

## PROJECT FOR A RESSORT HOTEL IN RUBAVU DISTRICT

### 1. DEVELOPER:

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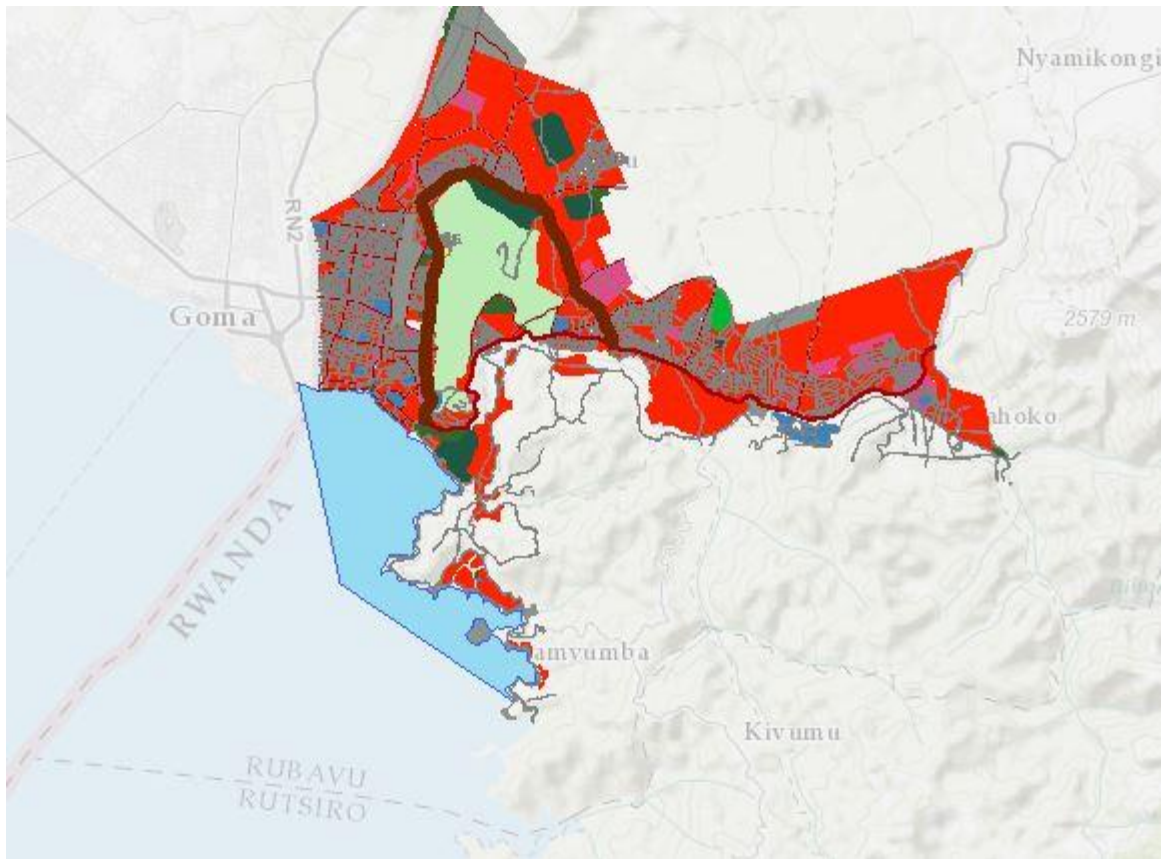
### 2. PROJECT NAME: **RUBAVU RESSORT HOTEL**



## ❖ LOCATION

The plot located on **Plot No: 606** in **Nyamyumba** Sector, **Rubavu** District, city of Rubavu. The plot is found in the commercial zoning, as it is proposed by Rubavu masterplan. The place is highly regarded in Rwanda due to its proximity to the lac KIVU. Its affluent neighbourhood as is contextual nature of the area has encouraged the developer to conceive this project which will be located on natural features. The project is in close proximity to the existing residents with full of infrastructure supply. The project will be an international touristic attraction.





