

## DIVISION ~~64~~ 66

### PAVEMENT MARKINGS AND MARKERS

**66.01 SCOPE:** The purpose of these specifications is to describe the minimum requirements of the City of Chesapeake for pavement markings and shall be in addition to Section 704 of the Virginia Department of Transportation, Road and Bridge Specifications. All references made are to the VDOT, Road and Bridge Specifications, ~~January 1994~~ (most current edition).

#### **66.02 MATERIALS:**

- A. Traffic Paint - (Type A Markings, Section 704.02 (a)1) shall conform to Section 231.03 (j).
  - 1. White Traffic Zone Paint shall be equal to Federal Standard Color No. 595-17886.
  - 2. Yellow Traffic Zone Paint shall be equal to Federal Standard Color No. 595-13538.
- B. Glass Beads - (Section 704.02(b) shall conform to Section 234.
- C. Durable High Quality Pavement Marking - (Type B Markings, Section 704.02 (a)2) shall conform to Section 246.
  - 1. Thermoplastic (Class I) shall conform to Section 246.02(b).
  - 2. Polyester Resin (Class II) shall conform to Section 246.02(d).  
~~Thermoplastic material shall be of alkyd base binder.~~
  - 3. Epoxy Resin (Class III) shall conform to Section 246.02(c).
  - 4. Preformed Tape shall conform to Section 246.02(e).
    - a. Preformed Plastic Pavement Marking Tape (Class IV) shall have a urethane top coat.
    - b. Preformed Plastic Pavement Marking Material (Class VI) shall conform to VDOT Special Provision for Type B, class VI Pavement Line Marking, June 22, 1990.
    - c. Preformed construction tape shall be Type C or Type D.

- D. Pavement Markers - (Section 704.02(c)) shall conform to Section 235.
  - 1. Pavement Markers shall conform to Section 235.02(f)1.
  - 2. Barrier Delineators shall conform to Section 235.02(e).
  - 3. Temporary Pavement Markers shall conform to Section 235.02(g).

**66.03 GENERAL REQUIREMENTS:**

- A. Pavement Markings shall be in accordance with the Federal Manual on Uniform Traffic Control Devices and the VDOT Supplement to the MUTCD as to the type, color and lay out for the specific location the marking is applied.
- B. Pavement Line Markings
  - 1. Solid lines or skip lines for dividing lanes, marking edges, channelizing and forming islands shall be Type B, Class I, II, III, IV or VI as specified on the plans, Special Technical Specifications or as required in Section 704.03 for the roadway surface. Solid lines and skip lines for dividing lanes, marking edges and channelizing shall be 4 inches wide unless otherwise specified on the plans or by the Engineer. Skip lines shall be 10 feet of painted line and a 30 foot of gap or skip. Dotted lines shall be 2 feet of painted line and 4 foot of gap or skip. Limited access road lane drop exit ramps shall be 8 inches wide, 3 feet of paint and 12 foot gap or skip (elephant tracks), should be placed a minimum of ½ mile up to a maximum distance to begin at the first notice of the lane drop.

Solid lines used to outline islands and approaches to gore areas shall be 8 inch wide lines and of the color it is an extension of or as specified in the MUTCD.
  - 2. Crosswalk lines and Stop Line shall be Type B, Class I Thermoplastic Marking Material. Crosswalk Lines shall be 8 inch wide white lines a minimum of 6 8 feet apart. Stop Lines shall be 24 inch wide white line.
  - 3. Diagonal Line markings shall be Type B, Class VI, 24 inch wide line and of the color required by the MUTCD for the specific location as shown on the plans. Diagonal lines shall be spaced as specified on the plan or by the Engineer.

C. Pavement Message Markings

School zone, railroad crossing, elongated arrows and word messages shall be of Type B, Class VI, Preformed Plastic Pavement Marking Material. Markings shall be in accordance with the MUTCD and located as shown on the plans.

