

CHAPTER 2A. GENERAL

Section 2A.06 Design of Signs

Support:

North Carolina has many special and/or unique sign designs. The “Sign Design Request” link on NCDOT’s Signing Webpage at <http://www.doh.dot.state.nc.us/preconstruct/traffic/congestion/SIGN/> has information regarding how to obtain or create a special sign design.

Section 2A.07 Changeable Message Signs

Standard:

Dynamic Message Signs shall not be used on facilities under the jurisdiction of the NCDOT unless the specifications for the particular device to be used have been approved by the NCDOT Traffic Management Systems Section.

The various types of electronic signs shall be defined as follows:

Changeable Message Sign (CMS): A type of sign that can display one of two or more predefined messages, or be blank.

Variable Message Sign (VMS): A type of sign in which the message to be displayed can be created after the sign has been installed in the field.

Dynamic Message Sign (DMS): Any sign that can change the message presented to the viewer, including CMS, and VMS.

Section 2A.08 Retroreflectivity and Illumination

Standard:

Unless otherwise stated for a particular sign, regulatory, warning, and guide signs under the jurisdiction of the NCDOT shall be retroreflective. Retroreflection of all signs shall be minimum Type III High Intensity sheeting.

Section 2A.17 Overhead Sign Installations

Standard:

Overhead Sign Assemblies shall be designed and fabricated to meet all requirements in the latest edition of the NCDOT Standard Specifications for Roads and Structures, Division 9.

Section 2A.18 Mounting Height**Standard:**

For overhead sign structures, a minimum of 17 feet (5.2 m) and a maximum of 18 feet (5.5 m) vertical clearance from the high point elevation of roadway under the structure to the bottom of the overhead assembly or light assembly shall be required. If the overhead sign structure clearance exceeds 18 feet (5.5 m) because of the overhead sign structure's close proximity to a signal or a special situation, approval shall be required from the Division Engineer or Signing Engineer.

Section 2A.19 Lateral Offset**Guidance:**

The lateral offset (measured from the edge of travel lane to the closest edge of sign) for ground-mounted signs with breakaway or yielding supports on a freeway or expressway facility should be at least 18 feet (5.5 m) from the edge of travel lane without barrier or guardrail protection, however, 30 feet (9 m) of lateral offset is desirable. If a ground-mounted sign is protected by barrier or guardrail, the offset should be 6 feet (1.8 m) behind the face of guardrail or barrier, which is, in general, approximately 18 feet (5.5 m) from the edge of travelway.

For ramp signs, the lateral offset for ground-mounted signs with breakaway or yielding supports on a freeway or expressway facility should be at least 12 feet (3.7 m) from the edge of travel lane without barrier or guardrail protection, however, 18 feet (5.5 m) of lateral offset is desirable.

Standard:

For ramp signs at freeway-to-freeway interchanges, the lateral offset for ground-mounted signs with breakaway or yielding supports shall be 18 feet (5.5 m) minimum.

Unless the following lateral offsets (measured from the edge of travel lane to the closest edge of the footing for the upright) for overhead sign supports can be achieved, guardrail or barrier shall be provided:

- **Freeway – 40 feet (12 m)**
- **Expressway – 30 feet (9 m)**
- **Conventional Road with a posted speed 45 mph (70 km/h) or higher – 30 feet (9 m)**
- **Conventional Road with less than 45 mph (70 km/h) posted speed – 18 feet (5.5 m)**

Section 2A.20 Orientation

Support:

North Carolina Roadway Standard Drawing No.904.10 contains information regarding sign face orientation.

Section 2A.21 Posts and Mountings

Support:

North Carolina Roadway Standard Drawing Nos. 904.20 through 904.50 contain information for sign installations approved by the Department on NCDOT right of way. Specific designs for ground-mounted sign supports can be provided by the Signing Section. Station location, offset, and grade information (s-dimensions) would need to be provided to the Signing Section with support design request.

Standard:

Dynamic Message Signs shall not be installed on cantilever structures. Full span structures shall be required for these installations.

More than two U channel posts (not including cross bracing) per sign or sign assembly shall not be permitted.

Support:

Two U channel posts hold a maximum of 30 square feet (2.8 square meters) of sign(s) per installation.