

NOTES:

1. SIGN SPACING SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.
2. SAFE ACCESS TO ALL PUBLIC ROADWAYS SHALL BE MAINTAINED AT ALL TIMES
3. ALL FLAGGERS SHALL BE STATE CERTIFIED.
4. CHANNELIZING DEVICES, SUCH AS CONES OR BARRELS, SHALL BE UTILIZED WHERE REQUIRED AND FOLLOW THE WAPM.
5. WORK ZONE HOURS SHALL BE FROM 8:00AM TO 5:00PM.

MAINTENANCE OF TRAFFIC NOTES:

1. IT IS NOT THE INTENT OF THIS PLAN TO ENUMERATE EVERY DETAIL WHICH MUST BE CONSIDERED IN THE CONSTRUCTION OF EACH WORK ZONE, BUT ONLY TO SHOW THE GENERAL FEATURES NECESSARY TO PROVIDE FOR PROPER HANDLING OF TRAFFIC. THE CONSTRUCTION TECHNIQUES ULTIMATELY EMPLOYED BY THE CONTRACTOR ARE TO BE APPROVED BY VDOT. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE FOR SAFE TRAVEL AROUND THE WORK ZONES.
2. THE CONTRACTOR SHALL COORDINATE THE SEQUENCE OF CONSTRUCTION WITH VDOT.
3. WHEN WORK IS NOT BEING PERFORMED, THE CLEAR ZONE OF THE ROADWAY SHALL BE FREE OF STORED MATERIALS AND/OR PARKED EQUIPMENT.
4. ALL WORK IS TO BE PERFORMED IN ACCORDANCE WITH THE MUTCD (LATEST EDITION), THE VIRGINIA WORK AREA PROTECTION MANUAL (LATEST EDITION), AND AS DIRECTED BY VDOT AND SHALL COMPLY WITH ALL REGULATIONS PROVIDED IN THE LAND USE PERMIT.
5. NO WORK SHALL OCCUR ON-SITE UNTIL A LAND USE PERMIT HAS BEEN ISSUED FOR THE SUBJECT PROPERTY.
6. G.C. SHALL MAINTAIN ALL EXISTING ROADWAY SIGNAGE DURING ALL PHASES OF THIS PROJECT.
7. WORK WILL NEED TO BE COORDINATED WITH PROPERTY OWNERS ON THIS THESE STREETS TO ENSURE ACCESS.
8. TWO (2) MAIN WORK ZONES IS SHOWN ON THIS PLAN. IT CONSISTS OF:
WORK ZONE #1: LANE CLOSURE ON A TWO-LANE ROADWAY ON RICHARD AVE TO BE PERFORMED IN ACCORDANCE WITH TTC-23.2 OF THE VIRGINIA WORK AREA PROTECTION MANUAL (WAPM). SIGN SPACING SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.
WORK ZONE #2: SHOULDER OPERATION WITH MINOR ENCROACHMENT ON A TWO-LANE ROADWAY ON RICHARD AVE TO BE PERFORMED IN ACCORDANCE WITH TTC-5.2 OF THE VIRGINIA WORK AREA PROTECTION MANUAL (WAPM).SIGN SPACING SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.
8. A THIRD FLAGGER SHALL BE REQUIRED TO CONTROL TRAFFIC AT THE INTERSECTION OF RICHARD AVENUE AND BRATTONLAWN DRIVE.
9. THE POSTED SPEED LIMIT OF RICHARD AVE IS 25 MPH. ALL TAPER LENGTHS, BUFFER LENGTHS AND CHANNELIZING SHALL BE BASED ON THESE SPEEDS.
10. SAFE ACCESS TO ALL PUBLIC ROADWAYS SHALL BE MAINTAINED AT ALL TIMES
11. ALL FLAGGERS SHALL BE STATE CERTIFIED.
12. CHANNELIZING DEVICES SUCH AS CONES OR BARRELS SHALL BE UTILIZED WHERE REQUIRED AND FOLLOW THE WAPM.

