Criserve Engineering Ltd

Company Profile

Design. Supply. Install. Maintain.

Engineering consultancy and contracting for irrigation, water infrastructure, greenhouse systems, civil works and associated energy and controls.



Greenhouse and tunnel infrastructure

Based in Nairobi, serving East, Central and Southern Africa.

We coordinate water sources, storage, distribution, structures, energy and controls to meet the requirements of each site.

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The company and our commitments

Criserve Engineering Ltd provides engineering consultancy and contracting for farms, estates, hotels, developers and institutions. With over 15 years in practice, we support projects from surveys and feasibility studies through design, supply, installation, commissioning and maintenance.

Clients can engage us for a standalone study or design, construction supervision, a complete installation, or maintenance. We assess site conditions, water availability and operating requirements together, with the scope and deliverables agreed for each engagement.

Vision and mission

Our vision is to be a trusted engineering practice across East, Central and Southern Africa, known for practical systems that perform reliably in the field. Our mission is to deliver systems that meet agreed requirements, operate economically and remain maintainable throughout their working life.

Our commitments to clients

1. Clear scope of work. We agree on the project scope, responsibilities, deliverables and programme before work begins.

2. Sound engineering design. We base our designs on available site information, relevant calculations and clearly documented assumptions.

3. Accountable project supervision. We coordinate the engineering disciplines and supervise the agreed works against the project drawings and specifications.

4. Transparent quantities and specifications. We provide itemised quantities and clear specifications for equipment, materials and workmanship within the agreed scope.

5. Testing and proper handover. We test completed installations, train operators and provide the relevant operating instructions, commissioning records and as-built information.

6. Confidentiality. We handle client information responsibly and protect confidential project data, drawings and commercial details.

Water systems and site planning



Sedimentation and gravity water infrastructure in Nyeri

Surveys and master planning

Topographic surveys using global navigation satellite systems (GNSS) and real-time kinematic (RTK) positioning, site levels, stream gauging, source assessment and water balance modelling. Feasibility studies and master plans compare practical options and support phased development. Specialist aerial surveys can be coordinated where appropriate.

Outputs include survey drawings, site layouts, control schedules, feasibility reports and master plans.

Irrigation and fertigation

Drip, sprinkler and pivot layouts based on crop demand, soil, topography and available water. Services cover pump selection, pipe hydraulics, zoning, filtration, fertigation and automation, with equipment and pipe jointing specified for the installation duty.

Outputs include layouts, hydraulic calculations, equipment schedules, itemised bills of quantities and commissioning records.

Boreholes and groundwater

Hydrogeological investigations and borehole siting, drilling supervision, pumping-test analysis and equipping. Pumps, rising mains, controls, storage and solar power are selected from tested source performance and the required delivery duty. Treatment is specified from water quality and intended use.

Gravity conveyance and water treatment

Intakes, screens, lined canals, gravity pipelines, silt traps, settling tanks, aeration cascades and reservoirs. Designs assess available head, sediment load, access and maintenance. Downstream filtration is matched to water quality and end use.

Outputs include hydraulic profiles, structure drawings, equipment specifications and operating and desilting schedules.

Structures energy and environmental systems



Ground mounted solar array for pumping

Greenhouses and tunnels

Tunnels, multi-span greenhouses, shadenet nurseries, propagation units and aeroponics benches. Structures, foundations, ventilation, netting, misting, irrigation and drainage are coordinated with crop requirements and site conditions.

Civil and structural works

Water tanks and elevated towers, lined ponds, dams and reservoirs, pump houses, farm roads, culverts, drainage, and reinforced concrete and steel structures. Services include calculations, reinforcement details, construction drawings and supervision.

Water features and landscape irrigation

Fountains, cascades, rain curtains, reflecting pools and lit water walls. Recirculation, balance tanks, nozzles, filtration, lighting and controls are coordinated with landscape irrigation and servicing requirements.

Renewable energy

Solar pumping and hybrid solar, grid, generator and battery systems sized against operating schedules. Biogas services cover feedstock assessment, digestion, gas treatment, distribution and digestate handling. Feasibility and design services also cover bioethanol and solar drying tunnels.

