



*Ministry of Environment and Sustainable Development*

*Guideline on the Content of an Environmental Impact Assessment for Parceling out of land above 5 ha for residential cum commercial purposes*

This environmental guideline serves as a template for the preparation of a comprehensive EIA report. Copy of this guideline is available at the Department of Environment and on the website of this Ministry at <http://environment.gov.mu>

## **PREFACE**

Environmental Impact Assessment (EIA) is a process and a tool which is used to identify, predict and evaluate both the positive and negative potential environmental impacts of a proposed development. It encourages promoters to take into consideration environmental factors to ensure proper site selection at the very inception stage of a project proposal. It is based on the precautionary principle, sustainability and the preventive approach. EIA should not be perceived as a hurdle for economic development. A project, properly and thoroughly planned, will eliminate obstacles to the project which may give rise to adverse environmental impacts that may be eventually costly to mitigate or control.

This sectoral environmental guideline concerns the content of an EIA report for Parceling out of Land above 5 hectares and is meant to assist proponents and consultants in the preparation of a comprehensive EIA report. It is not exhaustive, but provides the essential structure and the detailed requirements of the EIA report.

Proponents are advised to refer to Part IV of the Environment Protection Act 2002 for necessary information on EIA in general.

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## 1.0 Introduction

### 1.1 Background

Environment Impact Assessment (EIA) is a tool used to identify, predict and evaluate both the positive and negative environmental impacts of a proposed development. It is multi-disciplinary and compares alternatives, including the alternative manner in which the project can be implemented with the least harm to the environment. It aims at the best combination of economic, social and environmental benefits.

As a Small Island Developing State, Mauritius has limited land suitable for development. Most EIA applications for land parceling concern essentially residential development with a few lots for commercial activities such as convenience shops.

The parceling out of land requires infrastructural works. Land clearing and site preparation may impact amongst others on biodiversity, natural habitats and environmentally sensitive areas. The setting up of storm water drains and the provisions for the supply of utilities are associated with dust and noise nuisances, risks of erosion, disposal of sewage from on-site workers and solid waste. The operational phase requires management of solid waste and wastewater, storm water disposal amongst others.

Under Item 34 of Part B of the Fifth Schedule of the Environment Protection Act (EPA) 2002, the parceling out of land above 5 hectares warrants an EIA. The EIA report should contain a true and fair statement and description of the undertaking as proposed and should be in line with Section 18 of the EPA.

A proponent applying for an EIA licence should submit at the Department of Environment (Environment Assessment Division, 2<sup>nd</sup> Floor, Ken Lee Tower, Corner St George and Barracks Street, Port Louis) 15 printed copies of the EIA report and in such additional copies as may reasonably be required by the Director of Environment as well as 2 soft copies in conformity with the Guidelines for Submission of EIA report in Soft Copy Version (Annex 1). A processing fee of Rs 15,000 is currently applicable.

### 1.2 Objective of the Guideline

The objective of this guideline is to assist proponents and consultants in the preparation of a comprehensive EIA report with all the necessary information to enable a proper assessment. It also aims to encourage a consistent approach for a timely processing without the necessity to request for additional information.

*Note: This guideline is by no means exhaustive and should be complemented with the provisions under other relevant Acts and regulations, the Planning Policy Guidance, the ‘Technical Guidelines for Residential Morcellement Development of the Ministry of Housing and Lands, Outline Planning Schemes of the concerned Local Authority.*

## 2.0 Structure and Content of the EIA Report

Cover Page

Table of Contents

Non-technical Summary

Chapter 1- Introduction

Chapter 2- Policy, Legal and Administrative Framework

Chapter 3- Site Description and Surrounding Environment

Chapter 4- Description of the Existing Baseline Conditions

Chapter 5- Project Description

Chapter 6- Categorization and Method for Identification of Environmental Impacts

Chapter 7- Impacts and Proposed Mitigating Measures

Chapter 8- Public Consultation

Chapter 9- Alternatives  
Chapter 10- Environmental Monitoring Plan and Environmental Management Plan  
Chapter 11- Expertise of Consultant/ Consultancy Team  
Chapter 12- Conclusions  
Appendices and Supporting Documents

## Cover Page

This should clearly indicate the title of the proposed project as listed under Part B of the Fifth Schedule of Environment Protection Act; its location; the name of the proponent and consultant / consultancy firm and the date.