GENERAL NOTES:

1. TEMPORARY TRAFFIC CONTROL PLAN:
A. THE MAJOR COMPONENTS WILL CONSIST OF GENERAL NOTES, TYPICAL SECTIONS, AND SPECIAL DETAILS AS NECESSARY.
B. TRAFFIC CONTROL DEVICES SHALL BE USED AS SHOWN ON THIS PLAN.
C. ALL SIGNS, STRIPING, AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH THE VIRGINIA WORK AREA PROTECTION MANUAL AND MUTCD STANDARDS.
2. PUBLIC COMMUNICATION PLAN:
CITY OF ROANOKE
ROANOKE CITY TRAFFIC ENGINEERING (540) 853-2676
ROANOKE CITY POLICE: (540) 853-2211 OR 911
ROANOKE CITY FIRE AND RESCUE: (540) 853-2327 OR 911
ROANOKE CITY SCHOOLS: (540) 853-2381
ROANOKE CITY COUNCIL: (540) 853-2444
3. CONTRACTOR SHALL NOTIFY 911 AT (540) 853-2411 EACH DAY THAT THERE IS A TRAFFIC CONTROL SETUP IN THE RIGHT OF WAY.

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Typical Traffic Control
Lane Closure on a Two-Lane Roadway Using Flaggers
(Figure TTC-23.2)

NOTES

Guidance:

1. Sign spacing distance should be 350'-500' where the posted speed limit is 45 mph or less, and 500'-800' where the posted speed limit is greater than 45 mph.
2. Care should be exercised when establishing the limits of the work zone to insure maximum possible sight distance in advance of the flagger station and transition, based on the posted speed limit and at least equal to or greater than the values in Table 6H-3. Generally speaking, motorists should have a clear line of sight from the graphic flagger symbol sign to the flagger.
3. To maintain efficient traffic flow in a flagging operation on a two-lane roadway, the maximum time motorists should be stopped at a flagger station is 8 minutes for high volume roadways (average daily traffic of 500 or more vehicles per day) to a maximum of 12 minutes for low volume roadways (less than 500 vehicles per day). For additional information see Section 6E.07.2

Standard:

4. Portable Temporary Rumble Strips (PTRS) shall be used as noted in Section 6F.99.2
5. Flagging stations shall be located far enough in advance of the work space to permit approaching traffic to reduce speed and/or stop before passing the work space and allow sufficient distance for departing traffic in the left lane to return to the right lane before reaching opposing traffic (see Table 6H-3 on Page 6H-5).
6. All flaggers shall be state certified and have their certification card in their possession when performing flagging duties (see Section 6E.01, Qualifications for Flaggers).
7. Cone spacing shall be based on the posted speed and the values in Table 6H-4 on Page 6H-6.
8. A shadow vehicle with at least one high intensity amber rotating, flashing, or¹ oscillating light shall be parked 80'-120' in advance of the first work crew.

Option:

8. A SLOW (W21-V10) sign² may be required in this area to give advance warning of the operation ahead by slowing approaching traffic prior to reaching the flagger station or queued traffic.

Guidance:

9. If the queue of traffic reaches the BE PREPARED TO STOP (W3-4) sign then the signs, and if used the PTRS¹ should be readjusted at greater distances.
10. When a highway-rail crossing exists within or upstream of the transition area and it is anticipated that queues resulting from the lane closure might extend through the highway-rail grade crossing, the temporary traffic control zone should be extended so that the transition area precedes the highway-rail crossing (see Figure TTC-56 for additional information on highway-rail crossings).

Standard:

11. At night, flagger stations shall be illuminated, except in emergencies (see Section 6E.08).

Option:

12. Cones may be eliminated when using a pilot vehicle operation or when the total roadway width is 20 feet or less.
13. For low-volume situations with short work zones on straight roadways where the flagger is visible to road users approaching from both directions, a single flagger, positioned to be visible to road users approaching from both directions, may be used (see Chapter 6F).

Standard:¹

14. When used¹, three portable temporary rumble (PTRS) strips shall be installed across the entire travel lane adjacent to the BE PREPARED TO STOP (W3-4) sign. The portable temporary rumble strips shall be monitored and adjusted as necessary during the work shift to ensure proper placement on the roadway. When the PTRS are installed, the RUMBLE STRIPS AHEAD (W20-V26) sign shall also be utilized.

