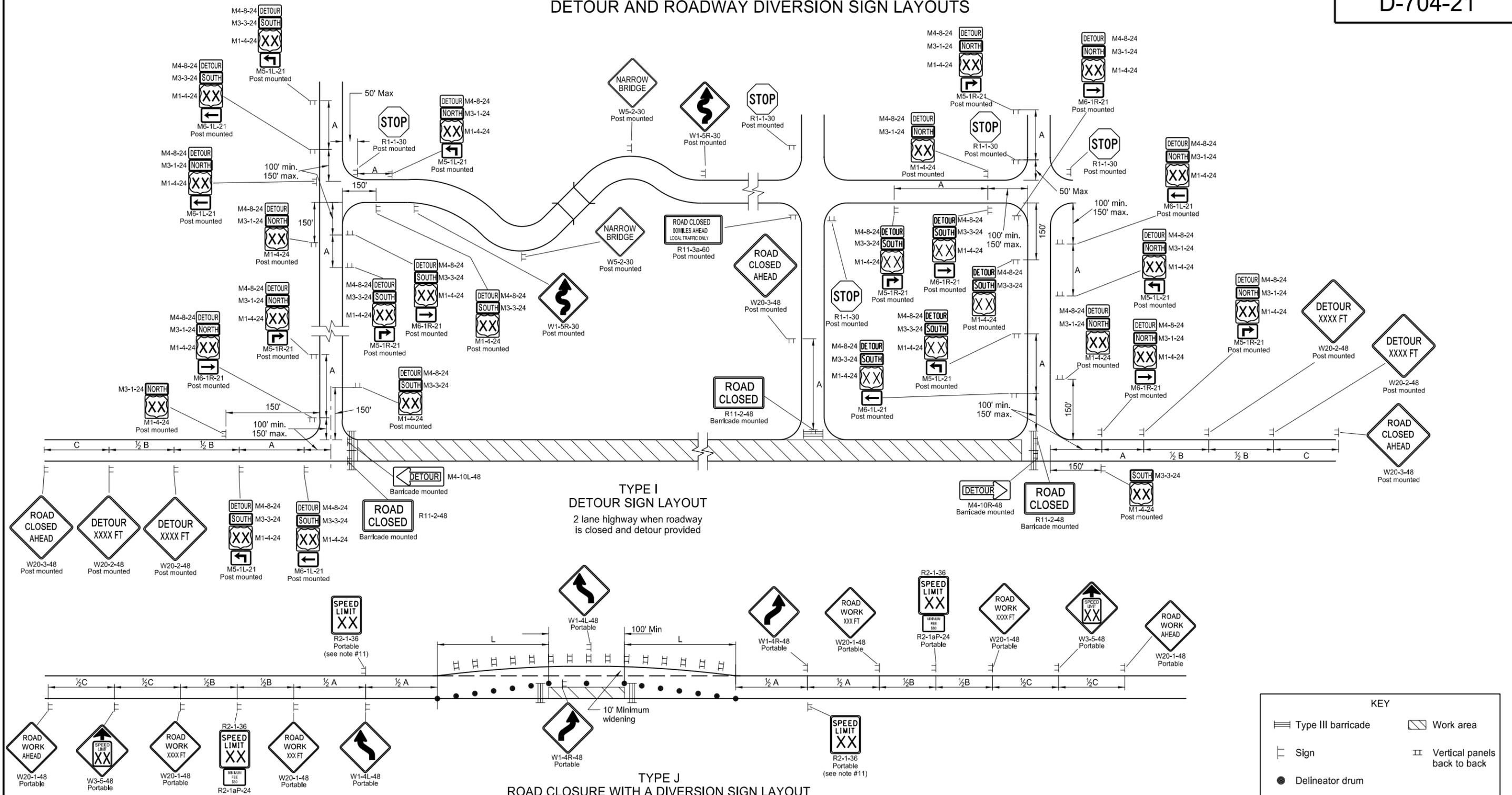


DETOUR AND ROADWAY DIVERSION SIGN LAYOUTS



**KEY**

- Type III barricade
- Work area
- Sign
- Vertical panels back to back
- Delineator drum

- Notes**
- Variables  
 S=Numerical value of speed limit or 85th percentile. W=The width of taper.  
 L=Minimum length of taper, or S x 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.
  - Place barricades on moveable assemblies and signs on portable assemblies when on roadway.
  - Space delineator drums and vertical panels at dimension "S" for tapering traffic. Space delineator drums, tubular markers and vertical panels at 2 times "S" for tangents.
  - Determine the reduced speed limit based on the in place speed limit before construction. Where speed limits 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  $\frac{1}{2} B$ .
  - Install flags on warning signs in urban areas when signs are not portable. Mount 24 inches 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.
  - Cover existing speed limit signs within a reduced speed limit zone.
  - Covered (when approved by engineer) or obliterated pavement marking measured as Obliteration of Pavement Marking.
  - As an option, use portable sign supports in lieu of post mounted signs in accordance with NDDOT Standard Drawing D-704-14.
  - If the tangent between tapers is less than 600', as an option, use sign W24-1-48 in place of double reverse curve signs.
  - Recommend using 40 mph speed limit in vicinity of workers, unless location and conditions dictate otherwise.
  - Re-establish speed limit. Determine exact speed limit in the field, dependent on location and conditions.

**TYPE J**  
 ROAD CLOSURE WITH A DIVERSION SIGN LAYOUT  
 2 lane highway with widened section,  
 traffic maintained in both directions.  
 Use layout when work is less than 5 days or is within a project.

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
8-17-17 11-01-19	Updated notes. Added speed limit. Revised sign numbers and note 8.

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