STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

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June 15, 2006

MEMO TO: Roadway Design Project Engineers — Bill Rosser, PE
Structure Design Project Engineers — Victor Barbour, PE
Division Engineers — David Henderson, PE
Division Construction Engineers — Greg Perfetti, PE
Roadway Construction Engineers — Cecil Jones, PE

FROM: For Jay A. Bennett, PE Ron Allen
State Roadway Design Engineer

SUBJECT: **Use of Guardrail Anchor Units (GRAU) B-77, B-83, and Type III**

In an effort to provide cost savings on projects, the NCDOT Guardrail Committee recommends utilization of the GRAU B-77 in lieu of the GRAU Type III on bridges with the proposed Jersey face bridge rails. This will eliminate the bridge rail transition needed for attaching the GRAU Type III to the bridge and will result in saving approximately $3400 per bridge. This change is effective with the November 2006 letting.

Listed below are the current structure guardrail anchor units and when they are used:

- **B-77**: use on bridges with Jersey shape barrier rails that have a 4" curb or no approaching curb. It can now be used in lieu of the Type III thus eliminating the need for the bridge rail transition. (See Roadway Std. Drawings 857.01 & 862.03, sheets 6 and 7) This anchor unit can be used on temporary bridges.

- **B-83**: use on existing bridges with a Jersey shape barrier and an 8" or higher curb on the approach slab. This anchor unit is mainly used in retrofit situations when replacing the old Type X, XI, XII, and XIII anchor units (See Roadway Std. Drawings 862.03, sheet 8).

- **Type III**: use to anchor guardrail to bridges with metal bar railing, remaining designs utilizing the bridge rail transition, or other rail designs that have a vertical shape (See Roadway Std. Drawings 862.03, sheets 1 thru 5). This anchor unit can be used on temporary bridges.

Attached is a draft copy of the proposed changes to the Roadway Design Manual. No changes to the Roadway Standard Drawings are required. If you have any questions please feel free to contact Ron Allen or me at (919) 250-4016.

JAB/rda
Attachment
Cc:

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