**POST TYPE AND SUPPORT FOUNDATION DETAILS**

### WING CHANNEL (WC)

<table>
<thead>
<tr>
<th>Surface</th>
<th>GND</th>
<th>DLF</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Surface</th>
<th>SRF</th>
<th>SRF</th>
</tr>
</thead>
</table>

### FLEXIBLE POSTS (FLX)

<table>
<thead>
<tr>
<th>Surface</th>
<th>GND</th>
<th>SRF</th>
</tr>
</thead>
</table>

### WEDGE ANCHOR SYSTEMS

<table>
<thead>
<tr>
<th>Surface</th>
<th>WAS</th>
<th>WAP</th>
</tr>
</thead>
</table>

### GUARD FENCE ATTACHMENT

<table>
<thead>
<tr>
<th>Guard</th>
<th>GF1</th>
<th>GF2</th>
</tr>
</thead>
</table>

**CONCRETE BARRIER / BRIDGE RAIL**

**DELINTEATOR & OBJECT MARKER INSTALLATION**

**NOTES**

1. Embedded Wing Channel (WC) post option may be used for Type 2 Object markers and Delineators only.
2. Install per manufacturer's recommendations.
3. Post length may vary to meet field conditions.

### TYPES 1, 3, AND 4 OBJECT MARKERS AND CHEVRONS

- **CHEVRONS AND ONE DIRECTION LARGE ARROW SIGN**
- **DELINEATORS AND TYPE 2 OBJECT MARKERS**

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**GENERAL NOTES**

1. Place delineators on a section of roadway at a consistent distance from the edge of pavement.
2. Where a restriction prevents consistent placement from the pavement edge, place the affected object markers in line with the innermost edge of the obstruction.
3. When Type 2 object markers and delineators are more than 2'-0" from the edge of the pavement, they may not be possible to maintain a height of approximately 4'-0". If this is the case, place the object marker or delineator as close to the desired height as possible.
4. Install all delineators, object markers and barrier reflectors in accordance with the manufacturer's recommendation.
5. Barrier reflectors should be installed a minimum of 18 inches above the edge of the pavement surface.

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**NOTE**

Mounting at 4 feet to the bottom of the chevron is permitted for chevrons that will not exceed a height of 6'-6" to the top of the chevron (sizes 24" x 30" and smaller).

**NOTE**

Chevrons 30" x 36" and larger shall be mounted at a height of 7' to the bottom of the chevron. Chevron sign and ONE DIRECTIONAL LARGE ARROW sign (W1-9T) shall be installed per SMD standard sheets and paid under item 644.

See general notes 1, 2 and 3.
## USE OF WARNING DEVICES AT CURVES WITH ADVISORY SPEED LIMITS

<table>
<thead>
<tr>
<th>Advisory Speed</th>
<th>RPMs and DELINEATORS or RPMs and ONE DIRECTION LARGE ARROW</th>
<th>RPMs and, and DELINEATORS or RPMs and ONE DIRECTION LARGE ARROW (W1-16) or [W1-9T] sign</th>
<th>RPMs and, and DELINEATORS or RPMs and ONE DIRECTION LARGE ARROW (W1-16) or [W1-9T] sign</th>
<th>RPMs and, and DELINEATORS or RPMs and ONE DIRECTION LARGE ARROW (W1-16) or [W1-9T] sign</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 MPH &amp; 20 MPH</td>
<td>25 MPH &amp; GREATER</td>
<td>35 MPH &amp; GREATER</td>
<td>35 MPH &amp; GREATER</td>
<td>35 MPH &amp; GREATER</td>
</tr>
<tr>
<td>25 MPH &amp; GREATER</td>
<td>35 MPH &amp; GREATER</td>
<td>40 MPH &amp; GREATER</td>
<td>40 MPH &amp; GREATER</td>
<td>40 MPH &amp; GREATER</td>
</tr>
</tbody>
</table>

### SUGGESTED SPACING FOR DELINEATORS ON HORIZONTAL CURVES

- **One Directional Large Arrow (W1-16) or W1-9T sign** should be located at approximately and perpendicular to the extension of the centerline of the tangential portion of the approach lane.

**Extension of the centerline of the tangential section of the approach lane**

**Curves less than 1 degree do not normally require delineators.**

### SUGGESTED SPACING FOR CHEVRONS ON HORIZONTAL CURVES

**Point of curve**

**Point of tangent**

Curves less than 5 degrees do not normally require chevrons.

