

RECOMMENDED SIGN SPACING = X (1)		
RURAL HIGHWAYS	60-65 MPH	800±
RURAL ROADS	45-55 MPH	500±

(1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERCHANGE RAMP, AT-GRADE INTERSECTIONS AND DRIVEWAYS.

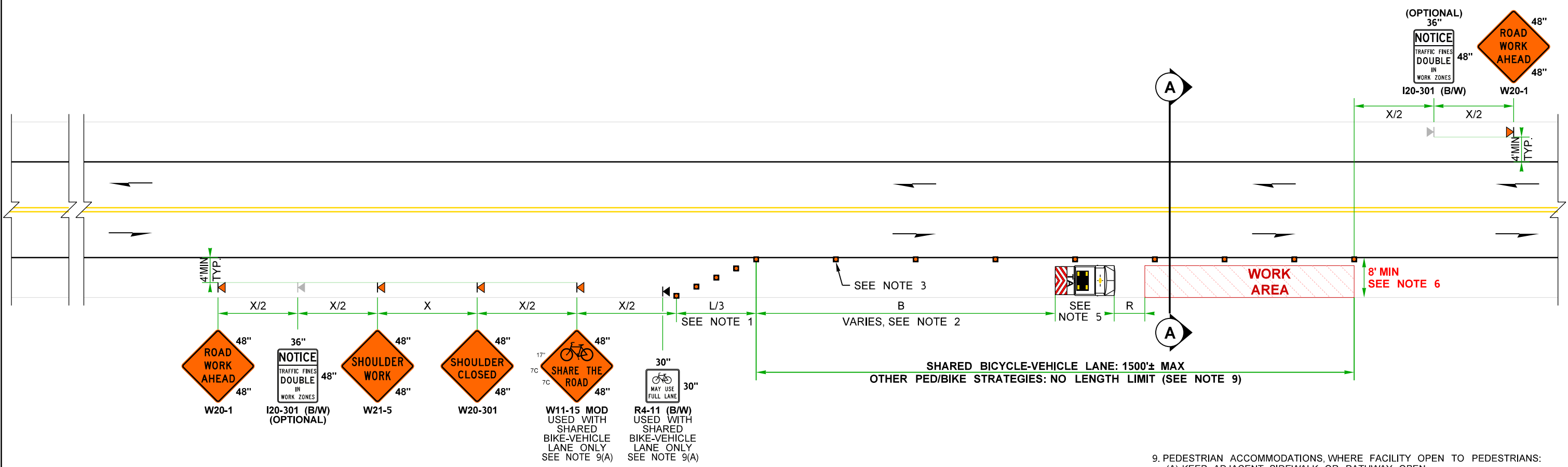
SHOULDER CLOSURE TAPER LENGTH = L/3						
SHOULDER WIDTH	SPEED (MPH)	45	50	55	60	65
< 8'		USE LANE CLOSURE INSTEAD				
8'	L/3 (feet)	120	160	160	160	200
10'		150	200	200	200	240

LONGITUDINAL BUFFER SPACE = B					
SPEED (MPH)	45	50	55	60	65
B (feet)	360	425	495	570	645

Buffer space may be adjusted (±) based on field conditions.

MAXIMUM CHANNELIZATION DEVICE SPACING (feet)		
MPH	TAPER	TANGENT
50 - 65	40	80
45	30	60

STATIONARY TRANSPORTABLE ATTENUATOR ROLL AHEAD DISTANCE = R			
HOST VEHICLE WEIGHT LESS THAN 22,000 lbs.	HOST VEHICLE WEIGHT 22,000+ lbs.		
45-55 MPH	60+ MPH	45-55 MPH	60+ MPH
123'	172'	100'	150'



