

WORK ZONE TRAFFIC CONTROL GENERAL REQUIREMENTS

TEMPORARY TRAFFIC CONTROL (TTC):

(7/16/2013) (Rev. 1/20/2026) RWZ-1

Maintain traffic in accordance with Divisions 10, 11 and 12 of the *Standard Specifications* and the following provisions:

Install Work Zone Advance Warning Signs in accordance with the detail drawing provided in these plans prior to beginning any other work. Use a lane closure or slow moving operation to complete the work, as necessary, unless otherwise indicated. Refer to Standard Drawing No. 1101.02, 1101.11, 1110.01, 1110.02, 1130.01, 1135.01 and 1180.01 of the *NCDOT Roadway Standard Drawings*. 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. If applicable, maintain existing pedestrian facilities in accordance with *Pedestrian Accommodation at Curb Ramp Work Locations*, found elsewhere in this Contract.

Refer to attached details and Standard Drawing No. 1101.02, 1101.03, 1101.04, 1101.05, 1101.11, 1110.01, 1110.02, 1115.01, 1130.01, 1135.01, 1145.01, 1150.01, 1165.01, and 1180.01 of the *NCDOT Roadway Standard Drawings* when closing a lane of travel in a stationary work zone such as pavement patching, resurfacing, curb ramp work, or pavement marking removal. The stationary work zone shall be a maximum of 1 mile in length at any given time on 2 lane, 2 way facilities unless otherwise approved 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. At the discretion of the Contractor, automated flagging assistance devices (AFAD) or portable traffic signals (PTS) may be used to assist, supplement, or replace human flaggers in accordance with the *Flaggers* provision found elsewhere in this contract.

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 *Standard Specifications* and the Engineer.

When personnel and/or equipment are working within 5 feet of an open travel lane, close the nearest open travel lane using Standard Drawing No. 1101.02 of the *NCDOT Roadway Standard Drawings*.

When personnel and/or equipment are working within a lane of travel, close the lane according to

the traffic control plans, Standard Drawing No. 1101.02 of the *NCDOT 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. Perform work only when weather and visibility conditions allow safe operations as directed by the Engineer.

When utilizing a slow-moving operation for such items as pavement marking and marker placement, the operation shall consist of the vehicles and devices as shown on Standard Drawing No. 1101.02, Sheet 14 or 15, of the *NCDOT Roadway Standard Drawings*. 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.

PAVING OPERATIONS:

1) Paving Lift Requirements and Time Limitations:

For paving lifts of 2 inches or less, bring all newly resurfaced lanes to the same station and elevation within 72 hours. If not brought up to the same station and elevation within 72 hours, the Contractor shall place portable UNEVEN PAVEMENT signs in advance of the uneven pavement and spaced every ½ mile along the section of uneven pavement. Once mitigated, all portable UNEVEN PAVEMENT signs shall be removed. No additional compensation will be made for these signs or any other type of portable warning signs as these are included as part of the *Temporary Traffic Control* contract pay item.

For paving lifts greater than 2 inches, bring all newly resurfaced lanes to the same station and elevation by the end of each work day unless the Contractor utilizes the notched wedge paving methods as described below.

Failure to comply with the following requirements will result in a suspension of all other operations until all lanes of traffic are brought to the same station and elevation:

1. During paving operations, any paving lift greater than 2 inches for asphalt surface course mixes shall be mitigated by having an approved wedge apparatus on the paver that shapes the edge 1 inch vertically and the remaining at a maximum slope steepness of 2:1. For intermediate and base course mixes, use an approved wedge device that shapes the edge with a maximum slope steepness of 2:1. The maximum paving lift allowed to use this method is 3 inches.
2. At the end of the work day, the Contractor shall place portable UNEVEN PAVEMENT

signs in advance of the uneven pavement and spaced every ½ mile along the section of uneven pavement. Once mitigated, all portable UNEVEN PAVEMENT signs shall be removed. No additional compensation will be made for these signs or any other type of portable warning signs as these are included as part of the *Temporary Traffic Control* contract pay item.

3. In the next day's paving operation and not to exceed 72 hours, the Contractor shall bring up the adjacent lane to the same station and elevation before any further paving takes place on the project.

2) Asphalt Surface Treatments (AST)

For AST Operations, there is no drop-off condition to be signed. Stationary LOOSE GRAVEL and UNMARKED PAVEMENT signs shall replace LOW/SOFT SHOULDER signs. For placement and spacing of these signs, see the Signing Detail Sheet. All other advance warning signs are to be portable mounted. These signs are included as part of the *Temporary Traffic Control* contract pay item.

