



# Minnesota Department of Transportation

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## Memo

**TO:** Bridge Design Engineers

**FROM:** Arielle Ehrlich   
State Bridge Design Engineer

**DATE:** August 6, 2014

### MEMO TO DESIGNERS (2014-01): AASHTO LRFD Article 5.7.3.4 Concrete Crack Control Check

With the "JULY 2014" revision to the *LRFD Bridge Design Manual (BDM)*, some clarification is needed on the crack control check until it can be added to Section 11 of the *BDM*.

Use the following guidance when checking crack control:

- Retaining walls and substructures (excluding pier caps)
  - Use Class 1 exposure condition ( $\gamma_e = 1.00$ ).
  - Use actual clear cover to flexural bars when calculating  $d_c$ .
- Pier caps
  - Use Class 2 exposure condition ( $\gamma_e = 0.75$ ).
  - Use actual clear cover to flexural bars when calculating  $d_c$ .
- Slabs and decks
  - Use Class 2 exposure condition ( $\gamma_e = 0.75$ ).
  - Although the actual clear cover may exceed 2 inches for the slab/deck top bars, calculate  $d_c$  using a maximum clear concrete cover equal to 2 inches.
- Footings
  - Crack control check is not required.

If you have any questions, contact myself or Dave Dahlberg at (651) 366-4491.

Thank you.

cc: Nancy Daubenberger  
Dave Dahlberg  
Dave Conkel/Local Consultants  
Colleen Harer/Design Consultants

