Attachment 9

NYSDOT Work Zone Traffic Control Drawings

IFB #23250

Page 1 of 13

CONVENTIONAL ROADWAY

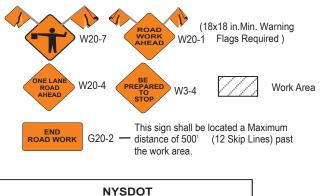
Notes:

- 1. In urban conditions, advance warning sign spacings may be adjusted in order to accomodate side streets and driveways.
- 2. Centerline cones may be added to enhance the visibility of the flagger station. If cones are used, place them 100 ft. (minimum) from flagger.
- 3. Flagger Symbol Sign (W20-7) and "ONE LANE ROAD AHEAD" Sign (W20-4) shall be removed, covered or turned away from road users when flagging operations are not occuring.
- 4. Should the traffic queue prior to the advance warning signs, the 'BE PREPARED TO STOP" sign can be added to the sign series at location shown or the entire advance warning sign series shall be moved to a location prior to the queued traffic.
- 5. If condition warrants, Barrier Vehicle with appropriate roll ahead distance may be used in advance of the work area. To use Barrier Vehicle, Buffer Space shall be provided accordingly.
- 6. For moving flagging operation, refer to TAST-CMF.

TABLE 1 : A	DVANCE	WARNING		TABLE 2			
Roadway	PRECONSTRUCTION POSTED SPEED LIMIT (MPH)	DISTAN	DISTANCE BETWEEN SIGNS A (FT.) B(FT.) C(FT.)		LONGITUDINAL BUFFER SPACE IN FT		
	A (FT.) B(FT.) C(FT.)		P	LONG BUFFER			
						25	155 (~4 Skip Lines)
URBAN LOW	30	100	100	100		30	200 (~5 Skip Lines)
(≤30 MPH)						35	250 (~6 Skip Lines)
URBAN	35	200	200	200		40	305 (~8 Skip Lines)
(35-40 MPH)	40			200		45	360 (~9 Skip Lines)
URBAN HIGH	45	350	350	350		50	425 (~11 Skip Lines)
(≥45MPH)						55	495 (~13 Skip Lines)
RURAL		500	500	500	-		· · · · · · · · · · · · · · · · · · ·

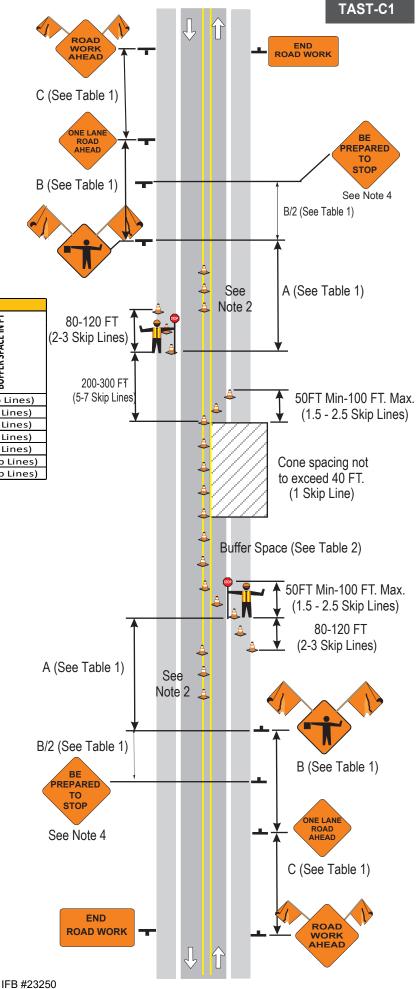
GHWAY FREEWAY/EXPRESSWAY 48X48 in. 48X48 in.
48¥48 in
48X48 in.
48X48 in.
48X24 in.

*Freeway/Expressway sizes may be used on Conventional Highways, if space constraints do not exist.





