

**Environmental Impact Assessment (EIA) for EMA
Regulatory CEC approval for the 500 Rooms Dreams
and Secrets Luxury Hotel Project, situated at Kilgwyn
Estate, Tobago.**

Submitted to:



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Cover Letter

6th March 2023

FCL Financial Ltd
40 Dundonald Street
Port of Spain, Trinidad

Re: Environmental Impact Assessment (EIA) for Environmental Management Authority Regulatory CEC approval for the 500 Rooms Dreams and Secrets Luxury Hotel Project, situated at Kilgwyn Estate, Tobago

Dear Mr. Lambert,

Optimal Geoscience and Engineering Solutions Limited (OptimalGESL) is pleased to submit this revised Final Draft EIA for EMA Regulatory CEC approval for the 500 Rooms Dreams and Secrets Luxury Hotel Project, situated at Kilgwyn Estate, Tobago.

The Final EIA Report will be finalized and submitted once feedback is received from the EMA as per the public consultation and review process of said EIA report.

If you have any questions, please do not hesitate to contact me at OptimalGESL.

Regards,



Dr. Ryan Ramsook
Director
Optimal Geoscience and Engineering Solutions Limited

Document Control Sheet

<p><i>The purpose of this form is to ensure that documents are reviewed and approved prior to issue.</i></p> <p><i>The form is to be bound into the front of all documents released for the Project.</i></p>		
Project Name	:	Environmental Impact Assessment (EIA) for EMA Regulatory CEC approval for the 500 Rooms Dreams and Secrets Luxury Hotel Project, situated at Kilgwyn Estate, Tobago
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Signing of the Original Document

We, the undersigned, accept this document as a stable work product to be placed under formal change control as described by the Change Control Procedure document.

Revision No.	Date	Prepared by	Reviewed by	Approved by
<i>01 (Revised)</i>	<i>March 6, 2023</i>	<i>OptimalGESL</i>	<i>Dr. Trina Halfhide</i>	<i>Dr. Ryan Ramsook</i>

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I. Executive Summary

The Apple Leisure Group and DSM Investments Limited has acquired 18.725 hectares (46 acres) of land in Kilgwyn Bay, Tyson Hall, southwest Tobago and is desirous of constructing a 500-room resort on approximately 11 hectares (\approx 26 acres) of it.

Secrets Resort (200-rooms) and Dreams Resort (300-rooms) will create a combination of two (2) separate hotel blocks. Each hotel will serve a different clientele, one for adults only and the other for families.

The Resort's two hotels will be in the "5 STARS GRAND LUXURY" category and will be built within the coastal inland area of Kilgwyn Bay. In each case, the two hotels will share the service areas, making the plot ratio of the land and its environmental impact much lower, because operationally they will work as a single hotel and adopting the build with nature (BwN) coastal design concept.

DSM and ALG select a qualified and competent contractor, OptimalGESL, to prepare and submit a comprehensive Environmental Impact Assessment (EIA) to meet the requirements of the Terms of Reference (TOR) developed by the Environmental Management Authority (EMA) en route to securing a Certificate of Environmental Clearance (CEC) for the project.

This proposed development is slated to increase the room offerings of the island, thereby creating jobs and economic benefits, growing the tourist clientele and in the process enhance and diversify the Jamaican tourism product. On the contrary, the potential degradation, loss and adverse effects of natural habitats as well as impacts on the noise climate, air quality and solid waste facilities, are some of the potential negative impacts of the project. This EIA report also provides comprehensive assessment of the potential cumulative impacts associated with the hotel development and its affiliated geographic sphere of influence.

These concerns are highlighted through the stakeholder involvement, public interviews and primary baseline data studies conducted for the purposes of this EIA. The

implementation of the recommended mitigation measures detailed in this EIA, as well as the various environmental management plan (EMP) and monitoring programs, will assist in reducing these negative impacts.

This EIA report consists; An Introduction Chapter and eleven sections (designated 1.0 through to 11.0), references and appendices (Appendices labelled A to E and G to H; there is no Appendix F). A comprehensive Geographic Information Systems (GIS) data base and all other relevant baseline data collected for this EIA are provided as per the TOR guided format for submission to the EMA.

