TABLE I (SIGN SPACING)

<table>
<thead>
<tr>
<th>ROAD TYPE</th>
<th>DISTANCE BETWEEN SIGNS (FT)</th>
</tr>
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<tbody>
<tr>
<td>A</td>
<td>B</td>
</tr>
<tr>
<td>Major Conventional</td>
<td>500</td>
</tr>
<tr>
<td>Freeway &amp; Expressway</td>
<td>1000</td>
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</table>

SPEED LIMIT (MPH) | MERGING TAPER RATE MINIMUM | SHOULDER TAPER RATE MINIMUM | PE FLARE RATE MINIMUM | MAXIMUM DRUM SPACING (FT) | BUFFER (FT) MINIMUM | CLEAR CONE WIDTH (FT) | CLEARANCE ZONE (FT) |
<table>
<thead>
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**LEGEND**
- WORK AREA
- DRUMS
- PORTABLE BARRIERS (PB)
- REMOVE EXISTING MARKINGS
- ATTENUATOR
- OPTIONAL TREATMENT
- DIRECTION OF TRAVEL

**TABLE II**

<table>
<thead>
<tr>
<th>SCD NUMBER</th>
<th>MT-95.40</th>
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<tr>
<td>M MAX</td>
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<td>TAPER SEC.</td>
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<tr>
<td>TANGENT SEC.</td>
<td>0.5</td>
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<tr>
<td>BUFFER (FT)</td>
<td>60</td>
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<tr>
<td>CLEAR CONE WIDTH (FT)</td>
<td>10</td>
</tr>
<tr>
<td>CLEARANCE ZONE (FT)</td>
<td>30</td>
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</tbody>
</table>
NOTES:

1. The design speed used for taper rates should typically be the permanent legal speed, however, on construction projects for which the speed limit is reduced, the reduced speed may be used in determining the taper rate when the taper is not the first active construction area within the project.

2. The minimum acceptable length for the merge taper shall be determined by multiplying the width of offset by 10 times the taper length. The taper length is provided in Table II.

3. The minimum acceptable length for the shoulder taper shall be determined by multiplying the width of the shoulder by the shoulder taper rate. The shoulder taper rate is provided in Table II.

4. The tangent section between the two merge tapers shall be two times the longer of the two merge tapers.

SIGN SPACING

5. The work zone sign spacing shown in Table I are minimums. Maximum spacing should not be greater than 1.5 times the distances shown in Table I.

6. Sign spacing should be adjusted to avoid conflict with existing signs. Minimum spacing to existing signs shall be 200' for speeds of 40 mph or less and a minimum of 400' for speeds 50 mph or greater.

ADJUSTMENTS FOR SIGHT DISTANCE

7. The location of the merging taper and the advance warning signs or signal should be adjusted to provide adequate sight distances for the existing vertical and horizontal alignment.

BASIC SIGNING

8. ROAD WORK AHEAD (W10-3P) signs shall be provided on entrance ramps or roadways entering the work limits.

9. L&N ROAD WORK (L30-2D) signs are only required for lane closures of more than 1 day. It is intended that these signs be placed on the median, on all exit ramps, and on ramps.

10. Overlapping of signing for adjacent projects should be avoided where the messages could be conflicting. Any W20-5 or W20-3 signs which fall within the clear zone of another traffic control zone shall be shifted or covered during the period when both projects are active.

SIGNING DETAILS

11. A variable speed W3-3P plaque shall be used when specified in the plan.

12. When the approach speed limit is 40 mph or less, 360° warning signs may be used.

13. The distance plaque W6-50' or W6-50' if the distance shown is in feet shall indicate the distance to the beginning of the merging taper. Distances less than 1 mile may be expressed in feet. The plaque may be omitted if extra advance signs are not used.

14. Provide signing on the inactive side of the highway, as Extra Advance Sign Groups are not used.

15. Provide signing on the inactive side of the highway, as Extra Advance Sign Groups are not used.

16. The Advisory Speed (W13-1P) plaque shall be used when the speed limit is reduced, either by the contractor, by the Engineer or by the owner. However, any temporary speed limit shall be determined by multiplying the permanent legal speed by the factor shown in Table II.

17. The speed may be used in determining the taper rate when the taper is not the first active construction area within the project.

PAVEMENT MARKINGS / RPMs

18. If the construction operation requires a lane closure for more than 1 day, the existing conflict reflectors shall be removed from the raised pavement markers (RPMs).

19. If the construction operation requires a lane closure for more than 1 day, the existing conflict reflectors shall be removed from the raised pavement markers (RPMs).

20. Additionally, if a lane closure of greater than 3 days is required, the following shall be performed:
   a. The appropriate color work zone edge line shall be applied along the taper.
   b. The existing conflicting pavement markings shall be removed or covered per CMS 64M.10.
   c. The work zone dotted lines, 3' in length, 2' apart, shall be provided to identify the merge.

21. Work zone edge lines shall be provided along the tangent section when specified in the plans.

22. Work zone pavement markings which would conflict with final traffic lanes shall be removed using tape CMS 65.06.

23. After completion of the work, pavement markings other than CMS 65.06, type D shall be removed in accordance with CMS 64M.10. The original markings and raised pavement marker reflectors shall be restored at no additional cost unless separately itemized in the plans.

24. RESERVED FOR FUTURE USE

ARROW BOARD

25. The arrow board shall be chosen from the ODOT approved list and follow the guidelines in Supplemental Guidelines for road work.

FLASHING WARNING LIGHTS

26. Type 2 flashing warning lights shown on the ROAD WORK AHEAD (W10-3P) signs and on the LANE CLOSED AHEAD (W10-3P) signs are required whenever a night lane closure is necessary.

INTERSECTION / DRIVEWAY ACCESS

27. Within the length of the closure, provision shall be made to control traffic entering from intersecting streets and major drive access. Also, temporary wrong-way movements and to keep vehicles off of new pavement shall be provided.

The contractor shall:
   a. Place the closed lane, either 3 drums, cones, and/or barricades, and/or
   b. Provide an additional flagger at public street intersections and major driveways.

Drums (cones) placed across the closed lane shall be located at the projected pavement edge, as shown in CMS 740.06. For barricades, see CMS 740.06.

Existing STOP signs shall be relocated as necessary to ensure proper location for the traffic conditions. The method of control shall be subject to the approval of the Engineer.

DOWNS

28. The maximum drum spacing along tapers along tangent sections shall be as shown in Table II. A minimum of 3 drums shall be used to close the upstream shoulder.

29. All drums and cones should have a minimum offset from the edge of the traveled lane of 1.5 feet.

PORTABLE BARRIER (PB)

30. A tapered end section may be used in place of the impact attenuator of locations where the last full section of PB can be extended outside of the clear zone for approaching traffic. See Table II for clear zone widths.

31. If it is necessary to provide the contractor with access to the work area behind the PB, the PB and treatment shall include an impact attenuator. The maximum width of the opening shall be 9'-0" between the impact attenuator and the outside edge of the work zone.

32. If the Contractor’s access is provided, the PB shall be adequate to shield work area from the traffic. This length of PB shall be determined by the calculations provided in SCD MT-01.76 and the L&D Manual, Volume I, Figure 602-K, and shall require the approval of the Engineer.

33. When used, impact attenuators shall be installed parallel to traffic. Also, the last full section of PB, adjacent to the impact attenuator, shall be located parallel to traffic.

34. Where narrow medians are provided, see Table II to determine whether or not the downstream and of the PB is placed within the clear zone of approaching traffic. If the PB is located within the clear zone of approaching traffic, the downstream and shall be flared away from approaching traffic to shield the work area from potential errant vehicles crossing the median.

35. If the PB is placed beyond the clear zone of approaching traffic, the downstream end of the PB may be provided with a tapered end, located 1/2' beyond the work area.

36. Where PB is located beyond the edge of the paved shoulder, the cross slope within the clear zone shall be the same for by the Engineer. For PB placed beyond the edge of the paved shoulder, the cross slope within the clear zone shall be the same for by the Engineer. See Table II for clear zone widths.

37. If the PB is located beyond the edge of the paved shoulder, the cross slope within the clear zone shall be the same for by the Engineer. For PB placed beyond the edge of the paved shoulder, the cross slope within the clear zone shall be the same for by the Engineer. See Table II for clear zone widths.

38. If the PB is located beyond the edge of the paved shoulder, the cross slope within the clear zone shall be the same for by the Engineer. For PB placed beyond the edge of the paved shoulder, the cross slope within the clear zone shall be the same for by the Engineer. See Table II for clear zone widths.

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