

mPCMS/PCMS - ALT #1		
1	2	3
LEFT LANE CLOSURE	WATCH FOR SLOW TRAFFIC	NEXT # MILES
1.5 SEC	1.5 SEC	1.5 SEC

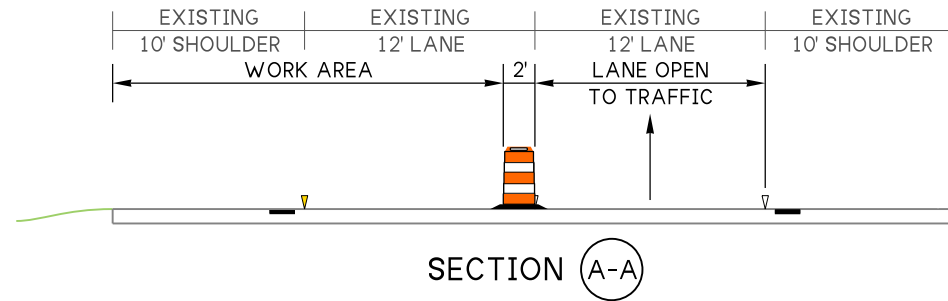
**USE WHEN TRAFFIC QUEUES EXPECTED, BUT NOT VERIFIED. FIELD LOCATE UPSTREAM OF EXPECTED QUEUE PER STD. SPEC. 2-04.3(6)C.**

mPCMS/PCMS - ALT #2		
1	2	3
LEFT LANE CLOSURE	SLOW TRAFFIC AHEAD	NEXT # MILES
1.5 SEC	1.5 SEC	1.5 SEC

**TCS MUST VERIFY HOURLY TRAFFIC QUEUES ARE PRESENT. FIELD LOCATE UPSTREAM OF EXPECTED QUEUE PER STD. SPEC. 2-04.3(6)C.**

mPCMS/PCMS	
1	2
LEFT LANE CLOSURE	1.5 MILES AHEAD
2.0 SEC	2.0 SEC

FIELD LOCATE 1.5± MILES  
PRIOR TO CLOSURE TAPER  
PER STD. SPEC. 2-04.3(6)C.



RECOMMENDED TEMPORARY SIGN SPACING = X (1)	
FREEWAYS & EXPRESSWAYS	1000' ±
(1) IF NECESSARY, SPACING MAY BE ADJUSTED (INCREASED OR DECREASED) FOR FIELD CONDITIONS OR BASED ON ENGINEERING JUDGEMENT.	

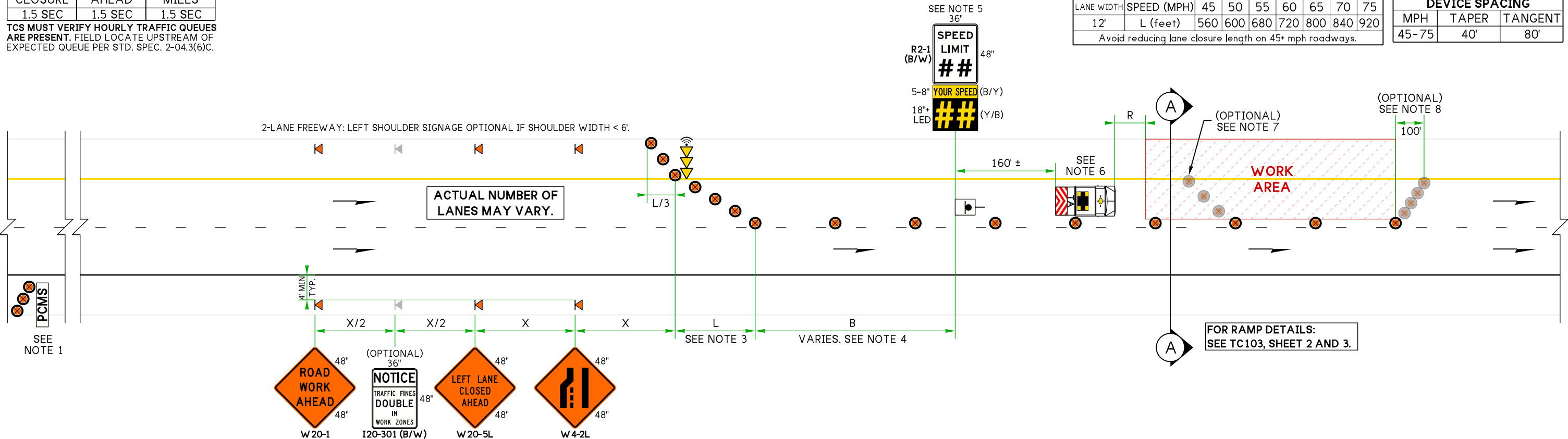
LONGITUDINAL BUFFER SPACE = B							
SPEED (MPH)	45	50	55	60	65	70	75
LENGTH (feet)	360	425	495	570	645	730	820
Buffer space may be adjusted (±) based on field conditions.							

SHOULDER CLOSURE TAPER LENGTH = L/3								
SHOULDER WIDTH	SPEED (MPH)	45	50	55	60	65	70	75
< 6'		80	80	80	80	80	80	80
6'	L/3 (feet)	120	120	120	120	160	160	160
10'		160	200	200	200	240	240	280

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








LANE CLOSURE TAPER LENGTH = L								
LANE WIDTH	SPEED (MPH)	45	50	55	60	65	70	75
12'	L (feet)	560	600	680	720	800	840	920
Avoid reducing lane closure length on 45+ mph roadways.								