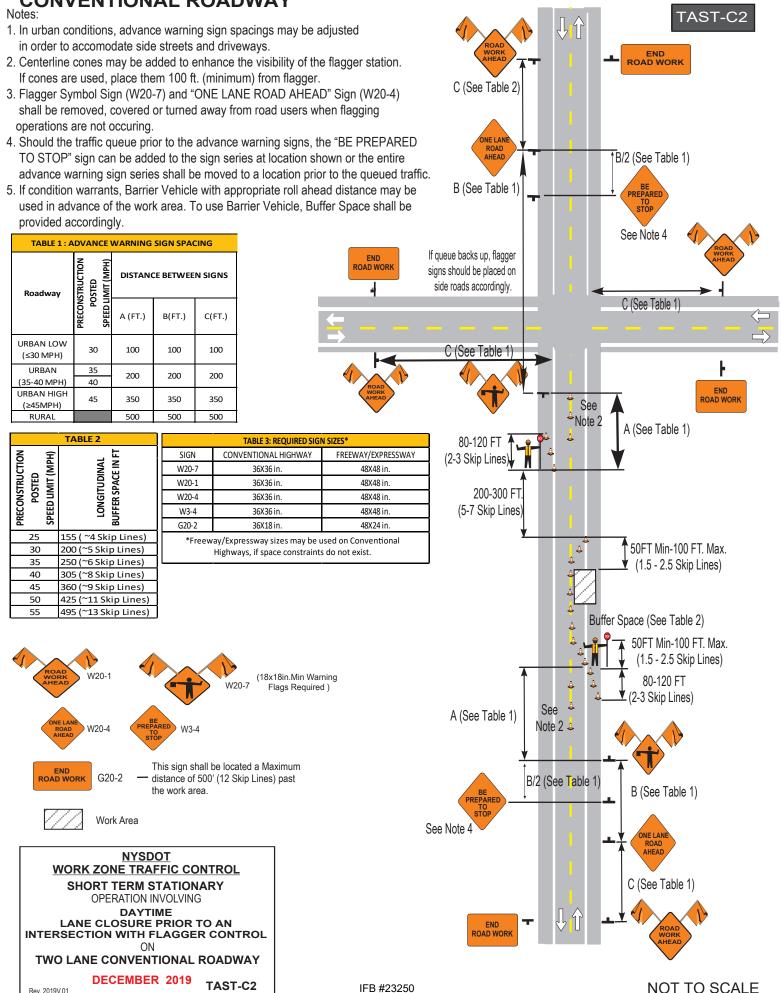
Rev. 2019V.01



NOT TO SCALE

GROUP 31555 - COMPREHENSIVE LIQUID BITUMINOUS MATERIALS (Statewide)

CONVENTIONAL ROADWAY



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NOT TO SCALE

CONVENTIONAL ROADWAY

Notes:

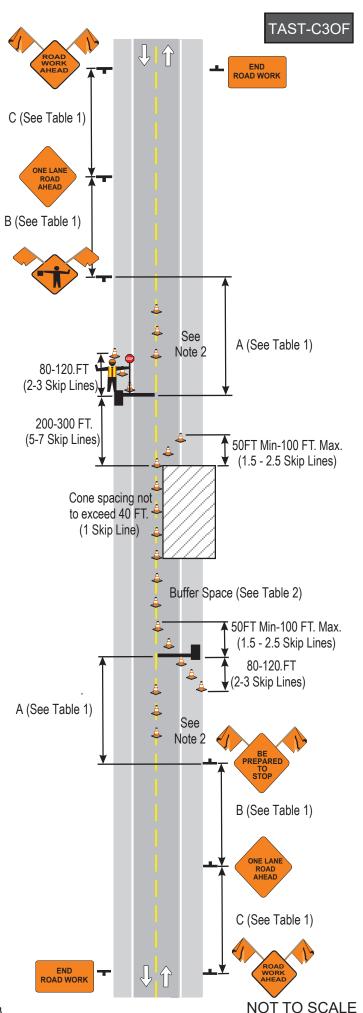
- 1. In urban conditions, advance warning sign spacings may be adjusted in order to accomodate side streets and driveways.
- 2. This typical application shall be used with both Red/Yellow Lens Automated Flagger Assistance Devices (AFAD) and STOP/SLOW AFADs.
- 3. AFADs shall only be used in situations where there is only one lane of approaching traffic in the direction to be controlled.
- 4. The operator of the AFAD SHALL:
 - a. Be trained on the operation of the model AFAD they are using,
 - b. Have an unobstructed view of the AFAD,
 - c. Have an unobstructed view of approaching traffic in BOTH directions, and d. Not leave the AFAD(s) unattended at any time while the AFAD(s) is being used.
- The AFAD shall be placed on the shoulder adjacent to the travel lane ensuring that the gate arm reaches at least to the center of the lane being controlled.
- Cones/drums may be placed on the shoulder and/or centerline to assist/guide road users with proper lane position/alignment.
- The operator of the AFAD shall not display the AFAD's SLOW face or Yellow lens phase until all oncoming vehicles have cleared the one-lane portion of the work zone.
- The operator of the AFAD shall maintain verbal and/or visual (in the absence of two-way radios) contact with the flagger.
- "Flagger Symbol Sign" (W20-7), "BE PREPARED TO STOP" Sign (W3-4) and "ONE LANE ROAD AHEAD" Sign (W20-4) shall be removed, covered or turned away from road users when flagging operations are not occurring.
- 10. Appropriate flagger tools (STOP/SLOW paddle, red flag, high visibility apparel, etc.) shall be on-site, available and ready to use in the event of an AFAD malfunction or traffic volumes exceed the capability of the AFAD to effectively control traffic.

