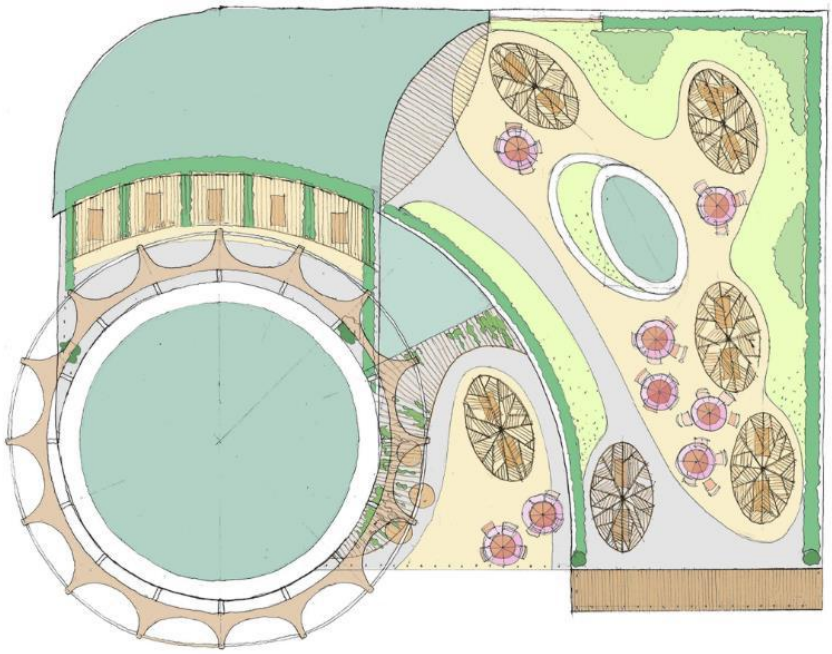
ENVIRONMENTAL & SOCIAL IMPACT ASSESSMENT STUDY REPORT FOR THE PROPOSED MIXED USE DEVELOPMENT (HOTEL & HOTEL APARTMENTS) ON PLOT NAIROBI/BLOCK 146/ 206 & 207 IN LANGATA SUB-COUNTY, NAIROBI CITY COUNTY



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LEAD ESIA EXPERTS **MUNYUA A. MWENGA & FRED ARONYA**	**PROPONENT** **The View by the Park Ltd** **P.O BOX 714232-00100, NAIROBI.**

DECEMBER 2024

PROJECT FACT SHEET

Project Name	The View
Proponent	The View By The Park Ltd KRA PIN: P052328307B
Report	Environmental & Social Impact Assessment Study Report
Project components	1. Hotel - 170 rooms 2. Hotel Apartments- 126 units 3. Retail space 4. Car parking - 177 slots
Project Cost Estimate	Ksh. 1,308,563,100/=
Project site & Footprint	Plot numbers: NAIROBI/BLOCK 146/206 & 207 Langata Sub-County, Nairobi County Built up area 57,700m^2 Plot acreage 0.2664 Hectares (0.6583 acres)

ESIA TEAM

Munyua A. Mwenga	Team Leader
Fred Aronya	Environmentalist
Wafula J. Otiato, Phd	Social Scientist
Martin Mamboleo	Environmental Economist
Isiaha Wafula	GIS specialist

DOCUMENT AUTHENTICATION

This ESIA Study Report has been prepared in accordance with the Environmental Management and Coordination Act (EMCA) 1999 (Rev. 2015), and the Environmental (Impact Assessment and Audit) Regulations for submission to the National Environment Management Authority (NEMA). We the ESIA Lead Experts and the proponent certify that the particulars given in this report are correct to the best of our knowledge.

Prepared by:

Signed: _____

Date:_____

Munyua A. Mwenga
LEAD EXPERT NEMA REG.NO 0340

Signed: _____

Date:_____

Fred Aronya
LEAD EXPERT NEMA REG.NO 0668

PROPONENT

The View by The Park Limited
P.O Box 714232-00100
Nairobi.

Signed:…… Date: ……

NON – TECHNICAL SUMMARY

The View by the park Limited intends to put up a mixed-use development consisting of a Hotel & Hotel Apartments on a 0.6583-acre parcel of land in South C overlooking the southern bypass and Nairobi National Park. Its design is intended to aesthetically mark the land and the skyline of the expanding Nairobi city. This report chronicles the likely environmental concerns in relation to the project proposal & safeguards to guarantee sustainability. The preparation of the report involved: environment screening, scoping, stakeholder engagements and field surveys.

The project is envisaged to embody benefits related to creation of direct and indirect employment opportunities during construction phase, provision of a market for construction materials & development of modern hospitality facility. However, the proposed project will have some potential negative impacts primarily during the construction phase. Some of the anticipated negative impacts & attendant safeguards in the construction and operational phases are summarised in tables 1& 2 below:

Summary Table 1: Anticipated impacts and mitigation measures for construction phase

Impact	Proposed Safeguards
Construction material extraction & use	1. Availability and sustainability of the materials extraction sites as they are non-renewable in the short term 2. Source building materials from certified suppliers
Safety & integrity of building during construction	3. Comply with the National Construction Authority Act, No. 41 of 2011 4. Comply with applicable Labour Laws e, g. the Occupational Safety and Health Act, 2007; the Work Injury Benefits Act, 2007, etc 5. Use of appropriate construction materials and reinforcements as per specifications 6. Close supervision of construction works 7. Proper supervision & material testing regime
Increased traffic flow & road safety concerns during construction	8. Implement a traffic management plan for the proposed development 9. Erect appropriate road safety signage 10. Deploying adequate traffic marshals. 11. Provide adequate construction parking allocation within the project site
Site excavation leading to site disturbance	12. Consult Nairobi City County (NCC), NCWSC, KPLC and Telkom Kenya Limited on the presence of pipes & utility cables 13. Appoint safety supervisor and stabilize excavations to prevent caving in 14. Dumping of excavated materials to sites approved by NEMA and the county government
Noise pollution & excessive vibration	15. Carryout regular monitoring of noise levels during construction phase 16. Comply with EMCA Noise Pollution & Excessive Vibration Regulations, 2009 17. Construction work to be confined to between 8am to 5pm 18. Ensure use of earmuffs and earplugs by machine operators and workers in noisy areas 19. All workers shall be trained and provided with PPEs such as helmets, earmuffs, dust mask, etc. which will always be used when operating within the site area 20. Safety signage shall be erected at the construction site entrance to notify of the construction activities and timings
Air pollution, particulate matter & dust emission	21. Cover all trucks hauling soil, sand and other loose materials 22. Avoid open air burning of waste such as paper and plastic containers at the construction site

Impact	Proposed Safeguards
	23. Onsite dirt piles or other stockpiled material should be covered, wind breaks installed, water and/or soil stabilizers employed to reduce wind-blown dust emissions 24. All workers at the construction site and visitors exposed to dusty conditions must be provided with dust masks and other PPEs 25. Raw materials where possible must be sourced as close as possible to the construction site thus reducing the emissions from vehicular traffic 26. Regular and prompt maintenance of construction machinery and equipment to minimize generation of hazardous gases 27. Institute appropriate dust suppression measures such as regular sprinkling of water on dusty access roads; speed limits; etc.
Occupational Safety & Health	28. Register the construction site with Department of Occupational Safety and Health Services (DOSHS) 29. Comply with applicable Labour Laws e,g. the Occupational Safety and Health Act, 2007; the Work Injury Benefits Act, 2007,etc 30. Staff awareness creation on safety and health issues 31. Have trained First Aiders and fully equipped First Aid box on site 32. Provide and ensure proper use of personal protective equipment i.e. safety boots, helmet, goggles, and hand gloves 33. Proper supervision of works
Public Safety & Health	34. Hoarding / fencing of the construction site to prevent unauthorized people accessing the site 35. Enforce speed limits for trucks and vehicles delivering construction materials 36. Proper signage and warning to public of heavy vehicle turning 37. The contractor to abide by ESIA licensing conditions
Solid waste generation	38. Comply with EMCA Waste Management Regulations 2006 39. Efficient use of building material to reduce waste and recycling/reuse where feasible 40. Provision for waste receptacles / bins at strategic places within the site 41. Segregation of waste at the source during the project cycle 42. Use of an Integrated Solid Waste Management System (ISWMS); through a hierarchy of options: source reduction, recycling, composting and reuse, will facilitate waste handling during operation/occupation phase
Sewerage & wastewater management	43. Comply with EMCA Water Quality Regulations, 2006 44. For waste management prevent the contamination of surface or subsurface water 45. Proper decommissioning of the sanitary facilities shall be carried out once construction is complete 46. Provision of adequate and appropriate sanitary facilities for the workers & vistors 47. Regular monitoring of sewer line to ensure proper working conditions 48. Servicing of machinery & equipment to be done at a designated places with a paved surface and oil interceptors
Increased water demand & consumption	49. Undertake a water needs analysis for the project 50. Set up water reservoirs to buffer against erratic supplies & reduce competition for resource with other users 51. Prompt detection and repair of all the water fixtures and fittings to reduce water wastage 52. The contractor shall use water bowsers and tankers to bring in water for construction activities i.e., during periods of high-water demand (i.e., during slab formation).

Impact	Proposed Safeguards
	53. Use water efficient appliances and fixtures for conservation of water during the project cycle
Emergence & spread of social vices	54. Installation of security lighting in and around the project site 55. Use of local labour force as far practical to avoid construction of a labour camp 56. Conduct periodic sensitization forums for employees on ethics, morals, general good behaviour and the need for the project to co-exist with the neighbours 57. Ensure enforcement of relevant legal policy on sexual harassment and abuse of office 58. Contractor employs workers from the immediate area where possible to minimise social conflict & maximise benefits 59. Offer awareness, guidance and counselling on HIV/AIDS and other STDs to employees 60. Provide condoms to employees
Disruption of existing natural environment and modification of micro-climate	61. Development restricted to follow zoning policy/approved density – building line, plot coverage and plot ratio as approved by the County Government 62. Careful layout and orientation of buildings to respect wind and sun direction 63. Adequate provision of green and open space planted with grass, shrub and tree cover 64. Minimum use of reflective building material and finishes for roof, wall and pavement.

Summary Table 2: Anticipated impacts and mitigation measures for the operation phase

Environment Aspect	Proposed Safeguards
Social harmony	1. Develop a mechanism to maximise use of local labour force 2. Dedicated Liaison officer to receive & handle grievance from the neighbourhood
Increased energy demand & consumption	3. Install and routine maintenance of energy efficient appliances e.g., LED bulbs etc 4. Monitor energy use during construction and set reasonable limit 5. The water booster set will contain inverter pumps for energy saving and precise control of flow and pressure rate 6. Use of solar energy as an alternative source of energy
Solid waste generation & management	7. Comply with EMCA Waste Management Regulations 2006 8. Regular inspection and maintenance of the waste disposal systems during operation phase 9. Maintain the communal solid waste disposal and management system 10. A NEMA certified waste management firm to be commissioned to provide waste collection and disposal services 11. Provide waste receptacles to hotel & apartment blocks as well as communal spaces
Sewerage & Wastewater management	12. Comply with EMCA Water Quality Regulations, 2006 13. Regular inspection and maintenance of the sewer line connections

Environment Aspect	Proposed Safeguards
Increased loading on existing infrastructure services	14. Undertake a comprehensive water needs analysis for the project 15. Encourage rainwater harvesting 16. Provision of increased water storage capacity 17. Provide adequate storm water drainage system
Increased Traffic	18. Formulate a traffic management plan for the proposed development approved by the county government 19. Provide adequate parking facilities within the project site 20. Provide incentives for facility users to prioritise public & Non-motorised transport modes
Storm water management	21. Rainwater harvesting 22. Provide roof gutters to collect and direct roof water to drains and storage tanks 23. Construct drains to standard specifications 24. Develop a storm water drainage system and linkage to natural drains
Insecurity	25. Integrate security within the facility management mandate 26. Manned entry & exit points

This ESIA study recommends that the identified safeguards are resourced, implemented and closely monitored in a timely fashion to guarantee the sustainability of this noble venture. All contracts for construction of any of the proposed project components must stipulate the responsibilities of the contractor in implementing the Environmental Management Plan & EIA licensing conditions. In this regard, the Environmental and Social Management Plans (ESMPs) developed in this ESIA report considers the impacts of construction and of the operation phases of the development. The core responsibilities during the implementation of the ESMP have been allocated.

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ABBREVIATIONS & ACRONYMS

BoQ	Bill of Quantities
CBD	Convention on Biological Diversity
CCTV	Close Circuit Television
COP	Contracting Parties
DOSHS	Department of Occupational Safety & Health Services
EIA	Environmental Impact Assessment
EMCA	Environmental Management Coordination Act
EMP	Environmental Management Plan
ERC	Energy Regulation Commission
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
GIS	Geographical Information System
HIV/AIDs	Human Immunodeficiency Virus/Acquired Immune Deficiency
INLUG	Integrated National Land-use Guidelines
ISWMS	Integrated Solid Waste Management System
KES	Kenya Shilling
KFS	Kenya Forest Service
KPLC	Kenya Power and Lighting Company
LED	Light Emitting Diodes
NCA	National Construction Authority
NEAP	National Environmental Action Plan
NEC	National Environment Council
NECC	National Environment Complaints Committee
NEMA	National Environment Management Authority
NET	National Environmental Tribunal
NLUP	National Land Use Policy
OSH	Occupational Safety and Health
PID	Project Information Document
PIN	Personal Identification Number
PPE	Personal Protective Equipment
SDHUD	State Department of Housing & Urban Development
SERC	Standards and Enforcement Review Committee
TOR	Terms of Reference
UNFCCC	United Nations Framework Convention on Climate Change
VCT	Voluntary Testing & Counselling
WRA	Water Resources Authority

1 BACKGROUND TO THE PROJECT

Therefore, this Environmental and Social Impact Assessment Study Report is prepared on behalf of The View By the Park Limited, a locally registered firm which proposes to develop a mixed use development (170 rooms hotel, 126 apartments and retail spaces) on a 0.6583 acre piece of land situated in Langata Sub-County, Nairobi County.

Under section 58 Environment Management and coordination Act (EMCA), 1999 and the Second Schedule (3(g) establishment of new housing estate development exceeding one hundred units, the proposed project is categorised as a high-risk project which requires an ESIA study before it can start. This report is used for application of an EIA licence for the proposed project.

This ESIA study report has been prepared based on the findings of screening and scoping report, field visits, public participation meetings, designs from the project team and information collected from both primary and secondary sources including the information provided by the Project Proponent.

1.1 Project Proponent

The project proponent is The View by the Park Ltd, a locally registered company. Annex 1 (certificate of incorporation and PIN certificate). The project is being implemented on 0.6 acres of land that are titled in 2 parcels NAIROBI/BLOCK 146/206 & 207 (originally LR. NOS 209/10709 & 209/10710) as shown in annex 2. The lands have since been amalgamated as shown in the attached approval (Annex 3).

1.2 Project Description

The proposed mixed-use development will entail excavations of foundations and basement parking, transportation of excavated materials and building materials from the site and to the site respectively; and construction of hotel, apartments and retails spaces that constitute the mixed-use development. The breakdown of mixed-use development is shown in Tab. 1 below.

Table 1: Components of proposed mixed-use development

Component	No./ Units
1. Built up area	57,700 m^2
2. Hotel apartments	126
3. Hotel rooms	170
4. Car Park Spaces	177
Number of blocks	2
Number of floors	37

1.3 Project Objectives

The objectives of the proposed Mixed use development project:

1. To develop a 3 -4-star hotel with views to the Nairobi national park.
2. To put up hotel apartments ; and
3. To provide supporting amenities to make the development attractive to discerning clientele.

1.5 Objectives of ESIA the study

1.5.1 General Objective

The general objective of the ESIA study is to carry out a systematic examination of the present environmental situation within the project area to determine likely impacts of the proposed Mixed-use development with a view of injecting sustainability to the project.

