



GREEN BUILDERS & PLANNING
CONSULTANTS LIMITED

**TERMS OF REFERENCE (TOR) FOR THE PROPOSED
RESIDENTIAL APARTMENTS
LOCATED ON PLOT L.R NO. 1/95 ALONG ARGWINGS
KODHEK ROAD, IN HURLINGHAM, NAIROBI CITY
COUNTY.**

PROPONENT

DOUBLE WIN COMPANY LIMITED

P.O. BOX 25839-0100,

NAIROBI.

JULY 2018

DOCUMENT AUTHENTICATION

This Terms of Reference report has been prepared by Green Builders & Planning Consultants Limited (NEMA Reg. No. 9571) in accordance with the Environmental Management and Coordination Act (EMCA) 1999 and the Environmental Impact Assessment and Audit Regulations 2003 which requires that every development project must have an EIA report prepared for submission to the National Environmental Management Authority (NEMA). We the undersigned, certify that the particulars in this report are correct and righteous to the best of our knowledge.

EIA/EA LEAD EXPERT:

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POSITION:

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CHAPTER ONE: INTRODUCTION

Green Builders and Planning Consultants Limited , herein referred to as the ‘consultants’ has prepared these Terms of Reference (TOR) to provide the guidelines for undertaking an Environmental Impact Assessment (EIA) study report for the proposed development. The proponent (**DOUBLE WIN COMPANY LIMITED of P.O. BOX 25839-00100, NAIROBI**) has proposed to put up residential apartment development on Plot L.R No. 1/95 Located along Argwings Kodhek Road in Hurlingham area, Nairobi City County.

By Enactment, building and construction operation is a prescribed activity as per the second schedule in section 58, of **Environment Management and Coordination Act, 1999** among other law enactments. Under these laws, any activity out of character with its surrounding which is likely to cause substantial impact to the environment in areas such as waste disposal, sustainable resource use, ecosystem’s maintenance, social environment, land use and water extraction; an Environmental Impact Assessment (EIA) report is required to assess such impacts and propose mitigation measures.

By the Enactment, the Project Proponent is required to submit an EIA report to NEMA for approval before commencing implementation of the project. By this report the relevant government authorities are able to monitor impacts within the life span of the project on the immediate environment, so as to enable major stakeholders of the project including the Government agencies to manage the environment for the well being of the community.

These TORs have been prepared based on the scoping result, field visits and information collected from both primary and secondary sources including information provided by the Project Proponent. The Terms of Reference (TOR) for conducting the EIA Study are based on the General Guidelines for Conducting EIAs in Kenya as per Environment (Impact Assessment and Audit) Regulations, 2003, which operationalizes the Environmental Management and Coordination Act, (EMCA) 1999.

CHAPTER TWO: PROJECT DESCRIPTION

2.1 Project Description

The proposed development will comprise of 2 Blocks of 14 storey residential apartments on plot L.R No. 1/95 as follows:

- BASEMENT 1&2: Will have 130 number of parking
- GROUND FLOOR: will have 63 number of parking bays, driveways and gate house.
- Typical 1st to 14th Floor plan:
 - ✓ BLOCK A: will comprise of 4, two(2) bedroom units and 2, three(3) bedroom units with DSQ giving a total of 6 units in the entire floor
 - ✓ BLOCK B: Will comprise of 4, two(2) bedroom units and 2, three(3) bedroom units with DSQ giving a total of 6 units in the entire floor
 - ✓ Each block will consist of 84 units giving a total of 168 units in the 2 blocks

More/fine details of the development, Specifications and features of the proposed project will be given on the study report.

2.1.1 Name of Project

Proposed residential apartment Development located On Plot L.R No. 1/95 in Hurlingham area Nairobi City County.

