



**STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
NASHVILLE, TENNESSEE 37243-0350**

INSTRUCTIONAL BULLETIN NO. 04-10

Regarding Traffic Work Zone Drawings
To Be Printed With The Plans

Effective for the July 16, 2004 bid letting, the various traffic work zone drawings attached to this instructional bulletin are to be printed with the plans. They shall be identified on the lower left hand corner of the index sheet-**“To be printed with the plans”**.

Copies of these drawings are attached to this instructional bulletin.

TRAFFIC CONTROL APPURTENANCES

<u>Drawing Number</u>	<u>Current Revision Date</u>	<u>Drawing Title</u>
T-WZ-11 TM-WZ-11	4-15-04	ONE LANE CLOSURE DETAIL ON DIVIDED HIGHWAYS
T-WZ-12 TM-WZ-12	4-15-04	ONE LANE CLOSURE DETAIL FOR BRIDGES FOR BRIDGES ON DIVIDED HIGHWAYS
T-WZ-13 TM-WZ-13	4-15-04	TWO-OUTSIDE LANE CLOSURE ON FREEWAY OR EXPRESSWAY
T-WZ-14 TM-WZ-14	4-15-04	TWO-OUTSIDE LANE CLOSURE ON FREEWAY OR EXPRESSWAY (PORTABLE BARRIER RAIL)

T-WZ-15 TM-WZ-15	4-15-04	INTERIOR LANE CLOSURE ON FREEWAYS OR EXPRESSWAY
T-WZ-16 TM-WZ-16	4-15-04	LANE SHIFT ON DIVIDED HIGHWAYS AND FREEWAYS (2000' OR LESS)
T-WZ-17 TM-WZ-17	4-15-04	LANE SHIFT ON DIVIDED HIGHWAYS AND FREEWAYS (GREATER THAN 2000')
T-WZ-18 TM-WZ-18	4-15-04	SHOULDER CLOSURE DETAIL FOR FREEWAYS AND DIVIDED HIGHWAYS
T-WZ-19 TM-WZ-19	4-15-04	MEDIAN CROSS-OVER DETAIL ON DIVIDED HIGHWAYS
T-WZ-30 TM-WZ-30	4-15-04	TRAFFIC CONTROL 2-LANE, 2-WAY DIVERSION (40 MPH OR LESS)
T-WZ-31 TM-WZ-31	4-15-04	TRAFFIC CONTROL 2-LANE, 2-WAY DIVERSION (GREATER THAN 40 MPH)
T-WZ-35 TM-WZ-35	7-29-03	TRAFFIC CONTROL PLAN PAY ITEM AND SIGN DETAILS FOR TRAFFIC SIGNAL AT TWO LANE BRIDGE RECONSTRUCTION SITE
T-WZ-40 TM-WZ-40	4-15-04	RIGHT LANE CLOSURES AT NEAR SIDE OF INTERSECTION
T-WZ-41 TM-WZ-41	4-15-04	LEFT LANE CLOSURES AT NEAR SIDE OF INTERSECTIONS
T-WZ-42 TM-WZ-42	4-15-04	CENTER LANE CLOSURES AT NEAR SIDE OF INTERSECTIONS
T-WZ-50 TM-WZ-50	7-29-03	TRAFFIC CONTROL FOR SIGNALS ONLY PROJECTS ON 2 OR 3 LANE MAJOR ROUTES
T-WZ-51 TM-WZ-51	7-29-03	TRAFFIC CONTROL FOR SIGNALS ONLY PROJECTS ON 4 OR 5 LANE MAJOR ROUTES
T-WZ-52 TM-WZ-52	7-29-03	TRAFFIC CONTROL FOR SIGNALS ONLY PROJECTS ON 4 OR 5 LANE MAJOR AND MINOR ROUTES

T-WZ-53
TM-WZ-53

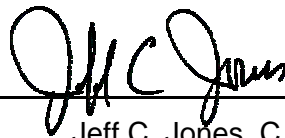
7-29-03

TRAFFIC CONTROL FOR SIGNALS ONLY PROJECTS
ON 4 OR MORE LANE DIVIDED MAJOR ROUTES

T-WZ-54
TM-WZ-54

7-29-03

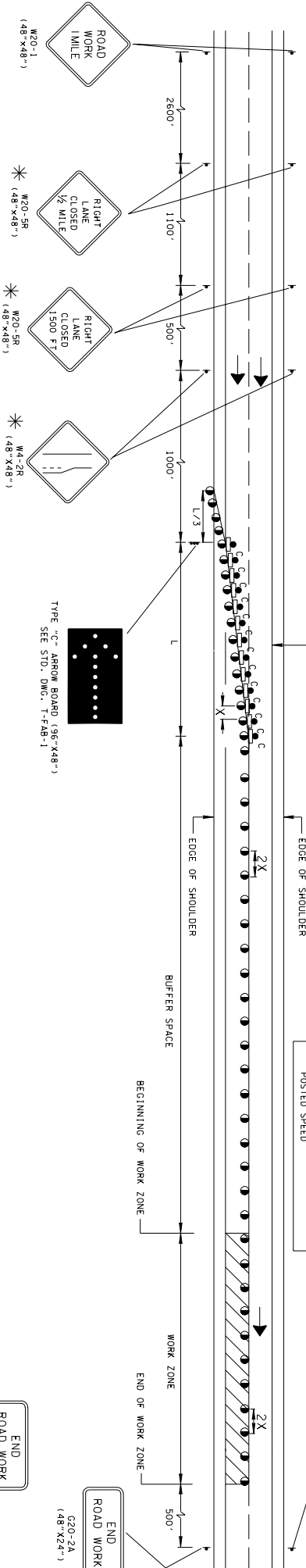
TRAFFIC CONTROL FOR SIGNALS ONLY PROJECTS
ON 4 OR MORE LANE DIVIDED MAJOR ROUTES AND 4
OR MORE LANE MINOR ROUTES



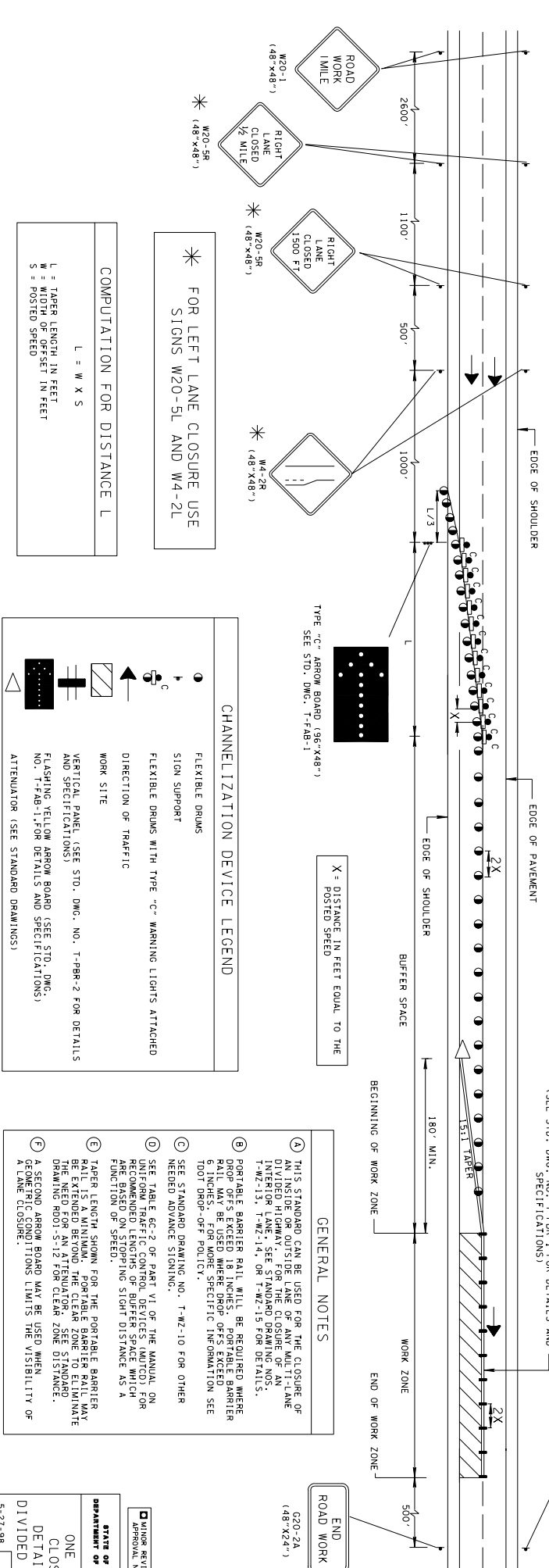
Jeff C. Jones, C. E. Director
Design Division

JW:mbd
Attachment
April 2, 2004

TRAFFIC CONTROL FOR ONE LANE CLOSURE ON MULTI-LANE DIVIDED HIGHWAY
(NO PORTABLE BARRIER RAIL SETUP)



TRAFFIC CONTROL FOR ONE LANE CLOSURE ON MULTI-LANE DIVIDED HIGHWAY
(SHOWING PORTABLE BARRIER RAIL SETUP)



FOR LEFT LANE CLOSURE USE
SIGNS W20-5L AND W4-2L

COMPUTATION FOR DISTANCE L
L = W X S
L = TAPER LENGTH IN FEET
W = WIDTH OF OFFSET IN FEET
S = POSTED SPEED

CHANNELIZATION DEVICE LEGEND

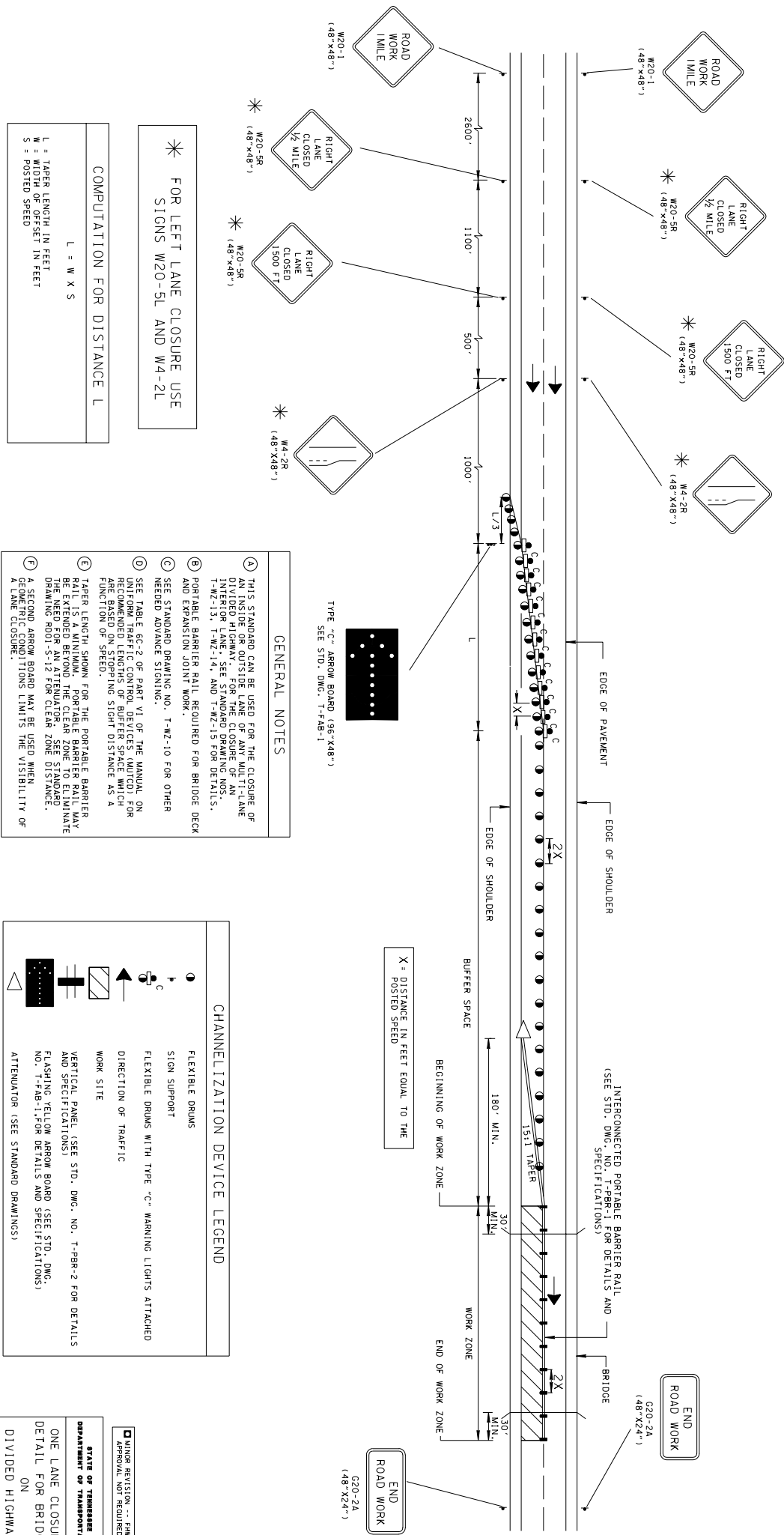
- FLEXIBLE DRUMS
- SIGN SUPPORT
- ▲ FLEXIBLE DRUMS WITH TYPE "C" WARNING LIGHTS ATTACHED
- DIRECTION OF TRAFFIC
- ▬ WORK SITE
- ▬ VERTICAL PANEL (SEE STD. DWG. NO. T-FBR-2 FOR DETAILS AND SPECIFICATIONS)
- ▬ FLASHING YELLOW ARROW BOARD (SEE STD. DWG. NO. T-FAB-1 FOR DETAILS AND SPECIFICATIONS)
- ▬ ATTENUATOR (SEE STANDARD DRAWINGS)

- GENERAL NOTES**
- THIS STANDARD CAN BE USED FOR THE CLOSURE OF AN INSIDE OR OUTSIDE LANE OF ANY MULTI-LANE DIVIDED HIGHWAY. SEE OF AND/OR NON-T-WZ-13, T-WZ-14, OR T-WZ-15 FOR DETAILS.
 - PORTABLE BARRIER RAIL WILL BE REQUIRED WHERE THE PORTABLE BARRIER RAIL MAY BE USED WHERE DROP OFFS EXCEED 6 INCHES. FOR MORE SPECIFIC INFORMATION SEE TOOT DROP-OFF POLICY.
 - SEE STANDARD DRAWING NO. T-WZ-10 FOR OTHER NEEDED ADVANCE SIGNING.
 - SEE TABLE A-6.2 OF PART VI OF THE MANUAL ON SIGNING FOR THE LOCATION OF THE PORTABLE BARRIER RAIL. RECOMMENDED LENGTHS OF BUFFER SPACE WHICH ARE BASED ON STOPPING SIGHT DISTANCE AS A FUNCTION OF SPEED.
 - TAPER LENGTH SHOWN FOR THE PORTABLE BARRIER RAIL IS A MINIMUM. PORTABLE BARRIER RAIL MAY BE EXTENDED BEYOND THE CLEAR ZONE TO ELIMINATE THE NEED FOR AN ATTENUATOR. SEE STANDARD DRAWING NO. S-12 FOR CLEAR ZONE SIGNAGE.
 - A SECOND ARROW BOARD MAY BE USED WHEN A LANE CLOSURE.

MINOR REVISION: PMA APPROVAL NOT REQUIRED.
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ONE LANE CLOSURE
DETAIL ON
DIVIDED HIGHWAYS
T-WZ-11
5-27-98

REV. 12-18-99: MODIFIED GENERAL
NOTE ①
REV. 2-29-03: CHANGED GENERAL
NOTE ②
REV. 01-15-04: CHANGED W4-2 SIGN
DRAWING NUMBER TO 503 WITH 5003 M.I.T.C.O.
WITH 5003 M.I.T.C.O.