1.5.2 Specific Objectives of the ESIA Study

(i) Succinct description of the physical location and linkages of the project including the baseline conditions of the project area.
(ii) To highlight environmental issues of the proposed project with a view to guiding policy makers, planners, stakeholders and government agencies to help them in understanding the implications of the proposed project on environmental elements within the project area.
(iii) To address key adverse environmental effect of the project including: the social disruption, access to sufficient water & energy resources, solid & liquid waste management, direct, indirect, cumulative, irreversible, short-term and long-term effects anticipated;
(iv) To review existing legal institutional, and policy framework relevant to the proposed project;
(v) To predict impacts associated with implementation of the proposed mixed-use development with a view to suggesting mitigation measures for the negative impacts;
(vi) To assess and give recommendations on the various mitigation measures to be taken to reduce possible negative impacts on the proposed piece of land for development.
(vii) Analyse public and occupational safety and health issues associated with the proposed project.
(viii) To propose measures to prevent public health hazards and to ensure security in the working environment for the employees and for the management of emergencies;
(ix) To determine the compatibility of the proposed facility with the neighboring land uses and evaluate local environmental conditions.
(x) Facilitating public open meetings for the stakeholders to weigh in on the project benefits & concerns.
(xi) To propose a framework grievance redress mechanism to address social concerns/impacts post-project approval
(xii) Identifying and contacting the project stakeholders to seek their views on the proposed project.
(xiii) To assess the relative importance of the impacts of alternative plans, design and sites;
(xiv) To describe the recipient environment (baseline environment and social setting of the project area and the immediate environment);
(xv) To generate baseline data for monitoring and evaluation of how well the proposed mitigation measures are being implemented during the project operation period;
(xvi) To develop an Environmental and Social Management Plan (ESMP) to guide in decision making and for future auditing;
(xvii) To raise stakeholder awareness on potential impacts of the project on the environment with a view to making them understand the implication of the project on their environment;
(xviii) To identify of information gaps and uncertainties encountered in compiling the ESIA report and recommendations for consideration by decision makers;
(xix) To develop an ESIA report in conformity with the EMCA 1999, Environmental (Impact Assessment and Audit) Regulations 2003 and EMCA (amendment) 2015 and legislation under it; and
(xx) Submission of the final EIA report to NEMA and subsequent follow up to obtain relevant authorization/permit in order for the project to commence.

This ESIA Study Report, therefore, details the positive and negative effects of the development on the project environment and recommends appropriate environmental and social safeguards to minimize potential undesirable effects resulting from the project.

1.6 ESIA process followed.

The following ESIA process was followed in development of the study report:

(i) Screening and scoping of project impacts.
(ii) Establishing the suitability of the proposed location for the proposed mixed use development project
(iii) Carrying out literature review.
(iv) Carrying out preliminary fieldwork.
(v) Preparation of the TOR for NEMA`s consideration and approval - a copy of the terms of reference approval letter is attached in annex 4.
(vi) Undertaking detailed fieldwork.
(vii) Holding meetings with the project proponent, other project consultants, relevant regulatory government bodies, and stakeholders.
(viii) Holding two (2) public meetings with members of the public.
(ix) Carry out a systematic environmental assessment at the proposed project site and the surrounding area in line with established standards and laws.
(x) Provide a description of the proposed activities throughout the entire implementation process of the project with a special focus on potential impacts to the surrounding environment and facilities.
(xi) Develop an Environmental Management Plan for the proposed mixed development project.
(xii) Produce an Environmental and Social Impact Assessment report that contains among other issues potential negative and positive impacts and recommendation of appropriate mitigation measures to minimize or prevent adverse impacts.

1.7 Methodology

The methodology used in the ESIA Study included the following.

i. A site reconnaissance and visual survey to determine the baseline information of the project area.
ii. Comparative study of the project with existing land uses in the neighbourhood.
iii. Reviewing and analysis of the project documents
iv. Discussion with the proponent and the other consultants
v. Assessment of the site to detail the various existing and likely impacts.
vi. Assessment of health and safety issues
vii. Seeking public views through interviews; questionnaire administration; and holding public meetings
viii. Proposal of mitigation measures to minimize any negative impacts.
ix. Preparation and submission of ESIA study report to NEMA

1.7.1 Screening

Environmental screening was applied at the preliminary stage to determine whether the proposed development required an Environmental Impact Assessment. With reference to the second schedule of EMCA (1999), the proposed project was identified as among those that requires Environmental Impact Assessment so as to ensure that negative impacts from the project are mitigated as the positive ones are amplified.

1.7.2 Approaches to undertaking the ESIA

This ESIA Project Report has been prepared in accordance with the Environmental (Impact Assessment and Audit) Regulations of 2003. It is also guided by the general principles of green buildings. The study methodology also comprised the following activities: desktop study, stakeholder engagement meetings, field surveys & assessment.

1.7.2.1 Desktop Study

The desktop study involved:

(i) Initial meetings with project architects and engineers to discuss the proposed project, including activity options under consideration;
(ii) Preparation of a checklist that consisted of a simple catalogue of environmental factors, which were compared with the activities to be performed;

(iii) Collection and review of baseline data, maps, reports and other relevant information on the existing environmental and social conditions of the project area;
(iv) Review of existing legislation, regulation and policies relevant to the proposed project;
(v) Review of proposed project engineering designs and construction inputs, including anticipated technical processes.

1.7.2.2 Field investigations

Field investigations involved:

(i) Site walks within the project area and the neighbouring areas that are within the zone influenced by the project;
(ii) Taking photographs of significant aspects to assist in describing the baseline environmental and social conditions of the project area and its influence zone;
(iii) Taking of the site coordinates and the area elevation;
(iv) Interviews with representatives of relevant key regulatory authorities within the project area and interested and affected parties mainly within the project influence zone;
(v) Obtaining relevant documents from the authorities such as the County Government, and key authorities within the project influence zone.
(vi) Filling in of the questionnaires to facilitate environmental impact data collection
(vii) The aim of the field investigations was to verify information and data collected during the desktop study and to collect any new information that may have been important in the assessment of impacts and design of mitigation measures.

1.7.3 Report Preparation & Outline

The ESIA study report was prepared and compiled and a draft report discussed with the proponent, the project design & management team and the ESIA experts. This was necessary to appreciate the various responsibilities and modalities of implementing the proposed project. The final report was then prepared and submitted to the proponent for endorsement.

1.8 Potential Positive Impacts

The positive impacts associated with the proposed project include the following among others:

1. Provide additional apartment units for sale
2. Enhanced land use; the proposed project will put the land into a more productive use than it is now.
3. Generation of revenue for both the government and developer
4. Improved security in the area
5. Employment opportunities
6. Enhancement of other businesses
7. Transforming lives by creating vibrant communities

1.9 Potential Negative Impacts

- Increased local traffic flow
- Increased generation of effluent & storm water
- Increased water demand & usage
- Increased energy demand & usage
- Increase solid waste generation
- Increased air pollution, particles and dust emission
- Noise pollution and excessive vibrations
- Public & Occupational Health & Safety concerns

1.10 Public Consultations

Public consultations are critical in conducting an effective ESIA. The consultation process was backstopped by two social scientists and the ESIA experts, supported by other experts from the consulting team. Public consultations consisted of use of public barazas, interviews and questionnaires administration.

1.11 Constraints and Limitations

The information presented in this report is by and large consistent with the data and information gathered through the various sources and approaches outlined above. However, just as in any studies, the exercise experienced a number of constraints and as a result, there could be some gaps of information in the report as the consultants could not exhaust the collection of all primary data. The findings and issues advanced in this report reflect the general views and perceptions of some selected people and stakeholders; they may not cover the specific issues from some unique situations, or some individuals affected by the project.

1.12 Project Cost * EIA Processing and Monitoring Fees payable to NEMA

The estimated project cost is Kenya Shillings twelve billion, five hundred & sixty-five million, five hundred & sixty-five thousand. (1,308,563,100). Accordingly, the statutory EIA processing and monitoring fee payable to NEMA is Kenya Shillings is one million three hundred and eight thousand, five hundred and sixty-three (Ksh.1,308,563/=). Payment receipt in annexed - 5

A Summary of the preliminary Bills of Quantities attached (Annex 5).

1.13 ESIA Study Output

This ESIA study report is prepared for purposes of presenting required information to NEMA for consideration for possible approval and issuance of the EIA licence of the proposed mixed-use development.

2 BASELINE INFORMATION

2.1 Introduction

The following baseline information details on environmental, socio-economic and bio-physical characteristics of the site. This information will provide a benchmark for continued monitoring and assessment of the impact of implementing the proposal on the environment.

2.2 Project Location

The proposed project is located on Title Number Nairobi/Block146/206 & 207 in South C Ward in Langata Sub-County in Nairobi City County. The project site is accessible, through a minor road from Mombasa Road. Fig. 1 below shows the project site location within Nairobi City County

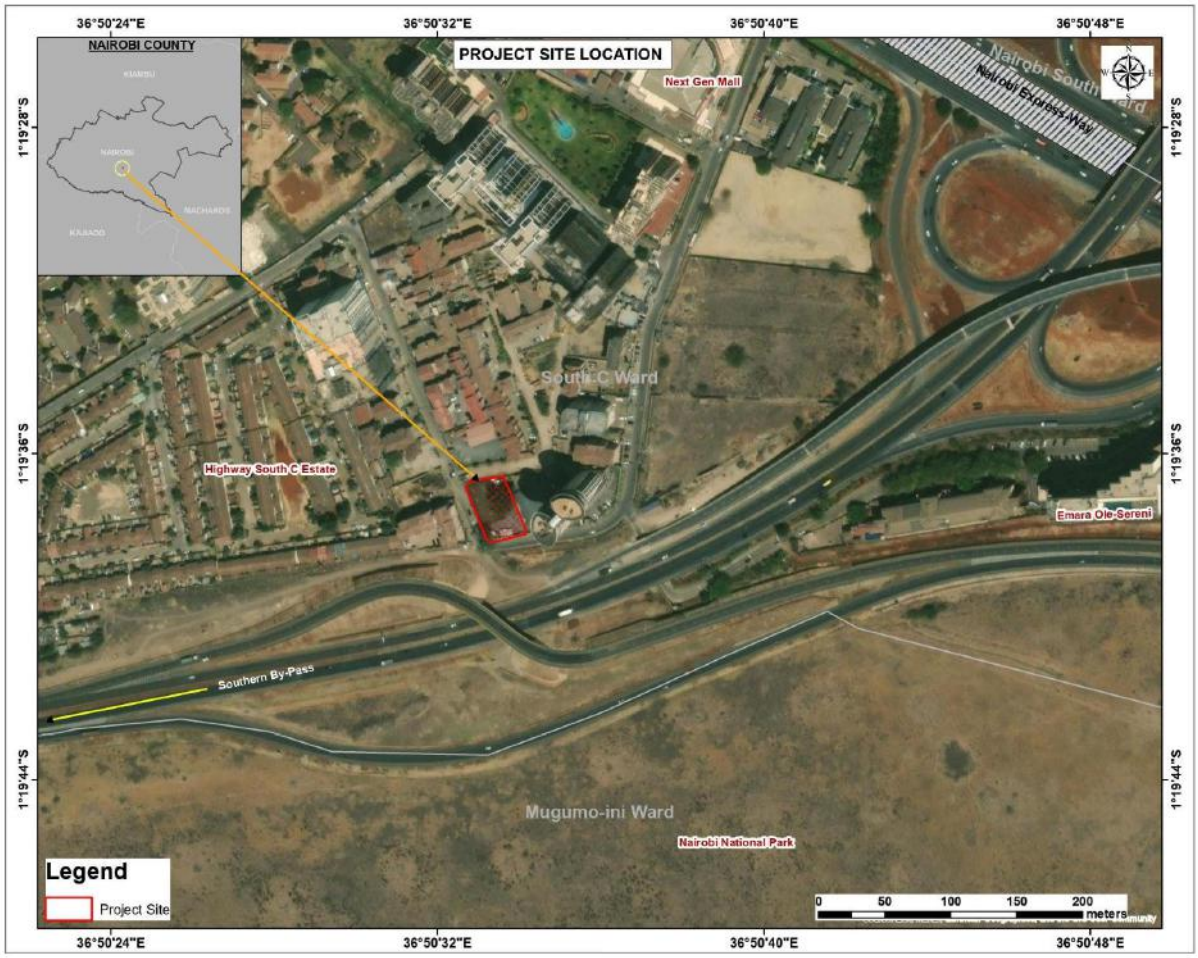

Figure 1: Location map of mixed-use development site

2.3 Land ownership

The proposed mixed-use development will be located on plots. NAIROBI/BLOCK 146/206 & 207 (originally LR. NOS 209/10709 & 209/10710). The land is currently owned by the View by the Park Ltd- the proponent). Copies of the certificates of lease are annexed in this report. These parcels of land have since been amalgamated into one plot and a change of use approval from residential to hotel, apartments, restaurants, retail & offices obtained (Annex 3)

2.4 Existing condition at the project site

The proposed project site is currently not developed. On the project site, there are four mature trees, a disused artificial turf mini football pitch, and open field occasionally used for car parking spaces. The project area is located in an already developed environment devoid of any endangered fauna or flora. The photos below (Plat. 1 to Plat. 4) show the current state of the proposed project site with the neighboring facilities in the background.

Plate 1: Section of project site fenced off for a mini football pitch on site and some evidence of geotechnical investigations

Plate 2: Mature trees within the project site

Plate 3: Two gates at the project site

Plate 4: Dominion Court, a 4-storey residential flat direct opposite the site

Surrounding the project area is:

1. To the north several major high-density residential developments rising to about 20 stories, such as South Park apartments and The Nextgen Mall.
2. To the west directly opposite the site on the other side of the local road, is a 4 storey apartment block called Dominion Court
3. Immediately to the east of the site is The Curve a 16 storey building. Beyond The Curve there is a large area of vacant undeveloped land that extends up to the Mombasa Road - Southern Bypass interchange. On the far side of the Mombasa Road - Southern Bypass interchange.
4. To the south, the view is dominated by the Southern Bypass and an under pass at ground level.

Plate 5: Five storey Allimex Plaza adjacent to The Curve

2.5.1 Transport and Communication Network

Roads The main access to the project site is via immediate minor roads from both the Mombasa Road and the Southern Bypass at the Southern Bypass - Mombasa Rd interchange. Nairobi City is served by good road network which include, among others, Southern Bypass, Nairobi Express way, Uhuru Highway, Langata Road, Ngong Road, e.t.c. There are also feeder roads which connect these roads to the residences in Nairobi City.

Plate 6: An underpass (direct opposite the Exit gate for the Curve) on Southern Bypass which serves the Ole Sereni hotel.

2.6 Physical Environment

2.6.1 Climatic Characteristics

The project area experiences a fairly cool climate generally experienced in Nairobi City County. Temperature ranges from a low of 10^0C to a high of 29^0C. The coolest months occur from June to August while hottest temperatures typically occur from December to March. The rainfall is of bi-modal pattern. The long rains season fall between March and May with a

mean rainfall of 899 mm while the short rains season falls between October and December with a mean rainfall of 638 mm (CIDP 2018-2022). The mean annual rainfall is 786.5 mm.

2.6.2 Hydrogeology

The occurrence of groundwater in Nairobi County is mainly influenced by climate and topography as well as origin of underlying parent material. Groundwater occurrence in the County is based on four hydro-geological formations, which include: volcanic, volcanic over basement, basement and sediment over basement.

2.7 Solid waste management

It is the responsibility of the County Government to collect solid waste. However, the capacity of the County Government to effectively manage the solid waste is limited, heaps of uncollected waste is a common occurrence.

2.8 Socio-Economic Environment

2.8.1 Population & Demographics

Nairobi County has a total population of 4,397,073. Langata Sub-County where the proposed project has a population of 197,489 with a density of 911 persons per Km^2 (KNBS, 2019). Tab. 2 below summarizes project neighbourhood demographics.

Table 2: Demographics in project area

Administrative Unit	Total Population	Sex		Households			Land Area Sq. Km	Density Persons per Sq. Km
		Male	Female	Total	Conventional	Group Quarters		
NAIROBI County	4,397,073	2,192,452	2,204,376	1,506,888	1,494,676	12,212	703.9	6,247
Langata Sub-county	197,489	96,698	100,774	62,239	60,187	2,052	217	911

Source: KNBS 2019

2.8.2 Economic development

2.8.3 Water Supply

The Langata/South C area water sources are; supply from Nairobi City Water and Sewage Company (NCWSC) and privately-owned boreholes. The project site will rely on water from NCWC supplemented by a borehole onsite.

2.8.4 Sewer System

The project area is served by sewer line operated by the (NCWSC). The project intends to connect to this sewer line. Plates 7 and 8 below show the drainage infrastructure within the project area.

Plate 7: Sewer line manhole on the backside for the project site (adjacent to the Jehovah Witness Church)

Plate 8: Storm drain along access road leading to Eland Court & Highway Estate South C.

3 ENVIRONMENTAL GOVERNANCE FRAMEWORK

3.5 National Environmental Policies

	National Environmental Policies	Relevance to the project/licence or permit required/ or activity requiring regulation
1.	National Environmental Action Plan (NEAP): The purpose of the National Environmental Action Plan (NEAP) is to promote and facilitate the coordination of strategies and measures to protect and manage the environment into plans and programmes for the social and economic development of Kenya. The Environmental Management and Coordination Act, 1999, established the NEAP to address the protection and management of the environment at district, provincial and national levels.	The proponent should comply with the NEAP policies and legislative with regards to preventing, controlling or mitigating specific as well as general adverse impacts on the environment. The project activities will interact with the various elements and components of the physical, social and economic environments in ways that could lead to negative impacts. Stakeholders in the project will therefore ensure that projects covered under consideration should be implemented in ways that ensure environmental integrity. Issues of environmental integrity will be addressed through project level Environmental Impact Assessments (EIAs).
2.	Kenya's Vision 2030: The Kenya Vision 2030 is the national long-term development policy that aims to transform Kenya into a newly residential, middle-income country providing a high quality of life to all its citizens by 2030 in a clean and secure environment.	The proposed development is a timely project in line with this vision. The project provides for various types of development activities that use sensitive components of the physical and natural environment, and stakeholders involved in the implementation of the program must ensure that the principle of sustainable development is respected at all stages of projects related to the programs.
3.	National Environment Policy, 2012 Revised Draft #4: The major objective of the policy is to provide a framework for an integrated approach to planning and sustainable management of Kenya's environment and its natural resources. The policy further ensures that the environment is integrated in all government policies in order to facilitate and realize sustainable development at all levels. This would help promote green economy, enhance social inclusion, improve human welfare and create opportunities for employment and maintenance of a healthy ecosystem.	ESIA study has developed an environment and social management and monitoring plan to mitigate the impacts that may result during the construction and operation phases of the project. This tool is aimed at promoting coordination of environmental management of the project such that sensitive ecosystems are not destabilized by project activities The developer should ensure that the provisions of this policy are followed to ensure the protection of the environment.
4.	Environmental and Development Policy (Session Paper No. 6 1999): The goal of this Policy is a better quality of life for present and future generations through sustainable management and use of the environment and natural resources	The main objective of this Policy is a better quality of life for present and future generations through sustainable management and use of the environment and natural resources. The proposed project is a high quality landmark development whose design is meant to be future proof.

