CLEAR ZONE WIDTHS FOR WORK ZONES

The term 'clear zone' describes the unobstructed relatively flat area impacted by construction, extending outward from the edge of the traffic lane. The table below gives clear zone widths in work zones for medians and roadside conditions other than for roadside canals; where roadside canals are present, clear zone widths are to conform with the distances to canals as described in Volume I, Chapter 4, Section 4.2 and Exhibit 4-A and 4-B of the Plans Preparation Manual.

<table>
<thead>
<tr>
<th>WORK ZONE SPEED (MPH)</th>
<th>TRAVEL LANELS &amp; MULTILANE RAMPS (feet)</th>
<th>AUXILIARY LANES &amp; SINGLE LANE RAMPS (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 - 70</td>
<td>50</td>
<td>18</td>
</tr>
<tr>
<td>55</td>
<td>24</td>
<td>14</td>
</tr>
<tr>
<td>45 - 55</td>
<td>18</td>
<td>10</td>
</tr>
<tr>
<td>30 - 45</td>
<td>14</td>
<td>10</td>
</tr>
<tr>
<td>ALL SPEEDS</td>
<td>4' BEHIND FACE OF CURB</td>
<td>4' BEHIND FACE OF CURB</td>
</tr>
</tbody>
</table>

SUPERELEVATION

Horizontal curves constructed in conjunction with work zone traffic control should have the required super-elevation applied to the design radii. Under conditions where normal crown controls curvature, the minimum radii that can be applied are listed in the table below.

<table>
<thead>
<tr>
<th>DESIGN SPEED (MPH)</th>
<th>MINIMUM RADIUS (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>65</td>
<td>3150</td>
</tr>
<tr>
<td>55</td>
<td>2400</td>
</tr>
<tr>
<td>50</td>
<td>1940</td>
</tr>
<tr>
<td>45</td>
<td>1390</td>
</tr>
<tr>
<td>40</td>
<td>980</td>
</tr>
<tr>
<td>35</td>
<td>520</td>
</tr>
<tr>
<td>30</td>
<td>430</td>
</tr>
</tbody>
</table>

Restrictions to Lane Widths, Heights or Load Capacity can greatly impact the movement of over dimensioned loads. The Contractor shall notify the Engineer who in turn shall notify the State Permits Office, phone no. (850) 410-5777, at least seven calendar days in advance of implementing a maintenance of traffic plan which will impact the flow of overweight/oversized vehicles. Information provided shall include location, type of restriction (height, width or weight) and restriction time frames. When the roadway is restored to normal service the State Permits Office shall be notified immediately.

Lane closures shall not exceed 2 miles in total length (taper, buffer space and work space) in any given direction on the Interstate or on state highways with a posted speed of 55 MPH or greater.

Lane widths of through roadways should be maintained through work zone travel ways wherever practical. The minimum widths for work zone travel lanes shall be as follows: 11' for Interstate with at least one 12' lane provided in each direction, unless formally excepted by the Federal Highway Administration; 11' for freeways; and 10' for all other facilities.

GENERAL NOTES

1. Temporary raised rumble strips sets shall be placed in advance of each flagging station when called for in the plans.
2. Temporary raised rumble strip sets are used to supplement a series of advanced warning signs and shall be installed and removed when the signs are installed and removed.
3. Remove the temporary raised rumble strips prior to removing the advance warning signs.
SIGN MATERIALS

Highway signs may be used only for daylight operations.

Vapor signs may be used for day or night operations not to exceed 1 day except as noted in the standards.

Rigid or lightweight sheet metal may be used in accordance with the vendor drawing for the sign stand to which they are attached.

INTERSECTING ROAD SIGNING

Signs for the control of traffic entering and leaving work zones by way of intersecting highways, roads and streets shall be arranged to make drivers aware of work zone conditions. Under no condition will intersecting leg signage be less than a ROAD WORK AHEAD sign.

ADJOINING AND/OR OVERLAPPING WORK ZONE SIGNING

Adjoining work zones may not have sufficient spacing for standard placement of signs and other traffic control devices in their advance warning areas or in some cases other signs within their traffic control zones. Where such restrictions or conflicts occur, one or the following methods will be employed to avoid conflicts and prevent conditions that could lead to misunderstanding on the part of the traveling public as to the intended travel way by the traffic control procedure applied:

(A) For scheduled projects, the engineer in responsible charge of project design will resolve anticipated work zone conflicts during the development of the project traffic control plan. This may entail revision of plans or scheduling projects on concurrent projects.

(B) Unanticipated conflicts arising between adjoining in progress highway construction projects will be resolved by the Resident Engineer for projects under his jurisdiction, and by the District Construction Engineer for in progress projects under adjoining jurisdictions.