Units of Measure

Meaure	Unit	Symbol
Length	metre	m
	kilometre	km
Area	kilometre squared	km ²
	metre squared	m ²
	hectares	ha
Time	second	s
Amount of Substance	mole	mol
Power	megawatt	MgW
	kilowatt	kW
Temperature	degree Celsius	°C
Luminous Intensity	candella	cd
Mass	kilogram	Kg
	metric tonne	MT
	milligram per kilogram	mg/kg
	microgram per gram	ug/g
Volume	millilitre	ml

Meaure	Unit	Symbol
	litre	L
	gallon	Ga
Sound Intensity	decibels	dB
Concentration	microgram per litre	µg/L
	milligram per litre	mg/L
	parts per million	ppm
Viable Colonogenic Cell Numbers	colony-forming unit per millilitre	CFU/ml
Density	microgram per cubic metre	µg/m ³

Acronyms

Acronym	Meaning
AATT	Airports Authority of Trinidad and Tobago
ALG	Apple Leisure Group
AMR	AMResorts Marketing Panama S. de R.L
APR	Air Pollution Permit
As	Arsenic
ASTM	American Society for Testing and Materials
Be	Beryllium
BH	Borehole
BOD	Biological Oxygen Demand
BTEX	Benzene, Toluene, Ethylbenzene and Xylenes
BV	Bureau Veritas
BwN	Build with Nature
$C_6H_4(CH_3)_2$	Xylenes (isomers and mixture)
$(C_6H_5)_2$	Biphenyl
$C_6H_5C_2H_5$	Ethylbenzene
CBD	Convention on Biological Diversity
CCC	Criteria Continuous Concentration
CCME	Canadian Council of Ministers of the Environment

Acronym	Meaning
Cd	Cadmium
CEC	Certificate of Environmental Clearance
CFL	Compact Fluorescent Lamp
CH ₂ O	Formaldehyde
CH ₃ SH	Mercaptan (as Methyl Mercaptan)
Cl	Chlorine
CMC	Criteria Maximum Concentration
CN	Cyanide
CNG	Compressed Natural Gas
CO	Carbon Monoxide
COD	Chemical Oxygen Demand
Cr	Chromium
CS ₂	Carbon disulfide
CSO	Central Statistical Office
Cu	Copper
CZMP	Coastal Zone Management Plan
DEM	Digital Elevation Model
DIQE	Division of Infrastructure, Quarries and the Environment
DIQUD	Division of Infrastructure Quarries and Urban Development

Acronym	Meaning
DO	Dissolved Oxygen Content
DSM	DSM Investments Limited
EBITDA	Earnings Before Interest, Taxes, Depreciation and Amortization
ECCE	Early Childhood Care and Education
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
EMA	Environmental Management Authority
EMP	Environmental Management Plan
ENSO	El Niño-Southern Oscillation
ESAs	Environmentally Sensitive Areas
ESSs	Environmentally Sensitive Species
F	Fluorine
FAO/UN	Food and Agriculture Organisation of the United Nations
FCL	FCL Financial Limited
FDEP	Florida Departmental of Environmental Protection
Fe	Dissolved Iron
GCF	Green Climate Fund
GDP	Gross Domestic Product
GHG	Greenhouse Gas

Acronym	Meaning
GIS	Geographic Information System
GNSS	Global Navigation Satellite Systems
GOP	Gross Operating Profit
GoRTT	Government of the Republic of Trinidad and Tobago
GPS	Global Positioning System
GRM	Grievance Redress Mechanism
GRP	Grievance Redress Plan
H ₂ S	Hydrogen sulphide
H ₂ SO ₄	Sulphuric acid
HC	Hydrocarbons
HCl	Hydrogen chloride
HEM	n- Hexane Extractable Material
Hg	Mercury
HSSE	Health, Safety, Security and Environment
IATA	International Air Transport Association
ICAO	International Civil Aviation Organisation
IMA	Institute of Marine Affairs
IPCC	Intergovernmental Panel on Climate Change
IRR	Internal Rate of Return

Acronym	Meaning
ISO	International Standards Organization
ISQG	Interim Sediment Quality Guidelines
ITCZ	Inter-Tropical Convergence Zone
IUCN	International Union for Conservation of Nature
KBH	Kilgwyn Bay Borehole
KTW	Kilgwyn Bay Terrestrial Water
LEED	Leadership in Energy and Environmental Design
LED	Light Emitting Diodes
LP	Landscape Site Plan
LPG	Liquefied Petroleum Gas
MEEI	Ministry of Energy and Energy Industries
MJO	Madden-Julian Oscillation
MMPs	Mitigation and Monitoring Plans
MOLSED	Ministry of Labour and Small Enterprise Development
MP	Master Plan
MPD	Ministry of Planning and Development
MPL	Maximum Permissible Levels
MRV	Monitoring, Reporting and Verification
MSL	Mean Sea Level

