



DEPARTMENT OF THE ENVIRONMENT

ENVIRONMENTAL COMPLIANCE PLAN

PREPARED FOR:

Carmelita Belize Limited
A Residential/ Small Scale Commercial Subdivision

Located near Santa Familia Village, Cayo District

JUNE 2018

ENVIRONMENTAL COMPLIANCE PLAN

For

A RESIDENTIAL AND SMALL SCALE COMMERCIAL SUBDIVISION LOCATED NEAR SANTA FAMILIA VILLAGE IN THE CAYO DISTRICT.

The following are the terms and conditions of the Environmental Compliance Plan (ECP) entered into between **Carmelita Belize Limited**, herein referred to as the 'Developer', and the Department of the Environment (DOE) herein referred to as the 'Department' in respect to a residential and small scale commercial subdivision of Block No. 1 to 11 as shown on Entry No. 12048 Register 12, containing 98 acres of land into 246 residential/small scale commercial lots and 12 open spaces, located on the outskirts of Santa Familia Village, in an area known as Carmelita, Cayo District.

It is agreed by the Developer that the terms and conditions of this compliance plan shall be binding upon **Carmelita Belize Limited**, its servants or agents, successors, or assigns. The terms and conditions embodied in this compliance plan are made pursuant to Regulation 10 (2) of the Environmental Protection Act, 1995 as amended by the Environmental Protection (Amendment) Act of 2009, and all other relevant provisions under the Environmental Protection Act, Chapter 328 of the Substantive Laws of Belize, Revised Edition 2000 – 2003, its amendments and subsidiaries thereof. Environmental Clearance is being granted under strict conditions contained in this ECP, which were developed during the environmental clearance process.

PURPOSE

The purpose of this document is to officially institute best practice measures that would prevent, control and mitigate the environmental degradation that may arise from the project. It must be borne in mind that this Environmental Compliance Plan was prepared based on the best available information on the project proposal and those gathered from the site inspection. The Department of the Environment (DOE) reserves the right to make modifications to this compliance plan, with prior notification to the Developer, as the project develops and more information becomes available.

The Developer agrees to strictly adhere to this document during all stages of the development of the project. The Department of the Environment and other relevant agencies will conduct compliance monitoring. Disregard of the terms and conditions of the compliance plan specified herein may result in the Developers' permits being revoked, legal actions or any other measure deemed necessary by the DOE.

This Environmental Compliance Plan is a dynamic one and may be reviewed and revised from time to time as the project develops and more information becomes available. This ECP has been modified from its original version of September 8, 2010 in light of changes requested by the Developer. The ECP signed on September 8, 2010 has now become null and void with the signing of this modified ECP. This compliance plan does not absolve the Developer from compliance with other relevant regulations and laws of Belize. This Environmental Compliance

Plan is a non-transferable document, therefore it cannot be transferred to any other company, organization or interested party; this ECP was developed for the sole use by Carmelita Belize Limited.

1.0 SPECIFIC ACTIVITIES FOR WHICH CLEARANCE IS BEING GRANTED:

- The subdivision of 98 acres of land into 219 residential lots, 19 small scale commercial lots, 8 community lots, and 12 open spaces.
- Construction of :
 - Garden Homes- 75 units,
 - Village Homes- 54 units,
 - Estate Homes- 28 units,
 - River Garden Homes- 18 units,
 - River Village Homes- 22 units,
 - River Estate Homes- 22 units,
 - Business Garden- 10 units,
 - Business Village- 4 units,
 - Business Estate- 5 units,
 - Civic Building- 8 Units
 - Two swimming pool,
 - Road network, and
 - Community facilities: police, fire, school, post office, health care, community center, chapel, theater, galleries, museums, observatory, garden centers, greenhouses, shade houses, hydroponic facilities, aquaponics facilities, utility facilities, waste management facilities, animal shelter, stables, aviaries, pavilions, docks, recreational centers, sports/fitness facilities, and playgrounds.

2.0 ENVIRONMENTAL RISK ANALYSIS

The Department of the Environment has prepared this environmental risk analysis based on the information on the relevant information gathered by the DOE. This Environmental Compliance Plan (ECP) was then developed to mitigate the potential negative environmental impacts associated with this type of development.

