TERMS OF REFERENCE:

ENVIRONMENTAL IMPACT ASSESSMENT

for

Coral Springs Housing Development - Trelawny

prepared by:

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for

Gore Developments Ltd

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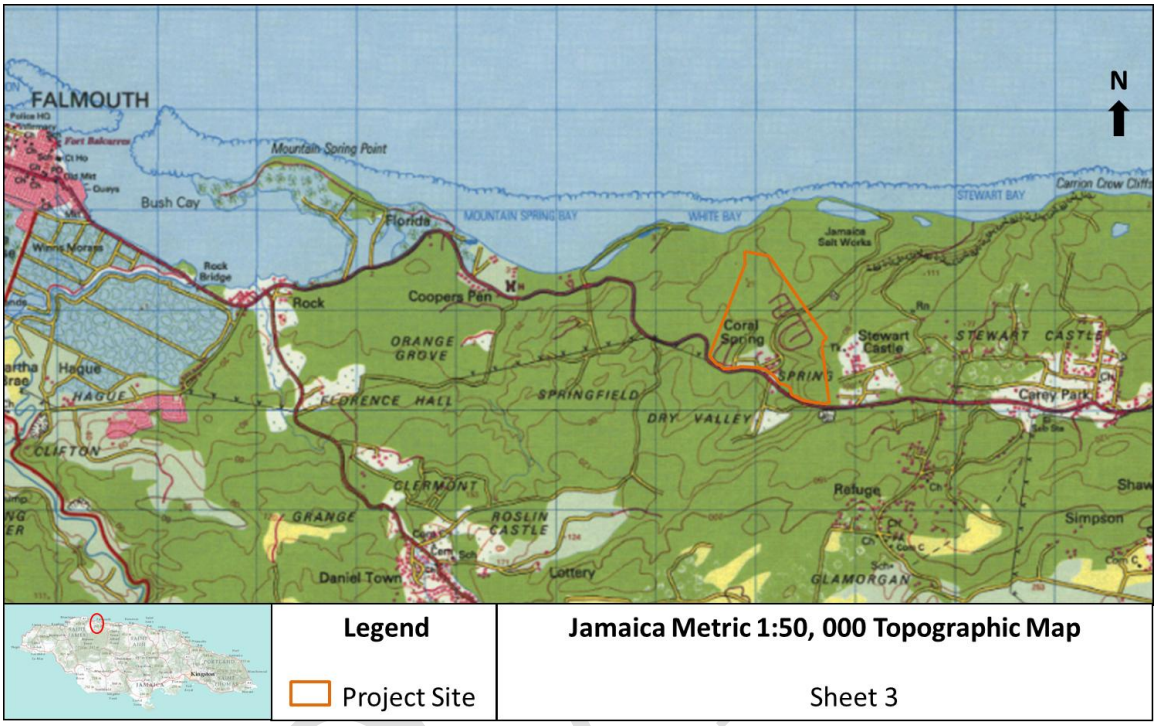
BACKGROUND

Gore Developments Ltd has expressed a desire to establish a residential housing development at Coral Springs, Trelawny.



Further to consultation meetings through the Development Assistance Centre at the National Environment and Planning Agency (NEPA) a Technical Information Document (TID) was issued to the project proponents that indicated that given the location and scale of the proposed development and the sensitivities of existing environmental and ecological systems, and potential for natural hazard impacts, an Environmental Impact Assessment (EIA) would be required to support any decision regarding the proposed development.

A Draft Terms of Reference (TOR) was prepared by ESL following modification of the NEPA Generic TORs (Human Habitation Project) and submitted to NEPA (March 2012). After review of the proposed Draft Terms of Reference NEPA subsequently submitted their own Draft TORs (May 2012).

Following a meeting at NEPA on 18 May 2012 hosted by the CEO, the TORs were discussed, amended and submitted to NEPA. A subsequent review by NEPA requested further changes to the Draft TORs.

1. **Executive Summary**

   This section should allow for a clear, succinct understanding of the project proposal and summarize the significant results of the EIA study, e.g. positive and negative environmental, social and economic impacts, options considered, reasons for selection of the proposed option and the measures to be implemented to prevent or mitigate negative impacts or capitalize on positive impacts.

2. **Introduction**

   Provide the context of the project and the EIA, the delineation and justification of the boundary of the study area, general methodology, assumptions and constraints of the study.

3. **Legal, Policy and Administrative Framework**

   - Outline the pertinent legislation, regulations, policies 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 the relevant international conventions, protocols and treaties where applicable (*inter alia* the Convention on Wetlands of International Importance and the Convention on Biological Diversity).