(C) The District Maintenance Engineer will resolve anticipated and occurring conflicts within scheduled maintenance operations.

(D) The Unit Maintenance Engineer will resolve conflicts that occur within routine maintenance work, work operation, and/or construction projects.

SIGN COVERING AND INTERMITTENT WORK STOPPAGE SIGNING

Relieving or temporary traffic control signs are not always applicable or are inconvenient with headed travel signs shall be removed or fully covered.

Sign blanks or other removable covers must completely cover the existing sign. Right sign covering and intermittent work stoppage signs shall be the same size as the sign it is covering and bolted in a manner to prevent movement.

Some covers are incidental to work operations and are not paid for separately.

SIGNING FOR DETOURS, LANE SHIFTS AND DIVERSIONS

Detours should be signed clearly over their entire length so that motorists can easily determine how to return to the original roadway. The reverse curve 601-3 warning sign should be used for the advanced warning for a lane shift. A diversion should be signed as a lane shift.

EXTENDED DISTANCE ADVANCE WARNING SIGN

Advance Warning Signs shall be used at extended distances of one-half mile or more when limited sight distance or the nature of the obstruction may require motorists to bring their vehicle to a stop. Extended distance Advanced Warning Signs may be required on any type roadway, but particularly be considered on multilane divided highways where vehicles speed is generally in the higher range (45 MPH or more).

UTILITY WORK AHEAD SIGN

The UTILITY WORK AHEAD (W21-7) sign may be used as an alternative to the ROAD WORK AHEAD or the ROAD WORK XX FT (W20-3) sign for utility operations or adjacent to a highway.

LENGTH OF ROAD WORK SIGN

The length of road work sign (G20-1) bearing the legend ROAD WORK NEXT__ MILES is required for all projects of more than 2 miles in length. The number of miles entered should be rounded up to the nearest mile. The sign shall be located at begin construction points.

SPEEDING FINES DOUBLED WHEN WORKERS PRESENT SIGN

The SPEEDING FINES DOUBLED WHEN WORKERS PRESENT sign should be installed on all projects, but may be omitted if the work operation is less than 1 day. The placement should be 500 feet beyond the ROAD WORK AHEAD sign or midway to the next sign whichever is less.

GROOVED PAVEMENT AHEAD SIGN

The GROOVED PAVEMENT AHEAD sign is required 500 feet in advance of a milled or grooved surface open to traffic.

END ROAD WORK SIGN

The END ROAD WORK sign (G20-2) shall be installed on all projects, but may be omitted where the work operation is less than 1 day. The sign should be placed approximately 500 feet beyond the end of a construction or maintenance project unless other distance is called for in the plans.

PROJECT INFORMATION SIGN

The Project Information sign shall be installed when called for in the plans.
Notes:
1. The size of diamond shaped Temporary Traffic Control (TTC) warning signs shall be a minimum of 48” x 48”.
2. Fluorescent orange shall be used for all orange colored work zone signs.
3. When standard orange flags or flashing warning lights are used in conjunction with signs, they shall not block the sign face.
4. The sign shields, symbols and messages contained on this sheet are provided for ready reference to those used in the development of the MUTCD Design Standards and are commonly used in the development of traffic control plans. For additional signs and sign detail information refer to the STANDARD HIGHPWAY SIGNS MANUAL as specified in the MUTCD Special signs for traffic control plans as approved by the State Traffic Plans Engineer.

See Index No. 17355 for MOT sign details.

The sign codes shown on this sheet are for the purpose of identifying cell names found in the Traffic Control Cell Library (TCCLIB).

The STANDARD HIGHPWAY SIGNS MANUAL should be referenced for the official sign codes for use in the development of traffic control plans.
MANHOLES/CROSSWALKS/JOINTS

Naholes extending 7" or more above the travel lane and crosswalks having an uneven surface greater than 4" shall have a temporary asphalt apron constructed as shown in the diagram below.

An intersection paints that have a difference in elevation of 7" or more shall have a temporary asphalt apron constructed as shown in the diagram below.

![Temporary Surface](image)

The apron is to be removed prior to constructing the next lift of asphalt. The cost of the temporary asphalt shall be included in the contract unit price for Maintenance of Traffic.

TRUCK/TRAILER-MOUNTED ATTENUATORS

Truck/Trailer-mounted attenuators (TMA) can be used in moving operations and short-term stationary operations. For moving operations, see Index Nos. 607 and 810. For short-term, stationary operations, see Part VI of the MUTCD.

