

## ADJUNCT FACULTY- DEPARTMENT OF CIVIL ENGINEERING



**Name:** Arnab Sen

### Academic Qualifications:

- Bachelor of Technology in Civil Engineering in 2015 from NIT AGARTALA
- Master of Technology in Engineering Structures in 2019 from NIT WARANGAL

### Key skills:

- Non-linear FEA analysis
- Knowledge of Steel, PSC, and RCC structures.
- Steel bridge design.
- Assessment of steel and concrete overbridge and underbridge.
- Assessments of train sheds, depots.
- Preparation of Reports.
- Post-tensioned girder bridge
- Eurocodes, British Standards, AREMA.
- MIDAS, LUSAS, ASBD STAAD Pro., AutoCAD and Microsoft Office packages

Courses Taught:	U18CE606 CONSTRUCTION MANAGEMENT AND EQUIPMENT
Class :	B.Tech-Civil Engineering- VI Semester
Contact Details:	Contact No: - (+91) 9774344317/8787888080 Mail id: - senarnabagt40@gmail.com
Present Employment	- AECOM EC (Engineer - Bridges)

A Structural Bridge Engineer with more than 4 years of experience in the domain of Structural Engineering, structural analysis, and detailing of civil structures; expertise in bridge engineering and assessment of existing bridges and operational structures. I have worked on various projects across UK and Middle East; my experience includes projects like High Speed 2 (HS2), Civils Assessments Framework Agreement (CAFA), Operational Property Structures Assessment Programme (OPSAP), Etihad Railway Network, steel composite over bridge (M11), design of wing wall components.

Selected projects: -

- **Civils Assessments Framework Agreement (CAFA) -LNW, SCOT, ANGLIA, KENT (NR):**
  - Responsible for sophisticated 3D Finite Element modelling with linear/non-linear analyses and 3D Space Frame modelling using LUSAS FEA package and production of assessment analyses, calculations and reports for rail& road bridges at Level 2, in accordance with Network Rail &CS 454 Standards for the client, Network Rail.
- **Etihad Rail Network (Middle East):** - Responsible for 3D Space Frame modelling with linear analyses using MIDAS CIVIL package for steel spans and line beam modelling for PSC spans and checking of the sections provided in strength and fatigue for the allowable stress for various modes (axial, axial with bending etc.) for steel spans and in strength and serviceability for concrete spans according to load factor design approach.
- **M11 Junction 7A Overbridge:** - Responsibilities include preparing simple 2D model with linear analyses using LUSAS FEA package and manual calculation of load effects on the edge beam and wing wall using in house spreadsheet and production of detail design for bridge deck slab, parapet edge beam and wing wall for the overbridge, in accordance with the provisions of Euro Codes (UK National Annex) for the client, Highways England.
- **Bus Connects- Ballyowen Road Bridge:** - Responsible for preparing 2D line beam model for transverse analysis of the deck, calculating section properties, prestress losses and creating capacity check sheets for post tensioned and RC sections as per TII publications, liaising with the checker.
- **Operational Property Structures Assessment Programme (OPSAP)- NW&C (NR):-** Responsibilities include preparing simple 2D model with linear assessment using a recognized structural analysis software package and production of assessment analyses, calculations and reports for Station rafts and train shed at Level 1, in accordance with Network Rail &BS Standards for the client, Network Rail.
- **A19 Mandale Interchange North bridge - North Parapet Upgrade:** - Responsible for preparation of the approval in Principle (AIP) and assessment of parapet supporting members, deck cantilever to be verified against the minimum resistance assessment criteria in accordance with CS 461 Appendix D loading standards on account of replacement of the existing 1.0m high parapet with a 1.5m high N2 containment system on the outer edge of the bridge.