On a second page:

- Contact details and address of the proponent;
- Contact person (address, phone / mobile, email and fax number);
- The designated person responsible for the project with name and contact details: address, phone / mobile, email and fax number;
- The name of the consultant/s or consultancy firm responsible for the preparation of the EIA report, as applicable;
- The signature of the proponent or the name and signature of his duly appointed legal representative;
- The signature of all the principal consultants who have prepared or have assisted in the preparation of the EIA report;
- Company Registration Number with Certificate of Incorporation. (as applicable)

## Table of Contents

This should indicate the topics, chapters dealt with in the EIA report, their relevant sections and respective page numbers including tables, figures, acronyms and annexures among others.

## Non-technical Summary

This should give a concise and short overview of the project in simple and non-technical language including its location; the main potential environmental impacts and proposed mitigative measures; any public concerns addressed with conclusions.

## Chapter 1 - Introduction

This chapter should give a brief of the project, its location, scale and scope of works; project's aim, justification; the promoters experience in similar projects.

## Chapter 2 - Policy, Legal and Administrative Framework

**2.1** The proponent/ consultant should ensure that the project is in compliance with relevant plans, policies and enactments applicable to morcellement projects such as the Morcellement Act, Rivers and Canals Act, Forests and Reserves Act, Sugar Industry Efficiency Act.

**2.2** The proponent/consultants should ensure that necessary permits/clearances/authorizations from relevant authorities have been obtained including Land Conversion Permit from the Ministry of Agro-Industry and Food Security and approval/clearance from the Road Development Authority/Traffic Management and Road Safety Unit (as applicable) as well as statement of intent for the supply of utilities from the concerned authorities.

**2.3** Prior to embarking on the EIA, proponents and consultants are advised to:

- Consult the key ministries/authorities concerned to ensure that their requirements are duly taken into consideration to avoid undue delay in processing.**

*Note: Any requirement for a Traffic Impact Assessment will have to be sorted out with the Road Development Authority/Traffic Management & Road Safety Unit.*

- (ii) **Undertake a market survey study so as to design the morcellement layout according to market demand. The layout should take into consideration any future proposals for high rise buildings in conformity with the PPG to avoid any clustering of lots or otherwise any further subdivision of lots.**

**2.4** Proponents should submit proof of ownership of land with copy of the Title Deed or a certificate issued by a notary expressing his opinion as to the owner's title.

### Chapter 3 - Description of Site and Surrounding Environment

This chapter should, *inter alia* address the following:-

- a) Location and extent of the site;
- b) A **Context Map of scale 1:10,000 or as appropriate** along with aerial photographs and/ or satellite images;
- c) Comprehensive **legible Site Location Plan of a scale of 1:5,000 or as appropriate, drawn and duly certified by a Sworn Land Surveyor** with GPS coordinates of the boundaries delimiting the site and appropriate landmarks as reference points. The site location plan should also indicate:
  - The limits of settlement boundary;
  - Existing development/structures on site (if any);
  - Distance from cremation ground (if any)
  - Water bodies (if any);
  - Natural waterways and drainage paths;
  - Cultural and heritage sites (if any);
- d) Existing land use and site constraints;
- e) Description of the site characteristics in terms of soil type, landform, topography (supplemented by 1.0m interval contour map in case the site is slopy), magnitude of slope, slope stability, erosion and risks of landslide (as applicable).
- f) A brief description of the types of flora and fauna on site;
- g) Vulnerability of the site to natural hazard or climate change impacts like storm surges, inundation or flooding.

**This chapter should also give a description of the present socio-economic values of the site and its surroundings.**

### Chapter 4 - Description of the Existing Baseline Conditions

Baseline site conditions are used as a benchmark against which to measure environmental changes following the implementation of a project. Some factors to be considered in describing the baseline environment should, *inter alia*, include the presence of any borehole, river, water table and the respective quality of water.

