Replacing damaged PSC Suspended span of Varsova Bridge across Vasai Creek on NH-8, Mumbai, India.

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Abstract

The existing Varsova Bridge across Vasai Creek, called as Bassein Creek Bridge when constructed, was opened to traffic in 1968. It is in Mumbai Ahmedabad section of NH-48, about 35 Km from Mumbai. Major cracks were noticed in the West side girder of the penultimate span from Mumbai end on 12th December 2013. The site was inspected for assessment of the damage. It was decided to replace the said span with composite steel girder. The real task was to dismantle the existing PSC span without any debris falling in the creek while working in a very restricted work area as well as within a very short period. This paper discusses the replacement done, deliberating about the constraints imposed from the design, construction and situation; formulating replacement scheme; design of new structure; dismantling the damaged PSC span and its replacement with composite deck i.e. steel girders and concrete deck slab.

Keywords: Cracks, PSC Span, Dismantling, Anchor bolts, Light equipment, Steel Girder, Lowering segments.

1 Introduction

Figure 1: Elevation of bridge showing replaced span.

The Bridge is 555.32m long with 8 spans. The span arrangement is 48.46 + 2 x 57.3 + 2 x 114.6 + 2 x 57.3 + 48.46 m. Main spans from central three piers were built with balanced cantilever

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