MAXIMUM CHANNELIZING DEVICE SPACING		
MPH	TAPER	TANGENT
45-75	40'	80'



**FREEWAY (2+ LANES): SINGLE LEFT LANE CLOSURE  
(MAINTAIN EXISTING SPEED LIMIT)**  
NOT TO SCALE

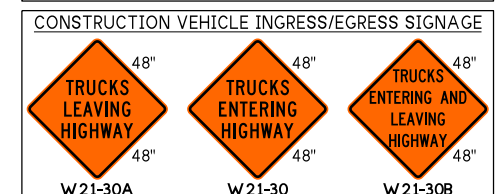
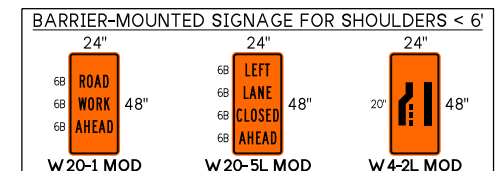
**LEGEND:**

- |   |   |
|---|---|
|  | TEMPORARY SIGN LOCATION (1' MIN HEIGHT) |
|  | TEMPORARY SIGN LOCATION (5' MIN HEIGHT) |
|  | TRAFFIC SAFETY DRUM                     |
|  | RADAR SPEED DISPLAY SIGN (RSDS)         |
|  | SEQUENTIAL ARROW SIGN (CONNECTED)       |
|  | TRANSPORTABLE ATTENUATOR (TL-3)         |
|  | PCMS/mPCMS (SEE NOTE 1)                 |

**NOTES:**

1. MINI-PCMS PERMITTED ON 2-LANE FREEWAYS, ON 3+ LANE FREEWAYS USE PCMS.
2. BARRIER-MOUNTED 24"x48" SIGNAGE MAY BE USED WHERE PAVED SHOULDERS < 6'.
3. IF FEASIBLE, AVOID PLACING LANE CLOSURE OR LANE SHIFT TAPERS WITHIN OR IMMEDIATELY FOLLOWING HORIZONTAL CURVES.
4. BUFFER DISTANCE INCREASES AS WORK AREA MOVES DOWNSTREAM.
5. ## MATCHES EXISTING SPEED LIMIT FOR PASSENGER VEHICLES (NOT TRUCK SPEED LIMIT). EXISTING BLACK/WHITE "YOUR SPEED" PLAQUES MAY STILL BE USED. RELOCATE RSDS AS WORK AREA MOVES DOWNSTREAM. IF ENGINEER ACCEPTS, ADDITIONAL RSDS MAY BE ADDED PRIOR TO EACH WORK CREW.
6. RED/WHITE OR BLACK/YELLOW CHEVRON PATTERN OK. ADDITIONAL TRANSPORTABLE ATTENUATORS MAY BE ADDED BEHIND EACH WORK CREW.
7. IF USED, PLACE DEVICES TRANSVERSELY ACROSS CLOSED LANES AT  $45^{\circ} \pm$  AND 5' SPACING AT STRATEGIC LOCATIONS.
8. IF USED, DOWNSTREAM TAPER DEVICE SPACING IS 20'.
9. SIGNS ARE BLACK ON ORANGE UNLESS OTHERWISE INDICATED.
10. PLAN IS APPLICABLE TO LANE CLOSURES OF 7 DAYS OR LESS.
11. ADD W-21-30-SERIES SIGNS (5' HEIGHT) 500'  $\pm$  PRIOR TO FREQUENT CONSTRUCTION VEHICLES INGRESS/EGRESS INTO THE OPEN LANE(S).

12. BICYCLIST ACCOMMODATIONS, WHERE FACILITY OPEN TO BICYCLES:  
(A) BICYCLES CONTINUE RIDING ON RIGHT SHOULDER ONLY ALONG MAINLINE,  
EXIT- RAMPS, AND ON-RAMPS PER STATE LAW.



FILE NAME		C:\Users\LintzF\OneDrive - Washington State Department of Transportation\Desktop\Work Zone\TCPa\103Fwy1LtLan		REGION NO.	STATE	FED. AID PROJ. NO.	 <p>PRELIMINARY PLAN</p>	<div>SEE CERTIFICATION SHEET</div> <div>DATE</div> <div>STAMP BOX</div>	<div>SEE CERTIFICATION SHEET</div> <div>DATE</div> <div>STAMP BOX</div>	TYPICAL TRAFFIC CONTROL PLANS	PLAN REF NO.
TIME	12:49:12 PM			10	WASH	JOB NUMBER					TC103
DATE	3/19/2024										
PLOTTED BY	LintzF										
DESIGNED BY											
ENTERED BY											
CHECKED BY				CONTRACT NO.	LOCATION NO.						SHEET 1A OF 3 SHEETS
PROJ. ENGR.				CONTRACT NO.							
REGIONAL ADM.		REVISION	DATE		BY						

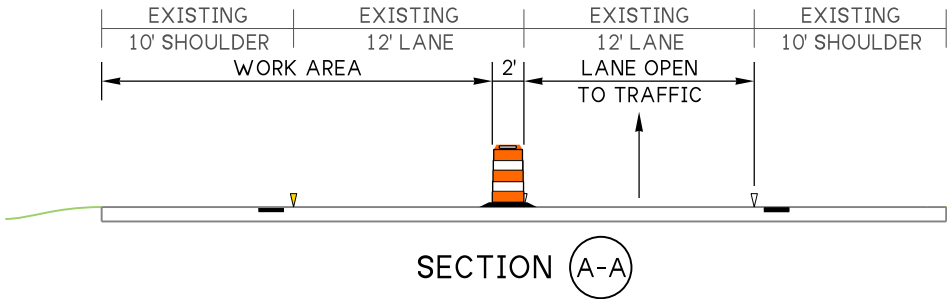
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3-MILE QUEUE WARNING SYSTEM MESSAGES					
TRAFFIC SENSORS		PCMS 2		PCMS 1	
B	A	1	2	1	2
TRIGGER SPEED		2.0 SEC	2.0 SEC	2.0 SEC	2.0 SEC
35+ MPH	35+ MPH	■	(Blank)	LEFT LANE CLOSURE	1.5 MILES AHEAD
35+ MPH	< 35 MPH	LANE CLOSURE 3 MILES	TRAFFIC BACKUPS PRESENT	SLOW OR STOPPED TRAFFIC	NEXT 1.5 MILES
< 35 MPH	< 35 MPH	SLOW OR STOPPED TRAFFIC	NEXT 3 MILES	USE ALL LANES	TAKE TURNS AT MERGE