3) Fine Milling/Microsurfacing (Depths less than 1 inch)

For fine milling operations less than 1 inch, paving is not required in the same work period. The paving of the fine milled area is to be conducted within the next work period and not to exceed 72 hours. No advance warning signs are necessary for these conditions unless the paving operations exceed 72 hours. If this occurs, install portable UNMARKED PAVEMENT signs. These signs are incidental to the other items of work included as part of the *Temporary Traffic Control* contract pay item.

4) Shoulder Drop-Off Requirements

Whenever paving operations create an edge of pavement drop-off greater than 2 inches, within 72 hours, the Contractor shall backfill at a 6:1 slope from the edge and finished elevation of the pavement that has an edge of pavement drop-off as follows:

- (A) Drop-off that exceeds 2 inches on roadways with posted speed limits of 45 mph or greater.
- (B) Drop-off that exceeds 3 inches on roadways with posted speed limits less than 45 mph.

Backfill the edge of pavement drop-off with suitable compacted material, as approved by the Engineer. The material, equipment and labor associated with this operation will be paid as *Aggregate Shoulder Borrow* or *Borrow Excavation* in accordance with the *Shoulder Reconstruction Per Shoulder Mile* special provision found elsewhere in the contract. If the *Shoulder Reconstruction Per Shoulder Mile* special provision is not included in the contract, the

work of pavement drop-off repair as described above will be paid as extra work in accordance with Article 104-7.

PROJECT REQUIREMENTS:

Failure to comply with the following requirements will result in a suspension of all other operations:

1. Before working on ANY MAP, the Contractor shall submit a written construction sequence for traffic control and construction lighting for ALL MAPS to the Engineer at the first pre-construction meeting and the sequence must be approved before closing a lane of traffic. If applicable, the Contractor shall also submit a description of how pedestrian access will be maintained during any curb ramp work. Refer to *Pedestrian Accommodation at Curb Ramp Work Locations*, found elsewhere in this Contract, for pedestrian maintenance requirements.
2. The temporary use of portable concrete barrier and the need for any long-term temporary traffic patterns are not anticipated and are not covered by this provision. If the Engineer determines there is a need, then coordinate with the Work Zone Traffic Control Section at 919-814-5000.
3. Obtain written approval of the Engineer before working in more than one location or setting up additional lane closures. The maximum length of any one lane closure is 1 mile unless otherwise directed by the Engineer.
4. If Lane Closure Restrictions apply, see Intermediate Contract Times and Liquidated Damages special provision.
5. Contractor shall mill and pave lanes in an order such that water shall not accumulate.
6. Traffic Control for the milling and/or paving of ramps is to be done according to Standard Drawing No 1101.02, Sheets 10 & 11, unless otherwise approved to be closed by the Engineer. If approved, Contractor will provide plans and devices for the detour according to Standard Drawing No 1101.02, Sheets 12 & 13, at no additional cost to the department.
7. If milled areas are not paved back within 72 hours, the Contractor is to furnish and install portable signs to warn drivers of the conditions. These are to include, but not limited to ROUGH ROAD (W8-8), UNEVEN LANES (W8-11), and GROOVED PAVEMENT (W8-15) w/ Motorcycle Plaque mounted below. These are to be dual indicated on Multi-Lane Roadways with speed limits of 45 mph and greater where lateral clearance can be obtained within the median areas. These portable signs are incidental to the other items of work included as part of the *Temporary Traffic Control* contract pay item.

WORK ZONE SIGNING:

Description

Install advance/general warning work zone signs according to the Detail Drawing provided in these plans prior to beginning of work. Install and maintain signing in accordance with the attached drawings and Divisions 11 and 12 of the *Standard Specifications*.

(A) Installation

All stationary Advance/General warning work zone signs require notification to existing Utility owners per Article 105-8 of the *Standard Specifications* within 3 to 12 full working days prior to installation.

Install Advance/General warning work zone signs before beginning work on a particular map. If signs are installed more than 7 calendar days prior to the beginning of work on a particular map, cover the signs until the work begins. Install each work zone Advance/General warning sign separately and not on the same post or stand with any other sign except where an advisory speed plate or directional arrow is used.