Potential Sources of Environmental Impacts During Implementation of the Project:

- A. Contamination of soil and water resources during and after project development from the following: liquid and solid waste generation, and construction of the necessary infrastructure;
- B. Change of population dynamics arising from the development and its consequential environmental effects;

- C. Land use changes;
- D. Increased traffic in the area;
- E. Possible erosion along the Belize River; and
- F. Possible impacts to surface drainage of the area.

This list is by no means an exhaustive list of potential environmental problems that could arise from the said proposed project.

3.0 ENVIRONMENTAL COMPLIANCE PLAN

Recognizing that the project could have potentially negative environmental impacts, the Developer hereby agrees to take the necessary measures described in the following actions, to mitigate these impacts.

3.01 SUBDIVISION

The Developer will pay careful attention to the quality of the overall design of the subdivision and landscaping of the property. The Developer agrees to abide by the following practices:

- 3.01.1 The overall layout of the subdivision will be in accordance with the Final Approval given by the Lands Utilization Authority.
- 3.01.2 Native plants, along with other horticultural plants will be utilized in the landscaping and replanting, particularly in areas devoid of trees.
- 3.01.3 A sixty-six (66ft) feet reserve will be left in its natural state along the periphery of the Belize River and all other permanent water-bodies. No permanent structure will be allowed within this reserve unless authorized by DOE and the Lands and Surveys Department.
- 3.01.4 The Developer shall ensure that a proper erosion control plan be implemented to prevent further erosion along the banks of the Belize River. A copy of this plan will be submitted to the Department within six months after signing this ECP.

3.02 ROADS AND DRAINAGE

- 3.02.1 Walkways, footpaths and drainage structures will be of adequate size, dimensions and alignment to avoid water logging and constructed in such a way so as to minimize potential erosion.
- 3.02.2 All roads must be designed and constructed in accordance with Ministry of Works standards and in such a manner as to minimize disruption of natural drainage.

- 3.02.3 The Developer will ensure that proper lighting is installed along the roads within the project site.
- 3.02.4 Household drainage pipes will not be allowed to empty directly into any drains or walkways, these pipes shall lead to adequately designed and constructed soak-a-ways or leach fields.

3.03 CONSTRUCTION OF BUILDINGS

Carmelita Belize Limited (the Developer), through a Covenant of Restrictive Codes (CRC), will pay careful attention to the quality of the overall design of the buildings including house type, community facilities, parks and landscaping of the lots. The Developer agrees to abide by the following practices:

- 3.03.1 The Developer will ensure that construction of the building will be carried out with the approval from the relevant agencies, namely the Central Building Authority and the local building authority. This will be achieved via the codes of restrictive covenants (CRC).
- 3.03.2 All buildings will have a minimum elevation of at least five (5) feet above the probable maximum flood level (61.5 m above sea level) and will be built to withstand storm surges of a minimum category two (2) hurricane force winds. (See annex 1 for levels).
- 3.03.3 The Developers will ensure that low lying area prone to flooding is filled as much as possible to reach the PMF level of 61.5 meters above sea level.
- 3.03.4 The construction of the community center will meet standards from the National Emergency Management Organization (NEMO) for hurricane shelters.
- 3.03.5 Buildings will be designed to allow as much natural lighting as possible to minimize the need of electrical lights. Sustainable technologies including solar design practices will be incorporated in the entire development.
- 3.03.6 Included in the CRC will be measures to safeguard against waste (liquid and solid), as well as a condition wherein the purchaser will agree to seek Environmental Clearance for any commercial and industrial activity on any of these lots.

3.04 FRESH WATER RESOURCES

- 3.04.1 The Developer will ensure through a CRC that all residential lots are provided with potable water. Potable water may be provided individually by owners of residential lots or by the Developer through a shared water system. Potable water for all residential lots will be by means of rainwater catchment cisterns and/or groundwater wells.
- 3.04.2 Should there be any need for well water abstraction, the Developer must apply to the National Integrated Water Resource Authority (NIWRA) at the Ministry of Natural Resource and comply with all conditions therein.