### 3. PLOT SIZE

The overall area of the plot is **35a.52caa**. Rubavu city master plan proposed a new road which will pass on the upper part of the plot. The road to be uploaded will cross the Kivu belt, the developer decided to make a touristic resort hotel, to attract people and making people comfortable in enjoying the Kivu Lake. The developer took advantage of the neighbouring area to make the project feasible. The overall project will be having a bar and restaurant, with outdoor bungalow which will be constructed in phase one. The second phase will be 10 self-contained rooms to accommodate people which will visit the neighbourhood.

### 4. PROJECT DESCRIPTION

#### *Objectives and Nature of Project*

The rate of urbanisation in Rwanda in past years has been increasing at a high level, and the country envisages to accommodate 35% of her population in the cities by the year 2020. Therefore the EDPRS 2008-2013 has set the industry among urban and proper land use throughout the national territory. In order to meet this need of harmonizing the development and meet the anticipated expansion and growth of Rwandan cities the developer plans to develop a resort hotel in Rubavu, in a touristic area where people access water of the lake. Therefore, different facilities have been provided to make people comfortable and make the neighbourhood more vibrant and touristic.

### PROPOSED LAND USE

The project shall have an overall plot coverage of **35a 52ca**, the total built area for the project shall be **599.74m<sup>2</sup>**, this will comprise of the facilities as described below.

<b>Level</b>	<b>Activity ( Per unit)</b>	<b>Total Area (m<sup>2</sup>)</b>
<b>Ground floor plan</b>	<b>Restaurant + kitchen+ Store rooms + beds rooms+ staircases+ office + toilets + Electrical cabinet+ bungalow+ bedrooms</b>	<b>599.74m<sup>2</sup></b>
<b>First floor plan</b>	<b>Bar + beverage+ Store rooms + beds rooms+ staircases+ office + toilets + Electrical cabinet+ bedrooms</b>	<b>512.06m<sup>2</sup></b>
<b>Gross built area</b>		<b>1,024.12m<sup>2</sup></b>
<b>Plot coverage</b>		<b>599.74m<sup>2</sup></b>
<b>Plot ratio</b>		<b>0.16</b>
<b>Green space</b>		<b>2,952.26</b>

<b>ADHERANCE TO RUBAVU MASTER PLAN (COMMERCIAL ZONE)</b>	<b>Required</b>	<b>Provided</b>
Minimum lot size	-	<b>35a52ca</b>
Maximum building coverage	-	<b>1,024.12m<sup>2</sup></b>
Minimum landscape coverage	10%	<b>83%</b>
Maximum floor area ratio	2.4	<b>0.16</b>
Maximum number of floors	-	<b>G+1</b>
Floor to floor heights: Ground floor,	5m Maximum	<b>5 m</b>
Other floors	4m Maximum	<b>4m</b>

**5. Parking:** The project will contain parking for **33** cars

**6. Green space:**

In accordance to the client's desire to provide development that gives a feel of openness and green space for the wealth of the users. For this purpose **2,952.26 m<sup>2</sup>** equivalent to **83.11 %** of plot have been allocated to the vegetation. The green spaces have been taking a great advantage for the users, with temporal structures in the landscape and discarded in the garden to allow views of water and feeling pleasant and health breathing of water.

**Accessibility:**

All areas are easily accessible by foot. Entrance to the building is on road to the ground floor. This will facilitate people with disabilities using wheel chairs to access the building. The building has vertical circulation such as Stairs, and ramp to facilitate the disabled people. The road dedicated to be constructed of kivu belt bridging Rubavu city to Rusizi district.

## **7. Infrastructure Access:**

The site has is directly accesses by the marram roads linking Rubavu city with Rusizi city, which is the main road in the neighbourhood, on side of the main building's entrance , with together with the future road proposed by the master plan to be upgraded, which is the main accessible of the plot a part from water accessible.

