

Guardrail Committee Agenda

March 15, 2006

10:30 AM

Roadway Design Conference Room

I. NCHRP Report 537 "Recommended Guidelines for Curb and Curb-Barrier Installations"

Based on findings from this report, do we need to revise our standards to reflect the new guidelines? (A copy of the NCHRP Report 537 (chapters 1 and 7) and a list of possible revisions noted by Mr. Garry Lee were distributed as Attachment No. 1)

Action: *Overall there are not any new significant guidelines and/or recommendations that should require us to make any changes to the Roadway Design Manual. Furthermore, it was discussed that the performance history of shoulder berm gutter with steel beam guardrail has been good. Therefore, there does not appear to be enough justification at this time to modify its design.*

Concerning the utility pole placement with curb and gutter, Mr. Garry Lee contacted Mr. Roger Worthington to investigate the subject report's findings further and to receive his comments and recommendations. The report's findings note that the placement of curb and gutter could possibly have an adverse affect on the performance of a breakaway pole. The report notes, "The impact point may be well above the base; thus the breakaway feature may not work as it is intended." Due to the report's findings, Mr. Worthington suggests that we remove the statement in the Design Manual noting that "All utility poles that are placed closer than 12 feet shall be breakaway poles." This statement applies to curb and gutter sections posted 45 MPH or less. The Guardrail Committee also supports removing this statement from the Design Manual.

II. Weathered Guardrail Concerns

Do we want to continue using weathered steel guardrail or should we switch to painted guardrail? (Various e-mails that pertained to this issue were distributed as Attachment No. 2)

Action: *The Materials and Tests Unit has developed a procedure for painting guardrail. It can be painted a shade of brown to give it a rustic appearance. The only piece of hardware that cannot be painted brown is the impact head for the end terminal units. Due to the maintenance concerns with the usage of weathered steel guardrail, it was the consensus of the guardrail committee to recommend that it no longer be used on TIP projects. A letter will be sent to the Project Development and Environmental Analysis Branch to this effect so that future project commitments will be properly worded.*

III. Follow up to "Guidance for Selection of W-beam Terminals"

Follow up letter from the FHWA to express the need for DOT's to ensure they accommodate the proper runout distance required beyond gating terminals. (Letter from John R. Baxter, PE, Director, Office of Safety Design to the Safety Field was distributed as Attachment No. 3)

Action: *The primary focus of this letter deals with two areas of concern: 1) The capture area for a vehicle to land and 2) does the berm behind the Steel Beam Guardrail have sufficient width to keep a vehicle from a hazard. It was the consensus of the Guardrail Committee to continue with our current guardrail placement guidelines.*

IV. Release of cable guiderail in crash situations

Find out the status of the response to Captain Peter J. Skeris, Charlotte Fire Department, Training Division, to address what measures can be take to safely cut the cable guiderail during emergencies. (A copy of Captain Skeris' e-mail request to the Department along with a picture of a vehicle trapped in cable guiderail were distributed as Attachment No. 4)

Action: *The Traffic Engineering Branch has contacted Captain Skeris to let him know the Department is actively seeking solutions to address this issue. It was the general consensus of the Guardrail Committee if there was any question as to whether or not the Guiderail had tension in the system the tension should be released at the turnbuckle before cutting the guiderail. The type and size of tool required to release the turnbuckle will be further investigated.*

Mr. Shawn Troy sent out a request to the AASHTO TIG-CMB members, guiderail vendors, and the Mecklenburg County Maintenance Engineer to see if they would have any feedback and/or recommendations in regards to this issue. Based upon the feedback received though e-mail, the general consensus is the same as that as noted above by the Guardrail Committee. Jay Bennett suggested that Mr. Troy post the comments that he received on the AASHTO TIG-CMB (Technology Implementation Group - Cable Median Barriers) web site.

V. B-77 Updated

Review information provided by Cynthia Perry. Then discuss how it should be forwarded to the implementation committee for approval. (A handout with a breakdown of the cost savings for eliminating the bridge rail transitions on bridge approach slabs was distributed as Attachment No. 5)

Action: *The information provided by Ms. Perry noted there will be an overall cost savings of \$3400 per bridge by using TYPE B-77 anchor units in lieu of TYPE III anchors. Ms. Cynthia Perry will provide written documentation along with a 'Draft' version of the Roadway Design Unit Design Manual to request this change to Mr. Ron Allen.*

Ron Allen has since received the written documentation along with a 'Draft' version of the Roadway Design Unit Design Manual from Ms. Perry. A formal request to the Implementation Committee Co-Chairs was sent out on April 6, 2006.

VI. End Terminal and Utility conflict

Share picture provided by Glenn Mumford on TIP project R-4401, NC 24, Division 2, bridge over the Broad Creek in Carteret County. (A copy of the picture was distributed as Attachment No. 6)

Action: The picture showed a utility pedestal inside the head of an end terminal. Dennis Jernigan and Warren Walker will share this picture with the Division Construction personnel.

VII. Brifen High Tension Cable System Technical Brief

Letter from Brifen USA, Inc. noting that we should closely monitor their Wire Rope Gating Terminal installations in varying soil types. Movement has been reported in certain conditions where weaker and/or saturated soils exist. (A copy of the letter from Steve E. Wells, Brifen USA, Inc., President to Tony Wyatt, NCDOT, Traffic Engineering was distributed as attachment No. 7)

Action: Recommendations noted.

VIII. Gibraltar Cable Barrier System

Review informational CD provided by the vendor. This product is on the March 30th New Products Committee Agenda. (A couple of acceptance letters, dated June 13, 2005 and June 23, 2005, from John R. Baxter, PE, FHWA, Director, Office of Safety Design Office of Safety to Mr. Bill Neusch, President of Gibraltar were distributed as Attachment No. 8)

Action: The Guardrail Committee recommended that this high-tension, 3 strand cable barrier system product remain on a "Trial Usage" status.

IX. New Product Items

NP-02-1546 X-Post - Quadrail barrier support that can be used as a direct substitute for existing wood or steel posts options. This product was discussed at the 07/28/05 New Products Committee Meeting and they requested input from the Guardrail Committee. This product is on "Trial Use" status. (An informational flyer from Bryson Products was distributed as Attachment No. 9)

Action: The Guardrail Committee recommended a "Conceptual Approval" status for this product.

NP-02-1547 Fleat-MT 350 - Flared guardrail terminal for median applications. Its primary use would be for terminating a double-faced median guardrail barrier. This product was also discussed at the 07/28/05 New Products Committee Meeting and they requested input from the Guardrail Committee. This product is on "Trial Use" status. (An acceptance letter from Frederick G. Wright, Jr., FHWA, Program Manager, Safety to Mr. Kaddo Kothmann, President, Road Systems, Inc. was distributed as Attachment No. 10)

Action: The Guardrail Committee recommended changing the status of this product to "Conceptual Approval."

X. Miscellaneous

Guardrail / Vegetative Maintenance

Ron Allen gave a brief overview of what was discussed at the last Guardrail / Vegetative Maintenance Meeting held January 10, 2006. A copy of the 'Draft' meeting minutes was provided to the Guardrail Committee Members.

Minutes prepared by Roger Thomas, PE

Minutes approved by Ron Allen, PE

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