   - All applicable legislation, regulations, policies and standards in relation to the construction and operation of the development should be highlighted, including but not be limited to other development permits such as Planning and Building**.**

   - Describe traditional land use and prescriptive rights including public access rights**.**

4. **Public Participation and Consultation**

   The proponent should consult with relevant entities and the public throughout the EIA process. Document the public participation. Describe the public participation methods, timing, type of information provided and collected from the public and stakeholder target groups consultations. Instruments used to collect the information must be included in the appendix.

   Summarise the issues identified during the public participation process and discuss the public input that has been incorporated or addressed in the EIA.

Concerns that were raised by the public but not considered in the EIA must be justified.

Public Meetings shall be held in accordance with the Guidelines for Public Presentation at a time and location signed off by the National Environment and Planning Agency (NEPA).

Public meetings shall be held to present the findings of the EIA when it is completed.

5. Comprehensive Description of the Proposed Project

This should include but not be limited to the following:

5.1. The Proponent

This section should provide a description/profile of the company proposing to carry out the development project, profile of principals of the company, and business alliances of the company.

5.2. Project Concept & Description

This section should provide detailed description of the project including but not limited to:

- History and background of the project,
- Site location, site layout,
- Schematic plans,
- Description of project phasing,
- Proposed times of operation of the facilities,
- Construction methods and equipment,
- Construction materials

5.3. Project Infrastructure

Overview of the proposed infrastructure and structural components, including but not limited to the conceptual and preliminary design for:

- water supply & storage
- drainage
- sewage treatment and disposal
- solid waste disposal
- transportation systems
- communications & other utility requirements

5.4. Project Operations & Maintenance

Proposed operations and maintenance activities including but

not limited to:

- equipment and machinery to be involved, and how these will be mobilized
- areas to be used for storage of machinery and material should be clearly indicated
- transportation systems or arrangement pre-, during- and post – construction
- health, safety and security systems

6. Description of the Existing Environment

An inventory and assessment of the natural resources in the study area will be conducted to indicate nocturnal, diurnal, seasonal, and annual conditions based on field studies and secondary data. The source of all data (existing or collected for the study) will be disclosed; who collected the information, when and where. All limitations and assumption made must be clearly stated.

The following aspects will be described in this section:

6.1. Physical

- Historical review of the area should be included
- Soils, geology and hydrology of the area, including but not limited to:
    - geological structure & features – cave, fissures, sink holes, etc;
    - flood impact assessment of the site
    - faults on land and offshore as applicable
    - bearing capacity
    - slope stability
    - permeability
    - assessment of the slopes
- Climate (wind and precipitation), run-off and drainage
- Air quality
- Water quality
- Identify source/s of freshwater, including potable water
- Existing built Infrastructure

6.2. Natural

Identify the potential for natural events to include but not limited to the following:

- hurricanes and storm surges
- earthquakes and tsunamis
- floods and landslides

6.3. Biological

Flora and fauna survey of the area and surrounding environment, detailed qualitative and quantitative assessment, including inventory (list) and distribution (map) of species.

A detailed description with qualitative and quantitative assessment of habitats and communities. Commentary on the ecological health and functions, threats and conservation significance of terrestrial and any significant marine habitats. Species inter-dependence, habitats/niche specificity and community structure and diversity must also be considered.

The field data collected shall include, but is not limited to:

- Species lists and distribution for each community (ecosystem) Migratory species, insects and micro-organisms should also be considered,
- A habitat map of the area

6.4. Heritage & Cultural

Conduct an assessment of the archaeological and cultural assets of the area –

- State whether the site is located in or adjacent to a protected area including heritage sites.

6.5. Social & Economic

- Demography, regional setting, location assessment and current and potential land-use

- Description of existing infrastructure such as transportation, electricity, solid waste disposal; water and telecommunications, and public health and safety, recreational areas both passive and active, schools, commercial/shopping

- Identify all existing resource users (including traditional users) ranging from subsistence utilization of the natural resources to commercial activities

- Public perception of the proposed project inclusive of potential impacts on social, aesthetic, historical and cultural values and any prescriptive rights for usage of the area.

7. Identification and Assessment of Potential Impacts

A detailed analysis of the various project components shall be done in order to identify the potential environmental impacts; negative and

positive, direct and indirect, immediate and long term, reversible and irreversible, of the project at all stages - pre-, during- and post-construction.

The identified impacts must be profiled to assess the magnitude and importance of the impacts. The extent and quality of the available data shall be characterized, explaining significant information deficiencies and any uncertainties associated with the predictions of impacts. The impact must take in account the number and magnitude of mitigation strategies which need to be employed to reduce the risk(s) introduced to the environment. Where possible, impacts must be quantified.

