



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY  
GOVERNOR

LYNDO TIPPETT  
SECRETARY

August 7, 2006

**Addendum No. 1**

RE: Contract ID: C201397  
WBS# 37460  
Hyde County  
NC-45 From US-264  
To Beaufort County Line.

**August 15, 2006 Letting**

To Whom It May Concern:

Reference is made to the sketch maps and proposal form recently furnished to you on this project.

The following revision has been made to the sketch maps:

On sheet No. 2, Note No. 7 has been revised. Please void Sheet No. 2 in your sketch maps and staple the revised Sheet No. 2 thereto.

The following revisions have been made to the proposal form:

New Page Nos. 24-A thru 24-D have been added to include the Project Special Provision entitled "Final Surface Testing-Asphalt Pavements (Rideability)." Please staple the New Page Nos. 24-A thru 24-D after Page No. 24 in your proposal.

On Page No. 29, Note No. 5 has been revised. Please void Page No. 29 in your proposal and staple the revised Page No. 29 thereto.

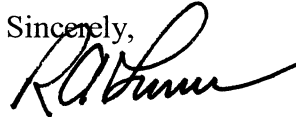
**MAILING ADDRESS:**  
NC DEPARTMENT OF TRANSPORTATION  
DESIGN SERVICES UNIT  
1591 MAIL SERVICE CENTER  
RALEIGH NC 27699-1591

TELEPHONE: 919-250-4128  
FAX: 919-250-4119  
*WEBSITE: [WWW.DOH.DOT.STATE.NC.US](http://WWW.DOH.DOT.STATE.NC.US)*

**LOCATION:**  
CENTURY CENTER COMPLEX  
ENTRANCE B2  
1020 BIRCH RIDGE DRIVE  
RALEIGH NC

Page No. 2 (C201397)  
Hyde County

Sincerely,



R. A. Garris, PE  
Contract Officer

RAG/jag/pa  
Attachments

cc: Mr. W. S. Varnedoe, PE  
Mr. S. D. DeWitt, PE  
Mr. E. C. Powell, PE  
Mr. A. W. Roper, PE  
Ms. D. M. Barbour, PE  
Mr. Art McMillan, PE  
Mr. Victor Barbour, PE  
Mr. Mark Staley (2)  
Mr. Robert Memory  
Mr. R. E. Davenport, Jr., PE  
Ms. Norma Smith  
Ms. Marsha Byrd  
Ms. Taylor Mishoe  
Project File (2)

**FINAL SURFACE TESTING - ASPHALT PAVEMENTS (Rideability):**

(5-18-04) (Rev.7-18-06)

RR 20

On portions of this project where the typical section requires two or more layers of new pavement, perform acceptance testing of the longitudinal profile of the finished pavement surface in accordance with these provisions using a North Carolina Hearne Straightedge (Model No. 1). Furnish and operate the straightedge to determine and record the longitudinal profile of the pavement on a continuous graph. Final surface testing is an integral part of the paving operation and is subject to observation and inspection by the Engineer as deemed necessary.

Push the straightedge manually over the pavement at a speed not exceeding 2 miles per hour. For all lanes, take profiles in the right wheel path approximately 3 ft from the right edge of pavement in the same direction as the paving operation, unless otherwise approved due to traffic control or safety considerations. Make one pass of the straightedge in each full width travel lane. The full lane width should be comparable in ride quality to the area evaluated with the Hearne Straightedge. If deviations exist at other locations across the lane width, utilize a 10 foot non-mobile straightedge or the Hearne Straightedge to evaluate which areas may require corrective action. Take profiles as soon as practical after the pavement has been rolled and compacted but in no event later than 24 hours following placement of the pavement, unless otherwise authorized by the Engineer. Take profiles over the entire length of final surface travel lane pavement exclusive of -Y- line travel lanes less than or equal to 300 feet in length, turn lanes less than or equal to 300 feet in length, structures, approach slabs, paved shoulders, loops, and tapers or other irregular shaped areas of pavement, unless otherwise approved by the Engineer. Test in accordance with this provision all mainline travel lanes, full width acceleration or deceleration lanes, -Y- line travel lanes greater than 300 feet in length, ramps, full width turn lanes greater than 300 feet in length, and collector lanes.

