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Highway Bridge over the Sava River at Sremska Raca – Construction

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ABSTRACT

The bridge over Sava River on the highway Kuzmin - Sremska Rača (Serbia) consists of two neighbour bridge structures; each ~15m wide deck with 2 traffic lanes. The main bridge across Sava River, 330m length, having spans 90+150+90m, consists of 2 steel box beams with 5m constant depths. The trapezoidal single-cell box section, with both-sided cantilevers, has upper flange consisting orthotropic plate. The bridge length, with approach concrete structures, amounts 1321m. The piers are common for both bridge structures. Two cofferdam structures based on tubular steel piles sheeting, with lean concrete bottom, were executed for construction of river piers in dry condition, after previously performed pile foundation. River piers were built by Korfez Deniz. Entire bridge steel structure (5500t) was fabricated in Doka Endustri factory in Turkiye. Two box beams were divided in 23 blocks each, consisting of 7 segments per block. After trial assembly, blocks dissembled in segments were transported by long trucks from factory to construction site. The 15m length 21 blocks (100-174t weight) & 7,5m length 2 blocks were assembled at site. Afterwards, the blocks linked together by welding on the concrete platform, were protected for corrosion protection and prepared for incremental launching. The 13 stages of incremental launching, successfully applied by Metalyapi, were performed by strand jack pulling system sliding over teflon bearings on platform and piers. Main steel bridge structure was fabricated, transported, assembled and erected in 13 months. Tasyapi was the main contractor.

Keywords: steel box beam bridge, fabrication, assembly, incremental launching, cofferdam