TRAFFIC CONTROL FOR ONE LANE CLOSURE FOR BRIDGES ON DIVIDED HIGHWAYS



* FOR LEFT LANE CLOSURE USE SIGNS W20-5L AND W4-2L

COMPUTATION FOR DISTANCE L	
L	= W X S
L	= TAPER LENGTH IN FEET
W	= WIDTH OF OFFSET IN FEET
S	= POSTED SPEED

- GENERAL NOTES**
- (A) THIS STANDARD CAN BE USED FOR THE CLOSURE OF AN INSIDE OR OUTSIDE LANE OF ANY MULTI-LANE ROADWAY. SEE STANDARD DRAWING NOS. T-WZ-13, T-WZ-14, AND T-WZ-15 FOR DETAILS.
 - (B) PORTABLE BARRIER RAIL REQUIRED FOR BRIDGE DECK AND EXPANSION JOINT WORK.
 - (C) SEE STANDARD DRAWING NO. T-WZ-10 FOR OTHER NEEDED ADVANCE SIGNING.
 - (D) SEE TABLE 8C-2 OF PART VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR RECOMMENDED LENGTHS OF BUFFER SPACE WHICH ARE BASED ON SPEED.
 - (E) TAPER LENGTH SHOWN FOR THE PORTABLE BARRIER IS 15:1. OTHER TAPER RATIOS WILL BE NEEDED BEYOND THE CLEAR ZONE ESTIMATE THE NEED FOR AN ATTENUATOR. SEE STANDARD DRAWING R001-S-12 FOR CLEAR ZONE DISTANCE.
 - (F) A SECOND ARROW BOARD MAY BE USED WHEN GEOMETRIC CONDITIONS LIMITS THE VISIBILITY OF A LANE CLOSURE.

CHANNELIZATION DEVICE LEGEND

	FLEXIBLE DRUMS
	SIGN SUPPORT
	FLEXIBLE DRUMS WITH TYPE "C" WARNING LIGHTS ATTACHED
	DIRECTION OF TRAFFIC
	WORK SITE
	VERTICAL PANEL (SEE STD. DNG. NO. T-PBR-2 FOR DETAILS AND SPECIFICATIONS)
	FLASHING YELLOW ARROW BOARD (SEE STD. DNG. NO. T-FAB-1 FOR DETAILS AND SPECIFICATIONS)
	ATTENUATOR (SEE STANDARD DRAWINGS)

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

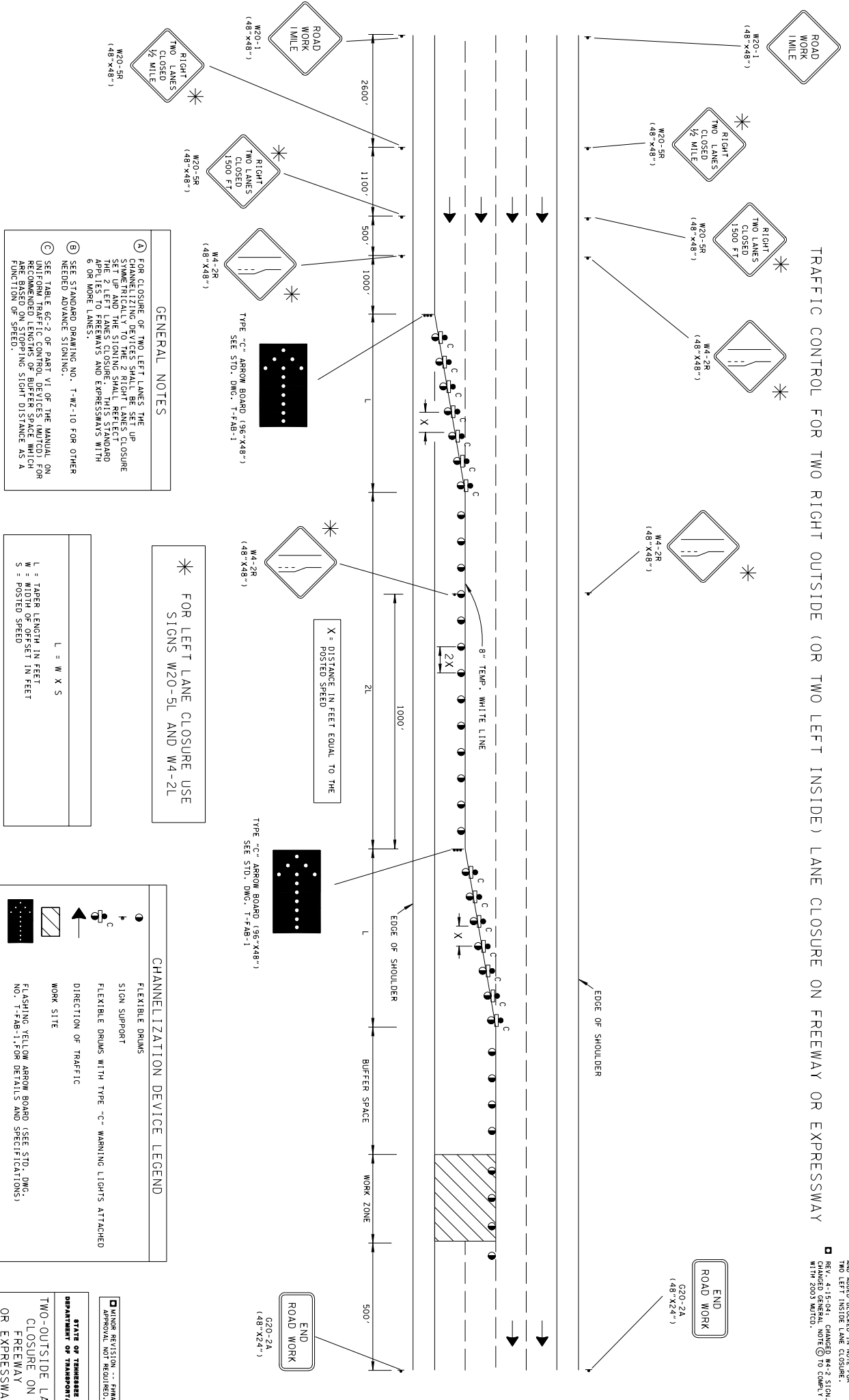
ONE LANE CLOSURE
DETAIL FOR BRIDGES
ON
DIVIDED HIGHWAYS

MINOR REVISION -- FHWA
APPROVAL NOT REQUIRED.

T-WZ-12

- REV. 4-15-99: ADDED GENERAL NOTE (A)
- REV. 12-18-99: MODIFIED GENERAL NOTE (E)
- REV. 7-29-03: CHANGED GENERAL NOTE (E)
- REV. 4-15-04: CHANGED W4-2 SIGN, CHANGED GENERAL NOTE (F) TO COMPLY WITH 2003 MUTCD.

TRAFFIC CONTROL FOR TWO RIGHT OUTSIDE (OR TWO LEFT INSIDE) LANE CLOSURE ON FREEWAY OR EXPRESSWAY



GENERAL NOTES

(A) FOR CLOSURE OF TWO LEFT LANES THE CHANNELIZING DEVICES SHALL BE SET UP SYMMETRICALLY TO THE 2 RIGHT LANES CLOSURE SET UP AND THE SIGNING SHALL REFLECT THE 2 LEFT LANE CLOSURE THIS STANDARD APPLIES TO FREEWAYS AND EXPRESSWAYS WITH 6 OR MORE LANES.

(B) SEE STANDARD DRAWING NO. T-WZ-10 FOR OTHER NEEDED ADVANCE SIGNING.

(C) SEE TABLE GC-2 OF PART VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR DIMENSIONS, LENGTHS OF BUFFER SPACE WHICH ARE NEEDED TO STOP IN SIGHT DISTANCE AS A FUNCTION OF SPEED.

* FOR LEFT LANE CLOSURE USE SIGNS W20-5L AND W4-2L

X = DISTANCE IN FEET EQUAL TO THE POSTED SPEED

L = W X S

L = TAPER LENGTH IN FEET
W = WIDTH OF OFFSET IN FEET
S = POSTED SPEED

CHANNELIZATION DEVICE LEGEND

	FLEXIBLE DRUMS
	SIGN SUPPORT
	FLEXIBLE DRUMS WITH TYPE "C" WARNING LIGHTS ATTACHED
	DIRECTION OF TRAFFIC
	WORK SITE

FLASHING YELLOW ARROW BOARD (SEE STD. DWG. NO. T-FAB-1, FOR DETAILS AND SPECIFICATIONS)

MINOR REVISION -- FIRM APPROVAL NOT REQUIRED.

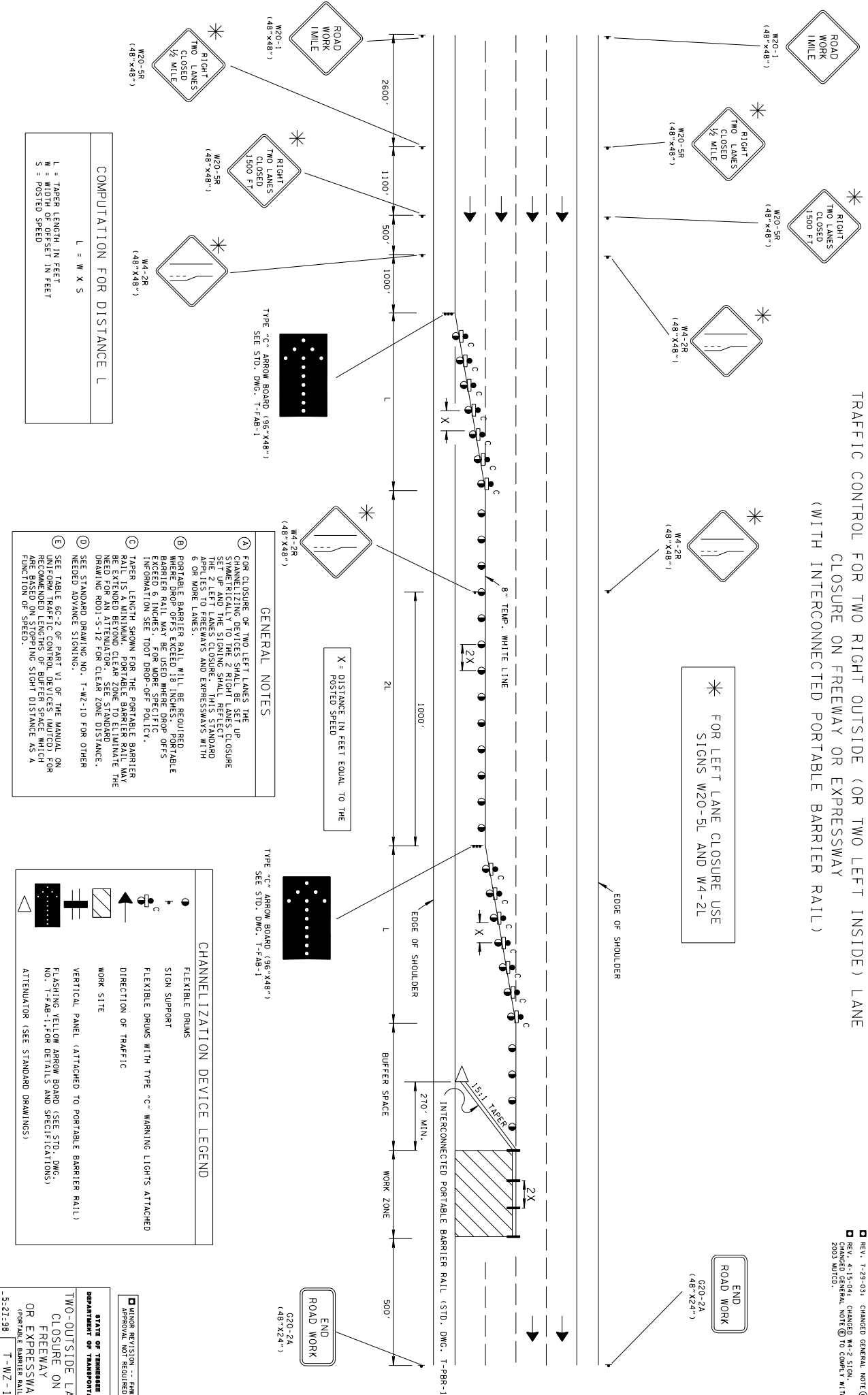
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TWO-OUTSIDE LANE CLOSURE ON FREEWAY OR EXPRESSWAY

T-WZ-13

REV. 12-18-93; MODIFIED HEADLINE AND ADDED BLOCKED IN NOTE FOR ROAD WORK SIGNING. SEE 15-04 GENERAL CHANGES FOR 2003. CHANGED GENERAL CHANGES TO COMPLY WITH 2003 MUTCD.

TRAFFIC CONTROL FOR TWO RIGHT OUTSIDE (OR TWO LEFT INSIDE) LANE
CLOSURE ON FREEWAY OR EXPRESSWAY
(WITH INTERCONNECTED PORTABLE BARRIER RAIL)



COMPUTATION FOR DISTANCE L

$L = W \times S$

L = TAPER LENGTH IN FEET
W = WIDTH OF OFFSET IN FEET
S = POSTED SPEED

- GENERAL NOTES**
- A FOR CLOSURE OF TWO LEFT LANES THE CHANNELIZATION DEVICES SHALL BE SET UP AND THE SIGNING SHALL REFLECT THE 2 LEFT LANES CLOSURE. THIS STANDARD APPLIES TO FREEWAYS AND EXPRESSWAYS WITH 6 OR MORE LANES.
 - B PORTABLE BARRIER RAIL SHALL BE REQUIRED. BARRIER RAIL MAY BE USED WHERE DROP OFFS EXCEED 6 INCHES. FOR MORE SPECIFIC INFORMATION SEE TOTT DROP-OFF POLICY.
 - C TAPER LENGTH SHOWN FOR THE PORTABLE BARRIER RAIL IS A MINIMUM. PORTABLE BARRIER RAIL MAY BE EXTENDED BEYOND CLEAR ZONE TO ELIMINATE THE DRAWING RAIL 5:16 FOR CLEAR ZONE DISTANCE.
 - D SEE STANDARD DRAWING NO. T-WZ-10 FOR OTHER NEEDED ADVANCE SIGNING.
 - E SEE TABLE 6C-2 OF PART VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR RECOMMENDED LENGTHS OF BUFFER SPACE WHICH ARE BASED ON THE SHORT DISTANCE AS A FUNCTION OF SPEED.

CHANNELIZATION DEVICE LEGEND

	FLEXIBLE DRUMS
	SIGN SUPPORT
	FLEXIBLE DRUMS WITH TYPE "C" WARNING LIGHTS ATTACHED
	DIRECTION OF TRAFFIC
	WORK SITE
	VERTICAL PANEL (ATTACHED TO PORTABLE BARRIER RAIL)
	FLASHING YELLOW ARROW BOARD (SEE STD. DWG. NO. T-FAB-1 FOR DETAILS AND SPECIFICATIONS)
	ATTENUATOR (SEE STANDARD DRAWINGS)

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TWO-OUTSIDE LANE
CLOSURE ON
FREEWAY
OR EXPRESSWAY
(VARIABLE BARRIER RAIL)

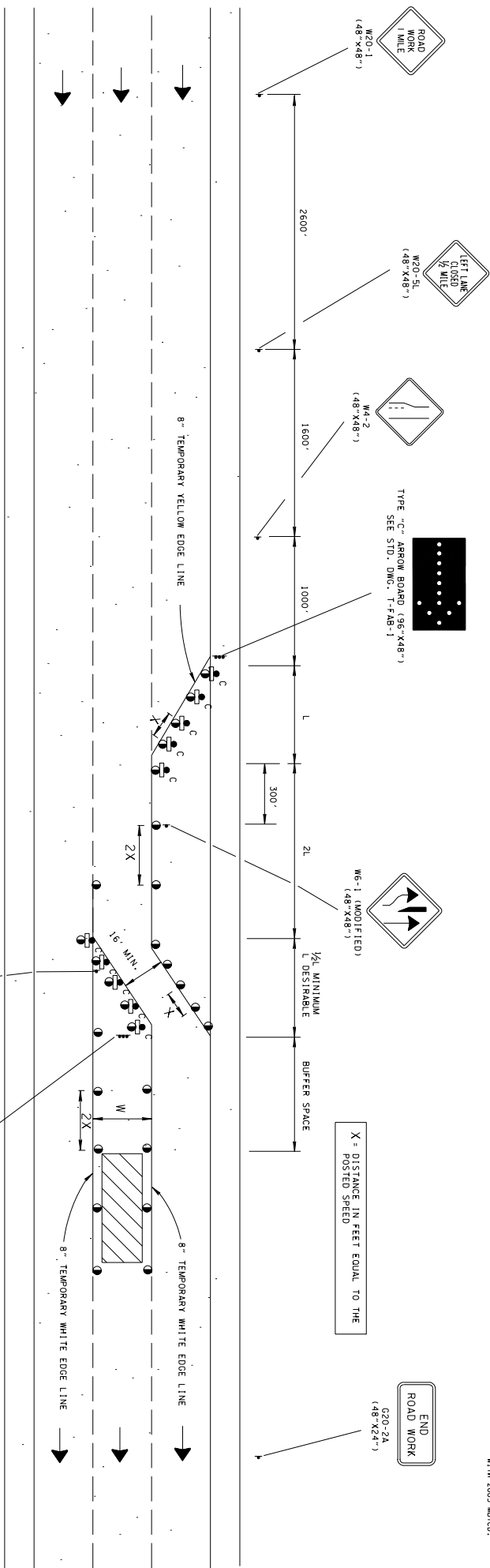
MINOR REVISION -- FINAL APPROVAL NOT REQUIRED.

