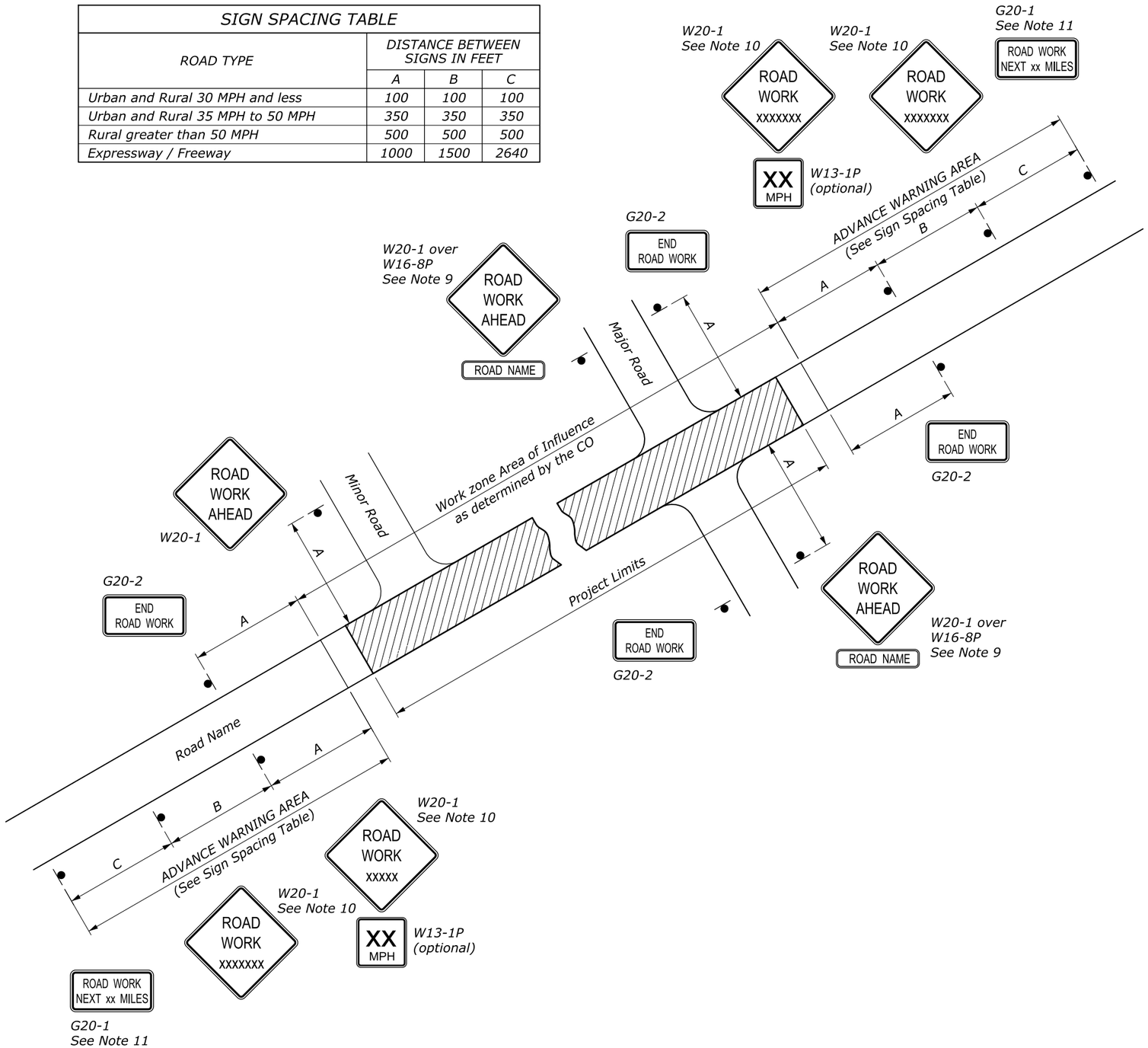
STATE	PROJECT	SHEET NUMBER

SIGN SPACING TABLE			
ROAD TYPE	DISTANCE BETWEEN SIGNS IN FEET		
	A	B	C
Urban and Rural 30 MPH and less	100	100	100
Urban and Rural 35 MPH to 50 MPH	350	350	350
Rural greater than 50 MPH	500	500	500
Expressway / Freeway	1000	1500	2640



NOTE:

1. Erect all project advance warning signs before starting construction work.
2. Not all details shown on the temporary traffic control sheets may be applicable to this project. The Contractor may add or delete information and details in this traffic control plan as necessary to accommodate actual operations.
3. Where advance warning signs, placed as shown, interfere with permanent signs, locate the warning signs as determined by the CO for best results. Vary messages as required.
4. Additional or different message signs may be required to fit the actual construction conditions.
5. Install advisory speed plates under the W20 series warning signs as needed to indicate a maximum recommended speed through the construction area.
6. Ensure all sign supports exposed to impact by traffic meet the requirements of NCHRP-350 or MASH for crashworthiness.
7. Maintain two-way traffic during all non-work hours except as approved by the CO.
8. Do not store traffic control devices along the roadway when not in use. Cover post-mounted signs when not applicable.
9. If W20-1 is placed on a roadway other than that on which the actual construction work occurs, include a supplementary plaque indicating the name of the road on which the construction does occur (applies to major roads only).
10. The message on the W20-1 signs may be "ROAD WORK AHEAD" or may specify the distance to the work area in feet or in miles. Install an additional W20-1 sign when approach speeds exceed 50 MPH. When used place the two W20-1 signs "B" feet apart according to the Sign Spacing Table.
11. For work zones that are 2 miles or more in length, install G20-1 signs at each end of the project. Show the distance on the G20-1 sign to the nearest whole mile.
12. If signing on a roadway under a jurisdiction other than the client agency, verify that an encroachment permit has been obtained.
13. State standards may be used as an alternative if approved by the CO.
14. Refer to the Section 635 of the Special Contract Requirements for allowable retroreflective sheeting types.

NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
FEDERAL LANDS HIGHWAY

U.S. CUSTOMARY STANDARD

TEMPORARY TRAFFIC CONTROL ADVANCE SIGNING

STANDARD APPROVED FOR USE 6/2005

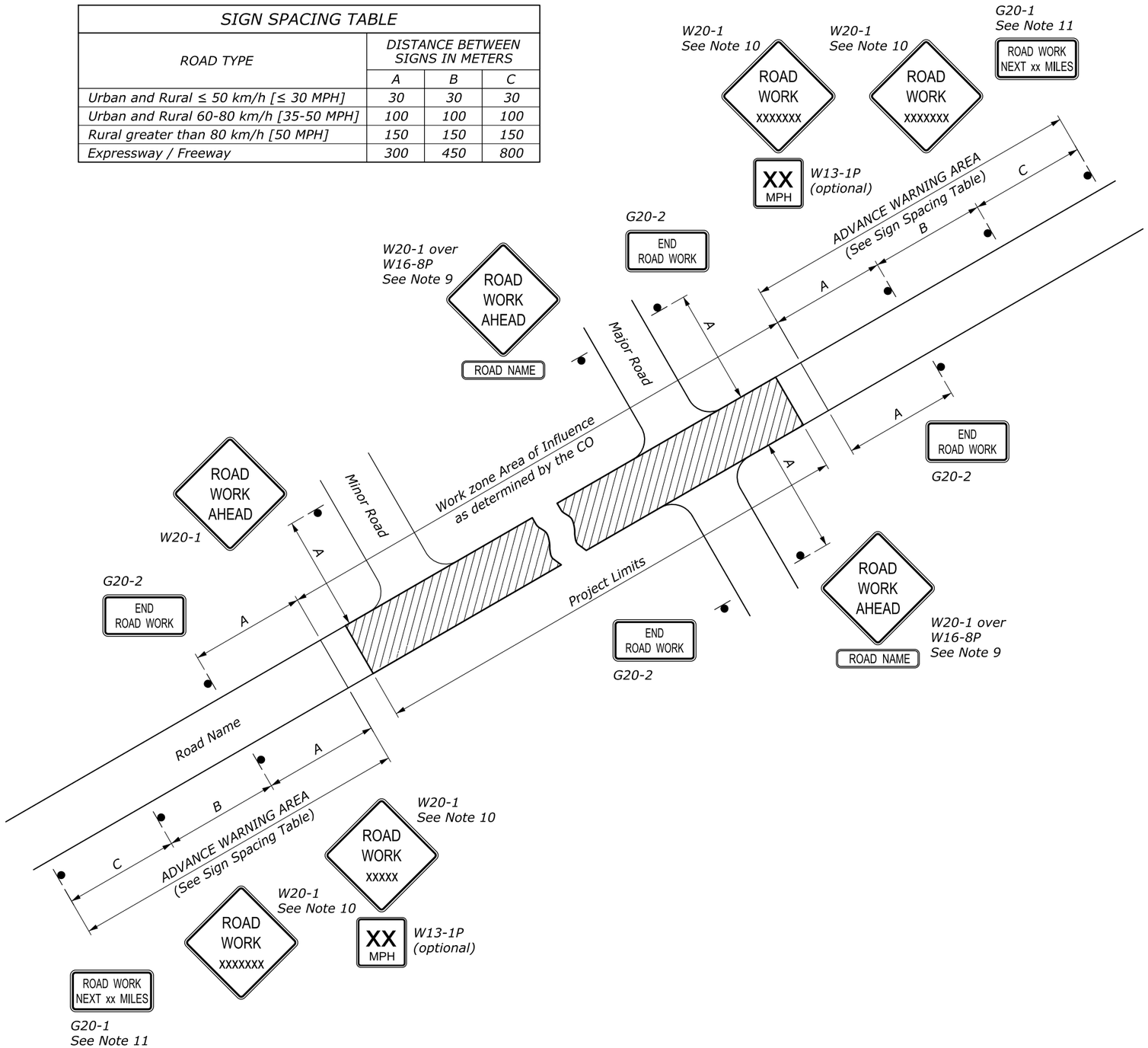
REVISED:
DRAFT: 6/2014

STANDARD
635-1

24 February 2016 8:59 AM c:\myfiles\pw_production\d0243077\FLH-Cells.dgnlib [Border.US]

STATE	PROJECT	SHEET NUMBER

SIGN SPACING TABLE			
ROAD TYPE	DISTANCE BETWEEN SIGNS IN METERS		
	A	B	C
Urban and Rural ≤ 50 km/h [≤ 30 MPH]	30	30	30
Urban and Rural 60-80 km/h [35-50 MPH]	100	100	100
Rural greater than 80 km/h [50 MPH]	150	150	150
Expressway / Freeway	300	450	800



NOTE:

1. Erect all project advance warning signs before starting construction work.
2. Not all details shown on the temporary traffic control sheets may be applicable to this project. The Contractor may add or delete information and details in this traffic control plan as necessary to accommodate actual operations.
3. Where advance warning signs, placed as shown, interfere with permanent signs, locate the warning signs as determined by the CO for best results. Vary messages as required.
4. Additional or different message signs may be required to fit the actual construction conditions.
5. Install advisory speed plates under the W20 series warning signs as needed to indicate a maximum recommended speed through the construction area.
6. Ensure all sign supports exposed to impact by traffic meet the requirements of NCHRP-350 or MASH for crashworthiness.
7. Maintain two-way traffic during all non-work hours except as approved by the CO.
8. Do not store traffic control devices along the roadway when not in use. Cover post-mounted signs when not applicable.
9. If W20-1 is placed on a roadway other than that on which the actual construction work occurs, include a supplementary plaque indicating the name of the road on which the construction does occur (applies to major roads only).
10. The message on the W20-1 signs may be "ROAD WORK AHEAD" or may specify the distance to the work area in feet or in miles. Install an additional W20-1 sign when approach speeds exceed 80 km/h [50 MPH]. When used place the two W20-1 signs "B" meters apart according to the Sign Spacing Table.
11. For work zones that are greater than 3 km in length, install G20-1 signs at each end of the project. Show the distance on the G20-1 sign to the nearest whole mile.
12. If signing on a roadway under a jurisdiction other than the client agency, verify that an encroachment permit has been obtained.
13. State standards may be used as an alternative if approved by the CO.
14. Refer to the Section 635 of the Special Contract Requirements for allowable retroreflective sheeting types.

NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
FEDERAL LANDS HIGHWAY

METRIC STANDARD

TEMPORARY TRAFFIC CONTROL ADVANCE SIGNING

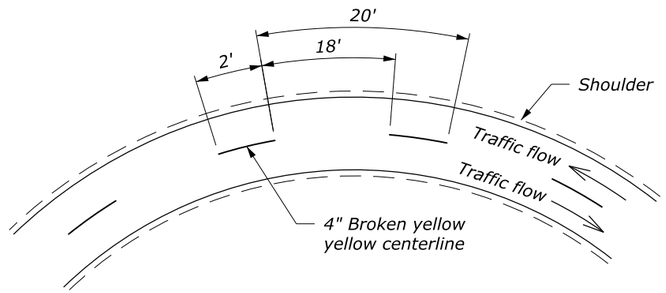
STANDARD APPROVED FOR USE 6/2005

REVISED:
DRAFT: 6/2014

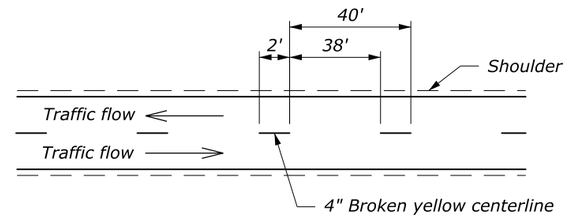
STANDARD
M635-1

24 February 2016 4:06 PM c:\myfiles\pw_production\dms00740\Std635-1.dgn [Metric]

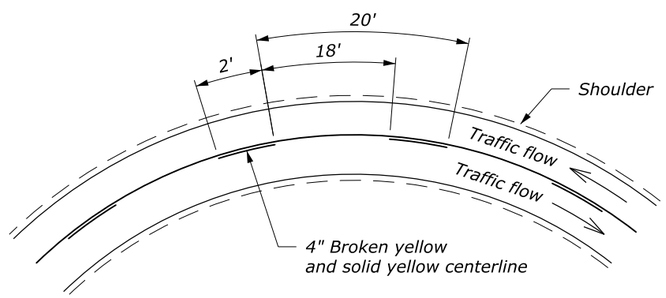
STATE	PROJECT	SHEET NUMBER



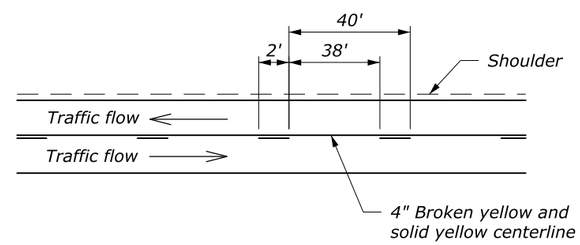
DETAIL A1
Passing zone both directions
Two-way traffic



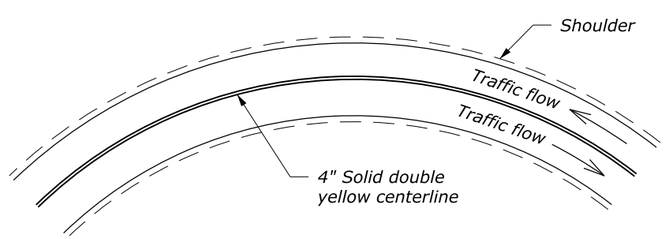
DETAIL B1
Passing zone both directions
Two-way traffic



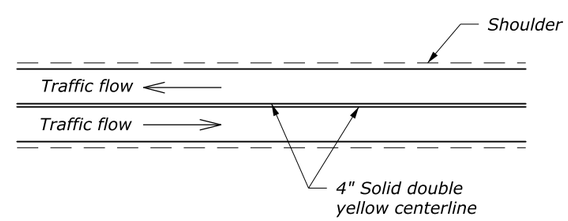
DETAIL A2
No passing zone one direction
Two-way traffic



DETAIL B2
No Passing zone one direction
Two-way traffic



DETAIL A3
No passing zone both directions
Two-way traffic



DETAIL B3
No Passing zone both directions
Two-way traffic

DETAIL A
Curves < 500' Radius

DETAIL B
Tangents or Curves ≥ 500' Radius

NOTE:

1. *To substitute raised pavement markers for lines, use the following patterns:*

   2' broken line: two pavement markers spaced 2' apart allowed by the gap shown based on curvature.

   Single solid line: pavement markers spaced on 10' centers.

   Double solid line: two pavement markers, side by side, spaced on 10' centers.