TABLE 1 : ADVANCE WARNING SIGN SPACING

Roadway	PRECONSTRU CTION POSTED SPEED LIMIT (MPH)	DISTANCE BETWEEN SIGNS					
	PRECON: PO SPEED LI	A (FT.)	B(FT.)	C(FT.)			
URBAN LOW (≤30 MPH)	30	100	100	100			
URBAN (35-40 MPH)	35 40	200	200	200			
URBAN HIGH (≥45MPH)	45	350	350	350			
RURAL		500	500	500			

	TABLE 2		TABLE 3: REQUIRED SIGN	I SI7FS*				
PRECONSTRUCTION POSTED SPEED LIMIT (MPH)	VAL	SIGN	· · · · · · · · · · · · · · · · · · ·					
NISTRUC Posted Limit (I	PACE	W20-7	36X36 in.	48X48 in.				
	POSTED SPEEDLIMIT (MPH) LONGITUDINAL BUFFER SPACE IN FT		36X36 in.	48X48 in.				
SPE PRE	BUE	W20-4	36X36 in.	48X48 in.				
25	155 (~4 Skip Lines)	W3-4	36X36 in.	48X48 in.				
30	200 (~5 Skip Lines)	-						
35	250 (~6 Skip Lines)	G20-2	36X18 in.	48X24 in.				
40 45	305 (~8 Skip Lines) 360 (~9 Skip Lines)							
45 50	425 (~11 Skip Lines)	*Freeway/Expressway sizes may be used on Conventional Highways, if space constraints do not exist.						
55	495 (~13 Skip Lines)							
Automated Flagger Device W20-4 Work Area								
Roati	W20-1	BE IS PARED WS	3-4 W20-7	(18x18in.Min Warning Flags Required)				





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CONVENTIONAL ROADWAY

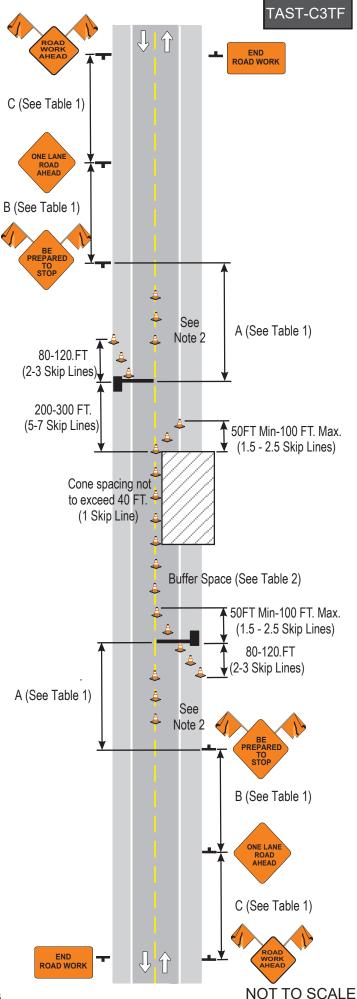
Notes:

- 1. In urban conditions, advance warning sign spacings may be adjusted in order to accomodate side streets and driveways.
- 2. This typical application shall be used with both Red/Yellow Lens Automated Flagger Assistance Devices (AFAD) and STOP/SLOW AFADs.
- 3. AFADs shall only be used in situations where there is only one lane of approaching traffic in the direction to be controlled.
- 4. The operator of the AFAD SHALL:
- a. Be trained on the operation of the model AFAD they are using,
- b. Have an unobstructed view of the AFAD,
- c. Have an unobstructed view of approaching traffic in BOTH directions, and
- d. Not leave the AFAD(s) unattended at any time while the AFAD(s) is being used.
- 5. The AFAD shall be placed on the shoulder adjacent to the travel lane ensuring that the gate arm reaches at least to the center of the lane being controlled.
- 6. Cones/drums may be placed on the shoulder and/or centerline to assist/quide road users with proper lane position/alignment.
- 7. The operator of the AFAD shall not display the AFAD's SLOW face or Yellow lens phase until all oncoming vehicles have cleared the one-lane portion of the work zone.
- 8. "BE PREPARED TO STOP" Sign (W3-4) and "ONE LANE ROAD AHEAD" Sign (W20-4) shall be removed, covered or turned away from road users when flagging operations are not occurring.
- 9. Appropriate flagger tools (STOP/SLOW paddle, red flag, high visibility apparel, etc.) shall be on-site, available and ready to use in the event of an AFAD malfunction or traffic volumes exceed the capability of the AFAD to effectively control traffic.

