

Concordia Orthotropic Bridge: Fabrication and Erection

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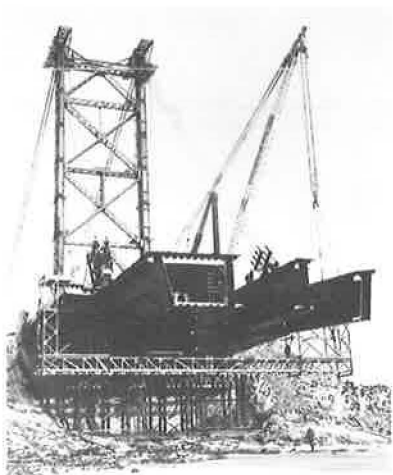
ABRIDGMENT*

•THE Concordia Orthotropic Bridge joins Montreal Island with the island complex where the 1967 World Exhibition is being held. As a result of the special schedule requirements for this bridge, and because it is the first girder bridge with an orthotropic deck to be built on this continent, some of the engineering problems encountered were unusual. This paper describes the manner in which the steel superstructure was fabricated and erected with emphasis on how some of the more unusual problems were solved.

The manner in which the bridge was broken up into components to satisfy fabrication, shipping and erection requirements is outlined. Fabrication is described with special emphasis on the use of jigs and fixtures. The special welding procedures necessary to meet precision requirements in the available time are also described.

The shop assembly of components and the manner in which the shape of the bridge was controlled by using a specially designed assembly jig are described, as is the method of shipping bridge components to the site.

The cable stayed erection scheme, the reasons for its choice, and the resulting special foundation requirements are discussed. The specially designed erection equipment (such as towers, cable jacking frames, falsework, stiff leg travelers, and bolting carriages) is explained. The two figures show the bridge at various stages of construction.



Paper sponsored by Committee on Metals in Highway Structures and presented at the 46th Annual Meeting.

*The complete paper was published in The Journal of The Engineering Institute of Canada, May 1966.