

Constance La Gaieté Co. Ltd
Camp Manès Residential Development
at St. Rémy, Flacq

ENVIRONMENTAL IMPACT ASSESSMENT

Table of Contents

EXECUTIVE SUMMARY	I
TABLE OF CONTENTS	I
CHAPTER 1: PROJECT BACKGROUND	1
1.1 BRIEF DESCRIPTION	1
1.2 PROJECT JUSTIFICATION	1
1.3 LEGAL, INSTITUTIONAL AND REGULATORY FRAMEWORK	1
1.3.1 MINISTRY OF ENVIRONMENT	1
1.3.1.1 <i>The Environment Protection Act No 19 of 2002</i>	1
1.3.1.2 <i>Regulations under the E P Act 2002</i>	2
1.3.1.2.1 Environment Protection (Standards for Air) Regulations 1998.....	2
1.3.1.2.2 Environment Protection (Standards for Effluent Discharge) Regulations 2001.....	2
1.3.2 MINISTRY OF HOUSING & LANDS	2
1.3.2.1 <i>The National Strategy Policy</i>	2
1.3.2.2 <i>Morcellement Permit</i>	2
1.3.3 THE MINISTRY OF AGRO INDUSTRY & FISHERIES.....	2
1.3.4 FORESTS AND RESERVES ACT 1983.....	3
CHAPTER 2: THE PROMOTER AND PROFESSIONAL SERVICES	4
2.1 THE PROMOTER	4
2.2 THE PROJECT TEAM	4
2.2.1 THE CLG DEVELOPMENT STRATEGY TEAM	4
2.2.2 THE CONSULTANTS AND ADVISERS	4
2.2.2.1 <i>The Project Managers</i>	4
2.2.2.2 <i>The Architect and Planner</i>	4
2.2.2.3 <i>The Civil, Structural and Environmental Engineer</i>	4
2.2.2.4 <i>The Mechanical & Electrical Engineer</i>	5
2.2.2.5 <i>The Land Surveyor</i>	5
2.2.2.6 <i>Soil Investigation</i>	5
CHAPTER 3: THE PROJECT	6
3.1 BRIEF PROJECT DESCRIPTION	6
3.1.1 TIME FOR IMPLEMENTATION.....	6
3.2 THE PROJECT SITE	6
3.2.1 PROJECT SITE LOCATION	6
3.2.2 SITE OWNERSHIP	6
3.2.3 SITE TOPOGRAPHY.....	7
3.2.4 SITE OCCUPANCY	7
3.2.5 SITE CONVERSION	7
3.3 DETAILED PLOT CHARACTERISTICS	7

