

Title: Proof checking the design of the 4 lane ROB Parallel to Existing 4 Lane ROB Rly Km 537/27-32 between stations Rajendra Nagar- Gulzarbagh and at road Ch 1+677 from Patna to Hajipur of NH-19 (SSP 417)

Duration: March 2025 to August 2025

Deliverables:

Proof-checking and numerical modeling of the 62 m span non-standard bow string steel railway over bridge, including recommendations for design compliance and serviceability.

Significant Achievements:

- Developed a comprehensive three-dimensional numerical model of the non-standard bow string bridge incorporating realistic boundary conditions and all relevant dead, live, wind, and seismic loads
- Performed detailed structural verification of critical components, including arches, bottom chords, hangers, cross beams, and connections, ensuring compliance with IRC requirements for strength, stability, and serviceability
- Identified and reported critical design issues related to connection detailing, fatigue provisions, pre-camber requirements, and welded connection calculations, thereby enhancing the structural reliability

Team:

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