3.6 Environmental Institutional Framework

	Environmental Institutional Framework	Relevance to the project/license or permit required/ or activity requiring regulation
1.	**National Environment Management Authority (NEMA):** The objective and purpose for which NEMA is established is to exercise general supervision and co-ordinate over all matters relating to the environment and to be the principal instrument of the government in the implementation of all policies relating to the environment. NEMA is responsible for general supervision and, co-ordination of all matters relating to the environment and is the principal instrument of government in the implementation of all policies relating to the environment. The authority is also responsible for monitoring compliance with all the NEMA regulations	The Project proponent is required to contract services of a NEMA licensed EIA expert, submit an ESIA report to NEMA and acquire an EIA licence before commencing any construction works.
2.	**County Environment Committee:** The County Environment Committee shall- (a) Be responsible for the proper management of the environment within the county for which it is appointed; (b) Develop a county strategic environmental action plan every five years for consideration and adoption by the County Assembly. These committees contribute to decentralization of activities undertaken by NEMA and thus enable local communities to have access to environmental management information. The committees also conduct site visits and review environment related reports of the projects and on occasions could attend site meetings.	The project is in Nairobi County and will be subject to discussion and site visits by the County Environmental Committee. The committees will review environment related reports of the project.
3.	**National Environment Complaints Committee, NECC** (Public Complaints Committee): The committee is an environmental ombudsman that was established under section 31 to 36 of Environmental Management and Coordination Act, Cap 387 with mandate to investigate allegations or complaints regarding the condition of environment in Kenya. It is an important institution in the assessment of the condition of the environment in Kenya	If any disputes will arise in regards to this project, the NECC will also play an important role in the facilitation of alternative dispute resolution mechanisms relating to environmental matters.
4.	**Standards and Enforcement Review Committee:** NEMA through EMCA has established standards for the various environmental parameters that require management, and these include the water quality standards, noise and vibration control standards, and	The committee gives advice on how to establish criteria and procedures for the measurement of water quality and recommends the minimum water quality standards, analyses conditions for

	Environmental Institutional Framework	Relevance to the project/license or permit required/ or activity requiring regulation
	the waste management standards, amongst other. SERC, through the Compliance and Enforcement Department of NEMA monitors the compliance level of the project to ensure environmental control standards are implemented. The committee also follows on complaints reported by the public. This is a technical Committee responsible for environmental standards formulation, methods of analysis, inspection, monitoring and technical advice on necessary mitigation measures. The members of the Standards and Enforcement Review Committee are set out in the third schedule of the principal Environmental Management and Co-ordination Act, Cap 387.	discharge of effluents into the environment, and also carry out investigations of actual or suspected water pollution.
5.	**National Environmental Tribunal (NET):** The tribunal is formed under section 125 of the EMCA, Cap 387 and handles all cases related to environmental offences in the Republic of Kenya. The tribunal's principal function is to receive, hear and determine appeals arising from decisions of the National Environment Management Authority (NEMA) on issuance, denial or revocation of environmental impact assessment (EIA) licenses, among other decisions.	If disputes with respect to the proposed development arise, the NET will function very much like a court of law.
6.	**Environment and Land Court (ELC):** The ELC is formed under Part 11 section 4 of Environment and Land Court Act, No. 19 of 2011 and section 150 of the EMCA, Cap 387. Any person aggrieved by a decision or order of the Tribunal may, within thirty days of such decision or order, appeal against such decision or order to the Environment and Land Court.	Anybody aggrieved by the decision of NET may seek redress at the ELC.

3.7 National Environment Legislative Framework

	National Environment Legislative Framework	Relevance to the project/license or permit required/ or activity requiring regulation
1.	The Constitution of Kenya 2010: Article 42 of the Constitution states that every person has the right to a clean and healthy environment, which includes the right: to have the environment protected for the benefit of present	The proponent has a right to carry out the project within legal limits. The proponent must ensure that the project is carried out in an ecologically, economically and socially sustainable manner.

	National Environment Legislative Framework	**Relevance to the project/license or permit required/ or activity requiring regulation**
	and future generations through legislative and other measures, particularly those contemplated in Article 69; and To have obligations relating to the environment fulfilled under Article 70. Article 69(2) states that every person has a duty to cooperate with State organs and other persons to protect and conserve the environment and ensure ecologically sustainable development and use of natural resources.	The proponent is entitled to a fair administrative decision-making process from NEMA and other State organs. The project proponent will be required to comply fully with the above stated articles of the Constitution.
2.	County Government Act 2012: This Act vests responsibility upon the County Governments in planning of development projects within their areas of jurisdiction on projects of importance to the local County Government or those of national importance. Section 102 of the Act provides the principles of planning and development facilitation which include integration of national values in county planning, protect the right to self-fulfilment within the county communities and with responsibility to future generations, protection of rights of minorities and marginalized groups and communities, promotion of equity resource allocation, among others.	The project proponent should initiate the process of County Government engagement in the initial project planning through application of essential development approvals from Nairobi County Government. The proponent will comply fully with the Act.
3.	Environment Management and Coordination Act (EMCA) 1999 Revised in 2015: The Environmental Management and Coordination Act, Cap 387 provides for the establishment of appropriate legal and institutional framework for the management and protection of the environment.	EMCA provide a legal and institutional framework for the management of the environment-related matters. Environmental quality conservation aspects of the project in consideration will be realized through the implementation of the Environmental Management & Social Monitoring Plan aimed at mitigating the potentially negative impacts and enhancing the potentially positive impacts predicted through project level EIAs.

3.8 International Environmental Management Agreements/ Conventions and Protocols

	International Environmental Management Agreements/ Conventions and Protocols	Relevance to the project/license or permit required/ or activity requiring regulation
	The Rio Declaration- Agenda 21: Principle 4 of the Rio Declaration provides that in order to achieve sustainable development environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from it. Principle 25 accentuates this by stating that peace, development and environmental protection are interdependent and indivisible.	The provisions of Rio Declaration should be put into consideration by the developer, in that protect the environment while still sustainably developing.
	World Commission on Environment and Development of 1987: The mission of the Brundtland Commission is to unite countries to pursue sustainable development together. The Brundtland Commission insists upon the environment being something beyond physicality, going beyond that traditional school of thought to include social and political atmospheres and circumstances. It also insists that development is not just about how poor countries can ameliorate their situation, but what the entire world, including developed countries, can do to ameliorate our common situation.	The provisions of this convention should be taken into consideration by the developer.
	Convention on the Control of Trans-Boundary Movements of Hazardous Wastes and their Disposal (Basel Convention): Is an international treaty that was designed to reduce the movements of hazardous waste between nations, and specifically to prevent transfer of hazardous waste from developed to less developed countries (LDCs). The Convention is also intended to minimize the amount and toxicity of wastes generated, to ensure their environmentally sound management as closely as possible to the source of generation, and to assist LDCs in environmentally sound management of the hazardous and other wastes they generate.	The developer should minimize the amount and toxicity of wastes generated, to ensure their environmentally sound management as close as possible to the source of generation
	United Nations Framework Convention on Climate Change UNFCCC (1993): The UNFCCC objective is to "stabilize greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system". The framework sets non-binding limits on greenhouse gas emissions for individual countries and contains no enforcement mechanisms. Instead, the framework outlines how specific international treaties (called "protocols" or "Agreements") may be negotiated to specify further action towards the objective of the UNFCCC.	The proposed project will endeavour to be in line with this convention and ensure that atmospheric pollution through greenhouse gases is minimised as is practically possible.

	International Environmental Management Agreements/ Conventions and Protocols	**Relevance to the project/license or permit required/ or activity requiring regulation**
	Montreal Protocol: Protocol for the Protection of the Ozone Layer January 1990: The Montreal Protocol is an international treaty designed to protect the ozone layer by phasing out the production of numerous substances that are responsible for ozone depletion.	The developer is required to use only materials and substances that are safe and won't lead to the depletion of the Ozone layer.
	Sofia Protocol to LRTAP concerning the Control of Emissions of Nitrogen Oxides or their Trans-Boundary Fluxes (NOx Protocol): Protocol to the 1979 Convention on Long-Range Transboundary Air Pollution Concerning the Control of Emissions of Nitrogen Oxides or Their Transboundary Fluxes, opened for signature on 31 October 1988 and entered into force on 14 February 1991, was to provide for the control or reduction of nitrogen oxides and their transboundary fluxes.	The proponent is requested to introduce pollution control measures based on best available technologies that are economically feasible.

3.9 Ministerial & County Institutional Integration

	Ministerial & County Institutional Integration	**Relevance to the project/license or permit required/ or activity requiring regulation**
1.	The Environmental (Impact Assessment and Audit) (Amendment) Regulations, 2016 It deletes and substitutes the Fifth Schedule (fees) of Environmental (Impact Assessment and Audit) Regulations, 2003 as summarized below: i. Specify fees payable for Environmental Impact Assessment license for high-risk projects – which is 0.1% of the total cost of the project subject to a minimum of Kenya Shillings Fifty Thousand (Ksh. 50,000) and a maximum of Kenya Shillings Ten Million (Ksh. 10,000,000).	The developer will fully comply; the proposed project being a high-risk project, the developer will pay the maximum fee of Ksh. 1,308,563
2.	Environmental Management & Co-ordination (Waste Management) Regulations 2006: Provides standards for handling, transportation & disposal of various types of waste including hazardous waste.	Disposal of generated waste from operations under the project. Generation of hazardous wastes such as used oi & oily parts from servicing of equipment & vehicles.

	Ministerial & County Institutional Integration	**Relevance to the project/license or permit required/ or activity requiring regulation**
	Requirements to ensure waste minimization or cleaner production, waste segregation, recycling or composting Provides for licensing of vehicle transporting waste Provides for licensing of waste disposal facilities	Ensure there exists proper contractual agreement with NEMA licensed solid waste handlers and that solid wastes are collected in a timely manner and disposed of responsibly.
3.	Air Quality Regulations, (Legal Notice No. 34 of 2014): These regulations are aimed at controlling, preventing and abating air pollution to ensure clean and healthy ambient air.	The proponent will ensure that operations at the site do not generate dust, particulates and other emissions beyond allowable limits especially during construction by deploying efficient dust screens, PPE and other dust suppression measures.
4.	Legal Notice No. 120, Environmental Management & Co-ordination (Water Quality) Regulations 2006: Provides for the protection of ground & surface water resources Provides for the parameters in the quality of wastewater discharged from any facility/activity into the environment or sewer.	Any discharges to the surface water courses during operation phases to be monitored for conformance with the standards. The project proponent will fully comply with the Regulations. The contractor/proponent will handle hazardous substances in a manner that is not likely to cause water pollution. The proponent should ensure that effluent meets the standards set out under Schedule III of Legal Notice No. 120 of 2006.
5.	The Environmental Management and Coordination (Controlled Substances) Regulations, 2007: The regulations regulate the importation and use of Ozone Depleting Substances. Regulations No. 3 gives a classification of Controlled Substances.	The proponent will comply fully with the Regulations by not using Ozone Depleting Substances
6.	The Environmental Management and Co-ordination (Wetlands, Riverbanks, Lake Shore and Sea Shore management) Regulations, 2009: Section 14 of the Regulations states: Duty of landowners, users and occupiers. (1) Every owner, occupier or user of land which is adjacent or contiguous to a wetland shall, with advice from the Authority, have a duty to prevent the degradation or destruction of the wetland, and shall maintain the ecological and other functions of the wetland.	The project proponent will be required to comply fully with the Regulations. It will be the duty of the developer to ensure no wastes from this development end up into water bodies.
7.	Environmental Management & Co-ordination (Noise & Excessive Vibration Pollution control) Regulations 2009:	Sound level limits of 60dB(day) and 35dB (night) to be observed during operations

	Ministerial & County Institutional Integration	**Relevance to the project/license or permit required/ or activity requiring regulation**
	Prohibits the generation of unreasonable, unnecessary or unusual noise which annoys, disturbs, injures or endangers the comfort, repose, health or safety of others & the environment. Provides for the maximum noise levels permissible in various environmental set ups such as residential areas, places of worship, commercial areas & mixed residential Provides that a sound source creates or is likely to emit noise or excessive vibrations or otherwise fail to comply with the provision of these regulations, a license is required.	License to emit noise/vibrations in excess of permissible levels to be acquired if necessary. The proponent will be required to comply fully with the Regulations.
8.	Legal Notice No. 31, Environmental Management and Coordination, (Noise and Excessive Vibration Pollution) Regulations 2009: These Regulations require that no person or activity shall make or cause to be made any loud, unreasonable, unnecessary or unusual noise that annoys, disturbs, injures or endangers the comfort, repose, health or safety of others and the environment.	The contractor shall be required to implement these measures, ensure that all machineries are in good working condition to reduce noise. Also, construction activities shall be restricted between 0800Hrs-1700Hrs to ensure that the neighbours are not disturbed.
9.	Environmental (Impact Assessment & Audit) Regulations, 2003 Amended 2019: Provides for the procedure for carrying out the ESIA Provides for the contents of an ESIA study report	The ESIA to be carried out in accordance to the regulations
10.	EMCA (Fossil Fuel Emission Control) Regulation, 2006: NEMA is mandated under this regulation to approve any substance to be used as a fuel catalyst if the substance improves fuel economy, enhances combustion and reduces harmful emissions that adversely affect human, animal and plant health and degrade the environment. Furthermore, NEMA has to issue a catalyst license of an approved fuel catalyst and may impose such conditions as it may deem appropriate.	Only approved substances are to be used as a fuel catalyst if the substance improves fuel economy, enhances combustion and reduces harmful emissions that adversely affect human, animal and plant health and degrade the environment
11.	Use of Poisonous Substances Act Cap 247: An Act of Parliament to provide for the protection of persons against risks of poisoning by certain substances, and for matters incidental thereto and connected therewith	Section 3 of the Act casts a duty of all employers of protecting their employees against the risk of poisoning by poisonous substances.
12.	The Water Act (Act No.8 of 2002) revised in 2016: Provides that a permit shall be required for any use of water from a resource, especially where there is abstraction and use of water with the employment of works. The legislation provides for the management of water resources at national and county level.	A permit will be required from WRA for any water borehole construction works and an abstraction licence The proponent will comply fully with the Act.

	Ministerial & County Institutional Integration	**Relevance to the project/license or permit required/ or activity requiring regulation**
	Article 40(4) provides an application for a permit to which shall be subject to public consultation and, where applicable EIA in accordance with the requirements of the EMCA. 108(1) sewage & effluent management to avoid environmental pollution.	
13.	Water Resources Management Rules 2007: Provides for application by all those intending to abstract ground water Provides that where any borehole or well is intended to be equipped with a motorized pump the application shall be accompanied by a hydrogeological assessment report.	Depending on the proposed source of water for construction activities, permits may be required
14.	The Forests Act (Chapter 375): The Forest Act, Cap 385 of 1962 (revised 1982, 1992 and 2005) addresses the reservation, protection, management, enforcement and utilization of forests and forest resources on Government land. The Forest Act is applicable to gazetted forest areas (Forest Reserves) and specifically covers:	The project area is not located in a forest zone. However, the developer will need KFS permit in order to cut down existing 3 trees. It is advisable that the developer should plant more trees on the site after completion of the project.
15.	The Physical and Land Use Planning Act, No. 13 of 2019 An Act of Parliament to provide for the preparation and implementation of physical development plans and for connected purposes. Provides for zoning areas	The proposed project requires approval by the county government. Provisions of the Act regarding development control shall be strictly adhered to. All developers within the project area must strictly adhered to requirement of the Act regarding plot coverage and reservation of land for public utilities
16.	Public Health Act (Cap. 242): The act makes it the duty of every local authority (in the capacity of "health" authority) to take all lawful, necessary and reasonably practicable measures to safeguard and promote public health (s.13). Part IX of the act deals with sanitation and housing and is of most significance for the control of polluting discharges. S.116 imposes a duty on every local authority to maintain its district in a clean and sanitary condition, to prevent nuisances and prosecute those responsible for nuisances. Nuisances include drains and sewers for the discharge of pollutants into watercourses and lakes. The Public Health (Drainage and Latrine) Rules made under s.126 of the Act, makes more specific provision for drainage. The Rules require the drainage of new buildings; ● Prohibit the drainage of surface water into foul water sewers;	Health issues will be integrated into the project to ensure environmental health is appropriately addressed. All stakeholders must undertake to comply with provisions of the regulations by ensuring that the necessary plans to achieve requirements of the regulations are put in place. Measures to mitigate all forms of nuisance in compliance with Part IX Sections 115 and 118 of the Act will be put in place throughout the phases of projects under the programmes Contractors will also manage solid waste arising from programme related activities in compliance with provisions of this Act.