2. *On two- or three-lane roads, signs may be used instead of temporary pavement markings as shown on Standard 635-3.*

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
FEDERAL LANDS HIGHWAY

U.S. CUSTOMARY STANDARD

TEMPORARY PAVEMENT MARKINGS

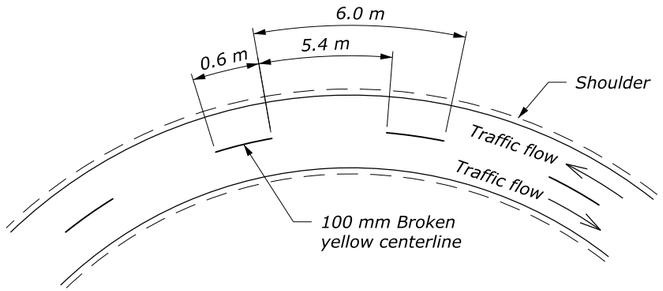
STANDARD APPROVED FOR USE 6/2005

REVISED:
DRAFT: 9/2016

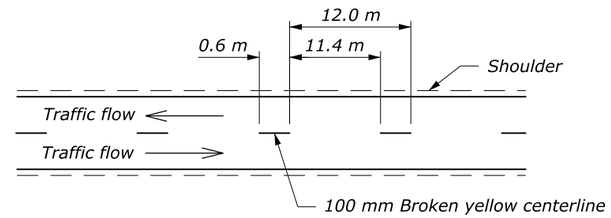
STANDARD
635-2

26 September 2016 8:46 AM c:\myfiles\pw_production\dms67497\Std635-2.dgn [USC]

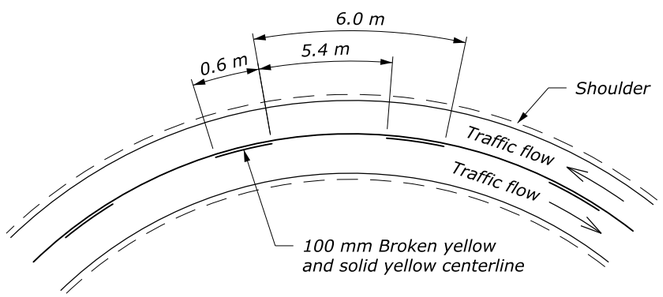
STATE	PROJECT	SHEET NUMBER



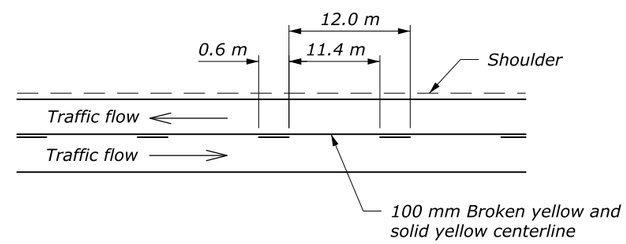
DETAIL A1
Passing zone both directions
Two-way traffic



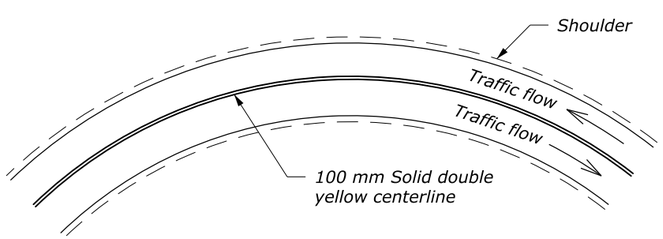
DETAIL B1
Passing zone both directions
Two-way traffic



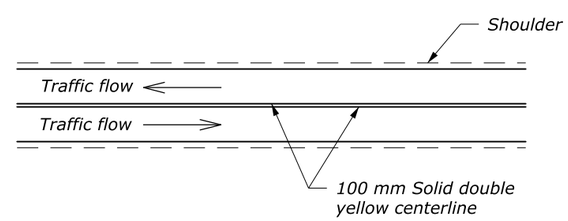
DETAIL A2
No passing zone one direction
Two-way traffic



DETAIL B2
No Passing zone one direction
Two-way traffic



DETAIL A3
No passing zone both directions
Two-way traffic



DETAIL B3
No Passing zone both directions
Two-way traffic

DETAIL A
Curves < 150 m Radius

DETAIL B
Tangents or Curves ≥ 150 m Radius

NOTE:

1. *To substitute raised pavement markers for lines, use the following patterns:*

   0.6 m broken line: two pavement markers spaced 0.6 m apart allowed by the gap shown based on curvature.

   Single solid line: pavement markers spaced on 3 m centers.

   Double solid line: two pavement markers, side by side, spaced on 3 m centers

2. *On two- or three-lane roads, signs may be used instead of temporary pavement markings as shown on Standard M635-3.*

3. *Dimensions without units are millimeters.*

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
FEDERAL LANDS HIGHWAY

METRIC STANDARD

TEMPORARY
PAVEMENT MARKINGS

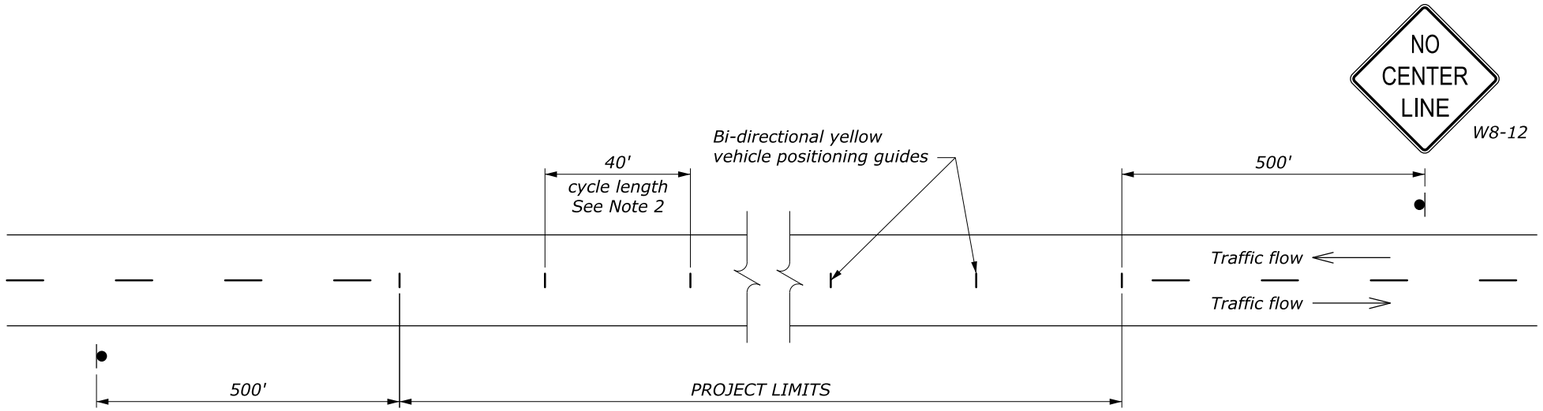
STANDARD APPROVED FOR USE 6/2005

REVISED:
DRAFT: 9/2016

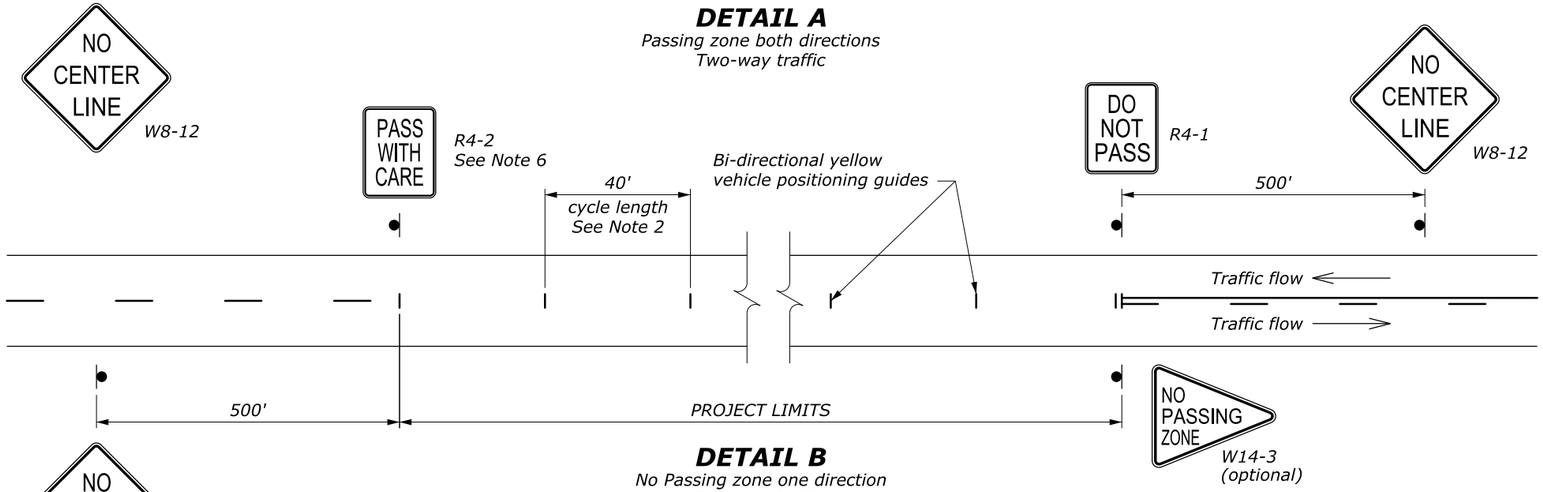
STANDARD
M635-2

28 September 2016 7:51 AM c:\myfiles\pw_production\dms67497\Std635-2.dgn [Metric]

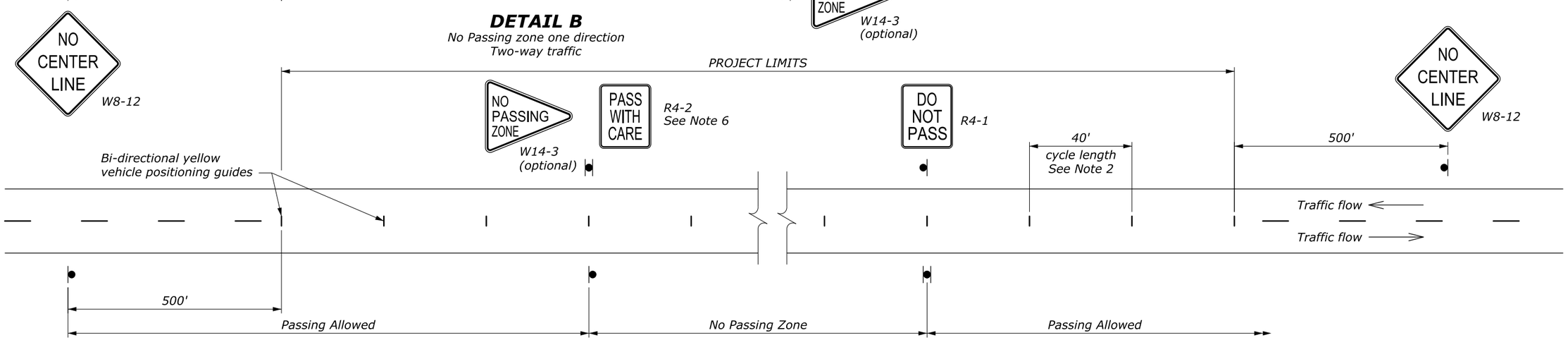
STATE	PROJECT	SHEET NUMBER



DETAIL A
Passing zone both directions
Two-way traffic



DETAIL B
No Passing zone one direction
Two-way traffic



DETAIL C
No Passing zone both directions
Two-way traffic

NO SCALE

NOTE:

1. The pavement on two- or three-lane roads may remain unmarked up to 14 days when providing signs according to this standard. Optionally use the vehicle positioning guides to provide additional delineation.
2. On curves with radius less than 500', reduce cycle length to 20'.
3. Use permanent markings plan to determine no passing zones for each direction of travel.
4. Repeat R4-1 at 1 mile intervals.
5. Repeat W8-12 after each major intersection and every 2 miles for temporary traffic control zones greater than 3 miles long.
6. Use the "PASS WITH CARE" (R4-2) sign at the downstream end of a no-passing zone only if a "DO NOT PASS" (R4-1) sign has been installed at the upstream end of the zone.

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
FEDERAL LANDS HIGHWAY

U.S. CUSTOMARY STANDARD

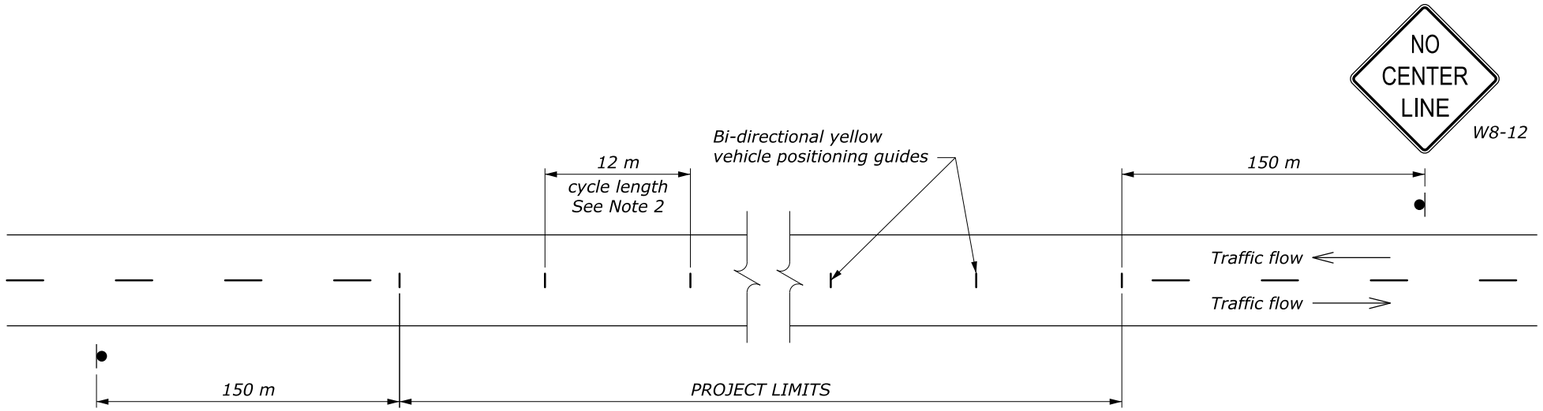
DELINEATION AND SIGNING FOR UNMARKED PAVEMENTS

STANDARD APPROVED FOR USE 6/2005
REVISED:
DRAFT: 8/2013

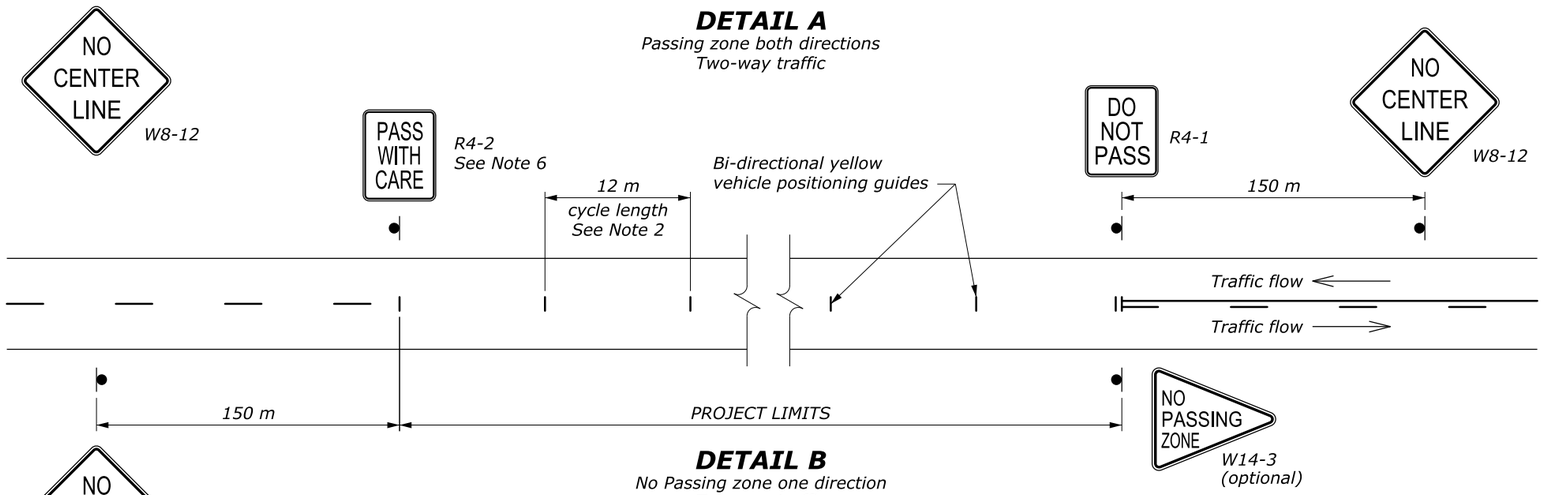
STANDARD
635-3

26 September 2016 9:23 AM c:\myfiles\pw_production\dms67497\Std635-3.dgn [USC]

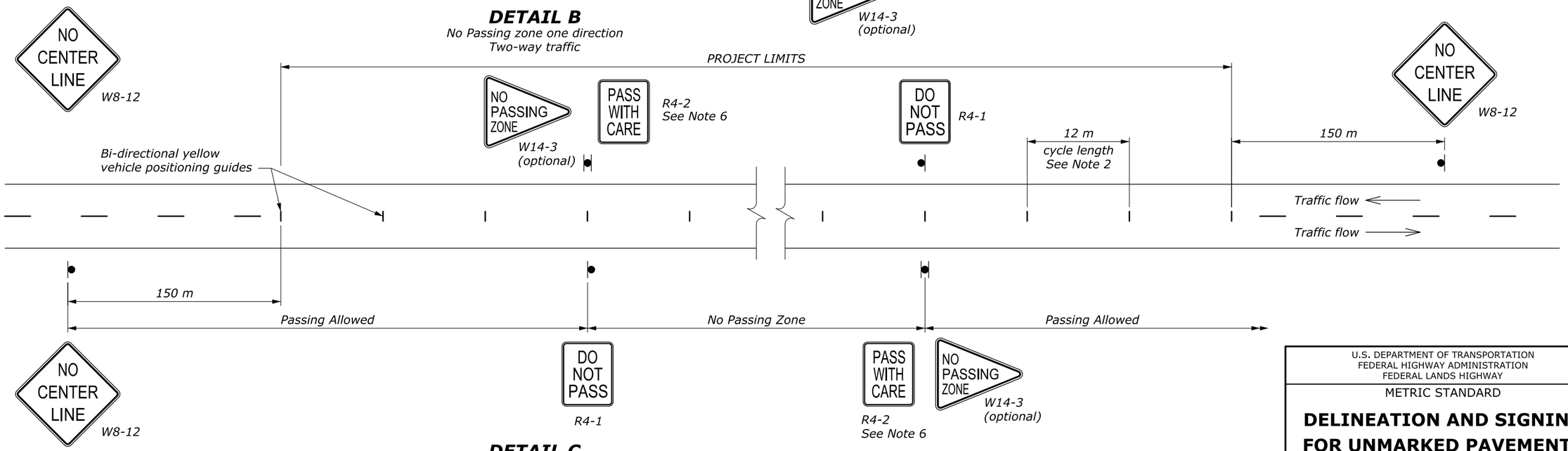
STATE	PROJECT	SHEET NUMBER



DETAIL A
Passing zone both directions
Two-way traffic



DETAIL B
No Passing zone one direction
Two-way traffic



DETAIL C
No Passing zone both directions
Two-way traffic

NO SCALE

NOTE:

1. The pavement on two- or three-lane roads may remain unmarked up to 14 days when providing signs according to this standard. Optionally use the vehicle positioning guides to provide additional delineation.
2. On curves with radius less than 150 m, reduce cycle length to 6 m.
3. Use permanent markings plan to determine no passing zones for each direction of travel.
4. Repeat R4-1 at 1.5 km intervals.
5. Repeat W8-12 after each major intersection and every 3 km for temporary traffic control zones greater than 5 km long.
6. Use the "PASS WITH CARE" (R4-2) sign at the downstream end of a no-passing zone only if a "DO NOT PASS" (R4-1) sign has been installed at the upstream end of the zone.

