

## **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 girder concrete with 50 MPa standard weight silica fume concrete and substitute the Class SF deck concrete with Class HPC concrete, until further notice.

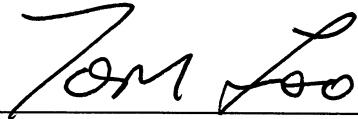
#### **Implementation of Bulletin**

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

## Contacts

Any questions regarding this bulletin should be directed to the Technical Standards Branch as follows: Raymond Yu @ 415-1016 or Terry Sexton @ 415-1024.

### Recommended:



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