At the beginning and end of each day's testing operations, and at such other times as determined necessary by the Engineer, operate the straightedge over a calibration strip so that the Engineer can verify correct operation of the straightedge. The calibration strip shall be a 100 ft section of pavement that is reasonably level and smooth. Submit each day's calibration graphs with that day's test section graphs to the Engineer. Calibrate the straightedge in accordance with the current NCDOT procedure titled *North Carolina Hearne Straightedge - Calibration and Determination of Cumulative Straightedge Index*. Copies of this procedure may be obtained from the Department's Pavement Construction Section.

Plot the straightedge graph at a horizontal scale of approximately 25 ft per inch with the vertical scale plotted at a true scale. Record station numbers and references (bridges, approach slabs, culverts, etc.) on the graphs, and distances between references/stations shall not exceed 100 ft. Have the operator record the Date, Project No., Lane Location, Wheel Path Location, Type Mix, and Operator's Name on the graph.

Upon completion of each day's testing, evaluate the graph, calculate the Cumulative Straightedge Index (CSI), and determine which lots, if any, require corrective action. Document the evaluation of each lot on a QA/QC-7 form. Submit the graphs along with the completed QA/QC-7 forms to the Engineer, within 24 hours after profiles are completed, for verification of the results. The Engineer will furnish results of their acceptance evaluation to the Contractor

**24-B**

within 48 hours of receiving the graphs. In the event of discrepancies, the Engineer's evaluation of the graphs will prevail for acceptance purposes. The Engineer will retain all graphs and forms.

Use blanking bands of 0.2 inches, 0.3 inches, and 0.4 inches to evaluate the graph for acceptance. The 0.2 inch and 0.3 inch blanking bands are used to determine the Straightedge Index (SEI), which is a number that indicates the deviations that exceed each of the 0.2 inch and 0.3 inch bands within a 100 ft test section. The Cumulative Straightedge Index (CSI) is a number representing the total of the SEIs for one lot, which consist of not more than 25 consecutive test sections. In addition, the 0.4 inch blanking band is used to further evaluate deviations on an individual basis. The Cumulative Straightedge Index (CSI) will be determined by the Engineer in accordance with the current procedure titled "North Carolina Hearne Straightedge - Calibration and Determination of Cumulative Straightedge Index".

The pavement will be accepted for surface smoothness on a lot by lot basis. A test section represents pavement one travel lane wide not more than 100 ft in length. A lot will consist of 25 consecutive test sections, except that separate lots will be established for each travel lane, unless otherwise approved by the Engineer. In addition, full width acceleration or deceleration lanes, ramps, turn lanes, and collector lanes, will be evaluated as separate lots. For any lot that is less than 2500 feet in length, the applicable pay adjustment incentive will be prorated on the basis of the actual lot length. For any lot which is less than 2500 feet in length, the applicable pay adjustment disincentive will be the full amount for a lot, regardless of the lot length.

If during the evaluation of the graphs, 5 lots (mainline travel lanes and full width -Y- line travel lanes greater than 300 feet in length only) require corrective action, then proceed on limited production for unsatisfactory laydown in accordance with Article 610-12. Proceeding on limited production is based upon the Contractor's initial evaluation of the straightedge test results and shall begin immediately upon obtaining those results. Additionally, the Engineer may direct the Contractor to proceed on limited production in accordance with Article 610-12 due to unsatisfactory laydown or workmanship.

Limited production for unsatisfactory laydown is defined as being restricted to the production, placement, compaction, and final surface testing of a sufficient quantity of mix necessary to construct only 2500 feet of pavement at the laydown width. Once this lot is complete, the final surface testing graphs will be evaluated jointly by the Contractor and the Engineer. Remain on limited production until such time as acceptable laydown results are obtained or until three consecutive 2500 foot sections have been attempted without achieving acceptable laydown results. The Engineer will determine if normal production may resume based upon the CSI for the limited production lot and any adjustments to the equipment, placement methods, and/or personnel performing the work. Once on limited production, the Engineer may require the Contractor to evaluate the smoothness of the previous asphalt layer and take appropriate action to reduce and/or eliminate corrective measures on the final surface course. Additionally, the Contractor may be required to demonstrate acceptable laydown techniques off the project limits prior to proceeding on the project.

If the Contractor fails to achieve satisfactory laydown results after three consecutive 2500 foot sections have been attempted, cease production of that mix type until such time as the cause of the unsatisfactory laydown results can be determined.

As an exception, the Engineer may grant approval to produce a different mix design of the same mix type if the cause is related to mix problem(s) rather than laydown procedures. If production of a new mix design is allowed, proceed under the limited production procedures detailed above.

