

South Africa s Large-Span Bridge



Overview

- Bruce, B.C.; Brodrick, G.J. (April 1984). Civil Engineering. 26 (4). South African Institution Of Civil Engineering (SAICE): 205-216. ∴ • Huisman, H.L. (December 1972). Civil Engineering. 14 (12). South African Institution Of Civil Engineering (SAICE): 393-394. ∴

Key Takeaways

The Mtentu Bridge, currently under construction in the Eastern Cape, will be Africa's tallest bridge at 223 meters and one of the continent's longest main-span balanced cantilever bridges with a 260-meter central span.

Overview

The Mtentu Bridge spans the Mtentu River near Lundini on South Africa's Wild Coast and forms a key part of the N2 Wild Coast Toll Road (N2WCR) project, which aims to improve connectivity between East London and the KwaZulu-Natal border while reducing travel times by up to three hours and stimulating local economies along the route.

Dimensions and Design



Total length: 1,133 meters (1.13 km) Deck height: 223 meters above the Mtentu River valley Main span: 260 meters, making it one of the longest balanced cantilever spans globally Design type: Multi-span balanced cantilever box girder bridge, optimized for steep, forested terrain The bridge was designed by a consortium including SMEC South Africa, CH2M (now Jacobs), Axis, and Dissing+Weitling for architectural design, with geotechnical and wind assessments conducted by local and international experts. The design carefully considered aerodynamic stability, seismic loading, and environmental impact, with multiple alternatives evaluated before selecting the final balanced-cantilever approach.

Construction and Timeline

Construction began in November 2017, with the bridge component starting in January 2018. Work was temporarily halted due to community protests and contractual disputes but resumed under a new joint venture between China Communications Construction Company (CCCC) and MECSA Construction Company in November 2022. Estimated completion: December 2027 Total cost: Approximately R4.5 billion (~\$270 million)

Construction method: Balanced cantilever, suitable for long spans in challenging terrain Significance Once completed, the Mtentu Bridge will: Be Africa's tallest bridge and among the world's longest main-span balanced cantilever bridges Enhance regional transport efficiency and support heavy freight movement Serve as a landmark engineering achievement and a symbol of modern infrastructure development in South Africa The bridge's combination of height, span, and technical complexity makes it a major milestone in African civil engineering, comparable to other global long-span cantilever bridges.

Article Content

Top three largest bridges in south Africa

The Msikaba bridge is a cable-stayed construction which will span the Msikaba River near Lusikisiki in South Africa's Eastern Cape Province. The

List of bridges in South Africa

- Bruce, B.C.; Brodrick, G.J. (April 1984). "Construction aspects of the Garden Route bridges". *Civil Engineering*. 26 (4). South African Institution Of Civil Engineering (SAICE): 205–216. hdl:10520/AJA10212019_18861. ISSN 1021-2000.
- Huisman, H.L. (December 1972). "The Gourits River bridges". *Civil Engineering*. 14 (12). South African Institution Of Civil Engineering (SAICE): 393–394. hdl:10520/AJA10212019_18069. ISSN 1021-2000.

Mtentu Bridge: Africa's Tallest and Longest Cantilever

Once completed, the Mtentu Bridge will be the highest in Africa and one of the longest main-span balanced cantilever bridges in the world, with a

Mtentu Bridge – N2 Wild Coast Toll Road

Rising 223 m above the Mtentu River valley in the Eastern Cape, it will become Africa's tallest bridge and one of the continent's longest main-span balanced cantilever bridges when complete.

Mtentu Bridge: Africa's tallest and longest cantilever bridge in ...

Once completed, Mtentu Bridge will be Africa's tallest bridge at a staggering 223 m high. With a length of 1.13 km, including a 260 m long main span, the bridge will also rank among the

Mtentu Bridge Project: Revival of Africa's Tallest Span

The Mtentu Bridge project is back from the brink—construction kicked off again in August 2023 after a five-year stall. Costing a staggering R4.05

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Progress is being made at the R4.05 billion Mtentu Bridge in the Eastern Cape, which is set to be the tallest bridge in the country.

Mtentu Bridge

During concept and preliminary design of the Mtentu Bridge, the challenge was to find a short bridge on a simple alignment that would minimize the environmental impact while still being an

Mtentu Bridge – Rendel

With a deck height of approximately 223 metres, Mtentu Bridge will hold the record in Africa for the massive central span of 260 metres, constructed by the balanced cantilever method. Upon

New Wild Coast mega-bridges to break global records

An essential part of Sanral's N2 Wild Coast Toll Road project is the construction of two record-breaking mega-bridges over local rivers. One will

Msikaba Bridge Project: South Africa's Engineering Marvel

The Msikaba Bridge project is more than just a construction endeavor—it's a symbol of progress, innovation, and hope for South Africa.

Top three largest bridges in south Africa

Mtentu bridge It is a multi-span box girder bridge over the Mtentu River near Lundini in South Africa's Eastern Cape. Construction of mtentu bridge cost R4.05 billion The bridge is part of

N2 Wild Coast Toll Road megabridge project – Mtentu bridge, South ...

N2 Wild Coast Toll Road (N2WCTR) megabridge project – Mtentu bridge. Location The bridge will be built over the Mtentu river gorge, near Lusikisiki, in South Africa's Eastern Cape province.

Tender awarded for South Africa's longest cable-stayed bridge

Concor brings a proven track record in the construction of major roads and bridge projects in South Africa and Africa, while Mota-Engil has experience in large-scale cable-stayed bridge

Groot River Bridge

Groot River Bridge Groot River Bridge Nature's Valley, Western Cape, South Africa 565 feet high / 172 meters high 620 foot span / 189 meter span 1983

Longest Bridge in Africa: Top 10 Longest Bridges in Africa

In this article, you'll discover the top 10 longest bridges in Africa, each a testament to human ingenuity and perseverance.

AUTHOR'S MANUAL FOR PREPARATION OF

BOTHASFONTEIN INTERCHANGE BRIDGE, SOUTH AFRICA – AN ABC COMPOSITE STEEL/CONCRETE 4-SPAN BRIDGE ERECTED IN TWO CONSECUTIVE WEEKENDS OVER 29

The Nelson Mandela Bridge

The main span was built as light as possible, using structural steel with a concrete composite deck, while the heavier back spans were built from reinforced concrete to counterbalance

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