5-21-98 T-WZ-14

REV. 12-18-99: ADDED BLOCKED IN NOTE FOR TWO LEFT INSIDE LANE CLOSURE.
REV. 7-29-93: CHANGED GENERAL NOTE
REV. 4-15-94: CHANGED #4+2 SIGN.
CHANGED GENERAL NOTE TO COMPLY WITH 2003 MUTCD.

TRAFFIC CONTROL FOR INTERIOR LANE CLOSURE ON FREEWAYS OR EXPRESSWAYS

REV. 2-29-98, ADDED CHANGE LAYOUT FOR FLEXIBLE DRUMS, MODIFIED HEADING AND SHEET NAME.
 REV. 5-27-98, CHANGED DRAWING GENERAL NOTES, ADDED REV. 4-15-04, CHANGED W-2 SIGN, CHANGED GENERAL NOTE TO COMPLY WITH 2003 MUTCD.
 REV. 5-27-98, ADDED CHANGE LAYOUT FOR FLEXIBLE DRUMS, MODIFIED HEADING AND SHEET NAME.
 REV. 4-15-04, CHANGED W-2 SIGN, CHANGED GENERAL NOTE TO COMPLY WITH 2003 MUTCD.



COMPUTATION FOR DISTANCE L

$$L = W \times S$$

L = TAPER LENGTH IN FEET.
 W = WIDTH OF OFFSET IN FEET.
 S = POSTED SPEED

- GENERAL NOTES
- (A) SEE TABLE GC-2 OF PART VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR RECOMMENDED LENGTHS OF BUFFER SPACE WHICH ARE BASED ON STOPPING SIGHT DISTANCE AS A FUNCTION OF SPEED.
 - (B) SEE STANDARD DRAWING NO. T-WZ-10 FOR OTHER NEEDED ADVANCE SIGNING.

CHANNELIZATION DEVICE LEGEND

	FLEXIBLE DRUMS
	SIGN SUPPORT
	DIRECTION OF TRAFFIC
	WORK SITE
	FLASHING YELLOW ARROW BOARD (SEE STD. DWG. NO. T-FAB-1 FOR DETAILS AND SPECIFICATIONS)

MINOR REVISION -- FIRM APPROVAL NOT REQUIRED.

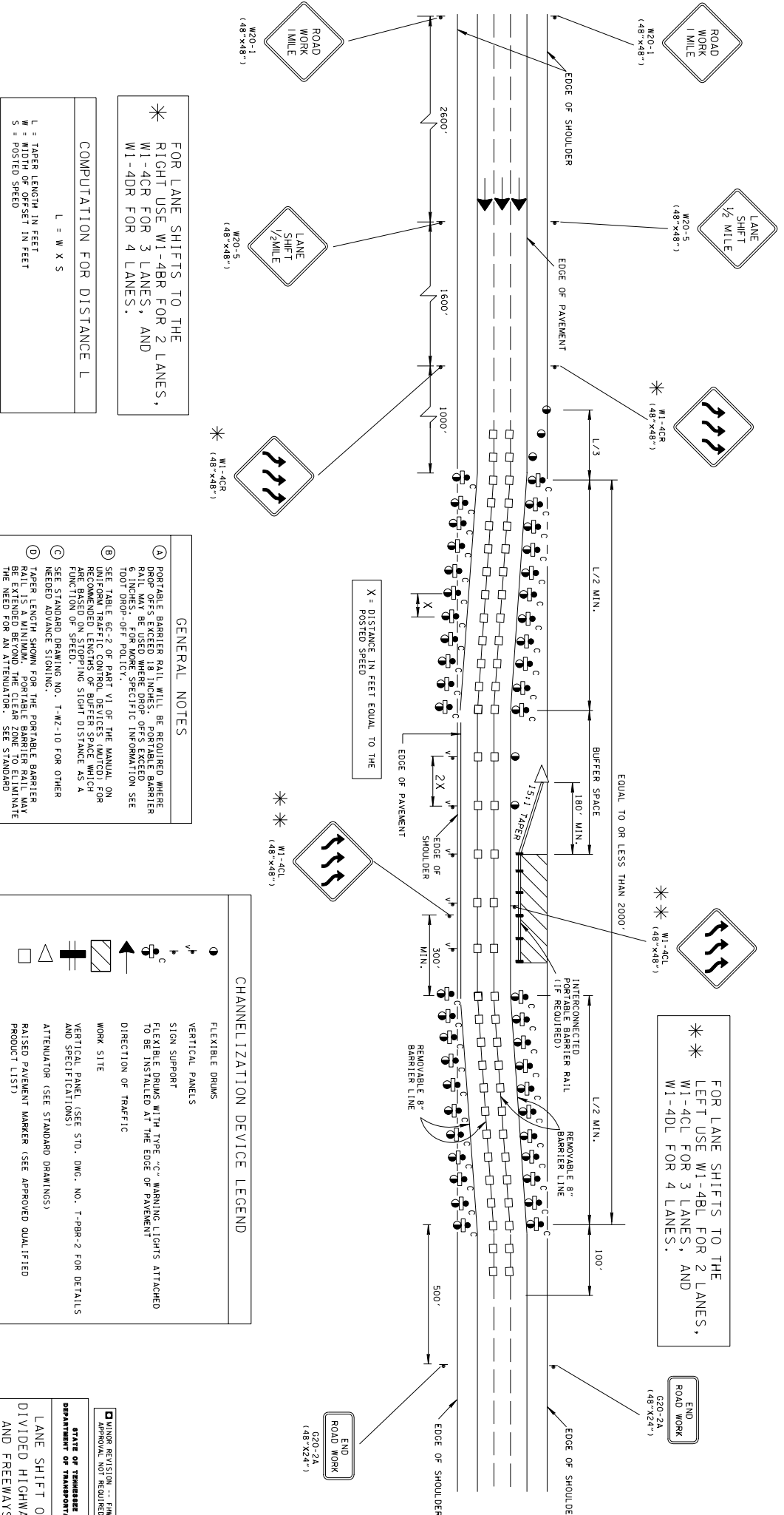
STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION

INTERIOR LANE CLOSURE ON FREEWAYS OR EXPRESSWAYS

12-18-94 T-WZ-15

TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATION

(FOR LANE SHIFTS EQUAL TO OR LESS THAN 2000' IN LENGTH)



FOR LANE SHIFTS TO THE RIGHT USE W1-4BR FOR 2 LANES, W1-4CR FOR 3 LANES, AND W1-4DR FOR 4 LANES.

COMPUTATION FOR DISTANCE L

$L = W \times S$

L = TAPER LENGTH IN FEET
W = WIDTH OF OFFSET IN FEET
S = POSTED SPEED

- ### GENERAL NOTES
- A PORTABLE BARRIER RAIL WILL BE REQUIRED WHERE DROP OFFS EXCEED 18 INCHES. PORTABLE BARRIER RAIL MAY BE USED WHERE DROP OFFS EXCEED 100' DROP OFF POINTS. SPECIFIC INFORMATION SEE FUNCTION OF SPEED.
 - B SEE TABLE 66-2 OF PART VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR RECOMMENDED LENGTHS OF BUFFER SPACE WHICH ARE BASED ON STOPPING SIGHT DISTANCE AS A FUNCTION OF SPEED.
 - C SEE STANDARD DRAWING NO. T-WZ-10 FOR OTHER NEEDED ADVANCE SIGNING.
 - D TAPER LENGTH SHOWN FOR THE PORTABLE BARRIER RAIL IS A MINIMUM. PORTABLE BARRIER RAIL MAY BE USED WHERE TAPER LENGTH IS SHORTER THAN THE NEED FOR AN ATTENUATOR. SEE STANDARD DRAWING R001-S-12 FOR CLEAR ZONE DISTANCE.

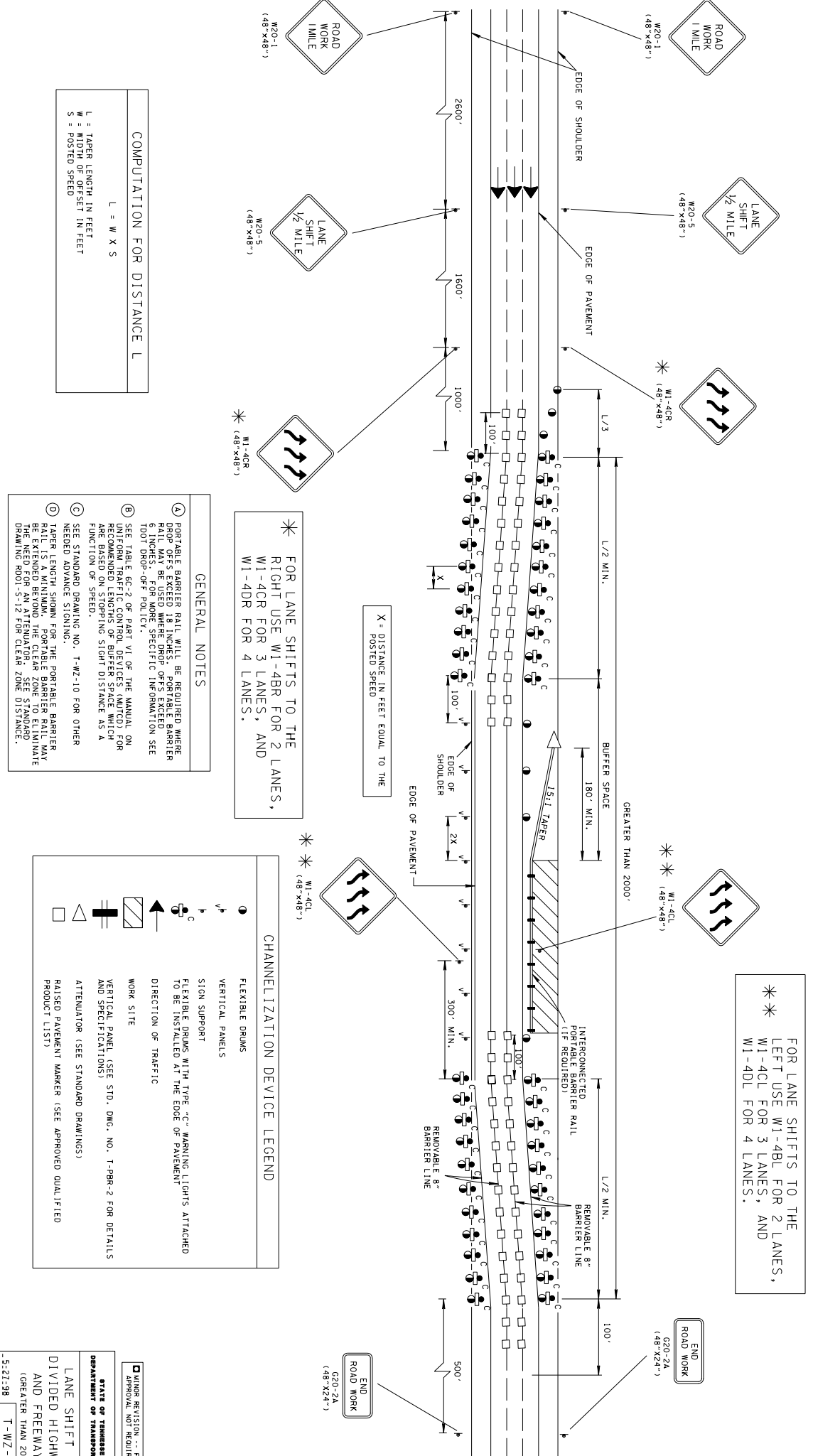
CHANNELIZATION DEVICE LEGEND

	FLEXIBLE DRUMS
	VERTICAL PANELS
	SIGN SUPPORT
	EXAMPLE DRUMS WITH TYPE "C" WARNING LIGHTS ATTACHED TO BE INSTALLED AT THE EDGE OF PAVEMENT
	DIRECTION OF TRAFFIC
	WORK SITE
	RAISED PANEL (SEE STD. DWG. NO. T-PBR-2 FOR DETAILS AND SPECIFICATIONS)
	ATTENUATOR (SEE STANDARD DRAWINGS)
	RAISED PAVEMENT MARKER (SEE APPROVED QUALIFIED PRODUCT LIST)

FOR LANE SHIFTS TO THE LEFT USE W1-4BL FOR 2 LANES, W1-4CL FOR 3 LANES, AND W1-4DL FOR 4 LANES.

- REV. 4-15-90: MODIFIED CHANNELIZATION DEVICE LEGEND.
- REV. 12-8-92: CHANGED NOT FLEXIBLE DRUMS FOR PORTABLE BARRIER RAIL. ORIGINAL SHOULD BE IN WORK ZONE AREA. MODIFIED GENERAL NOTE ②.
- REV. 7-29-03: CHANGED GENERAL NOTE ②.
- REV. 4-15-04: CHANGED GENERAL NOTE ② TO COMPLIANT WITH 509 MAF150.

TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATION
(FOR LANE SHIFTS GREATER THAN 2000' IN LENGTH)



COMPUTATION FOR DISTANCE L
L = W X S
W = WIDTH OF OFFSET IN FEET
S = POSTED SPEED

- GENERAL NOTES**
- PORTABLE BARRIER RAIL WILL BE REQUIRED WHERE THE PORTABLE BARRIER RAIL MAY BE USED WHERE DROP OFF'S EXCEED 6 INCHES. FOR MORE SPECIFIC INFORMATION SEE TOOT DROP-OFF POLICY.
 - SEE TABLE 6C-2 OF PART VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR RECOMMENDED LENGTHS OF BUFFER SPACE WHICH FUNCTION OF SPEED.
 - SEE STANDARD DRAWING NO. T-WZ-10 FOR OTHER NEEDED ADVANCE SIGNING.
 - TAPER LENGTH SHOWN FOR THE PORTABLE BARRIER BE EXTENDED BEYOND THE CLEAR ZONE TO ELIMINATE THE NEED FOR AN ATTENUATOR. SEE STANDARD DRAWING R001-S-12 FOR CLEAR ZONE DISTANCE.

* FOR LANE SHIFTS TO THE RIGHT USE W1-4BR FOR 2 LANES, W1-4CR FOR 3 LANES, AND W1-4DR FOR 4 LANES.

X = DISTANCE IN FEET EQUAL TO THE POSTED SPEED

** FOR LANE SHIFTS TO THE LEFT USE W1-4BL FOR 2 LANES, W1-4CL FOR 3 LANES, AND W1-4DL FOR 4 LANES.

CHANNELIZATION DEVICE LEGEND

	FLEXIBLE DRUMS
	VERTICAL PANELS
	STONE SUPPORT
	FLEXIBLE DRUMS WITH TYPE "C" WARNING LIGHTS ATTACHED TO BE INSTALLED AT THE EDGE OF PAVEMENT
	DIRECTION OF TRAFFIC
	WORK SITE
	VERTICAL PANEL (SEE STD. DWG. NO. T-PBR-2 FOR DETAILS AND SPECIFICATIONS)
	ATTENUATOR (SEE STANDARD DRAWINGS)
	RAISED PAVEMENT MARKER (SEE APPROVED QUALIFIED PRODUCT LIST)

- REV. 4-15-93: MODIFIED CHANNELIZATION DEVICE LEGEND.
- REV. 12-18-93: CHANGED OUT FLEXIBLE DRUMS IN WORK ZONE AREA. MODIFIED GENERAL NOTE ②.
- REV. 7-29-03: CHANGED GENERAL NOTE ② TO COMPLY WITH 2003 MUTCD.
- REV. 4-15-04: CHANGED GENERAL NOTE ② TO COMPLY WITH 2003 MUTCD.

MINOR REVISION ... FINA APPROVAL NOT REQUIRED.

