

INSTRUMENTATION OF GANGA BRIDGE AT PATNA ON NH-19

The bridge across river Ganga called Mahatma Gandhi Setu is situated on National Highway No. 19 in the state of Bihar). This bridge is vital link between North Bihar and South Bihar and is near Patna city, the capital of Bihar state. This is the longest river bridge in Asia around 5 KM in length and having 45 spans for each carriageway. There are two carriageways, each comprising of two standard lanes. Public Works Department of Bihar has decided to strengthen other affected spans by external pre-stressing in phased manner. Many spans of this bridge were to be strengthened by applying additional pre-stress, with external cables placed inside the box. To check the effectiveness of external pre-stressing, PWD desired to have measurements of strains and deflections during pre-stressing of these spans. The scope of work involved the various activities like planning of the instrumentation scheme, installation of sensors and instruments inside the box girder, periodic measurements during the various stages of pre-stressing and processing of data to give the strains and deflection.



Ganga Bridge at Patna

NON-DESTRUCTIVE TESTING OF OLD BRIDGE OVER RIVER SONE NEAR CHOPAN

This bridge across river Sone in Sonebhadra district of Uttar Pradesh is situated on State Highway No. SH-5A(Varanasi-Shaktinagar Road). This is an old bridge constructed in 1956 by M/s Gammon India Ltd, as a trunk line of communication with the Rihand dam, mainly to facilitate flow of construction equipment, cement and other building materials for its construction. This bridge is 1006.5 m long having 22 spans of 45.75 m centre to centre on piers. The bridge carries a 7.32 m wide carriageway. The superstructure comprises composite pre-stressed and reinforced concrete construction. Each span has four beams cast monolithic with the slab and cross braced by deep reinforced concrete diaphragms. Before rehabilitating this bridge, it was necessary to assess existing condition of the bridge. The scope of work involved Non Destructive Tests, like rebound hammer test, Ultrasonic Pulse Velocity and

Half- cell Potentiometer tests, and also core cutting and mechanical and chemical analysis of these cores



NDT project on Chopan Bridge in U. P.



Core cutting on Girder



Half cell Potentiometer test



Ultra Pulse Velocity test by indirect method