	Ministerial & County Institutional Integration	**Relevance to the project/license or permit required/ or activity requiring regulation**
	● Prohibit the discharge into sewers of matter which may interface with the free flow of the sewage or injure the sewer; ● Empower the local authority to prohibit the discharge of injurious matter into sewers; Impose a requirement for permits to be obtained from the local authority before the making of sewer connections or the construction of sewage treatment works.	
17.	Penal Code Act (Cap. 63): Chapter XVII on "Nuisances and offences against health and convenience" contained in the penal code strictly prohibits the release of foul air into the environment which affects the health of the persons. It states "Any person who voluntarily vitiates the atmosphere in any place so as to make it noxious to the health of persons in general dwelling or carrying on business in the neighbourhood or passing along a public way is guilty of a misdemeanour"	Waste disposal and other project related activities shall be carried out in such a manner as to conform to the provisions of the code. It is the responsibility of the contracted licensed waste handler to ensure that all kinds of wastes are disposed appropriately as per the legal provisions. The proponent will comply fully with the Act.
18.	The Workmen's Injury and Benefits Act, 2007: This Act provides for compensation to employees for work-related injuries and diseases contracted in the course of their employment and for connected purposes. Key sections of the Act include the obligations of employers; right to compensation; reporting of accidents; compensation; occupational diseases; medical aid; appeals; and miscellaneous provisions. Schedules provided in the Act outline the degree of disablement; occupational diseases; and dependant's compensation. In case of any accidents or incidents during the project cycle, this Act will guide the course of action to be taken.	The proponent will comply fully with the Act.
19.	The Employment Act, 2007: This Act declares and defines the fundamental rights of employees; minimum terms and conditions of employment; to provide basic conditions of employment of employees; and to regulate the employment of children, among other rights. Key sections of the Act elaborate on the employment relationship; protection of wages; rights and duties in employment; termination and dismissal and protection of children, among others.	Contractor to be strictly advised not to engage any underage persons (under 18 years of age) to perform any form of work at the site during construction. The proponent shall also ensure that the contractor is conversant and adheres to all the provisions of the Employment Act
20.	The Traffic Act, Cap 203: This Act consolidates the law relating to traffic on roads. Key sections include registration and licensing of vehicles; driving licenses; driving and other offences relating to the use of vehicles on roads;	Vehicles will be used to transport humans and equipment during the entire project life, and their registration and licensing will be required to follow the above Act.

	Ministerial & County Institutional Integration	**Relevance to the project/license or permit required/ or activity requiring regulation**
	regulation of traffic; accidents; offences by drivers of vehicles other than motor vehicles and other road users; and miscellaneous provisions as to roads, among others.	
21.	The Standards Act Cap 496: This Act promotes the standardisation of the specification of commodities, and provides for the standardisation of commodities and codes of practice to ensure public health and safety.	This means the Proponent has to ensure all materials and equipment in use during construction as well as operation of the facility adheres to the highest standards and do not pose any human health and safety risk. The proponent will comply fully with the Act.
22.	Occupiers Liability Act Cap 34: An act of parliament to amend the law as to liability of occupiers and others for injury or damage resulting to persons or goods lawfully on land or property from dangers due to the state of the property or to things done or omitted to be done there.	Ensure safety of workers during construction and possible decommissioning phases and occupants upon occupation of the office block.
23.	Occupational Safety and Health Act 2007 (CAP 15): This Act promotes and guarantees the protection and wellbeing of workers in the workplace. ● Provides that every occupier shall ensure the safety, health & welfare at work of all persons working in this workplace. ● Provides for registration of premises prior to use as a workplace ● Provides that workplace shall be of sufficiently size for work to be carried out with ease & an adequate amount of air for each employee, the minimum permissible being 10m3 per person. ● Provides that an occupier shall ensure that effective & suitable provision is made for securing & maintaining by circulation of fresh air in each workroom, the adequate ventilation of the room. ● Provides that an occupier ensure effective provision is made for securing & maintaining sufficient & suitable lighting, whether natural or artificial, in every part of this workplace in which persons are working or passing. ● Provides that sufficient & suitable sanitary conveniences for the persons employed in the workplace shall be provided, maintained & kept clean, and effective provision shall be made for lighting; and where persons of both sexes are or are intended to be employed (except in the case	Work at the proposed site may involve hazards such as accidental falls, working at heights, exposure to energized circuits and heavy equipment etc. Other potential sources of occupational injuries include entry into confined spaces, including manholes and dust generation associated with construction activities among others. The contractor will continuously improve the safety and health standards at the construction site making safety concern everyone's responsibility. Emergency response plan, warning signs, machinery safety and construction safety provisions of the Act which are aimed at managing occupational accidents, incidents and injuries at the workplace will be put in place. All requisite trainings, approval and permits including Workplace Registration Certificate shall be procured by the proponent / contractor

	Ministerial & County Institutional Integration	**Relevance to the project/license or permit required/ or activity requiring regulation**
	of workplaces where the only persons employed are member of the same family dwelling there) such conveniences shall afford proper separate accommodation for persons of each sex. Provides that all plant, machinery & equipment whether fixed or mobile for use either at workplace or as a workplace, shall only be used for work which they are designed for & be operated by a competent person.	
24.	Factories & Other Places of Work (Noise Prevention & control rules,2005: Rules provide for the maximum noise exposure levels for workers in places of work & for the provision of protective equipment for those exposed to high noise levels. Provides that and occupier shall institute noise reduction measures at the source of the noise in the workplace	Noise emitted during the operation of the Housing units. requires provision of PPE to workers & minimization of noise exposure to the public
25.	Electricity Power Act No. 11 of 1997: The Act establishes the Energy Regulatory Commission (ERC) with a mandate for the management of energy issues in Kenya. Part III of this Act is dedicated to Electricity energy. Section 30 of this part stipulates that any electrical installation work should be conducted by such a person as one licensed by the ERC as an electrician or an electrical contractor.	Electricity power installation and usage should be done in a manner that seeks to protect the health and safety of the project employees; the local and other potentially affected communities as well as the environment. Electrical installation to service the proposed project should be done by a licensed electrician under ERC. Liaison with relevant agencies such as KPLC should be sought where necessary. Proponent should adhere to provisions of this Act in all phases of the project.
26.	The Energy Act 2019: The Act consolidates the laws the relating to energy & provides for National & county government functions in relation to energy. Provides for promotion of renewable energy; exploration, recovery & commercial utilisation of geothermal energy; regulation of midstream & downstream petroleum & coal activities; regulation, production, supply & use of electricity & other energy forms; Enforcement & review of environmental, health, safety & quality standards. Provision for construction permit request to be accompanied by ESIA study.	The project proponent will comply with Legal Notices 43 & 102 to ensure conformity with the Energy Act provisions. The proponent will be required to address provisions raised in the Energy (solar water heating) regulations 2012.

	Ministerial & County Institutional Integration	**Relevance to the project/license or permit required/ or activity requiring regulation**
27.	The Surveys Act Cap 299 Laws of Kenya: This is an Act of parliament that make provisions in relation to surveys and geographical names and the licensing of land surveyors.	Surveyors shall carry out surveying in a manner as to ensure that surveys accord in all respect with the provisions of this Act and regulations made there under and shall be responsible for correctness and completeness of every survey carried out by them or under their supervision. Boundaries and benchmarks for any land or holding should be shown on the map.
28.	Legal Notice No. 60: Hazardous Substances Rules, 2007: The Rules state that the Proponent shall ensure that where chemicals come into contact with employees, the exposure limits set out in the First Schedule of the Regulations are not exceeded. Where employees may be exposed to two or more chemicals in the workplace the Proponent shall work out the combined exposure using the narrative given in the Second Schedule of the Regulations.	The proponent will comply fully with the Regulations.
29.	Land Act, 2012 (Act no.6 of 2012): Provides for the sustainable administration & management of land & land-based resources & connected purposes. The Act also provides for the repeal of the Way leaves Act (Cap 292) and the Land Acquisition Act(Cap 295)	The proposed project site is registered & has a title deed
30.	The Land Act, 2012: The Land Planning Act (Cap 303) Section 9 of the subsidiary legislation (the development and use of land Regulations 1961) under which it require that before the local Authority to submit any plans to then minister for approval, steps should be taken as may be necessary to acquire the owners of any land affected by such plans. Particulars of comments and objections made by the landowners should be submitted, which intends to reduce conflict of interest with other socio-economic activities. Land Titles Act, Cap 282 This Act makes provision for the removal of doubts that have arisen in regard to titles to land and to establish a Land Registration Court. Specific provisions include guidelines on adjudication of claims, and registration of documents after certificate of ownership is granted. Registration of Titles Act, Cap 281 This Act provides for the transfer of land by registration of titles. Parts within the Act elaborate on mechanisms of bringing lands under the Act, grants, transfers and transmissions of land, registration	The proponent will be required to comply fully with these Acts

	Ministerial & County Institutional Integration	**Relevance to the project/license or permit required/ or activity requiring regulation**
	of titles, and mode and effect of registration, transfers, leases, charges, powers of Attorney, and rectification of titles, among others. Registered Land Act, Cap 300 The Act provides for the registration of title to land and provides for the regulation of dealings in land so registered, and for purposes connected therewith. The Act elaborates on the organization and administration of the Act, the effect of registration, title deeds, certificates of lease and searches, instruments and agents, transmissions and trusts, restraints on disposition, rectification and indemnity, and decisions of registrars and appeals.	
31.	Land Registration Act 2012 (Act no.3 of 2012: Provides for the registration of titles to land, to give effect to the principles and objects of devolved government in land registration and for connected purposes.	The proposed site is registered and has a title deed.
32.	The National Land Commission Act, 2012: Pursuant to Article 67 (2) of the constitution, the functions of the commission are outlined in section 5 of the act as follows; i). To manage public land on behalf of the national and county governments. ii). To recommend a national land policy to the national government. iii). To advise the national government on a comprehensive programme for the registration of title in land throughout Kenya; iv). To conduct research related to land and the use of natural resources, and make recommendations to appropriate authorities; v). To initiate investigations, on its own initiative or on a complaint, into present or historical land injustices, and recommend appropriate redress vi). To encourage the application of traditional dispute resolution mechanisms in land conflicts; vii). To assess tax on land and premiums on immovable property in any area designated by law; viii). To monitor and have oversight responsibilities over land use planning throughout the country.	The proponent will be required to comply fully with this Act. The planning principles outlined in this Act should guide the process of implementation of the projects within the Programmes under study and public participation, a major component environmental assessment and audits should always be carried out to ensure that all stakeholders are aware of planned activities.
33.	The Environment and Land Court Act, 2011:	The project proponent should abide to all the provisions of this Act

	Ministerial & County Institutional Integration	**Relevance to the project/license or permit required/ or activity requiring regulation**
	The Act establishes a superior court to hear and determine disputes relating to the environment and the use and occupation of, and title to, land, and to make provision for its jurisdiction functions and powers, and for connected purposes. The act states that it's an offence for any person who refuses, fails or neglects to obey an order or direction of the Court given under this Act, commits an offence, and shall, on conviction, be liable to a fine not exceeding twenty million shillings or to imprisonment for a term not exceeding two years, or to both	
34.	Land Acquisition Act (Chapter 295): It is an Act of Parliament to make provision for the compulsory acquisition of land for the public benefit. The Act also provides a procedure of acquiring these lands for public use.	The proponent to ensure that only the legal procedure is used to acquire any additional piece of land if needed.
35.	National Construction Authority Act No. 41 of 2011: An Act of Parliament to provide for the registration of contractors operating or willing to undertake construction operations in Kenya as by law through the National Construction Authority (NCA), which is constituted under Act No. 41 of 2011 Laws of Kenya. Section 15 of this Act demands registration of contractors with NCA while section 17 and 18 outlines the procedure of registration of contractors.	The proponent will comply with the Act by ensuring that the site and project contractors are registered and certified by NCA.
36.	The Environment and Land Court Act, 2011: This is an Act of Parliament to give effect to Article 162(2) (b) of the Constitution; to establish a superior court to hear and determine disputes relating to the environment and the use and occupation of, and title to, land, and to make provision for its jurisdiction functions and powers, and for connected purposes The act states that it's an offence for any person who refuses, fails or neglects to obey an order or direction of the Court given under this Act, commits an offence, and shall, on conviction, be liable to a fine not exceeding twenty million shillings or to imprisonment for a term not exceeding two years, or to both. The Act repeals The Land Disputes Tribunal Act (No.18 of 1990).	The project proponent should abide to all the provisions of this Act

	Ministerial & County Institutional Integration	**Relevance to the project/license or permit required/ or activity requiring regulation**
37.	Sessional Paper, No. 1 of 2017 on National Land Use Policy: The principle objective of the NLUP is to provide legal, administrative, institutional and technological framework for optimal utilization and productivity of land and land related resources in a sustainable and desirable manner at National, County and Sub-county and other local levels. The Policy offers a framework of recommendations and principles designed to ensure the maintenance of a land use system that will provide for: i. Land use planning, resource allocation and resource management for sustainable development to promote public good and general welfare; ii. Environmental management and sustainable production in the utilization of land resources; iii. Coordination and integration of institutional linkages in planning at sectoral and cross-sectoral levels to foster collaboration and decision making among different land users; iv. Equitable utilization of land resources to meet governance, social economic and cultural obligations of the people of Kenya; v. Anchoring land development initiatives that will respond positively to the market demands; vi. A comprehensive and efficient GIS-based national land use information management system; vii. An appropriate, independent, accountable and democratic institution for land use conflict resolution; and Mitigating problems associated with poor land use.	This Policy incorporates measures and principles to guide all activities, whether proposed or on-going, that may have direct or indirect impact on the use of land and its resources. The Policy takes cognizance of the benefits of planned use of land and its resources; and builds in measures for integrated, equitable and sustainable utilization for optimal production. This Policy upholds the values of economic productivity, environmental sustainability and the conservation of culture; and seeks to facilitate their protection and optimal use.
38.	Integrated National Land-use Guidelines, NEMA 2011: The INLUG supports and promotes the implementation of the general goals laid down in the EMCA,1999; as well as support the implementation of the New Constitution as envisioned in Chapter Five (Sections 60 – 72) on Land and Environment.	The guidelines promote the implementation of sustainable development and a good living environment which is the goal of the proposed project.
39.	County Government by-laws: Prescribes the necessary easements required for the establishment of any project within the County.	Ensure adherence to the by-laws provisions and acquire the necessary approvals and permits

4 PROJECT DESCRIPTION

4.1 Introduction

The proposed mixed-use development will entail excavation, transportation of excavated soils and building materials from the site and to the site respectively, and construction of mixed-use development project. The master plan of the proposed mixed-use development is presented Fig. 2 and Fig. 3 below:

Figure 2: Architectural rendering of the View project

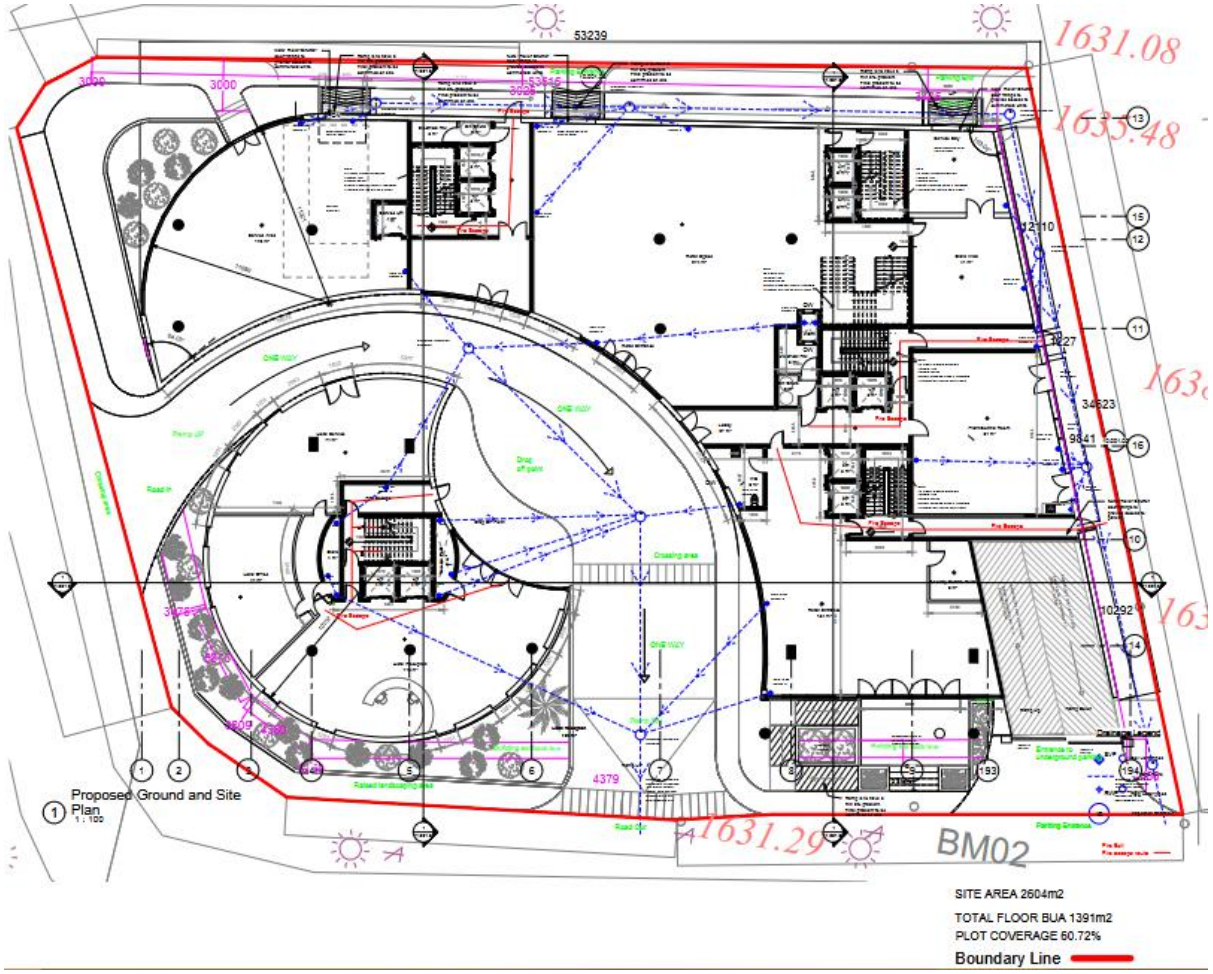

Figure 3: Site masterplan for ground floor of mixed-use development

Detailed drawings of the various mixed-use development components are attached in annex 6.