Acronym	Meaning
NAO	North Atlantic Oscillation
NASH	North Atlantic Sub-Tropical High
NCSD	National Council for Sustainable Development
NDC	Nationally Determined Contribution
NEP	National Environmental Policy
NFPA	National Fire Protection Association
NGOs	Non-governmental Organizations
NH ₃	Ammonia
NH ₃ -N	Ammoniacal nitrogen
Ni	Nickel
NO ₂	Nitrogen Dioxide
NO _x	Oxides of Nitrogen
NPAP	National Protected Areas Policy
NPASP	National Protected Areas Systems Plan
NPCR	Noise Pollution Control Rules
NPDP	National Physical Development Plan
NSDS	National Spatial Development Strategy
ODPM	Office of Disaster Preparedness and Management

Acronym	Meaning
OptimalGESL	Optiml Geoscience and Engineering Solutions Limited
OSHA	Occupational Safety and Health Authority
P	Phosphorus
PAFD	Planning and Facilitation of Development Act
PAs	Protected Areas
PAHs	Polycyclic Aromatic Hydrocarbons
Pb	Lead
PCBs	Polychlorinated Biphenyls
PEL	Probable Effect Level
PM	Particulate Matter
PPE	Personal Protective Equipment
QA	Quality Assurance
QC	Quality Control
RAMSAR	International Convention for the Protection of Wetlands of International Importance, especially as a Waterfowl Habitat
RCC	Reinforced Cement Concrete
RTK	Real Time Kinematics
RTR	Relative Tidal Range
SAL	Saharan Air Layer
Sb	Antimony

Acronym	Meaning
SC	Storm Water Control Site Plan
SCIA	Socioeconomic Community Impact Area
SE	Soil Eorsion and Sediment Control
SO ₂	Sulphur dioxide
SO ₃	Sulphur trioxide
SP	Site Plan
SPAW	Specially Protected Area and Wildlife
SPT	Standard Penetration Test
STP	Sewage Treatment Plant
SW	Sewer Manangement Site Plan
SWM	Solid Waste Management
SWMP	Solid Waste Management Plan
T&CPD	Town and Country Planning Division
TEMA	Tobago Emergency Management Agency
TEQ	Toxic Equivalency
THA	Tobago House of Assembly
TO&G	Total Oil and Grease
TOR	Terms of Reference
TPH	Total Petroleum Hydrocarbons

Acronym	Meaning
TSDf	Treatment Storage Disposal Facility
TSP	Total Suspended Particulate
TSS	Total Suspended Solids
TSTT	Telecommunication Services of Trinidad and Tobago
TTBS	Trinidad and Tobago Bureau of Standards
TTEC	Trinidad and Tobago Electricity Commission
TTMS	Trinidad and Tobago Meteorological Service
UCS	Unconfined Compressive Strength
UNFCCC	United Nations Framework Convention on Climate Change
UP	Utilities Site Plan
USDA	United State Department of Agriculture
USEPA	United States Environmental Protection Agency
VOCs	Volatile Organic Compounds
VR	Valued Receptor
WACC	Weighted Average Cost of Capital
WASA	Water and Sewage Authority
WPR	Water Pollution Rules
WQMP	Water Quality Management Plan
WWTP	Waste Water Treatment Plant

Acronym	Meaning
Zn	Zinc

II. Project Context and Relevance

DMS Investments Limited (DSM) and Apple Leisure Group (ALG) has acquired approximately 18.725 hectares (46 acres) of land in Kilgwyn Bay, Tyson Hall, southwest Tobago and is desirous of constructing a 500-room resort on approximately 11 hectares (\approx 26 acres) of it. This will consist of a combination of two (2) separate hotel blocks utilizing the build with environment design concept; Secrets Resort-200 rooms and Dreams Resort-300 rooms. The development will be onshore based with no infringement on the marine environment and the Kilgwyn Bay Mangrove swamp.

Destination Tobago continues to offer a diverse product of very high quality to its visitors, through its expansive and inclusive nature. The current hotels, attractions and activities has allowed Tobago to deliver on visitor expectations, unequalled visitor experiences and provide value for money.

