

## **Work Zone Installer Course Training Elements**

3/29/2021

At least one member of every crew responsible for setup, installation, and removal of traffic control devices within any highway right of way shall be trained and certified as a Work Zone Installer. The certified Work Zone Installer should serve as crew leader and shall be on site and directing the installation and removal of temporary traffic control.

The Work Zone Installer does not replace or change the requirements of a Work Zone Supervisor as described in article 1101-13 of the Standard Specifications.

Responsibilities include understanding the specifications of traffic control devices, knowledge in how to install temporary traffic control safely and accurately, how to properly position workers, and the requirements for proper personal protective equipment.

The Work Zone Traffic Control Installer will be trained in an NCDOT approved installer course and pass a 25 question course examination with a minimum score of 70. Re-testing is permitted. The certification will be valid for 4 years.

Submit trainer credentials and course material for Department review and approval to [wzsafetytraining@ncdot.gov](mailto:wzsafetytraining@ncdot.gov). The Work Zone Traffic Control section reserves the right to keep a copy of the training material and audit course and/or course material.

Approved trainers shall meet the following requirements:

1. 3 years' experience in the road construction industry. Examples of qualifying industry experience include but are not limited to the following:
  - a. Construction Foreman, Superintendent, Project Engineer, Project Manager
  - b. Flagging, Traffic Control Installation, and/or Pavement Marking Installation
  - c. Equipment Operator, Material Testing/Inspection and/or Utility work within highway R/W
  - d. Company Safety Officer or similar position knowledgeable in roadside safety.
  - e. Construction Engineering and/or Designing or Developing Temporary Traffic Control Plans and details
2. Completion of an approved Work Zone Supervisor course including a passing score on the exam.

Approved trainers will be required to upload training certifications to the Work Zone Education Verification App (WZ-EVA) and issue official wallet cards which are generated by the WZ-EVA system. NCDOT will not provide printed wallet cards.

To adequately cover the material, trainers should plan for a minimum of 6-7 hours of in-person instruction and 1 hour for the examination. Adequate breaks should be provided.

Approved training providers shall develop a PowerPoint (or similar) presentation and a printed course manual that the installer can keep. The Work Zone Installer shall include, at minimum, everything below:

### **Fundamentals of Temporary Traffic Control**

Source material MUTCD 6C and 6G

- The components of a temporary traffic control zone, including:
  - Advance Warning Area – Describe purpose and dimensions
  - Transition Area – Difference between merge and shifting taper, how to calculate and where to find chart.
  - Buffer Space (Longitudinal and Lateral) – Describe purpose and reference
  - Work Area
  - Termination Area
  
- Using Work Zone Durations to determine TTC set ups
  - Long Term Stationary
  - Intermediate-Term Stationary
  - Short Term Stationary
  - Short Duration
  - Mobile

### **Common Traffic Control Devices**

Source Material 2018 NCDOT Standard Specifications, Division 11 and 2018 Roadway Standard Drawings

- Work Zone Signs (Stationary, Portable, Barricade Mounted)
  - Mounting Height
  - Lateral Clearance
  - Covering
  - Sign Spacing
  
- Channelizing Devices (Cones, Drums, Skinny Drums)
  - Proper Selection
  - Ballasting
  - Spacing
  
- Flashing Arrow Boards
  - Leveling
  - Display Height
  - Allowable Displays
  
- Changeable Message Signs

- Leveling
- Message Requirements
- Center justified messages
- Type III Barricades
  - Proper Ballasting
  - Direction of Striped Diagonals
- Truck Mounted Attenuators
  - Use against rigid objects
  - Selection based on posted speed
  - Roll Ahead
  - Lighting Requirements
  - Repair and Replacement
- PCB
  - Allowable Surfaces for installation
  - Reflective Delineation

Include information on maintenance and inspection of devices

### **Other Devices**

Source Material NCDOT Work Zone Traffic Control Project Special Provisions:

- Work Zone Presence Lighting
  - Pre-staging
  - Location
  - Spacing relative to light output
- Digital Speed Limit Signs
  - When to change the displayed speed
  - Leveling
  - When the beacons should flash
- Sequential Flashing Lights
  - For nighttime work on interstates
- ADA Compliant Pedestrian Traffic Control Devices
  - Signing on Pedestrian Channelizing Devices
  - Mounting height of Audible Warning Devices
  - Temporary Curb Ramps

### **Typical TTC Set Ups**

Source Material 2018 NCDOT Roadway Standard Drawings, NCDOT Maintenance/Utility Traffic Control Guidelines, MUTCD Section 6H

- Lane Closures 2L2W
- Lane Closures Multilane
- Lane Closures Interstates and other High Speed Controlled Access
- Moving/Mobile Operations

Include best practices for safe installation and removal, worker/vehicle positioning.

Include requirements for PPE for traffic control installers.

Include information on how set ups should be adjusted to account for hills, curves, intersections, driveways, existing signs, speed, road conditions.

Include information on how to apply intermediate contract times pertaining to lane closure restrictions.

### **Basic Flagging Operations**

Source Material 2018 NCDOT Standard Specifications and Roadway Standard Drawings

- Personal Protective Equipment (PPE)
- Stop/Slow Paddle Requirements
- Stopping Sight Distance (SSD) to flagger station
- Requirements for Illumination

Include best practices for safe installation and removal, worker/vehicle positioning

Include information on how set ups should be adjusted to account for hills, curves, intersections, driveways, existing signs, speed, road conditions

### **Pedestrian Accommodations**

Source material MUTCD 6D.01

- Do not block sidewalks with vehicles or construction equipment

### **Conducting Tailgate Meetings**

- Pre-Planning
- Assigning Duties
- Safety Review

### **Reading A Basic Set of Temporary Traffic Control Plans**

- Determining if conditions do not match the traffic control plans and/or traffic control application and when additional assistance from a Work Zone Traffic Control Supervisor required.

## **Exam Requirements**

The exam must have a minimum of **25** questions. Recommended breakdown:

- 5 questions on fundamental traffic control concepts.
- 3 questions on personal protective equipment (PPE).
- 10 questions on temporary traffic control set up including best practices for safe installation/removal and worker or vehicle positioning. (Include 2 questions on flagging operations and 1 on pedestrian accommodation).
- 7 questions on the specifications of traffic control devices.