDS FOR A TERMS OF REFERENCE (ToR) FOR AN ENVIRONMENTAL IMPACT ASSESSMENT

Informative

At a Minimum, a **Terms of Reference** (ToR) must outline the aspects of an Environmental Impact Assessment (EIA) which when thoroughly addressed will provide a comprehensive evaluation of the site, in terms of predicted environmental impacts, needed mitigation strategies, potentially viable alternatives to the development proposed and all related legislation.

In reality, significant environmental issues may be site specific and project specific. It is expected that these issues be incorporated accordingly. Sites of special consideration are:

Coastal and Marine Areas: Issues such as coastline stability, seagrass beds, beaches, coral reef, wetlands, seagrass impacts, unique coastal environments, nutrient loading in coastal waters and impact on coastal commercial fishing and underwater cultural heritage such as shipwrecks and sunken cities or sites should be examined.

Upland Areas: Issues such as slope stability, available public transportation, access to basic amenities such as potable water and electricity; impact of drainage from the site on pre existing drainage patterns; the presence of prehistoric and historic sites etc. should be examined.

Sites located within, adjacent to or in the vicinity of areas listed as protected (e.g. under the Wild Life Protection, Forest, Natural Resources Conservation Authority, Fishing Industry or Jamaica National Heritage Trust Acts or designated Ramsar Sites) or having protected species: The main issue(s) of concern are determined by the statutes of the legislation or convention in question and what the convention speaks to. The impact of the development on the specific sensitivities of the protected area should be highlighted (e.g. diversion of water flows, extraction of water, pollution).

Mitigation of impacts should assess if the post mitigation status would be acceptable in the protected area context. Alternative sites should be rigorously evaluated.

Biological diversity: loss/impact on population of a species/ecosystems; ecosystem functions; direct or indirect impacts on endemic, protected, and endangered species (e.g. habitat reduction/modification affecting survival; introduction of invasive alien species, and predators); impact on migratory species (e.g. fish and birds); impact on breeding grounds.

To ensure that a thorough environmental impact assessment is carried out, it is expected that the following tasks be undertaken:

Task #1. Description of the Project

Task #2. Description of the Environment.

Task #3 – Policy, Legislative and Regulatory Considerations

Task #4 – Identification and Assessment/Analysis of Potential Impacts

Task #5 – Drainage Assessment

Task #6 Statement on Energy Conservation

Task #7 Mitigation

Task #8 - Environmental Management and Monitoring Plan

Task #9 - Project Alternatives

Task #10 Public Participation/Consultation Programme

OUTLINE OF A TYPICAL EIA REPORT

The report should contain an introduction explaining the need for, and context of the project. All physical features mentioned in the report must be spatially referenced. This document should have the following basic aspects included in the Table of Contents, unless specified otherwise in the Terms of Reference.

- Executive Summary
- Policy, Legal and Administrative Framework
- The EIA Methodology
- Description of the Existing Environment
- Description of the Proposed Project in detail
- Identification and Assessment of Potential Direct, Indirect, Cumulative, Positive and Negative Environmental Impacts
 - Physical
 - Natural Hazard Risk
 - Biological
 - Heritage
 - Human/Social
 - Public Involvement
 - Recommended Mitigation Measures
 - Identification and Analysis of Alternatives
 - Management of the Environmental and Heritage aspects of the Project
 - Environmental Management of the Project
 - Environmental Quality Objectives
 - Training
 - Draft Outline Monitoring Programme
 - List of References
- Appendices including:
 - Reference documents
 - Photographs/ maps
 - Data Tables
- Glossary of Technical Terms used

Terms of Reference

Composition of the consulting team (Technical Team that undertook the study/assessment, including name, qualification and roles of team members)

Notes of Public Consultation sessions

TERMS OF REFERENCE (ToRs) FOR AN ENVIRONMENTAL IMPACT ASSESSMENT

(EIA) FOR *(Name of Project to be inserted by Applicant)*

Project Brief

(Project Brief to be inserted by the applicant)

Site location

(Map to be inserted by the applicant)

Terms of Reference

The Environmental Impact Assessment should include but not be limited to the following:

- 1) Objectives
- 2) Complete description of the existing site proposed for development.
- 3) Significant environmental issues of concern through the presentation of baseline data which should include social, cultural and heritage considerations. Other major issue to be studied are the effects of any blasting if any on the island and its surroundings, size of the footprint, how construction materials will be transported and effects on marine environment. The public perception of proposed development assessed.
- 4) Policies, Legislation and Regulations relevant to the project.
- 5) Likely impacts of the development on the described environment, including direct, indirect and cumulative impacts, and their relative importance to the design of the development's facilities.
- 6) Mitigation action to be taken to minimise predicted adverse impacts and quantify associated costs.
- 7) Monitoring Plan which should ensure that the mitigation plan is adhered to.
- 8) Alternatives to the project that could be considered at that site or at any other location.
- 9) Conclusions