		,						
TABLE 1 : A	DVANCE	WARNING	TABLE 2					
Roadway	PRECONSTRUCTION POSTED SPEED LIMIT (MPH)	DISTANO	CE BETWEE	N SIGNS		PRECONSTRUCTION POSTED	LIMIT (MPH)	ONGITUDINAL FFER SPACE IN FT
	PRECONSTRU POSTEI SPEED LIMIT	A (FT.) B(FT.) C(FT.)	PRECON P	LONG				
URBAN LOW						25		155 (~4 Skip Lines)
(≤30 MPH)	30	100	100	100		30		200 (~5 Skip Lines)
. ,						35		250 (~6 Skip Lines)
URBAN	35	200	200	200		40		305 (~8 Skip Lines)
(35-40 MPH) 40				ſ	45		360 (~9 Skip Lines)	
URBAN HIGH (≥45MPH) 45		350	350	350		50		425 (~11 Skip Lines)
RURAL		500	500	500		55		495 (~13 Skip Lines)
NONAL		500	500	500				

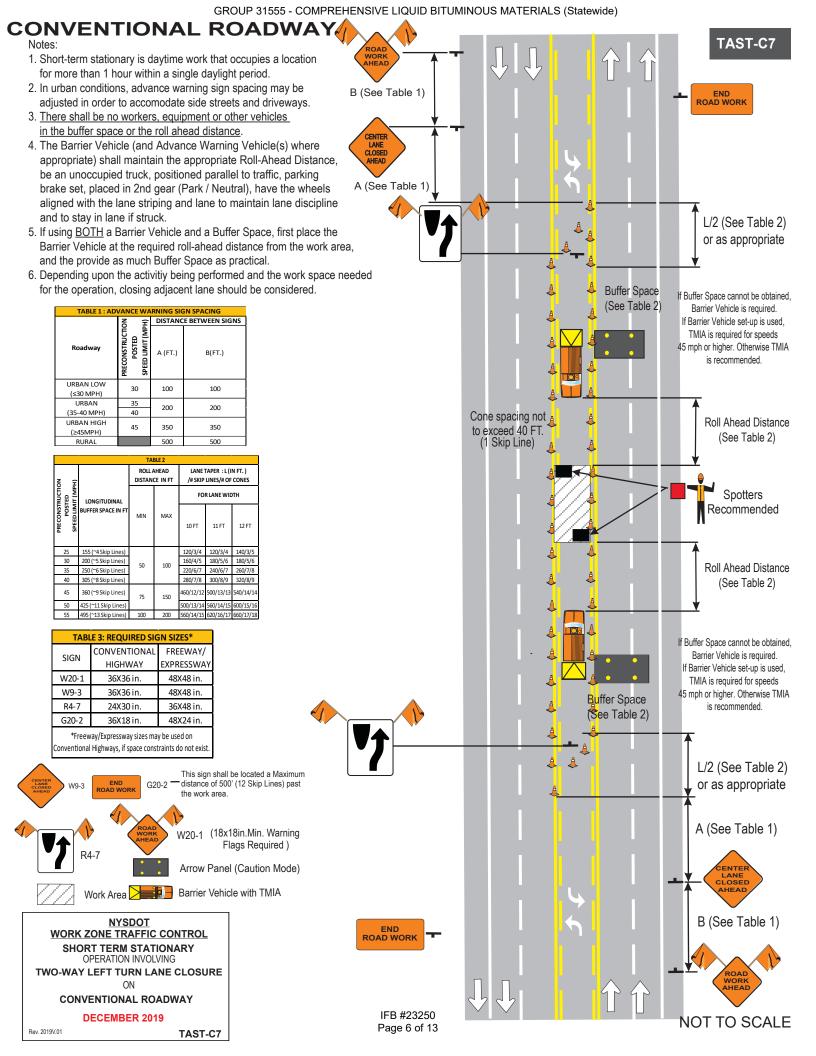
TABL	E 3: REQUIRED SIG	GN SIZES*	1				
0.01	CONVENTIONAL	FREEWAY/					
SIGN	HIGHWAY	EXPRESSWAY					
W20-7	36X36 in.	48X48 in.					
W20-1	36X36 in.	48X48 in.					
W20-4	36X36 in.	48X48 in.					
W3-4	36X18 in.	48X48 in.					
G20-2	36X18 in.	48X24 in.	1				
*Freeway	/Expressway size:	s may be used					
	Conventional Hig	•					
	AD WORK 36x18 in.	This sign shall be I distance of 500' (12 the work area.					
	<u>NYSDO</u> RK ZONE TRAF SHORT TERM SI	FIC CONTRO	L				

DAYTIME LANE CLOSURE WITH TWO AUTOMATED FLAGGER ASSISTANCE DEVICES **ON CONVENTIONAL ROADWAY DECEMBER 2019** TAST-C3TF Rev. 2019V.01



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Work Area



ROAD WORK

> NE LAN ROAD

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500 n ines

Center Line cone spacing not

to exceed 80 FT

(2 Skip Lines)

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TAST-CMF

500 FT Min - 2500 FT Max

(13 Skip Lines Min-

5 Reference Markers Max)

END

ROAD WORK

CONVENTIONAL ROADWAY

Notes:

1. Barrier vehicles are not required for flagging operations. A buffer space may be provided where traffic conditions allow