### DELINEATOR AND CHEVRON SPACING

#### WHEN DEGREE OF CURVE OR RADIUS IS KNOWN

<table>
<thead>
<tr>
<th>Degree of Curve</th>
<th>Spacing in Curve</th>
<th>Spacing in Straightaway</th>
<th>Chevrons Spacing in Curve</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>24</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>18</td>
<td>32</td>
<td>16</td>
<td>3</td>
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<td>5</td>
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<tr>
<td>40</td>
<td>60</td>
<td>40</td>
<td>6</td>
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</tbody>
</table>

#### WHEN DEGREE OF CURVE OR RADIUS IS NOT KNOWN

<table>
<thead>
<tr>
<th>Advisory Speed</th>
<th>Sitting in Curve</th>
<th>Sitting in Straightaway</th>
<th>Chevrons Sitting in Curve</th>
</tr>
</thead>
<tbody>
<tr>
<td>RPMs</td>
<td>24</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>65</td>
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<td>200</td>
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<tr>
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<tr>
<td>25</td>
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<td>80</td>
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</tr>
<tr>
<td>15</td>
<td>35</td>
<td>70</td>
<td>40</td>
</tr>
</tbody>
</table>

### NOTES

1. **Delineators not required in urban areas with continuous illumination.**
2. **Unless indicated otherwise, the delineator or barrier reflector color shall conform to the color of the pavement edge line on the side of the road where the delineators or barrier reflectors are placed.**
3. **Barrier reflectors may be used to replace required delineators.**
4. **Single red delineators may be mounted on the back side of delineator posts for wrong way driver applications.**

### PLACEMENT DETAILS

See PM-series and FM-series standard sheets.
TWO-WAY, TWO LANE ROADWAY WITH REDUCED WIDTH APPROACH

Minimum 3 delineators at 100' maximum spacing

25 ft

DETAIL 1

TWO-WAY, TWO LANE ROADWAY BRIDGE WITH NO APPROACH RAIL

3- Type 3 delineators spaced 25' apart

25 ft

DETAIL 2

FOR CULVERTS WITHOUT MBGF

D-2 to be placed if culvert headwall is greater than 20' in length one is less than 15' from travel lane

25 ft

DETAIL 3

DEAD END BARRICADE

Spacing of white delineators for acceleration or deceleration zones is approximately 100 ft.

100' Usual

DETAIL 6

TYPICAL DEAD END BARRICADE INSTALLATION

Delineators

DETAIL 7

NOTES

1. Barricade striping shall be red and white reflective sheeting for all permanent road closures.
2. Barricade striping is red and white sloping toward the center of the roadway.
3. Type 3 Barricade Supports should be anchored to soil or pavement as described in compliant Work Zone Traffic Control Devices List, section D.2.f and D.2.g.

CROSSOVERS

4 Type I-A RPM's at 20' spacing and / or Double yellow delineator

DETAIL 5

LEGEND

Bidirectional Delineator

Double Delineator

D-2

Sign

Om-2

OM-2

OM-3

OM-4

Double Object Marker

DELINIEATOR & OBJECT MARKER PLACEMENT DETAILS

D & OM(3)-15

D & OM(VIA)

D & OM(4)-15

D & OM(3)-15

D & OM(3)-15

D & OM(VIA)
**NOTE:**
If terminal ends include an object marker, there is no need to install an OM-2 in front of terminal.

---

**LEGEND**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>D</td>
<td>Bidirectional Delineator</td>
</tr>
<tr>
<td>OM-2</td>
<td>Delineator</td>
</tr>
<tr>
<td>OM-3</td>
<td>Bidirectional Delineator</td>
</tr>
</tbody>
</table>

---

**DELINERATOR & OBJECT MARKER**

**PLACEMENT DETAILS**

**D & OM(5)-15**

---

**TWO-WAY, TWO LANE ROADWAY**

**WITH REDUCED WIDTH APPROACH RAIL**

---

**TWO-WAY, TWO LANE ROADWAY**

**WITH METAL BEAM GUARD FENCE (MBGF)**

---

**TWO-WAY, TWO LANE ROADWAY**

**BRIDGE WITH NO APPROACH RAIL**
CONTINUOUS CONCRETE BARRIER

MULTI-LANE UNDIVIDED,
TWO-WAY ROADWAY WITH
METAL BEAM FENCE (MBGF)

DIVided ROADWAY WITH
METAL BEAM GUARD FENCE

LEGEND

- Delineator
- Object Marker
- Placement Details
- Terminal End

Traffic Flow

August 2015
NOTES

1. Object Markers shall conform to the Texas MUTCD and meet the color and reflectivity requirements of Department Material Specification DMS 8300. Background shall be yellow reflective sheeting, Type B or C, and Chevron shall be black.

2. Object Markers may be manufactured from adhesive backed reflective sheeting applied directly to a guardrail and treated, or applied directly to an "end cap" as per the manufacturer's recommendations. Direct applied sheeting shall maintain a smooth surface and have no wrinkles, air bubbles, cuts or tears. A radius of the corners is not required for direct applied sheeting.

3. Object Marker size may be reduced to fit smaller devices. Width of alternating black and yellow stripes are typically 6". Object Markers smaller than 3 ft may have reduced width stripes of a minimum of 2 1/2".

4. Pop rivets, screws, or nuts and bolts may be used to attach object markers and reflectors. Notes, sizes or other openings may be cut or drilled through object markers to allow cables or other attachments.

5. Object Marker nose of attenuator is subsidiary to the attenuator.

6. See D & OM (11-41) for required barrier reflectors,