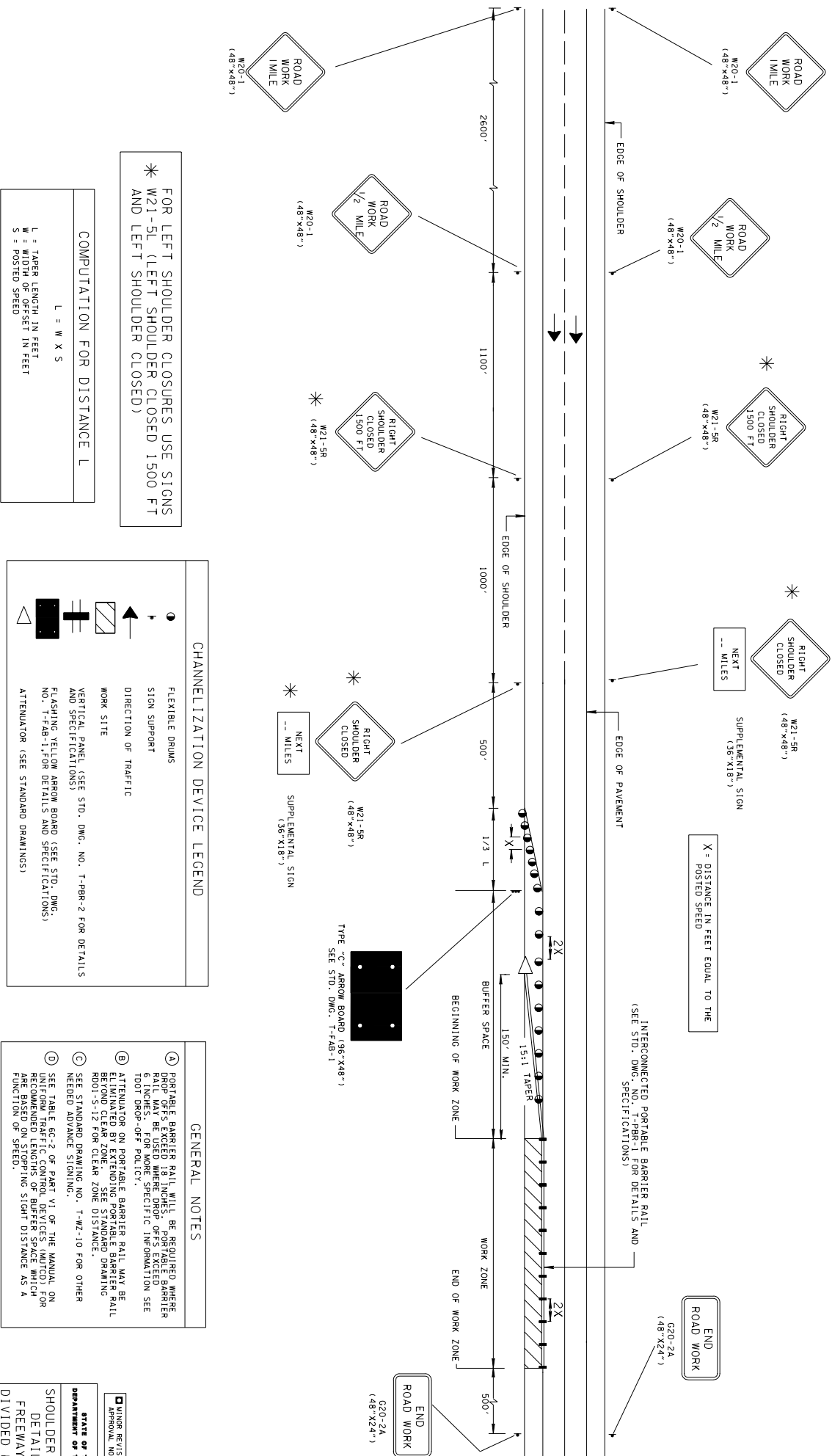
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

LANE SHIFT ON
DIVIDED HIGHWAYS
AND FREEWAYS
(GREATER THAN 2000')

T-WZ-17
5-27-98

TRAFFIC CONTROL FOR SHOULDER CLOSURE FOR FREEWAYS AND DIVIDED HIGHWAYS

- REV. 4-15-99, MODIFIED CHANNELLIZATION DEVICE LEGEND.
- REV. 12-18-99, MODIFIED GENERAL NOTE ④.
- REV. 7-29-03, CHANGED GENERAL NOTE ④.
- REV. 4-15-04, CHANGED GENERAL NOTE ④ TO COMPLY WITH 2003 MUTCD.



FOR LEFT SHOULDER CLOSURES USE SIGNS W21-5L (LEFT SHOULDER CLOSED 1500 FT AND LEFT SHOULDER CLOSED)

COMPUTATION FOR DISTANCE L

L = W X S

L = TABER LENGTH IN FEET
W = WIDTH OF OFFSET IN FEET
S = POSTED SPEED

CHANNELIZATION DEVICE LEGEND	
	FLEXIBLE DRUMS
	SIGN SUPPORT
	DIRECTION OF TRAFFIC
	WORK SITE
	VERTICAL PANEL (SEE STD. DWG. NO. T-PBR-2 FOR DETAILS AND SPECIFICATIONS)
	FLASHING YELLOW ARROW BOARD (SEE STD. DWG. NO. T-FAB-1 FOR DETAILS AND SPECIFICATIONS)
	ATTENUATOR (SEE STANDARD DRAWINGS)

- GENERAL NOTES
- ① PORTABLE BARRIER RAIL WILL BE REQUIRED WHERE RAIL MAY BE USED WHERE DROP OFF EXCEEDS 6 INCHES. FOR MORE SPECIFIC INFORMATION SEE TOUT DROP-OFF POLICY.
 - ② ATTENUATOR ON PORTABLE BARRIER RAIL MAY BE BEYOND CLEAR ZONE. SEE STANDARD DRAWING RD01-S-12 FOR CLEAR ZONE DISTANCE.
 - ③ SEE STANDARD DRAWING NO. T-WZ-10 FOR OTHER NEEDED ADVANCE SIGNING.
 - ④ SEE TABLE GC-2 OF PART VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR RECOMMENDED LENGTHS OF BUFFER SPACE WHICH FUNCTION AS A "STOPPING DISTANCE AS A FUNCTION OF SPEED."

MINOR REVISION -- FINAL APPROVAL NOT REQUIRED.

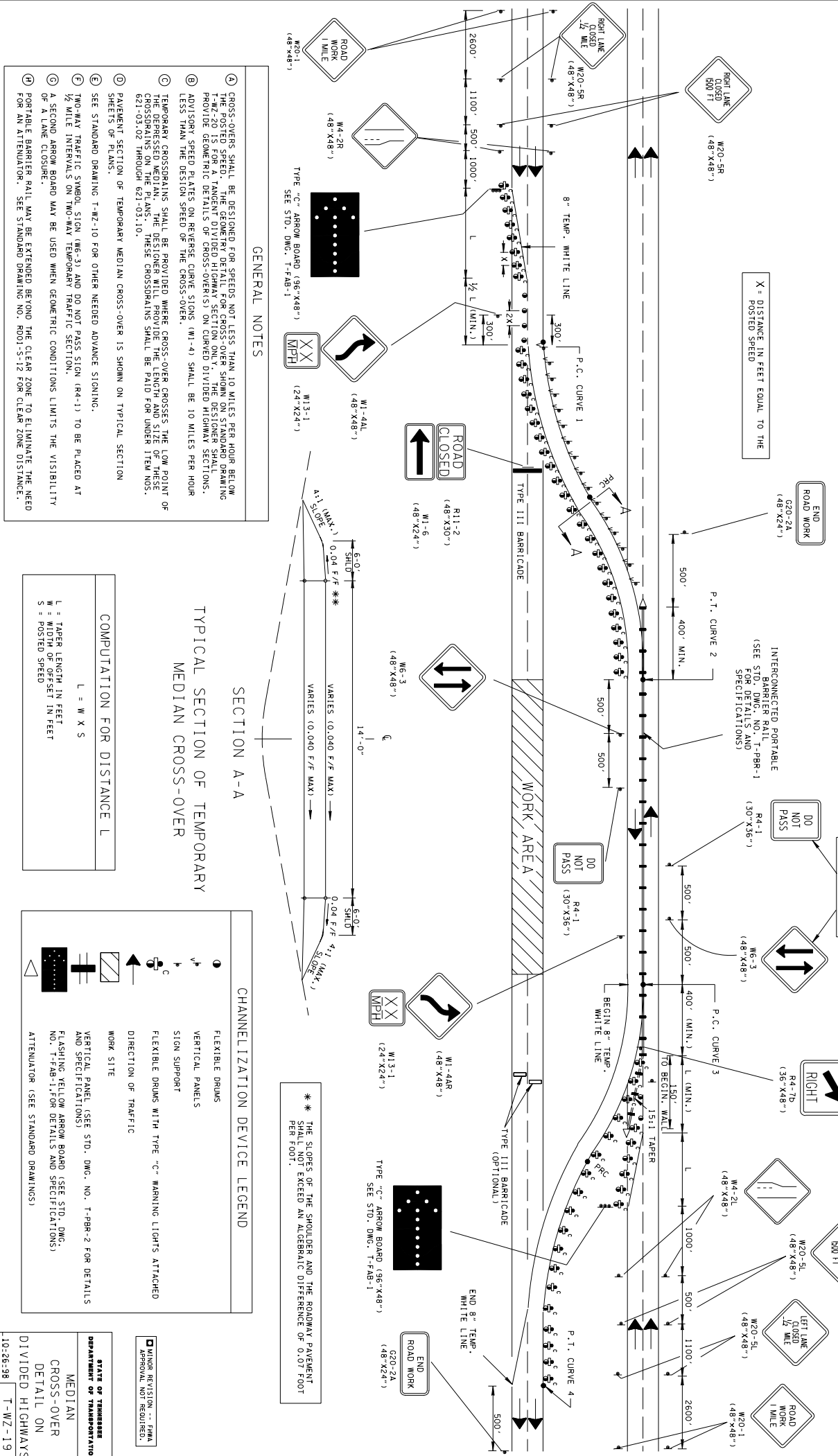
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SHOULDER CLOSURE
DETAIL FOR
FREEWAYS AND
DIVIDED HIGHWAYS

T-WZ-18
5-21-98

MEDIAN CROSS-OVER DETAIL ON DIVIDED HIGHWAYS

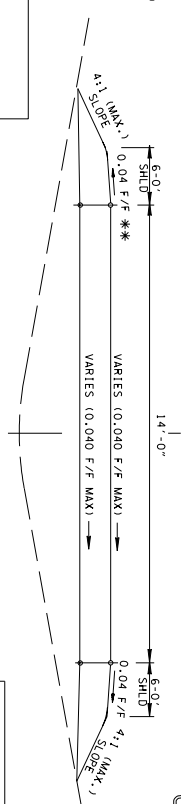
REV. 5-27-01, CHANGED PAY ITEMS
 REV. 2-29-03, CHANGED GENERAL NOTE
 REV. 4-15-04, CHANGED W4-2 SIGN



GENERAL NOTES

- A CROSS-OVERS SHALL BE DESIGNED FOR SPEEDS NOT LESS THAN 10 MILES PER HOUR BELOW THE POSTED SPEED. THE GEOMETRY DETAIL FOR CROSS-OVER SHOWN ON STANDARD DRAWING T-WZ-20 IS FOR A TANGENT DIVIDED HIGHWAY SECTION ONLY. THE DESIGNER SHALL PROVIDE GEOMETRIC DETAILS OF CROSS-OVER(S) ON CURVED DIVIDED HIGHWAY SECTIONS.
- B ADVISORY SPEED PLATES ON REVERSE CURVE SIGNS (W1-4) SHALL BE 10 MILES PER HOUR LESS THAN THE DESIGN SPEED OF THE CROSS-OVER.
- C TEMPORARY CROSSING SHALL BE PROVIDED WHERE CROSS-OVER CROSSES THE LOW POINT OF THE DEPRESSION MEDIAN. THE DESIGNER WILL PROVIDE THE LENGTH AND SIZE OF THESE CROSSINGS ON THE PLANS. THESE CROSSINGS SHALL BE PAID FOR UNDER ITEM NOS. 621-03.02 THROUGH 621-03.10.
- D PAYMENT SECTION OF TEMPORARY MEDIAN CROSS-OVER IS SHOWN ON TYPICAL SECTION SHEETS OF PLANS.
- E SEE STANDARD DRAWING T-WZ-10 FOR OTHER NEEDED ADVANCE SIGNING.
- F TWO-WAY TRAFFIC SYMBOL SIGN (W6-3) AND DO NOT PASS SIGN (R4-1) TO BE PLACED AT 1/2 MILE INTERVALS ON TWO-WAY TEMPORARY TRAFFIC SECTION.
- G A SECOND ARROW BOARD MAY BE USED WHEN GEOMETRIC CONDITIONS LIMITS THE VISIBILITY OF A LANE CLOSURE.
- H PORTABLE BARRIER RAIL MAY BE EXTENDED BEYOND THE CLEAR ZONE TO ELIMINATE THE NEED FOR AN ATTENUATOR. SEE STANDARD DRAWING NO. R001-S-12 FOR CLEAR ZONE DISTANCE.

SECTION A-A



TYPICAL SECTION OF TEMPORARY MEDIAN CROSS-OVER

COMPUTATION FOR DISTANCE L

$L = W \times S$
 L = TAPER LENGTH IN FEET
 W = WIDTH OF OFFSET IN FEET
 S = POSTED SPEED

CHANNELIZATION DEVICE LEGEND

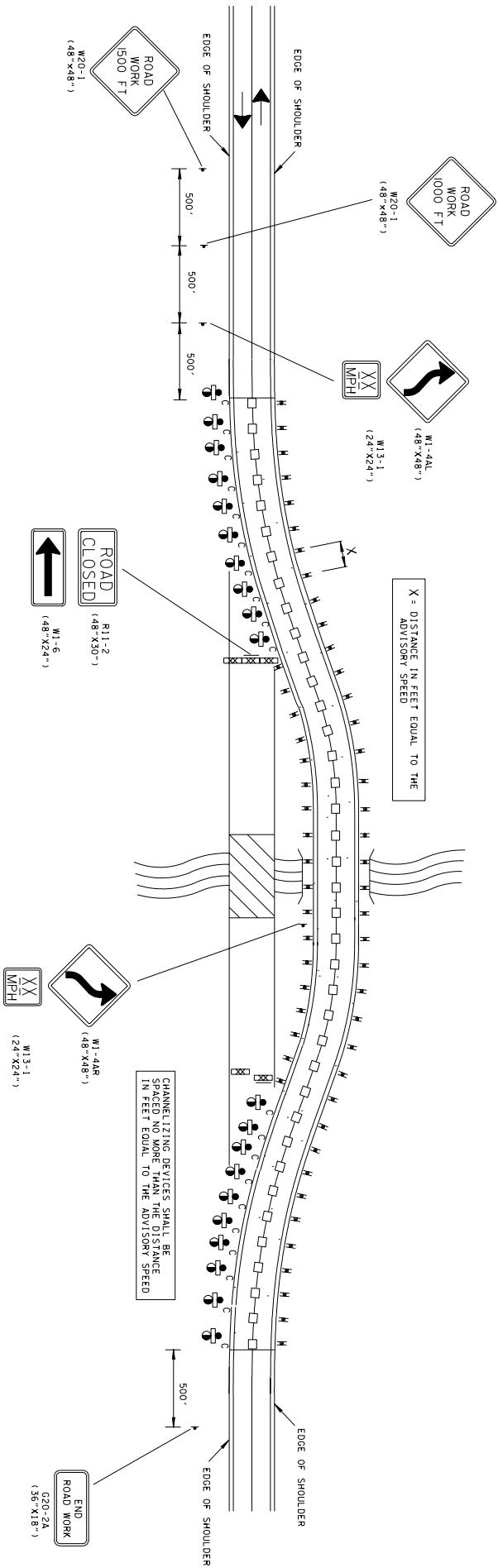
- FLEXIBLE DRUMS
- VERTICAL PANELS
- ▧ SIGN SUPPORT
- ▲ FLEXIBLE DRUMS WITH TYPE "C" WARNING LIGHTS ATTACHED
- DIRECTION OF TRAFFIC
- WORK SITE
- ▨ VERTICAL PANEL (SEE STD. DWG. NO. T-PBR-2 FOR DETAILS AND SPECIFICATIONS)
- ▧ FLASHING YELLOW ARROW BOARD (SEE STD. DWG. NO. T-FAB-1 FOR DETAILS AND SPECIFICATIONS)
- ▧ ATTENUATOR (SEE STANDARD DRAWINGS)

** THE SLOPES OF THE SHOULDER AND THE ROADWAY PAVEMENT SHALL NOT EXCEED AN ALGEBRAIC DIFFERENCE OF 0.07 FOOT PER FOOT.

STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION
 MEDIAN CROSS-OVER
 DETAIL ON
 DIVIDED HIGHWAYS
 T-WZ-19
 10-26-98

MINOR REVISION -- FMA
 APPROVAL NOT REQUIRED.

