MOWANA ENGINEERS

Civils • Structures • Transportation

Upgrading of three historic arch bridges on the R27 over the Orange River, near Keimoes, Northern Cape (2013)

STRUCTURES: BRIDGE ENGINEERING CAPABILITY

Mowana Engineers (Pty) Ltd

This document presents an outline of our Bridge- and Structural Design Capability on selected projects to demonstrate our competencies and innovative approach to challenging projects.

Our main competencies in bridge engineering, include the following, but is not limited to:

- Bridge Design
  - Conceptual-, Preliminary- and Detail design of bridges, culverts, overhead sign gantries, barriers and miscellaneous road and rail structures.
  - Peer design reviews on major bridge structures.
  - Abnormal load route clearances.

- Bridge Maintenance
  - Rehabilitation and Strengthening of existing bridges.
  - Upgrading and widening of existing bridges.
  - Inspection and Assessment of existing bridge structures.
  - Bridge Jacking.

- Construction
  - Construction supervision and management of bridge structures.
  - Contract administration of bridge construction projects.
  - Evaluation of contractor's temporary works design.
  - Evaluation of contractor's alternative designs.

- Services to Contractors
  - Alternative designs during tender phase.
  - Value Engineering services post-tender award.
  - Construction Engineering. (Construction stage analysis)
  - Custom temporary works design.
  - Design services for Design & Construct projects.

- Technical design competency, based on historic and current projects
  - Reinforced concrete bridges.
  - Pre-stressed concrete bridges.
  - Structural Steel bridges.
  - Bridge Types:
    - Concrete hollow box girders, incrementally launched.
    - Concrete hollow box girders, staged construction.
    - Concrete arch bridges.
    - Concrete Tied arch bridges.
    - Portal structures.
    - Composite concrete bridges.
    - Precast Beam and Slab type bridges.
    - Precast segmental box girder bridges.