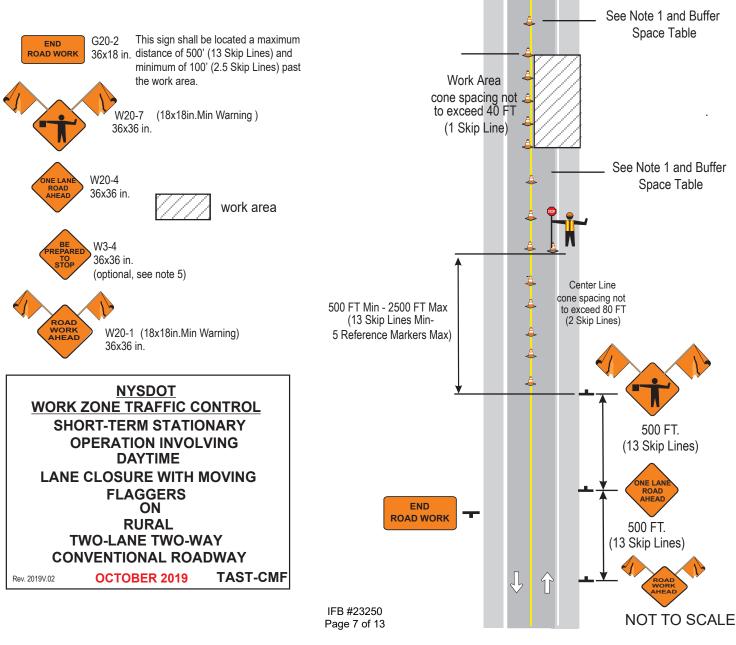
2. Centerline cones are required.

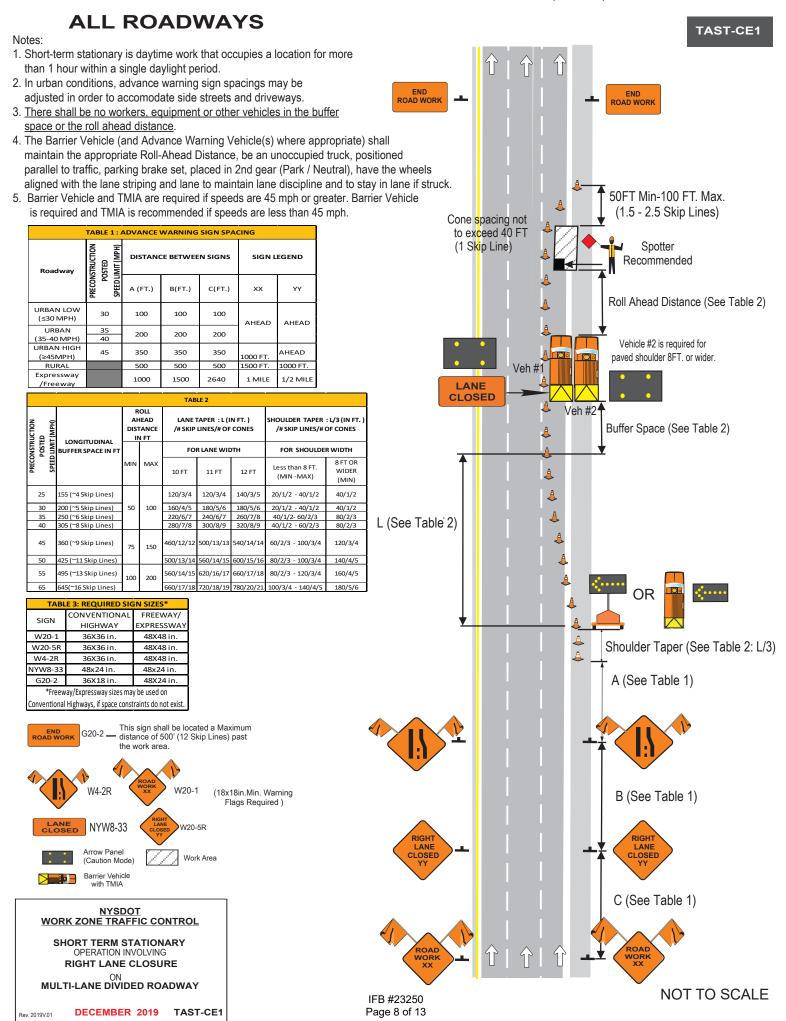
3. Flagger Symbol Sign (W20-7) and "ONE LANE ROAD AHEAD" Sign (W20-4) shall be removed, covered or turned away from road users when flagging operations are not occurring.

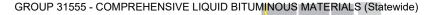
4. Should the traffic queue up prior to the advance warning signs, the "BE PREPARED TO STOP" sign can be added to the sign series and shall be moved to a location prior to the queued traffic.