LOCATE PCMSs PER STD. SPEC 2-04.3(6)C. PCMS AND TRAFFIC SENSORS MAY BE ADJUSTED AND/OR MOVED TO OPPOSITE SHOULDER TO AVOID CONFLICTS WITH TRAFFIC CONTROL DEVICES, NARROW SHOULDERS, RAMPS, OR TO MAINTAIN VISIBILITY OF SEQUENTIAL ARROW SIGN.

WHEN PCMS OR TRAFFIC SENSOR PLACED BEHIND BARRIER/GUARDRAIL OR WITHIN CLOSED LANE, TRANSVERSE TRAFFIC DRUMS ARE NOT REQUIRED.

IN THE EVENT OF A SYSTEM FAILURE, USE GOOGLE MAPS TO MONITOR QUEUEING AND MANUALLY CHANGE PCMS MESSAGING.



RECOMMENDED TEMPORARY SIGN SPACING = X (1)	
FREEWAYS & EXPRESSWAYS	1000' ±
(1) IF NECESSARY, SPACING MAY BE ADJUSTED (INCREASED OR DECREASED) FOR FIELD CONDITIONS OR BASED ON ENGINEERING JUDGEMENT.	

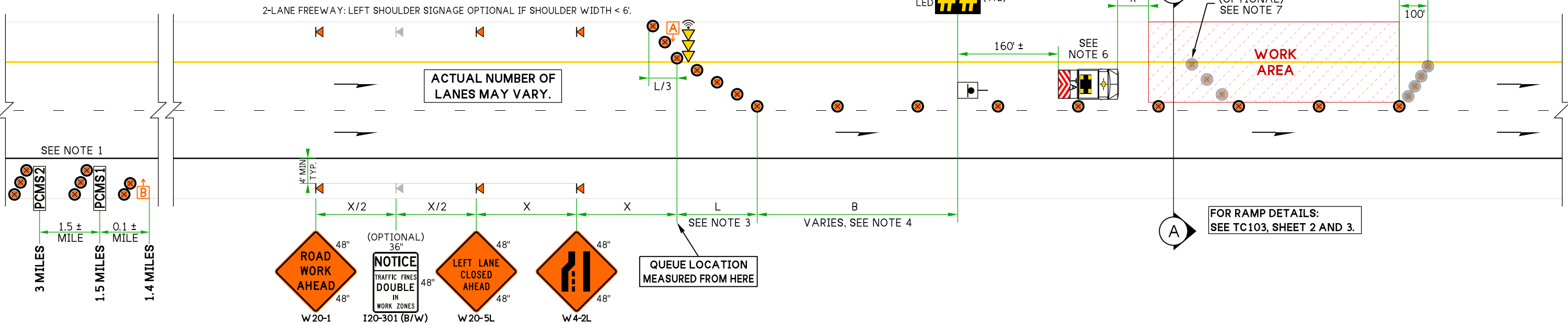
LONGITUDINAL BUFFER SPACE = B							
SPEED (MPH)	45	50	55	60	65	70	75
LENGTH (feet)	360	425	495	570	645	730	820
Buffer space may be adjusted (±) based on field conditions.							

SHOULDER CLOSURE TAPER LENGTH = L/3								
SHOULDER WIDTH	SPEED (MPH)	45	50	55	60	65	70	75
< 6'		80	80	80	80	80	80	80
6'	L/3 (feet)	120	120	120	120	160	160	160
10'		160	200	200	200	240	240	280

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

LANE CLOSURE TAPER LENGTH = L								
LANE WIDTH	SPEED (MPH)	45	50	55	60	65	70	75
12'	L (feet)	560	600	680	720	800	840	920
Avoid reducing lane closure length on 45+ mph roadways.								

MAXIMUM CHANNELIZING DEVICE SPACING		
MPH	TAPER	TANGENT
45-75	40'	80'



NOTES:

- miniPCMS PERMITTED ON 2-LANE FREEWAYS, ON 3+ LANE FREEWAYS USE PCMS.
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- RED/WHITE OR BLACK/YELLOW CHEVRON PATTERN OK. ADDITIONAL TRANSPORTABLE ATTENUATORS MAY BE ADDED BEHIND EACH WORK CREW.
- IF USED, PLACE DEVICES TRANSVERSELY ACROSS CLOSED LANES AT 45° ± AND 5' SPACING AT STRATEGIC LOCATIONS.
- IF USED, DOWNSTREAM TAPER DEVICE SPACING IS 20'.
- SIGNS ARE BLACK ON ORANGE UNLESS OTHERWISE INDICATED.
- PLAN IS APPLICABLE TO LANE CLOSURES OF 7 DAYS OR LESS.
- ADD W 21-30-SERIES SIGNS (5' HEIGHT) 500' ± PRIOR TO FREQUENT CONSTRUCTION VEHICLES INGRESS/EGRESS INTO THE OPEN LANE(S).

- BICYCLIST ACCOMMODATIONS, WHERE FACILITY OPEN TO BICYCLES:  
(A) BICYCLES CONTINUE RIDING ON RIGHT SHOULDER ONLY ALONG MAINLINE, EXIT- RAMPS, AND ON-RAMPS PER STATE LAW.