This development fits into the Governments' and Tobago Tourism Agency drive of increasing tourism arrivals, diversifying the locations of tourism infrastructure and increasing the tourism offerings. With the Governments' drive of increasing tourism arrivals there's a concomitant increase in hotel rooms to accommodate the expected stop over visitors.

The proposed project complies with Vision 2030 and brand story of the Tobago Tourism Agency "**Tobago Beyond**";

"Tobago is the unspoilt, untouched Caribbean island where the undiscovered waits around every corner. What may surprise you more, are the 101 unforgettable activities, authentic experiences and thrilling adventures that take you beyond ordinary. So, what are you waiting for – explore the extraordinary. "

Tobago beyond.

This proposed development will increase the room offerings of the island, thereby growing the clientele and in the process enhance the Tobago tourism product.

III. Introduction and Overview

Optimal Geoscience and Engineering Solutions Ltd (OptimalGESL) was engaged by FCL Financial Limited ('Project Facilitator) on behalf of DSM Investment Limited (DSM) and the Apple Leisure Group to undertake an Environmental Impact Assessment (EIA) en route to Regulatory CEC Approval for the 500 Rooms Dreams and Secrets Luxury Hotel Project, situated at Kilgwyn Estate, Tobago (**Figure I 1**).

The Project site is located on the south-western side of the island of Tobago, within 1.0 kilometer of the Sir A.N.R. Robinson International Airport landing strip (**Figure I 1**). The area is characterized as a nearshore environment linked to an active marine transition zone and encompasses 18.7 hectares of terrestrial/nearshore land space; see illustrative Map, **Figure I 1**.



Figure I 1: The 500 Room Luxury Hotel Project Area, Situated at Kilgwyn Estate, Tobago.

Proposed Project Background

The proposed project involves the construction of an all-inclusive 500 room Hotel. Secrets and Dreams Resorts will create a combination of two (2) separate hotel blocks. Each hotel will serve a different clientele, one for adults only (Secrets 200 Rooms) and the other for families (Dreams-300 Rooms).

The design encompasses; green spaces, covered spaces, paved areas, portable water consumption facilities, waste generation and treatment facilities, infrastructure and utility development, partial removal of vegetation and erection of buildings. All these falls under the following designated activities in accordance with the EMA CEC Rules and Activities as per TOR provided; 8 (a), 8 (b), 9, 11, 31 (a), 33 (b), 40 (a), 40 (b), 41 (a), 41 (b), 41 (c), 42, 43 (b) and 43 (c).

The EMA has determined that it is likely that significant environmental impacts can arise from this proposed project, which required a CEC. As such, an EIA must be undertaken to allow for an informed CEC determination.

Scope of Works for EIA

DSM and ALG select a qualified and competent contractor OptimalGESL to prepare and submit a comprehensive Environmental Impact Assessment (EIA) to meet the requirements of the Terms of Reference (TOR) developed by the Environmental Management Authority (EMA) and secure a Certificate of Environmental Clearance (CEC).

The key services requested to fulfil the EIA are listed below:

- A definition of the Study Area and the area of influence (e.g. social, cultural, environmental)
- Description of Proposed Project
- Description of the Social and Biophysical Environment inclusive of offshore surveys and data collection (water, sediment, benthic, waves and currents)
- Legislative and Regulatory Considerations
- Determination of the Potential Impacts of the Proposed Project
- Ecological Risk Assessment of permitted discharges into the Open marine environment
- Ecological Risk Assessment of permitted discharges into the Nearshore marine and Terrestrial environment
- Analysis of Alternatives to the Proposed Project
- Description of impact assessment methodology, sampling method and description of field work
- Consultation and Public Participation
- Development of a Management and Monitoring Plan

Deliverables

- Completed EIA report as per the TOR
- Hard copies and soft copies as required for review by the client and submission to the EMA for review
- Three hard copies and one soft copy of the approved EIA to the client
- All spatial and mapped data in GIS format

Section IV outlines OptimalGESL' s Execution Plan to achieving the above Scope of Work. OptimalGESL is very familiar with the proposed development area, as in 2021 we conducted the site assessment for the project area which included baseline data for Terrestrial Environment and Nearshore Marine Environment - Land use mapping, topography surveys, drainage mapping, beach sand classification and beach profile surveys for three (3) sites perpendicular to shoreline for the. As such, OptimalGESL has experience collecting terrestrial and marine data within the area of study.

