



SOUTH CAROLINA
DEPARTMENT OF HIGHWAYS AND PUBLIC TRANSPORTATION
P.O. BOX 191
COLUMBIA, S.C. 29202

DM0392

ROBERT N. McLELLAN
EXECUTIVE DIRECTOR

April 22, 1992

MEMORANDUM TO DESIGN GROUP LEADERS & CONSULTANTS

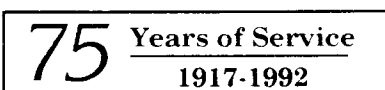
SUBJECT: SPECIAL PROVISIONS

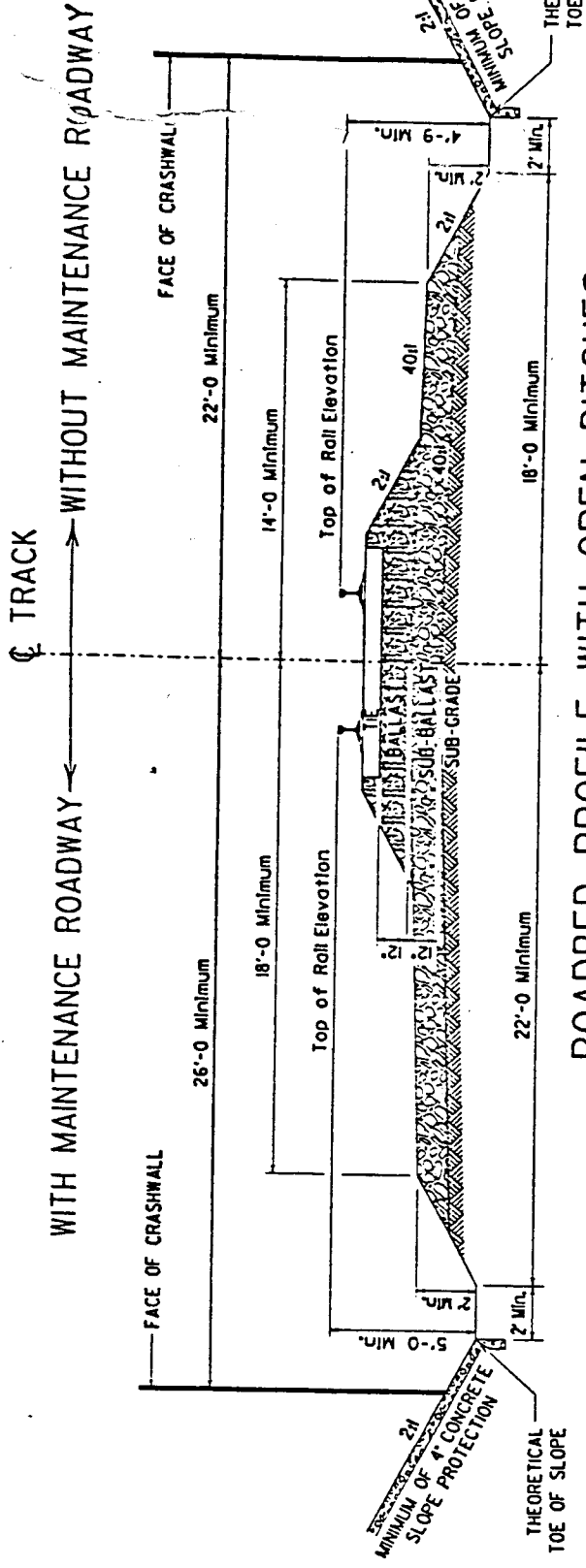
When federal standards or specifications are cited within a special provision prepared by a consultant, the consultant shall furnish the Department a copy of the standard or specification at the time the special provision is submitted for review. This will allow the Department to evaluate the impact and the appropriateness of the federal standard or specification for its intended purpose.

