

CONSULTING ENGINEERS  
GENERAL MEMORANDUM 07-10

STATE OF CONNECTICUT  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF ENGINEERING AND  
HIGHWAY OPERATIONS  
OFFICE OF ENGINEERING

New Bridge Design Standard Practice

October 16, 2007

To: CONSULTING ENGINEERS

The "Bridge Design Standard Practices" are hereby revised to include the enclosed new standard practice entitled "Chemical Anchors—Restricted Application/Use."

Very truly yours,

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Manager of Consultant Design  
Bureau of Engineering and  
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Enclosure

## **BRIDGE DESIGN STANDARD PRACTICES**

The following standard practice has been established by the Department.

**Chemical Anchors**—The National Transportation Safety Board recently completed an investigation of the July 10, 2006 concrete ceiling collapse and resulting fatality in a portion of the Interstate 90 (I-90) connector tunnel in Boston Massachusetts. The basic cause of the ceiling collapse was determined to be a failure of chemical anchors as a result of long-term creep of the epoxy bonding material under sustained tensile load. The investigative report included 19 safety recommendations, two of which were sent directly to all State transportation agencies, AASHTO and FHWA for immediate implementation. One of the recommendations is the prohibition of chemical anchors in sustained tensile load overhead applications where failure of the adhesive would result in a result in risk to the public until testing standards and protocols have been developed and implemented that ensure the safety of these applications.

**Proposed new practice:**

The use of all chemical anchors (referenced in Standard Specifications Section M.03.01-15) in sustained tensile-load overhead applications is prohibited where failure of the chemical adhesive would result in a risk to the public. This applies to all design and ongoing construction projects. Other anchorage alternatives must be used for such applications.