Regulatory Approval Process for Project

The following flowchart outlines the regulatory process which must be followed in order to gain approval and the steps completed.

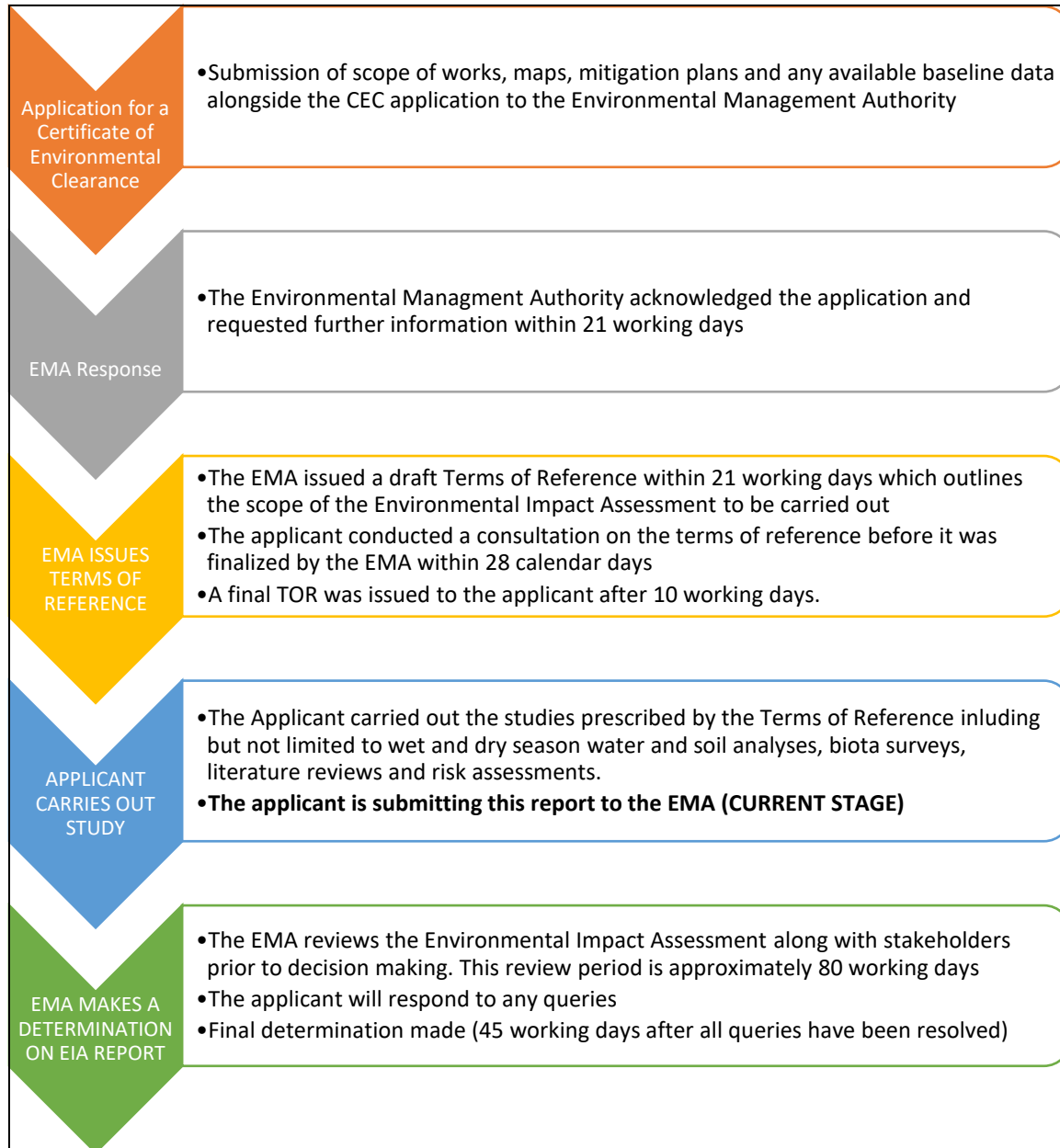


Figure I 2: Regulatory CEC Approval Process for Project.