BARRIER-MOUNTED SIGNAGE FOR SHOULDERS < 6'		
24" ROAD WORK AHEAD W20-1 MOD	24" LEFT LANE CLOSED AHEAD W20-5L MOD	24" TRUCKS ENTERING AND LEAVING HIGHWAY W4-2L MOD

CONSTRUCTION VEHICLE INGRESS/EGRESS SIGNAGE		
48" TRUCKS LEAVING HIGHWAY W21-30A	48" TRUCKS ENTERING HIGHWAY W21-30	48" TRUCKS ENTERING AND LEAVING HIGHWAY W21-30B

**FREEWAY (2+ LANES): SINGLE LEFT LANE CLOSURE + 3-MILE QWS**  
(MAINTAIN EXISTING SPEED LIMIT)  
NOT TO SCALE

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TIME	12:49:13 PM		
DATE	3/29/2024		
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REGIONAL ADM.			
REVISION		DATE	BY

REGION NO.	10	STATE	WASH	FED. AID PROJ. NO.	
JOB NUMBER					
CONTRACT NO.		LOCATION NO.			



SEE CERTIFICATION SHEET DATE  
STAMP BOX

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TYPICAL TRAFFIC CONTROL PLANS

PLAN REF NO  
TC103  
SHEET 1B OF 3 SHEETS

13. FOR LEGEND, TABLES, AND ADDITIONAL NOTES: SEE TC103, SHEET 1A OR 1B.

14. SEE DETOUR PLAN FOR ADDITIONAL RAMP CLOSURE DETOUR SIGNAGE.



**CLOSED RIGHT EXIT-RAMP DETAIL**  
RIGHT EXIT-RAMPS ARE TO REMAIN OPEN