- 3.04.3 The main source supply potable water for the development will be through rain water catchment cisterns. In the event that this source is insufficient for the entire development, the Developer shall make arrangements to connect to the existing Santa Familia Village water system.
- 3.04.4 In an effort to conserve fresh water, the Developer will encourage individual property owners to use exclusively low volume flush toilets and other water saving devices.
- 3.04.5 The Developer will develop and implement a Water Quality Monitoring Programme of the Belize River within three months of signing this ECP. A copy of the monitoring programme shall be submitted to the DOE for approval. Testing will be conducted at three sites along the Belize River near the project site. The sites shall be located upstream, downstream and the other along the project site. The first set of analysis will serve as baseline data. During the construction and operational phase, the parameters to be tested will include: **Dissolved Oxygen, Turbidity, Ammonia, Nitrogen, Suspended Solids, Sulphates, Alkalinity, Biological and Chemical Oxygen Demand (BOD & COD), Phosphates, Nitrites/Nitrates, Chlorine, Temperature, pH, and fecal coliform.** Data resulting from this monitoring programme will be submitted to the DOE on a quarterly basis. The Developer will ensure that the results of its water quality monitoring programme are made available on-site at all times for inspection.

3.05 WASTE DISPOSAL

Sewage and wastewater disposal

In an effort to control, reduce and prevent the environmental impacts associated with waste generation and disposal, Daniel Silva agrees to take the following measures.

- 3.05.1 The Developer will ensure through a CRC that all owners of residential lots provide for proper sewage disposal. Proper sewage disposal will be provided individually by owners of residential lots or by the Developer through a shared sewage disposal system. Residential lots not connected to the shared sewage disposal system may consider using adequately sized, cast concrete and steel floated multi-chambered septic tanks equipped with adequately sized leach fields, small scale packaged sewage waste treatment plants or composting toilets.
- 3.05.2 The Developer will ensure that all shared sewage disposal systems be located within a ten-foot setback on residential lots and will not encroach upon roadways or drainage easements.
- 3.05.3 The Developer will secure, in writing, a perpetual utility easement from all residential lot owners connected to the shared sewage disposal system.
- 3.05.4 The Developer will ensure that all shared sewage disposal systems are regularly maintained.

- 3.05.5 Liquid waste from all small scale commercial business will be by means of packaged sewage treatment plants, which complies with the Effluent Limitations Regulations of 1995. The Developer shall ensure that the systems are adequately sized to treat all liquid waste generated by the businesses. The specifications of the treatment systems shall be submitted to the DOE for vetting and approval prior to its installation.
- 3.05.6 Three (3) months after the commencement of operations, the Developer shall conduct water quality testing on treated effluent from the wastewater treatment system and submit such results to the DOE as baseline data within two weeks after completion of testing. Thereafter, water quality monitoring of the treated effluent shall be conducted on a bi-annual basis or as deemed necessary by the Department and the results submitted to the DOE.
- 3.05.7 No pit latrines will be permitted anywhere within the project site.
- 3.05.8 The Developer will ensure through a CRC that regular maintenance of sewage and wastewater facility will be performed to ensure proper functioning of the facility for environmental and other reasons. Special care will be taken in order to avoid contamination of the surface and ground water, and the surrounding environment. In order for this to take place, the following measures will be taken:
- (i) Property owners will not dispose grease and oils into any drain, as this could be a potential source of soil and water contamination. Grease traps are to be installed on each kitchen sink.
 - (ii) Chemical wastes (such as paints, thinners, acids, etc.) will be disposed at a designated site.
 - (iii) No domestic gray water from any household drainage pipes will be allowed to drain into any public or natural drainage system. These pipes will lead to an appropriate leach field.
- 3.05.9 The Developer will ensure through a Covenant of Restrictive Codes that household drainage/domestic wastewater pipes will not be allowed to empty directly into any water body or natural drainage area, or surrounding environs as this could be a potential source of soil and water contamination. These pipes shall lead to separate adequately designed and constructed leach fields.
- 3.05.10 The Developer must ensure that proper pool maintenance is conducted, in this regard the Developer shall submit a copy of the pool management plan including a list of all chemicals intended for use as part of the maintenance to the DOE within three months of the signing of this ECP.
- 3.05.11 Pool water shall be filtered and re-circulated into the pool for further use.

- 3.05.12 In an effort to conserve fresh water resources, the shall consider the use of chlorinated wastewater from the pool and treated wastewater which meets the prescribed standards set forth in the Effluent Limitations Regulations, for irrigation and/or fire protection purposes.
- 3.05.13 No wastewater (including pool water) or treated effluent shall be allowed to discharge directly into any surrounding water body, including the Belize River.
- 3.05.14 The Developer will ensure through a CRC that hazardous waste, chemicals and oils will be stored in a special containment area for transportation and disposal at approved sites by the Department of the Environment.