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
FEDERAL LANDS HIGHWAY

METRIC STANDARD

DELINEATION AND SIGNING FOR UNMARKED PAVEMENTS

STANDARD APPROVED FOR USE 6/1998
REVISED: 6/2005
DRAFT: 8/2013

STANDARD
M635-3

26 September 2016 9:26 AM c:\myfiles\pw_production\dms6749?\Std635-3.dgn [Metric]

STATE	PROJECT	SHEET NUMBER

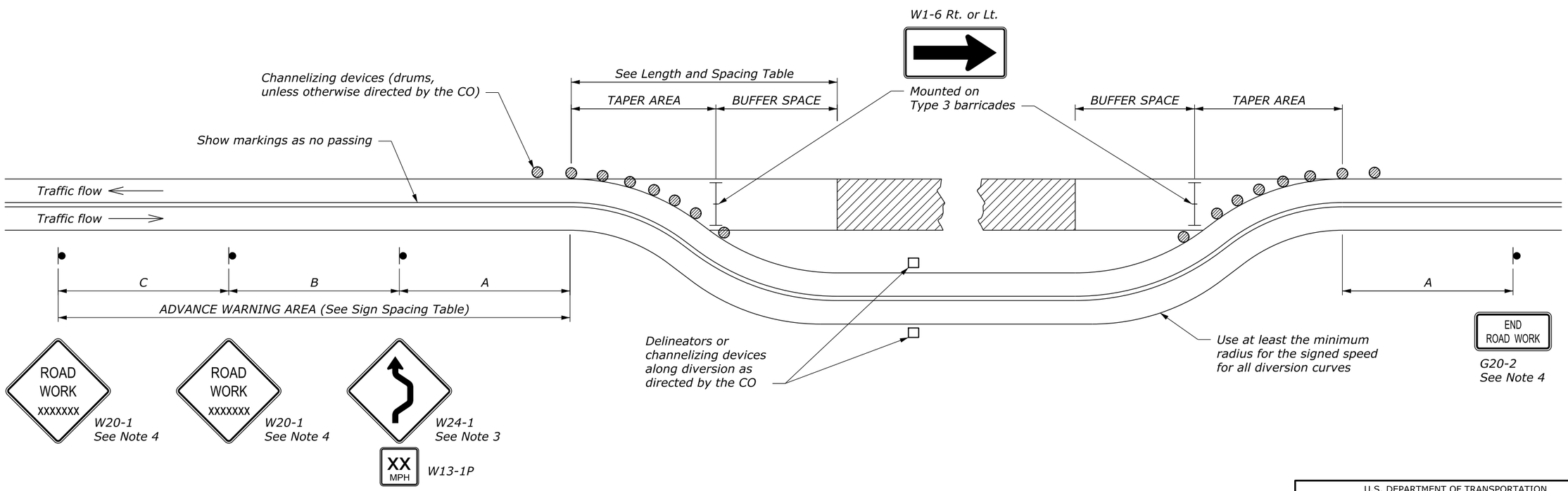
LENGTH AND SPACING TABLE				
APPROACH SPEED*	BUFFER SPACE LENGTH	CHANNELIZING DEVICE		
		TAPER AREA	BUFFER SPACE	WORK SPACE
MPH	FEET	SPACING IN FEET		
20	115	20	40	40
25	155	20-25	50	50
30	200	20-30	60	60
35	250	20-35	70	70
40	305	20-40	80	80
45	360	20-45	90	90
50	425	20-50	100	100
55	495	20-55	110	110
60	570	20-60	120	120
65	645	20-65	130	130
70	730	20-70	140	140

* Approach speed based on the regulatory posted speed, not the advisory speed.

SIGN SPACING TABLE			
ROAD TYPE	DISTANCE BETWEEN SIGNS IN FEET		
	A	B	C
Urban and Rural 30 MPH and less	100	100	100
Urban and Rural 35 MPH to 50 MPH	350	350	350
Rural greater than 50 MPH	500	500	500
Expressway / Freeway	1000	1500	2640

NOTE:

1. Signs are shown for one direction of travel only. Place devices similar to those depicted for the opposite direction of travel.
2. If the area approaching diversion is not already signed and marked as a no passing zone, add signing and/or marking as appropriate. Remove conflicting pavement markings.
3. If the tangent distance along the temporary diversion is more than 600', use an appropriate "Reverse Curve" sign (W1-4) instead of the "Double Reverse Curve" sign (W24-1). Install a second, appropriate "Reverse Curve" sign (W1-4) in advance of the second reverse curve back to the original alignment. Use "Reverse Turn" signs (W1-3) instead when the diversion has sharp curves with recommended speeds of 30 mph or less.
4. If the diversion is completely within the project limits, eliminate the "ROAD WORK AHEAD" (W20-1) and "END ROAD WORK" (G20-2) signs.
5. Place channelizing devices outside temporary roadway.
6. Do not allow equipment, materials, or vehicles to be parked or stored in the buffer space.



NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
FEDERAL LANDS HIGHWAY

U.S. CUSTOMARY STANDARD

TEMPORARY TRAFFIC CONTROL FOR DIVERSION

STANDARD APPROVED FOR USE 6/2005

REVISED:
DRAFT: 6/2015

STANDARD
635-4

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5 August 2015 4:28 PM

STATE	PROJECT	SHEET NUMBER

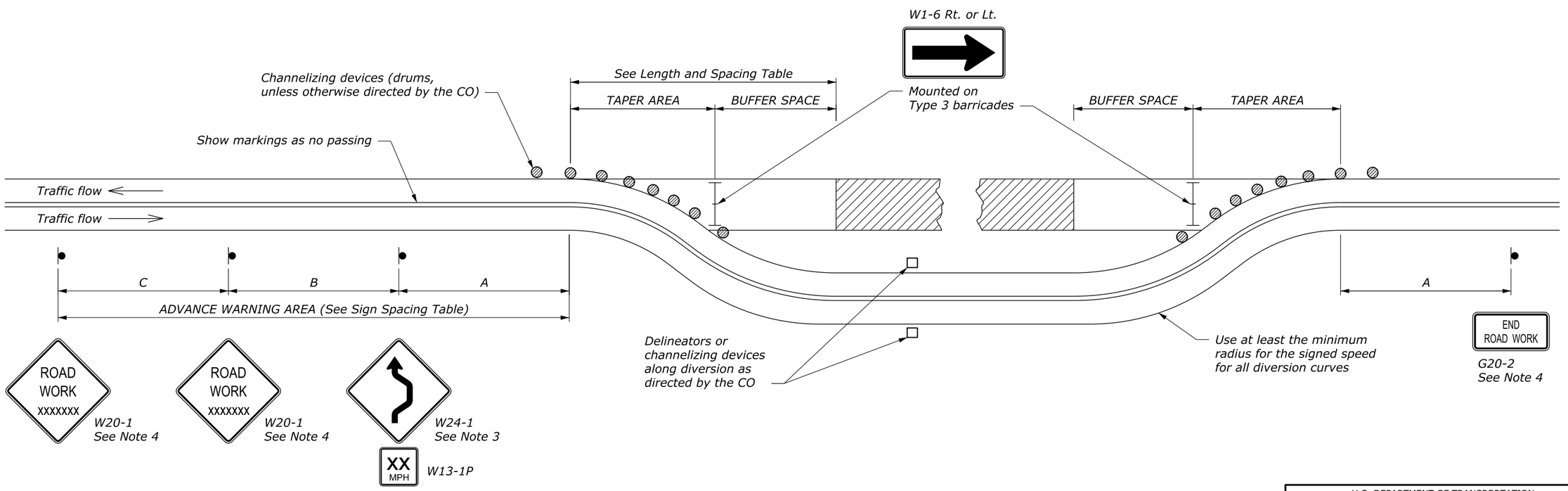
LENGTH AND SPACING TABLE					
APPROACH SPEED*		BUFFER SPACE LENGTH	CHANNELIZING DEVICE		
			TAPER AREA	BUFFER SPACE	WORK SPACE
MPH	km/h	METER	SPACING IN METERS		
20	30	35	6	12	12
25	40	45	6-7.5	15	15
30	50	60	6-9	18	18
35	55	75	6-10.5	21	21
40	65	95	6-12	24	24
45	70	110	6-13.5	27	27
50	80	130	6-15	30	30
55	90	150	6-16.5	34	34
60	95	175	6-18	37	37
65	105	195	6-19.5	40	40
70	115	225	6-21	43	43

* Approach speed based on the regulatory posted speed, not the advisory speed.

SIGN SPACING TABLE			
ROAD TYPE	DISTANCE BETWEEN SIGNS IN METERS		
	A	B	C
Urban and Rural ≤ 50 km/h [≤ 30 MPH]	30	30	30
Urban and Rural 60-80 km/h [35-50 MPH]	100	100	100
Rural greater than 80 km/h [50 MPH]	150	150	150
Expressway / Freeway	300	450	800

NOTE:

1. Signs are shown for one direction of travel only. Place devices similar to those depicted for the opposite direction of travel.
2. If the area approaching diversion is not already signed and marked as a no passing zone, add signing and/or marking as appropriate. Remove conflicting pavement markings.
3. If the tangent distance along the temporary diversion is less than 180 m, use an appropriate "Reverse Curve" sign (W1-4) instead of the "Double Reverse Curve" sign (W24-1). Install a second, appropriate "Reverse Curve" sign (W1-4) in advance of the second reverse curve back to the original alignment. Use "Reverse Turn" signs (W1-3) instead when the diversion has sharp curves with recommended speeds of 30 mph or less.
4. If the diversion is completely within the project limits, eliminate the "ROAD WORK AHEAD" (W20-1) and "END ROAD WORK" (G20-2) signs.
5. Place channelizing devices outside temporary roadway.
6. Do not allow equipment, materials, or vehicles to be parked or stored in the buffer space.



NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
FEDERAL LANDS HIGHWAY

METRIC STANDARD

TEMPORARY TRAFFIC CONTROL FOR DIVERSION

STANDARD APPROVED FOR USE 6/2005

REVISED:
DRAFT: 6/2015

STANDARD
M635-4

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6 August 2015 9:20 AM

STATE	PROJECT	SHEET NUMBER

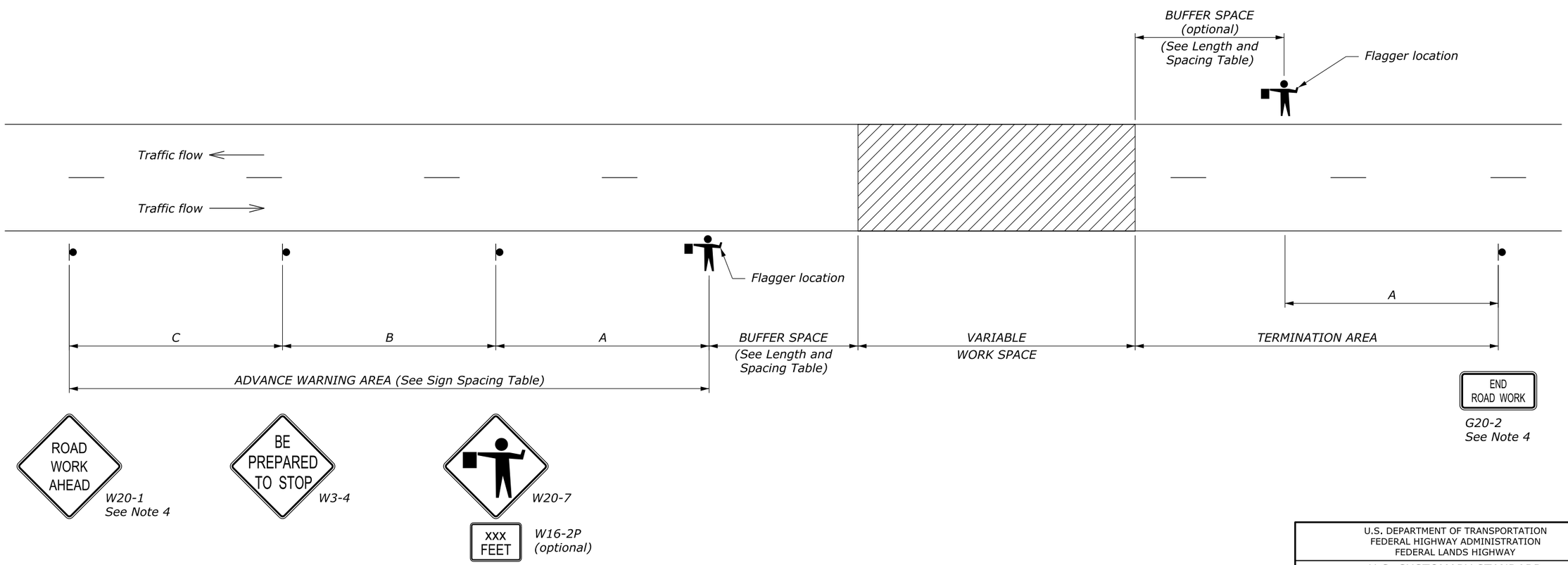
LENGTH AND SPACING TABLE	
APPROACH SPEED*	BUFFER SPACE LENGTH
MPH	FEET
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645
70	730

* Approach speed based on the regulatory posted speed, not the advisory speed.

SIGN SPACING TABLE			
ROAD TYPE	DISTANCE BETWEEN SIGNS IN FEET		
	A	B	C
Urban and Rural 30 MPH and less	100	100	100
Urban and Rural 35 MPH to 50 MPH	350	350	350
Rural greater than 50 MPH	500	500	500
Expressway / Freeway	1000	1500	2640

NOTE:

1. Signs are shown for one direction of travel only. Place devices similar to those depicted for the opposite direction of travel.
2. Final location and spacing of signs and devices may be changed to fit field conditions as approved by the CO.
3. For pilot car operation, mount the "PILOT CAR FOLLOW ME" (G20-4) sign at a conspicuous location on the rear of vehicle. Prominently display the name of the Contractor on the pilot car.
4. If closure is completely within the project limits, eliminate the "ROAD WORK AHEAD" (W20-1) and "END ROAD WORK" (G20-2) signs.
5. For night time flagging operation, provide floodlighting at flagger stations.
6. Do not allow equipment, materials, or vehicles to be parked or stored in the buffer space.



NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
FEDERAL LANDS HIGHWAY

U.S. CUSTOMARY STANDARD

TEMPORARY TRAFFIC CONTROL ROAD CLOSURE LAYOUT (WITH FLAGGERS)

STANDARD APPROVED FOR USE 6/2005

REVISED:
DRAFT: 8/2013

STANDARD
635-5

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5 August 2015 3:45 PM

STATE	PROJECT	SHEET NUMBER

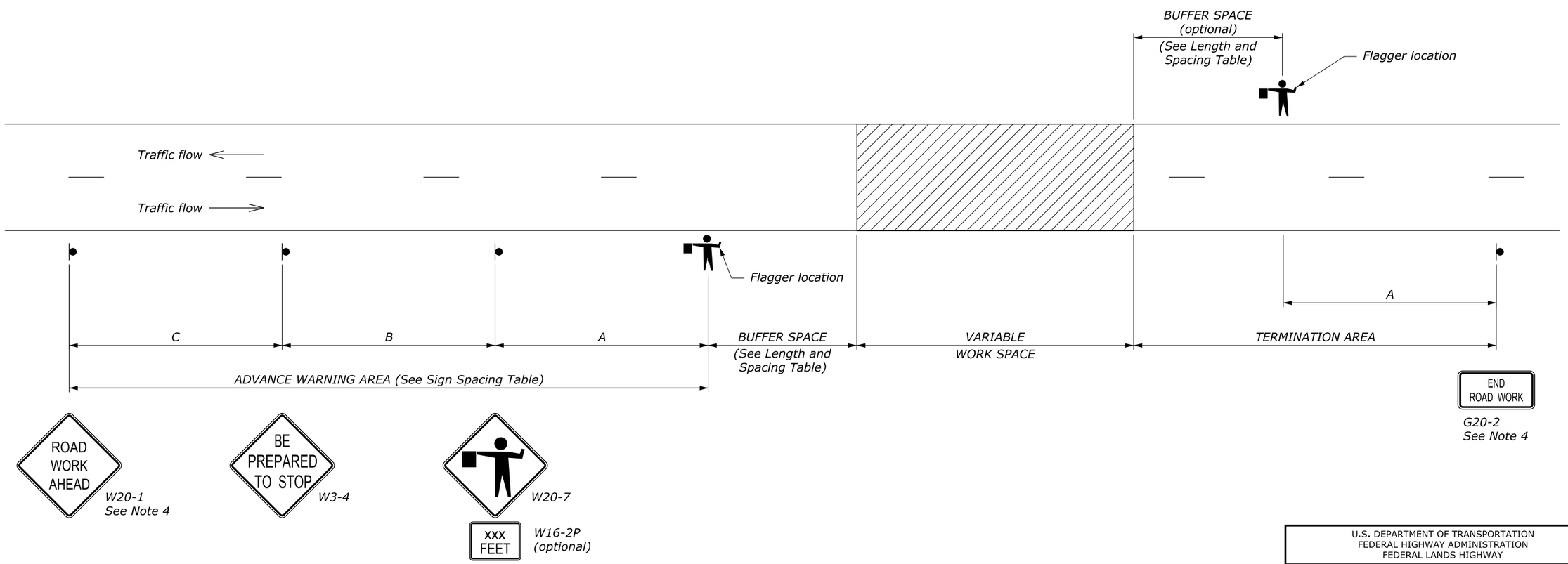
LENGTH AND SPACING TABLE		
APPROACH SPEED*		BUFFER SPACE LENGTH
MPH	km/h	METER
20	30	35
25	40	45
30	50	60
35	55	75
40	65	95
45	70	110
50	80	130
55	90	150
60	95	175
65	105	195
70	115	225

* Approach speed based on the regulatory posted speed, not the advisory speed.

SIGN SPACING TABLE			
ROAD TYPE	DISTANCE BETWEEN SIGNS IN METERS		
	A	B	C
Urban and Rural ≤ 50 km/h [≤ 30 MPH]	30	30	30
Urban and Rural 60-80 km/h [35-50 MPH]	100	100	100
Rural greater than 80 km/h [50 MPH]	150	150	150
Expressway / Freeway	300	450	800

NOTE:

1. Signs are shown for one direction of travel only. Place devices similar to those depicted for the opposite direction of travel.
2. Final location and spacing of signs and devices may be changed to fit field conditions as approved by the CO.
3. For pilot car operation, mount the "PILOT CAR FOLLOW ME" (G20-4) sign at a conspicuous location on the rear of vehicle. Prominently display the name of the Contractor on the pilot car.
4. If closure is completely within the project limits, eliminate the "ROAD WORK AHEAD" (W20-1) and "END ROAD WORK" (G20-2) signs.
5. For night time flagging operation, provide floodlighting at flagger stations.
6. Do not allow equipment, materials, or vehicles to be parked or stored in the buffer space.



NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
FEDERAL LANDS HIGHWAY

METRIC STANDARD

TEMPORARY TRAFFIC CONTROL ROAD CLOSURE LAYOUT (WITH FLAGGERS)

STANDARD APPROVED FOR USE 6/2005

REVISED:
DRAFT: 8/2013

STANDARD
M635-5

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5 August 2015 3:53 PM

STATE	PROJECT	SHEET NUMBER

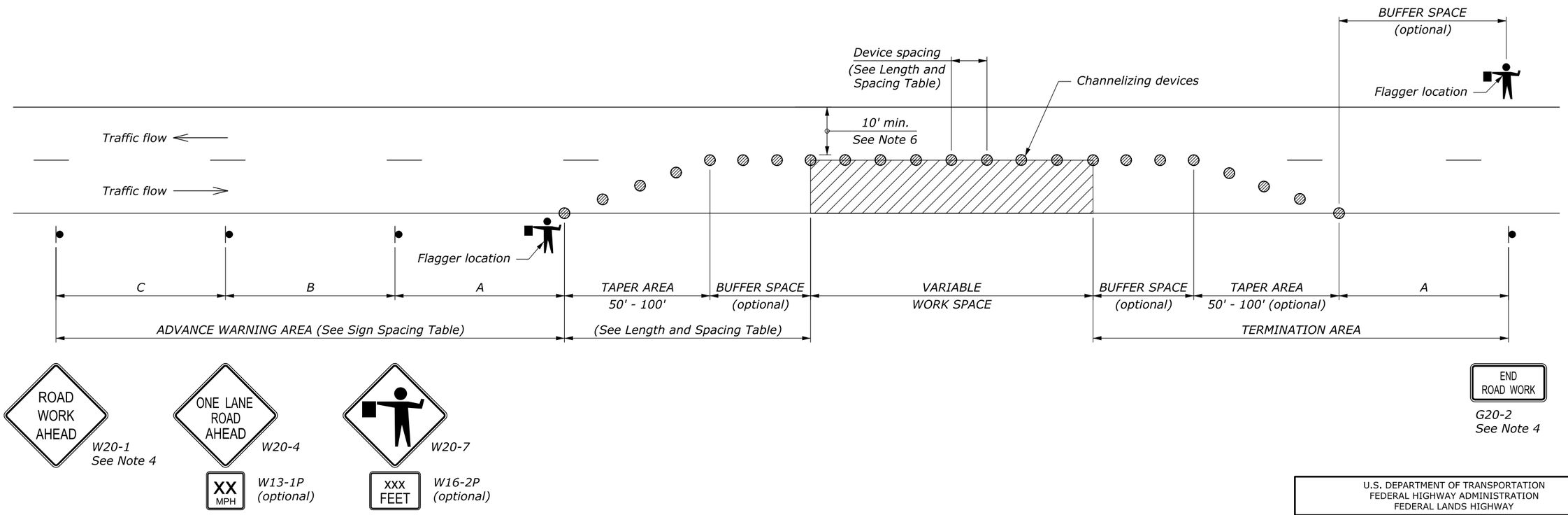
LENGTH AND SPACING TABLE				
APPROACH SPEED*	BUFFER SPACE LENGTH	CHANNELIZING DEVICE		
		TAPER AREA	BUFFER SPACE	WORK SPACE
MPH	FEET	SPACING IN FEET		
20	115	20	40	40
25	155	20	50	50
30	200	20	60	60
35	250	20	70	70
40	305	20	80	80
45	360	20	90	90
50	425	20	100	100
55	495	20	110	110
60	570	20	120	120
65	645	20	130	130
70	730	20	140	140

* Approach speed based on the regulatory posted speed, not the advisory speed.

SIGN SPACING TABLE			
ROAD TYPE	DISTANCE BETWEEN SIGNS IN FEET		
	A	B	C
Urban and Rural 30 MPH and less	100	100	100
Urban and Rural 35 MPH to 50 MPH	350	350	350
Rural greater than 50 MPH	500	500	500
Expressway / Freeway	1000	1500	2640

NOTE:

1. Signs are shown for one direction of travel only. Place devices similar to those depicted for the opposite direction of travel.
2. Final location and spacing of signs and devices may be changed to fit field conditions as approved by the CO.
3. For pilot car operation, mount the PILOT CAR FOLLOW ME (G20-4) sign at a conspicuous location on the rear of vehicle. Prominently display the name of the contractor on the pilot car.
4. If closure is completely within the project limits, eliminate the "ROAD WORK AHEAD" (W20-1) and "END ROAD WORK" (G20-2) signs.
5. For night time flagging operation, provide floodlighting at flagger stations.
6. For project specific minimum width, refer to the Special Contract Requirements, Section 156.
7. Do not allow equipment, materials, or vehicles to be parked or stored in the buffer space.



NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
FEDERAL LANDS HIGHWAY

U.S. CUSTOMARY STANDARD

TEMPORARY TRAFFIC CONTROL SINGLE LANE CLOSURE LAYOUT (WITH FLAGGERS)

STANDARD APPROVED FOR USE 6/2005

REVISED:
DRAFT: 8/2013

STANDARD
635-6

5 August 2015 2:40 PM c:\myfiles\pw_production\dms67497\Std635-6.dgn [USC]

STATE	PROJECT	SHEET NUMBER

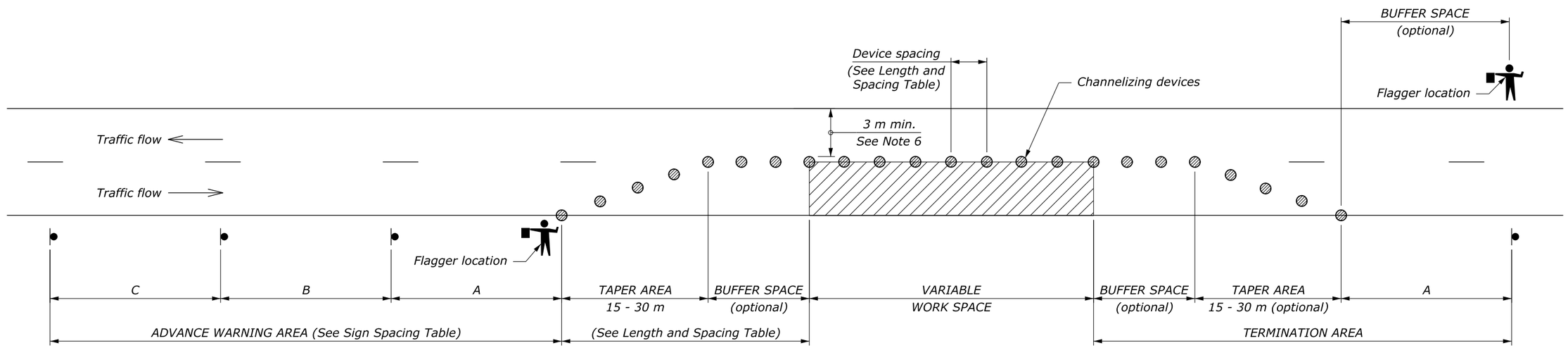
LENGTH AND SPACING TABLE					
APPROACH SPEED*		BUFFER SPACE LENGTH	CHANNELIZING DEVICE		
			TAPER AREA	BUFFER SPACE	WORK SPACE
MPH	km/h	METER	SPACING IN METERS		
20	30	35	6	12	12
25	40	45	6	15	15
30	50	60	6	18	18
35	55	75	6	21	21
40	65	95	6	24	24
45	70	110	6	27	27
50	80	130	6	30	30
55	90	150	6	34	34
60	95	175	6	37	37
65	105	195	6	40	40
70	115	225	6	43	43

* Approach speed based on the regulatory posted speed, not the advisory speed.

SIGN SPACING TABLE			
ROAD TYPE	DISTANCE BETWEEN SIGNS IN METERS		
	A	B	C
Urban and Rural ≤ 50 km/h [≤ 30 MPH]	30	30	30
Urban and Rural 60-80 km/h [35-50 MPH]	100	100	100
Rural greater than 80 km/h [50 MPH]	150	150	150
Expressway / Freeway	300	450	800

NOTE:

1. Signs are shown for one direction of travel only. Place devices similar to those depicted for the opposite direction of travel.
2. Final location and spacing of signs and devices may be changed to fit field conditions as approved by the CO.
3. For pilot car operation, mount the PILOT CAR FOLLOW ME (G20-4) sign at a conspicuous location on the rear of vehicle. Prominently display the name of the contractor on the pilot car.
4. If closure is completely within the project limits, eliminate the "ROAD WORK AHEAD" (W20-1) and "END ROAD WORK" (G20-2) signs.
5. For night time flagging operation, provide floodlighting at flagger stations.
6. For project specific minimum width, refer to the Special Contract Requirements, Section 156.
7. Do not allow equipment, materials, or vehicles to be parked or stored in the buffer space.



W20-1
See Note 4

W20-4

W20-7

W13-1P
(optional)

W16-2P
(optional)

G20-2
See Note 4

NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
FEDERAL LANDS HIGHWAY

METRIC STANDARD

TEMPORARY TRAFFIC CONTROL SINGLE LANE CLOSURE LAYOUT (WITH FLAGGERS)

STANDARD APPROVED FOR USE 6/2005

REVISED:
DRAFT: 8/2013

STANDARD
M635-6

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5 August 2015 2:43 PM

STATE	PROJECT	SHEET NUMBER

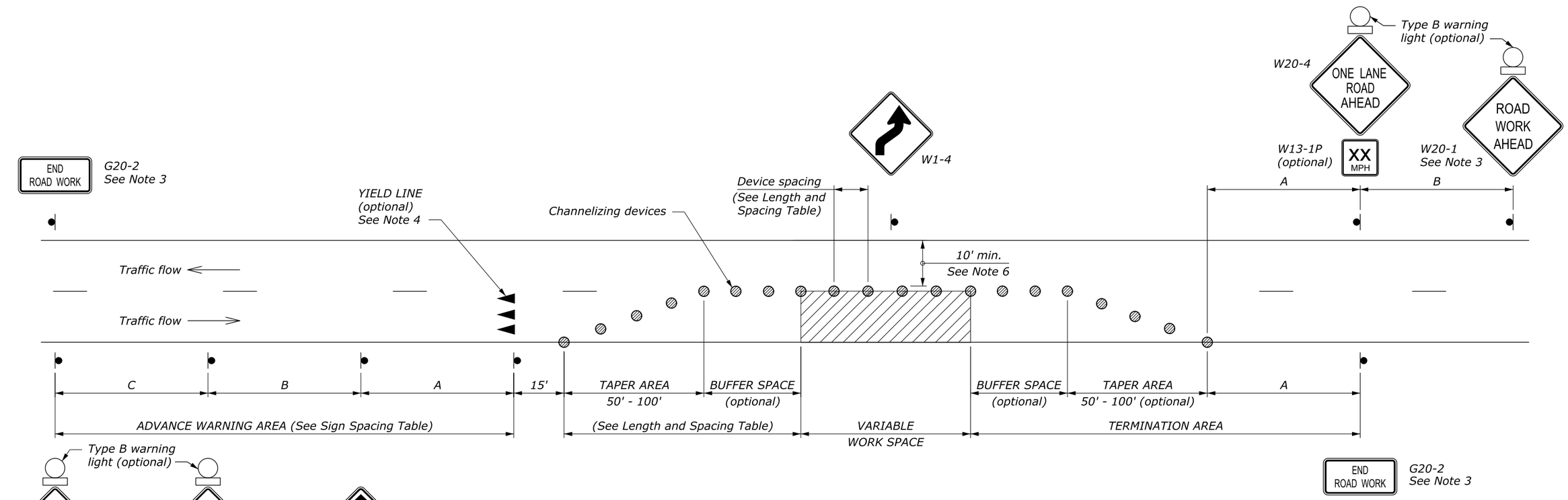
LENGTH AND SPACING TABLE				
APPROACH SPEED*	BUFFER SPACE LENGTH	CHANNELIZING DEVICE		
		TAPER AREA	BUFFER SPACE	WORK SPACE
MPH	FEET	SPACING IN FEET		
20	115	20	40	40
25	155	20	50	50
30	200	20	60	60
35	250	20	70	70
40	305	20	80	80
45	360	20	90	90
50	425	20	100	100
55	495	20	110	110
60	570	20	120	120
65	645	20	130	130
70	730	20	140	140

* Approach speed based on the regulatory posted speed, not the advisory speed.

SIGN SPACING TABLE			
ROAD TYPE	DISTANCE BETWEEN SIGNS IN FEET		
	A	B	C
Urban and Rural 30 MPH and less	100	100	100
Urban and Rural 35 MPH to 50 MPH	350	350	350
Rural greater than 50 MPH	500	500	500
Expressway / Freeway	1000	1500	2640

NOTE:

1. Use this layout only if sufficient gaps in oncoming traffic exist for traffic that must yield, and if drivers from both directions are able to see approaching traffic through and beyond the work site.
2. Final location and spacing of signs and devices may be changed to fit field conditions as approved by the CO.
3. If closure is completely within the project limits, eliminate the "ROAD WORK AHEAD" (W20-1) and "END ROAD WORK" (G20-2) signs.
4. If the surface is paved, install yield lines that comply with Section 3B.16 of the MUTCD.
5. Use the "YIELD AHEAD" (W3-2) sign when approach speeds exceed 50 MPH.
6. For project specific minimum width, refer to Special Contract Requirements, Section 156.
7. Do not allow equipment, materials, or vehicles to be parked or stored in the buffer space.



NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
FEDERAL LANDS HIGHWAY

U.S. CUSTOMARY STANDARD

TEMPORARY TRAFFIC CONTROL SINGLE LANE CLOSURE LAYOUT (WITH YIELD SIGN)

STANDARD APPROVED FOR USE 6/2005

REVISED: DRAFT 6/2014

STANDARD 635-7

5 August 2015 12:49 PM c:\myfiles\pw_production\dms67497\Std635-7.dgn [USC]

STATE	PROJECT	SHEET NUMBER

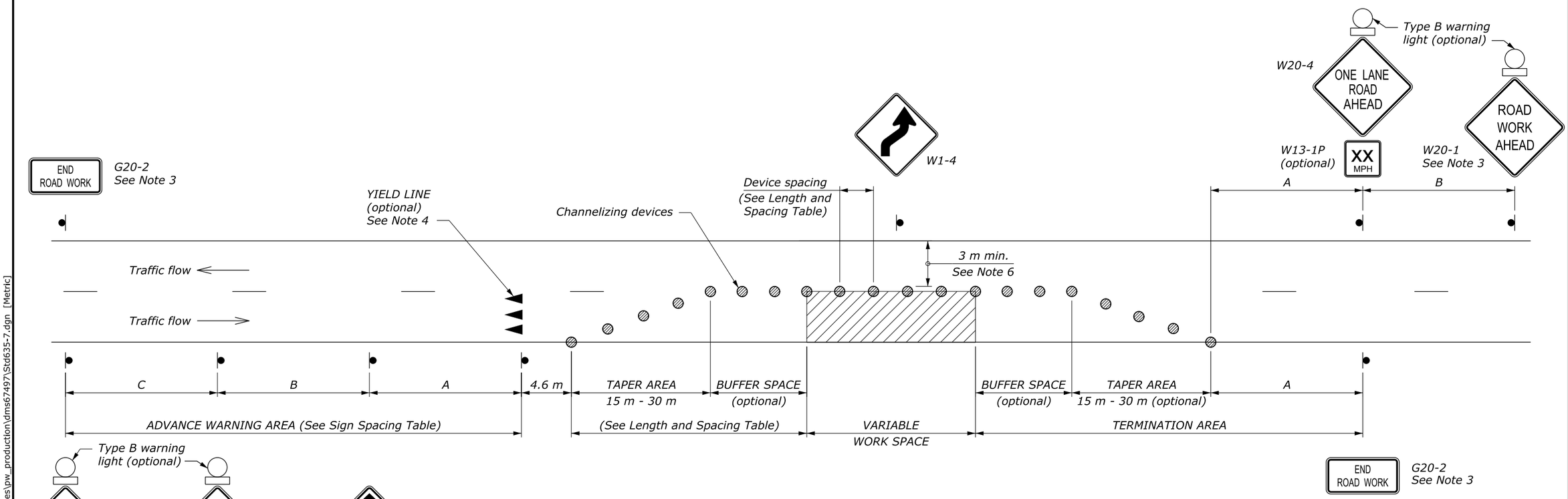
LENGTH AND SPACING TABLE					
APPROACH SPEED*		BUFFER SPACE LENGTH	CHANNELIZING DEVICE		
			TAPER AREA	BUFFER SPACE	WORK SPACE
MPH	km/h	METER	SPACING IN METERS		
20	30	35	6	12	12
25	40	45	6	15	15
30	50	60	6	18	18
35	55	75	6	21	21
40	65	95	6	24	24
45	70	110	6	27	27
50	80	130	6	30	30
55	90	150	6	34	34
60	95	175	6	37	37
65	105	195	6	40	40
70	115	225	6	43	43

* Approach speed based on the regulatory posted speed, not the advisory speed.

SIGN SPACING TABLE			
ROAD TYPE	DISTANCE BETWEEN SIGNS IN METERS		
	A	B	C
Urban and Rural ≤ 50 km/h [≤ 30 MPH]	30	30	30
Urban and Rural 60-80 km/h [35-50 MPH]	100	100	100
Rural greater than 80 km/h [50 MPH]	150	150	150
Expressway / Freeway	300	450	800

NOTE:

1. Use this layout only if sufficient gaps in oncoming traffic exist for traffic that must yield, and if drivers from both directions are able to see approaching traffic through and beyond the work site.
2. Final location and spacing of signs and devices may be changed to fit field conditions as approved by the CO.
3. If closure is completely within the project limits, eliminate the "ROAD WORK AHEAD" (W20-1) and "END ROAD WORK" (G20-2) signs.
4. If the surface is paved, install yield lines that comply with Section 3B.16 of the MUTCD.
5. Use the "YIELD AHEAD" (W3-2) sign when approach speeds exceed 80 km/h [50 MPH].
6. For project specific minimum width, refer to Special Contract Requirements, Section 156.
7. Do not allow equipment, materials, or vehicles to be parked or stored in the buffer space.



NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
FEDERAL LANDS HIGHWAY

METRIC STANDARD

TEMPORARY TRAFFIC CONTROL SINGLE LANE CLOSURE LAYOUT (WITH YIELD SIGN)

STANDARD APPROVED FOR USE 6/2005

REVISED:
DRAFT: 6/2014

STANDARD M635-7

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5 August 2015 12:55 PM

STATE	PROJECT	SHEET NUMBER

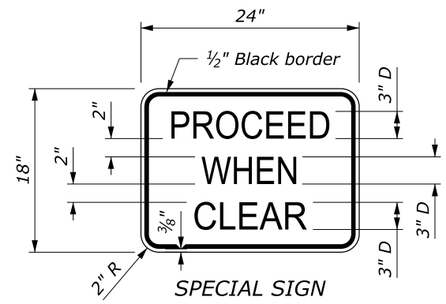
LENGTH AND SPACING TABLE				
APPROACH SPEED*	BUFFER SPACE LENGTH	CHANNELIZING DEVICE		
		TAPER AREA	BUFFER SPACE	WORK SPACE
MPH	FEET	SPACING IN FEET		
20	115	20	40	40
25	155	20	50	50
30	200	20	60	60
35	250	20	70	70
40	305	20	80	80
45	360	20	90	90
50	425	20	100	100
55	495	20	110	110
60	570	20	120	120
65	645	20	130	130
70	730	20	140	140

* Approach speed based on the regulatory posted speed, not the advisory speed.

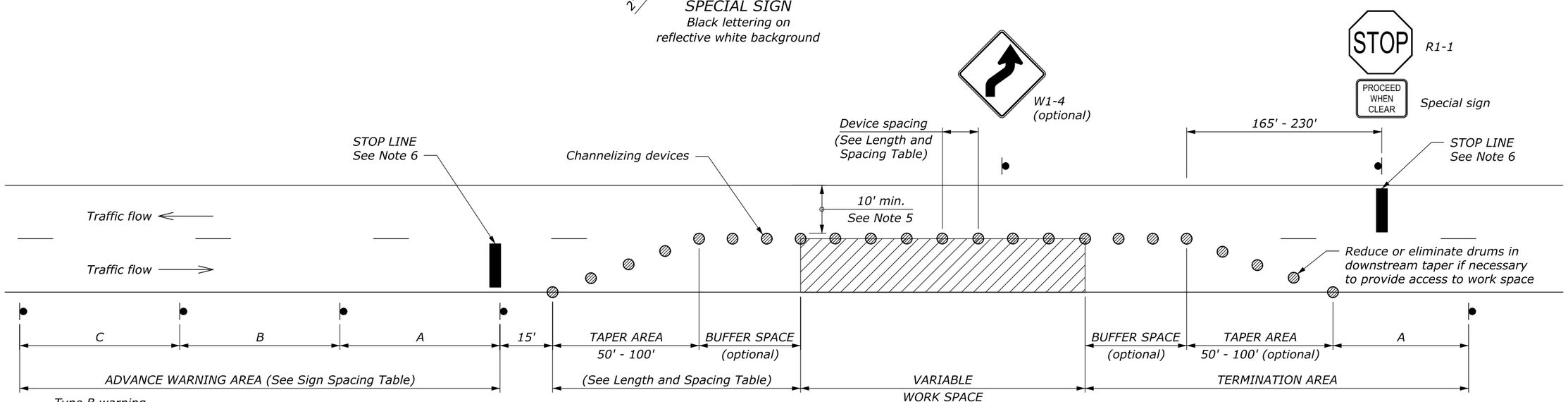
SIGN SPACING TABLE			
ROAD TYPE	DISTANCE BETWEEN SIGNS IN FEET		
	A	B	C
Urban and Rural 30 MPH and less	100	100	100
Urban and Rural 35 MPH to 50 MPH	350	350	350
Rural greater than 50 MPH	500	500	500
Expressway / Freeway	1000	1500	2640

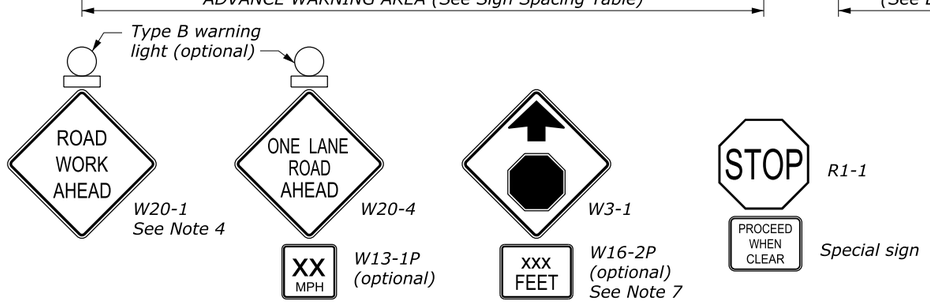
NOTE:

1. Use this layout only if road users from both directions are able to see approaching vehicular traffic through and beyond the work site and have sufficient visibility of approaching vehicles.
2. Advance warning area signs are shown for one direction of travel only. Place devices similar to those depicted for the opposite direction of travel.
3. Final location and spacing of signs and devices may be changed to fit field conditions as approved by the CO.
4. If closure is completely within the project limits, eliminate the "ROAD WORK AHEAD" (W20-1) and "END ROAD WORK" (G20-2) signs.
5. For project specific minimum width, refer to Special Contract Requirements, Section 156.
6. If the roadway surface is paved, install stop lines that comply with Section 3B.16 of the MUTCD.
7. Use the "STOP AHEAD" (W3-1) sign when approach speeds exceed 50 MPH.
8. Do not allow equipment, materials, or vehicles to be parked or stored in the buffer space.



SPECIAL SIGN
Black lettering on reflective white background





G20-2 See Note 4

NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
FEDERAL LANDS HIGHWAY

U.S. CUSTOMARY STANDARD

TEMPORARY TRAFFIC CONTROL SINGLE LANE CLOSURE LAYOUT (WITH STOP SIGN)

STANDARD APPROVED FOR USE 6/2005

REVISED:
DRAFT: 8/2013

STANDARD 635-8

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5 August 2015 9:40 AM

STATE	PROJECT	SHEET NUMBER

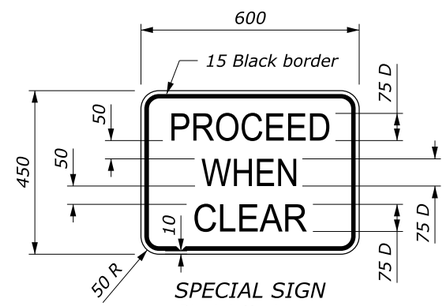
LENGTH AND SPACING TABLE					
APPROACH SPEED*		BUFFER SPACE LENGTH	CHANNELIZING DEVICE		
			TAPER AREA	BUFFER SPACE	WORK SPACE
MPH	km/h	METER	SPACING IN METERS		
20	30	35	6	12	12
25	40	45	6	15	15
30	50	60	6	18	18
35	55	75	6	21	21
40	65	95	6	24	24
45	70	110	6	27	27
50	80	130	6	30	30
55	90	150	6	34	34
60	95	175	6	37	37
65	105	195	6	40	40
70	115	225	6	43	43

* Approach speed based on the regulatory posted speed, not the advisory speed.

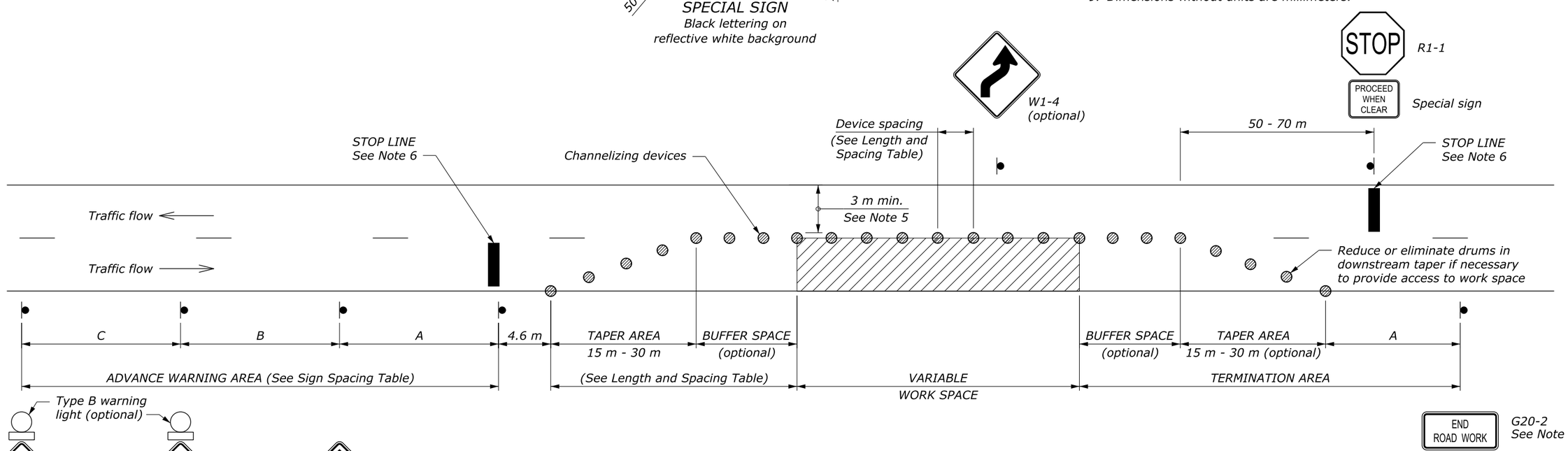
SIGN SPACING TABLE			
ROAD TYPE	DISTANCE BETWEEN SIGNS IN METERS		
	A	B	C
Urban and Rural ≤ 50 km/h [≤ 30 MPH]	30	30	30
Urban and Rural 60-80 km/h [35-50 MPH]	100	100	100
Rural greater than 80 km/h [50 MPH]	150	150	150
Expressway / Freeway	300	450	800

NOTE:

1. Use this layout only if road users from both directions are able to see approaching vehicular traffic through and beyond the work site and have sufficient visibility of approaching vehicles.
2. Advance warning area signs are shown for one direction of travel only. Place devices similar to those depicted for the opposite direction of travel.
3. Final location and spacing of signs and devices may be changed to fit field conditions as approved by the CO.
4. If closure is completely within the project limits, eliminate the "ROAD WORK AHEAD" (W20-1) and "END ROAD WORK" (G20-2) signs.
5. For project specific minimum width, refer to Special Contract Requirements, Section 156.
6. If the roadway surface is paved, install stop lines that comply with Section 3B.16 of the MUTCD.
7. Use the "STOP AHEAD" (W3-1) sign when approach speeds exceed 80 km/h [50 MPH].
8. Do not allow equipment, materials, or vehicles to be parked or stored in the buffer space.
9. Dimensions without units are millimeters.



SPECIAL SIGN
Black lettering on reflective white background



NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
FEDERAL LANDS HIGHWAY

METRIC STANDARD

TEMPORARY TRAFFIC CONTROL SINGLE LANE CLOSURE LAYOUT (WITH STOP SIGN)

STANDARD APPROVED FOR USE 6/2005

REVISED:
DRAFT: 8/2013

STANDARD
M635-8

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5 August 2015 11:04 AM

STATE	PROJECT	SHEET NUMBER

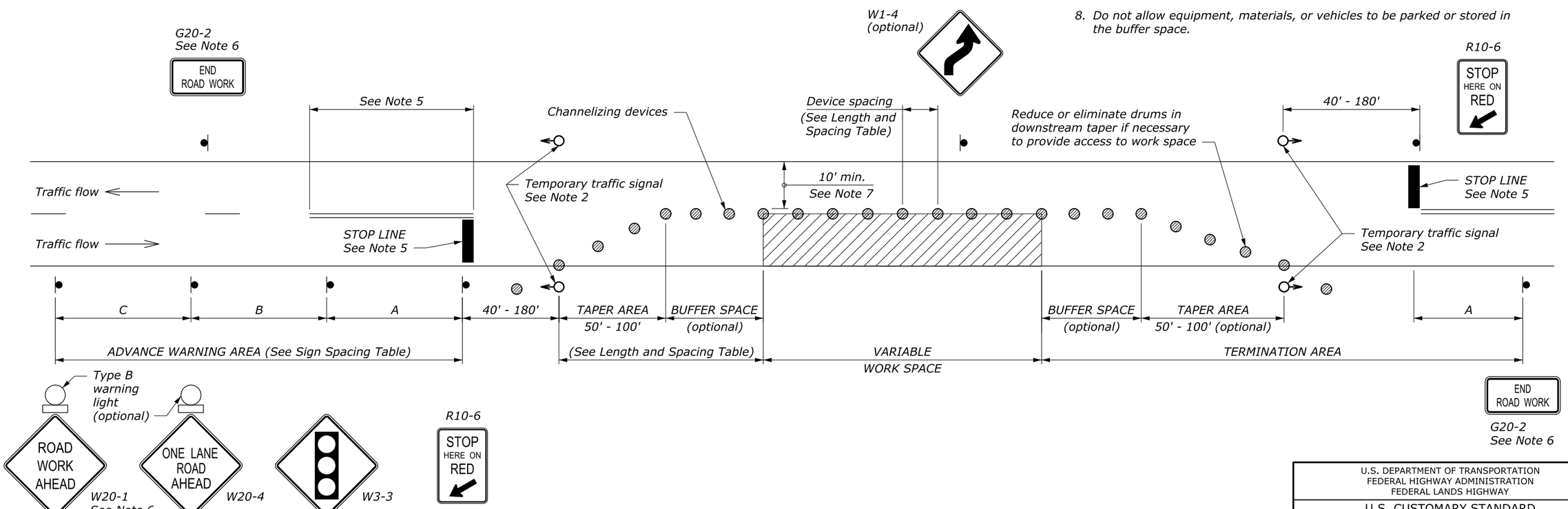
LENGTH AND SPACING TABLE				
APPROACH SPEED*	BUFFER SPACE LENGTH	CHANNELIZING DEVICE		
		TAPER AREA	BUFFER SPACE	WORK SPACE
MPH	FEET	SPACING IN FEET		
20	115	20	40	40
25	155	20	50	50
30	200	20	60	60
35	250	20	70	70
40	305	20	80	80
45	360	20	90	90
50	425	20	100	100
55	495	20	110	110
60	570	20	120	120
65	645	20	130	130
70	730	20	140	140

* Approach speed based on the regulatory posted speed, not the advisory speed.

SIGN SPACING TABLE			
ROAD TYPE	DISTANCE BETWEEN SIGNS IN FEET		
	A	B	C
Urban and Rural 30 MPH and less	100	100	100
Urban and Rural 35 MPH to 50 MPH	350	350	350
Rural greater than 50 MPH	500	500	500
Expressway / Freeway	1000	1500	2640

NOTE:

1. Signs are shown for one direction of travel only. Place devices similar to those depicted for the opposite direction of travel.
2. A single signal installation is acceptable, on the right-hand side of the road, if it has two signal faces that are at least 8 feet apart and meets the other requirements of Part 4 of the MUTCD.
3. Install and operate temporary traffic control signals in accordance with the provisions of the MUTCD, Part 4. Signal timing shall be established by a qualified engineer. When the signal is changed to the flashing mode either manually or automatically, ensure red signal indications are flashed to both approaches.
4. Final location and spacing of signs and devices may be changed to fit field conditions as approved by the CO. If signals are moved, revised signal timing must be determined by a qualified engineer.
5. For paved roadway surfaces, install stop lines complying with MUTCD Section 3B.16. Remove existing conflicting pavement markings and raised markers between the work space and the stop line. Add no-passing lines in advance of the stop line that comply with MUTCD Section 3B.02. Removeable pavement markings may be used for stop lines and no-passing pavement markings.
6. If closure is completely within the project limits, eliminate the "ROAD WORK AHEAD" (W20-1) and "END ROAD WORK" (G20-2) signs.
7. For project specific minimum width, refer to Special Contract Requirements, Section 156.
8. Do not allow equipment, materials, or vehicles to be parked or stored in the buffer space.



NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
FEDERAL LANDS HIGHWAY

U.S. CUSTOMARY STANDARD

TEMPORARY TRAFFIC CONTROL SINGLE LANE CLOSURE LAYOUT (WITH SIGNALS)

STANDARD APPROVED FOR USE 6/2005

REVISED:
DRAFT: 9/2016

STANDARD
635-9

24 February 2016 8:59 AM c:\myfiles\pw_production\d0243077\FLH-Cells.dgnlib [Border.US]

STATE	PROJECT	SHEET NUMBER

LENGTH AND SPACING TABLE

APPROACH SPEED*		BUFFER SPACE LENGTH	CHANNELIZING DEVICE		
			TAPER AREA	BUFFER SPACE	WORK SPACE
MPH	km/h	METER	SPACING IN METERS		
20	30	35	6	12	12
25	40	45	6	15	15
30	50	60	6	18	18
35	55	75	6	21	21
40	65	95	6	24	24
45	70	110	6	27	27
50	80	130	6	30	30
55	90	150	6	34	34
60	95	175	6	37	37
65	105	195	6	40	40
70	115	225	6	43	43

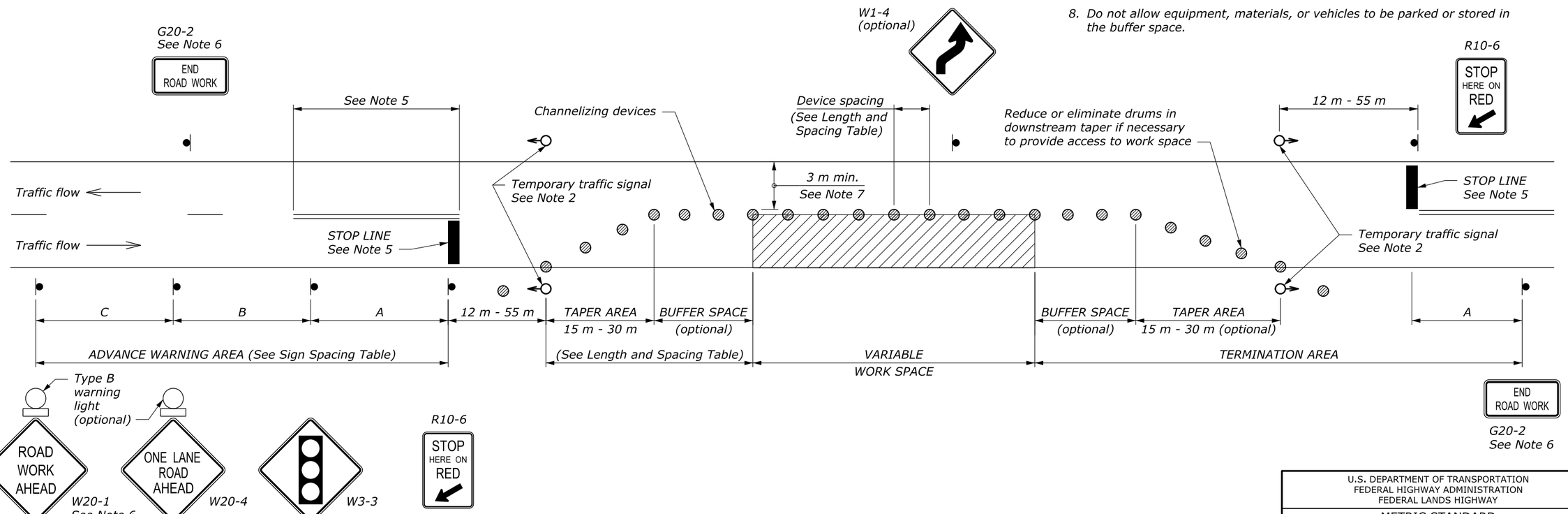
* Approach speed based on the regulatory posted speed, not the advisory speed.

