STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

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GOVERNOR

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E. NORRIS TOLSON
SECRETARY

MEMORANDUM TO: G. T. Shearin, P. E.
State Roadway Design Engineer

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

DATE: June 4, 1998

SUBJECT: ELIMINATION OF BRIDGE SHOULDER PIERS

In consideration of Secretary Tolson's desire to build the safest highway facilities possible, the Structure Design Unit proposes to eliminate shoulder piers for grade separations whenever practical. The practical span limitation for grade separations is approximately 48.5 m (160 ft).

A new Superstructure Depth Chart is attached which reflects the superstructure depths for the types of girders currently in use. For bridges over divided highways, if the distance from centerline of median beneath bridge to end bent fill slope break point is < 48.5 m (160 ft.) then use this distance as the Design Span for establishing the depth of superstructure. If this distance is > 48.5 m (160 ft.) then assume the use of shoulder piers for determination of superstructure depth. This will provide Structure Design with flexibility in selecting superstructure type.

Please direct any questions concerning this policy to Robert Woodruff at 250-4048.

WJR/RGW/ap

Attachment

cc: T. V. Rountree, P. E.
G. R. Perfetti, P. E.
R. L. Hill, P. E.
J. D. Lee, P. E.
W. R. Brown, P. E.
C. H. Casey, P. E.

ROADWAY DESIGN UNIT
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Bridge Superstructure Depths
for Grade Separations

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.