Solid Waste

To address the problems associated with solid waste, the Developer will develop and implement a comprehensive **Solid Waste Management Plan** for the entire project site. This plan will include, but should not be limited, to the following:

- 3.05.15 The Developer will ensure that regular services are provided for the proper collection, storage, transportation and disposal of solid waste at a designated disposal site approved by the Department.
- 3.05.16 A copy of the agreement between the Developer and an approved Solid Waste Disposal Company will be submitted to the DOE within three (3) months after signing of this ECP.
- 3.05.17 Via the Covenant of Restrictive Codes and Codes of Best Practices, the Developer will require individual property owners to practice the composting of organic wastes. Composting will be undertaken in areas where it will not pose a nuisance to adjacent property owners.
- 3.05.18 Adequately sized garbage storage receptacles must be provided throughout the entire development.
- 3.05.19 All hazardous waste including used batteries and used oil must be properly collected and stored within secure containment areas for transportation to appropriate sites designated by the DOE.

3.06 ENERGY GENERATION

- 3.06.1 The primary source of energy will be provided by means of Solar Electric System. In the event that this source cannot meet the necessary energy demand, the Developer shall connect to the Belize Electricity Limited main power line.
- 3.06.2 Solar panels will be positioned in such a manner so as not to become a hazard due to glaring and the batteries will be stored in properly constructed containment bunds.

- 3.06.3 The Developer will ensure that electrical installations and wiring within buildings conforms to guidelines from Central Building Authority and the Belize National Fire Service.
- 3.06.4 The storage of any bulk fuel (butane, diesel, gasoline, etc.) where applicable, will comply with the guidelines of the Department of the Environment and the Belize National Fire Service.
- 3.06.5 Any accidental spill of oil or fuel will be immediately contained and cleaned and the matter reported to the Department of the Environment as early as possible.

3.07 UTILITIES AND PUBLIC SERVICES

- 3.07.1 Steps should be taken to ensure that the provision of community facilities fit into the government agencies' overall plans for the area and the designs meet the approval of the relevant agencies.
- 3.07.2 No land that has been designated for public purposes will be sold. This includes land allocated for parks, playgrounds, security, fire-stations, schools, churches and archaeological reserves among other uses.

3.08 COVENANT OR RESTRICTIVE CODES

- 3.08.1 The Developer will develop and submit a copy of the Covenants of Restrictive Codes (CRC) to the DOE within three (3) months of the signing of this ECP and the Developer agrees to be the responsible agency for ensuring that individual property owners agree to, sign and adhere to the covenant of restrictive codes and codes of best practices. This covenant of restrictive codes and codes of best practices should incorporate the environmental conditions outlined in this ECP.
- 3.08.2 The CRC must be approved by the Lands and Surveys Department and must be registered at the Land Titles Unit and attached to title documents for all resulting parcels.
- 3.08.3 Through the CRC, the Developer will ensure that prior to construction activities on any commercial lot, the purchasers are informed of the need to obtain necessary licenses/permits from relevant agencies.

3.09 CULTURAL & SOCIAL ISSUES

For a project of this nature, it is important that cultural and social issues be addressed, so as to assist decision makers in achieving sustainable development.

- 3.09.1 All natural features of national/historical significance within the property (i.e. caves/sinkhole, valuable or endangered flora, artifacts) will not be altered during or after the entire development. Should any find be made/ uncovered during construction, it will be reported to the Institute of Archaeology or the Conservation Unit of the Forest Department respectively and the Department of the Environment and the work will stop in the immediate area until formal approval to continue is granted by the respective agencies.
- 3.09.2 As long as there are qualified and available Belizean workers, no labor force will be imported. If this labor force is not sufficient, then only residents and/or foreigners with a valid work permits will be employed.
- 3.09.3 Personnel working on the project premises will be responsible to conduct proper maintenance to ensure a safe, clean, healthy and environmentally friendly operation.
- 3.09.4 All safety and health measures will be observed for all workers. Potable water and proper efficient restroom facilities will be provided during the construction phase. Adequate health services will be provided for guests and employees.

3.10 DISASTER MITIGATION

- 3.10.1 The Developer shall develop and submit Emergency Response plans (Accident, Health Evacuation, Hurricane Preparedness & Evacuation, Flooding, and Fire Protection) to the DOE within three months after the signing of this ECP.
- 3.10.2 The Developer shall ensure that all employees and residents are made aware and trained in all emergency response plans.
- 3.10.3 All units shall have a minimum of one (1) fire extinguisher located at an easily accessible area and two (2) smoke detectors for fire protection purposes.

4.0 IMPLEMENTATION AND MONITORING OF ENVIRONMENTAL COMPLIANCE PLAN

The implementation of this Environmental Compliance Plan (ECP) will be the direct responsibility of **Carmelita Belize Limited** and/or its servants, successors or assigns. The Department of the Environment in conjunction with other relevant agencies shall carry out compliance monitoring to ensure that this Compliance Plan is being adhered to.

- 4.01 During development, measures taken to mitigate negative environmental impacts shall be reviewed to assure compliance with the objectives of the plan. As development continues, the adequacy of mitigation measures shall be assessed and where necessary revised in consultation with the Developer.

- 4.02 To ensure that compliance monitoring is conducted by the Department, with respect to this environmental compliance plan, and to assist in defraying expenses associated with monitoring by the Department, **Carmelita Belize Limited**, its servants or agents, successors, or assigns will pay an annual monitoring fee of one thousand dollars (\$1,000.00) during the construction phase to the Department of the Environment/Government of Belize. This payment shall be payable upon signing the ECP.

REPORTING REQUIREMENTS

- 4.03 The Developer will comply with all of the reporting requirements specified in this Environmental Compliance Plan.
- 4.04 The Developer will also hold periodic meetings with their contractors/staff regarding the implementation of ongoing environmental considerations.
- 4.05 Updated licenses and permits for all relevant activities will be kept at all times. The Developer will assist duly authorized officers in the performance of their duties during site visits, which are in connection with the project's development.
- 4.06 It is the responsibility of the Developer to immediately report any activity that has the potential to negatively impact or may damage or has damaged the environment, whether accidentally or intentionally, to the Department of the Environment and all other relevant agencies.

POST DEVELOPMENT REVIEW

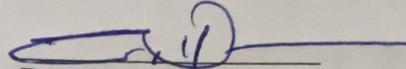
- 4.07 After the construction period, the exercising of sound environmental ethics shall not end, but rather provisions shall be made for the monitoring of all facilities in the post-construction period. A system shall be put in place for reporting negative impacts as well as a means of continually implementing corrective mitigation measures where the need arises.
- 4.08 Additional monitoring will be carried out to ensure that the various pollution control features and facilities installed are functioning and maintained properly.
- 4.09 As previously mentioned, wanton disregard for the conditions agreed upon in this document may result in the revocation of all permits and licenses issued for the implementation of this project and in the imposition of administrative and/or legal penalties.

Carmelita Belize Limited herein agrees to comply with this Environmental Compliance Plan (ECP) and to commence operation of this project within one year from the date of signing this ECP. If this project does not commence within one year from the date of signing this ECP, this document will be null and void. Should this happen, the Developer will need to re-apply for Environmental Clearance and a new plan may be prepared.

SIGNED on behalf of

CARMELITA BELIZE LIMITED

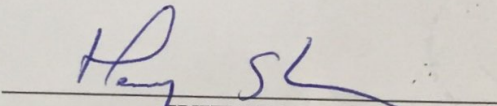
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PHILIP HAHN
DIRECTOR

I, Henry Sanchez, am the attesting witness to the due execution of the said instrument and the signature hereto subscribed as that of such attesting witness is in proper handwriting of the said deponent.

Sworn at the Department of the Environment, Belmopan,

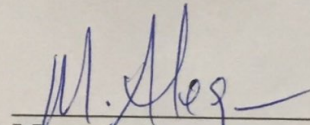
The 29 day of June, 2018.


WITNESS

SIGNED on behalf of the

DEPARTMENT OF THE ENVIRONMENT

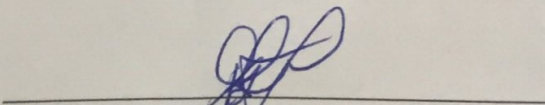
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MARTIN ALEGRIA
CHIEF ENVIRONMENTAL OFFICER

I, Kenneth Avelar, am the attesting witness to the due execution of the said instrument and the signature hereto subscribed as that of such attesting witness is in proper handwriting of the said deponent.

Sworn at the Department of the Environment, Belmopan,

The 29 day of June, 2018.


WITNESS