**NOTES:**

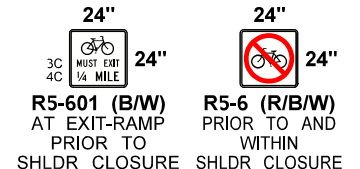
- IF FEASIBLE, AVOID PLACING SHOULDER CLOSURE TAPER WITHIN OR IMMEDIATELY FOLLOWING HORIZONTAL AND VERTICAL CREST CURVES.
- DISTANCE INCREASES AS WORK AREA MOVES DOWNSTREAM.
- 28" TRAFFIC CONE, 36" TRAFFIC CONES, 42" TALL CHANNELIZING DEVICES, OR TRAFFIC SAFETY DRUMS ALLOWED ON TAPERS AND TANGENTS. ENCROACHMENT INTO ADJACENT OPEN LANE PROHIBITED (BASE WEIGHT MAY ENCROACH). USE 5' MIN MOUNTING HEIGHT ON TEMPORARY SIGNS PLACED BEHIND TRAFFIC SAFETY DRUMS.
- FOR SIGNS PLACED BEHIND TRAFFIC SAFETY DRUMS, USE 5-FOOT MOUNTING HEIGHT.
- RED/WHITE OR BLACK/YELLOW CHEVRON PATTERN OK. ADDITIONAL TRANSPORTABLE ATTENUATORS MAY BE ADDED BEHIND EACH WORK CREW.
- IF PAVED SHOULDER IS LESS THAN 8 FEET WIDE AT TRANSPORTABLE ATTENUATORS AND WORK AREA, THEN A LANE CLOSURE SHALL BE IMPLEMENTED.
- SIGNS ARE BLACK ON ORANGE UNLESS OTHERWISE INDICATED.
- PLAN IS APPLICABLE TO SHOULDER CLOSURES OF 7 DAYS OR LESS.

- PEDESTRIAN ACCOMMODATIONS, WHERE FACILITY OPEN TO PEDESTRIANS:
  - KEEP ADJACENT SIDEWALK OR PATHWAY OPEN.
  - CLOSE ADJACENT SIDEWALK OR PATHWAY. PROVIDE PEDESTRIAN DETOUR, ALTERNATE ROUTE, OR FREE SHUTTLE (WORK TRUCK, VAN, OR BUS OK).
  - STOP WORK OPS. & ESCORT PEDESTRIANS THROUGH WORK AREA.
  - ENGINEER TO ACCEPT ANY ALTERNATIVE STRATEGIES.
- BICYCLIST ACCOMMODATIONS, WHERE FACILITY OPEN TO BICYCLES:
  - SHARED BICYCLE-VEHICLE LANE. ADD W11-15 MOD & R4-11 SIGNS.
  - BICYCLES PROHIBITED VIA R5-601 (IF EXIT-RAMP PRESENT) & R5-6 SIGNS. PROVIDE SIGNED DETOUR OR ALTERNATIVE ROUTE.
  - BICYCLES PROHIBITED VIA R5-6 SIGN(S). PROVIDE FREE SHUTTLE (WORK TRUCK, VAN, OR BUS OK) + CONTACT INFORMATION/PHONE BOX/LABORER.
  - STOP WORK OPS. & ESCORT BICYCLISTS THROUGH SHOULDER CLOSURE.
  - ENGINEER TO ACCEPT ANY ALTERNATIVE STRATEGIES.

**LEGEND:**

	TEMPORARY SIGN LOCATION (1' MIN HEIGHT)
	CHANNELIZING DEVICE (SEE NOTE 3)
	TRANSPORTABLE ATTENUATOR (TL-3)