1: Revision 1 - 4/1/2015
2: Revision 2 - 9/1/2019

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Typical Traffic Control
Shoulder Operation with Minor Encroachment
(Figure TTC-5.2)

NOTES

Standard

1. For required sign assemblies for multi-lane roadways see Note 1, TTC-4.¹

Guidance:

2. Sign spacing should be 1300'-1500' for Limited Access highways. For all other roadways, the sign spacing should be 500'-800' where the posted speed limit is greater than 45 mph, and 350'-500' where the posted speed limit is 45 mph or less.
3. When work takes up part of a lane on a high volume roadway, vehicular traffic volumes, vehicle mix, speed and capacity should be analyzed to determine whether the affected lane should be closed. Unless the lane encroachment analysis permits a remaining lane width of 10 feet, the lane should be closed. If the closure operation is on a Limited Access highway, the minimum lane width is 11 feet.

Option:

4. The ROAD WORK AHEAD (W20-1) sign on an intersecting roadway may be omitted where drivers emerging from that roadway will encounter another advance warning sign prior to this activity area.

Standard:

5. A shadow vehicle with either an arrow board operating in the caution mode, or at least one high-intensity amber rotating, flashing, or¹ oscillating light shall be parked 80' - 120' in advance of the first work crew.
6. Vehicle hazard warning signals shall not be used instead of the vehicle's high-intensity amber rotating, flashing, or¹ oscillating lights. Vehicle hazard warning signals can be used to supplement high-intensity amber rotating, flashing, or¹ oscillating lights.
7. Taper length (L) and channelizing device spacing shall be at the following:

Taper Length L					
Speed Limit (mph)	9	10	11	12	Remarks
25	95	105	115	125	L=S*W/60
30	135	150	165	180	L=S*W/60
35	185	205	225	245	L=S*W/60
40	240	270	295	320	L=S*W/60
45	405	450	495	540	L=SW
Limited Access highways shall use a 1000' merging taper regardless of the posted speed, a 750' shifting taper for posted speeds < 65 mph and a 1000' shifting taper for posted speeds ≥ 65 mph. ²					
Shoulder Taper = 1/2 L Minimum					

Channelizing Device Spacing					
Location Spacing	Speed Limit (mph)	Location Spacing	Speed Limit (mph)	Location Spacing	Speed Limit (mph)
Transition	0-35 36+	Travelway	0-35 36+	Construction Access	0-35 36+
	20' 40'		40' 60'		80' 120'
*Construction access spacing may be increased to this distance, but shall not exceed one access per 1/4 mile.					

8. Channelizing device spacing shall be at the following:

Location Spacing	Speed Limit (mph)	Location Spacing	Speed Limit (mph)	Location Spacing	Speed Limit (mph)
Transition	0-35 36+	Travelway	0-35 36+	Construction Access	0-35 36+
	20' 40'		40' 60'		80' 120'
*Construction access spacing may be increased to this distance, but shall not exceed one access per 1/4 mile.					