TRAFFIC CONTROL FOR 2-LANE, 2-WAY DIVERSION DETAIL
(FOR 40 MILES PER HOUR OR LESS)



- GENERAL NOTES**
- A SIGNS SHOWN ARE FOR ONE DIRECTION OF TRAVEL ONLY.
 - B THIS STANDARD FOR 2-LANE, 2-WAY DIVERSION IS TO BE USED FOR DESIGN SPEEDS LESS THAN OR EQUAL TO 40 MPH.
 - C DESIGN SPEED OF DIVERSION SHOULD BE NO MORE THAN 10 MPH BELOW THE POSTED SPEED LIMIT. SEE PLANS FOR HORIZONTAL AND VERTICAL GEOMETRIC DETAILS OF DIVERSION.
 - D SIGNS MOUNTED TO TYPE III BARRICADES SHALL BE MOUNTED ABOVE THE BARRICADE.
 - E TYPE "C" WARNING LIGHTS ARE OPTIONAL IN LIGHTED URBAN AREAS.

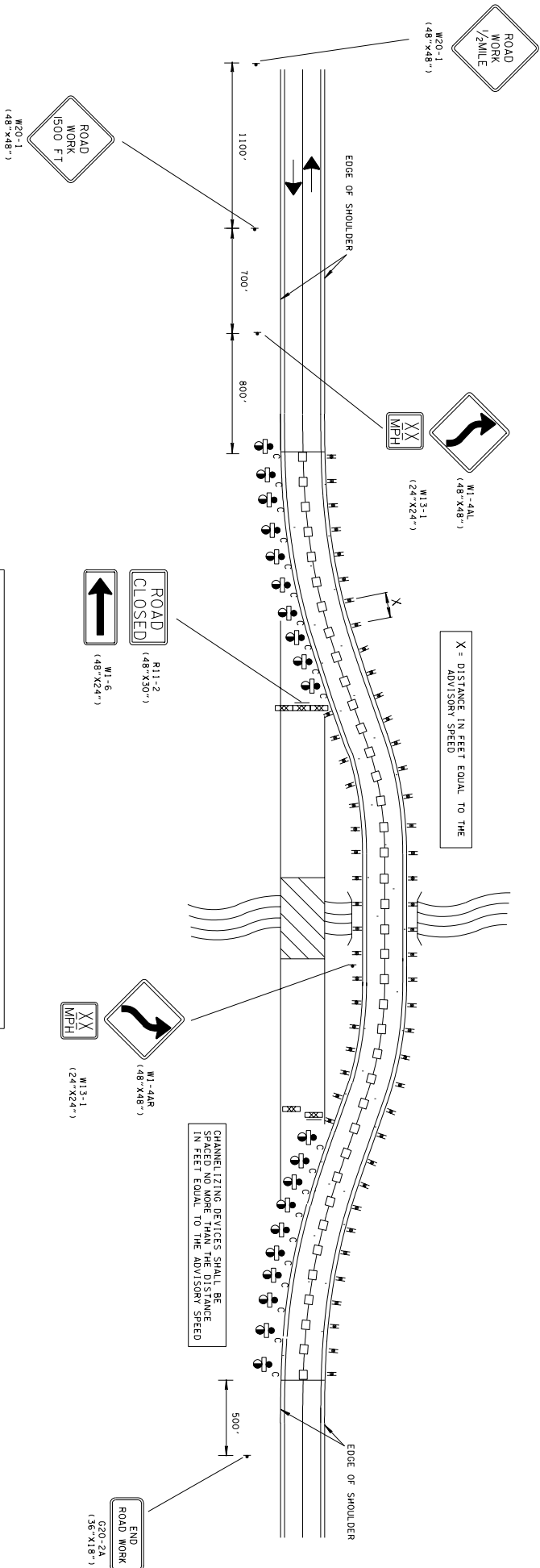
CHANNELIZATION DEVICE LEGEND

H	SIGN SUPPORT
H	VERTICAL PANELS (BACK TO BACK)
C	FLEXIBLE DRUMS WITH TYPE "C" WARNING LIGHTS ATTACHED
▲	DIRECTION OF TRAFFIC
□	WORK SITE
▨	TYPE III BARRICADE WITH SIGNS ATTACHED
▩	RAISED PAVEMENT MARKER (SEE APPROVED QUALIFIED PRODUCT LIST) - OPTIONAL

CONSTRUCTION SIGN QUANTITIES

AREA	= 189 S.F.
(ITEM NO. 712-06)	

TRAFFIC CONTROL FOR 2-LANE, 2-WAY DIVERSION DETAIL
(FOR GREATER THAN 40 MILES PER HOUR)



- GENERAL NOTES**
- ① SIGNS SHOWN ARE FOR ONE DIRECTION OF TRAVEL ONLY.
 - ② THIS STANDARD FOR 2-LANE, 2-WAY DIVERSION IS TO BE USED FOR DESIGN SPEEDS GREATER THAN 40 MPH.
 - ③ DESIGN SPEED OF DIVERSION SHOULD BE NO MORE THAN 10 MPH BELOW THE POSTED SPEED LIMIT, SEE PLAN FOR HORIZONTAL AND VERTICAL ALIGNMENT DETAILS OF DIVERSION.
 - ④ SIGNS MOUNTED TO TYPE 111 BARRICADES SHALL BE MOUNTED ABOVE THE BARRICADE.
 - ⑤ TYPE "C" WARNING LIGHTS ARE OPTIONAL IN LIGHTED URBAN AREAS.

CHANNELIZATION DEVICE LEGEND

	SIGN SUPPORT
	VERTICAL PANELS (BACK TO BACK)
	FLEXIBLE DRUMS WITH TYPE "C" WARNING LIGHTS ATTACHED
	DIRECTION OF TRAFFIC
	WORK SITE
	TYPE 111 BARRICADE WITH SIGNS ATTACHED RAISED PAVEMENT MARKER (SEE APPROVED QUALIFIED PRODUCT LIST)

CONSTRUCTION SIGN QUANTITIES

AREA	=	189 S.F.
(ITEM NO. 712-06)		

- REV. 4-15-99; ADDED GENERAL NOTE ①
- REV. 12-18-99; MODIFIED GENERAL NOTE ①
- REV. 2-15-01; MODIFIED GENERAL NOTE ②
- REV. 7-29-05; CHANGED SIZE FROM 96" X 24" TO 96" X 36"
- REV. 4-15-04; CHANGED W13-1 SIGN.

DESCRIPTION	
1	SIGNAL HEAD ASSEMBLY (30" WITH BACKPLATE)
2	SIGNAL CABLE - 5 CONDUCTOR
3	SIGNAL CABLE - 7 CONDUCTOR OR 12 CONDUCTOR
4	SPAN WIRE ASSEMBLY (12,500 LB. MINIMUM BREAKING STRENGTH)
5	TETHER WIRE ASSEMBLY - 1/4" DIAMETER
6	STEEL CONDUIT RISER ASSEMBLY
7	DETECTOR AMPLIFIERS WITH CABINET
8	FOUR PHASE ACTIVATED CONTROLLER WITH CABINET OR EIGHT PHASE ACTIVATED CONTROLLER WITH CABINET
9	SHIELDED DETECTOR CABLE
10	WOOD POLE (SIGNAL SUPPORT) CL. 3, 35' LENGTH
11	CUTTING DEVICE (VERTICAL ANCHOR)
12	MESSENGER CABLE - 1/4" DIAMETER
13	VEHICLE LOOP DETECTOR
14	SAW SLOT
15	LOOP WIRE

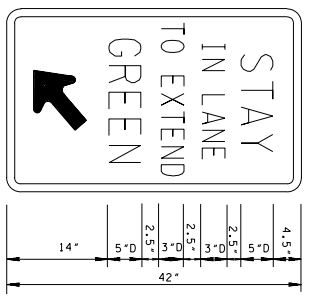
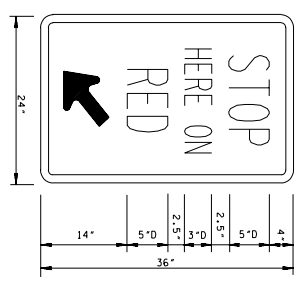
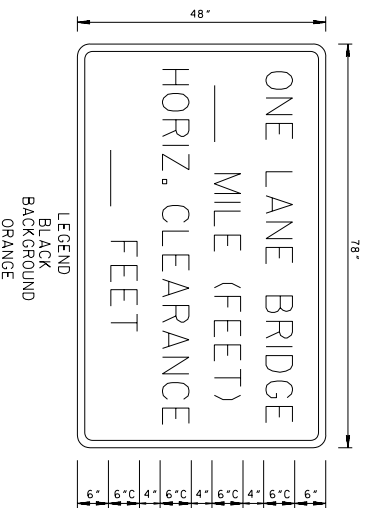
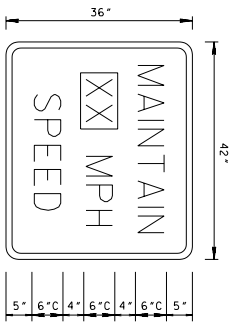
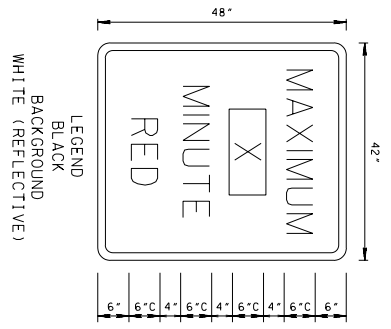
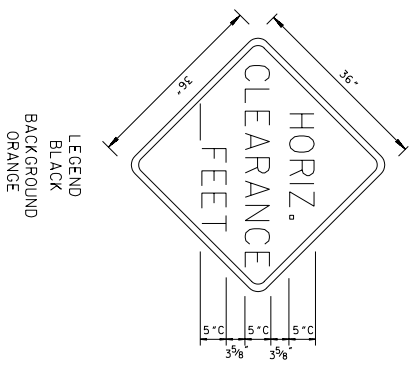
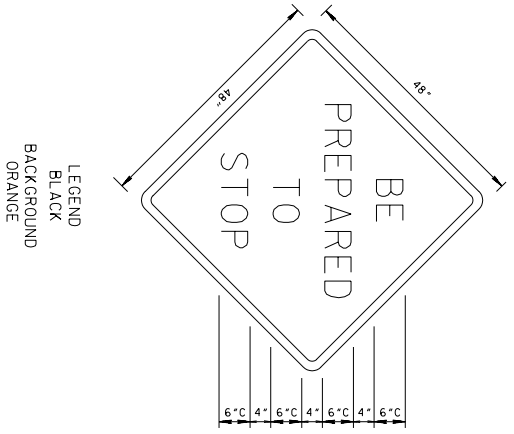
④ FOR LONG CABLE RUNS (GREATER THAN 2500') WHERE VOLTAGE DROP IS EXCESSIVE, CONTRACTOR SHALL USE NO. 12 AWG CONDUCTORS.

⑨ POLE MOUNTED

TRAFFIC CONTROL ITEMS (SIGNALS)

THE COST OF THE ABOVE ITEMS SHALL BE INCLUDED IN THE PRICE BID FOR ITEM NO. 730-40, TEMPORARY TRAFFIC SIGNAL SYSTEM (LEACH).

STANDARD SIGNS		SIZE
DESIGNATION	LEGEND	
W20-1	ROAD WORK 1/2 MILE	48" X 48"
W20-1	ROAD WORK 1500 FT.	48" X 48"
W20-1	ROAD WORK 500 FT.	48" X 48"
W20-1	ROAD WORK AHEAD	48" X 48"
W20-4	ONE LANE ROAD 1500 FT.	48" X 48"
W3-3	SIGNAL AHEAD (SYMBOL)	36" X 36"
W20-7A	FLAGGER AHEAD (SYMBOL) WITH SUPPLEMENTAL PLATE	36" X 36" 24" X 18"
R10-6	STOP HERE ON RED	24" X 36"
R10-6 (MOD.)	STAY IN LANE TO EXT. GREEN	30" X 42"
R10-11A	NO TURN ON RED	24" X 30"
G20-2A	END ROAD WORK	36" X 18"
W1-4GR	LANE SHIFT (SYMBOL)	30" X 30"



DISTANCES AND LOCATIONS AS NOTED IN PLANS

SPECIAL SIGN DETAILS

SEE STANDARD DRAWING T-WZ-34 FOR SIGNING NOTES

- REV. 9-17-83, DELETED ITEM NUMBERS AND NOTE REFERRING TO MEND TO DESIGNERS.
- REV. 3-22-85, CHANGED FROM "STANDARD" TO "TICKER".
- R E VIS ED SIGNAL ITEMS D ESCRIPTIONS.
- R EV. 10-24-86; REVISED T RAFFIC CONTROL ITEMS.
- R EV. 1-19-92; REPEW AND R EORGANIZED SHEET, MODIFIED D ESCRIPTION BLOCK AND ADDED N EW SIGNS.
- REV. 5-16-94; CHANGED FROM "STANDARD" TO "TICKER". M.U. I.C.D., DATED 9-3-93.
- REV. 9-5-94; MODIFIED STANDARD SIGN TABLE TO CONFORM TO REVISED PART VI, STANDARD DRAWING NO. T-CP-1, (MOD.)
- REV. 6-13-95; ADDED SIGN TO STANDARD SIGN TABLE.
- REV. 12-1-95; ADDED R10-6 (MOD.)
- REV. 5-27-98; CHANGED DRAWING NO. FROM T-CF-3 TO T-WZ-35.
- REV. 12-18-99; ADDED SIGN R10-6 TO SHEET.
- REV. 7-29-03; IN STANDARD SIGNS REVISIONS SIGNING END ROAD WORK CONSTRUCTION FROM 48" X 24" TO 36" X 18".

MINOR REVISION -- FMM APPROVAL NOT REQUIRED.

CROSS REFERENCE DRAWINGS FOR THIS SHEET: T-WZ-32, T-WZ-33 AND T-WZ-34.

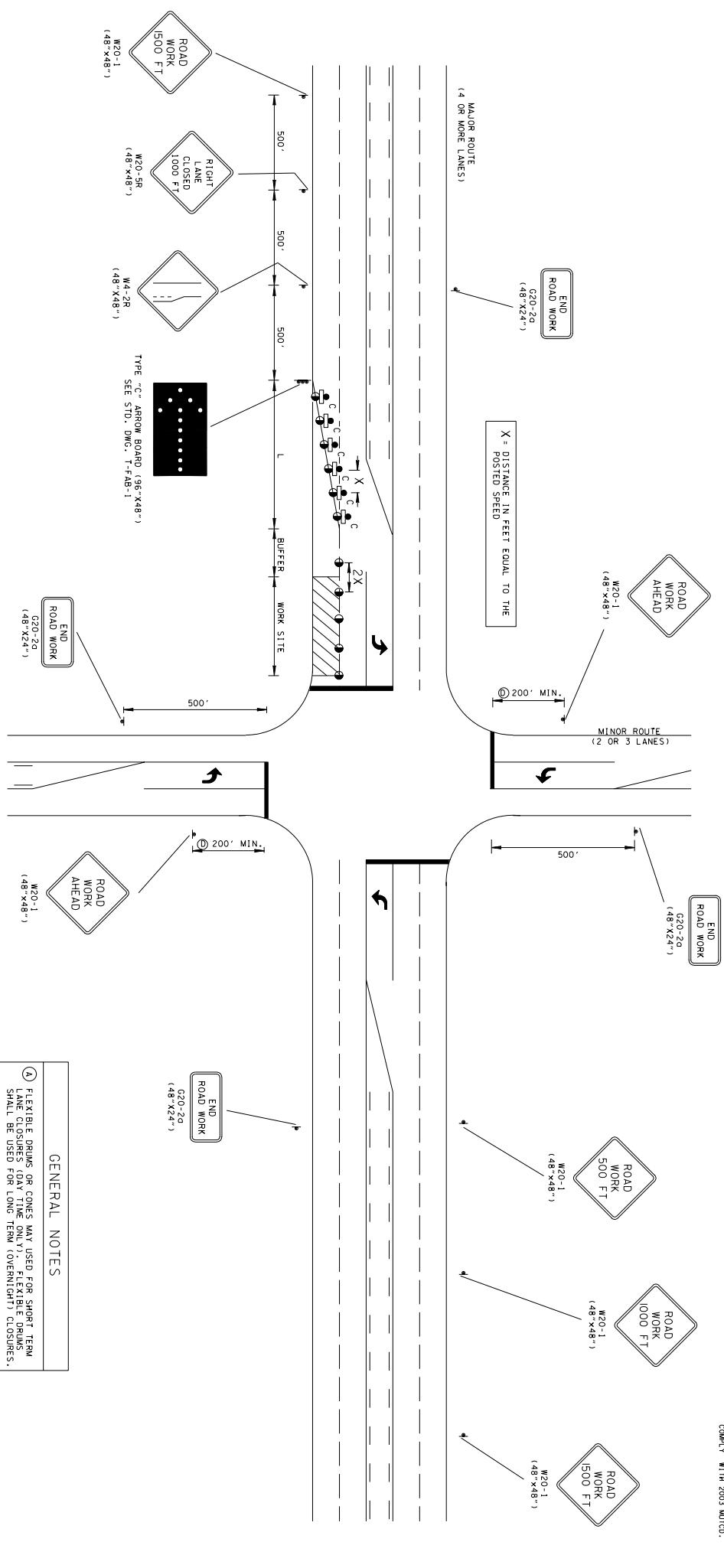
SHEET NOT TO SCALE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL PLAN
PAY ITEM AND SIGN
DETAILS FOR TRAFFIC
SIGNAL AT TWO LANE
BRIDGE RECONSTRUCTION
SITE