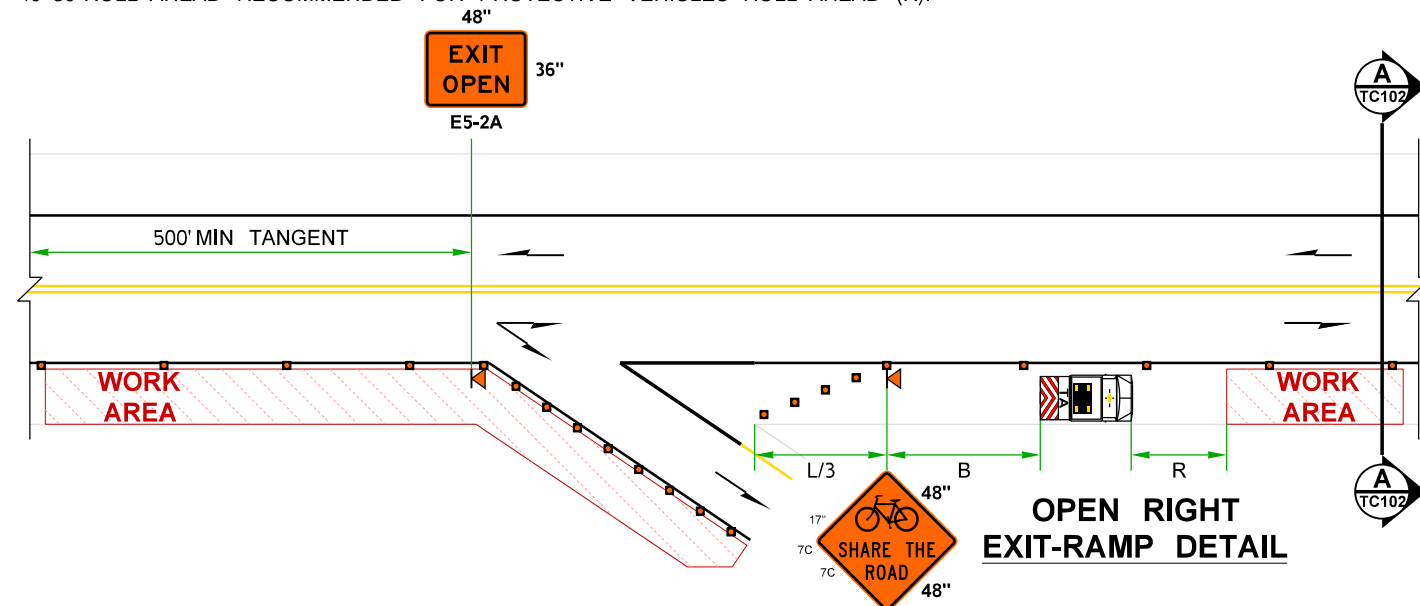
**SHOULDER CLOSURE  
(45+ MPH HIGHWAYS)  
NOT TO SCALE**



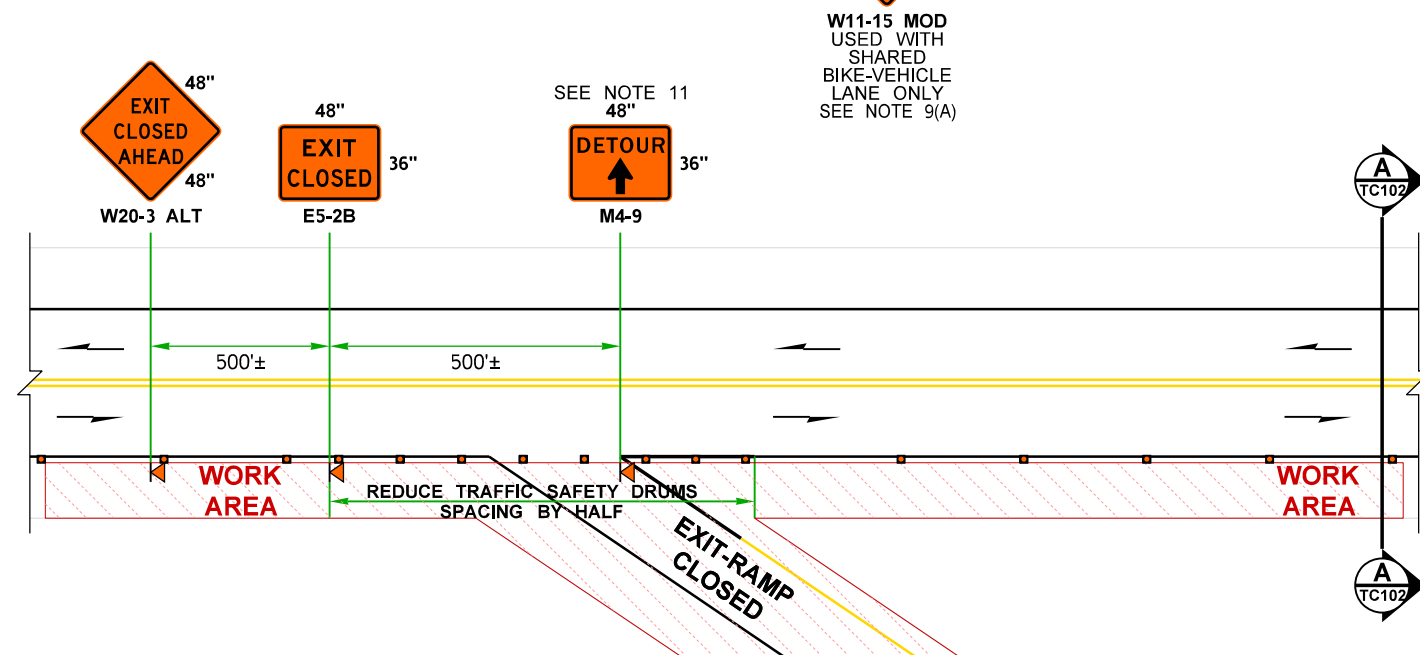
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TIME	9:26:51 AM				10	WASH			PLAN REF NO TC303
DATE	3/29/2024				JOB NUMBER			SHEET 1 OF 2 SHEETS	
PLOTTED BY	LintzF				CONTRACT NO.	LOCATION NO.			
DESIGNED BY									
ENTERED BY									
CHECKED BY									
PROJ. ENGR.									
REGIONAL ADM.	REVISION	DATE	BY		P.E. STAMP BOX	DATE	P.E. STAMP BOX	TYPICAL TRAFFIC CONTROL PLANS	

