Rankin Engineering Consultants Ltd is an independent, Zambian-owned company of consulting engineers. Based in Lusaka, we provide technical services within Zambia and other regions of Africa in all the major engineering disciplines.

Projects worth in excess of US$ 2 Billion have been successfully completed in Zambia, Botswana, Zimbabwe, Democratic Republic of Congo (DRC), Tanzania, Chad, Mozambique, Lesotho, Israel and Uganda.
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Since its establishment in 1989, Rankin’s philosophy has been to offer high-quality, practical solutions that are cost effective and technologically appropriate.

With a forward-thinking attitude and a strategy of continuous improvement, both in terms of staffing and technology, Rankin has evolved both in size and vision from a single-sector engineering service provider to a regional leader in engineering design, supervision and project management.

Our senior management team consists of specialised professionals with international qualifications and decades of experience working in developing countries. Management and technical training is regularly provided and our engineers are all proficient in the latest design hardware and software.

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Dedicated
to serving
our clients
## OUR SERVICES

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**Areas of Operation**

![Map of Africa](image)
We have extensive experience in designing and supervising all types of highway works. Our designs are produced using sophisticated modeling software. Material testing is carried out in-house.

For structural analysis of existing pavements, our Falling Weight Deflectometer (FWD) / Heavy Weight Deflectometer (HWD) equipment can be mobilised throughout the Southern and Eastern African Region. Our analytical experience includes evaluation of the remaining life of existing roads, airport pavement rehabilitation design and highway management data collection and interpretation.

Using Civil Designer™ software, our engineers can rapidly carry out the geometrical design of highways. Civil Designer™ provides an accurate and fast calculation of cut/fill volumes, thereby reducing the design time on road-works projects.

Recent projects

1. Supervision of Paving T2 to Kabwe
2. Design & Supervision of Roads & Drainage for Roma Park Development, Lusaka
3. Falling Weight Deflectometer
4. Design & Supervision of 80km Choma to Chitongo Road in Southern Province
5. Design & Supervision of 35km Mongu to Kalabo Road in Western Province
6. Design of 45km Kitwe to Chingola Dual Carriageway in Copperbelt
7. Design & Supervision of 150km Kasama to Mporokoso Road in Northern Province
8. Design & Supervision of 90km Lusaka to Kabwe Road
Rankin has designed and built a vast number of structures within Zambia. Our capabilities cover the entire spectrum of bridge design including surveying, geotechnical study, hydrological study, environmental impact assessments, structural design, and turnkey design and construction. Using the latest Structural Engineering software, we generate optimised designs that can achieve their lifetime objectives with minimum total cost.

Our hydrological department has 20 years’ worth of experience in modeling river basins and catchment areas throughout the Southern African region.

Our experience covers many bridge forms including incrementally launched pre-stressed concrete box girders, post-tensioned concrete beam and slab bridges, and steel and concrete composite bridges.

Recent projects
1. Design & Supervision of Bridges along Mongu to Kalabo Embankment
2. Design of Chembe Bridge across Luapula River
3. Design & Build of 3 Bridges for Nansanga Farming Block in Central Province
4. Design & Build of Mutinondo, Kalungu and Nemfwe Bridges
5. Design of Mwambashi Bridge across Kafue River
6. Design of Mbesuma Bridge across Chambishi River
7. Design & Supervision of Ngonga & Munyeke Bridges along Choma to Chitongo Road
Rankin’s structural department has successfully completed a range of engineering design projects including bridges, multi-storey buildings, industrial, residential and commercial complexes.

All structural design is done to international codes, using a combination of in-house and commercially available software. Our services include feasibility studies, complete design, quantification, cost estimation, tendering and contract management.

We also have extensive experience in structural modification, enabling the rehabilitation of structures for new use.

Recent projects

1. Design & Supervision of Kalungwishi Sugar Factory
2. Structural Assessment of Coal Storage Silos, Maamba Colleries
3. Design & Supervision of Pamodzi Hotel Remodelling
4. Design & Supervision of Expansion of National Breweries, Lusaka
5. Design & Supervision of Chembe Bridge across Luapula River
6. Design & Supervision of Garden City Business Park, Lusaka
7. Design & Supervision of 1800m² Twikitane Office Block, Lusaka
8. Design of One Stop Border Post at Kazungula
We provide the following geotechnical and geophysical services in the field, in support of foundation design for civil and structural engineering projects:

- Undisturbed Soil Sampling
- Standard Penetration Tests
- (SPT, SPT(C))
- Dynamic Probing (DPH, DPSH)
- Diamond Drilling
- Resistivity Testing
- Shear Vane Testing
- Test Pitting

Our laboratory services in this sector include:

- Triaxial Shear Tests
- Direct Shear Tests
- Consolidation
- Permeability
- Collapse Potential
- Sieve Analysis
- Atterberg Limits
- Unconfined Compressive Strength

Recent geotechnical investigations projects

1. Maziba Bay Bridge across Zambezi River
2. Office Block in Lusaka
3. Kanakantapa Dam Site
4. Chembe Bridge Pontoon Drilling
5. Mongu to Kalabo Bridge Structures across Zambezi Flood Plain
6. Mbesuma Bridge across Chambishi River
7. Ndola Energy Power Plant
8. Maamba Colleries Power Plant
We offer our clients a wide-ranging level of service encompassing urban, peri-urban and rural water and sanitation facility design, supervision and rehabilitation. Our team of experts has been involved in rehabilitation of water and sanitation networks in all major cities in Zambia. Stand-alone peri-urban systems, managed by water trusts and the local community, have been a major focus of our work in the peri-urban water sector, with over 20 major townships with a population exceeding 2 Million benefitting from our design and construction supervision.