(Date to be inserted by the applicant)

The following tasks should be undertaken:

Task #1. Description of the Project

Provide a comprehensive description of the project and its the surrounding environment specifying any information necessary to identify and assess the environmental effects of the project. This should include project objectives and information on the nature, location/ existing setting, timing, duration, frequency, general layout and size of facility including ancillary buildings, pre-construction activities, construction methods, works and duration, and post construction plans. A description of raw material inputs, technology and processes to be used as well as products and by-products generated, should be provided. Note areas to be reserved for construction and areas to be preserved in their existing state as well as activities and features which will introduce risks or generate impact (negative and positive) on the environment.

The effectiveness of the sewage treatment system including treated effluent disposal must be clearly outlined as well as solid waste disposal option. In addition, plans for storm water collection and disposal as well as plans for providing utilities and other services should be clearly stated. This should involve the use of maps at appropriate scales, site plans, aerial photographs and other graphic aids and images, as appropriate.

In terms of beach modification, the proposed works on the foreshore and the floor of the sea must be clearly described including but not limited to any seagrass or coral removal and replanting.

A storm surge analysis must be conducted to inform coastal setbacks of buildings and impact mitigation structures/measures.

For projects to be done on a phased basis it is expected that all phases be clearly defined the relevant time schedules provided and phased maps, diagrams and appropriate visual aids be included.

Task #2. Description of the Environment. /Baseline Studies Data Collection and Interpretation

Describe study area/geographical boundaries, and methodology to be utilized for baseline and other data and the length of the study. This task involves the generation of baseline data which is used to describe the study area as follows:

- i) Physical environment
- ii) Biological environment
- iii) Socio-economic and cultural constraints.

(A) Physical

- i) A detailed description of the existing **soil and geology and geomorphology, landscape, aesthetic values and hydrology**. Special emphasis should be placed on storm water run-off, drainage patterns, aquifer characteristics, effect on groundwater and availability of potable water. Any slope stability issues that could arise should be thoroughly explored.
- ii) **Water quality** of any existing wells, rivers, ponds, streams or coastal waters in the vicinity of the development. Quality Indicators should include but not necessarily be limited to nitrates, phosphates, faecal coliform, and suspended solids.
- iii) **Coastal and Marine** ecosystem, including but not limited to any wetlands including mangroves, seagrass and coral community with indication of its function and value in the project area.
- iv) **Climatic conditions and air quality** in the area of influence including particulate emissions from stationary or mobile sources, NO_x, SO_x, wind speed and direction, precipitation, relative humidity and ambient temperatures,
- v) **Noise levels** of undeveloped site and the ambient noise in the area of influence.
- vii) Obvious sources of existing **pollution** and extent of contamination.
- viii) Availability of **solid waste** management facilities.

(B) Biological

Present a detailed description of the flora and fauna (terrestrial and aquatic) of the area, with special emphasis on rare, threatened, endemic, protected, endangered species. Migratory species wild food crop plants and presence of invasive alien species should also be considered. There may be the need to incorporate micro-organisms to obtain an accurate baseline assessment. Generally, species dependence, habitats/niche specificity, community structure and diversity ought to be considered.

(C) Socio-economic & cultural

Present and projected population; present and proposed land use; planned development activities; issues relating to squatting and relocation; (housing demand and supply) community structure; economic base /employment; distribution of income; goods and services; utilities; recreation; public health and safety; cultural peculiarities, aspirations and attitudes should be explored. The historical importance (heritage, archaeological sites and feature) and other material assets of the area should also be examined. While this analysis is being conducted, it is expected that an assessment of public perception of the proposed development be conducted. This assessment may vary with community structure and may take multiple forms such as public meetings or questionnaires/surveys.

Task #3 – Policy, Legislative and Regulatory Considerations

Outline the pertinent regulations and standards governing environmental quality, safety and health, protection of sensitive areas, protection of endangered species, siting and land use control at the national and local levels. The examination of the legislation should include at minimum, legislation such as the NRCA Act, the Housing Act, the Town and Country Planning Act, Building Codes and Standards, Development Orders and Plans and the appropriate international convention/protocol/treaty where applicable.

Task #4 – Identification and Assessment/Analysis of Potential Impacts

Identify the significant environmental and public health/safety issues of concern and indicate their relative importance.