EIA Work Plan

On the backdrop of the historical regional environmental assessments completed thus far, OptimalGESL' s experience in the Tobago and the EMA TOR, OptimalGESL proposed way forward for attaining Environmental Regulatory Approval ('EIA to CEC') for the 500 Keys Luxury Hotel Project is defined in the following tasks:

- A definition of the study area and the area of influence (e.g. Social, Cultural, Environmental)
- A description of the proposed project
- Legislative and Regulatory considerations
- Description of the Environment (Summarized in **Table I 1** below)
- Determination of the potential Impacts and Mitigation measures
- Construction Contamination Contingency and Emergency Response Plan
- Analysis of Alternatives to the proposed project
- Environmental Management Plans
- Consultation and Public Participation
- EIA Study Report as per the terms of reference

The following outlines a summary approach to the baseline studies (**Table I**):

Table I 1: Environmental Components and Relevant Sources of Data.

ENVIRONMENTAL COMPONENT	SOURCES OF DATA
A. PHYSICAL ENVIRONMENT	
Geology/Soils and Terrestrial Survey	Geotechnical, geophysical and surface and groundwater information will be gathered and presented for the project
Surface and marine Water Quality (If any rivers near to the study area or if any offshore work is to be done)	Sampling and testing to characterize the water quality will be done for both wet and dry season terrestrial and marine environments.
Marine Sediment Type and Quality	Sampling and testing will be done for both wet and dry season. Samples collected will be tested for chemical properties and
Climate	Climatic information (wind and tropical cyclones) will be accessed from generalized
Ambient Air and Noise Monitoring (onshore)	Air and noise will be monitored at a maximum of four locations, upwind and downwind of the project area. This monitoring will be conducted for both noise and air quality over one 24-hour period at

ENVIRONMENTAL COMPONENT	SOURCES OF DATA
Beach Profiles and intertidal survey	Beach profiles will be conducted to establish baseline conditions and monitor the post construction impacts. An intertidal survey will be conducted to determine the baseline benthic macrofauna organisms currently occupying the shoreline of the
B. BIOLOGICAL ENVIRONMENT	
Nearshore Marine and Terrestrial Flora and Fauna	Our description of nearshore marine flora and fauna will be based on a literature survey and a terrestrial survey. A marine survey will be done if
Sensitive Habitats	Our description of sensitive habitats will be based on a literature survey.
C. SOCIO-CULTURAL ENVIRONMENT	
Identification of Resource Users	Resource users will be identified and meetings held to determine the extent of

Established Study Area

Optimal GESL established a study area for this EIA based on an examination of the extent of direct and indirect impacts on the physical, biological and social environments by the proposed project. This included the terrestrial and nearshore marine environment of the Kilgwyn Bay area, the proposed hotel project site and the impact area. Surrounding communities and other onshore locations that can be affected by noise, air emissions or other upset conditions will also be considered in defining the study area. The study area will be comprehensive enough to consider adjacent developments (and proposed developments that are planned within the range of influence of the project site) as well as any commercial activities that may be affected by the proposed project.

The study area within this EIA has been adequately identified and described with accompanying photographs, maps and diagrams at easily understood scales to illustrate the spatial extent of the project and the impact area.

Consulted Sources of Information

The description of the existing environment is presented in **Section 5.0: Description of the Environment**. The baseline description of the physical and biological environment is based on a review of existing data/literature from international and local sources, and the collection of baseline data. A description of the socio-economic baseline conditions for the study area was generated using data collected from primary and secondary sources. A review of existing literature, public consultations and an independent consultation were the data collection methods used in the conduct of this study.

Information for this EIA was gathered using:

- Literature review of existing information available in the public domain, e.g. charts, environmental studies, reports, and publications from government and non-government organisations

- Baseline surveys conducted to understand existing (physical, chemical and biological) conditions and the socio-economic setting of the study area

The baseline surveys conducted were:

- Analysis of ambient air and noise data
- Analysis of seawater chemistry
- Analysis of onshore surface water quality
- Analysis of sediment chemistry and grain size of the nearshore area
- Analysis of benthic macrofauna within the seabed and intertidal zone
- Collection of wave and currents data
- Collection of geophysical data
- Coastal vegetation
- Stakeholder consultations to gather views of the public on the proposed project

Overview and Structure of the EIA

The structure of this EIA report is listed in **Table I 2** below:

Table I 2: Structure of the EIA Report.

