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**FINAL AND APPROVED EIA TOR**

**FOR**

**PORT AUTHORITY OF JAMAICA**

**Montego Bay Harbour Dredging Project**

Terms of Reference for Environmental Impact Assessment

The following TOR for the EIA of the proposed dredging works in Montego Bay Harbour are adapted from World Bank and NEPA environmental assessment guidelines. They make reference to NEPA *Guidelines for the Planning and Executing of Coastal and Estuarine Dredging Works and Disposal of the Dredged Materials* and also address specific NEPA requirements for this EIA as given in letters to PAJ dated 21 February 2002 and 8 April 2002.

1. Introduction - Identify the development project to be assessed and explain the executing arrangements for the environmental assessment. Describe the rationale for the development and its objectives. Describe the context for the proposed dredging works in relation to future plans for development of Montego Bay port.
2. Background Information –Briefly describe the major components of the proposed project, the implementing agents, a brief history of the project and its current status.
3. Study Area - Specify the boundaries of the study area for the assessment as well as any adjacent or remote areas that should be considered with respect to the project (e.g. dredged material disposal site/s).
4. Scope of Work - The following tasks will be performed:

Task 1. Description of the Proposed Project - Provide a full description of the relevant parts of the project, using maps at appropriate scales where necessary. This is to include: quality and volume of sediments to be excavated in each area to be dredged; type of dredging equipment to be used and the manner of deployment including handling, transportation, and disposal of dredged material, sediment containment settling and turbidity control measures; alternative dredging methods considered; project schedule; and life span.

Task 2. Description of the Environment - Assemble, evaluate and present baseline data on the relevant environmental characteristics of the study area (and disposal sites), including the following:

- a) *Physical environment: geomorphology, meteorology (rainfall, wind, waves and tides), sea currents and bathymetry, surface hydrology, estuarine/marine receiving water quality, and ambient noise.*
- b) *Biological environment: terrestrial and marine vegetation and fauna, rare or endangered species, wetlands, coral reefs, and other sensitive habitats, species of commercial importance, and species with the potential to become nuisances or vectors.*
- c) *Socio-cultural environment: shipping activities and use of the port, population, land use, planned development activities, employment, recreation and public health, community perception of the development, vulnerable occupants.*
- d) *Hazard vulnerability; vulnerability of area to flooding, hurricanes, storm surge, and earthquakes.*

*Characterise the extent and quality of the available data, indicating significant information deficiencies and any uncertainties associated with the prediction of impacts.*

Task 3. Legislative and Regulatory Considerations - Describe the pertinent legislation, regulations and standards, and environmental policies that are relevant and applicable to the proposed project, and identify the appropriate authority jurisdictions that will specifically apply to the project.

Task 4. Determine the Potential Impacts of the Proposed Project – Identify impacts related to dredging, spoil disposal and possible land filling. Distinguish between significant impacts that are positive and negative, direct and indirect (= triggering), and short and long term. Identify impacts that are cumulative, unavoidable or irreversible. Identify any information gaps and evaluate their importance for decision-making. Special attention will be paid to:

- *Effects of the project (dredging and spoil disposal) on water quality and existing coastal ecosystems and resources with specific reference to the Montego Bay Marine Park and the Bogue Lagoon Fish Sanctuary,*
- *Effects of storm water drainage from proposed spoil disposal sites, including potential for off-site flooding,*
- *Effects of dredging on the coastal stability of adjacent shorelines,*
- *Effects of dredging works on the existing operations of the port, the adjacent yacht club, fishermen, and on the rights/operations of any other stakeholders,*

- *Effects of the project on future port development and the tourism sector,*
- *Effects of the project on maritime, boating and road traffic,*
- *Effects of the project on ambient noise levels, and*
- *Effects of the project on any historical resources.*

Task 5. Analysis of Alternatives to the Proposed Project. – Describe the alternatives examined for the proposed project that would achieve the same objective including the “no action alternative. This includes dredging vessel types and disposal sites. Distinguish the most environmentally friendly alternatives.

Task 6. Mitigation and Management of Negative Impacts – Identify possible measures to prevent or reduce significant negative impacts to acceptable levels with particular attention paid to dredge spoil disposal and dispersal/sedimentation control, as well as measures to minimise disruption to existing port and yacht club operations. Cost the mitigation measures, equipment and resources required to implement those measures. Propose mechanisms for investigating claims for compensation put forward by affected stakeholders.

Task 7. Development of a Monitoring Plan – Identify the critical issues requiring monitoring to ensure compliance to mitigation measures and present impact management and monitoring plan for dredging/disposal operations.

Task 8. Assist in Inter-Agency Coordination and Public/NGO Participation – Identify appropriate mechanisms for providing information on dredging activities and progress of project to stakeholders. Assist in co-ordinating the environmental assessment with the relevant government agencies and in obtaining the views of local stakeholders and affected groups. (It is anticipated that there will be considerable public interest concerning issues of sediment disposal and turbidity with respect to the marine park, and the economic benefits to be derived from the project.)

Report - The environmental impact assessment report, to be presented in digital format, will be concise and focus on significant environmental issues. It will contain the findings, conclusions and recommended actions supported by summaries of the data collected and citations for any references used in interpreting those data. The environmental assessment report will be organized according to, but not necessarily limited by, the outline suggested below.

- *Executive Summary*
- *Description of Proposed Project*
- *Policy, Legal and Administrative Framework*
- *Description of the Environment and Hazard Vulnerability*
- *Significant Environmental Impacts*
- *Impact Mitigation Measures*
- *Impact Monitoring Plan*
- *Inter-Agency and Public/NGO Consultation Process*

- *Appendices/List of References*

**PHR: 14/04/2002**