

WBS#: 8CR.10631.3, 8CR.20631.3, 8CR.30639.3

Moore County

Date: 12-07-2004

Revised:

TRAFFIC CONTROL:

Maintain traffic in accordance with Divisions 11 and 12 of the North Carolina Department of Transportation January 2002 Standard Specifications for Roads and Structures, the latest revisions thereto and the following provisions:

Use a lane closure (refer to North Carolina Department of Transportation January 2002 Highway Design Branch Roadway Standard Drawings Nos. 1101.02, 1101.11, 1110.02, Detail for 1130D01 and details for the Advance Work Zone signing in contract) or a slow-moving operation as shown in details of this contract. Use a moving operation only if the minimum speed maintained at all times is 3 mph with no stops that narrow or close a lane of travel. If the moving operation is progressing slower than 3 mph at any time, install a lane closure. Maintain the existing traffic pattern at all times, except in the immediate work zone where lane closures are allowed as determined by the Engineer.

Refer to Attached Detail(s) and North Carolina Department of Transportation January 2002 Highway Design Branch Roadway Standard Drawings Nos. 1101.02, 1101.03, 1101.05, 1101.07, 1101.11, 1110.01, 1110.02, 1115.01, 1135.01, 1145.01, 1150.01, 1165.01, 1170.01 and **Detail for 1101D04** when closing a lane of travel in a stationary work zone such as pavement patching resurfacing, or pavement marking removal, etc. Properly ballasted cones may be used instead of drums for lane closures during daylight hours. The stationary work zone shall be a maximum of 3 miles in length at any given time unless otherwise directed by the Engineer. A "pilot vehicle" operation may be used in conjunction with flaggers and the appropriate pilot vehicle warning signing as directed by the Engineer. During periods of construction inactivity, return the traffic pattern to the existing alignment and remove or cover any work zone signs. When covering work zone signs, use an opaque material that prevents reading of the sign at night by a driver using high beam headlights. Use material, which does not damage the sign sheeting. Replace any obliterated markings as required by other sections of the Specifications and the Engineer.

When personnel and/or equipment are working on the shoulder adjacent to an undivided facility and within 5 feet of an open travel lane, close the nearest open travel lane using Roadway Standard Drawing No. 1101.02 unless the work area is protected by barrier or guardrail. When personnel and/or equipment are working on the shoulder, adjacent to a divided facility and within 10 feet of an open travel lane, close the nearest open travel lane using Roadway Standard Drawing No. 1101.02 unless the work area is protected by barrier or guardrail. When personnel and/or equipment are working within a lane of travel of an undivided or divided facility, close the lane according to the traffic control plans, roadway standard drawings or as directed by the Engineer. Conduct the work so that all personnel and/or equipment remain within the closed travel lane. Do not work simultaneously, on both sides of an open travel way, within the same location, on a two-lane, two-way road. Do not perform work involving heavy equipment within 15 feet of the edge of travel way when work is being performed behind a lane closure on the

opposite side of the travel way. **Perform work only when weather and visibility conditions allow safe operations as directed by the Engineer.**

The existing pavement varies in width and the Contractor shall widen the pavement as directed by the Engineer in order to obtain a uniform edge of pavement.

The maximum acceptable drop-off between open lanes of travel is 2 inches. For drop-offs greater than 1.5 inches but less than or equal to 2 inches, place a 1:1 asphalt wedge between the lanes of travel. Where a drop-off in a travelway exceeds 2 inches but is less than or equal to 3 inches the affected lane(s) shall be closed to traffic. Where a drop-off in a travelway is greater than 3 inches the affected lane(s) shall be closed to traffic and the drop-off protected with drums. For all drop-offs between open lanes, advance warning "UNEVEN LANES" signs (W8-11 at 48' X 48") shall be installed 500 feet in advance and once every half mile where the posted speed is less than 45 mph and once every mile where the posted speed is greater than or equal to 45 mph throughout the length of the drop-off area.

The maximum acceptable edge of pavement drop-off is 2 inches. Backfill at a 6:1 slope up to the edge and elevation of existing pavement in areas adjacent to an open travel lane if the drop-off exceeds 2 inches at no expense to the Department.

When removal of vegetation from the edge of pavement exceeds six (6) inches, the Contractor will be responsible for restoration of the shoulder to its condition except for seeding and mulching. No compensation will be made for the repair work.

When utilizing a slow-moving operation for such items as pavement marking placement, pavement marker installation and pesticide spraying, the slow moving operation caravan shall consist, as a minimum, of the vehicles and devices shown on the Moving Operation Caravan Detail(s) herein. Traffic cones may be used when necessary to provide additional protection of wet pavement markings. Ballast all traffic cones so they will not be blown over by traffic.