2.1.2 Project Proponent

The project proponent is; **DOUBLE WIN COMPANY LIMITED of P.O. 25839-0100, NAIROBI**

2.1.3 Objective of the Project

The proposed project has the overall objective of developing Residential Apartments on plot L.R NO. 1/95

2.1.4 Major Activities of the Project

The construction activities shall involve civil and engineering works as here on:

- a) Site clearance and preparation
- b) Normal excavation of soil and filling with hardcore
- c) Laying of foundation slab and walling
- d) Plastering and painting
- e) Landscaping
- f) Storm water and drainage construction
- g) Laying of the pavement blocks
- h) Installation of electrical works
- i) Government inspection/occupation certificate and completion of works issued
- j) Beginning of occupation

2.2 EIA Consultant

Licensed NEMA consultant, Green Builders & Planning Consultants Limited (EIA / EA Expert Reg. No. 9571) works with a team of experts with proven track record of excellence focusing mainly on environmental management and physical planning. The team has undertaken numerous development projects since its inception for individual as well as corporate local and international clients, providing top-quality environmental impact assessments and environmental management plans.

2.3 Scope of Work

The Environmental Impact Assessment will include but not necessarily be limited to:

- 1) Project Objectives
- 2) Complete description of the existing site proposed for development.
- 3) Significant environmental issues of concern through the presentation of baseline data, which should include social, cultural and heritage considerations. Assess public perception of the proposed development.
- 4) Policies, Legislation and Regulations relevant to the project.
- 5) Likely impacts of the development on the described environment, including direct, indirect and cumulative impacts, and their relative importance to the design of the development's facilities.
- 6) Mitigation action to be taken to minimise predicted adverse impacts if necessary and quantify associated costs.
- 7) Monitoring Plan that should ensure that the mitigation plan is adhered to.

8) Alternatives to the project that could be considered at that site or at any other location including no action alternative.

9) Conclusions

To ensure that a thorough environmental impact assessment is carried out, the following tasks are necessary:

2.4 Context, Components and Activities of the Project

To provide a comprehensive description of the project and the surrounding environment specifying any information necessary to identify and assess the environmental effects of the project. This includes project objectives and information on, rationale for the project and background, the nature, location/existing setting, timing, duration, frequency, general layout including relocation of people and any additional impacts on the surroundings communities, pre-construction activities, construction methods, works and duration, and post construction plans. A description of raw material inputs, technology and processes to be used as well as products and by-products generated, should be provided. Note areas to be reserved for construction and areas to be preserved in their existing state as well as activities and features which will introduce risks or generate impact (negative and positive) on the environment. The EIA study shall include an assessment of the context, components and activities of the project.

This includes among others:

- *Context*: Description and assessment of the *location* of the land, the *land use characteristics*, including the planned use of the land and description of the existing land use and their patterns within 3-km radius from the boundary of the Project Area and *project characteristic*
- *Activities*: Description and assessment of the specific phases and activities; including timing and location, for:
 - (i) *pre-construction (planning) phase* (Plan preparation and seeking of the appropriate approvals from the relevant authorities, baseline condition appraisal),
 - (ii) *construction phase* (base camp establishment, site clearance, acquisition and transportation of building materials, construction of the apartment);
 - (iii) *Occupation phase* (running and managing the facility as per the laid down rules and procedures; and
 - (iv) *Decommissioning/abandonment phase* (demolition of facility).

CHAPTER THREE: BASELINE INFORMATION

3.1 Description of the Environment/Baseline Studies Data Collection and Interpretation

Description and assessment of the *location* of the land, the *land use characteristics*, including the planned use of the land and description of the existing land use and their patterns within 3-km radius from the boundary of the Project area and *project characteristic*. Baseline is important to give an overall evaluation of the existing environmental conditions, including a historical meteorological evaluation to include but not be limited to characteristics and analysis, values and functions of the area, as follows:

- i.) Physical environment
- ii.) Biological environment
- iii.) socio-economic and cultural constraints

The methodologies employed to obtain baseline and other data to be clearly detailed. Baseline data included but not limited to:

- **Physical**

- i). A description of the existing soil and geology, landscape, aesthetic values and hydrology. Special emphasis should be placed on storm water run-off, drainage patterns, and aquifer characteristics. Any slope stability issues that could arise should be thoroughly explored.
- ii). Water quality of any existing wells, rivers, ponds, streams or coastal waters in the vicinity of the development.
- iii). Terrestrial ecosystem, including but not limited to any wetlands and other ecologically sensitive areas with indication of their function and value in the project area.
- iv). Noise levels of undeveloped site and the ambient noise in the area of influence
- v). Obvious sources of existing pollution and extent of contamination
- vi). Availability of solid waste management facilities

- **Biological**

Present a detailed description of the flora and fauna (terrestrial and aquatic if applicable) of the area, with special emphasis on rare, threatened, endemic, protected and endangered species. Migratory species, wild food crop plants and presence of invasive alien species should also be considered. There is need to incorporate micro-organisms to obtain an accurate baseline assessment. Generally species dependence, habitats/niche specificity, community structure and diversity ought to be considered.