After initially proceeding under limited production, the Contractor shall immediately notify the Engineer if any additional lot on the project requires corrective action. The Engineer will determine if limited production procedures are warranted for continued production.

If the Contractor does not operate by the limited production procedures as specified above, the 5 lots, which require corrective action, will be considered unacceptable and may be subject to removal and replacement. Mix placed under the limited production procedures for unsatisfactory laydown will be evaluated for acceptance in accordance with Article 105-3.

The pay adjustment schedule for the Cumulative Straightedge Index (CSI) test results per lot is as follows:

<b>Pay Adjustment Schedule for Cumulative Straightedge Index (CSI) (Obtained by adding SE Index of up to 25 consecutive 100 ft. sections)</b>				
*CSI	ACCEPTANCE CATEGORY	CORRECTIVE ACTION	PAY ADJUSTMENT	
			Before Corrective Action	After Corrective Action
0-0	Acceptable	None	\$300 incentive	None
1-0 or 2-0	Acceptable	None	\$100 incentive	None
3-0 or 4-0	Acceptable	None	No Adjustment	No Adjustment
1-1, 2-1, 5-0 or 6-0	Acceptable	Allowed	\$300 disincentive	\$300 disincentive
3-1, 4-1, 5-1 or 6-1	Acceptable	Allowed	\$600 disincentive	\$600 disincentive
Any other Number	Unacceptable	Required	Per CSI after Correction(s) (not to exceed 100% Pay)	

**\*Either Before or After Corrective Actions**

Correct any deviation that exceeds a 0.4 inch blanking band such that the deviation is reduced to 0.3 inches or less.

Corrective actions shall be performed at the Contractor's expense and shall be presented for evaluation and approval by the Engineer prior to proceeding. Any corrective action performed shall not reduce the integrity or durability of the pavement that is to remain in place. Corrective action for deviation repair may consist of overlaying, removing and replacing, indirect heating and rerolling. Scraping of the pavement with any blade type device will not be allowed as a corrective action. Provide overlays of the same type mix, full roadway width, and to the length

and depth established by the Engineer. Tapering of the longitudinal edges of the overlay will not be allowed.

Corrective actions will not be allowed for lots having a CSI of 40 or better. If the CSI indicates *Allowed* corrective action, the Contractor may elect to take necessary measures to reduce the CSI in lieu of accepting the disincentive. Take corrective actions as specified if the CSI indicates *Required* corrective action. The CSI after corrective action should meet or exceed *Acceptable* requirements.

Where corrective action is allowed or required, the test section(s) requiring corrective action will be retested, unless the Engineer directs the retesting of the entire lot. No disincentive will apply after corrective action if the CSI is 40 or better. If the retested lot after corrective action has a CSI indicating a disincentive, the appropriate disincentive will be applied.

Test sections and/or lots that are initially tested by the Contractor that indicate excessive deviations such that either a disincentive or corrective action is necessary, may be re-rolled with asphalt rollers while the mix is still warm and in a workable condition, to possibly correct the problem. In this instance, reevaluation of the test section(s) shall be completed within 24 hours of pavement placement and these test results will serve as the initial test results.

Incentive pay adjustments will be based only on the initially measured CSI, as determined by the Engineer, prior to any corrective work. Where corrective actions have been taken, payment will be based on the CSI determined after correction, not to exceed 100 percent payment.

Areas excluded from testing by the N.C. Hearne Straightedge will be tested by using a non-mobile 10-foot straightedge. Assure that the variation of the surface from the testing edge of the straightedge between any two contact points with the surface is not more than 1/8 inch. Correct deviations exceeding the allowable tolerance in accordance with the corrective actions specified above, unless the Engineer permits other corrective actions.

Furnish the North Carolina Hearne Straightedge(s) necessary to perform this work. Maintain responsibility for all costs relating to the procurement, handling, and maintenance of these devices. The Department has entered into a license agreement with a manufacturer to fabricate, sell, and distribute the N.C. Hearne Straightedge. The Department's Pavement Construction Section may be contacted for the name of the current manufacturer and the approximate price of the straightedge.

No direct payment will be made for the work covered by this section. Payment at the contract unit prices for the various items covered by those sections of the specifications directly applicable to the work constructed will be full compensation for all work covered by this section including, but not limited to, performing testing in accordance with this specification, any corrective work required as a result of this testing and any additional traffic control as may be necessary.

For partial or wheel track milling operations on two-way, two-lane facilities, mill and pave back by the end of each work day. For partial or wheel track milling operations on multi-lane facilities, the lane being milled may be left closed and paved back within 72 hours.