Submit a sequence of operation for all maps to the Engineer at the first pre-construction meeting for approval by the Engineer. Approved sequence can not be altered without written permission of the Engineer. **Provide the Engineer a schedule of work so as to allow state forces a minimum of two weeks notice of resurfacing.**

In order to allow for proper replacement of pavement, the marking edgelines, the paved shoulders and intersections shall be completed on each map number before moving to another map number.

Notify the Engineer forty-eight (48) hours before milling or resurfacing will interfere with the existing Signal Loops. Loops may need to be placed in milled surface before resurfacing occurs. Coordinate all signal loop operations with the Engineer.

Notify the Engineer fifteen (15) consecutive calendar days before resurfacing a bridge or its approaches. Patch and make repairs to bridge surface and its approaches before resurfacing occurs. Coordinate all operations on the bridge and its approaches with the Engineer.

Notify the Engineer forty-eight (48) hours before resurfacing the areas of existing pavement that require patching. Patch these areas before resurfacing occurs. **Allow full depth asphalt patching to cool to the point of supporting traffic without displacement or rutting before reopening closed lane.** Coordinate the resurfacing operations of the patched areas with the Engineer.

Notify the Engineer and the railroad's local representative of the anticipated time of work at the grade crossing on Map #7 at least 48 hours prior to performing work in that grade crossing location.

During a resurfacing only operation, bring all newly resurfaced lanes to the same elevation within 72 hours.

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 options are acceptable during Resurfacing/milling operations on two-way, two-lane facilities when the entire roadway or entire lane is to be milled:

- 1) Mill a single lane and pave back by the end of each work day
- 2) Mill the entire width of roadway and pave back within 72 hours

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

- 1) Mill the entire width of pavement for all lanes to be milled in any given direction daily and pave back within 72 hours.
- 2) Mill a single lane and pave back by the end of each work day
- 3) Mill a single lane, leave a lane closure in and pave back within 72 hours.

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.

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.

Review and record the existing pavement markings and markers prior to resurfacing. **Submit a pavement marking plan to the Engineer seven (7) consecutive calendar days before any pavement has been placed.** Use the record of existing pavement markings and markers in conjunction with North Carolina Department of Transportation January 2002 Highway Design Branch Roadway Standard Drawings to re-establish the proposed pavement markings and markers unless otherwise directed by the Engineer. **Remove all conflicting pavement markings by the end of each workday as directed by the Engineer.**

Provide appropriate lighting in accordance with Section 1413 of the North Carolina Department of Transportation January 2002 Standard Specifications for Roads and Structures when electing to perform paving at night at no expense to the Department.

Remove existing pavement markers in preparation for paving. Repair any pavement damage due to existing pavement marker removal **prior to the end of the work day.** Dispose of existing pavement markers as directed by the Engineer. **No direct payment will be made for this work, as it will be incidental to the paving operation.**

No direct payment will be made for the signing and traffic control items including Truck Mounted Impact Attenuators (TMIA – see Section 1165 of the NCDOT January 2002 Standard Specifications for Roads and Structures and January 2002 Highway Design Branch Roadway Standard Drawings). This work will be considered incidental to the various other bid items in the Contract.

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**TIME LIMITATION FOR PLACEMENT AND REPLACEMENT
OF PAVEMENT MARKINGS AND MARKERS COMPLETED BY CONTRACTORS
ON NEWLY RESURFACED AREAS**

MARKING BY CONTRACTOR: DIVIDED AND MULTI-LANE FACILITIES

For all Interstate highways and access ramps, place all markings including symbols and legends, by the end of each workday's operation.

For all divided and multi-lane facilities, place all center line and lane line markings and railroad and school symbols by the end of each workday's operation. Place all edge lines, gore lines, and other symbols within 3 calendar days after they have been obliterated by the resurfacing operation.

A Multi-lane facility is defined as any roadway having more than two lanes to include a two-lane/two-way with a center two-way left turn lane.

MARKING BY CONTRACTOR: TWO-LANE, TWO-WAY FACILITIES

For all two-lane, two-way facilities, place all center line markings, railroad and school symbols within 5 calendar days after they have been obliterated by the resurfacing operation. Place all edge lines and other symbols within 30 calendar days after they have been obliterated by the resurfacing operation.

MARKING BY CONTRACTOR: ALL FACILITIES

Place two applications of paint on newly resurfaced asphalt which will remain in place over three (3) months. Place the second application of paint upon ample drying time of the first, as determined by the Engineer.

Place Intermediate Paint in one application. If Intermediate Paint will remain in place over three (3) months, place two applications. The quantity of Intermediate Paint to be paid for shall be the actual number of linear feet (LF) or each (EA) which have been satisfactorily placed and accepted by the Engineer. Payment will be made as described in *Article 1205-6 Basis of Payment* in the *January 2002 Standard Specifications For Roads and Structures*.

MARKERS BY CONTRACTOR: ALL FACILITIES

Install permanent pavement markers within sixty (60) calendar days after completing the resurfacing on each map.

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