**NOTES:**

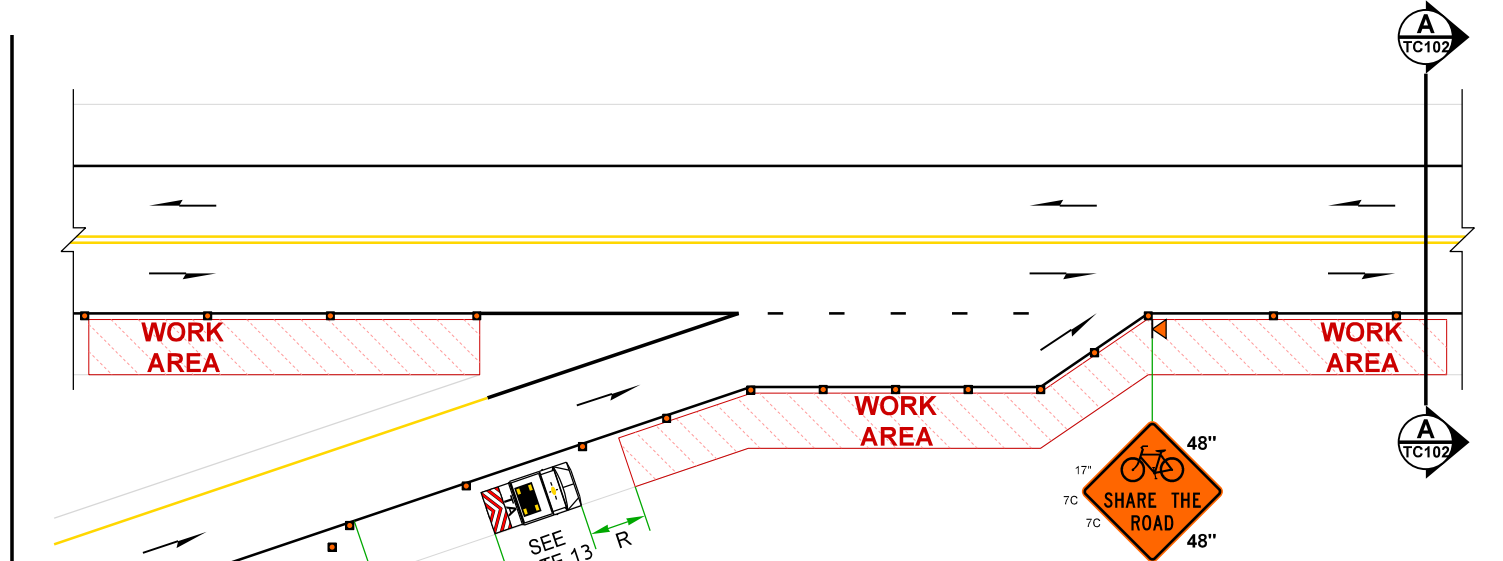
- 10. FOR LEGEND, TABLES, AND ADDITIONAL NOTES: SEE TC102, SHEET 1.
- 11. SEE DETOUR PLAN FOR ADDITIONAL RAMP CLOSURE DETOUR SIGNAGE.
- 12. BUFFER SPACE BASED ON PREVAILING SPEED OF MOTORISTS PASSING TRANSPORTABLE ATTENUATOR, TYPICALLY VARIES FROM 20 MPH AT TOP OF ON-RAMP TO POSTED SPEED LIMIT AT GORE TIP.
- 13. PROTECTIVE VEHICLE PERMITTED IF PREVAILING SPEED OF MOTORISTS PASSING IS 40 MPH OR LESS. 40'-80' ROLL AHEAD RECOMMENDED FOR PROTECTIVE VEHICLES ROLL AHEAD (R).



