

INDIANA DEPARTMENT OF TRANSPORTATION

INTER-DEPARTMENT COMMUNICATION  
Standards Section -- Room N642

May 25, 1999

DESIGN MEMORANDUM No. 99-10  
TECHNICAL ADVISORY

TO: All Design, Operations, and District Personnel, and Consultants

FROM: /s/ Richard L. VanCleave  
Richard L. VanCleave  
Design Policy Engineer  
Technical Services Division

SUBJECT: Use of Permanent Metal Forms and Precast Concrete Deck Panels for Concrete Deck Slabs

EFFECTIVE: January 2000 Letting

SUPERSEDES: Bridge Design Memorandum No. 225 Rev. 1-2-96

Requirements regarding the use of permanent metal forms and precast concrete deck panels have been placed entirely in the Supplemental Specifications to the Standard Specifications, effective January 1, 2000. The requirements will be shown in the Supplementals as follows:

Fabricated permanent metal forms for concrete deck slabs may be used as an alternate method for forming on a steel beam, steel girder, prestressed concrete I-beam, prestressed concrete spread box beam, or prestressed concrete bulb-T beam bridge.

The construction and furnishing of precast prestressed concrete deck panels will be permitted as an alternate method of forming a bridge deck slab for a prestressed concrete I-beam bridge. Precast concrete deck panels will not be permitted on a prestressed concrete I-beam bridge which is built on a sag vertical curve or on a superelevation transition unless otherwise shown on the plans. Precast concrete deck panels will not be permitted for use on a steel beam, steel girder, prestressed concrete bulb-T beam, or prestressed concrete spread box beam bridge.

Notes describing where permanent metal forms or precast concrete deck panels may be used will no longer be required on the contract plans for most situations. If such notes are already shown on the contract plans and are in accordance with the requirements shown above, they may remain on the plans. Such notes which are not in accordance with the requirements shown above must be removed from the plans.

If a prestressed concrete I-beam bridge is located wholly or partially within a sag vertical curve or a superelevation transition, precast concrete deck panels may be permitted. Deck panels may be used if the additional class C concrete deck thickness,  $t$  as shown on the attached sketch, is 75 mm (3 in.) or less. For such a prestressed concrete I-beam bridge, a note should be placed on the deck slab details as follows:

“Precast prestressed concrete deck panels may be substituted for removable forms on this structure.”

Detail plans shall continue to be prepared assuming that removable forms will be used. For steel beam and girder structures, a detail showing the location of tension and reversal areas in the top flange shall be included in the plans since welded attachments for permanent metal forms will not be permitted in these areas.

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