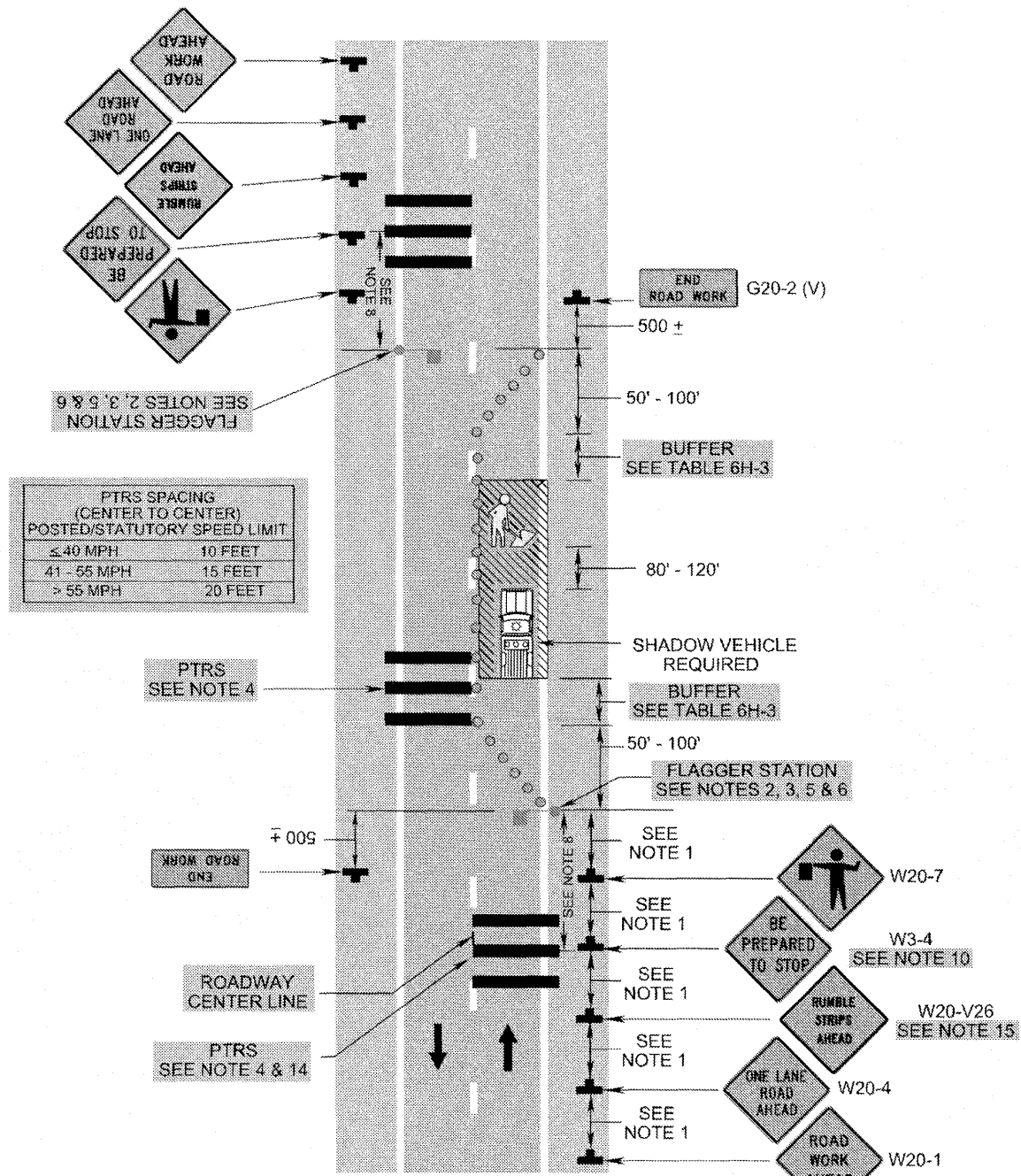
9. On roadways with paved shoulders having a width of 8 feet or more, channelizing devices shall be used to close the shoulder in advance of the merging taper to direct vehicular traffic to remain within the traveled way.¹
10. The buffer space length The buffer space length shall be as shown in Table 6H-3 on Page 6H-5 for the posted speed limit.
11. A truck-mounted attenuator (TMA) shall be used on Limited Access highways and multi-lane roadways with posted speed limit equal to or greater than 45 mph.
12. When a side road intersects the highway within the temporary traffic control zone, additional traffic control devices shall be placed as needed.

1: Revision 1 - 4/1/2015
2: Revision 2 - 9/1/2019

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Lane Closure on a Two-Lane Roadway Using Flaggers
(Figure TTC-23.2)