5-27-98 T-WZ-35

RIGHT LANE CLOSURES AT NEAR SIDE OF INTERSECTIONS



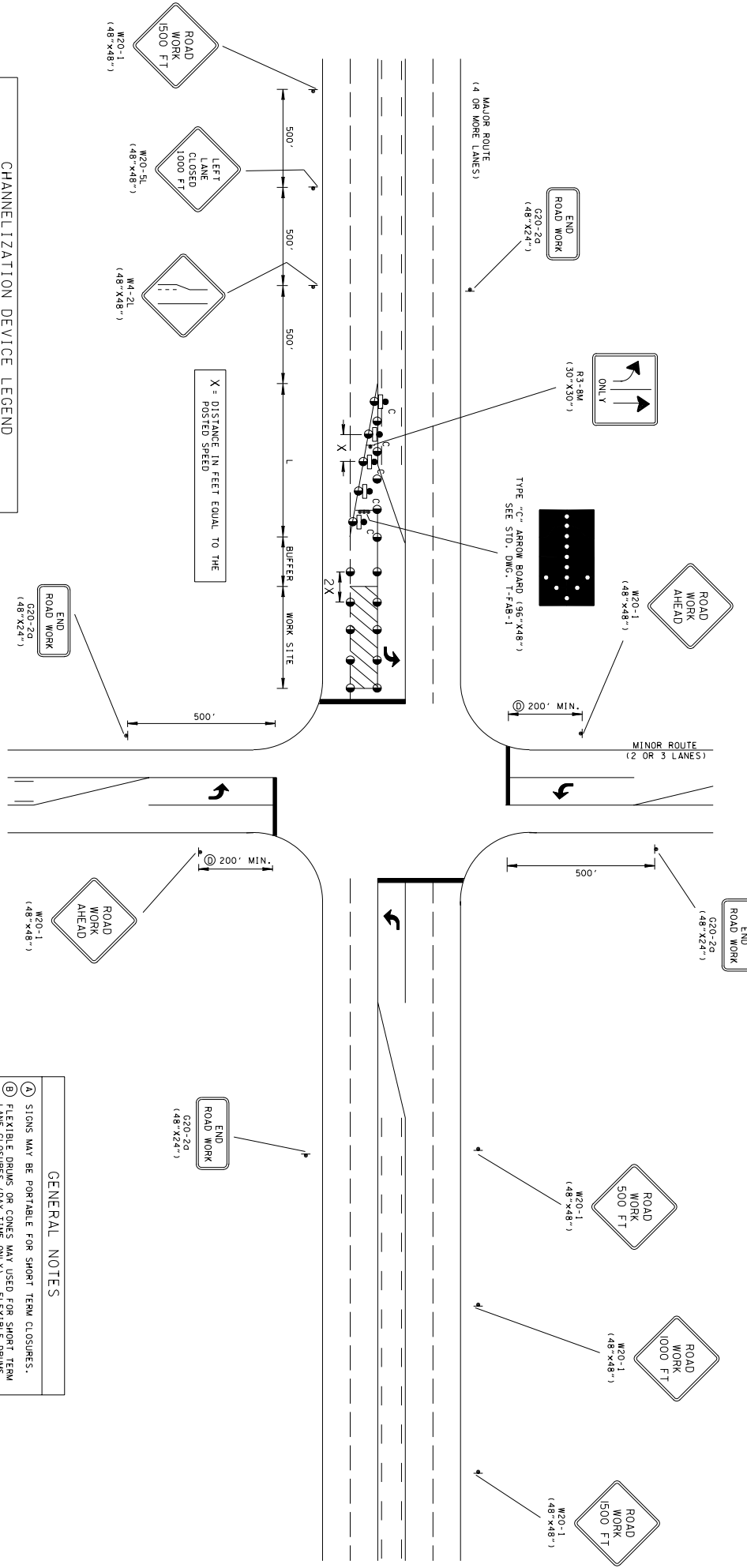
CHANNELIZATION DEVICE LEGEND	
 FLEXIBLE DRUMS	 SIGN SUPPORT
 FLEXIBLE DRUMS WITH TYPE "C" WARNING LIGHTS ATTACHED	
 WORK SITE	
 FLASHING YELLOW ARROW BOARD (SEE STD. DMC, NO. T-7AB-1, FOR DETAILS AND SPECIFICATIONS)	

COMPUTATION FOR DISTANCE L	
$L = W X S$ (FOR POSTED SPEEDS OF 45 MPH OR GREATER)	$L = \frac{W X S^2}{60}$ (FOR POSTED SPEEDS OF 40 MPH OR LESS)
$L =$ TAPER LENGTH IN FEET	
$W =$ WIDTH OF OFFSET IN FEET	
$S =$ POSTED SPEED	

- GENERAL NOTES**
- A** FLEXIBLE DRUMS OR CONES MAY BE USED FOR SHORT TERM LANE CLOSURES ON ONE WAY (EXCEPT) OR ONE WAY (EXCEPT) CLOSURES. SHALL BE USED FOR LONG TERM (OVERNIGHT) CLOSURES.
 - B** SEE TABLE 6C-2 OF PART VI OF THE MANUAL ON UNIFORM PRACTICE CONTROL DEVICES (MUTCD) FOR RECOMMENDED LENGTHS OF BUFFER SPACE WHICH ARE BASED ON STOPPING SIGHT DISTANCE AS A FUNCTION OF SPEED.
 - C** SEE TABLE 6C-1 OF PART VI OF THE MANUAL ON UNIFORM PRACTICE CONTROL DEVICES (MUTCD) FOR RECOMMENDED DISTANCES FOR ROAD WORK AHEAD SIGN TO BE PLACED PRIOR TO INTERSECTION.
 - D** TYPE "C" WARNING LIGHTS ARE OPTIONAL IN LIGHTED URBAN AREAS.

REV. 4-15-99: ADDED GENERAL NOTE ②
 REV. 12-18-93: MODIFIED HEADING DESCRIPTION AND QUANTIFIED DESCRIPTION NOTE ②
 REV. 10-20-88: CHANGED 4x2 SIGN TO 4x8 SIGN AND ② TO ①
 REV. 10-20-88: CHANGED 4x8 SIGN TO 4x8 SIGN AND ② TO ①
 REV. 10-20-88: CHANGED 4x8 SIGN TO 4x8 SIGN AND ② TO ①

LEFT LANE CLOSURES AT NEAR SIDE OF INTERSECTIONS (FOR 40 MILES PER HOUR AND GREATER)



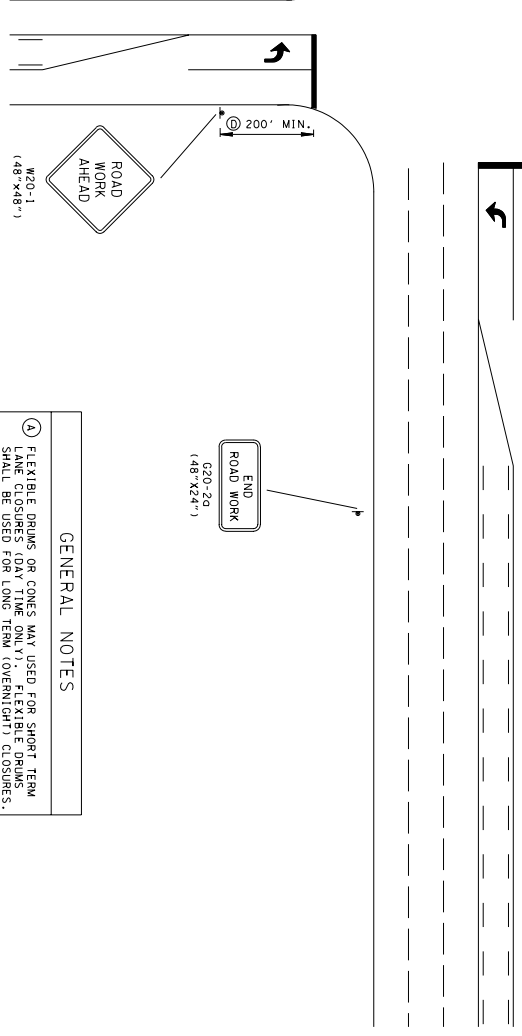
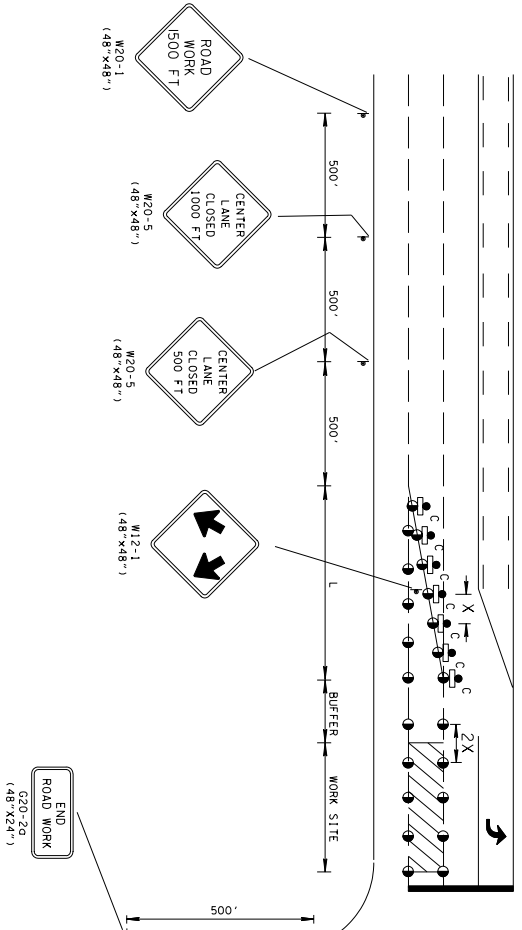
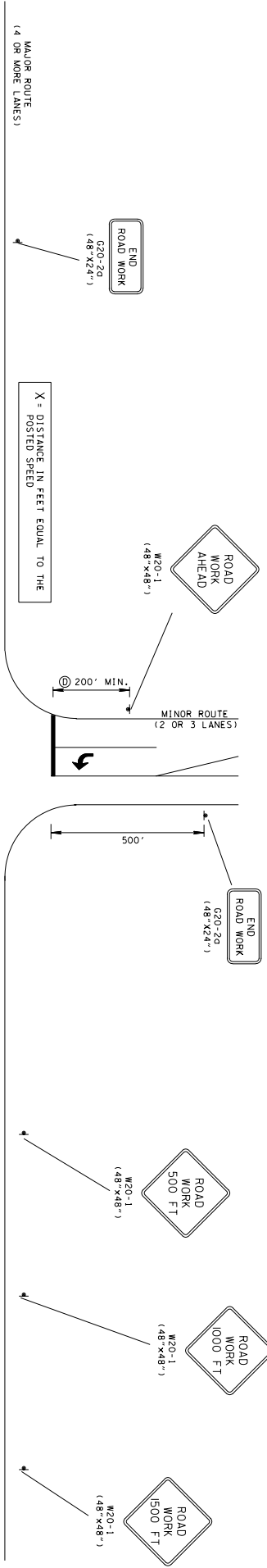
CHANNELIZATION DEVICE LEGEND	
	FLEXIBLE DRUMS
	SIGN SUPPORT
	FLEXIBLE DRUMS WITH TYPE "C" WARNING LIGHTS ATTACHED
	WORK SITE
	FLASHING YELLOW ARROW BOARD (SEE STD. DMC-NO.-T-FAB-1 FOR DETAILS AND SPECIFICATIONS)

COMPUTATION FOR DISTANCE L	
$L = W X S$	(FOR POSTED SPEEDS OF 45 MPH OR GREATER)
$L = \frac{W X S^2}{60}$	(FOR POSTED SPEEDS OF 40 MPH OR LESS)
$L =$	TAPER LENGTH IN FEET
$W =$	WIDTH OF OFFSET IN FEET
$S =$	POSTED SPEED

- ### GENERAL NOTES
- (A) SIGNS MAY BE PORTABLE FOR SHORT TERM CLOSURES.
 - (B) FLEXIBLE DRUMS OR CONES MAY USED FOR SHORT TERM LANE CLOSURES (DAY TIME ONLY). FLEXIBLE DRUMS SHALL BE USED FOR LONG TERM (OVERNIGHT) CLOSURES.
 - (C) SEE TABLE 6C-2 OF PART VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR RECOMMENDED LENGTHS OF BUFFER SPACE WHICH ARE OPENED STOPPING SIGN DISTANCE AS A FUNCTION OF SPEED.
 - (D) SEE TABLE 6C-1 OF PART VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR GUIDELINES FOR ADVANCE WARNING SIGN SPACING TO BE USED TO DETERMINE DISTANCE FOR "ROAD WORK AHEAD" SIGN TO BE PLACED PRIOR TO INTERSECTION. TYPE "C" WARNING LIGHTS ARE OPTIONAL IN LIGHTED URBAN AREAS.

□ REV. 4-15-99: ADDED GENERAL NOTE (A).
 □ REV. 4-15-04: CHANGED W4-2 SIGN. CHANGED GENERAL NOTES (B) AND (C) TO COMPLY WITH 2003 MUTCD.

CENTER LANE CLOSURES AT NEAR SIDE OF INTERSECTIONS



CHANNELIZATION DEVICE LEGEND	
	FLEXIBLE DRUMS
	SIGN SUPPORT
	FLEXIBLE DRUMS WITH TYPE "C" WARNING LIGHTS ATTACHED
	WORK SITE

COMPUTATION FOR DISTANCE L	
$L = W X S$	(FOR POSTED SPEEDS OF 45 MPH OR GREATER)
$L = \frac{W X S^2}{60}$	(FOR POSTED SPEEDS OF 40 MPH OR LESS)
$L =$	TAPER LENGTH IN FEET
$W =$	WIDTH OF OFFSET IN FEET
$S =$	POSTED SPEED

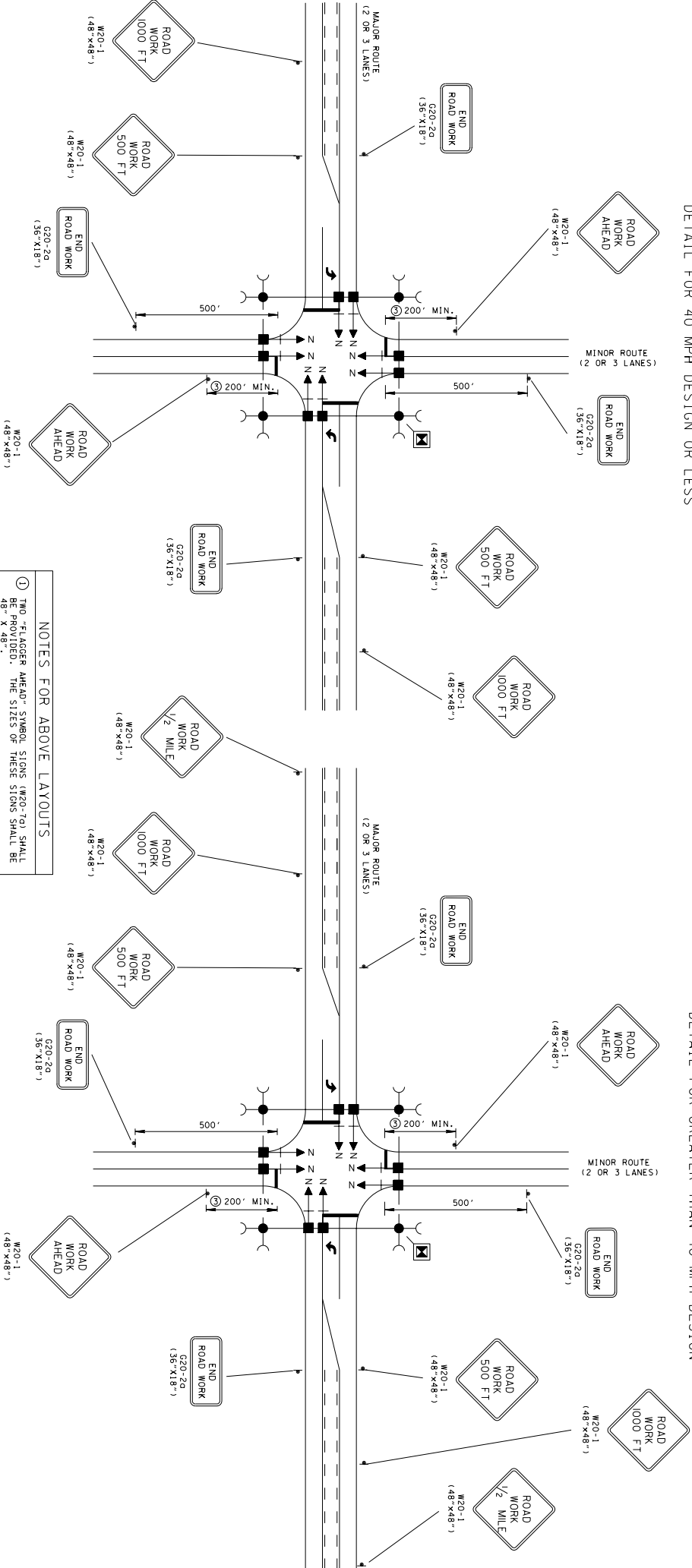
- ### GENERAL NOTES
- A FLEXIBLE DRUMS OR CONES MAY BE USED FOR SHORT TERM LANE CLOSURES (DAY TIME ONLY). FLEXIBLE DRUMS SHALL BE USED FOR LONG TERM (OVERNIGHT) CLOSURES.
 - B SEE TABLE 6C-2 OF PART VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR RECOMMENDED SPACING OF BUFFER SPACE WHICH ARE OF SPEED.
 - C SEE TABLE 6C-1 OF PART VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR GUIDELINES FOR ADVANCE WARNING SIGN SPACING TO BE USED TO DETERMINE DISTANCE FOR "ROAD WORK AHEAD" SIGN TO BE PLACED PRIOR TO INTERSECTION.
 - D TYPE "C" WARNING LIGHTS ARE OPTIONAL IN LIGHTED URBAN AREAS.