4.2 Hotel Apartment units

Project envisages putting up 126 apartments units on a concave shaped block of the mixed-use project. These apartments will be 2-, 3- & 4-bedroom apartments.

4.3 Hotel component

The hotel will feature 170 room facility and a sky restaurant. The current proposal is for a 3–4-star hotel. The hotel tower block which is circular in nature is expected to be the tallest standing at 37 floors when fully developed.

4.4 Retail spaces

A mix of office spaces is proposed including meeting rooms, co-working spaces and conference rooms.

4.5 Car parking

The project will have 4 levels of basement parking to accommodate about 177 vehicles within the building. A concrete ramp will connect the various parking levels. Fig. 4 shows the floor layout plan of the car parking silo. There are proposals to make 25% of the parking spaces Electric Vehicles (EV) charging points.

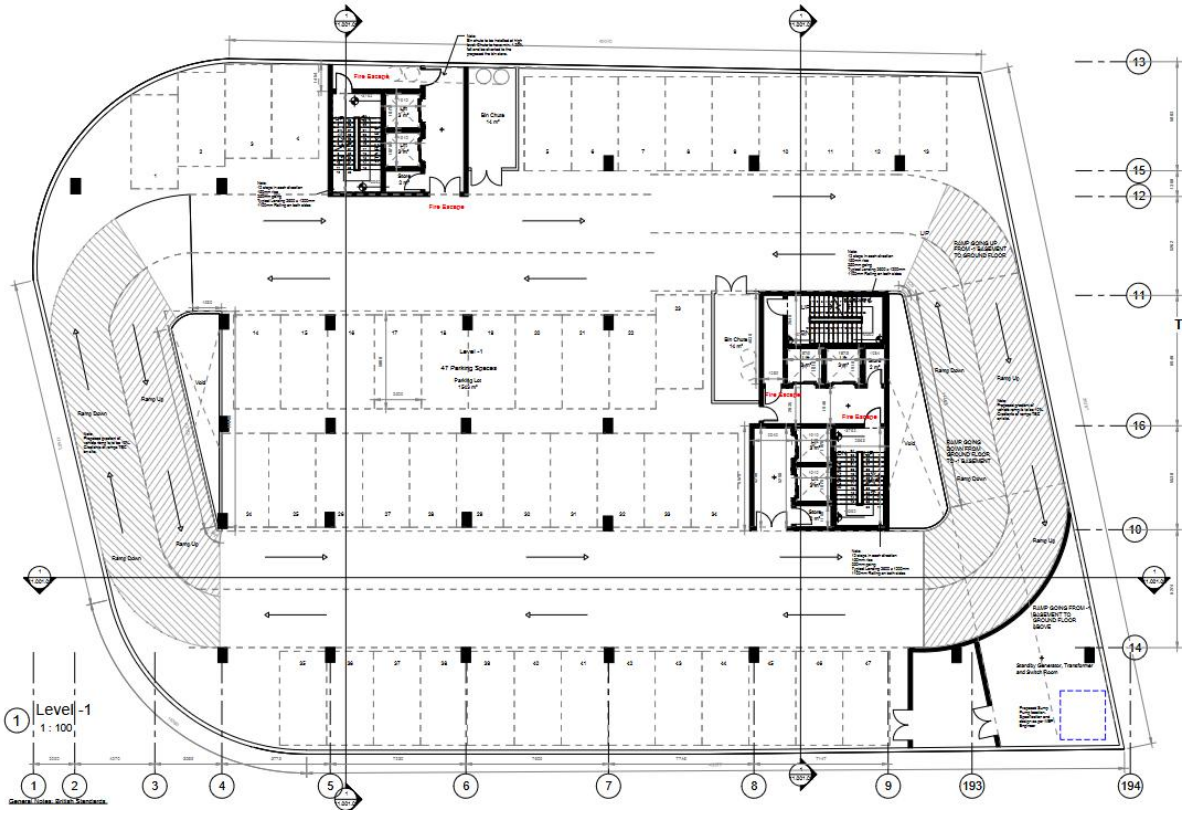

Figure 4: Level 1 of 4 Car parking silo

4.6 Sustainability

The proposed design proposes to incorporate the following component to promote sustainability in the project:

- Design to use solar energy
- Design of harvesting and of rainwater
- Design to provide natural ventilation
- Installation of energy efficient fixtures

The proposed development will also be fitted, connected and served with the existing infrastructural facilities such as power and electricity connectivity service from the power grid and solar panels, solid waste management system and disposal collection point, etc. The following services, infrastructures and facilities were considered and integrated during the plans, designs and implementation process of the project development as discussed below;

4.6.1 Solid Waste Management

Solid waste management will waste chute with bins at the bottom. Each of the Hotel apartment floor with a dedicated garbage handling room at the ground floor of each block with a service yard for collection of the same by a NEMA licensed contractor disposal at a designated disposal site.

4.6.2 Water Use & Wastewater Management

The proposed site will utilize mains water supply from the NCWSC supply. Additional to this, water reservoirs are envisaged throughout the development. All wastewater from the proposed mixed-use development will be channelled to a sewer line and connect to the NCWSC sewer line while storm water will be channelled by gravity to the drainage channel & harvested for non-domestic uses.

4.6.3 Transport Network Infrastructure

The proposed site will have a separate entrance as well as an exit to ensure smooth flow of traffic. There will also be a service entrance at the back of the property.

4.6.4 Electricity Power & Energy

Kenya Power will serve the facility for provision of electricity services. Power distributions will be done in a sustainable manner by employing the use of energy saving gadgets such as lighting fixtures within the facility. Solar panels and emergency diesel generators will be installed within the facility to supplement the national grid supply.

4.6.5 Lighting Systems

All functions within the facility will be fitted using the latest energy saving lighting equipment. Lighting will be dimmable and be under daylight and occupancy controls. To save on energy, provision is made for lighting controls with; daylight linked dimming, occupancy controls in spaces that are not continuously occupied. Solar panels will also be installed to provide renewable energy for lighting where necessary.

4.7 Construction Inputs

The project inputs will include the following:

i) The materials that shall be used will include stones, cement, sand, crushed rock (gravel/ballast), ceramic fixtures, reinforcement bars, wood/timber, glass, painting materials, plastic, electrical and mechanical fixtures. All these materials shall be obtained from licensed dealers who have complied with the environmental management guidelines and policies and approved by Kenya Bureau of Standards (KEBS).

ii) Several machines shall be used which will include earth moving equipment (excavators, loaders, wheel loading shovels and backhoe), material handling equipment (cranes and hoists), construction equipment (concrete mixers and vibrators) and engineering vehicles (trailers, tippers and dumpers).

iii) The project will also require a labour force of both skilled and non-skilled workers. The skilled personnel will include the project consultants (architects, engineers, quantity surveyors and environmental experts) and a contractor with a team of foreman, masons, plasterers, carpenters, plumbers, welders, electricians, glaziers, painters and casual laborers.

Other construction inputs will include wastewater and sewer disposal, water services, power and electricity connectivity and supply from the main power grid or provided by generators.

4.8 Construction Phase

4.8.1 Mobilization of Building Materials

The proponent plans to source several building materials locally and expressed the confidence that the materials can be procured locally. The great emphasis laid on procurement of building materials from within the local area makes both economic and environmental senses since it reduces negative impacts of transportation of the materials to the project site through reduced distance of travel by the materials transport vehicles. Building materials are transported to the project site from their extraction, manufacture, or storage sites using transport trucks. There is adequate road linkage for the purpose of smooth transport of building materials into the project site.

4.8.2 Storage Materials

Building materials will be stored on site according to their need. Bulky materials such as rough stones, ballast, sand and steel will be carefully piled and covered on site. Materials such as cement, paints and glasses among others are to be stored in temporary storage rooms conveniently within the project site for this purpose

4.8.3 Masonry, Concrete Work & Related Activities

The construction of the proposed houses will involve a lot of masonry work and related activities. General masonry and related activities will include stone shaping, concrete mixing, plastering, slab construction, construction of foundations, and erection of building walls and curing of fresh concrete surfaces. These activities are known to be labour intensive and will supplement by machinery such as concrete mixers.

4.8.4 Structural Steel Works

All the beams and floors shall be reinforced with steel metals to enhance the stability of the proposed building. Structural steel works will involve steel cutting, welding and erection.

4.8.5 Roofing & Sheet Metal Works

Roofing activities will include iron sheet cutting, raising the roofing materials such as structural timber to the roof and fastening the roofing materials to the roof. Proper planning and measuring must be done before procurement of the sheets to ensure not much solid waste is generated after roofing is completed.

4.8.6 Electrical Work

Electrical work during construction of the premises will include installation of electrical gadgets and appliances including electrical cables, lighting apparatus, sockets among others. In addition, there will be other activities involving the use of electricity such as welding and metal cutting.

4.8.7 Plumbing

Installation of pipe work for water supply and distribution will be carried out from the existing supply and then to associated facilities. In addition, pipes will be installed to connect sanitary facilities with the existing NCWSC serving the area, and for drainage of storm water from the rooftop into the peripheral drainage system. Plumbing activities will include metal and plastic cutting, the use of adhesives, metal grinding and wall drilling among others.

4.8.8 Landscaping

To improve the aesthetic value or visual quality of the site once construction is complete, the proponent will carry out extensive landscaping especially at the front part of the building as well as in the terrace spaces that shall involve establishment of small and attractive flower gardens. It is noteworthy that the proponent will use plant species that are available locally and fast growing for the landscaping.

4.9 Description of the Project's Operational Activities

4.9.1 Solid Waste & Wastewater Management

The developer has proposed to contract a licensed company responsible for solid waste handling for the defect period of the operational phase of the hotel & apartments units. Solid waste generated within the premises during its operation phase, where it will be occupied by guest, residents & tenants who generate domestic wastes in their day-to-day activities. This waste will be disposed off to a designated area within the development, from where licensed contracted company will be responsible for collecting and disposing off these wastes to a designated disposal site approved by the relevant authority.

4.9.2 Cleaning

Once the proposed development is complete a management company will be responsible for regular washing and cleaning of the common roads and way leaves. Cleaning operations will involve the use of substantial amounts of water, disinfectants and detergents.

4.9.3 General Repairs and Maintenance

Throughout the operational phase of the development project, general repairs will be carried out to ensure normal functioning of the building's infrastructures, components and avoid any hazard, injury or accident to the occupants& vistiors. Such activities will include repair of floors, repairs and maintenance of electrical gadgets and equipment, repairs of leaking water pipes, painting, maintenance of flower garden and replacement of worn-out materials among others.

5 ANTICIPATED ENVIRONMENTAL IMPACTS

5.1 Positive impacts

Potential positive impacts from the proposed redevelopment will be both short term and long term. This will include but not limited to the following:

5.1.1 Additional hotel bed capacity

An additional 170 beds of hotel capacity will be available to the market.

5.1.2 Employment opportunities

During the construction phase, job opportunities to both skilled and casual workers will be available. Several workers including casual labourers, masons, carpenters, joiners, electricians and plumbers are expected to work on the project site from the project start period to its completion date. Apart from casual labour, semi-skilled and unskilled labour and formal employees are equally expected to obtain gainful employment opportunities during the project construction phase. Employment opportunities are one of the long-term major impacts of the proposed residential development that will be realized after the construction phase and during the operation and maintenance of the development.

5.1.3 Development of local infrastructure

The implementation of the proposed project tt is anticipated that the Nairobi City County government will prioritize the area for provision of requisite infrastructure to ensure full utility of the development.

5.1.4 Revenue to government

There will be gains in the local and national economy. Through consumption of locally available building materials including concrete tiles, timber and cement. The consumption of these materials, fuel oil and others will attract taxes including VAT which will be payable to the government.

5.1.5 Enhancement of other businesses

The proposed project will improve income/economic status of people within the project neighbourhood. There will be gains in the local and national economy. Through consumption of locally available building materials including concrete tiles, timber and cement. The cost of the materials will be payable directly to the producers.

5.1.6 Improved security in the area

This is going to be realised through employment of security guards both during construction and operational stages of the proposed project. Lighting of the project area and its environs will also help boost the security of the area during night hours.

5.1.7 Optimal use of land

By undertaking the development the design optimises the use of the available land.

5.2 Negative Impacts and Potential Mitigation Measures

5.2.1 Site security and security of construction materials and equipment

On a construction site, the security of the site and the security of the building materials and equipment is a major concern.

Potential mitigation measures include:

1. Construction of perimeter fence and hoarding of the construction site

2. Installation of security lighting
3. Round the clock security manning of the construction site
4. Construction of secure material and equipment stores on the site
5. Construction materials to be delivered in appropriate quantities to minimize storage challenges
6. Installation of CCTV system

5.2.2 Construction material extraction & use

Construction material extraction and use can have negative impacts.

Potential mitigation measures include:

1. Availability and sustainability of the materials extraction sites as they are non-renewable in the short term
2. Source building materials from certified suppliers

5.2.3 Solid waste generation

Solid waste will consist of construction debris, cement bags, wood, broken glasses, containers, metal, sharp objects such as nails, organic waste, paper, and plastic among others during the development construction phase.

Potential mitigation measures include:

1. Comply with EMCA Waste Management Regulations 2006
2. Ensure waste materials are disposed of on NEMA and Nairobi City County Government approved sites
3. Ensure re-use of materials that can be re-used
4. Efficient use of building material to reduce waste and recycling/reuse where feasible
5. Provision for waste management receptacles / bins at strategic places within the site
6. Segregation of waste at the source during the project cycle.
7. Use of an Integrated Solid Waste Management System (ISWMS); through a hierarchy of options: source reduction, recycling, composting and reuse, will facilitate waste handling during the operation/occupation phase.
8. A NEMA and County Government certified waste management firm to be commissioned to provide waste collection and disposal services.
9. Ensure waste materials are disposed of on NEMA and County Government approved dump sites.
10. Ensure re-use of materials that can be re-used – where feasible implement se of the 3rs – Reduce, Re-use, Re-cycle

5.2.4 Air pollution, particulate matter & dust emission

Air pollution will be among the major negative impact during the site preparation and construction phase as a result of increase in amounts of dust emanating from the demolition, excavation, construction activities and stockpiled earth materials. Air pollution may also be as a result of emission of fumes and particles or combustion of fossil fuels from the construction machinery.

The expected air pollutants from the proposed project will include dust, particulate matter and gaseous emissions from construction materials and equipment. Dust will be generated from the excavations and materials delivery. Particulate matter will be generated from dry materials including sand, cement, gravel, etc. Smoke, hydrocarbons and nitrogenous gases will be emitted from machinery exhausts. These will be expected to increase slightly and will be localized hence expected to be experienced within 30m radius of the project. Air pollution is expected to be experienced during the construction period.