SIGN SPACING TABLE

ROAD TYPE	DISTANCE BETWEEN SIGNS IN METERS		
	A	B	C
Urban and Rural ≤ 50 km/h [≤ 30 MPH]	30	30	30
Urban and Rural 60-80 km/h [35-50 MPH]	100	100	100
Rural greater than 80 km/h [50 MPH]	150	150	150
Expressway / Freeway	300	450	800

NOTE:

1. Signs are shown for one direction of travel only. Place devices similar to those depicted for the opposite direction of travel.
2. A single signal installation is acceptable, on the right-hand side of the road, if it has two signal faces that are at least 2.4 m apart and meets the other requirements of Part 4 of the MUTCD.
3. Install and operate temporary traffic control signals in accordance with the provisions of the MUTCD, Part 4. Signal timing shall be established by a qualified engineer. When the signal is changed to the flashing mode either manually or automatically, ensure red signal indications are flashed to both approaches.
4. Final location and spacing of signs and devices may be changed to fit field conditions as approved by the CO. If signals are moved, revised signal timing must be determined by a qualified engineer.
5. For paved roadway surfaces, install stop lines complying with MUTCD Section 3B.16. Remove existing conflicting pavement markings and raised markers between the work space and the stop line. Add no-passing lines in advance of the stop line that comply with MUTCD Section 3B.02. Removeable pavement markings may be used for stop lines and no-passing pavement markings.
6. If closure is completely within the project limits, eliminate the "ROAD WORK AHEAD" (W20-1) and "END ROAD WORK" (G20-2) signs.
7. For project specific minimum width, refer to Special Contract Requirements, Section 156.
8. Do not allow equipment, materials, or vehicles to be parked or stored in the buffer space.



NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
FEDERAL LANDS HIGHWAY

METRIC STANDARD

TEMPORARY TRAFFIC CONTROL SINGLE LANE CLOSURE LAYOUT (WITH SIGNALS)

STANDARD APPROVED FOR USE 6/2005

REVISED:
DRAFT: 9/2016

STANDARD
M635-9

24 February 2016 9:16 AM c:\myfiles\pw_production\d0243077\FLH-Cells.dgnlib [Border.M]

STATE	PROJECT	SHEET NUMBER

LENGTH AND SPACING TABLE

APPROACH SPEED*	MINIMUM TAPER LENGTH**	BUFFER SPACE LENGTH	CHANNELIZING DEVICE		
			TAPER AREA	BUFFER SPACE	WORK SPACE
MPH	FEET	FEET	SPACING IN FEET		
20	Shoulder taper formula:	115	20	40	40
25	$L = \frac{WS^2}{180}$ for $S \leq 40$ MPH	155	25	50	50
30		200	30	60	60
35	$L = \frac{WS}{3}$ for $S \geq 45$ MPH	250	35	70	70
40		305	40	80	80
45	Where:	360	45	90	90
50	L = Minimum length of taper	425	50	100	100
55	W = Width of offset in feet	495	55	110	110
60	S = Numerical value of posted speed	570	60	120	120
65	limit or 85 percentile speed prior	645	65	130	130
70	to work in miles per hour	730	70	140	140

* Approach speed based on the regulatory posted speed, not the advisory speed.

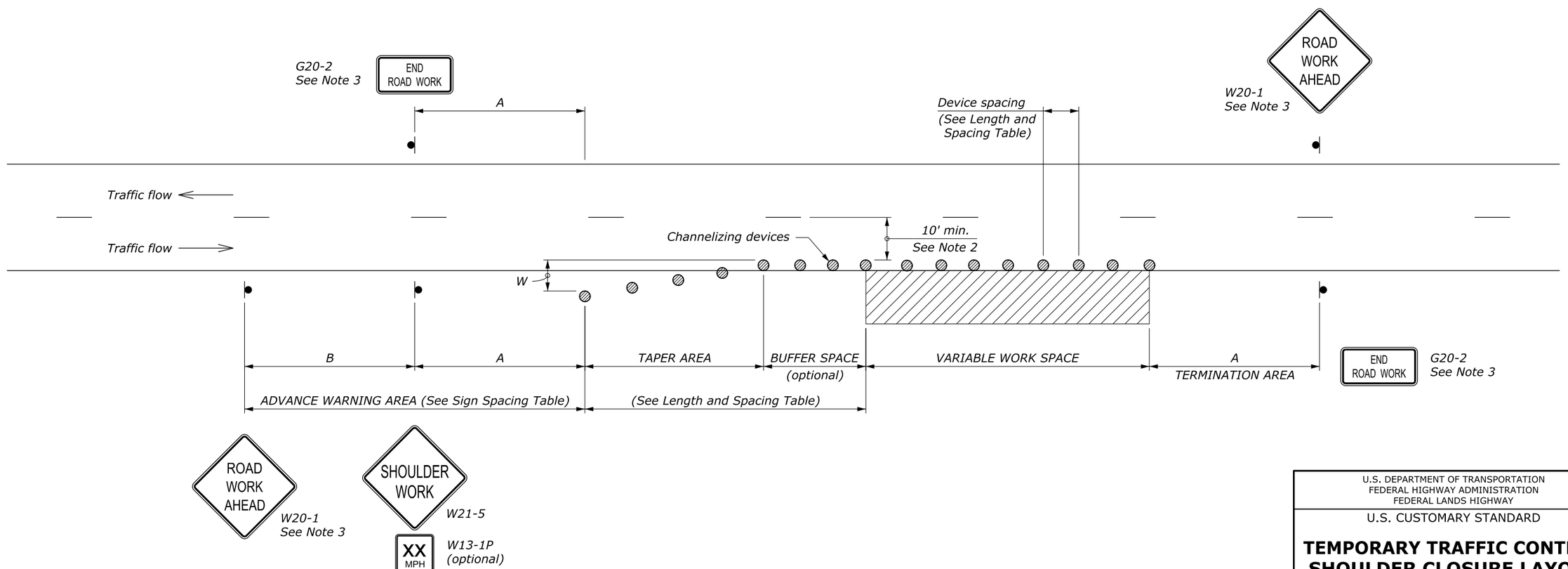
** Lengthen taper as needed to provide minimum of three channelizing devices in taper at required spacing.

SIGN SPACING TABLE

ROAD TYPE	DISTANCE BETWEEN SIGNS IN FEET		
	A	B	C
Urban and Rural 30 MPH and less	100	100	100
Urban and Rural 35 MPH to 50 MPH	350	350	350
Rural greater than 50 MPH	500	500	500
Expressway / Freeway	1000	1500	2640

NOTE:

1. Final location and spacing of signs and devices may be changed to fit field conditions as approved by the CO.
2. For project specific minimum width, refer to Special Contract Requirements, Section 156.
3. If shoulder closure is completely within the project limits, eliminate the "ROAD WORK AHEAD" (W20-1) and "END ROAD WORK" (G20-2) signs.
4. Do not allow equipment, materials, or vehicles to be parked or stored in the buffer space.



NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
FEDERAL LANDS HIGHWAY

U.S. CUSTOMARY STANDARD

TEMPORARY TRAFFIC CONTROL SHOULDER CLOSURE LAYOUT

STANDARD APPROVED FOR USE 6/2005

REVISED:
DRAFT: 8/2013

STANDARD
635-10

5 August 2015 6:49 AM c:\myfiles\pw_production\dms67497\Std635-10.dgn [USC]

STATE	PROJECT	SHEET NUMBER

LENGTH AND SPACING TABLE

APPROACH SPEED*		MINIMUM TAPER LENGTH**	BUFFER SPACE LENGTH	CHANNELIZING DEVICE		
				TAPER AREA	BUFFER SPACE	WORK SPACE
MPH	km/h	METER	METER	SPACING IN METERS		
20	30	Shoulder taper formula:	35	6	12	12
25	40	$L = \frac{WS^2}{465}$ for S < 70 km/h	45	8	15	15
30	50		60	9	18	18
35	55	$L = \frac{WS}{4.8}$ for S ≥ 70 km/h	75	11	21	21
40	65		95	12	24	24
45	70	Where:	110	14	27	27
50	80	L = Minimum length of taper	130	15	30	30
55	90	W = Width of offset in meters	150	17	34	34
60	95	S = Metric equivalent of posted speed	175	18	37	37
65	105	limit or 85 percentile speed prior	195	20	40	40
70	115	to work in kilometers per hour	225	21	43	43

* Approach speed based on the regulatory posted speed, not the advisory speed.

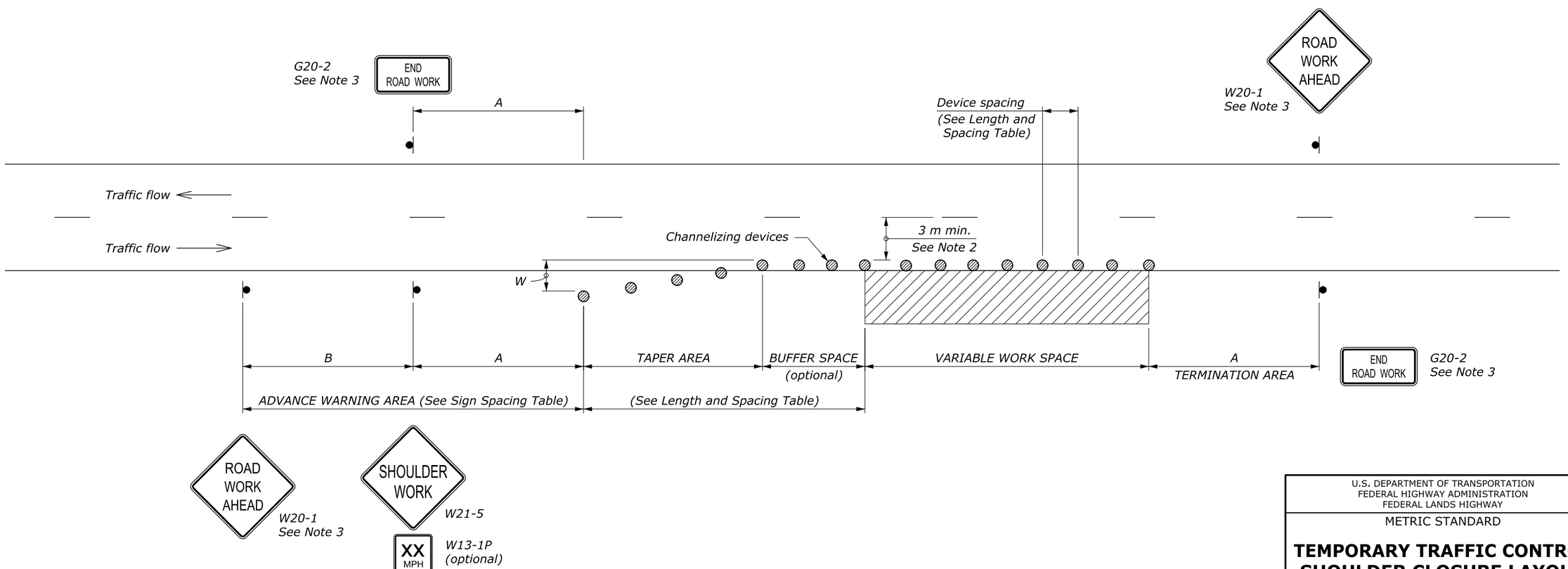
** Lengthen taper as needed to provide minimum of three channelizing devices in taper at required spacing.

SIGN SPACING TABLE

ROAD TYPE	DISTANCE BETWEEN SIGNS IN METERS		
	A	B	C
Urban and Rural ≤ 50 km/h [≤ 30 MPH]	30	30	30
Urban and Rural 60-80 km/h [35-50 MPH]	100	100	100
Rural greater than 80 km/h [50 MPH]	150	150	150
Expressway / Freeway	300	450	800

NOTE:

1. Final location and spacing of signs and devices may be changed to fit field conditions as approved by the CO.
2. For project specific minimum width, refer to Special Contract Requirements, Section 156.
3. If shoulder closure is completely within the project limits, eliminate the "ROAD WORK AHEAD" (W20-1) and "END ROAD WORK" (G20-2) signs.
4. Do not allow equipment, materials, or vehicles to be parked or stored in the buffer space.



NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
FEDERAL LANDS HIGHWAY

METRIC STANDARD

TEMPORARY TRAFFIC CONTROL SHOULDER CLOSURE LAYOUT

STANDARD APPROVED FOR USE 6/2005

REVISED:
DRAFT: 8/2013

STANDARD
M635-10

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5 August 2015 6:49 AM

STATE	PROJECT	SHEET NUMBER

LENGTH AND SPACING TABLE

APPROACH SPEED*	MINIMUM TAPER LENGTH	BUFFER SPACE LENGTH	CHANNELIZING DEVICE		
			TAPER AREA	BUFFER SPACE	WORK SPACE
MPH	FEET	FEET	SPACING IN FEET		
20	Shifting taper formula:	115	20	40	40
25	$L = \frac{WS^2}{120}$ for $S \leq 40$ MPH	155	25	50	50
30		200	30	60	60
35	$L = \frac{WS}{2}$ for $S \geq 45$ MPH	250	35	70	70
40		305	40	80	80
45	Where:	360	45	90	90
50	L = Minimum length of taper	425	50	100	100
55	W = Width of offset in feet	495	55	110	110
60	S = Numerical value of posted speed	570	60	120	120
65	limit or 85 percentile speed prior	645	65	130	130
70	to work in miles per hour	730	70	140	140

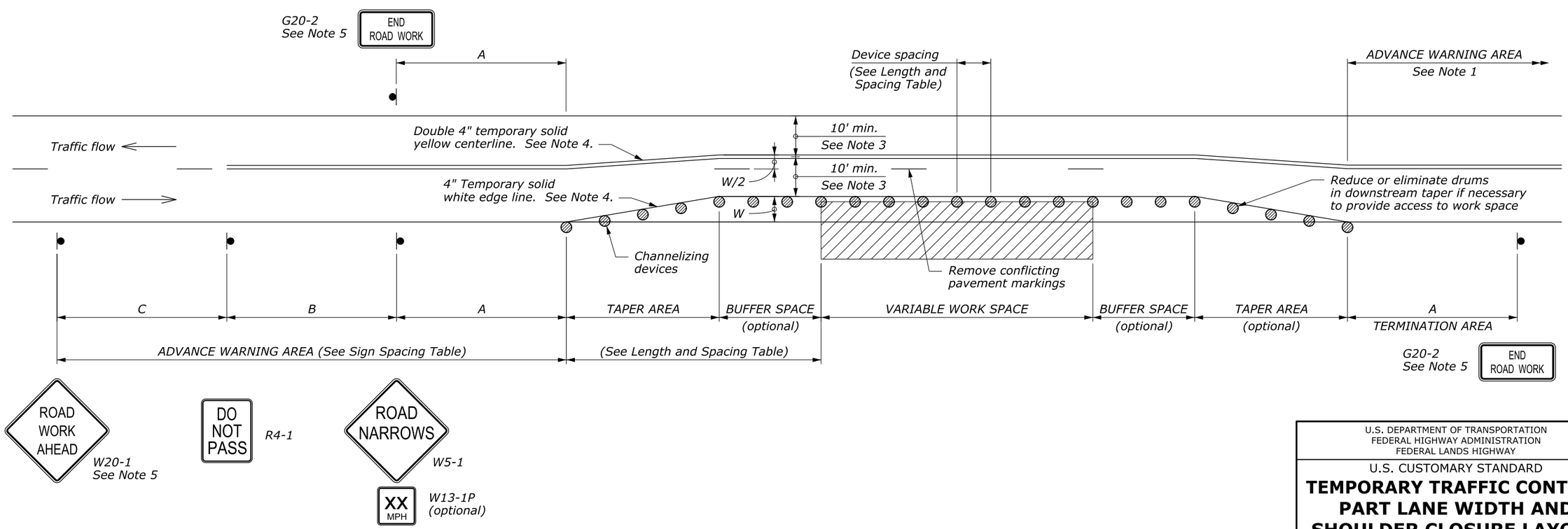
* Approach speed based on the regulatory posted speed, not the advisory speed.

SIGN SPACING TABLE

ROAD TYPE	DISTANCE BETWEEN SIGNS IN FEET		
	A	B	C
Urban and Rural 30 MPH and less	100	100	100
Urban and Rural 35 MPH to 50 MPH	350	350	350
Rural greater than 50 MPH	500	500	500
Expressway / Freeway	1000	1500	2640

NOTE:

1. Signs are shown for one direction of travel only. Place devices similar to those depicted for the opposite direction of travel.
2. Final location and spacing of signs and devices may be changed to fit field conditions as approved by the CO.
3. For project specific minimum width, refer to Special Contract Requirements, Section 156.
4. If the roadway surface is paved, install temporary pavement markings. If nearest no-passing zone is within 400', extend markings to connect zones.
5. If closure is completely within the project limits, eliminate the "ROAD WORK AHEAD" (W20-1) and "END ROAD WORK" (G20-2) signs.
6. Install "PASS WITH CARE" sign (R4-2) at ends of no-passing zone if directed by the CO.
7. Do not allow equipment, materials, or vehicles to be parked or stored in the buffer space.



NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
FEDERAL LANDS HIGHWAY

U.S. CUSTOMARY STANDARD

TEMPORARY TRAFFIC CONTROL PART LANE WIDTH AND SHOULDER CLOSURE LAYOUT

STANDARD APPROVED FOR USE 6/2005

REVISED:
DRAFT: 8/2013

STANDARD
635-11

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4 August 2015 4:21 PM

STATE	PROJECT	SHEET NUMBER

LENGTH AND SPACING TABLE

APPROACH SPEED*		MINIMUM TAPER LENGTH	BUFFER SPACE LENGTH	CHANNELIZING DEVICE		
				TAPER AREA	BUFFER SPACE	WORK SPACE
MPH	km/h	METER	METER	SPACING IN METERS		
20	30	Shifting taper formula:	35	6	12	12
25	40	$L = \frac{WS^2}{310}$ for S < 70 km/h	45	8	15	15
30	50		60	9	18	18
35	55	$L = \frac{WS}{3.2}$ for S ≥ 70 km/h	75	11	21	21
40	65		95	12	24	24
45	70	Where:	110	14	27	27
50	80	L = Minimum length of taper	130	15	30	30
55	90	W = Width of offset in meters	150	17	34	34
60	95	S = Metric equivalent of posted speed	175	18	37	37
65	105	limit or 85 percentile speed prior	195	20	40	40
70	115	to work in kilometers per hour	225	21	43	43

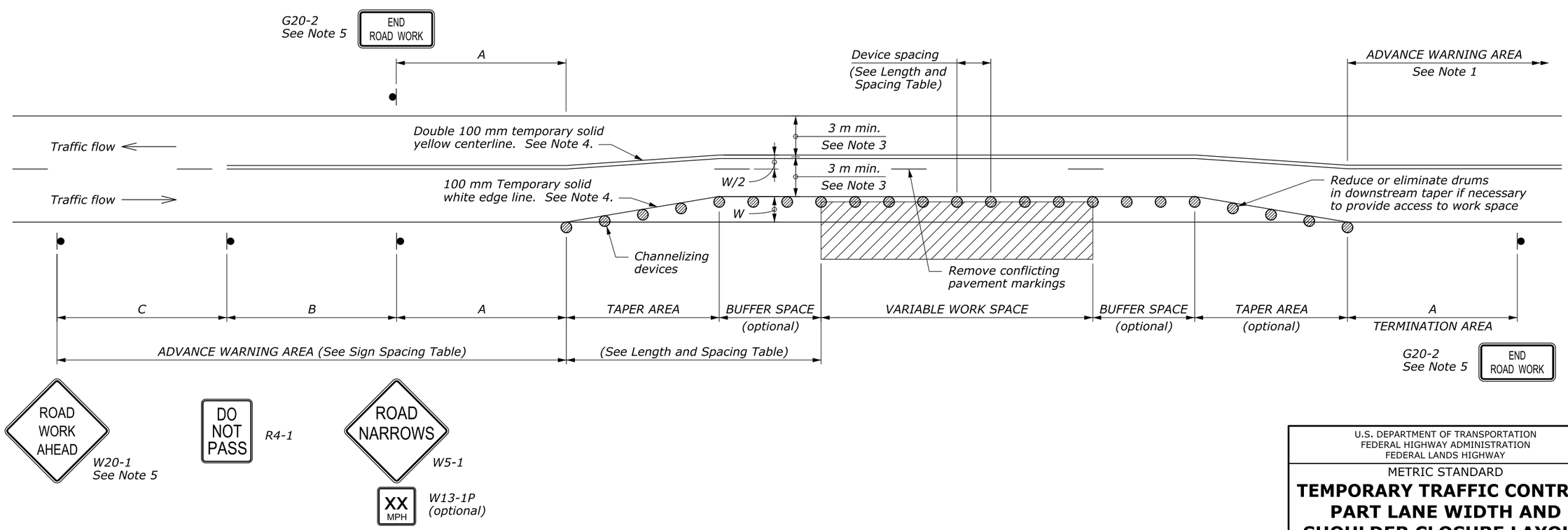
* Approach speed based on the regulatory posted speed, not the advisory speed.

SIGN SPACING TABLE

ROAD TYPE	DISTANCE BETWEEN SIGNS IN METERS		
	A	B	C
Urban and Rural ≤ 50 km/h [≤ 30 MPH]	30	30	30
Urban and Rural 60-80 km/h [35-50 MPH]	100	100	100
Rural greater than 80 km/h [50 MPH]	150	150	150
Expressway / Freeway	300	450	800

NOTE:

1. Signs are shown for one direction of travel only. Place devices similar to those depicted for the opposite direction of travel.
2. Final location and spacing of signs and devices may be changed to fit field conditions as approved by the CO.
3. For project specific minimum width, refer to Special Contract Requirements, Section 156.
4. If the roadway surface is paved, install temporary pavement markings. If nearest no-passing zone is within 120 m, extend markings to connect zones.
5. If closure is completely within the project limits, eliminate the "ROAD WORK AHEAD" (W20-1) and "END ROAD WORK" (G20-2) signs.
6. Install "PASS WITH CARE" sign (R4-2) at ends of no-passing zone if directed by the CO.
7. Do not allow equipment, materials, or vehicles to be parked or stored in the buffer space.
8. Dimensions without units are millimeters.



NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
FEDERAL LANDS HIGHWAY

METRIC STANDARD

TEMPORARY TRAFFIC CONTROL PART LANE WIDTH AND SHOULDER CLOSURE LAYOUT

STANDARD APPROVED FOR USE 6/2005

REVISED:
DRAFT: 8/2013

STANDARD
M635-11

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4 August 2015 4:22 PM

STATE	PROJECT	SHEET NUMBER

LENGTH AND SPACING TABLE

APPROACH SPEED* MPH	MINIMUM TAPER LENGTH FEET	BUFFER SPACE LENGTH FEET	CHANNELIZING DEVICE SPACING IN FEET: TAPER AREA	BUFFER SPACE	WORK SPACE	WORK ZONE CLEAR ZONE WIDTH FEET
20	Shifting taper formula:	115	20	40	40	10
25	$L = \frac{WS^2}{120}$ for $S \leq 40$ MPH	155	25	50	50	10
30		200	30	60	60	10
35	$L = \frac{WS}{2}$ for $S \geq 45$ MPH	250	35	70	70	10
40		305	40	80	80	15
45	Where:	360	45	90	90	20
50	L = Minimum length of taper	425	50	100	100	20
55	W = Width of offset in feet	495	55	110	110	20
60	S = Numerical value of posted speed	570	60	120	120	30
65	limit or 85 percentile speed prior	645	65	130	130	30
70	to work in miles per hour	730	70	140	140	30

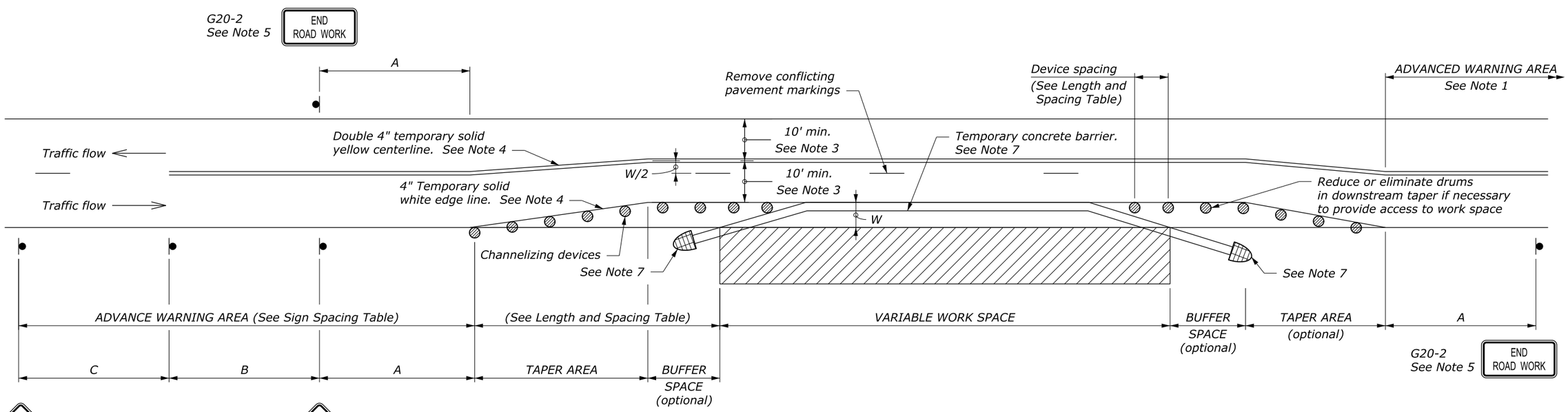
* Approach speed based on the regulatory posted speed, not the advisory speed.

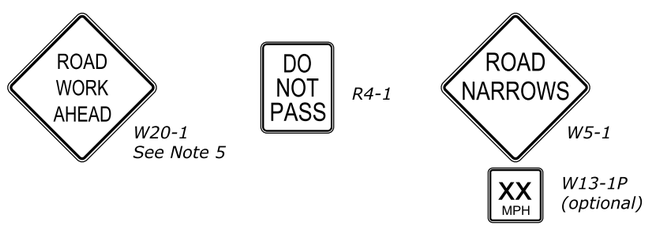
SIGN SPACING TABLE

ROAD TYPE	DISTANCE BETWEEN SIGNS IN FEET: A	B	C
Urban and Rural 30 MPH and less	100	100	100
Urban and Rural 35 MPH to 50 MPH	350	350	350
Rural greater than 50 MPH	500	500	500
Expressway / Freeway	1000	1500	2640

NOTE:

1. Signs are shown for one direction of travel only. Place devices similar to those depicted for the opposite direction of travel.
2. Final location and spacing of signs and devices may be changed to fit field conditions as approved by the CO.
3. For project specific minimum width, refer to Special Contract Requirements, Section 156.
4. If the roadway surface is paved, install temporary pavement markings. If nearest no-passing zone is within 400', extend markings to connect zones.
5. If closure is completely within the project limits, eliminate the "ROAD WORK AHEAD" (W20-1) and "END ROAD WORK" (G20-2) signs.
6. Install "PASS WITH CARE" sign (R4-2) at ends of no-passing zone if directed by the CO.
7. Place the barrier according to the AASHTO Roadside Design Guide. Terminate barrier ends outside the work zone clear zone or protect the barrier ends with a crash cushion. Include reflectors on barrier at 25' intervals.
8. Do not allow equipment, materials, or vehicles to be parked or stored in the buffer space.





NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
FEDERAL LANDS HIGHWAY

U.S. CUSTOMARY STANDARD

TEMPORARY TRAFFIC CONTROL PART LANE WIDTH AND SHOULDER CLOSURE LAYOUT WITH TEMPORARY BARRIER

STANDARD APPROVED FOR USE 6/2005

REVISED:
DRAFT: 6/2015

STANDARD 635-12

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4 August 2015 12:52 PM

STATE	PROJECT	SHEET NUMBER

LENGTH AND SPACING TABLE

APPROACH SPEED*		MINIMUM TAPER LENGTH	BUFFER SPACE LENGTH	CHANNELIZING DEVICE			WORK ZONE CLEAR ZONE WIDTH
				TAPER AREA	BUFFER SPACE	WORK SPACE	
MPH	km/h	METER	METER	SPACING IN METERS			METER
20	30	Shifting taper formula:	35	6	12	12	3.0
25	40	$L = \frac{WS^2}{310}$ for S < 70 km/h	45	8	15	15	3.0
30	50		60	9	18	18	3.0
35	55	$L = \frac{WS}{3.2}$ for S ≥ 70 km/h	75	11	21	21	3.0
40	65		95	12	24	24	4.6
45	70	Where:	110	14	27	27	6.1
50	80	L = Minimum length of taper	130	15	30	30	6.1
55	90	W = Width of offset in meters	150	17	34	34	6.1
60	95	S = Metric equivalent of posted speed	175	18	37	37	9.0
65	105	limit or 85 percentile speed prior	195	20	40	40	9.0
70	115	to work in kilometers per hour	225	21	43	43	9.0

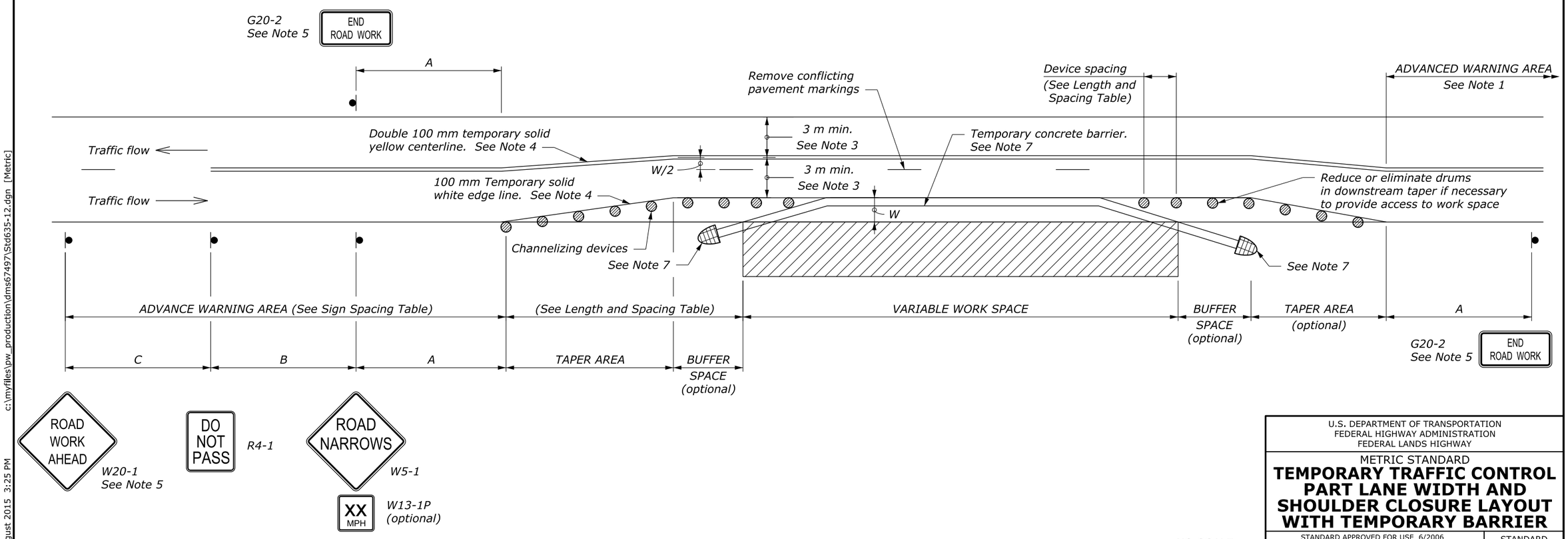
* Approach speed based on the regulatory posted speed, not the advisory speed.

SIGN SPACING TABLE

ROAD TYPE	DISTANCE BETWEEN SIGNS IN METERS		
	A	B	C
Urban and Rural ≤ 50 km/h [≤ 30 MPH]	30	30	30
Urban and Rural 60-80 km/h [35-50 MPH]	100	100	100
Rural greater than 80 km/h [50 MPH]	150	150	150
Expressway / Freeway	300	450	800

NOTE:

1. Signs are shown for one direction of travel only. Place devices similar to those depicted for the opposite direction of travel.
2. Final location and spacing of signs and devices may be changed to fit field conditions as approved by the CO.
3. For project specific minimum width, refer to Special Contract Requirements, Section 156.
4. If the roadway surface is paved, install temporary pavement markings. If nearest no-passing zone is within 120 m, extend markings to connect zones.
5. If closure is completely within the project limits, eliminate the "ROAD WORK AHEAD" (W20-1) and "END ROAD WORK" (G20-2) signs.
6. Install "PASS WITH CARE" sign (R4-2) at ends of no-passing zone if directed by the CO.
7. Place the barrier according to the AASHTO Roadside Design Guide. Terminate barrier ends outside the work zone clear zone or protect the barrier ends with a crash cushion. Include reflectors on barrier at 7.6 m intervals.
8. Do not allow equipment, materials, or vehicles to be parked or stored in the buffer space.
9. Dimensions without units are millimeters.



NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
FEDERAL LANDS HIGHWAY

METRIC STANDARD

TEMPORARY TRAFFIC CONTROL PART LANE WIDTH AND SHOULDER CLOSURE LAYOUT WITH TEMPORARY BARRIER

STANDARD APPROVED FOR USE 6/2006

REVISED:
DRAFT: 6/2015

STANDARD
M635-12

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4 August 2015 3:25 PM

STATE	PROJECT	SHEET NUMBER

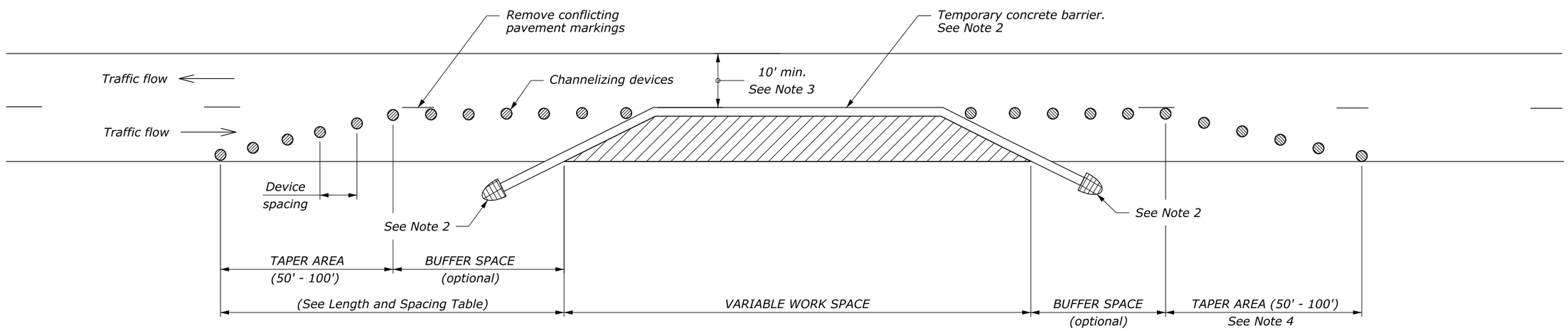
LENGTH AND SPACING TABLE

APPROACH SPEED* MPH	BUFFER SPACE LENGTH FEET	CHANNELIZING DEVICE SPACING IN FEET: TAPER AREA	BUFFER SPACE	WORK SPACE	CONCRETE BARRIER FLARE RATE	WORK ZONE CLEAR ZONE WIDTH FEET
20	115	20	40	40	1:8	10
25	155	20	50	50	1:8	10
30	200	20	60	60	1:8	10
35	250	20	70	70	1:9	10
40	305	20	80	80	1:10	15
45	360	20	90	90	1:12	20
50	425	20	100	100	1:14	20
55	495	20	110	110	1:16	20
60	570	20	120	120	1:16	30
65	645	20	130	130	1:16	30
70	730	20	140	140	1:16	30

* Approach speed based on the regulatory posted speed, not the advisory speed.