Each project activity or impact is to be assessed and ranked for both the magnitude and importance of the impact and presented in a weighted matrix for all the phases of the project, i.e. preconstruction, construction, and post construction/operational.

The impacts to be assessed shall include but not be limited to the following:

7.1. Physical

The impact of physical activities and elements on the environment are to be addressed:

- activities such as site clearance, earthworks and spoil disposal
- slopes
- source and use of raw natural materials
- land modification/change, e.g., sinkhole, drainage patterns
- operation and maintenance activities
- oil, chemical or hazardous material spills
- solid waste
- trade and sewage effluent; consider impact of proposal to discharge treated effluent in the storm water retention pond and impact on identified workable alternatives
- air quality
- noise
- Surface and ground water quality
- Impact on any supporting infrastructure
- Impact on access routes and transportation infrastructure
- Impact on visual aesthetics
- Impact on landscape

Demand/requirement of the following shall be described and also quantified:

- Water supply
- Drainage
- Sewage treatment and disposal; empirical data must be provided to show that the sewage treatment facility has the capacity to remove the nutrients to meet the National Sewage Effluent Standards;
- Solid Waste Disposal
- Communications and other utility requirements

7.2. Natural Hazard

- Impact of natural hazards: hurricanes, earthquakes, tsunamis, floods, landslides, etc., are to be analysed.

- The natural hazard risk assessments must take into account climate change projections.

7.3. Manmade

Impact of manmade hazards on the environment and on operations of the development.

7.4. Biological

Direct and indirect impact on ecology and on the terrestrial habitats with emphasis on loss of any rare, endangered, and endemic species. This should include habitat loss, loss of special and natural features; and the impact of noise, vibration and light on fauna.

7.5. Heritage & Cultural

Impact on the heritage, archaeological or cultural use of areas identified in the assessment.

7.6. Social & Economic

- Effects on socio-economic status such as changes to public access and recreational use, impacts on existing and potential economic activities, contribution of development of surrounding communities and national economy.
- Safety and security arrangement
- Support staff needs

7.7. Carrying capacity

The impact on the carrying capacity for the proposed development is to be determined. Socio-economic and cultural assessment should examine the adequacy of the social facilities/

amenities in existing communities and impact of the development on them; it should identify the demand that will be created by the development; the facilities that will be required to cater to the demand created by the development should be stated.

8. Cumulative Environmental Impacts

The cumulative environmental impact shall take in account the carrying capacity of the area and the potential impact of related environmental issues.

In assessing the cumulative impacts of the development the EIA should examine possible impacts of the development on the surrounding area, i.e., physical, biological, social, etc.

9. Recommended Mitigation

Mitigation and abatement measures shall be formulated for each potential negative impact identified.

This will also include recommendations for the maximization and enhancement of beneficial impacts, energy conservation and the use of green technology

10. Residual Impacts

Identify any residual negative impacts for which no solution for mitigation has been proposed

11. Identification and Analysis of Alternatives

Alternatives to the site location, project design, scale, conditions of operation and technology shall be analysed including the "no-action" alternative. The 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. These alternatives must be assessed based on the physical, ecological and socio-economic parameters of the proposed site. Justification for the selection of the chosen alternative(s) shall be included.

12. Environmental Management of the Project

12.1. Draft Environmental Monitoring and Management Plans

A draft environmental monitoring and management plan must be developed to detail the monitoring requirements for pre-, during- and post- construction and during the operational phases of the project; will include recommendations to ensure

the documented implementation of mitigation measures and long term minimization of negative impacts and maximization of positive impacts; consideration should include soil erosion management plan based on the quantity of natural vegetation cover which may be removed.

At a minimum the draft monitoring plan shall include:

- Introduction outlining the need for a monitoring programme
- The activities being monitored and the parameters chosen to effectively carry out the exercise
- The methodology to be employed
- The sites being monitored. These should incorporate a control site where no impact from the development is expected
- Raw data to be collected and relevant Tables and Graphs to be used
- The frequency of monitoring and frequency of reporting to NEPA

12.2. Incident Response Plan

A plan for response to considered incident/s during and post construction that may have impact on the environment and or public health shall be prepared as appropriate

12.3. Closure plan

A plan for closure of any proposed plants or system used during construction or during the operations of the development that may have effect on the environment and or public health shall be prepared as appropriate

13. References

14. Appendices:

Appendices shall be included but not limited to

14.1. DAC Correspondence Letter
14.2. EIA Terms of Reference
14.3. Glossary of Technical Terms
14.4. Specific Technical Studies / Reports
14.5. EIA Team
14.6. Water Quality Analytical Methods and Results Certificate
14.7. Species Lists
14.8. Data Tables
14.9. Verbatim Report of Public Meeting
14.10. Instruments used in Community Surveys