SPECIALIST IN MODERN CONSTRUCTION

Project Information

Project: Polihali Access Road Bypass, Lesotho

Year: 2024

Product Supplied:

6m Span x 2.93m high x 5mm steel x 37m long Arch structure

Project Team:

Client: LHDA

Consultant: AECOM

Contractor: Rumdel/AC JV

Armco Representative:

Justin Naidoo

Benny Raju – Marian Enterprises

Armco Single & Multiple Arch Structure completed

Project Challenge

The project was located Polihali, over 2000m above sea level. The remote area the steep terrain made it difficult to get large quantities of concrete to site. The total project required 11 structures for both the Eastern and Westen Access Road Bypass. The structures had to be designed with overburden between 5 – 10m high.

Armco Solution

Each section was designed specifically based on overburden heights and hydraulic capacity for each location. Armco's arch profile structures were selected for the entire project. A 600 x 300mm concrete ring beam using M20 x 300mm long anchor bolts was constructed at the inlet and outlet of the structure which formed part of the headwall to allow the structure to function monolithically.

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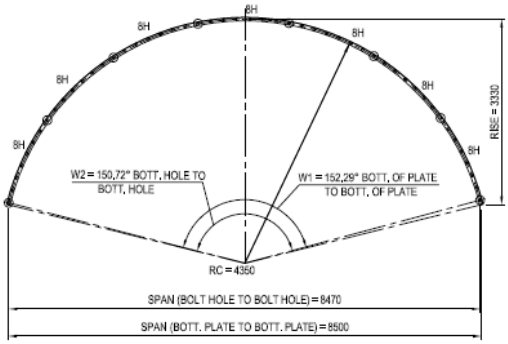
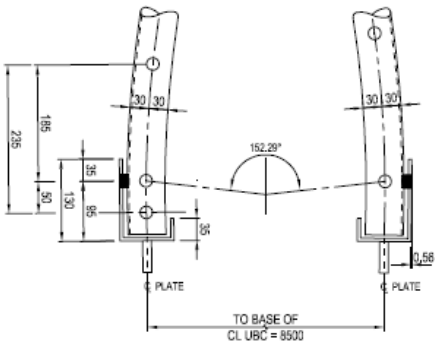
A single barrel arch structure installed on concrete footing with a stone finish headwall and gabions used to retain the overburden.



SECTION A-A
(RADIUS TO INSIDE CREST)
1:50



U.B.C. ANGLE DETAIL
1:5

Conclusion

The benefits of using the arch profile structure were the long service life, ease of transporting the structure to the remote site, the quick manufacturing and installation time, and the overall lower cost of using corrugated steel structures over concrete structures.

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