### Chapter 5- Project Description

The description of the project should address amongst others:

#### 5.1 General Requirements

- a) Details on the type of morcellement, size and scale;
- b) A **Legible Morcellement Layout Plan with contours at appropriate intervals drawn and certified by a Sworn Land Surveyor** indicating the number of lots including any commercial lot and green spaces ,their respective extents and dimensions; the drainage network with final evacuation, road network, width of proposed roads and road reserve, kerb radii, road junction details, culverts, footpath and cycle track;

**Note: The design of the roads, road reserves, drainage networks, footpaths and cycle tracks shall be in accordance with the requirements of the concerned authorities.**

- c) A list of all plot numbers with their respective sizes in a tabular form;
- d) A list of all lots with slopes: less than 10 %, 10 – 20% and above 20% (as applicable);
- e) Extent of commercial lots (as applicable);
- f) Extent and percentage of site earmarked as green space/children's play area;
- g) Availability of statutory services and potable water supply;
- h) Any clearing of vegetation including trees, number of trees/plants to be removed;
- i) Type of wastewater disposal system for morcellement, whether communal type with treatment plant, or individual on site disposal via septic tank/leaching field or connection to sewer network;

*Note: Results of percolation test duly certified by a Registered Professional Engineer in Mauritius or Soil Scientist should form part of the EIA report if on-site disposal of waste water is envisaged. In case the proposed land parceling is to be connected to the sewer network, an indication of the connection points should be provided in consultation with the Wastewater Management Authority. The Promoter /consultant are to liaise with the WMA for the approval of the location and number of trial pits prior to carrying out percolation tests. The WMA will need to be informed at least 3 days before the percolation tests would be carried out as same need to be witnessed by the WMA.*

- j) Details on the design, specification, layout and capacity of the proposed surface water drainage network indicating position of silt traps/hydrocarbon separators/mud arrestors (as applicable) and final evacuation point adequately designed with calculations taking into consideration annual average rainfall, vulnerability of the site to natural hazard, any surges, climate change impacts like sea level rise, risks of inundation and flooding;
- k) Details on the traffic to be generated and proposed mitigative measures;
- l) Proposed implementation schedule.

## 5.2 Eco-friendly Measures and Sustainability

Sustainable urban drainage measures such as porous surfaces, provision of regular soak aways within the drainage network as well as energy efficient street lighting system with LED lamps or solar type. In case of solar lighting system to specify:

- Lifetime, working time and warranty period of battery;
- Lifetime of solar panel;
- Light intensity of bulbs;
- Specifications of bulbs used including energy consumption and light hours;
- Resistance of street lighting system to wind; and
- Maintenance requirements including costs.

## Chapter 6 - Impacts and proposed mitigation measures

Most of the impacts on the environment normally occur during land clearing, site preparation and associated infrastructural works. The proponent/consultant should propose feasible precautionary and mitigative measures to reduce the adverse impacts and enhance the positive impacts.

### 6.1 Green wastes during site preparation.

### 6.2 Noise associated with equipment's and machinery during provision of infrastructure (digging of holes, trenches) and asphaltting.

### 6.3 Dust.

From infrastructural works, digging of trenches (for laying of water pipes, underground electric cables), stockpiled materials.

### 6.4 Air emissions from machinery and vehicles.

**6.5 Solid waste.**

- (i) From on-site workers,
- (ii) Demolition debris (if any),
- (iii) Overburden (excavated spoils, rocks and boulder fragments),
- (iv) Inert construction materials, solidified concrete spills, packaging materials, left overs of electrical cables, pipes amongst others.

**6.6 Wastewater.**

- (i) From on-site workers

All wastewater disposal structures should be in accordance with the provisions under the Rivers and Canals Act.

**6.7 Impacts associated with provision of utilities.****6.8 Impacts associated with construction of roads, drains, footpaths, road reserves and cycle tracks.****6.9 Impacts associated with machinery/equipment/vehicles.**

- (i) Vibration, dust and noise from vehicular movement
- (ii) Risks of spills from fuel storage tank, poorly maintained vehicles.

**6.10 Preservation and upgrading of existing natural drains and water courses.**

Tampering with natural watercourses and drains can give rise to potential risks of flooding of the site and adjoining areas.

**6.11 Erosion and risks of entrainment of sediments.**

Land clearing, leveling and other earthworks may cause erosion. Improper management of excavated spoil may impact on natural or man-made waterways.

**6.12 Slope stability impact.**

The EIA report should propose appropriate measures envisaged to stabilize slopes, as applicable, following geotechnical investigation, to avoid any risk of landslide/slope failure.

