MOT Standards

Design Update Training

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NOTES FOR ALL INSTALLATIONS:

1. LIMITATION OF USE: This Temporary Concrete Barrier System is intended for non-permanent traffic control and other temporary applications. It shall not be used for permanent traffic calming installations. The barriers shall not be installed on a freewheeling gated or laydown concrete barriers as shown with a class A factor of 1.5. However, they may be used for transition installations, Type K barriers are not intended to be used by drivers to indicate or direct their travel in areas where they can be impacted from the barrier side.

2. CONNECTING PIN INSTALLING: As illustrated in Figures 2 and 3, the connecting pin should be installed in a manner such that it is not subject to any lateral strain. The connecting pin should be installed by a licensed contractor. The connecting pin should be inserted through the connecting pin holes in the barrier units and secured with a connecting pin cap. The connecting pin should be of the same size as the connecting pin cap.

3. SURFACE PREPARATION: Except as shown for the back-filled foundation, all foundations shall be made of a material that will support the weight of the barrier units and the connecting pin without settlement.

4. SPECIFICATIONS: The specifications for the construction of the connecting pin shall be the same as those for the construction of the connecting pin cap.

5. MAINTENANCE: The connecting pin shall be inspected at least once a year and shall be replaced if it is found to be damaged or defective.
4. OFFSET TO TRAVELWAY: Offset shall meet requirements as shown on sheet 1 of Index 415.
Design Index 415

ALIGNMENT AND LENGTH OF NEED

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Design Index 415

CLEAR ZONE WIDTHS FOR WORK ZONES

The clear zone width describes the unobstructed relatively flat area, impacted by construction, extending outward from the edge of the traffic lanes. The table below gives clear zone width in work zones for major and major roads and other than for a roadway where cable or guardrail are present, clear zone widths are to conform with the distances to cable as specified in Volume 1, Chapter 4, Section 4.2 and Exhibit 4 and 4.4 of the Plan Preparation Manual.

<table>
<thead>
<tr>
<th>WORK ZONE SPEED (mph)</th>
<th>TRANSPORT LANE &amp; MULTIPLE LANE RAMPS (ft)</th>
<th>MULTIPLE LANE RAMPS (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-29</td>
<td>20</td>
<td>10</td>
</tr>
<tr>
<td>30-39</td>
<td>24</td>
<td>16</td>
</tr>
<tr>
<td>40-49</td>
<td>16</td>
<td>10</td>
</tr>
<tr>
<td>50-69</td>
<td>14</td>
<td>12</td>
</tr>
<tr>
<td>70-99</td>
<td>12</td>
<td>10</td>
</tr>
<tr>
<td>ALL SPEEDS</td>
<td>24 (Minimum)</td>
<td>15 (Minimum)</td>
</tr>
</tbody>
</table>

Equation Variables:

- \( L \) = Length of Clear Zone
- \( W \) = Width of Clear Zone
- \( S \) = Speed of Traffic
- \( D \) = Distance in feet from the rear edge of the travel way to the face of the barrier

**Length of clear zone** - The distance a longitudinal barrier must be extended is as follows:

- For speeds up to 30 mph, extend the barrier for a distance equal to the speed, in feet
- For speeds greater than 30 mph, extend the barrier for a distance equal to 30 mph

**Distance in feet from the rear edge of the travel way to the face of the barrier**

- Distance from the rear edge of the travel way to the face of the barrier

STRAIGHT ALIGNMENT AND LENGTH OF NEED

LEGEND

- CA: Left Approach
- CN: Right Approach
- Area Shaded Zone: When the zone hazards or the need area extends across Major Road Zone
- Area Shaded When Area Zone Hazard or the Need Area extends to or beyond Clear Zone Limit

- Hot spot analysis for the Design of Roadway-Related Facilities

CENTRALIA 415

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DESIGN STANDARDS

INDEX NO. 415

SHEET NO. 3 OF 7
* Note:

Where barrier is located within the clear zone of opposing traffic, approach transition is required.
Design Index 600

TYPICAL PLACEMENT OF TEMPORARY RAISED RUMBLE STRIPS

TYPICAL PLACEMENT OF TEMPORARY INTERNALLY BALLASTED RUMBLE STRIPS

DISTANCE BETWEEN SIGNS

<table>
<thead>
<tr>
<th>Speed (mph)</th>
<th>A (ft)</th>
<th>B (ft)</th>
<th>C (ft)</th>
<th>D (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>40 or more</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>30-39</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
</tr>
<tr>
<td>25-29</td>
<td>200</td>
<td>200</td>
<td>200</td>
<td>200</td>
</tr>
<tr>
<td>20 or less</td>
<td>300</td>
<td>300</td>
<td>300</td>
<td>-</td>
</tr>
</tbody>
</table>

GENERAL NOTES

1. Temporary rumble strips sets shall be placed in advance of each chaining station when raised for in the lane.

2. Temporary rumble strip sets shall be supplemented with a series of advance warning signs and shall be installed and removed when the signs are installed and removed.