Potential mitigation measures include:

1. Carry out baseline air quality survey
2. Regular spraying of stockpiles of earth and dusty area with water
3. Avoid pouring dust materials from elevated areas to ground
4. Cover all trucks hauling soil, sand and other loose materials
5. Provide dust screen where necessary Sensitize workforce including drivers of construction vehicles
6. Ensure no burning of waste such as paper and plastic containers on sites/non-designated areas.
7. Minimize exposed areas through the schedule of construction activities to enable dust control.
8. Minimize the period for idling of machinery and construction vehicles.
9. Monitor the air pollution levels regularly as per the Air Quality regulations.
10. Onsite dirt piles or other stockpiled material should be covered, wind breaks installed, water and/or soil stabilizers employed to reduce wind-blown dust emissions.
11. All staff employed at the construction site and visitors must be provided with dust masks and other PPEs.
12. All waste must be transported off-site for processing, not burnt or stored for any longer than is absolutely necessary.
13. Machines must not be left idling for unnecessary periods of time.
14. Alternatively, fuelled construction equipment shall be used where feasible
15. All raw materials where possible must be sourced as close as possible to the construction site thus reducing the emissions from vehicular traffic.
16. Regular and prompt maintenance of construction machinery and equipment to minimize generation of hazardous gases.
17. Regular sprinkling of water on work areas to prevent fugitive dust violations.
18. Restricting heights from which materials are to be dropped, as far as practicable to minimize the fugitive dust arising from unloading/loading.
19. Use environmentally friendly fuels such as low sulphur diesel.
20. Buffer area of trees and other vegetation will serve as natural windbreaks.
21. Use of dust nets/screens around the construction site to contain and arrest dust.
22. Where a vehicle leaving a construction site is carrying a load of dusty materials, the load shall be covered entirely by clean impervious sheeting to ensure that the dusty materials will not leak from the vehicle.

5.2.5 Sewerage & wastewater management

There will be increase generation in liquid waste as a result of increase in population within the project site both during construction and operation phases of the development.

Potential mitigation measures include:

1. Comply with EMCA Water Quality Regulations, 2006
2. Carry out a sanitation need analysis for the proposed development
3. All drainpipes passing under buildings should be of heavy-duty PVC pipe tube encased in concrete surround.
4. All manholes should have heavy-duty covers set and double sealed airtight as approved by specialists.
5. Proper decommissioning of the sanitary facilities shall be carried out once construction is complete.
6. Provision of adequate and appropriate sanitary facilities for the workers during construction phase and occupants/users during the operation phase of the facility.
7. Sanitary facilities shall be kept clean always through regular cleaning.
8. Servicing of machinery and equipment's to be done at a designated place with a paved surface and oil interceptors

5.2.6 Site excavation leading to site disturbance

Site excavation to pave way for the construction of the proposed building will lead to the disturbance of the site.

Potential mitigation measures include:

1. Excavate only areas to be affected by buildings
2. A NEMA certified waste management firm to be commissioned to provide waste collection and disposal services
3. Dumping of excavated materials to sites approved by NEMA and the county government
4. Landscaping and restoration of excavated sites

5.2.7 Socio-economic impacts potential mitigation measures

Social & neighbourhood effects from the mixed-use development are a function of land use, development & economic impact of development intervention.

Neighbourhood effects

- Neighbourhoods surrounding the Project site
- Population demographics
- Barriers to social interactions (physical or perceived)
- Access to neighbourhood & services
- Changes in property value

Community facilities & Services

- Educational facilities
- Religious facilities & cemeteries
- Fire, police & emergency service facilities
- Health care (hospitals, nursing homes etc.
- Parklands & recreational land
- Civil building & services
- Cultural facilities (museums, libraries, theatres)

Travel patterns

- General Lifestyle & Quality of Life
- Public Health & Safety

The proposed development may have negative socio-economic impacts to the residents / people, these may include public safety and health effects; air and noise pollution, etc

Potential mitigation measures include:

1. Persons from the nearby communities should be employed to work on the construction site.
2. Designate the roles and responsibilities of workers, which will enable a clear chain of command in the event of an accident and allows persons to be aware of their responsibilities in the event of such occurrences.
3. Place several fully equipped first aid kits on the project sites-.
4. Ensure that some workers are trained in basic first aid practices.
5. Signs must also be placed around the construction site displaying the numbers of the person responsible for handling emergencies on the site
6. Develop and implement a Health and Safety Training Manual for employees;
7. Identify a specific area on the project site for vending type activities
8. Purchase goods and supplies from suppliers within the area

5.2.8 Increased traffic & road safety concerns

Increased road traffic in and out of project site will be experience during all the phase of the project. Traffic increase is anticipated both from vehicular & non-motorised sources.

Potential mitigation measures include:

1. Enforce speed limits for construction vehicles
2. Carry out traffic impact assessment study.
3. Formulate a traffic management plan for the proposed development approved by the county government.
4. Erect additional bus stops close to the proposed access points of the project to encourage use of public transport.
5. Proper road safety signage.
6. Road safety awareness creation.
7. The movement of construction vehicles shall not be undertaken during peak morning and afternoon traffic times
8. All the equipment, materials and transport vehicles should be stored/parked, within the construction zone and not in the public areas.
9. The access road should have adequate width to accommodate the heavy trucks, as well as adequate turning/corner radii.
10. Within the site, temporary roads should be placed within existing disturbed areas, where possible.
11. The speed limit on the Site and access roads shall be 10 km/h for construction vehicles and 20 km/h for light vehicles and passenger vehicles.
12. The proponent should provide adequate streetlights to provide sufficient light for both pedestrian areas and carriage ways.
13. Drivers shall be adequately trained in the recognition and avoidance of road hazards, vehicle maintenance and safety requirements.
14. All equipment and/or materials transported to or from Site shall be appropriately secured to, or contained in, vehicles.
15. No construction vehicles shall be loaded in excess of its manufacturer-specified weight bearing capacity.
16. All vehicles used during the Project shall have the appropriate load-bearing capacity for the materials and/or equipment intended to be transported.
17. The access road should have adequate width
18. The access point to have a dedicated lane for pedestrians
19. The access road should be long enough to ensure decongesting of the South Park Road.
20. The intersections to the development to have adequate traffic signage for warning, information or directional.
21. A speed limit to be set in the vicinity of the development due to the high volume of traffic that will be generated, by incorporation of road markings and speed reduction devices i.e. speed humps.
22. Street lights to provide sufficient light for both pedestrian areas and carriage ways to be maintained.
23. The pedestrian walkway should have steel bollards installed
24. Provide adequate parking facilities within the project site.

5.2.9 Noise pollution & excessive vibrations

Noise pollution during construction will be because of use of heavy machinery and vehicles during transportation of materials to and from the site. Vibrations will be experienced during the concrete vibration during concreting of the structural elements and hacking of the walls and building elements during plastering of the structure.

Potential mitigation measures include:

1. Carryout baseline noise survey and regular monitoring of noise levels.
2. Comply with EMCA Noise Pollution & Excessive Vibration Regulations, 2009.
3. Ensure use of well serviced equipment.
4. Avoid idling of engines and machines when not in use.
5. Construction work to be confined to between 8am to 5pm
6. Ensure use of earmuffs and earplugs by machine operators and workers in noisy areas
7. All machines and equipment shall be maintained regularly to reduce frictional noise.

8. All noisy activities shall be scheduled concurrently during the construction period to reduce the exposure period to the PAPs.
9. All workers shall be trained and provided with PPEs such as helmets, earmuffs, dust mask, etc. which will always be used when operating within the site area.
10. Billboard shall be erected at the construction site entrance to notify of the construction activities and timings.
11. Drivers delivering materials shall avoid unnecessary horning of the trucks/vehicles.
12. Equipment installed with noise abatement devices shall be used as much as practicable.
13. Noise shields shall be used on noisy equipment, such as corrugated iron sheet structures, to minimize the exposure to the neighbours and other workers within the site
14. Regular monitoring of noise levels at the site as per the regulations.
15. The construction vehicles and machinery shall be switched off when not in use to reduce idling time.
16. Install portable barriers to shield compressors and other small stationary equipment where necessary
17. Silenced machinery and instruments should be employed to reduce the impact of noise on the existing neighbours and workers.
18. Equipment such as drills, graders and cement mixers should also be used when the least number of neighbours can be expected to be affected
19. Those working with machinery, vehicles and instruments that emit high levels of noise should be provided with ear plugs and earmuffs

5.2.10 Increased water demand & consumption

The demand and usage for water will increase during the project cycle. During construction, water will be required for activities such as cement mixing, curing of concrete, sprinkling of water on dusty areas to suppress dust and drinking water for workers. During operation phase, water will be needed for bathing, washing, cleaning, drinking and cooking. This will place strain on the existing water supply.

Potential mitigation measures include:

1. Undertake water needs analysis for the project.
2. Verify the legal status and the yield of the existing borehole on the proposed project site.
3. Set up water reservoirs to buffer against erratic supplies & reduce competition for resource with other users
4. The contractor to source water for construction from WRA approved sources
5. Drill a legal borehole to provide water for domestic use.
6. Prompt detection and repair of all the water fixtures and fittings to reduce water wastage.
7. Provide notices and information signs to sensitize on means and needs to conserve water resource i.e., “Keep/Leave the Tap Closed”, etc. This will awaken the civic consciousness of the workers and residents with regard to water usage and management.
8. Provision of adequate underground and roof tanks for water storage that covers two days’ water demand.
9. The contractor shall use water bowsers and tankers to bring in water for construction activities i.e., during periods of high-water demand (i.e., during slab formation). Water fetching shall however be subject to authorization by the relevant authority.
10. Use water efficient appliances and fixtures for conservation of water during the project cycle.

5.2.11 Increased energy demand & consumption

The proposed project will lead to increased demand and use of energy during the construction stage (fuel for running machinery and other equipment) and during operation phase (electricity used by the occupants of the units).

Potential mitigation measures include:

1. Carry out energy needs analysis for the project

2. Exterior lights shall be controlled by a programmable timer.
3. Generator should be provided as a full backup energy source throughout the development.
4. Install and routine maintenance of energy efficient appliances e.g., LED bulbs etc.
5. Monitor energy use during construction and set reasonable limit.
6. Put off all lights immediately when not in use or are not needed.
7. Turn off machinery and equipment when not in use.
8. Use of solar energy as an alternative source of energy.

5.2.12 Increased surface run-off & storm water

The proposed project construction phase will lead to increased release of sediments into the drainage systems. The building roofs and pavements may lead to increased volume and velocity of storm water or run-off flowing across the area covered by the building. This can lead to increased amounts of storm water entering the drainage systems, resulting in overflow and damage to such systems.

Potential mitigation measures include:

1. Rainwater harvesting
2. Provision of enough green spaces for water percolation
3. After completion of construction, the proponent shall embark on comprehensive landscaping.
4. Construct gently sloping drains to convey water at non-erosive speed.
5. Drainage channels shall be covered; say with gratings, to avoid occurrence of accidents and entry of dirt.
6. Semi permeable materials will be used for construction of pavements.

5.2.13 Emergence & spread of social vices

The proposed development will lead to potential for employment opportunities and access to new services which will draw people to the area more specifically the project site. This factor will further lead to a temporary increase in economic activities and employment of skills for the development. This will lead to population influx which might lead to changes in or unwanted behaviours in the area. This unwanted or change in behaviour may be in the form of loose morality, an increase in school drop-out due to cheap labour, child labour, drug use and abuse, theft/robbery and increased incidences of HIV/AIDS and related infections/diseases and other communicable diseases.

Potential mitigation measures include: in order to minimize project effects on local social set up, the proponent will;

1. Installation of security lighting in and around the project site
2. Liaise with local security system to secure the area
3. Conduct periodic sensitization forums for employees on ethics, morals, general good behaviour and the need for the project to co-exist with the neighbours.
4. Ensure enforcement of relevant legal policy on sexual harassment and abuse of office.
5. It is recommended that the contractor employs workers from the immediate area where possible to avoid social conflict
6. Offer awareness, guidance and counselling on HIV/AIDS and other STDs to employees;
7. Provide sexual awareness and provide condoms to employees

5.2.14 Public Safety & Health

During construction phase, there will be increased safety and health hazards to members of the public.

Potential mitigation measures include:

1. Comply with applicable Labour Laws e, g. the Occupational Safety and Health Act, 2007; the Work Injury Benefits Act, 2007
2. Ensuring building safety and integrity /stability

3. Provide access to clean water and food to the workers and members of public
4. The contractor to abide by EIA licensing conditions
5. Hoarding / fencing of the construction site to prevent unauthorized people accessing the site
6. Staff awareness creation on safety and health issues
7. The contractor and management shall adhere to the provisions of environmental health and safety plan (EHS) for the project
8. Implement dust suppression measures
9. Enforce speed limits for trucks delivery construction materials
10. Safety signage displayed
11. Dust suppression measures
12. Deployment of traffic marshals to control movement of vehicles to and from the construction site
13. Construction works restricted between 8am and 5pm on weekdays, 8am and 2pm on Saturday.

5.2.15 Occupational Safety & Health

Waste material such as pieces of glass and nails left lying on the ground may cause injuries/accidents to the workers on site. Food for the construction workforce is usually provided by mobile individuals most of which operates without licenses. This can compromise health of the workers especially if such foodstuffs are prepared in unhygienic conditions. During construction phase, there will be increased air and noise pollution which are considered harmful to human health. The neighbours and workforce involved shall be subjected to this noise.

Potential mitigation measures include:

1. Register the construction site with Department of Occupational Safety and Health Services (DOSHS).
2. Comply with applicable Labour Laws e, g. the Occupational Safety and Health Act, 2007; the Work Injury Benefits Act, 2007, etc.
3. Staff awareness creation on safety and health issues'
4. Have trained First Aiders and fully equipped First Aid box on site.
5. Provide and ensure proper use of personal protective equipment i.e. safety boots, helmet, goggles, and hand gloves.
6. The contractor and management shall adhere to developed environmental health and safety plan (EHS) for the project.
7. Protect workers from accidental falls and falling objects e.g. use of scaffolding with a safety net (sisal sacking); use of safety harnesses.
8. Implement dust suppression measures.
9. Enforce speed limits for trucks and vehicles delivering construction materials.
10. Ensuring buildings under construction are safe and meet all safety standards.
11. Proper supervision of works.
12. All workers shall use properly fitting PPEs to avoid injuries and illness which include working boots, overalls, helmets, goggles, earmuffs, masks, gloves etc.
13. Ensure proper solid waste disposal and collection facilities
14. Ensure dustbin cubicles are protected from animals, rains and are well covered
15. Proper management and treatment of wastewater
16. Construction activities must therefore be limited to the hours of 8:00 a.m. and 6:00 p.m.
17. Local individuals preparing food for the workers at the site shall be controlled, monitored and evaluated to ensure that food is hygienically prepared.
18. Provide adequate and functional sanitary facilities for the workers.
19. Provide appropriate signage and warnings in work areas to avoid injuries to the workers and occupants.
20. Safety awareness may be gained through regular safety meetings, safety training or personal interest in safety and health.
21. The contractor shall adapt a suitable emergence response plan to manage occurrence of anticipated hazards during construction phase.

22. Workers shall always be sensitized on social issues such as drugs, alcohol, diseases such as HIV/AIDS and STIs etc.

6 PUBLIC & STAKEHOLDERS' ENGAGEMENT

Consultation with various stakeholders and public participation was done throughout the Environmental Impact Assessment study. This was in line with the requirements of the Environmental (Impact assessment and Audit) Regulations, 2003. Consultations and public participation were encompassing, interactive and intensive, so as to ensure that as many stakeholders as possible and the public were reached. Special attention was paid to general public especially those drawn from the proposed project site and the immediate neighbourhood. Views, comments, concerns and opinions of stakeholders concerning the proposed project were sought.

The public and stakeholders' consultation was vital as it served to:

i. Inform all stakeholders of the proposed development within their locality.
ii. Explain to the stakeholders the nature of the proposed project, its objectives and scope.
iii. Give stakeholders a forum to present their views, concerns and issues regarding the proposed development.
iv. Obtain suggestion from stakeholders on possible ways that potential negative impacts can be effectively mitigated.

The consultation was in the form of site visits, questionnaire administration, public barazas and a meeting with residents of South C ward.

6.1 Public Consultation schedule

Public consultation barazas were organised through the office of the Deputy County commissioner (DCC) Langata Sub-County. The public barazas were held on the proposed project site on 19th and 20th November 2024. Once the dates and venues of the meetings were confirmed, public notices and invitation letters were sent out 7 days before the 1st day of the meetings, public notices on A2 sizes were printed and put up at strategic places in the project area. A copy of the public notice was shared on the various South C Location. Tab. 3 and Plat.9 show more information about the public participation exercise.

Table 3: Schedule of ESIA public barazas

Meeting Venue	Date	Chairman
Proposed project site	19th November 2024	Snr. Chief Richard Mulandi
Proposed project site	20th November 2024	Snr. Chief Richard Mulandi


Plate 9: Stakeholder's Public participation.