**For all impacts mentioned above, the EIA report should indicate the precautionary and mitigating measures to be taken so as not to cause any nuisance to the nearby residents, public and surrounding environment..**

**6.13 Traffic Implications.**

An assessment of the traffic in terms of the impact area, condition and size of roads, number of machineries on site, size of the vehicles to be used, traffic generated by incoming vehicles during site preparation and construction phase should be included.

Detail on any upgrading and construction of access roads to the site.

**6.14 Eco-Friendly Practices.**

These should include, amongst others, use of renewable energy, solar lamps, greening of open spaces and road reserves, provision of landscaped bicycle tracks and other similar facilities.

**6.15 Climate Change Issues.**

A vulnerability assessment with respect to climate change issues such as storm surges (as applicable), flooding, inundation, landslides and other adverse climatic conditions should be provided along with the proposed adaptation and mitigating measures.

## Chapter 7- Public Consultation

The EPA provides for the EIA report to include particulars of any consultation held with the public. The outcome of concerns raised should be addressed in the EIA report. The project should be compatible with the surrounding environment.

## Chapter 8 - Alternatives

The EIA report should provide details on the alternatives considered including the 'no-development or zero development option' and with justifications that the project as proposed is the best alternative with minimal developmental impacts.

## Chapter 9- Environmental Monitoring Plan

### Environmental Monitoring Plan (EMoP)

An Environmental Monitoring Plan (EMoP) is required under Section 18(2) (l) of the EPA. This EMoP is indicative of all the parameters which need to be monitored during the implementation of the project.

**Prior to start of works, a proper EMoP has to be submitted to the Ministry of Environment & Sustainable Development for approval taking into consideration the project as approved the conditions attached to the EIA Licence.**

## Chapter 10- Expertise of Consultant/ Consultancy Team

EIA is multi-disciplinary and requires expertise in different fields. This chapter should indicate the details about the composition of the consultancy team in terms of academic background, experience, area of study, contact details (complete address, phone and fax numbers).

The EIA for land parceling would normally require expertise in the field of: urban planning, land surveying, engineering (environmental, civil); soil science and geology; landscape design amongst others.

## Chapter 11 –Conclusions

This chapter should address the main findings and conclusions justifying the acceptability of the project as proposed in relation to the mitigation of the environmental impacts.

## Appendices and Supporting Documents

These can be, inter alia:

- Copies of clearances/permits obtained;
- Copy of Title Deed and notary certificate; land surveyors plan with PIN number and notary certificate;
- Particulars of any consultation held with the public in the area where the undertaking is to be located;
- Maps and figures;
- Certificate of Incorporation of the company (as applicable);
- Results of soil tests carried out, survey of flora/fauna, results of air and water quality, climatic conditions.

### Note:

**Proponents and consultants are requested to ensure that the EIA report contains all required information as per the Environment Protection Act 2002 and in conformity with the checklist at Annex II of this guideline. In case of any missing information, the DoE reserves the right to refuse the EIA application.**

**The submission of false or misleading information is an offence under Section 85 of the Environment Protection Act.**

## Annex I - Guidelines for submission of EIA Reports in soft copy version

### 1.0 Introduction

As per Section 18(1) (a) of the EPA 2002, proponents applying for an EIA Licence must submit 15 printed copies and two electronic forms of the EIA reports. The objective for the posting of the soft copy version of EIA reports on the website of the Ministry of Environment and SD is to enable users to access the EIA reports in a more user friendly format.

#### Specifications of soft copy version

- 1.1 The soft copy version of the report, which should be identical to the hard copy version, should be submitted in electronic file preferably on a CD.
  - a. The document should be broken into different chapters with each chapter in a separate file. The executive summary also should be treated as a chapter and submitted in a separate file. If a chapter exceeds 50 MB, then it should be further broken down into files of less than 50 MB.
  - b. The table of contents also should be submitted as a separate file.

All the chapters/headings/appendices listed under the table of contents should have proper naming. This is important to allow the user to know which file he/she is accessing.

e .g .Chapter 10-Mitigative measures
  - c. The table of contents should provide links to the different chapters including the executive summary and appendices.
  - d. All filenames must
    - i. be less than 8 characters
    - ii. be in small letters
    - iii. start with a letter

The soft copy version should be page numbered, in the same order as the hard copy and should be submitted in **any one** of the following 2 formats *with security measures so that the document cannot be edited or printed:*

- HTML format
  - PDF format
- 1.1 All html files must be in htm extensions file format. All image files must be in the gif/jpg extension file format.
  - 1.2 The EA section will open the electronic file in the presence of the applicants in order to ensure that the hard and soft copy versions are absolutely the same. In case the soft copy version does not contain documents, which are present in the hard copy version, the applicants would be called upon to fill in a form. Decision to accept or reject the soft copy version would be taken by the EA Division and the applicants would be informed at a later stage.

