COASTAL PROTECTION, LANDSCAPING AND INFRASTRUCTURAL WORKS IN MAURITIUS

GRAND BAIE - LE CAPITAINE SITE

CONTENTS

Chapter	Descr	iption	Page	
	EXECUTIVE SUMMARY			
1	INTRODUCTION		1-1	
	1.1 1.1.1	General Need for EIA	1-1 1-1	
	1.2.2	The Project General Coastal Erosion Project Background	1-1 1-1 1-2 1-2	
		The Proponent and Project Team The Proponent The Project Team	1-3 1-3 1-4	
	1.4	Project Implementation Timeframe	1-4	
	1.5.2	Method of Assessment General Phases of Assessment Scoping	1-4 1-4 1-4 1-5	
	1.6	Structure of Report	1-5	
2	LEGAL FRAMEWORK		2-1	
	2.1	Introduction	2-1	
		Legal Framework Environment Protection Act, 2002 Regulations	2-1 2-1 2-2	
	2.3 2.3.1 2.3.2 2.3.3 2.3.4 2.3.5	Policies, Planning Schemes and Guidelines General National Environment Policy National Development Strategy Environmentally Sensitive Areas (ESA) National Forest Policy	2-2 2-2 2-3 2-3 2-3 2-4	
	2.4 2.4.1 2.4.2	International Treaties The Convention on Biological Diversity International Convention and Protocol Signed/Ratified by Mauritius	2-4 2-5 2-5	

	2.4.1	Outline Planning Scheme – Pamplemousses Riviere du Rempart District Council Area	2-6
3	BASEI	LINE ENVIRONMENT	3-7
	3.1 3.1.1	Site Location and Limits Site Context	3-7 3-8
		Site Topography Elevation Datum Horizontal Datum	3-9 3-10 3-10
	3.3	Bathymetry	3-10
	3.4.2 3.4.3	Site Conditions Existing Situation Waterfront Features Existing Protection Structures Historical Features	3-10 3-10 3-11 3-12 3-12
	3.5.2	Utilities and General Infrastructure Power, Potable Water and Sewers Stormwater Drainage Jetty	3-13 3-13 3-13 3-13
		Geology and Geomorphology Geology Site Observations Sediment Sampling and Test Results	3-13 3-13 3-14 3-15
	3.7	Sediment Transport and Morphology	3-15
	3.8 3.8.1 3.8.2 3.8.3	Coastal Hydrodynamics – Baseline Modelling Water Level Tide Levels Climate Change and Sea Level Rise	3-17 3-17 3-18 3-19
	3.9.2 3.9.3	Water Levels Cyclones Wind Waves and Surges	3-20 3-22 3-25 3-26
	3.10	Hydrodynamic Modelling for Grand Baie Le Capitaine Site	3-27
	3.11	Water Quality	3-27
	3.12.2	Biodiversity General Terrestrial Environment Marine Environment	3-28 3-28 3-29 3-29
	3.13	Landscape and Aesthetics	3-30
	3.14	Air Quality	3-30

	3.15	Traffic	3-30	
	3.16	Noise	3-30	
	3.17	Land Ownership	3-31	
	3.18.1 3.18.2	Socio-economic Activities Tourist Industry Fishing Activities Other Activities	3-31 3-31 3-31 3-31	
	3.19.1	Consultation with Stakeholders Ministries and Authorities Public Consultation	3-31 3-31 3-32	
4	PROJ	ECT ALTERNATIVES AND JUSTIFICATION	4-1	
	4.1	General	4-1	
	4.2.3 4.2.4 4.2.5	Functional Requirements (Client's Requirements and ToR) MoE Requirements Stakeholder Requirements Protection against Erosion Maximum Crest Level vis-a-vis Visual Impact Other Requirements Construction Aspects	4-2 4-2 4-2 4-2 4-2 4-2 4-3	
	4.3 4.3.1	Development Options Design Considerations	4-3 4-3	
	4.4.2 4.4.3	Project Alternatives Alternative 1 – Do-nothing Scenario Alternative 2 - Gravel Beach (Flexible Revetment) Alternative 3 - Vertical Seawall Alternative 4 - Rock Revetment	4-4 4-4 4-5 4-5	
	4.5	Approved Scheme	4-5	
	4.6	Adaptability to Climate Change	4-5	
5	PROJ	PROJECT DESCRIPTION		
	5.1	General	5-1	
	5.2.3 5.2.4	Proposed Works and Site Layout Extent of site Site Layout Principal Works Items Landscaping and Greening Stormwater Drainage Measures Overtopping Seawater Drainage	5-1 5-1 5-1 5-1 5-2 5-2	
		Reference Standards and Publications General CUR CIRIA Publications British Standards	5-2 5-2 5-2 5-2	

	5.4	Design Method	5-2
	5.5 5.5.1 5.5.2	•	5-3 5-3 5-3
	5.6.4 5.6.5	Extreme Wave Heights Wave Directions Overtopping Discharge Design Working Life	5-3 5-3 5-4 5-5 5-5 5-6
	5.7	Construction Methodology	5-6
6	IMPA	CT ASSESSMENT AND MITIGATION MEASURES	6-1
	6.1	Methodology	6-1
	6.2.3 6.2.4 6.2.5 6.2.6 6.2.7	Geology and Geomorphology Water Quality Biodiversity Air Quality Traffic Socio-economic Noise	6-3 6-3 6-4 6-5 6-6 6-7 6-7 6-8
	6.3.4		6-8 6-8 6-9 6-10 6-10
7		RONMENTAL MONITORING PLAN	7-1
	7.1.4 7.1.5 7.1.6		7-1 7-1 7-1 7-2 7-2 7-2 7-3
	7.2	Monitoring during Operation Phase	7-3
3	RECO	DMMENDATION AND CONCLUSION	8-1

List of Appendices:

Appendix A : Laboratory Test Results

Appendix B : Marine Flora and Fauna Survey Report

Appendix C : Drawings

List of Drawings:

Location Plan M190/GB-LC/EV/01
Context Map M190/GB-LC/EV/02
Sampling Locations M190/GB-LC/EV/03
Topographic Map M190/GB-LC/EV/04
Proposed Layout Plan M190/GB-LC/EV/05
Typical Cross Section of Rock Revetment M190/GB-LC/EV/06

(Sheet 1 of 2)

Typical Cross Section M190/GB-LC/EV/07

(Sheet 2 of 2)