

DESIGN BULLETIN #48/2007

Fabrication of Type SC and SCC Precast Concrete Girders Using Normal Weight Concrete

Background:

The availability of light weight concrete aggregates has become a problem due to infrequent use in industry and Alberta precast concrete girder fabricators have recently served notice that they will no longer supply Type SC and SCC girders in semi-light weight concrete. The Department's Technical Standards Branch has engaged a consultant to re-design the Type SC girder series with 50 MPa standard weight silica fume concrete using the provisions of the CAN/CSA-S6-06 Canadian Highway Bridge Design Code. This new standard girder design is scheduled to be available in June 2007 and has been designated as the Type SL-510 series. The re-design of the Type SCC standard composite girder series is expected to commence later this year.

The Technical Standards Branch has reviewed the implications for immediately substituting the semi-light weight concrete with the 50 MPa standard weight silica fume concrete as an interim measure. It has been determined that, other than a 25% increase in girder weight, which will have an effect on shipping and handling, overall effects are beneficial for the superstructure. There is only a slight (< 5%) increase in the total DL + LL reactions on the sub-structure.

Recommendation:

1. For the Type SC standard girders, substitute the semi-light weight concrete with 50 MPa standard weight silica fume concrete until the new Type SL-510 standard girder design becomes available in June 2007.
2. For the Type SCC standard composite girders, substitute the semi-light weight concrete with 50 MPa standard weight silica fume concrete and substitute the Class SF deck concrete with Class HPC concrete, until further notice.

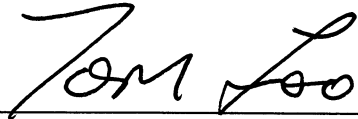
Implementation of Bulletin

The requirements contained in this bulletin are effective immediately on April 24, 2007.

Contacts

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Recommended:



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RESCINDED