Structure of the EIA Report	
Section	Content
Executive Summary	An overview of the report
Units and Abbreviations	A list of the units and abbreviations used in the report
Acronyms	A list of abbreviations of words used in the report
Glossary	A list of terms with accompanying definitions used in the report
Nomenclature	A list of scientific names and symbols used in the report
Table of Contents, List of Tables and List of Figures	A list of chapters and sections, tables and figures provided at the start of the EIA
Introduction and Overview	An overview of project’s objectives, study area and report structure
1.0 Legislative and Regulatory Considerations	This section describes the legislative and regulatory framework
2.0 Institutional and Financial Mechanisms	This section describes the mechanisms that the CEC applicant will utilize to address any impacts resulting from project. These will

	also address any unexpected health and environmental consequences arising out of upset conditions or other unforeseen circumstances during the life of the Hotel Project.
3.0 Description of Project	This section provides a detailed description of the project, including the purpose and need for the proposed project, location of the proposed platforms, drilling activities, pipeline and power cable-laying and storage activities
4.0 Definition of Study Area	Define the proposed site for development inclusive of the wider area within which the proposed activities and operations may have impacts on physical, biological and socio-cultural environments.
5.0 Description of the Environment	This section provides a description of the current environmental and socioeconomic conditions, details of the study area including the proposed sites, together with the wider area within which the proposed drilling, production, pipe-laying and storage activities take place, ensuring that the physical, biological and socio-cultural features that may be susceptible to the impacts of the proposed project are clearly identified and described

<p>6.0 Analysis of Alternatives</p>	<p>This section gives an evaluation of the project alternatives considered, providing a rationale for the preferred option</p>
<p>7.0 Stakeholder Engagement</p>	<p>Public, NGOs, individuals, Government Agencies, focus groups, communities, engagement and feedback.</p>
<p>8.0 Analysis of Environmental and Climate Change Impacts</p>	<p>This section identifies and provides an assessment of those aspects of the project that may have an environmental or socioeconomic impact.</p>
<p>9.0 Mitigation Strategy and Environmental Management Plan (EMP)</p>	<p>The EMP describes the structure and processes that will be applied to activities to check and monitor compliance and effectiveness of the mitigation measures to which ALG and DSM has committed, outlines the monitoring and intervention plan, and addresses the Emergency Response Plan</p>
<p>10.0 Monitoring and Intervention Strategy</p>	<p>Describes the ways in which the impacts of the proposed project are to be monitored and measured and contingency plans and actions to be actioned during all phases of the project</p>
<p>11.0 Conclusion and Recommendations</p>	<p>This section lists the conclusions drawn and recommendations pertaining to the project</p>

References	A list of works cited throughout the report
Appendices	Supporting technical information
Geographic Information Systems	This section outlines the Geographical Information System (GIS) component for the EIA

Objectives

This EIA was carried out to identify and assess (qualitatively and quantitatively) the type and extent of environmental and socio-cultural impacts arising from the proposed project. The report addresses the following requirements and describes strategies for:

- An examination of the environmental and socio-cultural impacts (positive and negative) of this project on the wider community that can potentially be affected;
- The management or mitigation of any significant negative environmental and socio-cultural impacts;
- The evaluation of the cumulative impacts from this proposed project, on-going projects and other planned activities within the proposed area and the surrounding environment;
- An assessment of the risks and hazards associated with all aspects of the proposed project; and
- Monitoring of the proposed mitigation measures, to demonstrate how the desired results might be achieved.

This EIA was therefore prepared with the following objectives:

- To integrate environmental considerations into the project planning and design activities
- To establish the existing environmental conditions before the commencement of the project
- To assess the potential impacts of the project on the environment
- To establish a specific monitoring plan that records the actual impacts from the project
- To provide input into the EMP that will mitigate the potential negative environmental impacts from the project
- To consult with stakeholders (including affected local communities and the wider public), to understand the proposed project and its impacts, record and address their views and concerns
- To serve as a reference document to obtain comments from interested parties including the public and NGOs
- To achieve a high standard of environmental performance for the project
- To obtain environmental regulatory approval for the project in the form of a CEC issued by the EMA

List of Project Preparers and EIA Project Team

Optimal Geoscience and Engineering Solutions Limited (OptimalGESL) has been incorporated in Trinidad as a Limited Liability Company since October 2015. The Company provides consultancy services to both governmental and non- governmental agencies, local and overseas. The company comprises a range of professional skills and includes environmental scientists, marine ecologists, environmental engineers, urban planners, GIS/Cartography experts, Coastal Geomorphologists, Geotechnical Engineers, Geologists, Geophysicists, Mechanical and Electrical Engineers, Civil Engineers, Surveyors, Process Engineers and quality field technician consultants. The team of consultants and scientists associated with OptimalGESL have over 70 years combined experience having worked on numerous environmental projects locally and regionally.

