**TYPICAL MEDIAN ACCESS AREAS:**

(12/18/18) (Rev. 10/13/2023)

**Description**

Perform the work covered by this section including, but not limited to, constructing, maintaining, and removing Typical Median Access Areas for construction vehicle ingress to and egress from the median to/from active travel lanes on controlled access facilities.

Typical Median Access Areas are not required when construction vehicle ingress and egress is conducted using lane closures as shown on detail 1101.05, Sheet 2, of the *Roadway Standard Drawings*.

**Materials**

Refer to Divisions 6, 10, 11, 12, and 17 in the *Standard Specifications for Roads and Structures.*

Provide temporary traffic control devices listed on the NCDOT Approved Products List (APL).

Provide Work Zone Performance Pavement Markings for Design-Build Projects (See Project Special Provision)

Provide High Visibility Devices (See Project Special Provision)

Flashing Beacon and Detection System:

1. **General**

Provide flashing beacon and detection system components listed on the NCDOT ITS and Signals Qualified Products List (QPL).

Provide a trailer mounted flashing beacon and warning sign assembly that meets or exceeds the physical and operational requirements of the MUTCD, or other mounting method approved by the Department. The following specifications supplement those basic requirements.

Provide a totally mobile complete unit capable of being located as traffic conditions demand.

The warning sign height shall comply with detail 1110.01, Sheet 1, of the *Roadway Standard Drawings* when raised in the upright position.

The flashing beacon housing assembly shall be of weather resistant construction.

1. **Power System**

Provide a unit that is solar powered and supplemented with a battery backup system that includes a 110/120 VAC powered on-board charging system.

The unit shall also be capable of being powered by standard 110/120 VAC power source.

The batteries, when fully charged, shall be capable of powering the display for 20 continuous days with no solar power.

Store the battery bank and charging system in a lockable, weather, and vandal resistant box.

1. **Controller**

Provide automatic brightness/dimming of the display and a manual override dimming switch.

The controller shall provide a battery-charge status indicator.

Mobile radio or any other radio transmissions shall not affect the controller.

Store the controller in a lockable, weather and vandal resistant box.

1. **Trailer**

Finish all exterior metal surfaces with Federal orange enamel per Federal Standard 595a, color chip ID# 13538 or 12473 respectively. The trailer shall be able to support a 100 mph wind load with the display fully extended.

The trailer shall be equipped with leveling jacks capable of stabilizing the unit in a horizontal position when located on slopes 6:1 or flatter.

The trailer shall be properly equipped in compliance with North Carolina Law governing motor vehicles.

Provide a minimum 4 inch wide strip of fluorescent orange retroreflective sheeting to the frame of the trailer. Apply the sheeting to all sides of the trailer. The retroreflective sheeting shall be Grade B that conforms to Article 1092-2 in the *Standard Specifications for Roads and Structures.* Drums may be supplemented around the unit in place of the sheeting.

**(E) Reliability**

Provide a sign unit, flashing beacons, and detection system with all components rated to operate at temperatures ranging from -30°F to 165°F.

**Construction Methods**

See Typical Median Access Detail (attached).

Temporary Acceleration Lane

Construct a temporary acceleration lane with a minimum length of 1720’ and a minimum clear width of 12’ for the full length of the Temporary Acceleration Lane. At least 920’ of parallel merge/diverge area is required adjacent to the active travel lanes. The detection zone will be located from the beginning of the paved area to within 100’ of the end of the PCB. It shall have protection separating it from the active travel lanes for the first 500’.

The Temporary Acceleration Lane shall use either existing or proposed pavement, where available. If existing or proposed pavement is not available, construct temporary pavement as follows: 1.25” S9.5B, 2.5” I19.0C, and 8” ABC. Install and maintain pavement in accordance with Division 6.

Using Work Zone Performance Pavement Markings, install 12” yellow diagonals lines (2:1 slope) at 100’ intervals throughout the upstream half of the parallel merge/diverge area, and at 55’ intervals throughout the downstream half of the parallel merge/diverge area. Remove any conflicting markings in accordance with Section 1205.

Flashing Beacons and Detection System

Provide High Visibility advance warning signage as shown in the attached detail. Provide a flashing beacon system with two (2) flashing lights per sign to alert motorists in the active travel lanes of work vehicles entering from the median.

Provide a non-intrusive detection system capable of detecting vehicles in the work area in advance of the parallel merge/diverge area. The detection system shall be programmed such that passing public traffic in active travel lanes and vehicles in the work area not intending to use the parallel merge/diverge area are not detected.

Once detection occurs, the beacons on the advance warning sign(s) shall begin flashing immediately at a rate of not less than 50 or more than 60 times per minute. The beacons on the advance warning sign(s) shall flash continuously in an alternating pattern at all times that work vehicles are detected. The beacons shall continue flashing for thirty (30) seconds after detection ceases before turning off, and personnel on site shall have the ability to adjust this time based on field conditions. The flashing beacon system shall remain dark when idle.

Expedite repairs due to failure, malfunction or damage to the flashing beacons and/or detection system. Furnish another flashing beacon system or detection system approved by the Department during the repair time. Repair or replace flashing beacon system and/or detection systems immediately; otherwise, suspend all construction activities requiring the use of the Median Access Area until the flashing beacon system and/or detection system is restored to operation.

Perform all maintenance operations recommended by the manufacturer of the flashing beacon system and detection system.

Location, Placement, and Use

Typical Median Access Areas shall not be located within one-half (1/2) mile of any interchange acceleration or deceleration lanes, unless approved by the Department. All proposed locations for Typical Median Access Areas shall be reviewed and approved by the Department prior to installation.

Work vehicles using a particular Median Access Area shall not utilize any interchange ramp (on-ramp or off-ramp) within one (1) mile of the Median Access area.

Typical Median Access Areas installed in accordance with this section will not require the use of temporary lane closures for ingress/egress of work vehicles.

The Contractor shall comply with multiple and single vehicle hauling restrictions as shown in the TMP when performing hauling of equipment or materials to or from the project while using Typical Median Access Areas.