Identify the nature, severity, size and extent of potential direct, indirect and cumulative impacts (for terrestrial and aquatic environments) during the pre-construction, construction and operational phases of the development as they relate to,(but are not restricted by) the following:

- change in drainage patterns
- flooding potential
- landscape impacts of excavation and construction
- loss of and damage to geological and palaeontological features
- loss of species and natural features
- habitat loss and fragmentation species
- biodiversity/ecosystem functions
- pollution of potable, coastal, marine, surface and ground water
- air pollution
- capacity and design parameters of proposed sewage treatment facility
- Socio-economic and cultural impacts.
- Impact of flooding, loss of natural features, excavation and construction on the historic landscape, architecture and archaeology of the site.
- risk assessment
- noise
- solid waste
- soil
- access to resources such as beaches
- carrying capacity of the proposed site

Identify the interaction between different impacts and impacts of other projects should also be considered. In addition, the impacts that have occurred and those impacts which could still occur as a consequence of the clearing works that were conducted on the site prior to the preparation of the TORs should also be identified and analysed.

Distinguish between significant positive and negative impacts, reversible or irreversible direct and indirect, long term and immediate impacts as well as avoidable and irreversible impacts.

Characterize the extent and quality of the available data, explaining significant information deficiencies, assumptions and any uncertainties associated with the predictions of impacts. A major environmental issue is determined after examining the impact (positive and negative) on the environment and having the negative impact significantly outweigh the positive. It is also determined by the number and magnitude of mitigation strategies which need to be employed to reduce the risk(s) introduced to the environment. Project activities and impacts should be represented in matrix form with separate matrices for pre and post mitigation scenarios.

Task #5 – Drainage Assessment

An assessment of Storm Water Drainage should be conducted. The EIA Report should cover, but not limited to:

- i. Drainage for the site during construction, to include mitigation for sedimentation to the aquatic environment
- ii. Drainage for the site during operation, to include mitigation for sedimentation to the aquatic environment
- iii. Drainage control for the gully traversing the property, to include impacts that this drain will have on the aesthetics, water quality and sedimentation of the beach area, etc.

Task #6 Statement on Energy Conservation

A statement is to be made on strategies that will be used to conserve energy and water in relation to this development.

Task #7 Mitigation

Prepare guidelines for avoiding or reducing (e.g. restoration and rehabilitation), as far as possible, any adverse impacts due to proposed usage of the site and utilising of existing environmental attributes for optimum development. Quantify and assign financial and economic values to mitigating methods.

Task #8 - Environmental Management and Monitoring Plan

Design a plan for the management of the natural, historical and archaeological environments of the project to monitor implementation of mitigatory or compensatory measures and project impacts during construction and occupation/operation of the units/facility. An Environmental Management Plan and Historic Preservation Plan (if necessary) for the long term operations of the site should also be prepared.

An outline monitoring programme should be included in the EIA, and a detailed version submitted to NEPA for approval after the granting of the permit and prior to the commencement of the development. At the minimum the monitoring programme and report should include:

- Introduction outlining the need for a monitoring programme and the relevant specific provisions of the permit and/or licence(s) granted.
- The activity being monitored and the parameters chosen to effectively carry out the exercise.
- The methodology to be employed and the frequency of monitoring.
- The sites being monitored. These may in instances, be pre-determined by the local authority and should incorporate a control site where no impact from the development is expected.
- Frequency of reporting to NEPA

The Monitoring report should also include, at minimum:

- Raw data collected. Tables and graphs are to be used where appropriate
- Discussion of results with respect to the development in progress, highlighting any parameter(s) which exceeds the expected standard(s).
- Recommendations
- Appendices of data and photographs if necessary.

Task #9 - Project Alternatives

Examine alternatives to the project including the no-action alternative. This examination of project alternatives should incorporate the use history of the overall area in which the site is located and previous uses of the site itself. Refer to NEPA guidelines for EIA preparation.

Task #10 Public Participation/Consultation Programme

Conduct a public presentation on the findings of the EIA to inform, solicit and discuss comments from the public on the proposed development.

- Document the public participation programme for the project.
- Describe the public participation methods, timing, type of information to be provided to the public, and stakeholder target groups.
- Summarise the issues identified during the public participation process
- Discuss public input that has been incorporated into the proposed project design; and environmental management systems

All Findings must be presented in the **EIA report** and must reflect the headings in the body of the ToRs, as well as references. Ten hard copies and an electronic copy of the report should be submitted to the National Environment and Planning Agency..

The report should include an appendix with items such as maps, site plans, the study team, photographs, ToR and other relevant information.

(Date to be inserted by the applicant)

Prepared April 2009