The following option is acceptable during Resurfacing/milling **and/or FDR** operations on two-way, two-lane facilities when the entire roadway or entire lane is to be milled:

**Failure to comply with the following requirements will result in a suspension of all other operations and the liquidated damages associated with the contract special provision "Prosecution of Work" will apply until satisfactory progress is made as determined by the Engineer.**

- 1. Coordinate milling, reclamation and paving operations such that these operations are contained within the 3 mile stationary work zone.**
- 2. Pilot vehicle operation in conjunction with flaggers and any other traffic control devices that the Engineer shall be deemed necessary shall be in place and maintained within the 3 mile stationary work zone when construction and paving equipment are located within 5 feet of the edge of pavement.**
- 3. Pulverize only the length of roadway that can be completely pulverized, mixed, compacted and covered in the same working day unless directed otherwise by the Engineer.**
- 4. Pavement shall not be placed on reclaimed base prior to 48 hours after achieving satisfactory compaction without approval from the Engineer.**
- 5. Traffic shall not be allowed on milled areas or on reclaimed base prior to placement of the first layer of surface course.**
- 6. When a period of inactivity is anticipated by the Contractor to be greater than 60 hours within the 3 mile work zone, the Contractor shall stage the work so that all lanes of traffic can be reopened to traffic and all construction, paving and traffic control equipment can be removed to a location greater than 5 feet from edge of pavement unless directed otherwise by the Engineer.**

The following option is available during Resurfacing/milling operations on multi-lane facilities when all lanes or a single lane in one direction are to be milled:

**(A) Mill and pave back as directed by the Engineer.**

Slope the pavement at the beginning and ending of the daily milling operation as directed by the Engineer. Sweep and remove all milled material from the roadway as soon as the daily milling operation is completed. Maintain all accesses where milling is conducted using suitable backfill material approved by the Engineer. Continue milling operations until the particular section of roadway being milled is complete. Remove any existing pavement adjacent to the milled area, that has been damaged, and replace with patch material as directed by the Engineer.

Operate equipment and conduct operations in the same direction as the flow of traffic. Do not cross medians with equipment, except at properly designated interchanges.

**PROPOSED SILT FENCE LOCATIONS**

0.14 MILE BEGIN SILT FENCE LT  
0.20 MILE END SILT FENCE LT

1.10 MILES (50 LF LT & RT) = 100 LF TOTAL @ PIPE

1.20 MILES (50 LF LT & RT) = 100 LF TOTAL @ PIPE

1.43 MILES (50 LF LT) & (100 LF RT) = 150 LF TOTAL @ PIPE

1.48 MILES BEGIN SILT FENCE RT  
1.50 MILES END SILT FENCE RT

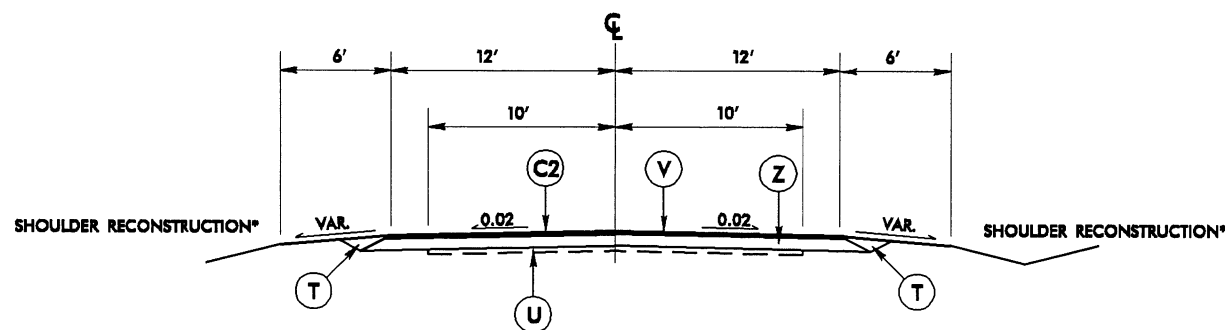
3.48 MILES BEGIN SILT FENCE LT & RT  
3.60 MILES END SILT FENCE LT & RT @ BRIDGE