The EIA was managed by Dr Ryan Ramsook who has overall responsibility for overseeing execution of the project. The Project Team, Organization and Responsibilities are outlined in this section; Table I 3. The following plans were developed at the onset of the project and incorporated into a single project management plan:

- HSSE Plans for all activities and phases of the project were developed in collaboration with FCL, following on from a Risk Assessment meeting. OptimalGESL and DSM reviewed and agreed on Emergency Response Plans and Incident Reporting procedures for bridging drafts of documents prior to finalization
- Sampling Plans and method statements were prepared and submitted to DSM for review
- Risk Management Plan – OptimalGESL prepared a Risk Management Plan including identification and assessment of risks to the execution of the EIA and identify appropriate mitigation
- Stakeholder Management Plan

Optimal GESL, Qualified Consultants and Laboratories Project Personnel and Responsibilities

This section identifies the key project personnel, Qualifications, years of experience in the field of Environmental Services and their specific roles and responsibilities, for the execution of the works outlined in the SOW.

Table I 3: Roles, Responsibilities and Qualifications of Persons Involved in EIA Preparation.

Name	Role	Qualification & Years of Experience	Organization
Dr. Ryan Ramsook	Project Manager- Project Management, Liaison with FCL, Stakeholders, Laboratories and EMA	BSc., MPhil and PhD. PG 10 years	Optimal GESL
Dr. Trina Halfhide	Environmental Scientist- Field Sampling, Analysis and Reporting	BSc., PhD. 8 years	Optimal GESL
Dr. Oshaine Blake	Geotechnical, Geophysical, Surveying, Field Sampling and HSSE	BSc., PhD. 6 years	Optimal GESL
Mr. Rupert Green	GIS, integrated Cartography and planner	BSC., MSc. GIS Cert. 8 years	Optimal GESL
Mrs. Jan Thompson	Social and Cultural Liaison	BSc., MSc. 18 years	Optimal GESL
Mr. Kristopher Beaudet	Laboratory Lead and Representative	15 years	Bureau Veritas Laboratory
Kaizen Environmental Services Calgary	Bioavailable Metals Analysis Only	30 years	Kaizen Environmental Services

Name	Role	Qualification & Years of Experience	Organization
Ms. Erin Mangal	Terrestrial and Marine, Biological and Environmental surveys	BSc., MPhil. 10 years	Biosphere Consulting Services Ltd
Mr. Imran Khan	Marine Ecologist & Marine Surveys	BSc., MSc. 12 years	Independent consultant
Mr. Neil Harper	Ambient noise and air quality baseline study	BSc., MSc. 12 years	Equilibrium Environmental services Ltd.
Mr. Mikaiel Dookie	E. Coli and Fecal sample testing	BSc., MPhil. 10 years	Ecotox Environmental Services Ltd.

Document Control

The Project will produce a large quantity of written materials, correspondences, and reports. The document control system will be operated as follows:

- Draft Project reports will be completed by individual environmental scientists and reviewed by a project manager and collated into the final document.

Final Review and Documentation Process

This final project report is a compilation of several independent sections, reports and appendices. Once received by the Project Manager each document should undergo an extensive review and documentation process including:

- Complete document format, for example, correct headings and page layouts
- Technical review of each section for consistency and compliance with Project-specific conventions

- A complete check of references, cross-references, tables and figures
- A complete review of the Project
- Final review and approval by Project Manager

This review process will be managed and documented by the Project Manager. Electronic and paper copies of each report will be archived as they are superseded, and a single current version will be made available for each step of the process. A QA/QC check of the edits and changes incorporated will be completed at each stage of the process. An electronic tracking sheet will be completed for each document stating the dates each step was completed and by whom.

Progress Measurement

Progress for this project is measured by a series of stages/major events and milestones according to the timeline set out in the proposal and agreed upon by the client. Completion of each milestone or major event contributed to percentage job completed, which would be a key factor for progress measurement.