

Site management

Roads and earthworks construction

Build the practical management capability required to plan, co-ordinate and control complex roads, earthworks and civil infrastructure projects.

Programme overview

Modern roads and earthworks projects operate within strict quality, safety, environmental, programme and cost requirements. Effective delivery requires close co-ordination of construction plant, materials, survey information, work teams, subcontractors and contract administration. This practical programme connects engineering and construction principles with day-to-day site execution. It is suitable for contractors, local and provincial authority project teams, developers, consultants and other organisations involved in roads, earthworks and civil infrastructure. The programme equips site personnel to manage activities from site establishment and setting out through to sectional completion, handover and close-out.

Through four integrated programme sections, learners develop practical competence in plant and haulage planning, drawing interpretation, survey control, earthworks, drainage, pavement construction, quality control, contract administration, traffic accommodation, environmental management and stakeholder liaison. Learners apply the contract conditions, COTO or legacy COLTO specifications, project specifications, drawings and statutory requirements applicable to the particular project. These documents are not interchangeable and must be confirmed for each contract.

Target audience

This programme is specifically structured for:

- **Experienced construction managers:** looking to validate and formalise their practical expertise
- **Junior and developing site agents:** preparing for higher-level management responsibilities
- **General foremen:** seeking a clear pathway to transition into full site management
- **Small and emerging contractors:** aiming to scale operations and improve project delivery

Programme structure at a glance

The roads and earthworks site management programme is divided into four parts, each covering key functions involved in managing road, earthworks and civil infrastructure projects.

Curriculum programme	Core focus and included modules
Programme I Project inception, geotechnical foundations and survey control	• Module 1: Mobilisation, logistics, heavy plant and local authority permits • Module 2: Drawing interpretation and survey control
Programme II Operations, earthmoving, drainage and pavement construction	• Module 3: Bulk excavation and subgrade preparation • Module 4: Stormwater drainage, culverts and erosion control • Module 5: Road pavement layers and surfacing technologies
Programme III Commercial controls and contract administration	• Module 6: Tendering and cost estimation • Module 7: Contract administration and national road standards (COLTO/COTO) • Module 8: Road construction sequencing and linear scheduling
Programme IV Site governance, quality and risk management	• Module 9: Site record-keeping and civil operations documentation • Module 10: Quality assurance, compaction testing and road handover • Module 11: Health, safety, traffic accommodation and environmental management • Module 12: Subcontractor co-ordination, SMMEs and socio-political CLO relations

Strategic benefits: Measurable ROI and operational efficiency

Operational optimisation and fleet efficiency:

Mastering site establishment logistics, haul road layouts, and topsoil stripping enables site managers to slash machine idle times and streamline articulated dump truck (ADT) cycles. Learners gain a direct methodology for plant rate derivation and fuel optimisation.

Strict quality control and structural performance:

By enforcing standardised compaction testing, including Modified AASHTO, Nuclear Gauge, and California Bearing Ratio (CBR) protocols, civil contractors ensure pavement riding quality (IRI) and eliminate the risk of structural failure or premature pavement sagging.

Commercial competency and contract governance:

Developing expertise in the FIDIC Red Book and General Conditions of Contract (GCC) ensures that variation orders for unforeseen ground conditions, payment claims, and weather delays are properly managed, protecting project margins.

Risk management and social compliance:

From work zone traffic management schemes and flagging protocols to heavy plant safety interfaces (ROPS), environmental management (EMP), and community stakeholder engagement (CLO), the course addresses the complex socio-environmental landscape of modern civil works.

Programme Status & Disclaimer

The Construction Site Management Programme (including the TJEKA GO distance learning format) is a practical, work-integrated professional development initiative. It is not formally accredited or registered as a qualification with SAQA, CETA, or the QCTO, nor does this programme award CPD (Continuing Professional Development) points.