



SPEER
CASEY
GARDNER
LANSFORD

✓
J. Speer
—
—

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

MEMO TO: Roadway Design Project Engineers
David Henderson, PE
Victor Barbour, PE
Charlie Casey, PE

FROM: Jay A. Bennett, PE
Assistant State Roadway Design Engineer

DATE: June 13, 2000

SUBJECT: Drainage Issue, Use of Expressway
Curb and Gutter with Guardrail

This is a follow-up response to my May 25, 2000 memo concerning expressway curb and gutter. Curb/barrier combinations for high-speed, high angle impacts that have not been crash tested to quantify expected railing performance under typical impact conditions should be discouraged.

Expressway curb and gutter in combination with guardrail should be used in locations where the increased curb height is absolutely necessary to control the water and reduce the erosion of fill slopes. This curb/guardrail combination should be limited to freeways with 3 or more lanes of pavement sloped in the same direction. This location is generally on the low side of a superelevated curve in a fill section. For all other locations warranting a concrete gutter in front of guardrail, shoulder berm gutter shall be used. (Roadway Standard Drawing 820.04 and 846.01)

Please review all of your projects that you have received hydraulic recommendations since May 25, 2000 and bring them in compliance with this memo. Discuss changes with the hydraulics engineer and eliminate the use of expressway curb and gutter where it is not appropriate. Attached for your information is a copy of the memo dated May 25, 2000.

If you need to discuss further, please contact me at (919) 250-4016.

JAB

Attachment

cc/att: Debbie Barbour, PE
John Alford, PE
Dewayne Sykes, PE

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN UNIT
1532 MAIL SERVICE CENTER
RALEIGH NC 27699-1532

TELEPHONE: 919-250-4016
FAX: 919-250-4036
WEBSITE: WWW.DCH.DOT.STATE.NC.US

LOCATION:
CENTURY CENTER COMPLEX
BUILDING A
1000 BIRCH RIDGE DRIVE
RALEIGH NC