

New Jersey Department of Transportation
QUALITY IMPROVEMENT ADVISORY

QUALITY MANAGEMENT SERVICES

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QIA No. QIA016

Approved: B. Strizki
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Process Affected:

Scope Design Right of Way Utilities Environmental Historic Construction

Bureaus Affected: Design, Project Management,
Construction

Procedure(s) Affected: Design Development

Route & Section: N/A

County/Municipality: N/A

Subject:

The usage of Precast Concrete Construction Barrier on bridge decks with Latex Modified Concrete overlays.

Nature of Problem(s):

The issue of using Type 4, Alternate Design B Joint Class D pinned Precast Concrete Construction Barrier on bridge decks was raised at two separate 70-90% Completion meetings.

Type 1 & Type 4 Alternate Design B Joint Class D PCCB are necessary where no lateral deflection of the PCCB can be tolerated if the system is hit. In order to achieve this lateral deflection tolerance, each type of barrier must be pinned. However, pinning barrier to a bridge deck with an LMC overlay undermines the effectiveness of the LMC. In addition, the extra costs associated with the placement of LMC make it especially undesirable to lessen its effectiveness by drilling holes through it.

Recommendation(s):

Designers are advised to investigate alternatives in order to eliminate the need for pinned barrier on bridge decks when possible so as not to compromise the benefits of the LMC overlay. As an example, on one of the contracts referenced above, additional lateral room was able to be gained and thereby eliminated the need for a pinned Precast Concrete Construction Barrier. The lateral deflection tolerances for each type and joint class of PCCB can be found in Section 14-08.3 of the NJDOT Design Manual-Roadway.

As a result, longer serviceability of bridge decks with LMC overlays can be expected.

Implementation: Immediately

Impact Assessment:

Schedule Quality Cost Scope

Cost Impact: