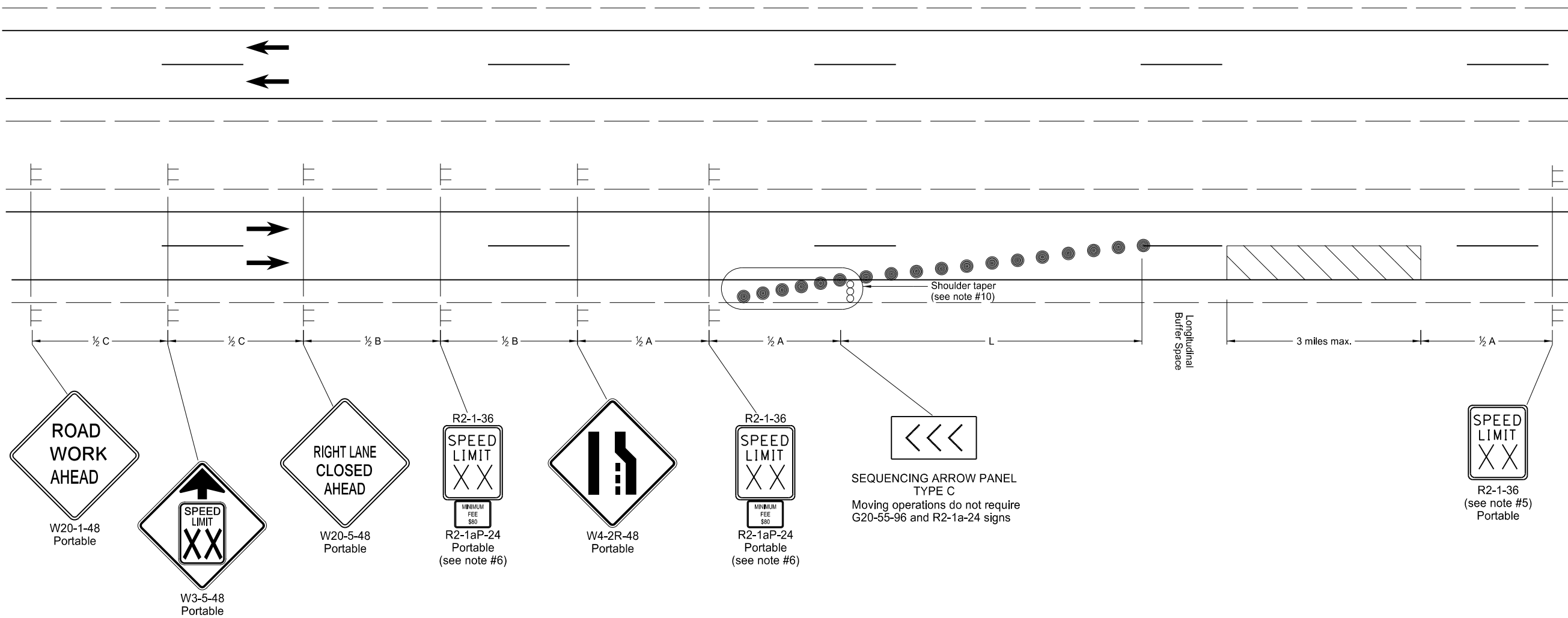


# SIGN LAYOUT FOR ONE LANE CLOSURE DIVIDED HIGHWAY MOVING OPERATION

D-704-32



**Notes**

1. Provide an additional sequencing arrow panel in the closed lane, near the work area, if the moving operation is not visible to the motorist from the end of the taper.
2. Variables  
 S = Numerical value of speed limit or 85th percentile.  
 W = The width of the taper.  
 L = Minimum length of taper,  $S \times W$  for freeways, expressways, and all other roads with speeds of 45 mph or greater, or  $W \times S^2 / 60$  for urban, residential, and other streets with speeds of 40 mph or less.
3. Space delineator drums for tapering traffic at dimension "S".
4. Sequencing Arrow Panels  
 Panels should normally be placed at the beginning of the taper. Where shoulder width does not provide sufficient room, the panel should be moved closer to the work area so that it can be placed on the roadway surface.  
 Type A shall be used on roadways with slow moving traffic speeds and low volume (25 mph & 750 ADT or less).  
 Type B shall be used on roadways with moderate traffic speeds and volumes (40 mph and 5000 ADT or less).  
 Type C shall be used on roadways with high traffic speeds and volumes (over 40 mph and 5000 ADT).
5. Re-establish speed limit. Determine the exact speed limit in the field, dependent on location and conditions.
6. Determine the reduced speed limit the in-place speed limit before construction. Where speed reductions exceed 30 mph, install a second speed limit sign with the desired speed reduction (not to exceed 30 mph.) Place the second speed limit sign at  $1/2 B$ .
7. Install flags on warning signs in urban areas when signs are not portable, Mount 24 inch square flags perpendicular to the edges of the sign, and at such a distance above the edge that the flag does not touch the sign when limp.
8. Cover existing speed limit signs within a reduced speed zone.
9. As an option, use portable sign supports in lieu of post mounted signs in accordance with NDDOT Standard Drawing D-704-14.
10. Provide shoulder taper when shoulder is 8' or wider.
11. Recommend using 40 mph speed limit in vicinity of workers, unless location and conditions dictate otherwise.

Longitudinal Buffer Space	
*Speed (mph)	Length Min (feet)
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645
70	730
75	820

\* Posted speed, off-peak 85th percentile speed prior to work starting, or anticipated operating speed in mph.

**KEY**

<p> Sign</p> <p> Delineator Drums</p>	<p> Work area</p> <p> Sequencing arrow panel</p>
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Road Type	Distance Between Signs Min. (ft)		
	A	B	C
Urban - Low Speed (30 mph or less)	150	150	150
Urban - Low Speed (over 30 to 40 mph)	280	280	280
Urban - High Speed (over 40 mph to 50 mph)	360	360	360
Rural - High Speed (over 50 mph to 65 mph)	720	720	720
Urban Expressway and Freeway (55 mph to 60 mph)	850	1350	2200
Rural Expressway and Freeway (70 mph to 75 mph)	1000	1500	2640
Interstate/4-Lane Divided (Maintenance and Surveying)	750	1000	1500

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
9-27-13	
REVISIONS	
DATE	CHANGE
6-24-14	Revised Note 9
8-17-17	Updated notes & sign numbers
11-01-19	Added sign, revised note & sign #

This document was originally issued and sealed by  
 Kirk J Hoff,  
 Registration Number  
 PE- 4683,  
 on 11/1/19 and the original document is stored at the North Dakota Department of Transportation