All stationary signing is to be installed as shown on the detail drawing(s) unless otherwise directed by the Engineer. The signs as shown on the detail drawing(s) are all that are required for a contractor to begin a resurfacing contract. Any additional signs requested by the Engineer shall be installed within 7 business days of the start of contract work. All sign locations are to be verified by the Engineer prior to installation. Once the signs have been installed and accepted, any sign relocations requested by the Department will be compensated in accordance with Article 104-7. Any additional signs other than the ones shown in the drawing will be compensated in accordance with Article 104-7.

No stationary -Y- Line advance warning signage is required unless there is more than 1,000 feet of resurfacing along the -Y- line. Whenever work proceeds through an intersection, portable signs shall be used for traffic control. There will be no direct compensation for any portable signing.

If there is a period of construction inactivity longer than 14 calendar days, remove or cover advance/general warning work zone signs. Uncover advance/general warning work zone signs no more than 7 calendar days before work resumes. All other operations may be suspended upon failure to comply with the above requirements. Such suspended operations would not be resumed until the above requirements are fulfilled.

(B) Sign Removal

Once Maps on the Project are substantially complete, it is acceptable practice to remove the Stationary Work Zone Signs in lieu of waiting until all of the Maps are completed on the Project. A Map is substantially complete when the resurfacing operations are finished and the shoulders are brought up to the same elevation as the proposed pavement and when pavement markings (paint) are installed along the centerline and edge lines. The final pavement markings (ex. Thermoplastic/Polyurea) or pavement markers (Raised/Snowplowable) do not have to be installed for Maps to be considered substantially complete. Final pavement marking/markers are installed with portable signing according to Standard Drawing 1101.02, Sheets 14 & 15. Any remaining punch list items requiring traffic control are compensated as part of the *Temporary Traffic Control* contract pay item.

Stationary Work Zone Sign removal is a condition of final project acceptance.

(C) Lane Closure Work Zone Signs

Install any required lane closure signing needed during the life of the project in accordance with Standard Drawing No. 1101.02, 1101.11 and 1110.02 of the *NCDOT Roadway Standard Drawings*. Any required portable signs for lane closures are compensated as part of the *Temporary Traffic Control* contract pay item.

MEASUREMENT AND PAYMENT:

Temporary traffic control work, including, but not limited to installation and removal of portable signs, cones, drums, skinny drums, flaggers (including AFAD or PTS units), changeable message boards, truck mounted attenuators, flashing arrow boards, and pilot vehicles for the sole purpose of maintaining vehicular traffic will be paid at the contract lump sum price for *Temporary Traffic Control*.

The *Temporary Traffic Control* pay item does not include work zone advance or general warning signs.

The *Temporary Traffic Control* pay item does not include Pedestrian Channelizing Devices and applicable signs, Audible Warning Devices, Temporary Curb Ramps, or a Pedestrian Transport Service required for the sole purpose of maintaining pedestrian movements. Refer to *Pedestrian Accommodation at Curb Ramp Work Locations*, found elsewhere in this Contract, for measurement and payment information for these items.

Partial payments for *Temporary Traffic Control* will be made as follows: The cumulative total of the lump sum price for temporary traffic control will be equal to the percent complete (project) as calculated for each partial pay estimate. Additional flashing arrow boards and message boards

beyond those shown in the contract, detail drawings or *Roadway Standard Drawings* required by the Engineer will be paid as extra work in accordance with Article 104-7 of the *Standard Specifications*.

The work of satisfactorily installing and removing work zone advance and/or general warning signs, including, but not limited to, furnishing, locating, installing, covering, uncovering and removing stationary signs will be measured for each required sign and paid at the contract price for *Work Zone Advance/General Warning Signing (SF)*. Payment for *Work Zone Advance/General Warning Signing* will be limited to a maximum of 90% of the total installed quantity. The remaining 10% will be paid once all signs have been removed.

The Lump Sum price for *Temporary Traffic Control* will include the work of 4 flaggers (including AFAD or PTS units) per operation per map being utilized at the same time on any day. If a pilot vehicle is used for an operation, the Lump Sum Price for *Temporary Traffic Control* will include the work of 5 flaggers. The operator of a pilot vehicle will be considered one of the 5 flaggers.

Any additional flagging beyond the included amount covered in the *Temporary Traffic Control* pay item will be considered supplemental flagging and compensated at a rate of \$35.00 per hour for each additional flagger (including AFAD or PTS units) as approved by the Engineer. The minimum measurement for each additional flagger will be 4 hours, even if the actual additional flagger hours are less than 4 hours.

Payment will be made under:

Pay Item	Pay Unit
Temporary Traffic Control	Lump Sum
Work Zone Advance/General Warning Signing	Square Foot