REV. 4-15-99 ADDED GENERAL NOTE ③
 REV. 12-18-99 MODIFIED DRAWING
 REV. 12-18-99 AND ELIMINATED
 OLD GENERAL NOTE ②
 REV. 4-15-04 CHANGED GENERAL
 NOTES ② AND ③ TO COMPLY WITH
 2003 MUTCD.

TRAFFIC CONTROL FOR SIGNAL ONLY PROJECTS
WITH 2 OR 3 LANES ENTERING FROM ALL DIRECTIONS

DETAIL FOR 40 MPH DESIGN OR LESS

DETAIL FOR GREATER THAN 40 MPH DESIGN



- NOTES FOR ABOVE LAYOUTS**
- TWO "FLAGGER AHEAD" SYMBOL SIGNS (W20-76) SHALL BE PROVIDED. THE SIZES OF THESE SIGNS SHALL BE 48" X 48".
 - SEE TABLE VI-3 IN PART VI OF THE MUTCD (CURRENT EDITION).

CONSTRUCTION SIGN QUANTITIES
(ITEM NO. 712-06)

-T- INTERSECTIONS	- 93.5 S.F.
4 - LEGGED INTERSECTIONS	- 114 S.F.

CONSTRUCTION SIGN QUANTITIES
(ITEM NO. 712-06)

-T- INTERSECTIONS	- 125.5 S.F.
4 - LEGGED INTERSECTIONS	- 146 S.F.

LEGEND

- PAD MOUNTED CONTROLLER
- WOOD POLE FOR SIGNAL SUPPORT
- GUYING DEVICE ANGLE ANCHOR
- SIGNAL HEAD WITH NUMBER AND BACKPLATE

KUNO REVISION - FROM APPROVAL NOT REQUIRED.

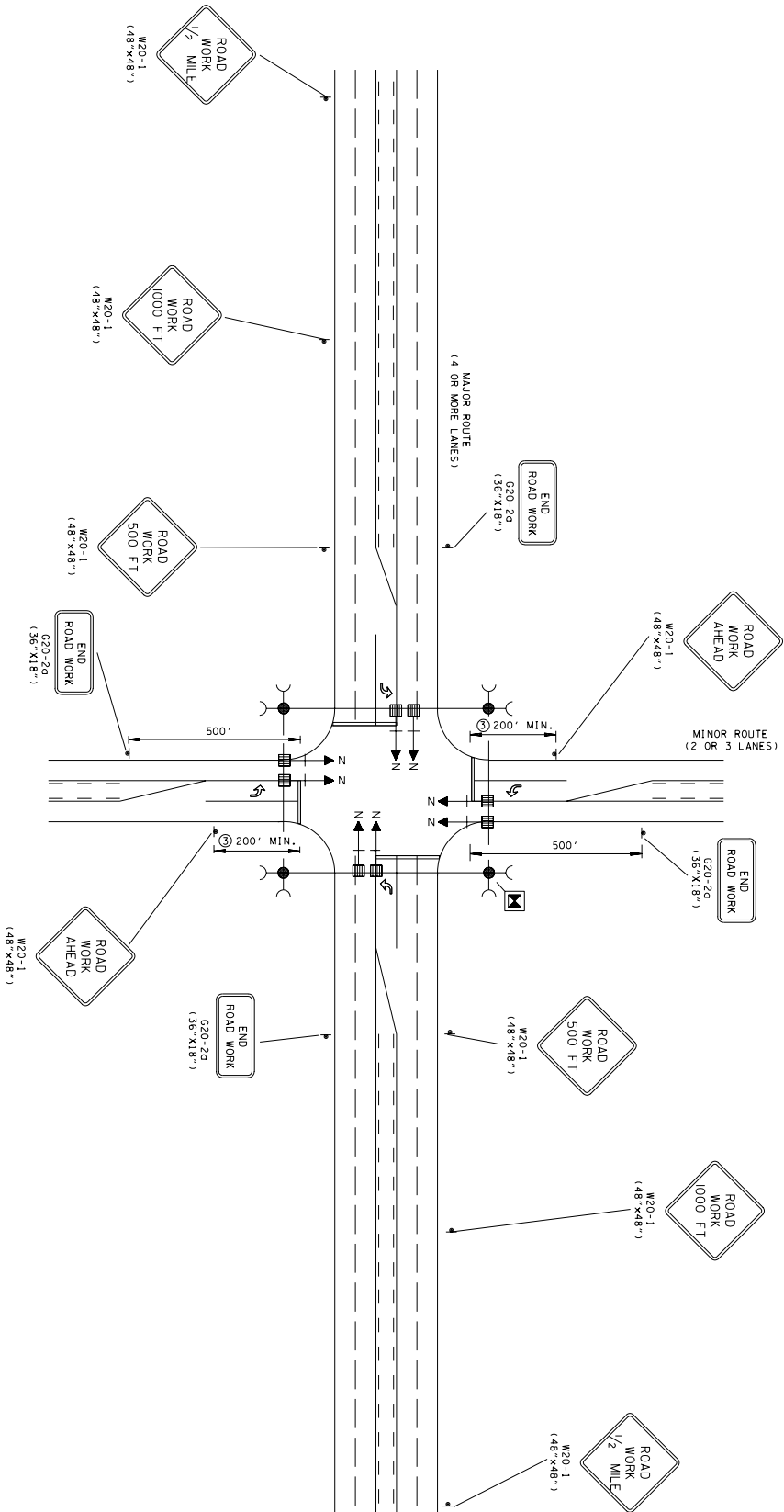
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL FOR SIGNALS ONLY PROJECTS ON 2 OR 3 LANE MAJOR ROUTES

-5-27-98 T-WZ-50

REV. 10-26-98: CHANGED CONSTRUCTION SIGN QUANTITIES.
REV. 12-18-99: IN NOTES FOR ABOVE LAYOUT BLOCK DELETED OLD NOTE NO. 2.
REV. 7-29-03: CHANGED SIZE OF END ROAD WORK CONSTRUCTION SIGN FROM 48x48 TO 36x18".

TRAFFIC CONTROL FOR SIGNAL ONLY PROJECTS
WITH A 4 OR 5 LANE MAJOR ROUTE AND A 2 OR 3 LANE MINOR ROUTE



- NOTES FOR ABOVE LAYOUT**
- ONE LEFT LANE CLOSED 1000 FT. SIGN (W20-SL1), ONE RIGHT LANE CLOSED 1000 FT. SIGN (W20-SR1), ONE "LEFT LANE MERGE" SYMBOL SIGN (W20-L21), ONE "RIGHT LANE MERGE" SYMBOL SIGN (W20-R21), AND TWO "FLASHER AHEAD" SYMBOL SIGNS (W20-F1) SHALL BE PROVIDED. THE SIZES OF THESE SIGNS SHALL BE 48"x48" - SEE STANDARD DRAWING NOS. T-WZ-40 AND T-WZ-41 FOR MORE DETAILS.
 - SEE TABLE VI-3 IN PART VI OF THE MUTCD (CURRENT EDITION).

LEGEND	
	PAD MOUNTED CONTROLLER
	WOOD POLE FOR SIGNAL SUPPORT
	GUYING DEVICE ANGLE ANCHOR
	SIGNAL HEAD WITH NUMBER AND BACKPLATE

CONSTRUCTION SIGN QUANTITIES	
(ITEM NO. 712-06)	- 125.5 S.F.
- T- INTERSECTIONS	
4 - LEGGED INTERSECTIONS -	146 S.F.

REV. 10-26-98: CHANGED CONSTRUCTION SIGN QUANTITIES.
 REV. 12-18-99: IN NOTES FOR ABOVE LAYOUT BLOCK DELETED OLD NOTE NO. 2.
 REV. 7-29-03: CHANGED SIZE OF END ROAD WORK CONSTRUCTION SIGN FROM 48"x48" TO 36"x18".

ALTERNATE DESIGN - FIELD APPROVAL NOT REQUIRED

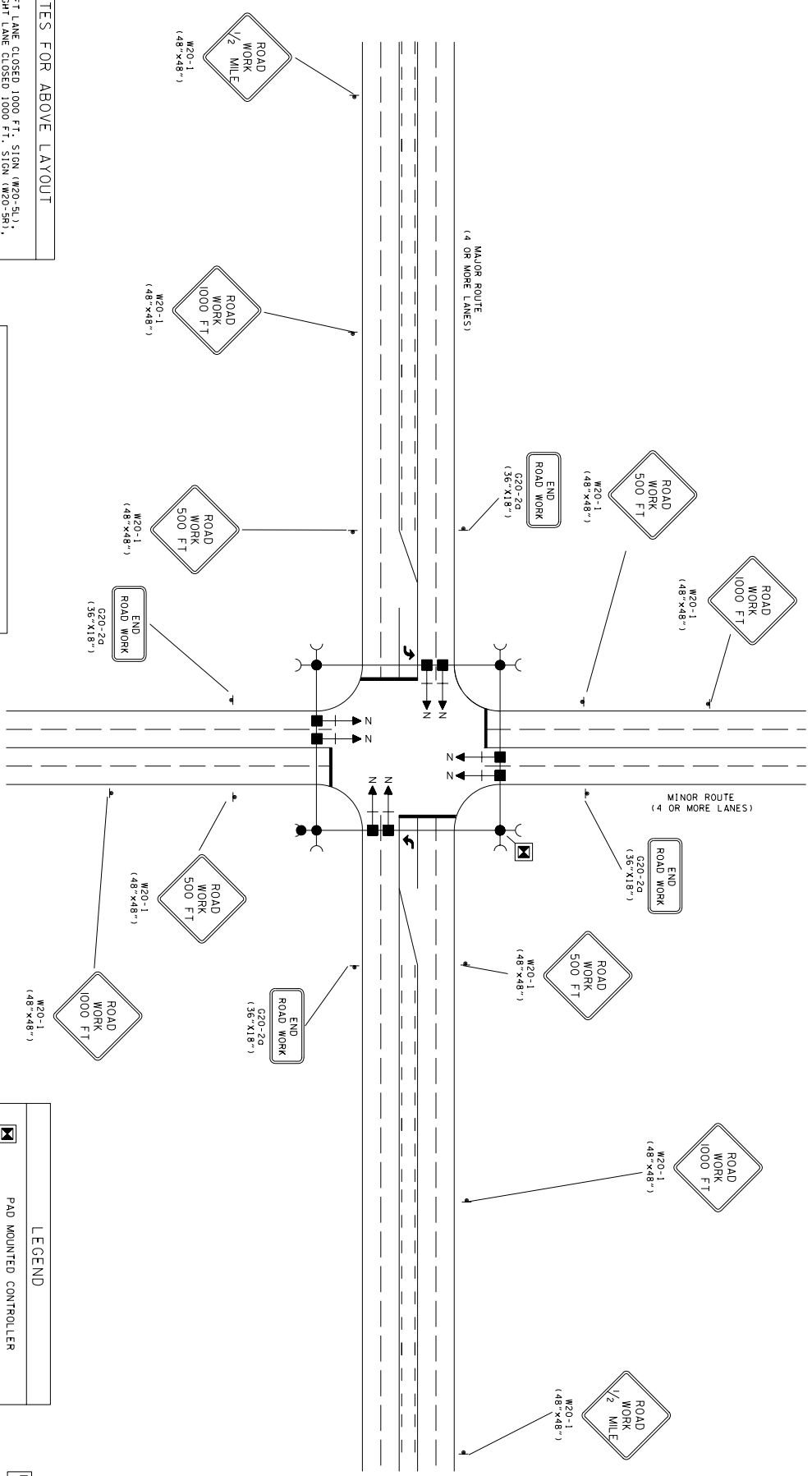
STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL
 FOR SIGNALS ONLY
 PROJECTS ON 4 OR
 5 LANE MAJOR
 ROUTES

-5:27-98 T-WZ-51

TRAFFIC CONTROL FOR SIGNAL ONLY PROJECTS
WITH 4 OR 5 LANES ENTERING FROM ALL DIRECTIONS

REV. 10-26-98, MODIFIED GENERAL
NOTE: ○ ELIMINATED ROAD WORK 1/2
MILE SIGNS FROM MINOR ROUTE.
REV. 12-18-99, IN NOTES FOR ABOVE
QUANTITIES.
REV. 7-29-03, CHANGED SIZE OF END
ROAD WORK CONSTRUCTION SIGN FROM
49" X 24" TO 36" X 18".



NOTES FOR ABOVE LAYOUT

① ONE LEFT LANE CLOSED 1000 FT. SIGN (W20-5L1), ONE RIGHT LANE CLOSED 1000 FT. SIGN (W20-5R1) AND ONE RIGHT LANE MERGE SYMBOL SIGN (W20-2R) SHALL BE PROVIDED. THE SIZES OF THESE SIGNS SHALL BE 48"x48". SEE STANDARD DRAWING NOS. T-WZ-40 AND T-WZ-41 FOR MORE DETAILS.

CONSTRUCTION SIGN QUANTITIES
(ITEM NO. 712-06)

-T- INTERSECTIONS	- 141.5 S.F.
4 - LEGGED INTERSECTIONS	- 178 S.F.