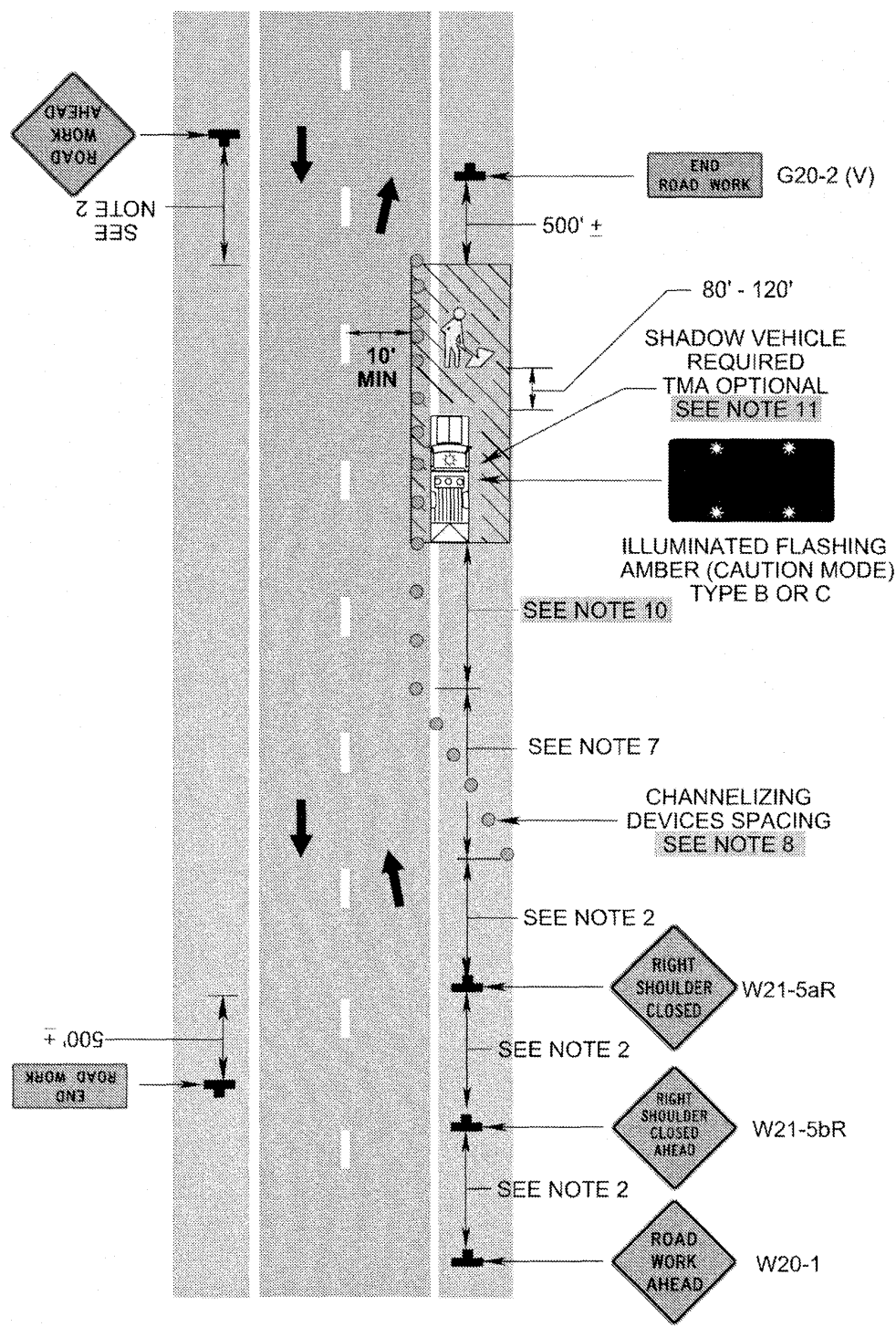


1: Revision 1 - 4/1/2015
2: Revision 2 - 9/1/2019

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Shoulder Operation with Minor Encroachment
(Figure TTC-5.2)



1: Revision 1 - 4/1/2015
2: Revision 2 - 9/1/2019

WESTERN VIRGINIA
WATER AUTHORITY
ENGINEERING SERVICES
601 S JEFFERSON ST, SUITE 300
ROANOKE, VA 24011
540-853-5700



RICHARD AVE SEWER MAIN
EXTENSION (3200 BLOCK)

TRAFFIC CONTROL PLAN

Rev	Description	Date	By
Designed: N/A			
Drawn: NSS			
Checked: DRJ			
Approved: JWR			
Date: 05/21/2021			
Project: SCIP-068B			