D. Eradication of Pavement Markings shall conform to Section 512.03(j). Existing pavement markings that conflict with markings shown on plans shall be eradicated.

E. Pavement Markers (Retro-Reflectors) shall be installed in accordance with VDOT, Road and Bridge Standards, ~~1993~~ (most current edition). Pavement markers shall be used in conjunction with pavement markings for added visibility and shall not be used in place of pavement markings.

1. Pavement Markers

- a. Pavement markers used along lane lines or edge lines shall be ~~recessed or~~ snow plowable, installed in accordance with Section 704.03(b). Raised markers are to be used on top of curbs or islands for delineation only.
- b. Pavement markers shall match the pavement marking line they are associated with. Markers placed along edge lines and solid lane lines shall be placed to the lane side of the pavement marking every 40 feet. Markers placed along skip lines shall be placed in the center of the skip portion 80 feet.
- c. ~~Recessed or~~ Snow plowable pavement markers shall be placed as shown in VDOT Road and Bridge Standards, ~~1993~~ (most current edition), PM-3. Raised markers placed on the top of curbs or islands are to be placed as shown on the plans.
- d. Pavement markers shall be as shown on the plans and/or as stated in the Special Technical Specifications.

2. Barrier Delineators

- a. Barrier delineators shall be of the same color as the adjacent pavement marking and are placed on barriers or walls that abut the shoulder of the roadway.
- b. Barrier delineators shall be placed as specified in Section 702.03.
- c. Barrier delineators shall be as shown on the plans and/or as stated in the Special Technical Specifications.

F. Construction Pavement Markings

1. Temporary pavement markings used in construction areas for the control of traffic may be Type A Markings or Construction Preformed Tape Type C or Type D. The color and type marking used shall be as required by the MUTCD for permanent pavement markings.
2. Raised temporary pavement markers shall be used where added visibility is required. These markers shall be spaced every 40 feet along lane lines, center lines and edge lines. Markers for double center lines may be placed between the two lines. The color and directional requirements for these markers shall be the same as for permanent pavement markers.
3. All temporary pavement markings and markers shall be removed immediately after they no longer apply and permanent pavement markings and markers, if required, installed.

**66.04 APPLICATION METHODS:**

- A. The pavement shall be cleaned of dirt and other debris that might prevent the pavement marking material from bonding to the pavement.
- B. All Type A and Type B, Class I, II or III pavement marking material and glass beads shall be machine applied in one operation in accordance with the manufacturer's and VDOT specifications. Walk behind machines for applying Type A Pavement marking material and glass beads applied by hand shall not be acceptable.
- C. The pavement shall be prepared in accordance with the manufacturer's specification before Type B, Class IV or VI, Type C and Type D pavement marking material is applied. These materials shall be roll tamped.
- D. All retro-reflectors, pavement markers, delineators and temporary pavement markers shall be applied with type of epoxy as required.
- E. All pavement markings and markers shall be applied in accordance with the manufacturer's, VDOT and City specifications, the more restrictive shall apply.

**66.05 MANUFACTURER CERTIFICATION:**

The Contractor shall submit notarized certification from the manufacturer that all pavement marking material, markers and material to apply them are in accordance with these specifications prior to any work being done. Also, a copy of the manufacturer's

Rev. 3/03

application specification shall be supplied with the certification to the inspector.

**66.06 MEASUREMENT AND PAYMENT:**

- A. Permanent Pavement Markings will not be measured and paid for as such but included in the lump sum price for Pavement Markings and Markers (Markings Only).
- B. Markers, delineators, chevrons, proposed permanent signs, et cetera will not be measured and paid for as such but included in the lump sum price for Pavement Markings and Markers (Markers only).
- C. Removing, reinstalling, and/or relocating existing markings, signs, markers, delineators, chevrons, et cetera will not be measured for separate payment but included as incidental in the lump sum price for Pavement Markings and Markers.
- C. Temporary Pavement Markings will not be measured and paid for as such but included in the lump sum price for Traffic Control.