



SOUTH CAROLINA
DEPARTMENT OF HIGHWAYS AND PUBLIC TRANSPORTATION

P.O. BOX 191
COLUMBIA, S.C. 29202

DM 0193
Page 1 of 2

March 8, 1993

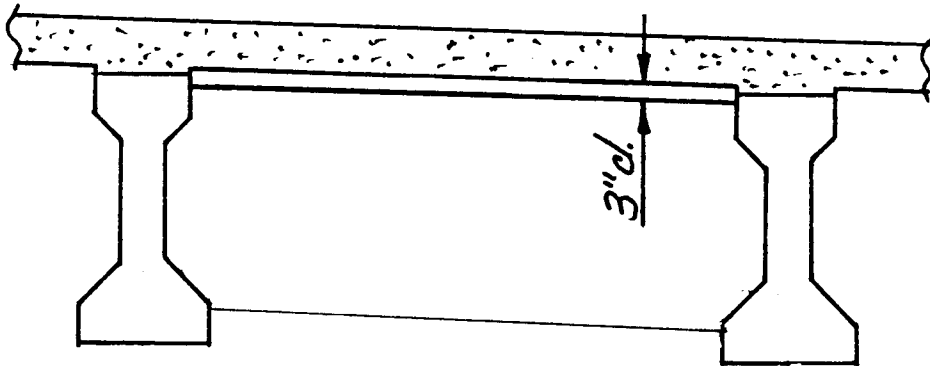
MEMORANDUM TO BRIDGE DESIGN GROUPS AND CONSULTANTS

SUBJECT: Prestressed Beams

The following items shall be standard practice for the design and detailing of prestressed beam spans.

1. Tension in the pre-compressed tensile zone of prestressed concrete beams shall be limited to $3\sqrt{f'c}$ for all projects regardless of site location. Please note that this requirement is more stringent than those given in paragraph 9.15.2.2 of the AASHTO Standard Specifications for Highway Bridges.
2. Concrete for prestressed beams shall be Class "X" having a 28 day compressive strength of 5000 psi and an initial compressive strength at the time of strand release of 4000 psi as stated in paragraph 704.13(b) of the SCDHPT Standard Specifications.
3. Special provisions for prestressed concrete in beams and girders shall not require the use of air-entrainment. The use of air-entrainment shall be left to the contractor's preference as stated in subsection 701.01 of the SCDHPT Standard Specifications.
4. Multiple spans of prestressed beams shall be designed as continuous for live load. The bottom flanges of adjoining prestressed beams shall be connected at the bents by reinforcing projecting from beam ends into a common diaphragm.

5. Interior diaphragms shall be used in accordance with paragraph 9.10.1 of the AASHTO Standard Specifications For Highway Bridges. Diaphragms shall be placed along the skew of the bridge for skew angles of 30 degrees or less. For skew angles in excess of 30 degrees, the diaphragms shall be placed perpendicular to the beams. Interior diaphragms shall be detailed as shown on the sketch below.



This memorandum supersedes memorandum DM 0489 and DM 0689. Designs and plans previously completed shall not be revised to comply with this memorandum.


B. A. Meetze, Jr.
Bridge Design Engineer

cc: Mr. Gerald Schroeder, FHWA

RLK/slb