5. LED stop/slow paddles are required for this operation.

Speed Limit	Buffer Space				
30	200' (5 Skip Lines)				
35	250' (~6 Skip Lines)				
40	305' (~8 Skip Lines)				
45	360' (9 Skip Lines)				
50	425' (~11 Skip Lines)				
55	495' (~13 Skip Lines)				









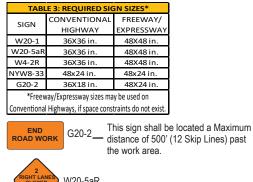
- 1. Short-term stationary is daytime work that occupies a location for more
- than 1 hour within a single daylight period.In urban conditions, advance warning sign spacings may be adjusted in order to accomodate side streets and driveways.
- <u>There shall be no workers</u>, equipment or other vehicles in the buffer space or the roll ahead distance.
- 4. The Barrier Vehicle (and Advance Warning Vehicle(s) where appropriate) shall maintain the appropriate Roll-Ahead Distance, be an unoccupied truck, positioned parallel to traffic, parking brake set, placed in 2nd gear (Park / Neutral), have the wheels aligned with the lane striping and lane to maintain lane discipline and to stay in lane if struck.

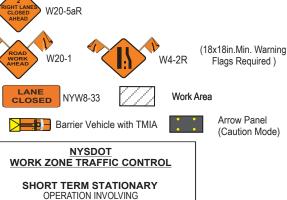
ALL ROADWAYS

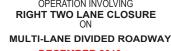
5. Barrier Vehicle and TMIA are required if speeds are 45 mph or greater. Barrier Vehicle is required and TMIA is recommended if speeds are less than 45 mph.

TABLE 1 : ADVANCE WARNING SIGN SPACING								
Roadway	PRECONSTRUCTION POSTED SPEED LIMIT (MPH)	DISTAN	CE BETWEE	SIGN LEGEND				
	PRECON: PO SPEED LI	A (FT.)	B(FT.)	C(FT.)	xx	ŶŶ		
URBAN LOW (≤30 MPH)	30	100	100	100	AHEAD	AHEAD		
URBAN (35-40 MPH)	35 40	200	200	200				
URBAN HIGH (≥45MPH)	45	350	350	350 350		AHEAD		
RURAL		500	500	500	1500 FT.	1000 FT.		
Expressway /Freeway		1000	1500	2640	1 MILE	1/2 MILE		

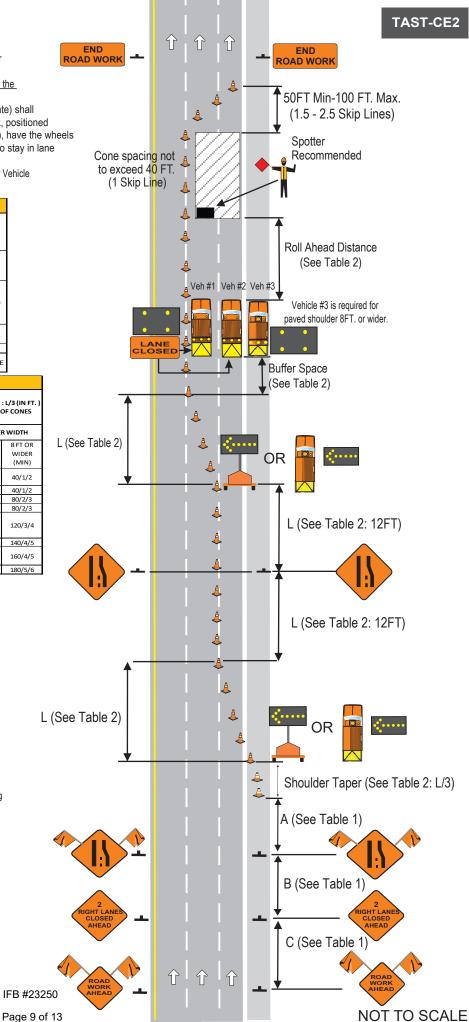
	TABLE 2									
LONGITUDINAL LONGITUDINAL LONGITUDINAL DUFFER SPACE IN F GB455		LONGITUDINAL	ROLL AHEAD DISTANCE IN FT			TAPER : L (I LINES/# OF		SHOULDER TAPER : L/3 (IN FT.) /# SKIP LINES/# OF CONES		
NSTE					FO	R LANE WID	отн	FOR SHOULDE	R WIDTH	
DRECC	PRECO	SPEED		MIN	MAX	10 FT	11 FT	12 FT	Less than 8 FT. (MIN -MAX)	8 FT OR WIDER (MIN)
	25		155 (~4 Skip Lines)			120/3/4	120/3/4	140/3/5	20/1/2 - 40/1/2	40/1/2
	30		200 (~5 Skip Lines)	50 100	160/4/5	180/5/6	180/5/6	20/1/2 - 40/1/2	40/1/2	
	35		250 (~6 Skip Lines)			220/6/7	240/6/7	260/7/8	40/1/2-60/2/3	80/2/3
	40		305 (~8 Skip Lines)			280/7/8	300/8/9	320/8/9	40/1/2 - 60/2/3	80/2/3
	45		360 (~9 Skip Lines)	75	150	460/12/12	500/13/13	540/14/14	60/2/3 - 100/3/4	120/3/4
	50		425 (~11 Skip Lines)			500/13/14	560/14/15	600/15/16	80/2/3 - 100/3/4	140/4/5
	55		495 (~13 Skip Lines)	100	200	560/14/15	620/16/17	660/17/18	80/2/3 - 120/3/4	160/4/5
	65		645(~16 Skip Lines)			660/17/18	720/18/19	780/20/21	100/3/4 - 140/4/5	180/5/6