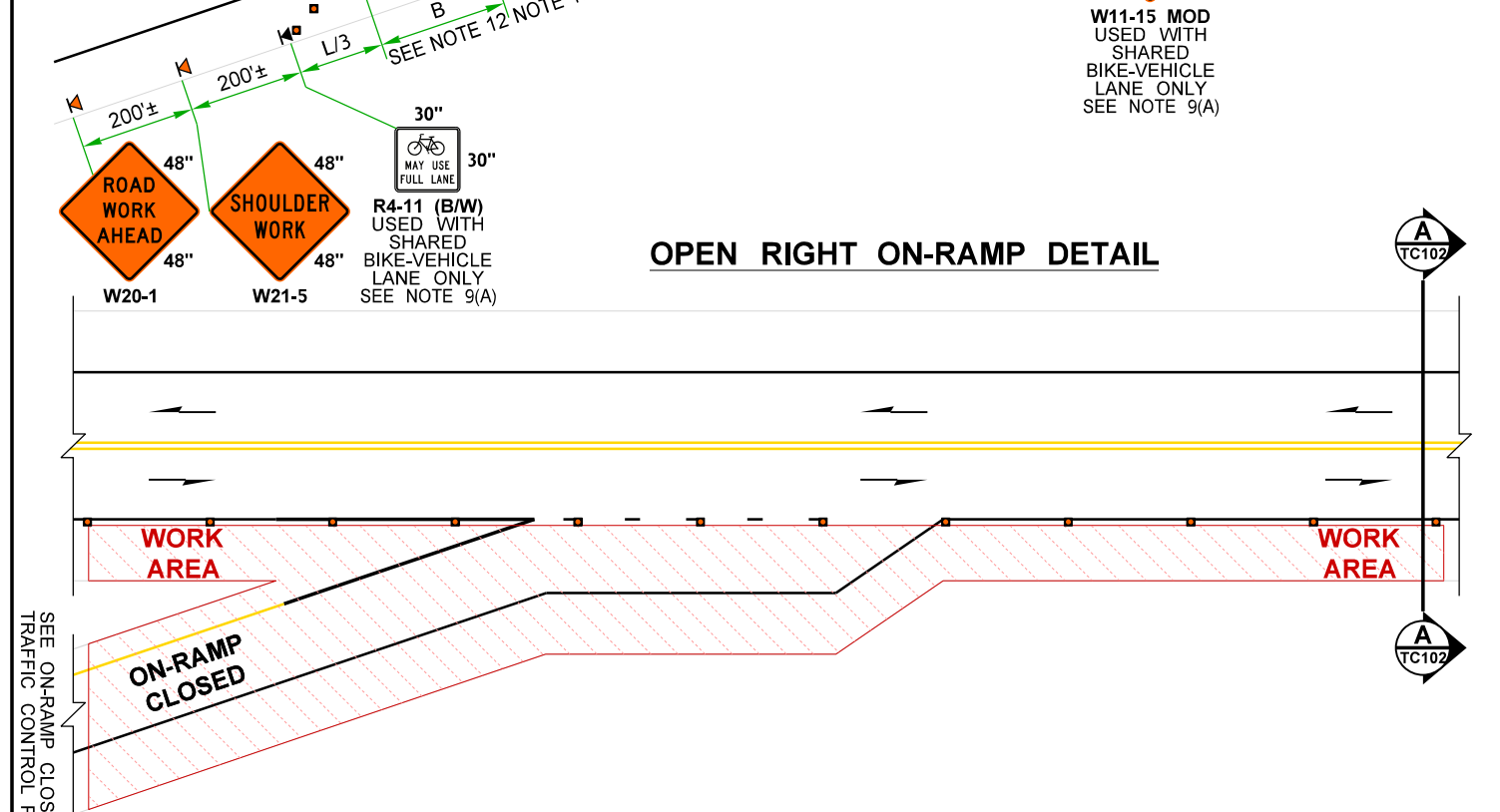
**OPEN RIGHT EXIT-RAMP DETAIL**



**CLOSED RIGHT EXIT-RAMP DETAIL**



**OPEN RIGHT ON-RAMP DETAIL**



**CLOSED RIGHT ON-RAMP DETAIL**

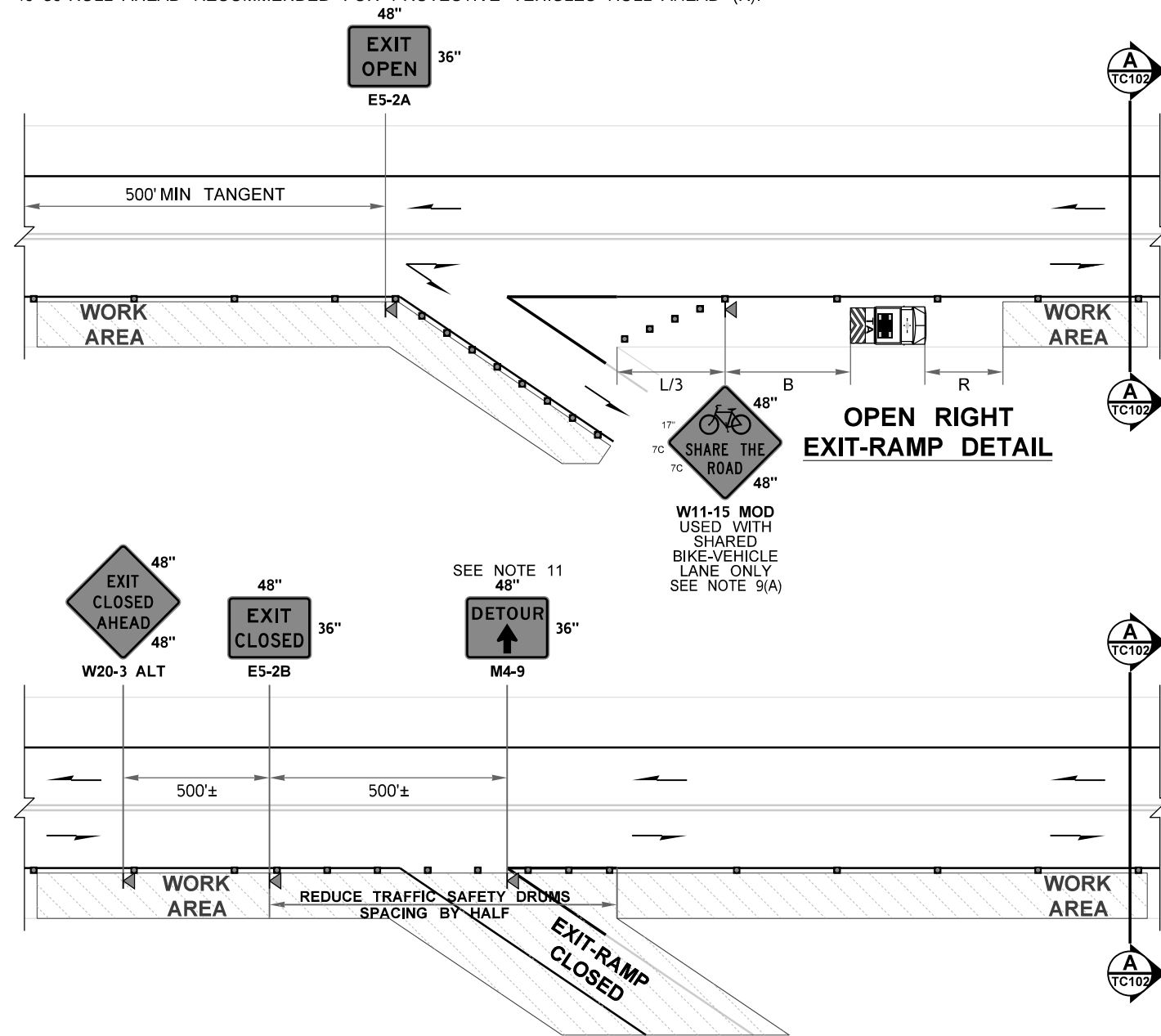
**FREEWAY (2+ LANES): RIGHT SHOULDER CLOSURE (MAINTAIN EXISTING SPEED LIMIT)**  
NOT TO SCALE

FILE NAME	C:\Users\LintzF\OneDrive - Washington State Department of Transportation\Desktop\Work Zone TCPs\303Hwy45+Shldr.dgn			REGION NO.	STATE	FED.AID PROJ.NO.	Washington State Department of Transportation	Plot 2
TIME	9:26:52 AM			10	WASH			PLAN REF NO TC303
DATE	3/29/2024			JOB NUMBER				SHEET 2
PLOTTED BY	LintzF			CONTRACT NO.		LOCATION NO.		OF 2
DESIGNED BY								SHEETS
ENTERED BY								
CHECKED BY								
PROJ. ENGR.								
REGIONAL ADM.	REVISION	DATE	BY					TYPICAL TRAFFIC CONTROL PLANS

