



## Crispus Kihara

Civil / Structural Engineer  
Property



### Profile

Crispus Kihara has worked as a civil and structural engineer for over 7 years. He is experienced in structural design and also construction supervision of civil and structural projects.

He has worked with multi-disciplinary project teams in civil and structural engineering. Is proficient in engineering design software and other software commonly used in a design office and has been engaged in projects in the geothermal energy sector; industrial tank farms; commercial and residential buildings and has interests in earthquake design of structures and structural steel design.

### Key Experience

- Structural engineering design
- Foundations design
- Construction Supervision

### Profession

Civil and Structural Engineer

### Joined Atkins

November 2014

### Nationality / Languages

Kenyan

English/Swahili

### Qualifications

MSc (Distinction), Structural Engineering from the University of Sheffield, UK (September 2014)

BSc (1st Class Hons), Civil Engineering from the University of Nairobi, Kenya (August 2012)

Bachelor Business Information Technology (1st Class Hons) from Strathmore University, Kenya (August 2011)

### Professional Associations

- Corporate Member, Institution of Engineers of Kenya (IEK) – M5346
- Graduate Engineer, Engineers Board of Kenya (EBK) – B7496 (soon to be changed to Registered Engineer)

### Contacts:

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**Experience with Atkins Consulting Engineers Limited (November 2014 to date)**

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**Civil/Structural Engineer**  
**Responsibilities include: -**

The role involves developing structural solutions and preparation of structural drawings for construction. It also includes the structural analysis, design and detailing of reinforced concrete and steel structures. Some of the projects dealt with include Olkaria geothermal power plant – additional unit 6 where I was directly involved with the design of the powerhouse foundations and machine foundations. I was also engaged in the Standard Chartered Pension Scheme project for the development of apartments in Kileleshwa comprising of two 14-storeys buildings. Assisted with the structural design of Two Rivers mixed-use development including a shopping mall and 2 office towers and City Lodge hotels in Nairobi and in Dares salaam. I was responsible for the design of foundations for a fuel tank farm at Juba airport and structural investigations and design of the Aga Khan University children's hospital in Nairobi. I have been involved in construction supervision of reinforced concrete foundations and steelwork erection at Wrigley's gum factory in Mavoko as well as construction supervision of civil and structural works at the Australian High Commission in Nairobi.

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**Experience with H. Young (EA) Ltd (November 2012 – September 2013)**

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**Site Engineer**

Construction supervision of Olkaria Geothermal Power Station (Olkaria 1 additional units 4 and 5) in Naivasha, Kenya. Supervised the construction of piles and raft foundations and the concrete works of the machine foundations. I also supervised the erection of structural steelwork for the generator house and workshops.

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**Selected project experience**

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**Standard Chartered Pension Scheme development of Apartments in Kileleshwa – Structural Engineer**

Development of 2 buildings of 14-storeys with 3 shared basements

Activities performed: -

- Seismic design of the building using the latest design software – ETABS and ROBOT
- Structural design of component elements of the buildings
- Design of the building foundations
- Reinforcement detailing

**Two Rivers mixed-use development – Assistant Civil / Structural Engineer**

Mixed -use facility that includes a shopping centre, parking, entertainment, hotel, residential and public amenities. 2 basement parking and roof level parking and 2 levels shopping mall with 14-storey office blocks.

Activities performed: -

- Structural design of component elements of the buildings
- Reinforcement detailing

**City Lodge Hotel, Nairobi and City Lodge Hotel, Dares Salaam – Assistant Civil / Structural Engineer**

Development of 2 hotels in Nairobi and Dar es Salam. The Nairobi hotel had a basement level with 6 storeys above while the Dar es Salam hotel had a basement level and 10 storeys above.

Activities performed: -

- Structural design of foundations and structural elements of the hotel buildings
- Reinforcement detailing
- Design of storm water and sewer networks for the hotel in Dares Salaam

**Fuel Tanks foundations at Juba Airport – Civil / Structural Engineer**

Design of foundations for fuel tanks and fuel depot support structures at Juba airport in South Sudan

Activities performed:

- Site investigations of the proposed tank farm location in Juba
- Review and interpretation of geotechnical data collected by third party investigator
- Design and detailing of the tank foundations and bund wall



**Wrigley's gum factory at Mavoko, Kenya – Civil / Structural Engineer**

Supervision of reinforced concrete foundations and structural steelwork erection.

Activities performed:

- Site supervision of the foundations and pedestals of the factory
- Supervision of structural steel works of the factory building
- Review of submitted laboratory results for civil work materials

**Aga Khan University Children's Hospital – Civil / Structural Engineer**

Re-development of the existing single storey hospital into a 4-storeys building

Activities performed:

- Site investigations of the existing building and its foundations
- Structural investigation of adequacy of existing building and foundations to allow for an extension
- Concept design of new children's hospital using structural steel

**Australian High Commission in Nairobi – Civil / Structural Engineer**

Development of a chancery building and guard houses

Activities performed:

- Detailed review of the structural designs and drawings done to Australian Standards
- Construction supervision of the chancery buildings and guard houses
- Design review of the proposed storm water drainage solutions
- Dealing with the approvals from the local authorities

**Design Review of Chemomi Tea factory in Nandi Hills – Civil / Structural Engineer**

Detailed analysis of the proposed structure for the tea factory.

Activities performed:

- Structural design of the tea factory steel frame accounting for wind loads expected in the area
- Review of structural drawings of reinforced concrete foundations and structural steel portal frame for the factory

**VESTAS Foundation works at Lake Turkana Wind Power Project**

Construction supervision of wind turbine foundations in Marsabit, Kenya

Activities performed:

- Office support to the site-based team on technical matters

**Wayne Ville Mixed-use development, Nairobi – Structural Engineer**

Development of the structural solutions for the houses and communal buildings

Activities performed:

- Concept design of the structures using new innovative materials such as EPS panels
- Research into new construction techniques and methodologies

**Olkaria 1 Additional Unit 6 Geothermal Power Plant – Assistant Structural Engineer**

Structural analysis and design of the power house and its foundations as well as other supporting structures.

Activities performed:

- Foundations design for the geothermal powerhouse steel structure
- Structural analysis and design of machine foundations
- Clash detection of pipework and cable ways with structural foundations using 3-D software
- Reinforcement detailing

**Training Programs**

- Committee member of the Kenya Bureau of Standards (KeBS) Steel Technical Committee and the National Implementation Committee on Eurocodes (NICE) in Kenya
- Atkins in-house trainings in the subjects of Quality Management Systems (QMS), Project Management, Conflict Resolution and Disaster Management as well as several engineering software.