Having supervised drilling of over 1,200 boreholes throughout Zambia, under various rural water supply projects in the past 2 decades, we have developed an extensive knowledge of ground water potential in all corners of the country.

Recent projects

- Condominial Design & Supervision in Kalingalinga
- Installation of 30,000 Customer Meters in Lusaka
- Sewerage Collection & Bio-gas Digesters in Lufubu
- Northern Province Peri-urban Water Supply Improvements
- Kanyama Surface Water Drainage Design

1. Water Quality Analysis
2. Design & Supervision of Elevated Water Tanks throughout Zambia
3. Rural Water Supply
4. Design & Supervision of Oxidation Ponds
We offer a complete range of material testing services at our head office laboratory in Lusaka. All testing is conducted in strict accordance with British and ASTM Standards.

We can carry out testing for the following materials:

- Concrete
- Soils and Aggregates
- Bituminous Materials

**Concrete**
- Crushing Strength
- Concrete Mix Design

**Soils**
- Specific Gravity
- Foundation Indicator
- Road Indicator

**Tests**
- Design of Stabilized Mixes
- Conductivity

**Aggregates**
- Aggregate Crushing Value
- Ten Percent Fines
- Flakiness Index
- Bulk Density
- ALD

**Bituminous Materials**
- Viscosity
- Softening Point
- Penetration
- Marshal Stability & Flow

1. PI Testing
2. Crusher
3. Flex Panel
4. Core Log Samples
Our team of highly skilled surveyors, all of whom have wide-ranging and extensive experience working on survey projects, can be mobilised to sites at short notice. They have at their disposal Global Positioning System (GPS) surveying equipment, Total Stations and Digital levels, enabling time efficiency and high accuracy on any project. Data management is achieved with hand-held computers that are compatible with all surveying devices. Fully compatible with our existing Auto-CAD, Civil Designer™ and ModelMaker systems, our survey systems afford us greater accuracy and improved efficiency in our project management work by cutting down on surveying time through “on-the-fly”, “auto-error elimination” and greater distance coverage.

Recent projects

1. Site Survey - Toyota Zambia
2. Maamba Colleries Power Plant
3. Choma to Chitongo Road – 80km
4. Mongu – Tapo Flood Plain
5. Roma Park Development
6. Kanyama Township for Drainage Design
7. Kalingalinga Township for Sewer Design
8. Kasama to Mporokoso Road – 150km
Our expert team of engineers offers services ranging from electrical and mechanical rehabilitation of existing infrastructure, studies and designs of new structures and plants, and the provision of end-user utilisation and maintenance programs.

Our mechanical engineering experience includes the design of booster pumping stations and submersible pumps, motors, and generators. We are also proficient at designing and supervising air-conditioning and ventilation systems, industrial kitchen installations and industrial boilers.

Our electrical design experience includes transmission line design, commercial, industrial and residential electrification, as well as sub-station design in rural, peri-urban and urban settings.

Recent projects

- Electrical, HVAC & Sanitary for 1800m² Office Block Lusaka
- Electrical, HVAC & Sanitary for 5000m² Industrial Park
- Design of Electrical, HVAC & Sanitary for Kazungula One Stop Border Post
- Supervision of Transformer Re-Fitting in Livingstone & Lusaka
- Design & Supervision of Overhaul of Pump-stations for Chambishi Water-Supply

1. Control Panels
2. Transformers & Switchgear
3. Transmission Power Lines
4. High & Low Lift Pumping Stations
Sustainable development is one of our core objectives at Rankin. Our team of environmental engineers and social scientists has conducted assessments on a number of projects throughout Zambia, including hydro-electric projects, pipelines, dams and road projects.

Our engagement with project-affected persons and other stakeholders is extensive; starting from scoping through to baseline studies, and then finally to project disclosure. We fully adhere to Equator Principles in all our environmental assessments.

Recent projects

- Mongu to Kalabo Road across Zambezi Flood Plain
- Kitwe to Chingola Dual Carriageway in the Copperbelt
- Kasama to Mporokoso Road in Northern Province
- Mbesuma Bridge in Northern Province
With our focus on quality, professionalism and efficiency, we strive to add value to projects at every level. Drawing on the wide range of skillsets inherent in our engineering departments, we have the capacity to manage and supervise all aspects of civil, mechanical and electrical engineering infrastructure projects.

Rankin has a team of Project Managers with experience throughout Zambia and the African region. Projects that we have managed range from small, single span bridges to multi-use property developments. We provide a clear-thinking, positive attitude towards delivering projects to schedule and the client’s budget.

Recent projects
1. Roma Park Development, Lusaka
2. Mongu to Kalabo Road, Eastern Province
3. Twikatane Office Block, Lusaka
4. Chambishi Water Supply, Northern Province
5. Kasama to Mporokoso Road, Northern Province
6. Residential Flat Development, Lusaka