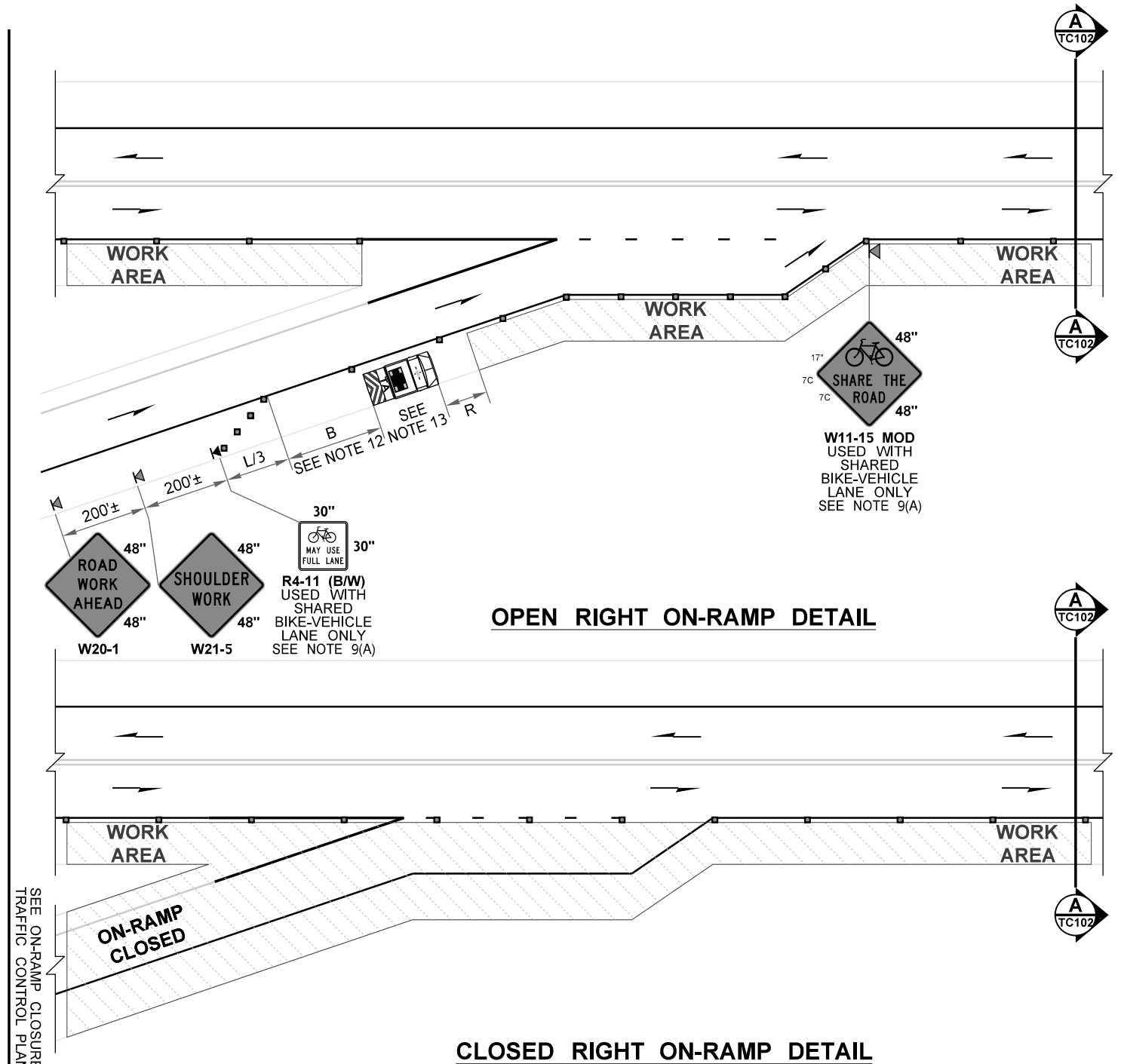


**NOTES:**

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- 11. SEE DETOUR PLAN FOR ADDITIONAL RAMP CLOSURE DETOUR SIGNAGE.
- 12. BUFFER SPACE BASED ON PREVAILING SPEED OF MOTORISTS PASSING TRANSPORTABLE ATTENUATOR, TYPICALLY VARIES FROM 20 MPH AT TOP OF ON-RAMP TO POSTED SPEED LIMIT AT GORE TIP.
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**CLOSED RIGHT EXIT-RAMP DETAIL**