- **Socio-economic & cultural**

Present and proposed land use; transportation of heavy equipment, road widening and associated traffic considerations particularly in the construction phase of the project, planned development activities; issues relating to squatting and relocation; public health and safety. The historical importance (heritage, archaeological sites and feature) and other material assets of the area should also be examined. While this analysis is being conducted, it is expected that an assessment of public perception of the proposed development be conducted. This assessment may vary with community structure and may take multiple forms such as public meetings and/or questionnaires/surveys.

3.2 Policy, Legislative and Regulatory Considerations

Outline the pertinent regulations and standards governing environmental quality, safety and health, protection of sensitive areas, protection of endangered species, siting and land use control at the national and local levels. The examination of the legislation should include at minimum, legislation such as the Environmental Management and Coordination Act No.8 of 1999 (EMCA) Act, The Environmental Management and Co-ordination (Waste Management Regulations 2006), the Public Health Act, Waste Water Management; Physical planning act, 1999, Local Government Act (265), Building code 2000 and the appropriate international convention/protocol/treaty where applicable.

3.3 Identification and Assessment/Analysis of Potential Impacts

Examine and identify the major potential environmental and public health issues of concern and indicate their relative importance to the development project. These should include the occupational exposure, health and safety measures and population exposure in the appropriate study area(s) and changes and or enhancement in emergency response plan. Identify potential impacts as they relate to, (but are not restricted by) the following:

- change in drainage patterns
- flooding potential if necessary
- landscape impacts of excavation and construction
- loss of and damage to geological and paleontological features
- loss of species and natural features
- habitat loss and/or fragmentation
- pollution of potable, surface or ground water
- air pollution
- socio-economic and cultural impacts
- impact of flooding, loss of natural features, excavation and construction on the historic

- landscape, architecture and archaeology of the site
- risk assessment
- noise and vibration
- solid waste disposal
- soil
- change in land use
- visual impacts – aesthetics
- impact on traffic and the transportation of heavy equipment to the site

Distinguish between significant positive and negative impacts, direct and indirect, long term and immediate impacts to include discussion on site restoration and residual impacts and the proposed mitigation measures. Identify avoidable as well as irreversible impacts. Cumulative impacts of this and other proposed and/or existing developments will be explored.

Characterize the extent and quality of the available data, explaining significant information deficiencies and any uncertainties associated with the predictions of impacts. A major environmental issue is determined after examining the impact (positive and negative) on the environment and having the negative impact significantly outweigh the positive. It is also determined by the number and magnitude of mitigation strategies, which need to be employed to reduce the risk(s) introduced to the environment. Project activities and impacts will be represented in matrix form.

3.4 Assessment of key Environmental impacts

The following environmental impacts (a, b, c) are the key potential adverse impacts identified during the scoping phase. Other potential adverse impacts (d) - waste disposal, flora and fauna and dust - shall be assessed in less detail.

a. Noise Pollution, Solid Waste pollution, Energy and Water Constraint

Construction activities (excavation, building construction, transportation and machinery) are among the major contributors to noise and solid wastes. Construction and operation phase may affect the level of water and energy usage within the area.

The following activities and assessment shall be undertaken:

- Status of water usage and capacity within the Project Area, e.g. pipe type, estimated users, pipe size and other water sources shall be described and assessed.
- Status of energy (electricity) usage and capacity within the Project Area, e.g. phase type, estimated users, layering type and other energy sources shall be described and assessed.
- The impact of noise pollution, solid waste and traffic congestion shall be determined and assessed.