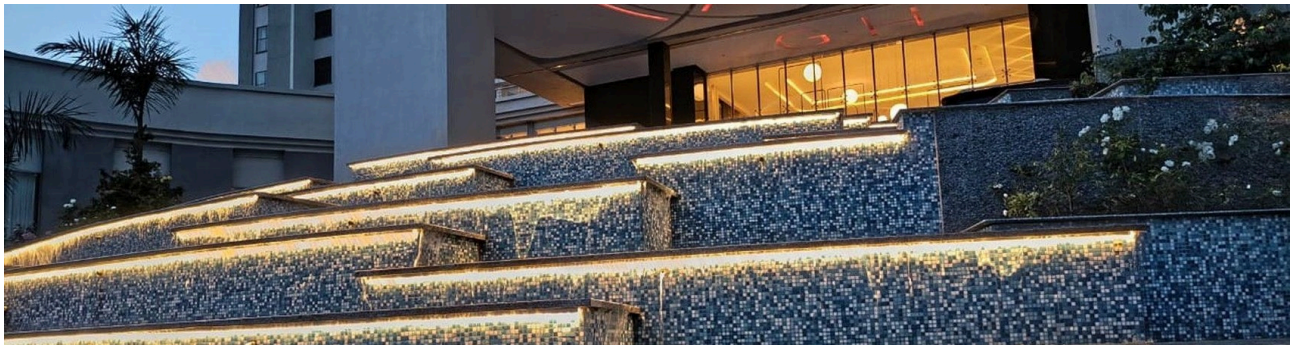
Waste management

Foul and storm drainage, inspection chambers, interceptors, grease traps, septic tanks and soakaways. Organic residues and process effluent are assessed for treatment, digestion and suitable reuse. Outputs include layouts, invert levels, chamber details and treatment or reuse plans.

Automation and product development

AGRICHRON is Criserve’s in-house irrigation and fertigation controller development programme, including 24-output irrigation and 36-output electrical conductivity (EC) and pH fertigation controllers. Available functions and integration requirements are confirmed for each project.

Selected project experience



Hotel porte cochère cascade architectural water feature in Nairobi

Nyeri Hill Farm

Coffee estate of the Archdiocese of Nyeri. Criserve designed and supervised gravity-fed automated coffee drip irrigation covering 81.8 hectares in 2021, with a gravity canal and pipeline designed for 300 m^3/h, automated control and fertigation. The engagement included a silt trap in 2022 and a water master plan covering 1,000 hectares, including domestic supply, in 2023.

New Agro Deal Farm Solai

Horticultural export farm in Solai, Nakuru. Criserve's scope includes topographic survey and farm layout, tunnels, open field irrigation, propagation facilities, borehole and storage infrastructure, fertigation and automated control. Water balance and expansion studies coordinate source availability, storage, pumping, filtration, energy and irrigation schedules across project phases.

Design and consultancy

Tana River irrigation development: master planning for a 3,000 hectare agricultural development, covering river abstraction, conveyance, pumping, reservoir storage and irrigation distribution, supported by options appraisal.

Further consultancy commissions include reverse osmosis treatment layouts, specifications and costing in Nakuru, and structural and architectural design for an elevated water tank tower and mixed use building in Timau, Meru.

Further project experience

Completed installations include hotel porte cochère cascades and LED lit frothy nozzle water fountains in Nairobi, borehole equipping and solarisation in the Rift Valley, reservoir earthworks and lined storage, and coffee drying tunnels in Central Kenya. Survey and layout commissions cover sites in Nyeri, Embu, Thika and Laikipia.

Project delivery and contact

The delivery process is tailored to the agreed engagement. Studies and consultancy commissions conclude at their specified deliverables; installation contracts include the relevant construction, testing and handover stages.

Stage	Typical deliverables
1 Data collection	Design basis, surveys and relevant source or site tests.
2 Analysis and feasibility	Options appraisal, recommendation and budget estimate.
3 Detailed design	Calculations, drawings, specifications and itemised bill of quantities.
4 Procurement and supply	Equipment schedules, materials documentation and delivery plan.
5 Construction and installation	Supervision, inspection and progress records.
6 Testing and commissioning	Performance tests, operator training and handover information.
7 Maintenance	Servicing and condition reports under an agreed scope.

People quality and safety

Design work is carried out in house. Established technicians and skilled tradespeople support site delivery, with supervision appropriate to the works.

The design basis identifies applicable standards and equipment requirements. Materials, workmanship and tests are checked against the agreed specification. Site safety arrangements address excavation, lifting, electrical work, confined spaces and gas handling where relevant.

Discuss your project

Share the county and specific location, site size, intended use, water source, available power and preferred start date. Surveys, drawings and photographs help define the scope. Desktop designs state their assumptions and any site verification required before implementation.

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