## Checklist for accepting EIA Application

SN	Particulars	Tick
1	Name, address, contact details of the proponent	
2	Person Responsible: Name, address, contact details	
3	The EIA duly signed by proponent or his legal representative	
4	Letter of appointment of the legal representative (as applicable)	
	(a) The name and address of the consultant/s or consultancy firm	
	(b) Contact person (address, phone/mobile, email and fax number)	
	(c) Qualifications of the consultant/s	
	(d) Expertise/experience in the area of study of all the consultants	
	(e) EIA duly signed by <b>all principal consultants</b>	
5	Contact person: Name, address, contact details	
6	List of Main Directors (in case of a company as applicable)	
7	The Company Registration Number / Business Registration Number (BRN) (as applicable)	
8	Copy of Certificate of Incorporation of the company	
9	EIA report properly binded	
10	No. of printed copies of EIA report (15)	
11	Soft copy in conformity with guidelines for soft copy version (2 copies)	
12	Non-technical Summary	
13	Proof of land ownership (copy of Title Deed / extract of Title Deed / Notary Certificate)	
14	Objective of project	
15	Project justification	
16	Site description and surrounding environment	
17	Extent of land	
18	Distance of site from settlement boundary and nearest residence	
19	Number of similar undertakings in the area (context plan)	
20	A legible context map of scale 1:10,000 or as appropriate	
21	A legible Site Location Plan of a scale of 1:5,000 or as appropriate, drawn and duly certified by a Sworn Land Surveyor with GPS coordinates of the boundaries delimiting the site and appropriate landmarks as reference points indicating limits of settlement boundary; all existing development/structure on site (if any); nearest residential areas/built up environment and any existing development in the vicinity; environmentally sensitive areas (if any) and buffer zones.	
22	Project Description	

23	A Legible Morcellement Layout Plan drawn and certified by a Sworn Land Surveyor indicating the number of plots with their respective sizes and dimensions; the drainage network with its final evacuation, road network and width of proposed roads, entry and exit, road reserve and its width, kerb radii, road junction details, culverts, footpath and cycle track.	
24	A list of all plot numbers with their respective sizes in a tabular form	
25	A list of all lots with slopes: less than 10 %, 10 – 20% and above 20%, in case of steep slopes	
26	Location and extent of commercial lots	
	Location and extent of the green space/children's play area including the percentage (%) of the site extent earmarked as green space to be provided	
27	Availability of statutory services & requirements.	
28	A landscape plan for tree and shrub planting with details on type of plants/trees (shade and street trees) and their maintenance.	
29	Present land use	
30	Flora & fauna	
31	Methodology and scope of works	
32	Implementation schedule/ duration of works	
33	<b>Environmental impacts during site preparation</b>	
	Mitigating measures:	
	Biodiversity	
	Noise	
	Dust	
	Preservation of drains and watercourses (as applicable)	
	Solid waste / demolition waste	
	Wastewater	
34	<b>Environmental impacts during implementation phase</b>	
	Mitigating measures:	
	Biodiversity	
	Fuel spillage	
	Noise	
	Dust	
	Preservation of drains and watercourses (as applicable)	
	Erosion and sedimentation	
	Vibration	
	Slope stability impact	
	Solid waste and construction debris	
	Wastewater	
35	<b>General impacts</b>	
	Mitigating measures:	
	Storm water management	

	Traffic	
	Visual impacts and aesthetics (Measures to be taken for maintenance of unsold lots and green space)	
36	Eco-friendly measures:	
	Renewable energy solar lamps, ,	
	Greening of open spaces and road reserves	
	Provision of landscaped bicycle tracks	
	Socio-economic	
37	Public consultation	
38	Vulnerability assessment with respect to climate change	
39	Adaptation measures with respect to climate change	
40	Environmental Monitoring Plan	
41	Permits and clearances obtained	
	Land Conversion Permit (as applicable)	
	Clearance from Ramsar Committee (as applicable)	
	Clearance from Central Water Authority	