B. A. Meetze, Jr.
Bridge Design Engineer

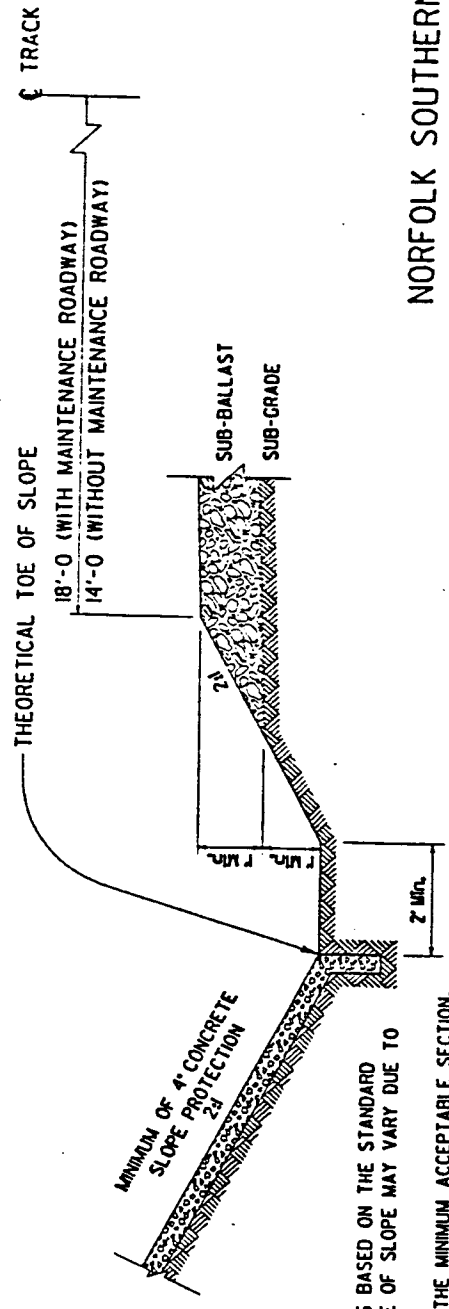
cc: FHWA, Mr. Schroeder
Consultants
Design Group Leaders
E. LaBoone
W. Rush
R. Cannon
R. Kneece
G. Martin
G. Peck
D. McClure

BAM/RLK/slb





ROADBED PROFILE WITH OPEN DITCHES



DITCH DETAIL

NOTE:
 THEORETICAL TOE OF SLOPE IS BASED ON THE STANDARD ROADBED SECTION, ACTUAL TOE OF SLOPE MAY VARY DUE TO EXISTING GROUND LINE.
 THE DITCH SECTION SHOWN IS THE MINIMUM ACCEPTABLE SECTION.
 THE DITCH SECTION IS TO BE INCREASED AS REQUIRED BY LOCAL CONDITIONS, BASED ON HYDROLOGICAL AND HYDRAULIC STUDIES.
 THE ROADBED SECTION SHALL ALSO BE IN ACCORDANCE WITH NORFOLK SOUTHERN STANDARD PLANS.

NORFOLK SOUTHERN CORP
 STANDARD OVERHEAD
 BRIDGE DETAILS
 DITCH AND DRAINAGE
 DETAILS

OFFICE OF CHIEF ENGINEER OF BRIDGES & STRUCTURES
 JANUARY, 1991

GROOVED SURFACE FINISH FOR CONCRETE BRIDGE DECKS

Concrete bridge decks shall be finished in accordance with Section 702.27 of the Standard Specifications except that a transverse screed may be used. The transverse screed shall be rigidly supported on unyielding templates such that no appreciable deflection will be realized.

After concrete has been cured and any applicable rideability specifications have been satisfied, all deck slabs shall be grooved perpendicular to the centerline except on rehabilitated decks with staged construction where the slab may be grooved longitudinal or parallel to the centerline. The grooves shall be cut into the hardened concrete using a mechanical saw device which will leave grooves 1/8 inch wide and 1/8 inch deep. Grooves shall have a center to center spacing which varies randomly from 1/2 inch to 1 inch as approved by the Engineer.

Deck surface within one foot of the gutter lines and two inches of any expansion or contraction joint normal to the centerline shall not be grooved. Also, the deck surface within one foot of each side of the raised concrete median shall not be grooved. Contractor may groove across expansion or contraction joints skewed to the centerline provided that the steel armored plates are lowered 1/4 inch maximum below the finish roadway elevation.

All residue from the sawing operation shall be removed from the deck by vacuum or other methods. All residue shall be legally disposed of off the construction site. It shall not remain on the deck nor be washed into the bridge drainage system.

Grooved Surface Finish shall be measured as the actual number of square yards of slab area grooved and accepted by the Engineer. Deck areas not grooved such as within one foot of gutterlines, within 2 inches of joints and expansion devices will not be measured for payment.