A summary of fears / concerns / suggestions raised during the public consultation meetings is summarised in Tab. 4 below:

Table 4: Summary of concerns/suggestions that arose during the public barazas.

1. Pressure on the already strained existing infrastructure. the proponent's plan to manage liquid waste generated bearing in mind that the current sewer line in place is already overloaded.
2. water supply interruptions and shortages during construction and operation phases considering the project is a mega one.
3. Tendency to maximize profits by overlooking children's play and youth common user facilities/Playgrounds hence leading to depressions and conflicts among children.
4. Compliance with relevant Laws and Byelaws, Physical Planning Act & Zoning Plan Regulations
5. Public safety and the right to clean and healthy environment
6. Aesthetics and environmental sustainability
7. The storm water infrastructure in place is already a challenge and therefore channelling in more storm water to the drainage system might be a big challenge.
8. The dust levels especially during the construction phase
9. Traffic is already an issue, bringing more traffic both for people and vehicles will worsen the flow.
10. Public safety especially along walkways during project implementation
11. the impact on local access roads during and after the construction phase Resurfacing of roads once construction is completed.
12. Blocked feeder roads within the area that can be opened to ease traffic flow.
13. The project generating human traffic during the construction & operational phase leading to more cases of insecurity.
14. Water shortages in the near future might happen considering that the proponent might drill a borehole which as a result increases the number of boreholes in the area.
15. The influx of urbanization in south C is making it an area of concrete jungle due to loss of the green environment and the aesthetic nature of the area therefore rendering the serene atmosphere of the area.
16. How the local community will benefit from the project.
17. The public expressed concerns about the negative impacts of the project, such as loss of privacy, noise and dust pollution.
18. There should be pedestrian's walkway which are well marked.
19. The handling of experienced local artisans with no formal qualifications.

20. The potential for contractors to use cheap labour from Burundi, Ruiru, or Kariobangi. The public wants the developer's commitment to prioritize local youths during employment and to engage them continuously during the construction and operation phase.
21. The public informed the developer that the meeting was attended by a small fraction of the larger local community, hence not all views might be recorded during the public meetings.
22. The fate of the *bodaboda* stage opposite the project site or will they be evicted. Can the contactor and the proponent consider putting a *bodaboda* shed adjacent to the proposed project upon completion?
23. The developer should continue engaging the local people through the office of the local chief throughout the project.
24. The developer to ensure local women will be given an opportunity to prepare food for the workers

6.2 Responses to issues raised from the consultation process.

The responses to issues raised are summarized in Tab. 5 below.

Table 5: Responses to issues raised during the public barazas.

Issue	Response / proposals/ aspirations
Pressure on the already strained existing infrastructure.	1. The developer should make concerted efforts with the Nairobi city county government and the Nairobi water and sewerage company to expand their infrastructure. 2. Infrastructure & utility studies will be commissioned to check whether the existing sewer can handle more liquid waste and the Utility Engineer will advise if the project should consider its own waste treatment plant. 3. The engineers are doing the infrastructure utility study will consider either expanding the drainage system in place or have a newly constructed drainage system.
water supply interruptions and shortages during construction and operation phases	4. Construction activities to be done in a safe manner with clear safety procedures not to damage or interfere with the existing infrastructure. 5. The developer will consider whether it is necessary to sink a borehole at site and employ rainwater harvesting and water efficient fixtures to supplement municipality water supply. 6. Before any drilling of a borehole is approved, the Water Resources Autho must approve the siting any borehole informed by a hydrogeological s accompanies the application. The community needs to be vigila individuals drilling or operating unauthorized boreholes.
Tendency to maximize profits by overlooking children's play and youth common user facilities/Playgrounds hence leading to depressions and conflicts among children.	7. The proposed designs and development should address this either in horizontal or vertical spatial dimensions and not to ignore this important aspect
There should be compliance with relevant Laws and By-laws, Physical Planning Act & Zoning Plan Regulations	8. The developer to limit the proposed blocks to a maximum of 12 floors in accordance with Nairobi City County Development Control Policy and Zoning Plan 2022 for South C ward as currently in force. 9. The developer should observe the statutory setbacks "building lines" and "back-to-back" dwelling requirements under the physical planning act cap 286 building and development control rules.

Issue	Response / proposals/ aspirations
	10. Existing physical infrastructure that is electrical power, water supply, sewer, ICT, streetlights and footpaths pedestrian walkways shall not be interfered with by observing the development control regulations. 11. the developer to show proof of Kenya Civil Aviation Authority approval and clearance indicating the development does not flout Obstacle Limitation Surface as defined by the authority 12. The proponent will be fully compliant and will not use any shortcut whatsoever.
Public safety and the right to clean and healthy environment. Human influx and loss of the green environment and the aesthetic nature	13. there should be proper site hoarding with raised dust screens erected and maintained at all times. 14. The contractor shall have traffic marshals at all times to safely direct site and public vehicle traffic. There should be signage erected on blind spots near proximity to the site. 15. adequate dust screens should be erected and maintained in order to safeguard the public from construction hazards for example falling the debris and dust. 16. The developer should minimise noise pollution through practical noise suppression measures at all times and work only during authorised working hours. 17. The developer and contractor shall provide security lighting around the site to reduce the risk of insecurity incidences within the neighbourhood. 18. the contractor should take responsibility of its workforce in order to curb insecurity incidences. 19. •Cooperation with the Curve & resident association on security. CCTV cameras will also be installed during operational phase for security. 20. Proponent to ensure proper hoarding and ensure that there are clear, visible signs throughout the construction zone, with clear pathways and redirect pedestrian where necessary if sidewalks are affected.
Aesthetics and environmental sustainability	21. Landscaping and beautification will be considered as part of CSR by the Management 22. Contractor to ensure compliance with environmental laws. 23. The Proponent and the architects have plans for doing landscaping and beautification on the ground floor and the roof top.
The storm water management.	24. There are plans also to consider rainwater harvesting from the development, having permeable pavements, landscaped gardens to absorb rainwater runoff and regularly inspect, maintain storm water systems in our development.
the dust levels especially during the construction phase	25. Mitigation measures like anti dust net will be put in place to ensure that dust emission is suppressed during construction
Increased traffic.	26. A preliminary traffic study will be undertaken to understand the likely traffic impact. the proponent will consult with Traffic Engineers on the best solution and are open to purpose to work together with neighboring stakeholders, NCCG and KURA and lobby for opening of the missing Link Road network.
The project generating human traffic during the construction & operational phase leading to more cases of insecurity.	27. the proponent should consider installing streetlights along the access road.

Issue	Response / proposals/ aspirations
the impact on local access roads during and after the construction phase	28. On completion of the Project, the Site and any adjacent areas affected by the operations shall be cleared of all temporary works, debris and other rubbish and all disturbed works and ground will be made good. 29. Resurfacing of roads once construction is completed.
The public expressed concerns about the negative impacts of the project, such as loss of privacy, noise and dust pollution.	30. appropriate mitigation measures will be put in place to address all potential negative impacts e.g. construction activities will only be done during daytime 8am to 5pm, appropriate noise and dust mitigation measures will be implemented
There should be pedestrian's walkway which are well marked.	31. To ensure clear, safe side walks, bike lanes, safety barriers, lighting accessible crossing and clear signage
The handling of experienced local artisans who do not have formal qualifications.	32. All workers (with or without certificates) will be considered during employment
The potential for contractors to use cheap labour from Burundi, Ruiru, or Kariobangi. The public wants the developer's commitment to prioritize local youths during employment and to engage them continuously during the construction and operation phase.	33. The developer informed the meeting that local youths will be given first priority during employment. 34. The local representative can submit a list of those interested to work as casuals to the contractor and sub-contractor for consideration by the Developer and its contractors. 35. Locals from the community to be given priority in employment
not all views might have been recorded during the public consultation meetings.	36. The developer will continuously engage the larger local community through the local leaders such as the local chief
The fate of the *bodaboda* stage opposite the project site or will they be evicted. Can the contactor and the proponent consider putting a *bodaboda* shed adjacent to the proposed project upon completion?	37. The *boda boda* operators will not be evicted from the *boda boda* stage; the proponent will explore the possibility of building a better stage for the *boda boda* operators. 38. suggested a *boda boda* stage for motorcycle taxis like in the Imara Mall
The developer should keep his promise and continue engaging the local people through the office of the local chief throughout the project.	39. The developer promised that he will continuously engage the local community during the construction and operation phases of the project, the developer will ensure that contractor(s) address the concerns of local community. 40. All promises made by the developer during the public meeting will be honoured by the developer
The developer to ensure local women will be given an opportunity to prepare food for the workers	41. Local food women will be allowed to cook food for the workers during construction phase
How is the community around going to benefit from this project?	42. The community to benefit in several ways e.g employment of both skilled and semi-skilled will be contracted to work in the proposed project.

The certified minutes of the 2 days' deliberations and resolutions are attached in annex 7 of this report.

6.3 Consultations beyond ESIA Process

In order to ensure that the development runs smoothly, consultations should be structured to aid the completion of the project implementation. These consultations should therefore be preceded by further engagement of various stakeholders under the following stages:

- Construction phase and reported through the Initial Environmental Audit; and
- Operation phases and reported through the Statutory Environmental Audit of the project.

The consultation should address pertinent issues including the sustainability and suitability of the operation and maintenance to ensure acceptable standards.

6.4 Grievance redress mechanism

A grievance redress mechanism will be required as a measure to ensure that social concerns related to the project are addressed in a timely fashion. The specific objectives of a grievance mechanism will include:

1. Establishing a timely, consistent, structured, and trusted procedure for receiving and addressing community concerns and complaints;
2. Ensure that complainants are treated with respect;
3. Ensure proper documentation and disclosure of complaints and any resulting corrective actions; and
4. Contribute to continuous improvement in the proponent's decision-making processes by analysing trends and learning from complaints received..

7 PROJECT NEED & ANALYSIS OF ALTERNATIVES

Analysis of project alternatives of the proposed residential mixed-use development considered three possible alternatives / options namely:

Alternative 1: NO Project" Option
Alternative 2: the "YES" alternative s
Alternative 3: Alternative project Option

7.1 The "no project" alternative

This option will mean that the project will not be undertaken. This implies that the proposed mixed-use development will not be undertaken. The project site will remain undeveloped. In analysing this option, the following was considered;

1. **Technology transfer**: implementation of the proposed mixed-use development will see transfer of various technologies locally. This includes design technologies for wastewater treatment and renewable energy incorporation in buildings. Therefore, the 'no project' alternative will not be favourable to this realization.
2. **Narrow gap for high-end hotel capacity;** it is the government policy to make Nairobi the aviation hub of East Africa. This development contributes towards increasing the viability of Nairobi and JKIA as an aviation hub by providing high quality hospitality spaces for transit passengers. The no project alternative will negate this potential gain from the proposed project if implemented.
3. **Employment creation**; - the current government policy on employment and wealth creation aims at creating as many jobs as possible to meeting the ever-increasing employment demand in the country. If the 'no option project' was to be considered, then this government target may not be realized.
4. **Investor attraction; -** if the no option is considered it will not be consistent with the government aim of attracting investments in the country.
5. **Financial investment:** -The 'no' option will mean that the County government will not be paid any taxes / fees charged for development permits.

Therefore, if the no option will be pursued it is likely that we may lose more than what is to be gained if the proposed project is to be implemented.

7.2 The 'yes' project alternative

This was considered to be a viable option. This option was considered viable as opposed to the 'no option' because the yes project alternative implies that the project be implemented and once implemented there will be a number of gains that will be realised including the following;

1. Employment creation at the local level
2. Increased quality hospitality accommodation
3. Boost on investor confidence in the property market.
4. Increased revenue in the form of taxes to the government.

7.3 Alternative project options

Design alternatives for the proposed project covers traffic management options, water sources, and alternative solid waste management systems.

7.3.1 Solid Waste Management Alternatives

A lot of solid wastes will be generated from the proposed project throughout its three phases (construction, operational and decommissioning) and an Integrated Solid Waste Management System (ISWMS) is recommended for its management. The following shall be given preference in its descending order:

1. The developer shall give priority to waste reduction at source of the materials. This option will demand a solid waste management awareness programme in the management and the hotel guests/residents.
2. Secondly, Reducing, Recycling, Reuse and composting of the waste. This calls for a source separation programme to be put in place.
3. The third priority in the hierarchy of options is combustion of the wastes that are not recyclable.
4. Finally, sanitary land filling will be the last option for the developer to consider.

7.3.2 Traffic management alternatives

The success of the project is pegged on its usability and how well the design & project components fit into the aspirations and needs of the residents who will live in them. One of the biggest challenges with many urban settlements is the ease of mobility in, out & around the development. Indeed, the hallmark of sustainable cities is fluid mobility. The project has brought about improvement of various road leading to the property. To build on this, the following options are considered to improve the attractiveness and usability of spaces envisioned in the development:

1. Parking silos within the development to reduce road parking
2. Boda boda stops
3. Upgrading existing pedestrian facilities (Street lighting on all pedestrian walk way, raised zebra crossings,

8 ENVIRONMENT, SOCIAL MANAGEMENT & MONITORING PLAN

8.1 Introduction

The EMP is the key outcome of the Environmental and Social Impact Assessment (ESIA) process for the proposed affordable housing project. In real meaning, the ESMP is a mechanism to meet the recommended environmental and social mitigation measures. The ESMP is an instrument that will allow the proponent, developers and other key stakeholders to integrate environmental components during implementation, operation and decommissioning phases of the project.

8.1.1 Scope & Objectives of the ESMP

The Environmental Management Plan will focus on mitigating the impacts identified during the environmental and social assessment. It is an instrument that will allow developers, beneficiary communities and other key stakeholders to integrate environmental components during the various phases of the project. This plan is meant to establish measures and procedures to control the analysed impacts and monitor their progress. It will achieve the following in the long run:

(i) Provide the National Environment Management Authority (NEMA) with a tool to make ease the evaluation of the objectives at different phases of the project, taking into account the Kenyan environmental legislation;
(ii) Provide clear and mandatory instructions to the proponent, tenants / house owners and other key stakeholders with regard to their environmental responsibilities in all phases of project;
(iii) Ensure continuous compliance of proposed development, beneficiary communities and other key stakeholders with Kenyan legislation and policies regarding the environment;
(iv) Assure the regulators and interested and affected parties the satisfaction of their demands in relation to environmental and social performance.

8.1.2 Applicable Legislation

The developed ESMP will be in line with legislation applicable to the project. International normative instruments concerning the environment, as well as international best practice have also been considered.

8.1.3 Principles of Environmental Management Plan

The project should be implemented taking into account the need to minimize potential negative impacts and maximize its potential positive impacts on the biophysical and socio-economic environment as well as health and safety of workers and the public. This commitment must be made at various levels, from the senior management level of the proponent to the levels of all parties involved in the implementation of the project.

8.2 Recommendations/Commitments of the ESIA

The ESIA document contains a series of recommendations related to mitigation measures, monitoring and management. A key role of the ESMP is to put them all in a single framework. For each identified impact in the ESIA, the ESMP provides in a tabular format the following:

(i) A list of mitigation measures (activities) that the developer and other key stakeholders will implement in accordance with each phase and activity of the project, to ensure that the mitigation objectives are met in full;
(ii) The role and responsibility of each of the stakeholders to ensure full implementation of mitigation measures; and
(i) The timetable of implementation/monitoring activities.

8.3 Responsibility

The proponent assumes full responsibility for implementing and monitoring the required measures to mitigate or enhance the environmental impacts. The effectiveness of mitigation measures should be evaluated by the proponent and the contractor.

8.4 Environmental Awareness

The proponent will be sensitive to the needs of the environment so as not to degrade (or degrade to a minimum) the existing environmental conditions. It is the proponent's primary responsibility to ensure that all parties that are directly involved in the construction and operation phases of the project, including managers and employees are aware about the need to prevent or minimize environmental degradation. The awareness activities will be guided by the following issues:

(i) Prevention of pollution of surface water and groundwater;
(ii) Prevention of air quality degradation;
(iii) Prevention of increased noise levels;
(iv) Prevention/reduction of social and economic disruptions;
(v) Prevention of risks to health and safety of workers and the general public.

8.5 Mitigation

All activities related to the lifecycle of the project will be subjected to appropriate mitigation measures to ensure that negative impacts are properly mitigated and managed. Mitigation involves identifying the best options to be adopted to minimize or eliminate negative impacts, highlighting the benefits associated with the proposed project and the protection of public and individual rights.
Practical measures are therefore sought to reduce adverse impacts or enhance beneficial impacts of the project.

8.6 Monitoring

The key objectives of monitoring are:
(i) To ensure that the EMP is implemented;
(ii) To evaluate the effectiveness of the mitigation measures;
(iii) To verify predicted impacts;
(iv) To provide feedback to licensing authorities.

Tab. 6 below shows the Environmental and Social Management Plan (ESMP) for the pre and construction phases of "The View" project.

