

Construction of 4-Lane Signature Bridge between Okha and Beyt Dwarka in Gujarat State

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Abstract

A cable stayed bridge with a length of 900m comprising central span of 500m and side spans of 200m each including approach spans is being constructed between Okha Port and Beyt Dwarka in the state of Gujarat and nearing completion. The overall length of the bridge is 2320m including approaches. The pylon height is 130m and each pylon leg is supported on pile foundation. The deck width is 27.2m which includes divided carriageways of 9.5m width each and 2.5m wide covered footpath on each side. Constructing this bridge over a sea creek posed several challenges. This paper describes the salient features of the bridge, construction methodology adopted and the challenges faced.

Keywords: Piles; pile foundation; pylon; steel deck; stay cables; stressing; erection traveller

1. Introduction

Government of India, Ministry of Road Transport and Highways is constructing a 4 lane Signature Bridge connecting missing link between Okha and Beyt Dwarka on EPC mode including construction of approaches on new NH 51 in the state of Gujarat. **Beyt Dwarka**, located on the western coast of India is famous for its archaeological, historical and spiritual importance and is better known as **Dwarkadhish Temple**. However, the **Beyt Dwarka** is inaccessible by road being an island and **Dwarka** is located near port **Okha**, which is an all-weather minor port. The people from all over the country and from outside visit this pilgrim place and they have to use the passenger ferry service operated by Gujarat Maritime Board near **Okha** port to reach this Island.

To obviate this problem, The Government of Gujarat has decided to join Beyt Dwarka by land by

providing a bridge from Okha to Beyt Dwarka. Ministry of Road Transport and Highways has awarded the project[1] to S.P. Singla Constructions Pvt. Ltd. (SPS). The bridge is meant to provide direct road connectivity from Okha to Beyt Dwarka and provides pedestrian lane also so that pilgrims coming to Beyt Dwarka on foot can avail this bridge. Index plan of the site and bridge location are shown in Fig. 1 and Fig. 2 respectively.

The bridge is in advanced stage of construction and is expected to be completed by October 2023.

2. The Project Details:

The Signature Bridge connecting Okha port and Beyt Dwarka is 2320 m long. A length of 900 m long three span cable-stayed bridge is provided in the central portion of Signature Bridge having main span of 500 m (main navigation span) with two side spans of 200m each. Approach roads of 2.452 km length (1.241 km on Okha side and 1.211 km on Beyt Dwarka Side) are developed as a four-