Payment for Grooved Surface Finish will be per square yard and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals for doing all work involved in grooving, including removing residue as shown on the plans, as specified in the special provisions and/or as directed by the Engineer.

Payment will be made under:

<u>Item No.</u>	<u>Pay Item</u>	<u>Pay Unit</u>
7011700	Grooved Surface Finish	S.Y.

January 9, 1992

BRIDGE DECK RIDEABILITY

(WITH CONTRACTOR STAKES, LINES AND GRADES)

The bridge decks on this project shall be subjected to smoothness tests using a rolling straight edge as specified in Subsection 702.27 and the Rainhart Profilograph and a Profile Index Value determined in accordance with test method entitled "Determining Profile Index value using the Rainhart Profilograph." The rolling straight edge test shall be performed first. All corrective work associated with this test shall be completed before the Rainhart Profilograph test is performed. Profiles will be obtained by the Department as directed by the Engineer to within 6 feet of the barrier or curb line. The profile index shall not exceed 12 for each wheel path and individual bumps or depressions shall not exceed 0.10 inch from the 0.20 inch blanking band. In addition, the surface shall meet a 0.20 inch in 10 foot straight edge check made transversely across the deck.

Decks not meeting the above requirements shall be corrected at the Contractor's expense. The Contractor shall provide the Engineer a written plan of corrective action for approval before implementation. Approval of the corrective plan will in no way relieve the Contractor of responsibility for meeting rideability requirements. In all cases a minimum of 1 1/2 inches of cover over reinforcing steel will be maintained. After corrective action, all decks will be subject to retesting to insure compliance with specifications. All requirements for rideability shall be satisfied before the Grooved Surface Finish is applied to the bridge deck.

Expansion joint installation shall be delayed and the joint temporarily bridged to facilitate operation of the profilograph and corrective equipment across the joint wherever feasible.

It shall be the Contractor's responsibility to schedule profilograph testing. Requests for testing shall be made through the Resident Engineer. The Contractor shall insure that the area to be tested has been cleaned and cleared of all obstructions.

The Contractor shall be required to provide all necessary layouts as described in the accompanying Special Provision entitled "Construction Stakes, Lines and Grades."

January 10, 1992

BRIDGE DECK RIDEABILITY
(WITH PARTIAL DEPARTMENT LINES AND GRADES)

The bridge decks on this project shall be subjected to smoothness tests using a rolling straight edge as specified in Subsection 702.27 and the Rainhart Profilograph and a Profile Index Value determined in accordance with test method entitled "Determining Profile Index value using the Rainhart Profilograph." The rolling straight edge test shall be performed first. All corrective work associated with this test shall be completed before the Rainhart Profilograph test is performed. Profiles will be obtained by the Department as directed by the Engineer to within 6 feet of the barrier or curb line. The profile index shall not exceed 12 for each wheel path and individual bumps or depressions shall not exceed 0.10 inch from the 0.20 inch blanking band. In addition, the surface shall meet a 0.20 inch in 10 foot straight edge check made transversely across the deck.

Decks not meeting the above requirements shall be corrected at the Contractor's expense. The Contractor shall provide the Engineer a written plan of corrective action for approval before implementation. Approval of the corrective plan will in no way relieve the Contractor of responsibility for meeting rideability requirements. In all cases a minimum of 1 1/2 inches of cover over reinforcing steel will be maintained. After corrective action, all decks will be subject to retesting to insure compliance with specifications. All requirements for rideability shall be satisfied before the Grooved Surface Finish is applied to the bridge deck.

Expansion joint installation shall be delayed and the joint temporarily bridged to facilitate operation of the profilograph and corrective equipment across the joint wherever feasible.

It shall be the Contractor's responsibility to schedule profilograph testing. Requests for testing shall be made through the Resident Engineer. The Contractor shall insure that the area to be tested has been cleaned and cleared of all obstructions.

The Department will furnish lines and grades as specified in Subsection 105.08 except for all lines and grades affecting the bridge superstructure. This exception includes screed, overhang, beam, and header lines and grades as well as parapet, rail, sidewalk, curb or median lines and grades. The Contractor will be responsible for computing and setting these lines and grades. The Engineer will make random checks of the lines and grades set by the contractor to determine if the work is in substantial conformance with the plans. The cost of the above work will be considered as incidental to the contract and no additional compensation will be allowed for the performance of said work.