Table 6: ESMP for the pre and construction phase of project

REF No.	Potential -ve Impact	Mitigation Measures	Responsibility	Timeframe	Estimated Cost (KES)
1.	Air pollution, particles and dust emission	1. Carryout baseline air quality and monitor the air pollution levels regularly as per the Air Quality regulations,2009 2. Regular spraying of stockpiles of earth and dusty area with water 3. Avoid pouring dust materials to the lower ground from elevated areas 4. Cover all trucks hauling soil, sand and other loose materials 5. Provide dust screen where necessary and sensitize workforce including drivers of construction vehicles on dust suppression / reduction measures 6. Ensure no burning of waste such as paper and plastic containers on the construction site 7. minimize exposed areas through the schedule of construction activities to enable dust control 8. Minimize the period for idling of machinery and construction vehicles 9. Onsite dirt piles or other stockpiled material should be covered, wind breaks installed, water and/or soil stabilizers employed to reduce wind-blown dust emissions 10. All workers at the construction site and visitors exposed to dusty conditions must be provided with dust masks and other PPEs 11. All waste must be transported off-site for processing, not burnt or stored for any longer than is absolutely necessary 12. All raw materials where possible must be sourced as close as possible to the construction site thus reducing the emissions from vehicular traffic 13. Regular and prompt maintenance of construction machinery and equipment to minimize generation of hazardous gases 14. Use environmentally friendly fuels such as low sulphur diesel 15. Buffer area of trees and other vegetation may serve as natural windbreaks 16. Use of dust nets/screens around the construction site to contain and arrest dust 17. Institute appropriate dust suppression measures such as regular sprinkling of water on dusty access roads; speed limits; etc.	Developer and Contractor	Pre and construction phase	50,000 quarterly

REF No.	Potential -ve Impact	Mitigation Measures	Responsibility	Timeframe	Estimated Cost (KES)
2.	Site security and security of construction material and equipment	18. Installation of security lighting 19. Round the clock security manning of the construction site 20. Construction of secure material and equipment stores on the site 21. Construction materials to be delivered in small quantities to minimize storage problems 22. Installation of CCTV on the site	Contractor	Construction phase	200,000
3.	Construction material extraction & use	23. Availability and sustainability of the materials extraction sites as they are non-renewable in the short term 24. Source building materials from certified suppliers	Contractor	Construction phase	No value attached
4.	Safety and integrity of building during construction	25. Comply with the National Construction Authority Act, No. 41 of 2011 26. Comply with applicable Labour Laws e,g. the Occupational Safety and Health Act, 2007; the Work Injury Benefits Act, 2007, etc 27. Use of appropriate construction materials and reinforcements as per specifications 28. Ensuring building materials and components are as per design specifications 29. Close supervision of construction works 30. Proper supervision and material testing regime 31. Ensure proper timelines are followed during construction works e.g. curing time	Contractor	Construction phase	BOQ
5.	Increased traffic flow and road safety concerns during construction	32. Formulate a traffic management plan for the proposed development approved by the county government 33. Erect adequate road safety signage 34. Encourage the use of NMT by providing convenient access to public transport 35. Encourage the use of NMT by providing convenient access to public transport 36. Designate ample parking foe construction vehicles within the project site 37. Limit vehicular speed on the Site and access roads to 10 km/h for construction vehicles and 20 km/h for light vehicles and passenger vehicles. 38. Provide adequate streetlights to provide sufficient light for both pedestrian areas and carriage ways. 39. Drivers shall be adequately trained in the recognition and avoidance of road hazards, vehicle maintenance and safety requirements.	Developer and Contractor	Pre and construction phase	TBD

REF No.	Potential -ve Impact	Mitigation Measures	Responsibility	Timeframe	Estimated Cost (KES)
		40. All equipment and/or materials transported to or from Site shall be appropriately secured to, or contained in, vehicles. 41. vehicles used during the Project shall have the appropriate load-bearing capacity for the materials and/or equipment intended to be transported.			
6.	Site excavation leading to site disturbance	42. Excavate only areas to be affected by buildings 43. A NEMA certified waste management firm to be commissioned to provide waste collection and disposal services 44. Dumping of excavated materials to sites approved by NEMA and the county government 45. Landscaping and restoration of excavated sites	Contractor	Construction	300,000
7.	Noise pollution and excessive vibration	46. Regular monitoring of noise levels 47. Comply with EMCA Noise Pollution & Excessive Vibration Regulations, 2009 48. Ensure use of well serviced equipment 49. Avoid idling of engines when not in use 50. Construction work to be confined to between 8am to 5pm 51. Ensure use of earmuffs and earplugs by machine operators and workers in noisy areas 52. All workers shall be trained and provided with PPEs such as helmets, earmuffs, dust mask, etc. which will always be used when operating within the site area 53. Safety signage shall be erected at the construction site entrance to notify of the construction activities and timings 54. Drivers delivering and removing materials to and from the site shall avoid unnecessary horning of the trucks/vehicles 55. Equipment installed with noise abatement devices shall be used as much as practicable 56. Noise shields shall be used on noisy equipment, such as corrugated iron sheet structures, to minimize the exposure to the neighbours and other workers within the site 57. Install portable barriers to shield compressors and other small stationary equipment where necessary 58. Equipment such as drills, graders and cement mixers should also be used when the least number of neighbours can be expected to be affected	Developer and Contractor	Pre and construction phase	400,000

REF No.	Potential -ve Impact	Mitigation Measures	Responsibility	Timeframe	Estimated Cost (KES)
8.	Occupational Safety and Health	59. Register the construction site with Department of Occupational Safety and Health Services (DOSHS) 60. Comply with applicable Labour Laws e,g. the Occupational Safety and Health Act, 2007; the Work Injury Benefits Act, 2007,etc 61. Staff awareness creation on safety and health issues 62. Have trained First Aiders and fully equipped First Aid box on site 63. Provide and ensure proper use of personal protective equipment i.e. safety boots, helmet, goggles, and hand gloves 64. The contractor and management shall adhere to developed environmental health and safety plan (EHS) for the project 65. Protect workers from accidental falls and falling objects e.g use of scaffolding with a safety net (sisal sacking); use of safety harnesses 66. Implement dust suppression measures 67. Enforce speed limits for trucks and vehicles delivering construction materials 68. Provide First Aiders and First Aid Kits on site 69. Ensuring Building Strength and stability 70. Proper supervision of works	Contractor	Construction phase	250,000
9.	Public Safety & Health	71. Comply with applicable Labour Laws e,g. the Occupational Safety and Health Act, 2007; the Work Injury Benefits Act, 2007 72. Enforce speed limits for trucks and vehicles delivering construction materials 73. Proper signage and warning to public of heavy vehicle turning 74. Ensuring Building Strength and stability 75. The contractor to abide by EIA licensing conditions	Contractor	Construction phase	100,000
10.	Solid waste generation	76. Comply with EMCA Waste Management Regulations 2006 77. A NEMA certified waste management firm to be commissioned to provide waste collection and disposal services 78. Ensure waste materials are disposed of on NEMA and County Government approved sites 79. Ensure re-use of materials that can be re-used 80. Use of the 3rs – Reduce, Re-use, Re-cycle	Contactor	Construction & Operational phase	TBD

REF No.	Potential -ve Impact	Mitigation Measures	Responsibility	Timeframe	Estimated Cost (KES)
		81. Efficient use of building material to reduce waste and recycling/reuse where feasible 82. Provision for waste management receptacles / bins at strategic places within the site 83. Segregation of waste at the source during the project cycle 65. Use of an Integrated Solid Waste Management System (ISWMS); through a hierarchy of options: source reduction, recycling, composting and reuse 66. A NEMA and County Government certified waste management firm to be commissioned to provide waste collection and disposal services. 84. Ensure waste materials are disposed of on NEMA and County Government approved dumpsites			
11.	Sewerage and wastewater management	85. Comply with EMCA Water Quality Regulations, 2006 86. Carry out a sanitation need analysis for the proposed development 87. Provide temporary adequate and clean sanitary facilities for the workers	Contractor	Construction phase	100,000
12.	Increased water demand & usage	88. Set up water reservoirs to buffer against erratic supplies & reduce competition for resource with other users 89. The contractor to source water for construction from WRA approved sources 90. Use water efficient appliances and fixtures for conservation of water during the project cycle.	Developer and Contractor	Pre & construction phase	500,000
13.	Increased energy demand and consumption	91. Generator should be provided as a full backup energy source throughout the development 92. Install and routine maintenance of energy efficient appliances e.g., LED bulbs etc 93. Monitor energy use during construction and set reasonable limit 94. Put off all lights immediately when not in use or are not needed 95. The water booster set will contain inverter pumps for energy saving and precise control of flow and pressure rate 96. Turn off machinery and equipment when not in use 97. Use of solar energy as an alternative source of energy	Developer and Contractor	Pre & construction phases	700,000

REF No.	Potential -ve Impact	Mitigation Measures	Responsibility	Timeframe	Estimated Cost (KES)
14.	Increased surface runoff and storm water	98. Rainwater harvesting 99. Provision of enough green spaces for water percolation 100. After completion of construction, the proponent shall embark on comprehensive landscaping 101. Construct gently sloping drains to convey water at non-erosive speed. 102. Drainage channels shall be covered; say with gratings, to avoid occurrence of accidents and entry of dirt. 103. Semi permeable materials will be used for construction of pavements.	Contractor / Landscape architect	Construction phase	BOQ
15.	Loss of vegetation	104. Landscape the site by planting grass and trees at all disturbed areas 105. Care for the planted trees/plants 106. Incorporate as much local plants found within the area into the final landscaping of the property	Contractor	During construction	Contractor cost BOQ
16.	Emergence and spread of social vices e,g Increase in Sexual Transmitted Infections & increased local insecurity	107. Installation of security lighting in and around the project site 108. Liaise with local security system to secure the area 109. Use of local labour force as far practical to avoid construction of a labour camp 110. Conduct periodic sensitization forums for employees on ethics, morals, general good behaviour and the need for the project to co-exist with the neighbours 111. Ensure enforcement of relevant legal policy on sexual harassment and abuse of office 112. It is recommended that the contractor employs workers from the immediate area where possible to avoid social conflict 113. Offer awareness, guidance and counselling on HIV/AIDS and other STDs to employees 114. Provide condoms to employees	Contactor	During construction	100,000
17.	Occupational Health and Safety	115. All workers shall use properly fitting PPEs to avoid injuries and illness which include working boots, overalls, helmets, goggles, earmuffs, masks, gloves etc. 116. Comply with OSHA 2007 and all other relevant regulations governing health and safety of workplaces. 117. Ensure proper solid waste disposal and collection facilities 118. Ensure dustbin cubicles are protected from animals, rains and are well covered	Contractor, DOSSH	Construction phase	400,000

REF No.	Potential -ve Impact	Mitigation Measures	Responsibility	Timeframe	Estimated Cost (KES)
		119. Proper handling and disposal of solid waste 120. Proper treatment of wastewater 121. Construction activities must therefore be limited to the hours of 8:00 a.m. and 5:00 p.m. 122. Local individuals preparing food for the workers at the site shall be controlled, monitored and evaluated to ensure that food is hygienically prepared. 123. Provide adequate and functional sanitary facilities for the workers. 124. Provide appropriate signage and warnings in work areas to avoid injuries to the workers and occupants. 125. Provide first aid facilities and ensure that workers are trained on emergency response such as first aid skills. 126. Safety awareness may be gained through regular safety meetings, safety training or personal interest in safety and health. 127. The contractor shall adapt a suitable emergence response plan to manage occurrence of anticipated hazards during construction phase. 128. Workers shall always be sensitized on social issues such as drugs, alcohol, diseases such as HIV/AIDS and STIs etc.			
12	Loss of vegetation	129. Ensure that local building materials and muted colors are used to reduce the visual impacts of the development and the landscaping to hide it or blend in with the local environment. 130. Incorporate as much local plants found within the area into the final landscaping of the property.	Contractor/ Project design team Kenya Forest Service	Prior to commencement of demolitions	Contractor cost

Tab. 7 below shows the Environmental and Social Management Plan (ESMP) for the operational phase of "The View" project.

Table 7: ESMP for the Operational phase of project

REF No.	Potential -ve Impact	Mitigation Measures	Responsibility	Timeframe	Estimated Cost (KES)
1	Increased energy demand & consumption	1. Common areas / exterior lights powered by solar 2. Generator should be provided as a full backup energy source throughout the development 3. Install and routine maintenance of energy efficient appliances e.g., LED bulbs etc 4. Monitor energy use and set reasonable limits 5. Put off all lights immediately when not in use or are not needed 6. Use of solar energy as an alternative source of energy 7. Making provision for electric charging infrastructure for e-mobility	Developer	During operation phase	250,000
2	Solid waste generation & management	8. Comply with EMCA Waste Management Regulations 2006 9. Regular inspection and maintenance of the waste disposal systems during operation phase 10. Establish a collective waste disposal and management system 11. A NEMA certified waste management firm to be commissioned to provide waste collection and disposal services	management company	During operation phase	200,000 annually
3	Sewerage & Wastewater management	12. Upgrade existing sewer line to match computed effluent flows 13. Comply with EMCA Water Quality Regulations, 2006 14. Regular inspection and maintenance of the sewer line during the operation phase	management company	During operation phase	500,000 annually
4	Increased loading on existing infrastructure services	15. Upgrading of existing pedestrian facilities (street lights on all pedestrian walk ways & raised zebra crossing 16. Rainwater harvesting 17. Provision of increased water storage capacity 18. Provide adequate storm water drainage system	management company	12 months	150,000

REF No.	Potential -ve Impact	Mitigation Measures	Responsibility	Timeframe	Estimated Cost (KES)
5	Increased Traffic	19. *Boda boda* stop 20. Proper signage 21. Awareness creation 22. The access road should have adequate width 23. The access point to have a dedicated lane for pedestrians 24. The access road should be long enough to ensure decongesting of the South Park Road. 25. The intersections to the development to have adequate traffic signage for warning, information or directional. 26. A speed limit to be set in the vicinity of the development due to the high volume of traffic that will be generated, by incorporation of road markings and speed reduction devices i.e. speed humps. 27. Street lights to provide sufficient light for both pedestrian areas and carriage ways to be maintained. 28. The pedestrian walkway should have steel bollards installed. 29. Implementation of parking silos proposal within development	Developer , KURA, NCC	During operation phase	20,000
6	Storm water management	30. Rainwater harvesting 31. Provide roof gutters to collect and direct roof water to drains and storage tanks 32. Construct drains to standard specifications 33. Green spaces for percolation of water 34. Develop a storm water drainage system and linkage to natural drains	Developer	During operation phase	100,000 annually
7	Insecurity	35. Guarding of sites/estates by a reputable security firm 36. Constant site patrols 37. Adequate screening of visitors to the site 38. Collaboration with the existing national and county government security machinery 39. Partnership with neighbours and police in community policing 40. The contractor shall ensure that there is adequate street lighting and a security guard within the site to help curb with issues that may arise from theft. Also installing 24hr operating CCTV surveillance, which will be monitored regularly	Proponent/ management company	Operational phase	Contract sum

9 CONCLUSION & RECOMMENDATIONS

9.1 Conclusion

The proposed mixed-use development in South C intends to raise the standards of hospitality & retail facilities in the city. To support this development constraints related to physical infrastructure will need to be surmounted. The continued earnest engagement of the various agencies in charge of roads, stormwater & sewage will need to be lobbied to align their expansion/ capacity enhancement projects with the planned development. In the interim, the developer should consider mitigating the existing infrastructure related concerns by phasing the development to march existing capacity. It is an ambitious project and may be environmentally and socially viable if the proposed mitigation measures outlined in the ESMP are implemented fully.

9.2 Recommendations

i. Seek approval from the NCWS for connection of development to existing sewer line.
ii. Finalise and implement the traffic management plans in consultations with KURA & KeNHA.
iii. Seek KCAA approval for the full development.
iv. Fully implement the developed ESMP in conjunction with relevant stakeholders
v. Ensure that worker's occupational health and safety standards are maintained through capacity building, proper training, providing protective clothing and equipment.
vi. Annual environmental audits should be carried out on the project to ensure compliance of the project with the mitigation measures outlined in the Environmental Management Plan (EMP),
vii. All activities concerning construction and maintenance such as, work execution and site inspection shall be strictly monitored by an engineer or a designated official. Engineers and/or designated official shall be trained and experienced enough to judge the appropriateness of the work executed to carry out the monitoring properly.
viii. Upon completion and occupation, the developer / management company should engage services of waste handling companies registered by NEMA in compliance with Environment Management and Coordination (Solid Waste) Regulations 2006.

10 REFERENCES

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11 APPENDICES

Annex 1 Certificate of Incorporation & PIN certificate of the View by the Park Ltd
Annex 2 Copy of Land lease documents for the project
Annex 3 Approval for land amalgamation of project site plots & Change of Use
Annex 4 ESIA terms of reference approval letter
Annex 5 NEMA fees receipt & Summary Bill of Quantities
Annex 6 Technical drawings for the mixed-use development project
Annex 7 Minutes of public meetings
Annex 8 ESIA questionnaires
Annex 9 EIA/EA Experts practising licence

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