NOTE:

1. Install signs and other devices for single lane closure according to Standard 635-6, 7, 8, or 9. Final location and spacing of signs and devices may be changed to fit field conditions as approved by the CO.
2. Place barrier according to the AASHTO Roadside Design Guide. Terminate barrier ends outside the work zone clear zone or protect the barrier ends with a crash cushion. Include reflectors on barrier at 25' intervals.
3. For project specific minimum width, refer to Special Contract Requirements, Section 156.
4. Place channelizing devices at downstream taper during non-work hours or when access is not needed.
5. Do not allow equipment, materials, or vehicles to be parked or stored in the buffer space.
6. Reduce or eliminate drums and barrier in downstream taper if necessary to provide access to work space.



NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
FEDERAL LANDS HIGHWAY

U.S. CUSTOMARY STANDARD

TEMPORARY TRAFFIC CONTROL SINGLE LANE CLOSURE LAYOUT (WITH TEMPORARY BARRIER)

STANDARD APPROVED FOR USE 6/2005

REVISED:
DRAFT: 6/2015

STANDARD 635-13

4 August 2015 11:17 AM c:\myfiles\pw_production\dms67497\Std635-13.dgn [USC]

STATE	PROJECT	SHEET NUMBER

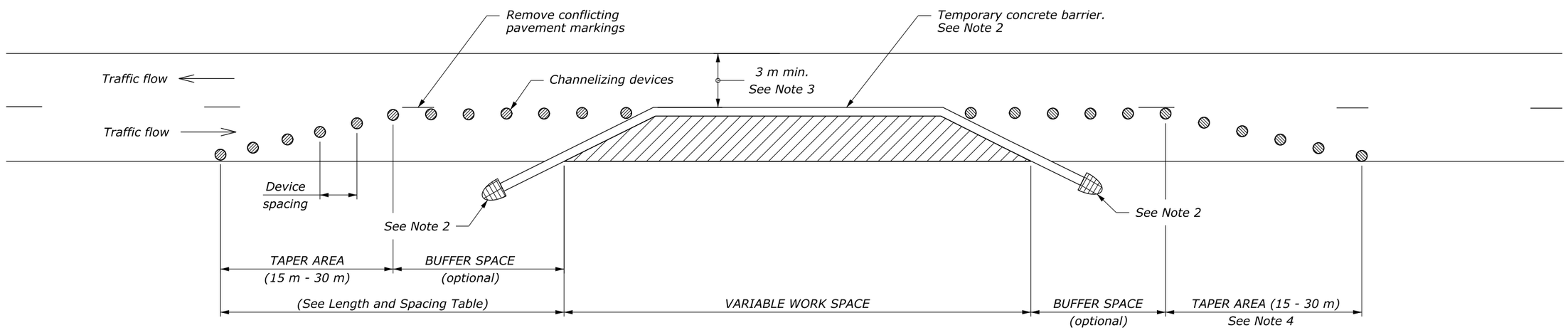
LENGTH AND SPACING TABLE

APPROACH SPEED*		BUFFER SPACE LENGTH	CHANNELIZING DEVICE			CONCRETE BARRIER FLARE RATE	WORK ZONE CLEAR ZONE WIDTH METER
			TAPER AREA	BUFFER SPACE	WORK SPACE		
MPH	km/h		SPACING IN METERS				
20	30	35	6	12	12	1:8	3.0
25	40	45	6	15	15	1:8	3.0
30	50	60	6	18	18	1:8	3.0
35	55	75	6	21	21	1:9	3.0
40	65	95	6	24	24	1:10	4.6
45	70	110	6	27	27	1:12	6.1
50	80	130	6	30	30	1:14	6.1
55	90	150	6	34	34	1:16	6.1
60	95	175	6	37	37	1:16	9.0
65	105	195	6	40	40	1:16	9.0
70	115	225	6	43	43	1:16	9.0

* Approach speed based on the regulatory posted speed, not the advisory speed.

NOTE:

1. Install signs and other devices for single lane closure according to Standard M635-6, 7, 8, or 9. Final location and spacing of signs and devices may be changed to fit field conditions as approved by the CO.
2. Place barrier according to the AASHTO Roadside Design Guide. Terminate barrier ends outside the work zone clear zone or protect the barrier ends with a crash cushion. Include reflectors on barrier at 7.6 m intervals.
3. For project specific minimum width, refer to Special Contract Requirements, Section 156.
4. Place channelizing devices at downstream taper during non-work hours or when access is not needed.
5. Do not allow equipment, materials, or vehicles to be parked or stored in the buffer space.
6. Reduce or eliminate drums and barrier in downstream taper if necessary to provide access to work space.



NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
FEDERAL LANDS HIGHWAY

METRIC STANDARD

TEMPORARY TRAFFIC CONTROL SINGLE LANE CLOSURE LAYOUT (WITH TEMPORARY BARRIER)

STANDARD APPROVED FOR USE 6/2005

REVISED:
DRAFT: 6/2015

STANDARD M635-13

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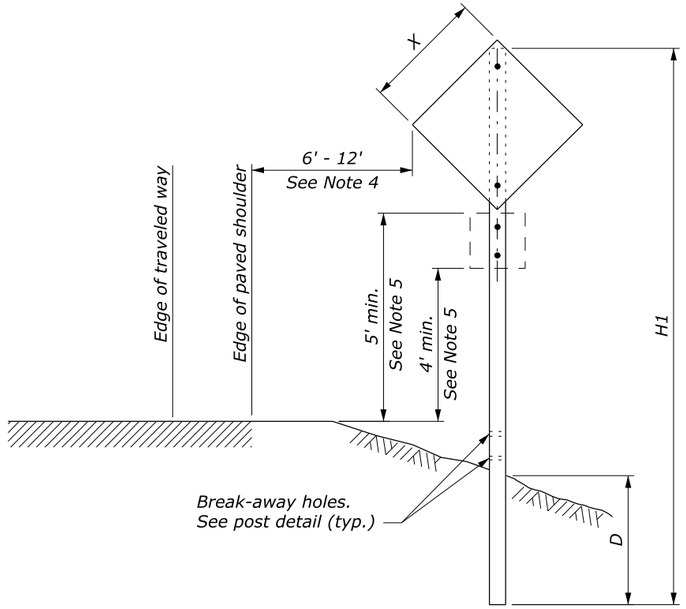
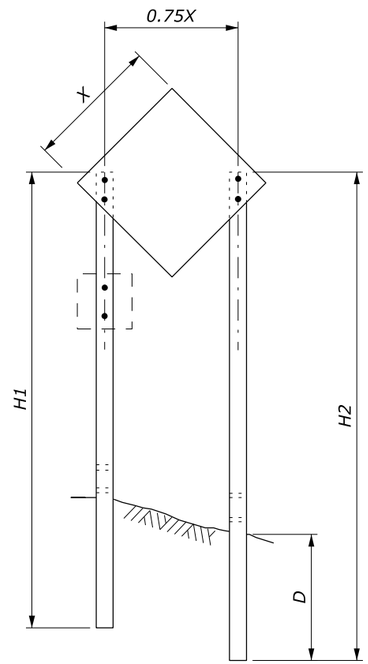
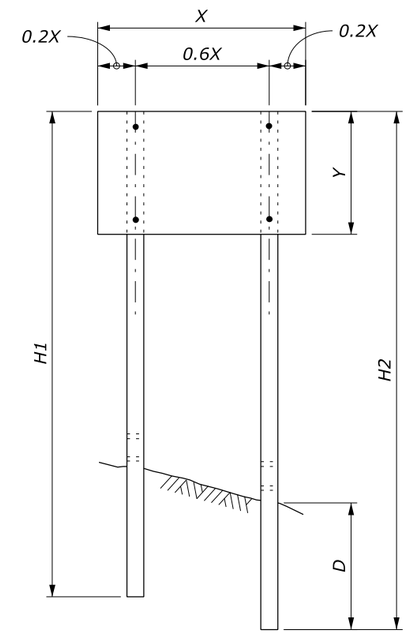
STATE	PROJECT	SHEET NUMBER



SINGLE POST SIGN





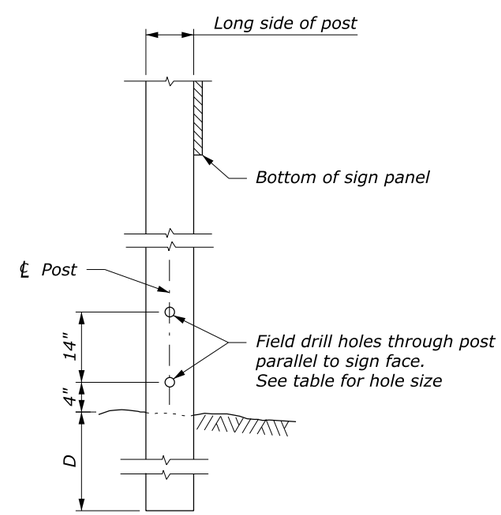
TWO POST SIGN

NOTE:

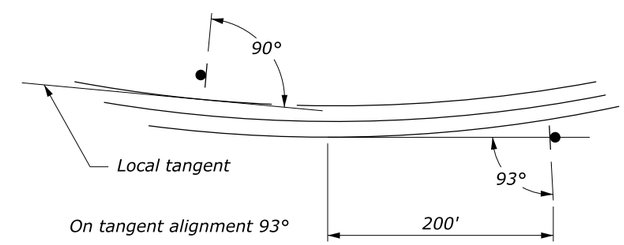
1. Attach sign panels with a minimum of 2 - ¼" dia. bolts per post.
2. H1 and H2 = Overall post length. Select post lengths to fit field conditions.
3. D = Post embedment depth for average soil conditions.
4. In areas where lateral distance is limited, a minimum lateral offset of 2' may be used. In areas with curbs, a minimum lateral distance of 1' behind the face of the curb may be used.
5. In pedestrian locations, or in areas with obstructed views, use 7' minimum mounting height for main sign and 6' minimum mounting height for secondary sign.
6. Use 7' minimum spacing between posts for sign posts 6" x 6" or larger.
7. State standards may be used as an alternative if approved by the CO.

WOOD POST SELECTION TABLE

WIDTH "X"	AREA (SQFT)	NUMBER OF POSTS	POST SIZE (INCH)	D (INCH)	HOLE SIZE (INCH)
Diamond ≤ 36" Other Shapes ≤ 48"	< 10	1	4 x 4	36	0
		1	4 x 6	48	1.5
Diamond ≤ 48"	10 - 20	1	6 x 6	48	2
Diamond ≤ 48" Other Shapes ≤ 12'	10 - 20	2	4 x 4	36	0
	20 - 50	2	4 x 6	48	1.5
> 13'	50 - 65	2	6 x 6	48	2
12' - 16'	50 - 65	3	4 x 6	48	1.5
> 17'	65 - 95	4	4 x 6	48	1.5
> 30'	65 - 95	3	6 x 6	48	2



POST DETAIL



SIGN INSTALLATION ANGLE

NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
FEDERAL LANDS HIGHWAY

U.S. CUSTOMARY STANDARD

TEMPORARY TRAFFIC CONTROL SIGN INSTALLATION WOOD POSTS

STANDARD APPROVED FOR USE 6/2005

REVISED:
DRAFT: 10/2017

STANDARD 635-14

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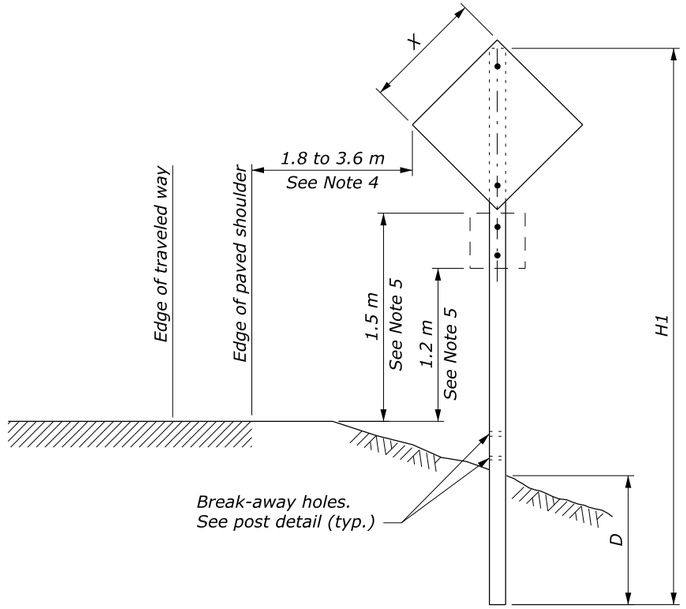
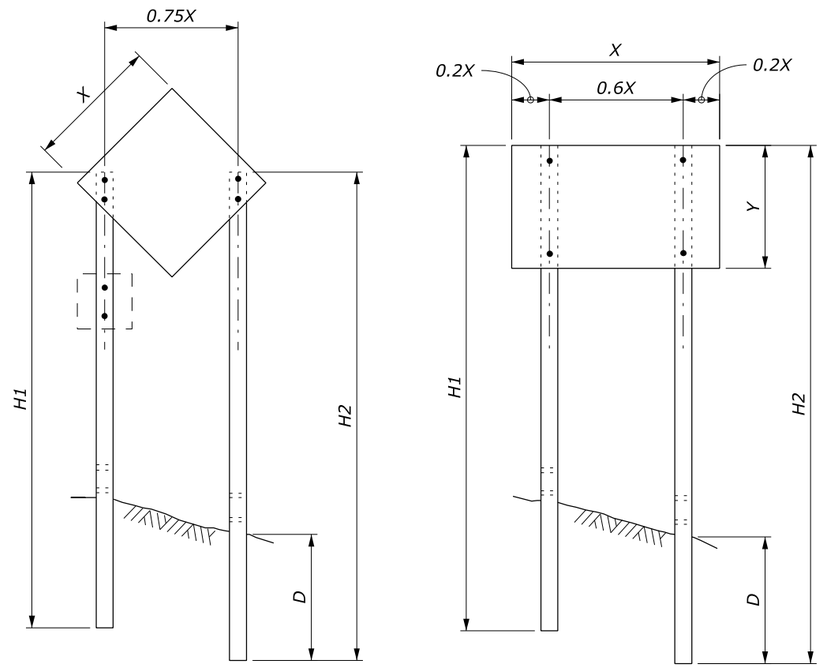
STATE	PROJECT	SHEET NUMBER



SINGLE POST SIGN



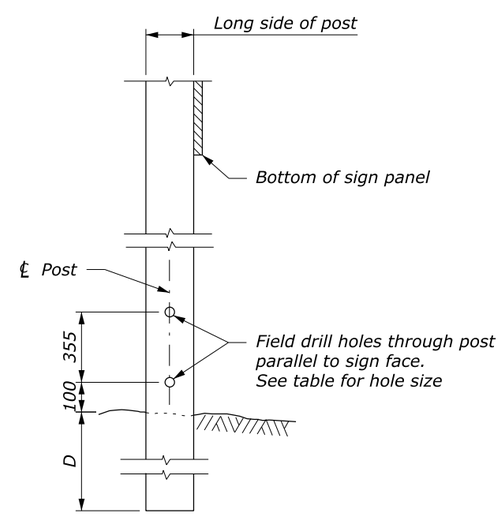
TWO POST SIGN

NOTE:

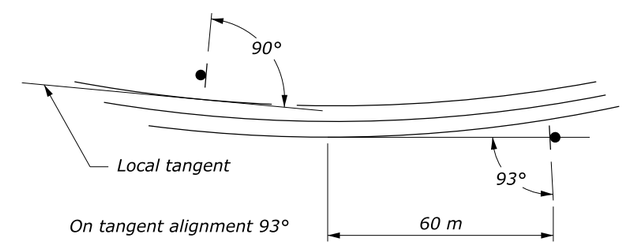
1. Attach sign panels with a minimum of 2 - 6.25 mm Ø bolts per post.
2. H1 and H2 = Overall post length. Select post lengths to fit field conditions.
3. D = Post embedment depth for average soil conditions.
4. In areas where lateral distance is limited, a minimum lateral offset of 600 mm may be used. In areas with curbs, a minimum lateral distance of 300 mm behind the face of the curb may be used.
5. In pedestrian locations, or in areas with obstructed views, use 2.1 m minimum mounting height for main sign and 1.8 m minimum mounting height for secondary sign.
6. Use 2.1 m minimum spacing between posts for sign posts 150 mm x 150 mm or larger.
7. State standards may be used as an alternative if approved by the CO.
8. Dimensions without units are millimeters.

WOOD POST SELECTION TABLE

WIDTH "X"	AREA (m2)	NUMBER OF POSTS	POST SIZE (mm)	D (mm)	HOLE SIZE (mm)
Diamond ≤ 915 mm Other Shapes ≤ 1220 mm	< 0.9	1	100 x 100	900	0
		1	100 x 150	1200	40
Diamond ≤ 1220 mm	0.9 - 1.9	1	150 x 150	1200	50
Diamond ≤ 1220 mm Other Shapes ≤ 3.7 m	0.9 - 1.9	2	100 x 100	900	0
	1.9 - 4.6	2	100 x 150	1200	40
> 4 m	4.6 - 6.0	2	150 x 150	1200	50
3.7 m - 4.9 m	4.6 - 6.0	3	100 x 150	1200	40
> 5 m	6.0 - 8.9	4	100 x 150	1200	40
> 9 m	6.0 - 8.9	3	150 x 150	1200	50



POST DETAIL



SIGN INSTALLATION ANGLE

NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
FEDERAL LANDS HIGHWAY

METRIC STANDARD

TEMPORARY TRAFFIC CONTROL SIGN INSTALLATION WOOD POSTS

STANDARD APPROVED FOR USE 6/2005

REVISED:
DRAFT: 10/2017

STANDARD
M635-14

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