3.3.1	PLOT SIZE DISTRIBUTION	7
3.4	SITE PREPARATION FOR PROJECT IMPLEMENTATION	8
3.4.1	SITE CLEARANCE.....	8
3.4.2	BULK EARTHWORKS.....	8
3.4.2.1	<i>Topsoil Removal</i>	8
3.4.2.2	<i>Raising of Site</i>	9
3.4.2.2.1	Elevated Groundwater Levels	9
3.4.2.2.2	Calculation of Depth of Fill.....	9
3.4.2.2.3	Extent and Depth of Bulkfill	9
3.4.3	MATERIALS BALANCE OF BACKFILL	10
3.4.3.1	<i>Demolition Wastes</i>	10
3.4.3.2	<i>Imported Backfill Material</i>	10
3.5	PROJECT INFRASTRUCTURE.....	10
3.5.1	ROADS	10
3.5.1.1	<i>Road Types</i>	10
3.5.1.2	<i>Access Roads</i>	10
3.5.1.3	<i>Distribution Roads</i>	11
3.5.2	STORM WATER DRAINAGE	11
3.5.2.1	<i>General Consideration</i>	11
3.5.2.2	<i>Ultimate Runoff Disposal Points</i>	11
3.5.3	WASTEWATER PRODUCTION AND DISPOSAL	11
3.5.3.1	<i>Production Rates and Characteristics</i>	12
3.5.3.2	<i>Quality of Raw Effluents</i>	12
3.5.3.3	<i>Treatment and Disposal of Domestic Effluents</i>	12
3.5.3.3.1	Zoning of Disposal Means.....	13
3.5.3.3.1.1	West of Public Road.....	13
3.5.3.3.1.2	East of Public Road.....	13
3.5.3.4	<i>River Side Plots</i>	13
3.5.4	SOLID WASTES	14
3.5.4.1	<i>Production Rates</i>	14
3.5.4.2	<i>Solid Waste Composition</i>	14
3.5.4.3	<i>Solid Waste Disposal Streams</i>	15
3.6	UTILITIES REQUIREMENTS	15
3.6.1	ELECTRICITY	15
3.6.1.1	<i>Power Requirements</i>	15
3.6.1.2	<i>Electricity Distribution Network</i>	15
3.6.1.3	<i>Existing 22kV HV Line</i>	16
3.6.2	POTABLE WATER.....	16
3.6.2.1	<i>Daily Requirements</i>	16
3.6.2.2	<i>Water Distribution Network</i>	16
3.6.3	TELECOMMUNICATIONS.....	16
3.7	BUS STOPS ON MAIN ROAD	17
3.7.1	RELOCATION OF BUS-STOPS.....	17
3.8	OTHER ENVIRONMENTAL ISSUES	17
3.8.1	PARKING.....	17
3.8.2	PROCESS EFFLUENTS	17
3.8.3	MANDATORY ENVIRONMENTAL CLEARANCES	17
CHAPTER 4: THE PHYSICAL ENVIRONMENT	18	
4.1	INTRODUCTION	18
4.2	SITE GEOLOGY AND PEDOLOGY	18
4.2.1	SITE GEOLOGY	18
4.2.2	SITE PEDOLOGY	18

4.2.2.1	Soil type.....	18
4.2.2.2	Infiltration Rates and Soil Water-holding Capacity.....	19
4.3	REGIONAL HYDROLOGY AND HYDRO-GEOLOGY.....	20
4.3.1	REGIONAL SURFACE HYDROLOGY.....	20
4.3.2	SITE SURFACE HYDROLOGY.....	20
4.3.3	REGIONAL HYDRO-GEOLOGY.....	20
4.3.3.1	Aquifer and Bore holes.....	20
4.3.4	SITE HYDRO-GEOLOGY.....	20
4.4	GENERAL CLIMATIC ENVIRONMENT.....	21
4.4.1	CLIMATOLOGY.....	21
4.4.1.1	Rainfall Regime.....	21
4.4.1.1.1	Cyclonic Conditions.....	21
4.4.1.1.2	Rainfall Intensity-Duration-Return Frequency Distribution.....	22
CHAPTER 5: THE BUILT ENVIRONMENT.....		23
5.1	REGIONAL SETTLEMENTS AND POPULATION.....	23
5.1.1	POPULATION DISTRIBUTION IN PROJECT NEIGHBOURHOOD.....	23
5.1.2	REGIONAL LAND DEVELOPMENTS.....	23
5.2	TOURISM.....	24
5.3	AGRICULTURAL ACTIVITY.....	24
5.4	NEIGHBOURHOOD ACTIVITIES.....	24
5.5	SOCIAL INFRASTRUCTURE.....	24
5.6	SERVICES AND PUBLIC UTILITIES.....	25
5.6.1	ELECTRICITY SUPPLY.....	25
5.6.2	DOMESTIC WATER SUPPLY.....	25
5.6.3	TELECOMMUNICATION.....	25
5.6.4	SEWERAGE.....	25
5.6.5	SOLID WASTE.....	26
5.7	ROAD INFRASTRUCTURES.....	26
5.7.1	MAIN ROADS.....	26
CHAPTER 6: ENVIRONMENTAL MANAGEMENT PLAN.....		27
6.1	INTRODUCTION.....	27
6.2	IMPACTS AT CONSTRUCTION PHASE.....	27
6.2.1	DUST EMISSIONS.....	27
6.2.1.1	Origins of Impact.....	27
6.2.1.2	Impact Receptors.....	27
6.2.1.3	Nature of Impact of Particulate Matter Emissions.....	28
6.2.1.3.1	Health hazards.....	28
6.2.1.3.2	Visibility Degradation.....	28
6.2.1.3.3	Soiling and Wasting Effects.....	28
6.2.1.4	Intensity of Impact.....	28
6.2.1.5	Mitigating Measures.....	29
6.2.2	PHYSICAL/CHEMICAL POLLUTION OF GROUND AND SURFACE WATERS.....	29
6.2.2.1	Nature of the Impact.....	29
6.2.2.2	Intensity of the Impact.....	29
6.2.2.3	Mitigating Measures.....	30
6.2.2.3.1	To limit production of silt/mud loaded effluents.....	30
6.2.2.3.2	To prevent hydrocarbon migration.....	30