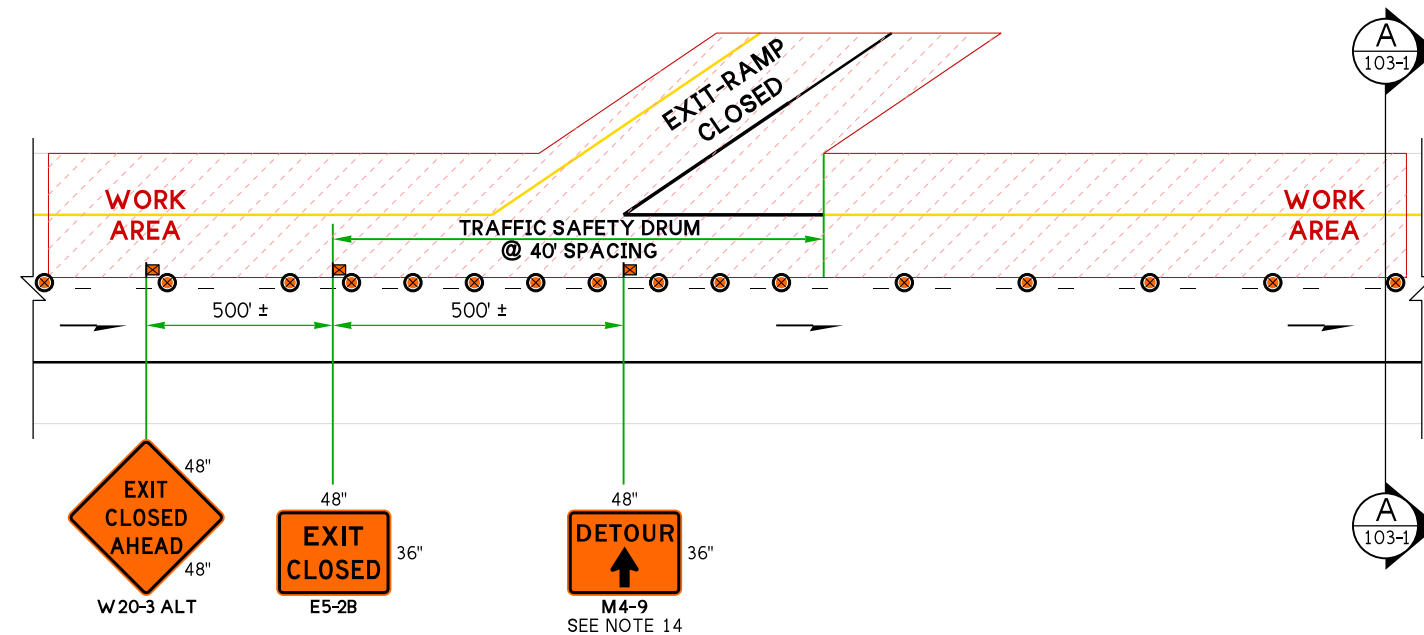
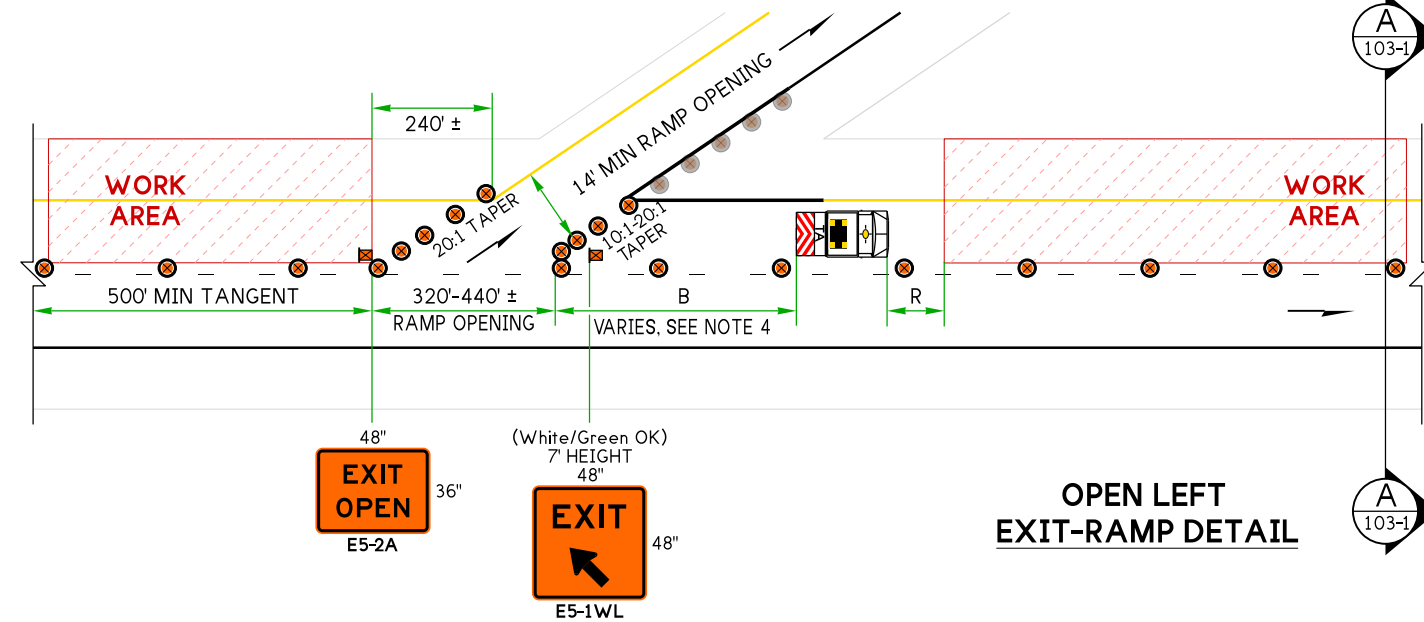
**FREEWAY (2+ LANES): SINGLE LEFT LANE CLOSURE (MAINTAIN EXISTING SPEED LIMIT)**  
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TIME 12:49:13 PM				10	WASH	TC103					
DATE 3/29/ 24				JOB NUMBER		SHEET 2 OF 3 SHEETS					
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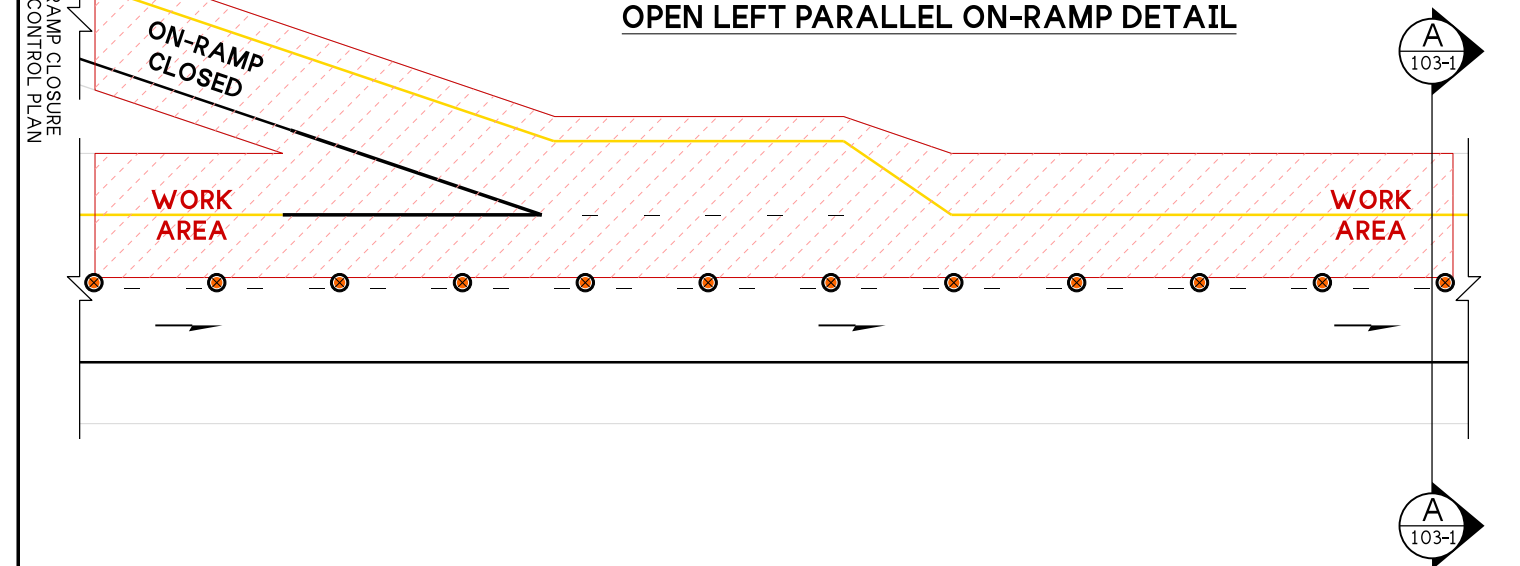
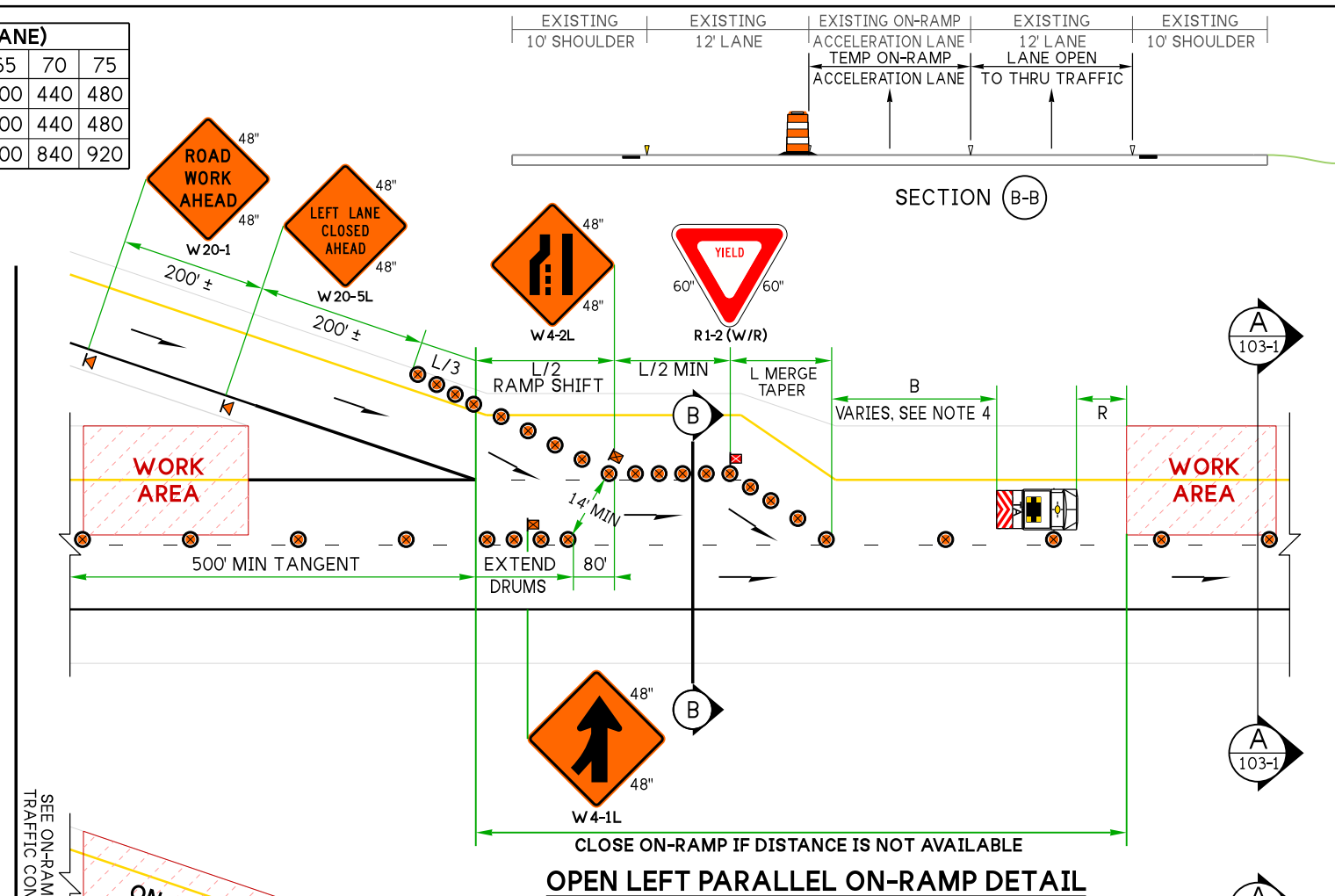
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14. SEE DETOUR PLAN FOR ADDITIONAL RAMP CLOSURE DETOUR SIGNAGE.