**CLOSED RIGHT ON-RAMP DETAIL**

**FREEWAY (2+ LANES): RIGHT SHOULDER CLOSURE (MAINTAIN EXISTING SPEED LIMIT)**

NOT TO SCALE

FILE NAME C:\Users\LintzF\OneDrive - Washington State Department of Transportation\Desktop\Work Zone TCPs\303Hwy45+Shldr.dgn		REGION NO. STATE		FED.AID PROJ.NO.		Plot 2	
TIME 9:26:52 AM		10	WASH			PLAN REF NO TC303	
DATE 3/29/2024		JOB NUMBER				SHEET 2 OF 2 SHEETS	
PLOTTED BY LintzF		CONTRACT NO.		LOCATION NO.		TYPICAL TRAFFIC CONTROL PLANS	
DESIGNED BY							
ENTERED BY							
CHECKED BY							
PROJ. ENGR.							
REGIONAL ADM.	REVISION	DATE	BY	P.E. STAMP BOX	DATE	P.E. STAMP BOX	



**WORK ZONE MICROSTATION CELLS: Updated work zone cells incorporated (March 2024).**

WSDOT CAE automatically updates cell libraries on WSDOT and on-site consultant staff computers (no action needed); however, external users or off-site consultants must manually install them. For additional information e-mail HQCAEHelpDesk@wsdot.wa.gov.

Division 4 in WSDOT Plans Preparation Manual, Section 400.06(29), provides updated work zone cell library policy and information for PS&Es. See <https://wsdot.wa.gov/engineering-standards/all-manuals-and-standards/manuals/plans-preparation-manual>

**PLOT USAGE EXPLANATION:**

- Plot 1:** Shoulder closure maintaining existing speed limit on highways with 45 mph or higher speed limits.
- Plot 2:** Right ramp details within shoulder closure maintaining existing speed limit on highways with 45 mph or higher speed limits.
- Note:** Details for at-grade intersections will be added at a future date.

**DESIGNER NOTES:**

- A. These typical traffic control plans (Typical TCPs) may be modified for project-specific, site-specific situations, and/or WSDOT Region Transportation Operations standard practices. **Typical TCPs are not "Standard Plans"**.
- B. Because of the minimal traffic impacts of shoulder closures, Portable Changeable Message Signs (PCMSs) are avoided. PCMSs are optional per MUTCD Section 6F.60 and Section 6H and are used to supplement signage and inform motorists of unexpected situations.
- C. 48"x48" diamond-shaped work zone signs used on 45+ mph highways by WSDOT standard practice, but MUTCD does allow 36"x36 signs on 45+ mph highways if needed per Table 6F-1. For shoulder closures, temporary signs are only placed on one shoulder (does not need to be gated). If signs are barrier-mounted, a special rectangular-shaped 24"x48" sign should be used. See MUTCD Table 6F-1 for additional temporary sign size information.
- D. When positioned behind channelizing devices, temporary signs should be mounted at 5' minimum.
- E. Work zone traffic control layout is based on the posted speed limit.
- F. Traffic safety drums, 42" tall channelizing devices, 36" traffic cones, & 28" traffic cones allowable for tapers and tangents (vertical panel channelizing devices prohibited). Warning lights on channelizing devices being phased out in Washington. Contact Region Transportation Operations for information regarding their standard practices.
- G. Maximum channelizing device spacing table for tangents is based on WAC 468-95-301 and may ALWAYS be reduced.
- H. It is WSDOT standard practice not to use sequential arrow signs (arrow boards) for shoulder closure tapers. Per MUTCD TA-6, sequential arrow signs (arrow boards) should not be used.
- I. Longitudinal buffer spaces (B) are optional per MUTCD Section 6C.06 but is desired when practical. Longitudinal buffers are the most adjustable component that may be increased/decreased to move lane closure tapers away from horizontal/vertical curves and from on-ramp merges.
- J. The lateral buffer (transverse distance between open lanes and work area) is typically 2 feet on 45+ mph roadways but may be reduced to 1-foot to provide additional work area. Per MUTCD Section 6C.06 P14, lateral buffer spaces are optional. Actual work area limits may be modified.
- K. WSDOT standard practice is not to encroach into adjacent open lanes on 45+ mph highways, even though MUTCD TA-6 permits the practice.
- L. Per MUTCD TA-6, the downstream taper not used. On 45+ mph roadways, heavy construction vehicle traffic ingressing and egressing into work area is not encouraged for shoulder closures (lane closures should be used instead).

**SHOULDER CLOSURE (45+ MPH HIGHWAY)**

<b>INFORMATIONAL USE ONLY</b>  DO NOT INCLUDE THIS SHEET IN CONTRACT PS&Es or TCP SUBMITTALS.	Plot 3
	<b>TC303</b>
<b>DESIGNER GUIDANCE</b>	