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THE RAILWAY CABLE-STAYED BRIDGE OVER RIVER SAVA IN BELGRADE

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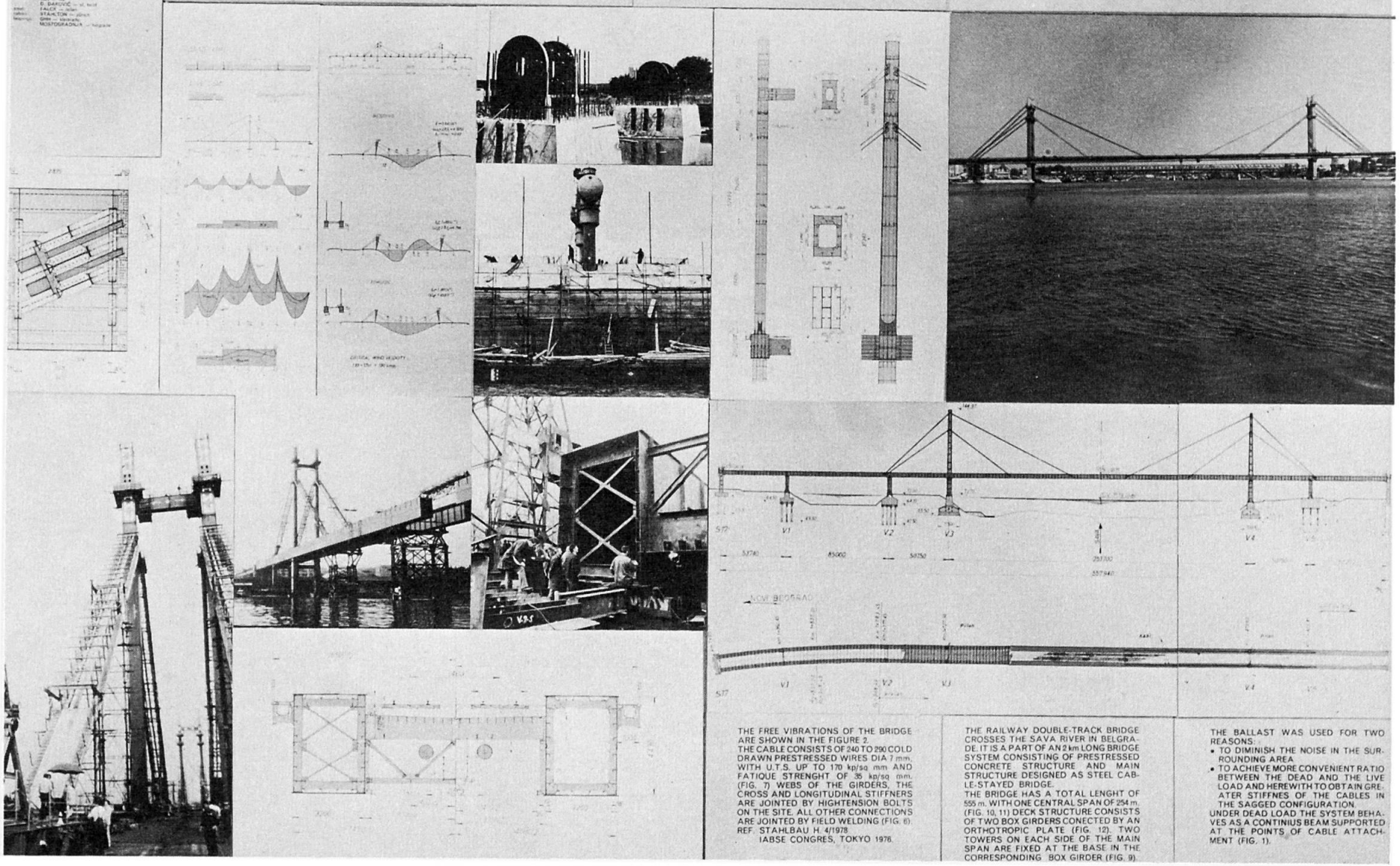

THE FREE VIBRATIONS OF THE BRIDGE ARE SHOWN IN THE FIGURE 2.
THE CABLE CONSISTS OF 240 TO 290 COLD DRAWN PRESTRESSED WIRES DIA 7 mm, WITH U.T.S. UP TO 170 kp/sq mm AND FATIQUE STRENGHT OF 35 kp/sq mm. (FIG. 7) WEBS OF THE GIRDERS, THE CROSS AND LONGITUDINAL STIFFNERS ARE JOINTED BY HIGHTENSION BOLTS ON THE SITE. ALL OTHER CONNECTIONS ARE JOINTED BY FIELD WELDING (FIG. 6). REF. STAHLBAU H. 4/1978.
IABSE CONGRES, TOKYO 1976.

THE RAILWAY DOUBLE-TRACK BRIDGE CROSSES THE SAVA RIVER IN BELGRADE. IT IS A PART OF AN 2 km LONG BRIDGE SYSTEM CONSISTING OF PRESTRESSED CONCRETE STRUCTURE AND MAIN STRUCTURE DESIGNED AS STEEL CABLE-STAYED BRIDGE.
THE BRIDGE HAS A TOTAL LENGHT OF 555 m. WITH ONE CENTRAL SPAN OF 254 m. (FIG. 10, 11) DECK STRUCTURE CONSISTS OF TWO BOX GIRDERS CONECTED BY AN ORTHOTROPIC PLATE (FIG. 12). TWO TOWERS ON EACH SIDE OF THE MAIN SPAN ARE FIXED AT THE BASE IN THE CORRESPONDING BOX GIRDER (FIG. 9).

THE BALLAST WAS USED FOR TWO REASONS:
- TO DIMINISH THE NOISE IN THE SURROUNDING AREA
- TO ACHIEVE MORE CONVENIENT RATIO BETWEEN THE DEAD AND THE LIVE LOAD AND HEREWITH TO OBTAIN GREATER STIFFNES OF THE CABLES IN THE SAGGED CONFIGURATION.

UNDER DEAD LOAD THE SYSTEM BEHAVES AS A CONTINIUS BEAM SUPPORTED AT THE POINTS OF CABLE ATTACHMENT (FIG. 1).