REMOVING PAVEMENT MARKINGS

Existing pavement markings that conflict with temporary work zone conditions shall be removed by a method approved by the Engineer, where practical use one chipping paint. Painting over existing pavement markings with black paint or spraying with asphalt should be performed as a task for removal or obliteration. Partial removal which overruns of either a structural or friction course are a positive means to achieve obliteration.

SIGNALS

Existing traffic signal operations that require modification in order to carry out work zone traffic control shall be included in the TCP and approved by the District Traffic Operations Engineer.

Maintain all existing extended or traffic responsive mode signal operations for main and auxiliary lanes necessary for the duration of the contract and restore the installation at any time of closure within 12 hours. The contractor shall select only outdating technology listed in the Engineer’s approved product list (APL) and approved by the Engineer to ensure long-term operational capability. The signal should identify the intersection where temporary traffic collection is required.

CHANNELIZING AND LIGHTING DEVICES

Channelizing and lighting devices for work zone traffic control shall be as specified in Part VI of the MUTCD, subject to supplemental instructions provided in the contract documents and Index 600 requirements.

CHANNELIZING AND LIGHTING DEVICE CONSISTENCY

Barriers, vertical panels, cones, rutting markers and drums shall be set in an intersected within either the lateral transition or within the travel lane.

WARNING LIGHTS

Warning lights shall be in accordance with the MUTCD except for the applicable modifications specified below.

Flexible

Type A Low Intensity Flashing Warning Lights are to be mounted on barricades, vertical panels or advance warning signs (see Index Nos. 607 and 810) placed with gaps that form a continuous line to the driver's eye. Type A can be used to mark obstructions that are temporary or occurring in a two-lane area. Flashing lights shall be used to illuminate the transit path of travel, and shall be placed with gaps that form a continuous line to the driver's eye. Type A lights shall not be used in conjunction with the first advance warning sign or the work zone signs when used.

For post-mounted signs, Type B High Intensity Flashing Warning Lights shall be mounted on the first advanced warning sign and on the first and second advanced warning signs where two or more signs are used. This applies to an approach to any work zone. The light shall be placed on the channel post or at the upper edge of the sign aimed toward the traffic.

Type B High Intensity Flashing Warning Lights are not to be placed on temporary portable sign supports.

Steady-On

Type C Steady-Burn Lights are to be mounted on barricades, drums, concrete barriers, vertical panels and signs, in combination, with these devices to stabilize the traffic flow in areas, construction, diverging curves and other similar conditions. Steady-burn lights are intended to be placed in a line to delineate the travel way through and around obstructions in the transition, buffer, work and termination areas of the traffic control zone. The detachment is not for warning drivers that they are approaching or proceeding through a hazardous area.

STANDARD ORANGE FLAG

For post-mounted signs or a standard orange flag 18" to 36" in length shall be mounted on the first advanced warning sign and on the first and second advanced warning signs where two or more signs are used. This applies to all approaches to any work zone. The flag shall be placed on the channel post or at the upper edge of the sign aimed toward the traffic.

Standard orange flags are not to be placed on temporary portable sign supports except to achieve the visibility of the STANDARD ADVANCE (_) sign where such orange flags shall be used at all times.

PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS)

The PCMS can be used to:

1. Supplement standard signing in construction or maintenance zones.
2. Reinforce static advance warning message.
3. Provide assistance with emergency guidance information.

PCMS shall be placed upper, 300 to 500 feet in advance of the work zone conflicts or 1.5 to 2 miles in advance of complex traffic control schemes which require new and/or unusual traffic arrangements.

If PCMS are to be used at night, the intensity of the flashers shall be reduced during darkness when lower intensities are available.

For additional information refer to the FDOT Plans Preparation Manual, Volume I, Chapter 10.

ADVANCE WARNING ARROW PANELS

An arrow panel in the arrow or chevron mode shall be used only on one-way roadways, extending the shoulder, for roadway work, near the shoulder, or for temporary closing one lane on a two-lane, two-way roadway, an arrow panel shall be used only in the caution mode.

A single arrow panel shall not be used to merge traffic materially more than one lane. When arrow panels are used in close lane changes, a single panel shall be used at the merging point for each closed lane.

When Advance Warning Arrow Panels are used at night, the intensity of the lights must be reduced during darkness when lower intensities are available.

<table>
<thead>
<tr>
<th>MODES</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>MOVE/JACKE LEFT</td>
<td>MOVE/JACKE RIGHT</td>
</tr>
</tbody>
</table>

GENERAL INFORMATION FOR TRAFFIC CONTROL THROUGH WORK ZONES

<table>
<thead>
<tr>
<th>2010 Interim Design Standard</th>
<th>600</th>
<th>01/01/11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sheet No.</td>
<td>9 of 13</td>
<td></td>
</tr>
</tbody>
</table>