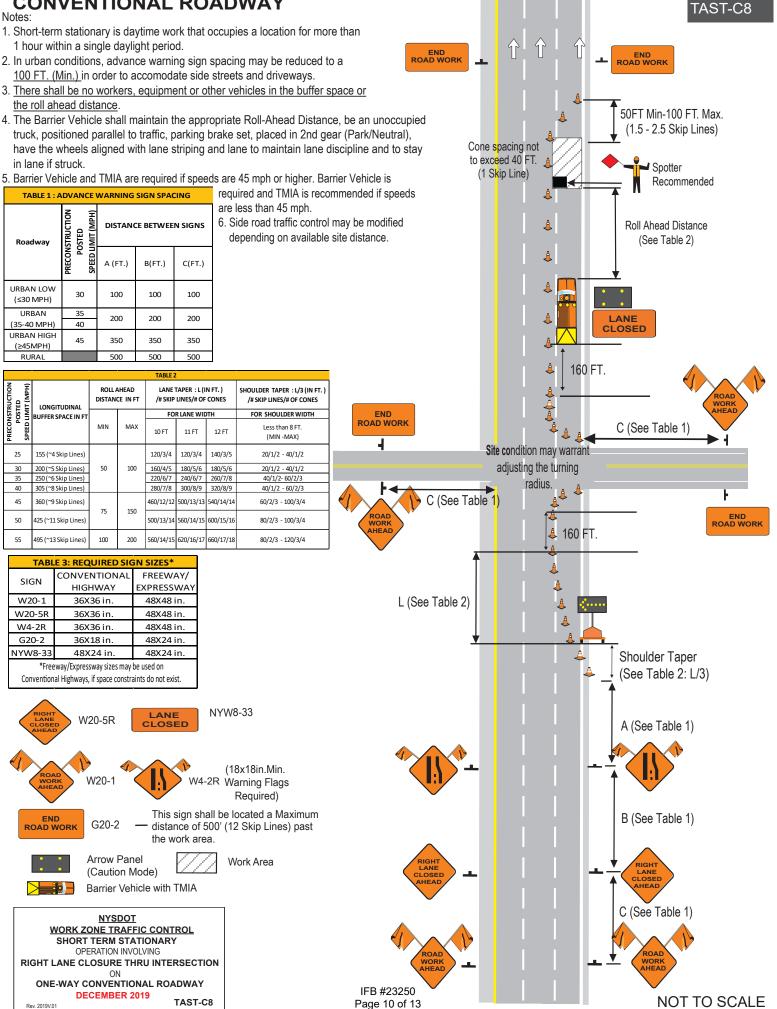


DECEMBER 2019 Rev. 2019V.01 TAST-CE2





CONVENTIONAL ROADWAY

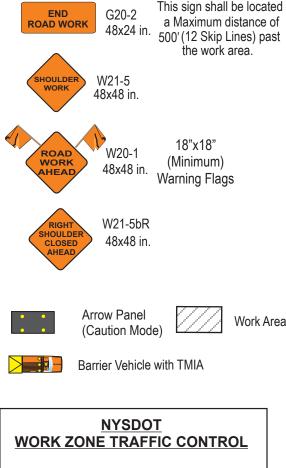


FREEWAY OR EXPRESSWAY

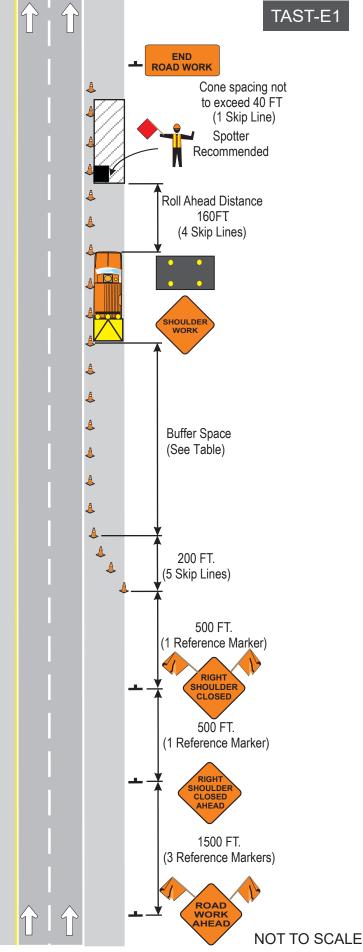
Notes:

- 1. Short-term stationary is daytime work that occupies a location for more than 1 hour within a single daylight period.
- 2. The Barrier Vehicle (and Advance Warning Vehicle(s) where appropriate) shall maintain the appropriate Roll-Ahead Distance, be an unoccupied truck, positioned parallel to traffic, parking brake set, placed in 2nd gear (Park / Neutral), have the wheels aligned with the lane striping and lane to maintain lane discipline and to stay in lane if struck.
- 3. <u>There shall be no workers, equipment, or other vehicles in</u> <u>the buffer space or the roll ahead distance.</u>

Speed Limit (mph)	Buffer Space
50	425' (~11 Skip Lines
55	495' (~13 Skip Lines
65	645' (~16 Skip Lines







END

FREEWAY OR EXPRESSWAY

Notes:

Speed

Limit

(MPH)

45

50

55

65

END

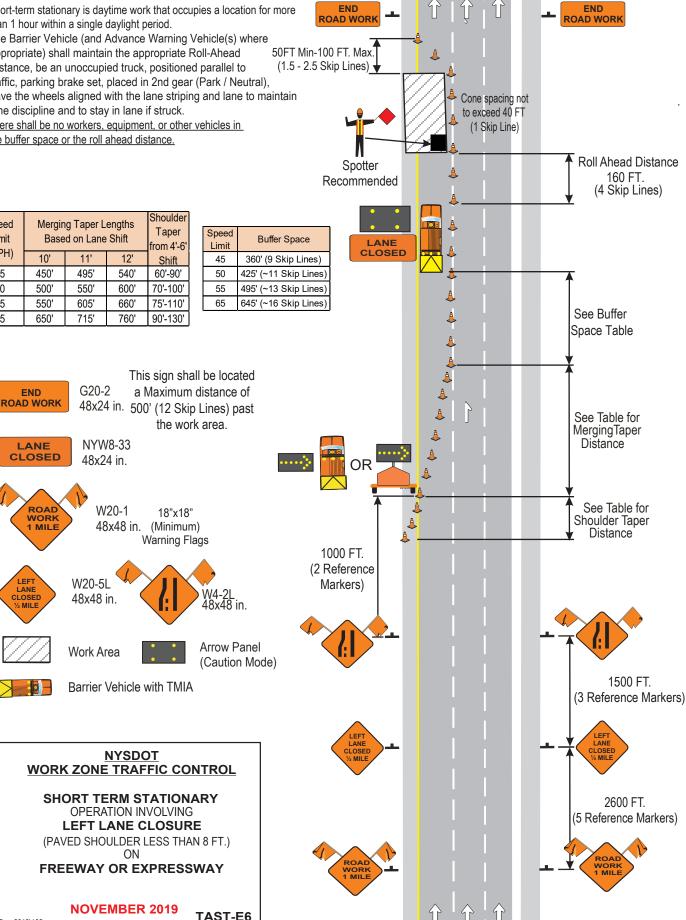
LEF

LANE

CLOSED

Rev. 2019V.02

- 1. Short-term stationary is daytime work that occupies a location for more than 1 hour within a single daylight period.
- 2. The Barrier Vehicle (and Advance Warning Vehicle(s) where appropriate) shall maintain the appropriate Roll-Ahead Distance, be an unoccupied truck, positioned parallel to traffic, parking brake set, placed in 2nd gear (Park / Neutral). have the wheels aligned with the lane striping and lane to maintain lane discipline and to stay in lane if struck.
- 3. There shall be no workers, equipment, or other vehicles in the buffer space or the roll ahead distance.



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FREEWAY OR EXPRESSWAY

Notes:

- 1. Short-term stationary is daytime work that occupies a location for more than 1 hour within a single daylight period.
- 2. The Barrier Vehicle (and Advance Warning Vehicle(s) where appropriate) shall maintain the appropriate Roll-Ahead Distance, be an unoccupied truck, positioned parallel to traffic, parking brake set, placed in 2nd gear (Park / Neutral), have the wheels aligned with the lane striping and lane to maintain lane discipline and to stay in lane if struck.
- 3. There shall be no workers, equipment, or other vehicles in the buffer space or the roll ahead distance.

Speed Limit	•	ig Taper L d on Lane	•	Shoulder Taper from 4'-6'	Ī	Speed Limit	Buffer Space
(MPH)	10'	11'	12'	Shift	ſ	45	360' (9 Skip Lines)
45	450'	495'	540'	60'-90'	ľ	50	425' (~11 Skip Lines)
50	500'	550'	600'	70'-100'	-		
55	550'	605'	660'	75'-110'		55	495' (~13 Skip Lines)
65	650'	715'	760'	90'-130'		65	645' (~16 Skip Lines)



END

ROAD WORK

NYW8-33 48x24 in.

G20-2

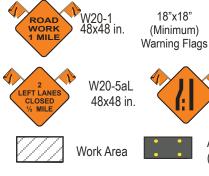
This sign shall be located a Maximum distance of 500' (12 Skip Lines) past 48x24 in. the work area.

W4-2L

Arrow Panel

48x48 in.

(Caution Mode)



Barrier Vehicle with TMIA