3.80 MILES BEGIN SILT FENCE LT & RT  
3.85 MILES END SILT FENCE LT & RT

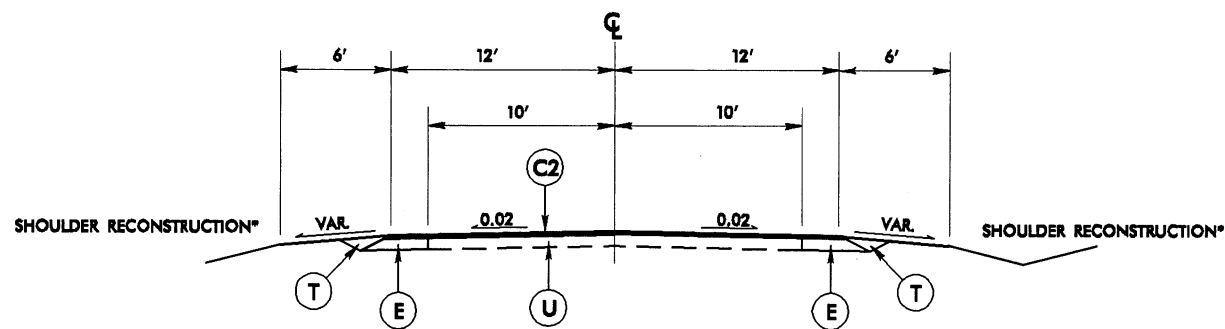
4.83 MILES BEGIN SILT FENCE RT

5.60 MILES 50' LF ON EACH CORNER OF BRIDGE  
(4 CORNERS @ 50 LF EACH = 200 LF TOTAL)

7.00 MILES BEGIN SILT FENCE LT  
7.30 MILES END SILT FENCE LT & RT



**TYPICAL SECTION NO. 1**  
USE WITH MAP NO. 1



**TYPICAL SECTION NO. 2**  
USE WITH MAP NO. 2

\* SHOULDER RECONSTRUCTION TO BE PERFORMED AS DIRECTED BY THE ENGINEER TO MATCH EXISTING SHOULDERS AS CLOSELY AS POSSIBLE.

**PAVEMENT SCHEDULE**

C2	PROP. APPROX. 3.0" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQUARE YARD, IN EACH OF 2 LAYERS.
E	PROP. APPROX. 5.5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 627 LBS. PER SQUARE YARD.
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V	MILLING BITUMINOUS PAVEMENT 2.5" DEPTH
Z	8" ROADWAY RECLAMATION (OVER 24' WIDTH) USING PORTLAND CEMENT AT AN AVERAGE RATE OF 43 LBS. PER SQUARE YARD

NOTE: PAVEMENT EDGE SLOPE ARE 1:1 UNLESS SHOWN OTHERWISE

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" PROJECT SERVICES UNIT - N. C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N. C., DATED JULY 18, 2006 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
862.03	STRUCTURE ANCHOR UNITS
1101.02	TEMPORARY LANE CLOSURES
1205.01	PAVEMENT MARKINGS
1205.02	PAVEMENT MARKINGS
1205.08	PAVEMENT MARKINGS
1250.01	PAVEMENT MARKER SPACING

**NOTE:**

1. VEGETATION MUST BE REMOVED FROM SHOULDERS PRIOR TO PERFORMING FULL DEPTH RECLAMATION (FDR) AND/OR WIDENING.
2. CONTRACTOR IS REQUIRED TO HAVE AN OPERATING, EFFECTIVE DUST SUPPRESSION SYSTEM, THROUGHOUT THE CEMENT APPLICATION PROCESS.
3. DURING FDR PROCESS, WATER MUST BE INJECTED DIRECTLY INTO MIXING CHAMBER. CEMENT LADEN WATER MUST NOT BE ALLOWED TO LEAVE ROADWAY.
4. IF ASPHALT CURING SEAL IS APPLIED, BLOTTING MATERIAL MUST BE THOROUGHLY REMOVED PRIOR TO PLACING SURFACE COURSE.
5. SURFACE COURSE SHALL NOT BE PLACED ON RECLAIMED BASE PRIOR TO 48 HOURS AFTER ACHIEVING SATISFACTORY COMPACTION. RECLAIMED BASE MUST BE KEPT MOIST UNTIL SURFACE COURSE IS PLACED.
6. MILLING, RECLAMATION AND PAVING OPERATIONS MUST BE CONTAINED WITHIN 3 MILE STATIONARY WORK ZONE.
7. NO TRAFFIC WILL BE ALLOWED ON MILLED AREAS OR RECLAIMED BASE PRIOR TO PLACEMENT OF THE FIRST LAYER OF SURFACE COURSE.
8. MILL BRIDGES 2.5" AND REPLACE 3" S9.5B.