3. Remove the temporary rumble strips prior to removing the advance warning signs.
Design Index 600

Temporary Portable Rumble Strip Set

Typical Placement of Temporary Internally Ballasted Rumble Strips
Design Index 600

TEMPORARY SUBSTITUTION OF RPMs FOR PAINT OR REMOVABLE TAPE

1. Paint or removable tape are the required work zone markings and shall be placed in accordance with the plans and specifications. If these work zone markings can not be placed due to weather conditions identified in the appropriate specification, temporary substitution of RPMs for work zone markings will be allowed until the weather condition permits the placement of appropriate work zone marking. Temporary substitution of RPMs for work zone markings will be allowed for equipment malfunction, placement of the appropriate work zone marking shall be made within 3 days, or sooner if possible. When RPMs are used as a temporary substitution for work zone markings the following shall apply:

2. Lane widths identified in the plans must be maintained. Placement of RPMs should consider where work zone markings will be placed, as soon as conditions allow. If the RPMs can not be placed so that the lane width is maintained after the placement of the work zone markings, the conflicting RPMs must be removed.

3. The sides of the RPM used as the temporary tape shall conform to the sides of the markings for which they substitute.

To mark zones, CLASS A or B RPMs may be used to form lane lines, edge lines and temporary gore areas as a temporary substitute for paint or removable tape at the option of the contractor for work zone situations.

USE OF RPMs TO SUPPLEMENT PAINT OR REMOVABLE TAPE IN WORK ZONES

1. RPMs shall be used to supplement a pavement marking if:
   a. All lane lines.
   b. Edge lines in transition areas.
   c. Edge lines at gore areas.
   d. Placement of RPMs should be as shown in Exhibit E. TT852 with the following exceptions:
      - RPMs shall be placed at 3 foot center to center in approach and transition areas.

NOTES FOR REFLECTIVE PAVEMENT MARKERS

1. The color of the reflected pavement marker under both day and night conditions shall conform to the color of the marking for which they serve as a supplementary to equipment or accessories.

2. To provide contrast on concrete pavement or at night asphalt, the line (black) RPMs shall be followed by non-reflective RPMs. The spacing between RPMs shall be 2.5 feet. Black RPMs will not be required for contrast with yellow RPMs.

3. RPMs used to supplement lane lines are to be used for an Interactive Pavement Marking (IPM). RPMs used as a temporary substitute for lane or removable tape due to equipment malfunction are to be used at the Contractor's expense.

PLACEMENT OF PAVEMENT MARKINGS
In work zones, Class A or B RPM’s may be used to form lane lines, edge lines and temporary gore areas as a temporary substitute for paint or removable tape at the spacing shown above.
Design Index 625

GENERAL NOTES
1. This revenue does not apply to vehicles operating in facilities.
2. When a lane operates in facilities within the PVC zone, additional PVC devices shall be placed in accordance with applicable PVC indexes.
3. PVC zones or facilities at the roadways may dictate additional devices, signs, markers and/or a traffic control officer.
4. The buffer space may be omitted if there are no obstacles or vehicles approaching the
   buffer space.
5. A flagger may be substituted for a traffic control officer and the BE PREPARED TO STOP sign may be
   omitted, when the following conditions are met:
   a. Stop is in a work zone.
   b. A vehicle stops by approaching the flagger/usher for a distance equal to the buffer space.
   c. Vehicles in the work area have high-response, lighting, flashing, or other control.
6. On an unnumbered highway the number of them shall be omitted.
7. For general PVC requirements and additional information refer to FDOT's Traffic Safety Manual.

CONDITIONS
PLANNED CLOSURE 60 MINUTES OR LESS

FDOT 2014 DESIGN STANDARDS

TEMPORARY ROAD CLOSURE 60 MINUTES OR LESS

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5. A Flagger may be substituted for a Traffic Control Officer and the BE PREPARED TO STOP sign may be omitted, when the following conditions are met:
   a. Speed limit is 45 mph or less.
   b. No sight obstructions to vehicles approaching the Flagger/Officer for a distance equal to the buffer space.
   c. Vehicles in the work area have high-intensity, rotating, flashing, oscillating, or strobe lights operating.
Design Index 660

GENERAL NOTES

1. Only the signs controlling pedestrian flows are shown. Other traffic signs and markings will be needed to control traffic as shown.

2. For spacing of traffic control devices and general TCC requirements refer to Index As 660. Minimum spacing between barriers, vertical panels, crows or circular markers shall not be greater than 25.

3. Street lighting should be considered.

4. For right-of-way closures use Type A flashing warning lights or barricades supporting signs and caution sidewalk. The Type C flashing lights or channelizing devices separating the work area from vehicular traffic.

5. Pedestrian traffic signals displayed controlling crosswalks shall be covered or protected.

6. Post-Mounted signs placed rear or adjacent to a sidewalk shall use a 3-foot clearance from the bottom of sign to the sidewalk.

7. When construction activities involve sidewalks on both sides of the street, apparatus should be made to shape the construction so that both sidewalks are not out of service at the same time.

8. In the event that sidewalks on both sides of the street are closed, pedestrian shall be guided around the construction area.

9. Temporary walkways shall be a minimum of ±6 inches wide and have a maximum 5% running slope between ramps. Temporary walkways less than 5' in width shall provide for a flat 5' 0" passing lane at intervals not to exceed 200'. Temporary ramps shall meet the requirements for such ramps specified in Index No. 324. Temporary materials surfaces and ramps shall be stable, firm, non-slippery, and kept free of any obstructions and hazards such as mud, debris, ice, construction equipment, stored materials, etc.

10. Temporary ramps and temporary crosswalk markings shall be removed with resumption of the sidewalk, unless otherwise noted in the plans. All work and materials associated with constructing temporary curb ramps and temporary crosswalk markings, removal and disposal of temporary curb ramps and temporary crosswalk markings, and restoration to original condition shall be paid for as Maintenance of Traffic, curb.
11. A pedestrian longitudinal channelizing device shall be placed across the full width of the closed sidewalk.