



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

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GOVERNOR

DIVISION OF HIGHWAYS  
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SECRETARY

**MEMORANDUM TO:** Project Engineers  
Project Design Engineers

**FROM:** W. J. Rogers, P. E.  
State Bridge Design Engineer

**DATE:** June 16, 1998

**SUBJECT:** ELIMINATION OF BRIDGE SHOULDER PIERS

In order to facilitate future widenings and increase safety and aesthetics, shoulder piers should be eliminated at grade separations in accordance with the guidelines below.

In general, for grade separations over divided highways, design two span bridges if the span lengths are 48.5m (160 ft) or less. Spans longer than this shall be considered on a case by case basis. Consideration should be given to designing 1-span bridges in lieu of 3-span bridges over non-divided highways using the same criteria. Early coordination with Roadway Design is necessary to ensure that vertical alignments provide adequate clearance for economical superstructure depths.

This policy shall be effective with all projects where structure recommendations have not been finalized. The Design Manual will be revised at a later date.

The following is a copy of the design charts sent to Roadway Design and Design Services:

Design Span (m)	Superstructure Depth (m)*
12.0 - 14.0	1.19
>14.0 - 20.0	1.43
>20.0 - 27.5	1.65
>27.5 - 32.0	1.89
>32.0 - 36.5	2.10
>36.5 - 45.5	2.20
>45.5 - 48.5	2.30
>48.5	Consult With Structure Design Unit

\* Depths shown are from top of slab directly over exterior girder to bottom of deflected girder. The superstructure depth must be adjusted for crown drop.

WJR/GRP/PEK/ap



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Last Updated: 8/11/98 by:Steven Rackley

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