These shall be predicted based on:

- (i) Description and assessment of existing topographical and physical characteristics of the project site (based on e.g. topographical maps and ground investigation),
 - (ii) Description and assessment of the existing geological and soils condition within the project site (based on e.g. on ground survey and soil maps available),
 - (iii) Description and assessment of the drainage system within the project area (based on e.g. topographical maps and ground surveys).
- The impact on waste effluents due to the construction activities and operations of the residential houses shall be assessed.

b. Social Impacts

Social impacts of the project shall be determined through interviews with a representative number of people potentially affected by the project activities (and quantification of answers).

c. Other Impacts

The following environmental impacts have to be addressed in less detail:

- **Waste Disposal.** Waste generated from construction site and machinery (oil and grease) shall be assessed. Waste generated as a result of occupation will also be assessed.
- **Flora and fauna.** The impacts on flora and fauna within the proposed area shall be assessed. This assessment shall mainly be carried through interview with local people, observations and through information obtained from the relevant Government agencies.
- **Dust Pollution.** Impact due to dust generated from construction activities especially excavation, material mixing e.g. cement, trucking of materials during transportation shall be assessed.

3.5 Recommended Mitigation Measures

- Wise water usage. Water conservation shall be emphasized at all phases through activities such as recycling, water conserving taps, notices near water points on need to conserve water. Adopt alternative water sources such as rain water harvesting, borehole sinking.
- Waste effluents shall be disposed off through the existing sewerage system.
- Restriction of the number of vehicles entering the construction site to reduce chances of traffic jams.
- Construction of parking zone for use during operation phase.
- Mitigation measures related to concerns raised by the local residents in the area surrounding the project areas e.g. being given priority in employment such as unskilled labour.

3.6 Key Monitoring Programs

- Assessment and recommendation concerning compliance monitoring of the water usage. Use of detailed map of water courses (rivers, streams, etc.) and riparian reserves.
- Assessment and recommendation concerning compliance, monitoring of the noise pollution reduction. Proper work ethics such as switching off engines when not in use has to be considered and recommended upon.
- Assessment and recommendation concerning compliance, monitoring of the restriction of traffic to the construction site. Use of photographs, timing, location, etc. has to be considered and recommended upon.

Assessment and recommendation concerning compliance monitoring of the socio-economic impact related to the concerns raised by the local residents in the area surrounding the project areas.

3.7 Drainage Assessment

An assessment of Storm Water Drainage should be conducted. The EIA Report will cover but not be limited to where necessary:

- i.) Drainage for the site during construction to include mitigation for sedimentation to the aquatic environment
- ii.) Drainage for the site during operation, to include mitigation for sedimentation to the aquatic environment

Drainage control for crossings of rivers and/or gullies, to include impacts that drainage control features could have on aesthetics, water quality and sedimentation of rivers and/or gullies.

3.8 Mitigation & Emergency Preparedness and Response

Prepare guidelines for avoiding or reducing (e.g. restoration and rehabilitation), as far as possible, any adverse impacts due to proposed usage of the site and utilising of existing environmental attributes for optimum development. The potential impacts in the area should be addressed. Quantify and assign financial and economic values to mitigating methods. Indicate the emergency preparedness and response plans for dealing with risks and hazards identified as above. Identify, assess and recommend appropriate and practical mitigation measures to remove or minimize the adverse environmental impacts identified. Identify, assess and recommend impact monitoring programs and compliance auditing programs.

After completion of the EIA study, the E.I.A consultant shall prepare a comprehensive report and undertake a presentation of the EIA report to NEMA. Below are listed a number of specific issues, based on the scoping phase, the EIA study has to include.

3.9 EHS Management and Monitoring Plan

Design a plan for the management of the natural, historical and archaeological environments of the project to monitor implementation of mitigatory or compensatory measures and project impacts during construction and occupation/operation of the units/facility. An EHS Management Plan and Historic Preservation Plan (if necessary) for the long-term operations of the site should also be prepared.

An outline of a monitoring programme (if necessary) should be included in the EIA, and a detailed version submitted to NEPA for approval after the granting of the permit and prior to the commencement of the development. At the minimum the monitoring programme and report should include:

- An introduction outlining the need for a monitoring programme and the relevant specific provisions of the permit and/or licence(s) granted.
- The activity being monitored and the parameters chosen to effectively carry out the exercise.
- Project maintenance and decommissioning
- The methodology to be employed and the frequency of monitoring.
- The sites being monitored. These may in instances, be pre-determined by the local authority and should incorporate a control site where no impact from the development is expected.
- Frequency of reporting to NEMA

3.10 Project Alternatives

Examine alternatives to the project including an assessment of the impacts of all the alternatives examined and the no-action alternative. This examination of project alternatives should incorporate the use history of the overall area in which the site is located and previous uses of the site itself.

3.11 Public Participation/Consultation Programme

Conduct public presentation(s) on the findings of the EIA to inform, solicit and discuss comments from the public on the proposed development if necessary.

- Document the public participation programme for the project.
- Describe the public participation methods, timing, type of information to be provided to the public, and stakeholder target groups.
- Summarise the issues identified during the public participation process
- Discuss public input that has been incorporated into the proposed project design; and environmental management systems

CHAPTER FOUR: WORK SCHEDULE

The EIA study report for the residential apartment development shall be completed within a period of seven (7) weeks from the time of TOR approval.

4.1 Research Activities

Study phase	Specific activity	Time frame(weeks)						
		1	2	3	4	5	6	7
Field work	Consultations	xx	xx					
	Monitoring studies	xx	xx					
Write up	Data analysis			xx	xx	xx		
	Impact prediction	xx	Xx	xx	xx			
	Identification of mitigation measures			xx	xx	xx		
	Formulation of EMP			xx	xx	xx		
	Compiling the EIA study report					xx	xx	
Submission	Submission report to NEMA							xx
	EIA Presentation							xx

CHAPTER FIVE: PROJECT ORGANISATION AND MANAGEMENT

The EIA study will be led by a Project Director assisted by Project Research and Corporate Managers with the following duties and responsibilities:

Project Director:

Appoint team members, outline the terms of reference for each personnel and provide the final decision in respect of the study activities and results.

Project Manager:

Undertake and coordinate the respective field studies and environmental baseline data collection; coordinate and organize discussions and meetings, and contribute in the environmental management aspects of the EIA study.

Research Manager:

Coordinate the overall EIA study activities, data collection, analyses, interpretation, and compilation of the study results.

The following specialists and personnel will perform data collection, analysis, and interpretation of results:

	Name	QUALIFICATIONS
1.	ELIZABETH W. MUTUA	MSC. CLIMATE CHANGE & SUSTAINABILITY BSC. ENVIRONMENTAL EDUCATION (NEMA LICENSED EIA/EA LEAD EXPERT)
3.	LINGE KITULU	BSC. ANALYTICAL CHEMISTRY NEMA LICENSED EIA/EA ASSOCIATE EXPERT
4.	YVONNE KEGEHI	BSC. ENVIRONMENTAL EDUCATION (NEMA LICENSED EA/EA ASSOCIATE EXPERT)
5.	MITCHELLE KUTWO	B.A ENVIRONMENTAL PLANNING AND MANAGEMENT

CHAPTER SIX: THE E.I.A REPORT

All findings will be presented in the EIA report. The report will contain an introduction explaining the need for, and context of the project. The report should, at a minimum, cover the following basic aspects:

1. Executive Summary
2. Policy, Legal and Administrative Framework
3. The EIA Methodology
4. Description of the Existing Environment
5. Description of the Proposed Project in detail
6. Identification and Assessment of Potential Direct, Indirect, Cumulative, Positive and Negative Environmental Impacts
 - Physical
 - Natural Hazard Risk
 - Biological
 - Human/Social
 - Public Involvement
 - Recommended Mitigation Measures
 - Identification and Analysis of Alternatives
 - Management of the Environmental and Heritage aspects of the Project
 - Environmental Management of the Project
 - Environmental Quality Objectives
 - Training
 - Draft Outline Monitoring Programme
 - List of References
 - Appendices including:
 - Reference documents
 - Photographs/ maps/ site plans
 - TOR
 - Notes from Public Consultation
 - Glossary of Technical Terms used

Ten hard copies and an electronic copy of the study report will be submitted to the National Environment Management Authority for Licensing.