PARALLEL TEMPORARY ON-RAMP MERGE (1-LANE)								
COMPONENT	SPEED (MPH)	45	50	55	60	65	70	75
RAMP SHIFT TAPER	L/2 (feet)	280	320	360	360	400	440	480
ACCELERATION TANGENT	L/2 (feet)	280	320	360	360	400	440	480
MERGE TAPER	L (feet)	560	600	680	720	800	840	920



### CLOSED LEFT EXIT-RAMP DETAIL



### CLOSED LEFT ON-RAMP DETAIL

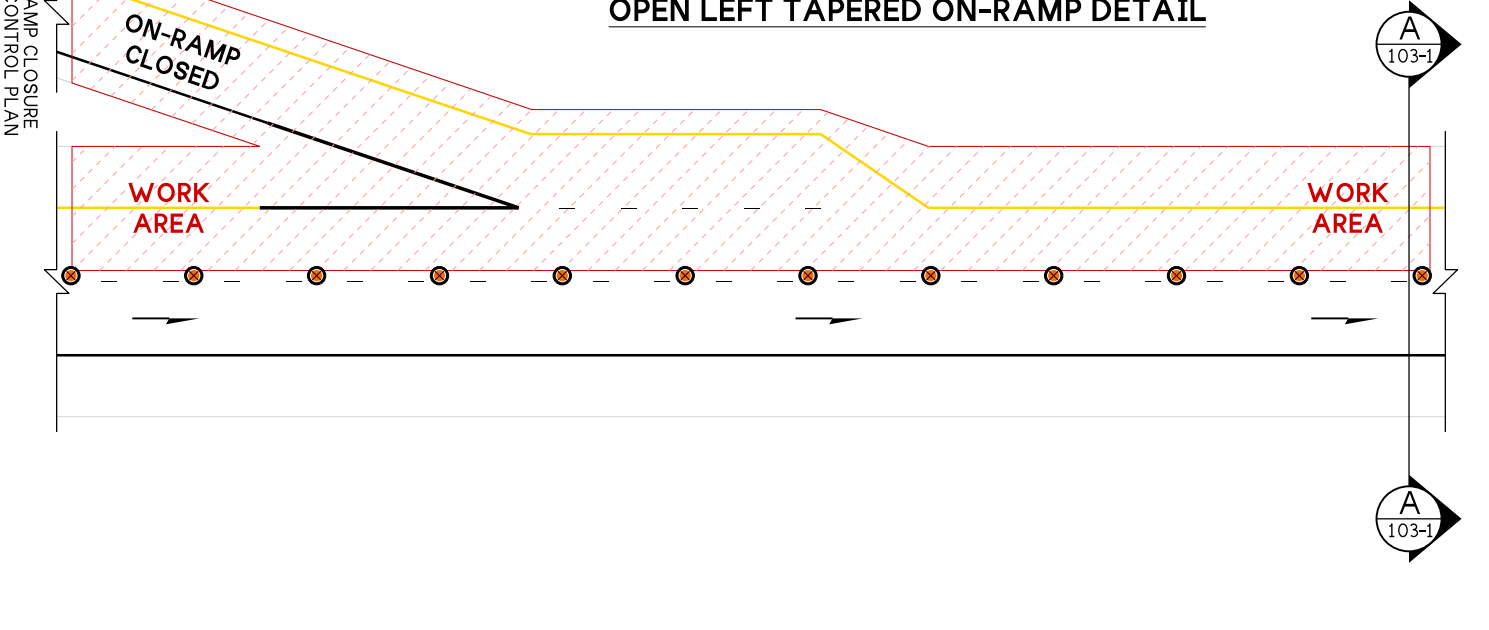
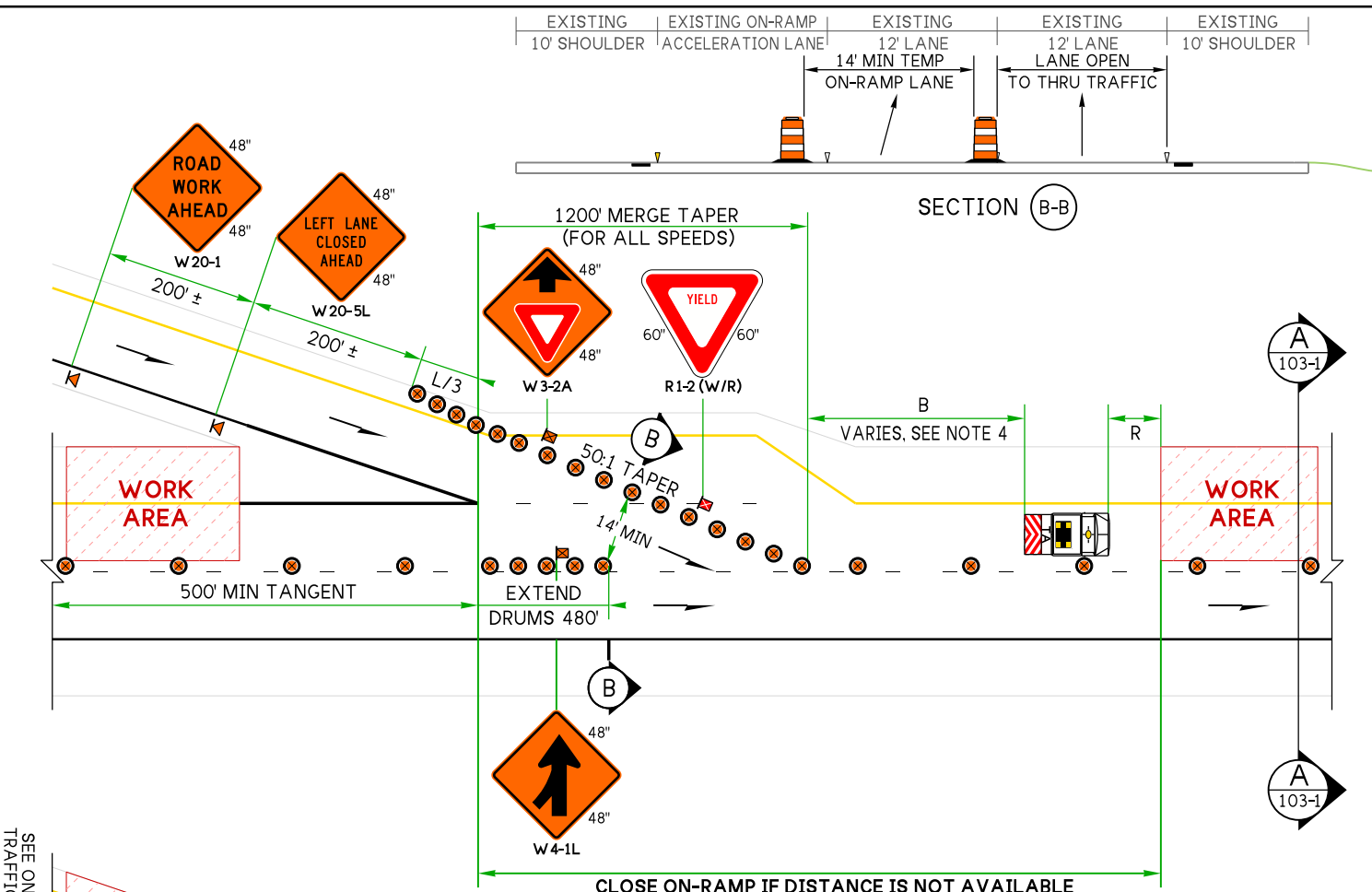
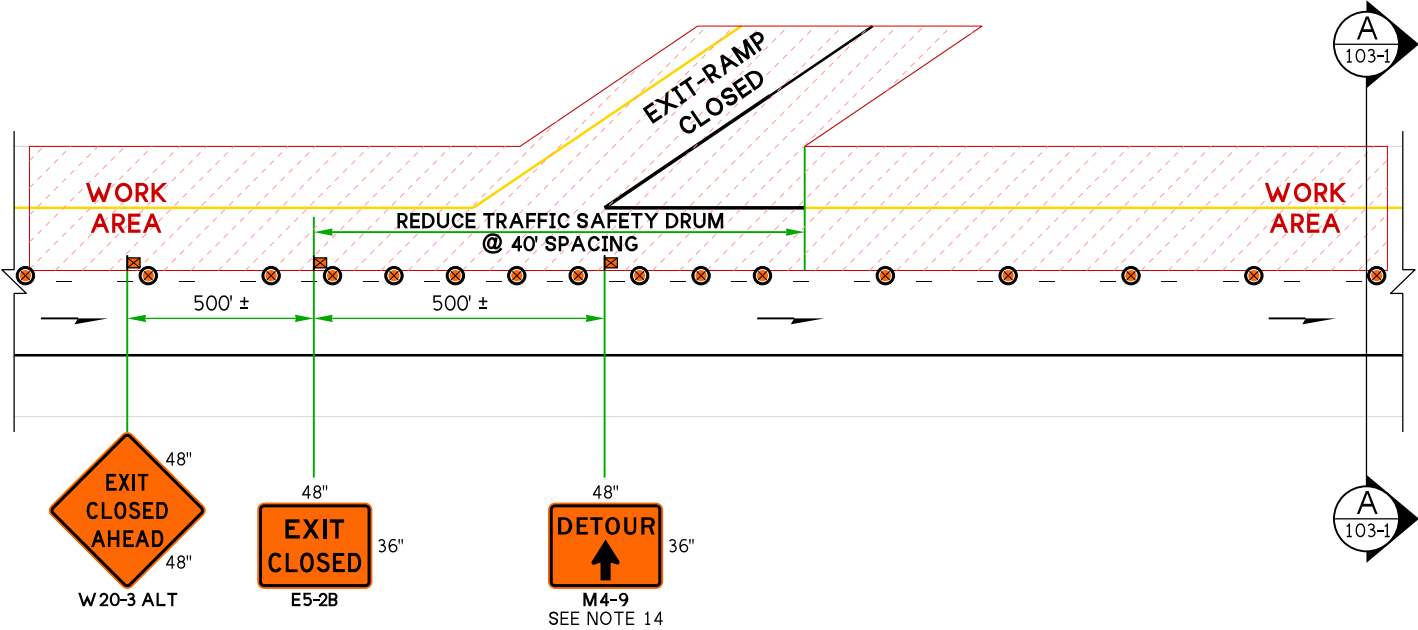
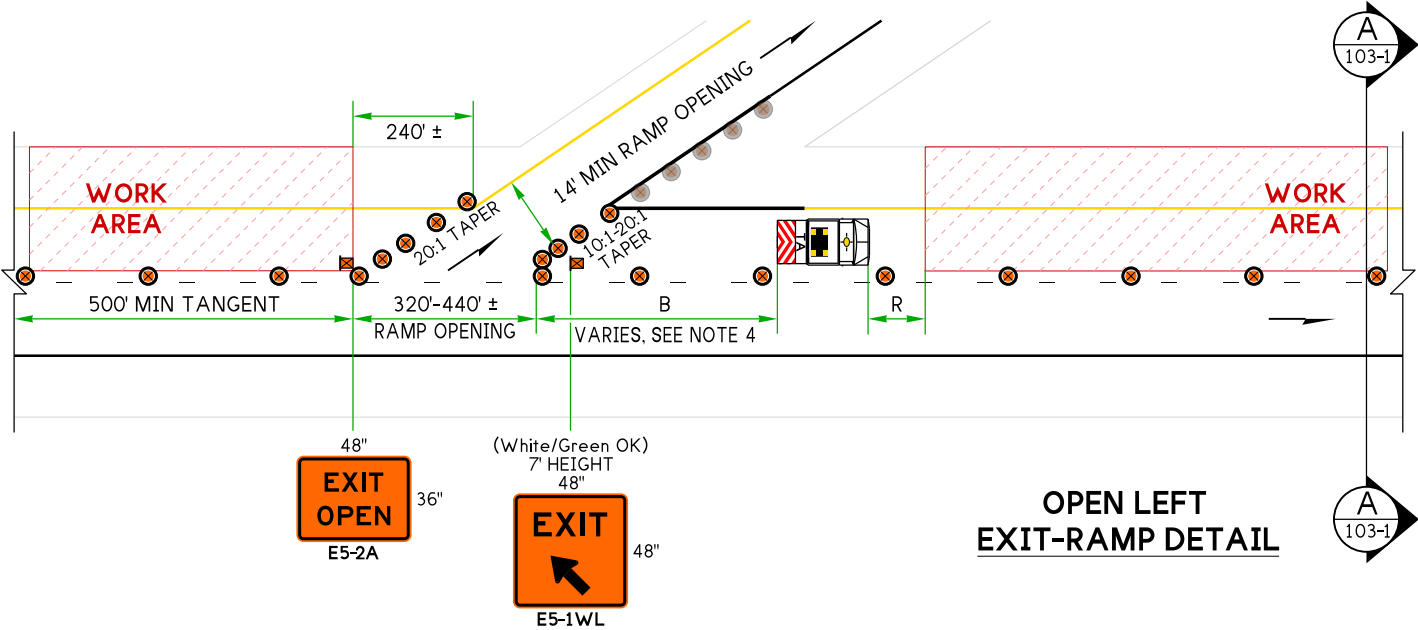
**FREEWAY (2+ LANES): SINGLE LEFT LANE CLOSURE (MAINTAIN EXISTING SPEED LIMIT)**  
NOT TO SCALE

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- NOTES:
13. FOR LEGEND, TABLES, AND ADDITIONAL NOTES: SEE TC103, SHEET 1A OR 1B.
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FREEWAY (2+ LANES): SINGLE LEFT LANE CLOSURE (MAINTAIN EXISTING SPEED LIMIT)  
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PRELIMINARY PLAN

SEE CERTIFICATION SHEET  
DATE

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TYPICAL TRAFFIC CONTROL PLANS

SHEET 3B OF 3 SHEETS