**Implementation:** Construction will commence with establishment of a site store/office after which a temporary fence will be erected. Once the site is thus secured the Blocks will be built from the foundation to the roof without the finishes. On completion of the shells of the units, finishes will follow while site works commence. On completion the project will be commissioned and a management unit will then handle the operations of the development.

## **8. Description of all Planned Activities and all Materials to be used**

The project shall employ the tried and tested mode of construction with reinforced foundations and slabs supported by similarly reinforced beams and columns as per calculations done. Walls openings and a hidden roof will complete the building envelop.

### **The materials to be used are:**

**Foundations:** reinforced concrete pads supporting columns, a ground beam linking the columns and supporting the ground slab and a masonry wall infill between columns underground.

**Ground Slab:** a lightly reinforced concrete slab will be supported by, a hard core bed into which small stones will be hand-packed and a marram layer compacted into and also a provision of DPM (Damp Proof Membrane).

**Other Slabs:** will be of reinforced concrete beams and lightweight fired clay hollow pots cast onto temporary timber formwork. The floors will be finished with floor tiles.

**Structural Framework:** will be of reinforced concrete cast into temporary timber framework.

**Walling:** the external walls will be made of volcanic stones and fired bricks on site using a manual block-making machine. These blocks will be bonded with mortar. In wet areas the walls will be tiled, all other areas will have wall master applied.

**Ceilings:** The ceilings on the ground floor, will be in natural finish of bamboo weaving, the upper ground floor will be of hardwood and wood trusses exposed and will allow for concealing the network of service conduits.

**Openings:** The main doors to the houses will be frosted glass aluminium casement, while the interior doors will be made of well dried mahogany panels. Windows will be of aluminium frames with 6mm thick tinted glass to reduce heat gain.

**Electricals:** the standard electrical cabling will be taken through PVC channels. All lighting fixtures will be energy saving.

**Plumbing:** all water including grey and black shall be channelled through approved PPR pipes. Water storage tanks will be installed at the lower basement levels of the building. Ground water will be channelled to the main drain channels that are planned for the area. The channels leading water to it will be of mass concrete.

**Site Works:** There shall be no boundary wall for around the project except appropriate retaining walls (concrete) in specific points to allow for circulation within the plot. The driveways to the parking will be paved with paving blocks and bounded by painted concrete kerbs. Landscaping will consist of green grass, selected trees and small monuments along walkways. Night lighting will be via solar powered lights.

## **9. Compliance of Development to Laws, Regulations and Policies**

**Materials:** as described above, the materials to be used are all approved by the Rwanda Bureau of Standards.

**Construction Technology:** the techniques to be used is of putting materials together conform to accepted principles.

**Safety during Construction:** the building will have available, as required, fire-fighting equipment as well as a first aid kit for up to 10 people on site.

**Safety after Commissioning:** as a multi-user development we will have fire-fighting and first aid equipment at strategic locations in case of emergency. All spaces will have access to a fire escape route and stair.