6.2.3	NOISE POLLUTION	30
6.2.3.1	Origin of Impact	30
6.2.3.2	Impact Receptors	30
6.2.3.3	Intensity of Impact	30
6.2.3.4	Mitigating Measures	31
6.2.4	PRODUCTION OF SOLID WASTES	31
6.2.4.1	Origin of Impact	31
6.2.4.2	Mitigating Measures	31
6.2.5	INCREASED CONSTRUCTION VEHICLE TRAFFIC	32
6.2.5.1	Nature of the Impact	32
6.2.5.2	Intensity of the Impact	32
6.2.5.3	Mitigating Measures	32
6.3	IMPACTS AT OPERATION PHASE	32
6.3.1	BIOLOGICAL POLLUTION OF SURFACE AND UNDERGROUND WATER	32
6.3.1.1	Nature of the Impact	32
6.3.1.2	Intensity of the Impact	33
6.3.1.3	Mitigating Measures	33
6.3.2	PHYSICAL/CHEMICAL POLLUTION OF GROUND AND SURFACE WATERS	33
6.3.2.1	Nature of the Impact	33
6.3.2.2	Intensity of Impact	33
6.3.2.3	Further Measures	34
6.3.3	INCREASED DEMAND ON ELECTRICITY SUPPLY	34
6.3.3.1	Direct Impacts	34
6.3.3.1.1	Nature of Impacts	34
6.3.3.1.2	Intensity of the Impact	34
6.3.3.1.3	Mitigating Measures	34
6.3.3.2	Indirect impacts	35
6.3.4	INCREASED POTABLE WATER DEMAND	35
6.3.4.1	Intensity of the Impact	35
6.3.4.2	Mitigating measures	35
6.3.5	TRAFFIC INTENSIFICATION	36
6.3.5.1	Nature of the Impact	36
6.3.5.2	Intensity of the Impact	36
6.3.5.3	Mitigating Measures	36
6.4	IMPACTS ON SOCIO-ECONOMIC ENVIRONMENT	36
6.4.1	ACCESS TO OWNERSHIP AND IMPROVEMENT OF QUALITY OF LIFE	36
6.4.1.1	Beneficiaries	36
6.4.2	CREATION OF EMPLOYMENT AND DEMAND FOR BUILDING MATERIAL	36
6.4.2.1	Beneficiaries of the Impact	37
6.4.3	CREATION OF OPPORTUNITY FOR SMALL BUSINESSES	37
6.4.3.1	Beneficiaries	37
CHAPTER 7: ENVIRONMENT MONITORING PLAN		38
7.1	THE ENVIRONMENT MONITORING PLAN	38
7.2	EMP AT CONSTRUCTION PHASE	38
7.3	EMP AT OPERATION PHASE	38
CONCLUSIONS		42
APPENDIX A: CERTIFICATE OF INCORPORATION OF PROMOTER		43
APPENDIX B: NOTARY CERTIFICATE OF OWNERSHIP AND LAND SURVEYOR'S REPORTS		I
APPENDIX C: LAND CONVERSION PERMITS		47
APPENDIX D: SOIL INVESTIGATION REPORT		48

APPENDIX E: PLOT SIZE DISTRIBUTION.....	49
APPENDIX F: WIND ROSES AT FUEL.....	50