**Parking:** There shall be 33 parking lots in the project.

**Ground Coverage:** The Building covers around 16.89 % of the plot.

## 1. MITIGATION OF LIKELY NEGATIVE IMPACTS

Possible Impacts	Mitigation measures
Soil erosion	<ul style="list-style-type: none"> <li>Control earthworks, with Major earth works on the site will be confined to only the sections where the extension will be constructed.</li> <li>Install drainage structures properly.</li> <li>Ensure management of excavation activities.</li> <li>Landscaping.</li> </ul>
Air pollution	<ul style="list-style-type: none"> <li>Stockpiles of earth should be sprayed with water or cover during dry seasons.</li> <li>Provide dust masks for the personnel in dust generation areas</li> <li>Sensitization of the construction workers</li> </ul>
Noise pollution	<ul style="list-style-type: none"> <li>Sensitize workforce including drivers of construction vehicles.</li> <li>The machinery and vehicles be fitted with noise reducing equipment.</li> <li>Install sound barriers for pile driving activity.</li> <li>Install portable barriers to shield compressors and other small stationary equipment where necessary.</li> <li>Maintain all equipment as per the manufacturer standards and requirements.</li> <li>Workers in the vicinity of high level noise to wear safety and Protective gear.</li> </ul>
Dust Generation	<ul style="list-style-type: none"> <li>Spray stock piles of earth with water.</li> <li>Avoid pouring dust materials from elevated areas to ground</li> <li>Cover all trucks hauling soil, sand and other loose materials to and from the site.</li> <li>Provide dust screen where necessary.</li> </ul>
Visual Intrusion	<ul style="list-style-type: none"> <li>The project shall employ the use of glass block walling which are translucent thereby only transmitting day lighting but prevent direct view towards the neighbouring properties.</li> </ul>
Exhaust Emissions	<ul style="list-style-type: none"> <li>Vehicle idling time shall be minimized</li> <li>Alternatively fuelled construction equipment shall be used where feasible</li> <li>Equipment shall be properly tuned and maintained</li> </ul>
Water sources	<ul style="list-style-type: none"> <li>Management of water usage. Avoid unnecessary wastage of Water.</li> <li>Avail storage tanks.</li> <li>Harvesting of rain water</li> <li>Installation of water saving faucets and toilets</li> </ul>



Waste Water	<ul style="list-style-type: none"> <li>• Having a septic tank of 60 users</li> </ul>
Site cleanliness and sanitary facilities	<ul style="list-style-type: none"> <li>• Special attention shall be paid to the sanitary facilities on site.</li> <li>• Garbage shall be disposed of periodically and through authorized organizations.</li> </ul>
Road safety	<ul style="list-style-type: none"> <li>• Road signs on main roads leading to and out of the site.</li> <li>• Enforce speed limits for construction vehicles.</li> <li>• Provide a canopy barrier for the pedestrians walking near the site.</li> </ul>
Safety	<ul style="list-style-type: none"> <li>• Erect a perimeter wall around the project site to restrict unauthorized entry at all times during the construction.</li> <li>• The site should be completely sealed off and warning signs erected informing the general public to keep off the construction site.</li> </ul>
Public health and occupational safety	<ul style="list-style-type: none"> <li>• Ensure proper solid waste disposal and collection facilities during the construction and operation stages</li> <li>• Provision of Dustbin at all levels and business operations.</li> <li>• Ensure dustbin cubicles are protected from animals, rains and are well covered.</li> <li>• Provide suitable safety gear for all personnel.</li> <li>• Proper treatment of waste water and recycling of the same</li> </ul>
Fire hazards	<ul style="list-style-type: none"> <li>• Acquire firefighting facilities</li> <li>• Sensitize workers on fire safety</li> <li>• No storage of flammable substances on site</li> <li>• Keep well stocked first aid box</li> <li>• Proper handling and use of tools and machinery</li> <li>• Designate water storage tanks for fire fighting</li> <li>• Provide fire exits</li> <li>• Fire assembly point</li> </ul>

## 10. Likely Environmental Impact after commissioning and Mitigation Measures

**Generation of Solid Household Waste:** as usually happens, garbage will be generated from the units. All users will be issued with collection bags which when full will be deposited in a central location for collection by an approved collector and disposer.

## 11. Alternatives Considered for Siting, Technology, Construction and Operation Procedures

**Siting:** No options were considered as the site is ideal for the specified purpose.

**Technology:** The developers are exploring the costs involved in supplementing Mains Electricity with solar panels. If feasible, this will be implemented over the life of the project. A sewage treatment plant that recycles water for re-use will be installed to supplement water from the Mains for use in the toilet.

## 12. Attachments: Drawings of the proposed **RESSORT HOTEL IN RUBAVU DISTRICT**