LEGEND

	PAD MOUNTED CONTROLLER
	WOOD POLE FOR SIGNAL SUPPORT
	GUYING DEVICE ANGLE ANCHOR
	SIGNAL HEAD WITH NUMBER AND BACKPLATE

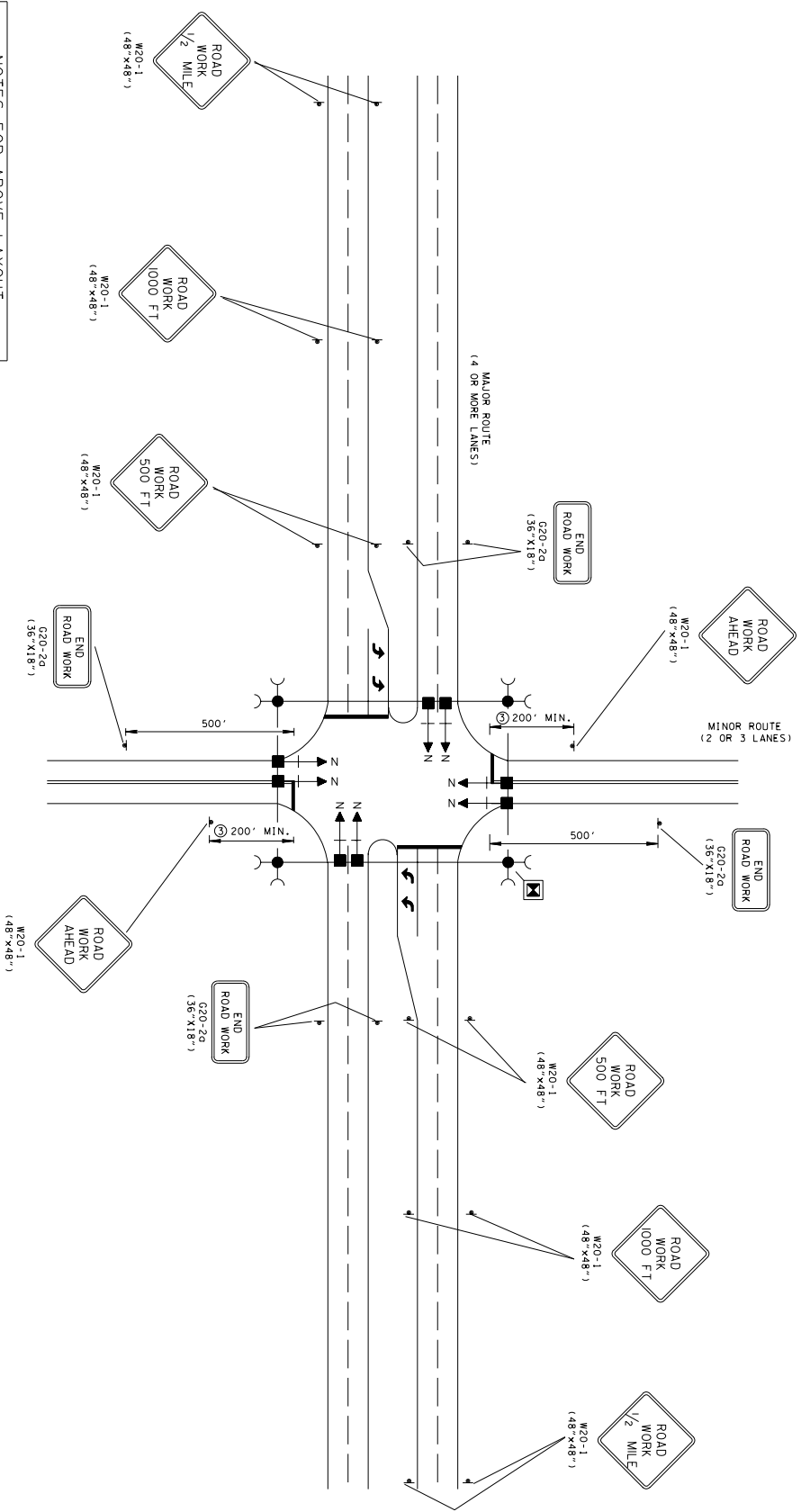
MINOR REVISION: -- FMA
APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL
FOR SIGNALS ONLY
PROJECTS ON 4 OR
5 LANE MAJOR AND
MINOR ROUTES

-5-27-98 T-WZ-52

TRAFFIC CONTROL FOR SIGNAL ONLY PROJECTS WITH
A 4 OR MORE LANE DIVIDED MAJOR ROUTE AND 2 OR 3 LANES MINOR ROUTE



- NOTES FOR ABOVE LAYOUT**
- ONE LEFT LANE CLOSED 1000 FT. SIGN (W20-5L), ONE RIGHT LANE CLOSED 1000 FT. SIGN (W20-5R), ONE "ROAD WORK AHEAD" SYMBOL SIGN (W4-2R), AND TWO "FLASHER AHEAD" SYMBOL SIGNS (W20-7d) SHALL BE PROVIDED. THE SIZES OF THESE SIGNS SHALL BE 48"x48" - SEE STANDARD DRAWING NOS. T-WZ-90 AND T-WZ-91 FOR MORE DETAILS.
 - SEE TABLE VI-3 IN PART VI OF THE MUTCD (CURRENT EDITION).

LEGEND

- PAD MOUNTED CONTROLLER
- WOOD POLE FOR SIGNAL SUPPORT
- GUYING DEVICE ANGLE ANCHOR
- SIGNAL HEAD WITH NUMBER AND BACKPLATE

CONSTRUCTION SIGN QUANTITIES
(ITEM NO. 712-06)

"T" INTERSECTIONS	- 230.5 S.F.
4 - LEGGED INTERSECTIONS	- 251 S.F.

REV. 12-18-99. IN NOTES FOR ABOVE
NO. 10. BLOCK DELETED OLD NOTE
REV. 7-29-03. CHANGED SIZE OF END
ROAD WORK CONSTRUCTION SIGN FROM
48"x24" TO 36"x18".

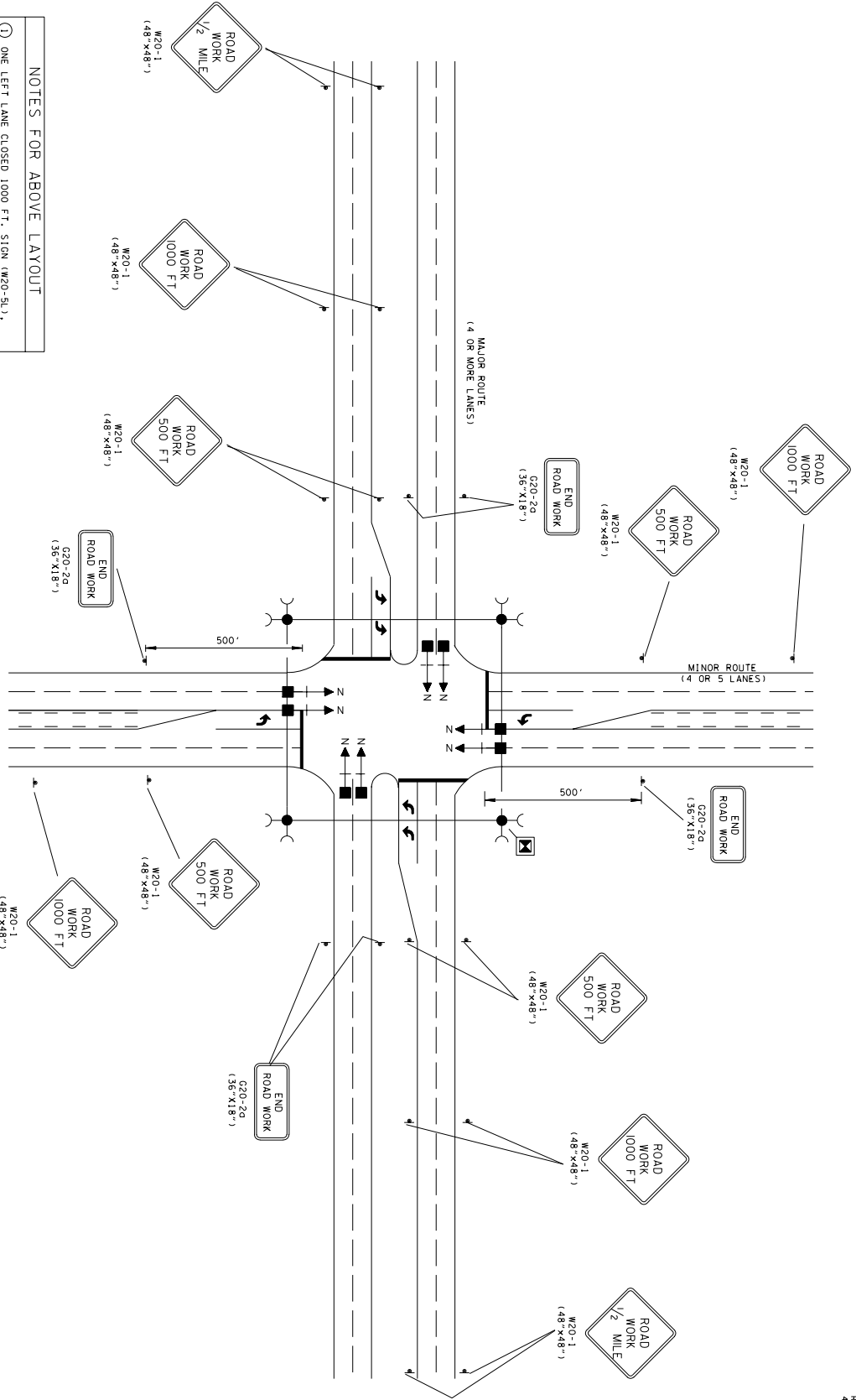
LUTING REVISION - FINAL APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL FOR SIGNALS ONLY PROJECTS ON 4 OR MORE LANE DIVIDED MAJOR ROUTES

-10-26-98 T-WZ-53

TRAFFIC CONTROL FOR SIGNAL ONLY PROJECTS WITH
4 OR MORE LANE DIVIDED MAJOR ROUTES AND 4 OR MORE LANE MINOR ROUTES



NOTES FOR ABOVE LAYOUT

① ONE LEFT LANE CLOSED, 1000 FT. SIGN (W20-5L1), ONE RIGHT LANE MERGE SYMBOL SIGN (W4-28) AND ONE LEFT LANE MERGE SYMBOL SIGN (W4-28) AND ONE RIGHT LANE MERGE SYMBOL SIGN (W4-28), SHALL BE PROVIDED. THE SIZES OF THESE SIGNS SHALL BE 48"x48" - SEE STANDARD DRAWING NOS. 1-WZ-40 AND 1-WZ-41 FOR MORE DETAILS.

LEGEND

- PAD MOUNTED CONTROLLER
- WOOD POLE FOR SIGNAL SUPPORT
- GUYING DEVICE ANGLE ANCHOR
- SIGNAL HEAD WITH NUMBER AND BACKPLATE

CONSTRUCTION SIGN QUANTITIES
(ITEM NO. 712-06)

-T- INTERSECTIONS	- 246.5 S.F.
4 - LEGGED INTERSECTIONS	- 283 S.F.

MINOR REVISION ... FROM APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL FOR SIGNALS ONLY PROJECTS ON 4 OR MORE LANE DIVIDED MAJOR ROUTES AND MINOR ROUTES

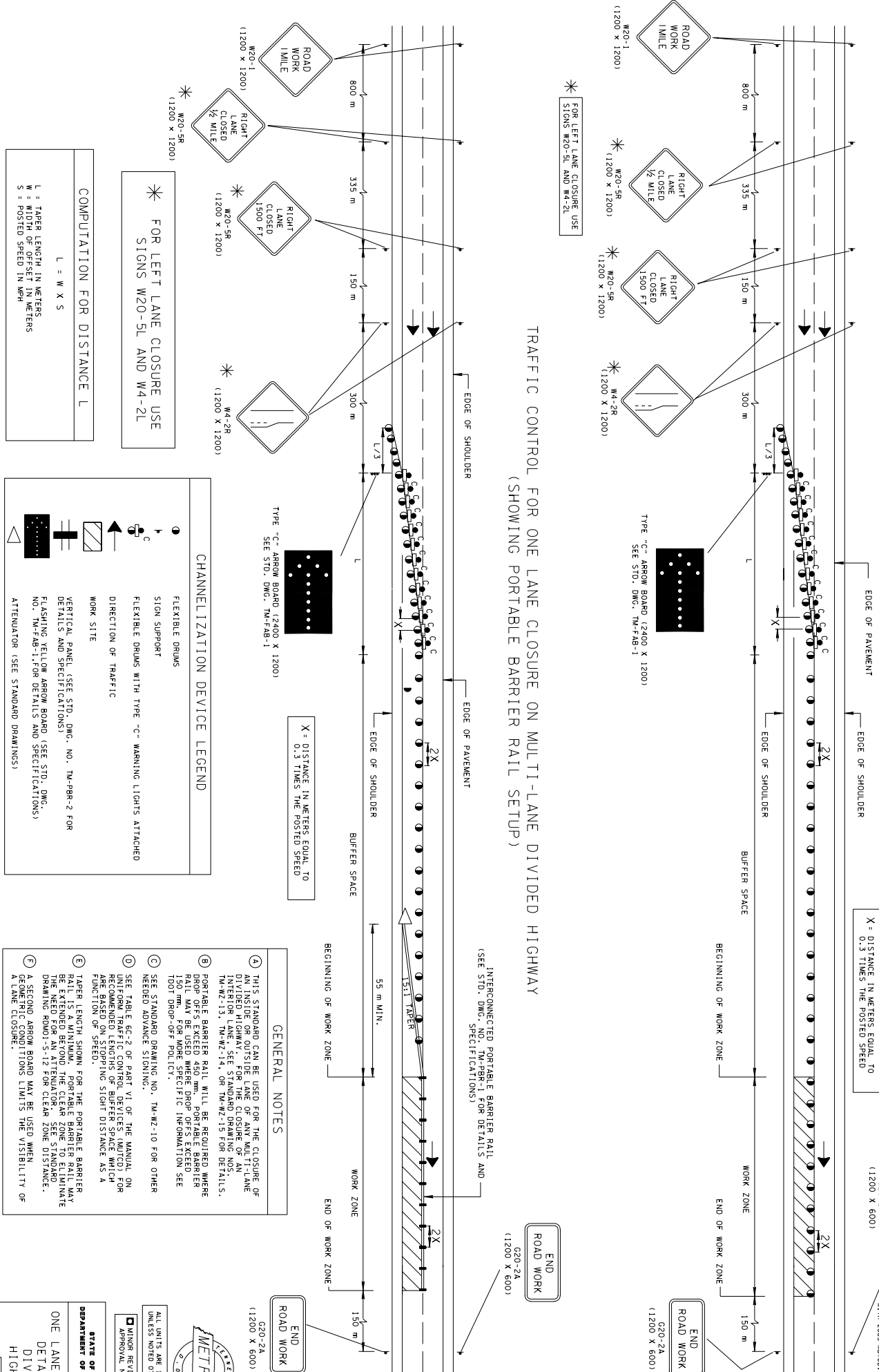
10-26-98 1-WZ-54

REV. 12-18-98: IN NOTES FOR ABOVE LAYOUT BLOCK DELETED OLD NOTE NO. ①

REV. 7-29-03: CHANGED SIZE OF END ROAD WORK SIGN FROM 48"x24" TO 36"x18"

TRAFFIC CONTROL FOR ONE LANE CLOSURE ON MULTI-LANE DIVIDED HIGHWAY (NO PORTABLE BARRIER RAIL SETUP)

TRAFFIC CONTROL FOR ONE LANE CLOSURE ON MULTI-LANE DIVIDED HIGHWAY (SHOWING PORTABLE BARRIER RAIL SETUP)



X = DISTANCE IN METERS EQUAL TO 0.3 TIMES THE POSTED SPEED

END ROAD WORK
G20-2A
(1200 X 600)

- REV. 12-18-99: MODIFIED GENERAL NOTE
- REV. 7-29-04: CHANGED GENERAL NOTE
- REV. 4-15-04: CHANGED W4-2 SIGN WITH 2003 WIDTH

GENERAL NOTES

- A THIS STANDARD CAN BE USED FOR THE CLOSURE OF DIVIDED HIGHWAY FOR THE CLOSURE OF AN INTERIOR LANE. SEE STANDARD DRAWING NOS. TM-WZ-13, TM-WZ-14, OR TM-WZ-15 FOR DETAILS.
- B PORTABLE BARRIER RAIL WILL BE REQUIRED WHERE DROP OFFS EXCEED 450 mm. PORTABLE BARRIER RAIL MAY BE USED WHERE DROP OFFS EXCEED 150 mm FOR MORE SPECIFIC INFORMATION SEE 150V DROP OFF TOL.12.1.
- C SEE STANDARD DRAWING NO. TM-WZ-10 FOR OTHER NEEDED ADVANCE SIGNING.
- D SEE TABLE 6C-2 OF PART VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR RECOMMENDED LENGTHS OF BUFFER SPACE WHICH ARE A FUNCTION OF SPEED.
- E TAPER LENGTH SHOWN FOR THE PORTABLE BARRIER BE EXTENDED BEYOND THE CLEAR ZONE TO ELIMINATE THE NEED FOR AN ATTENUATOR. SEE STANDARD DRAWING RDM1-5-12 FOR CLEAR ZONE DISTANCE.
- F A SECOND ARROW BOARD MAY BE USED WHEN A GEOMETRIC CONDITIONS LIMITS THE VISIBILITY OF A LANE CLOSURE.



ALL UNITS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

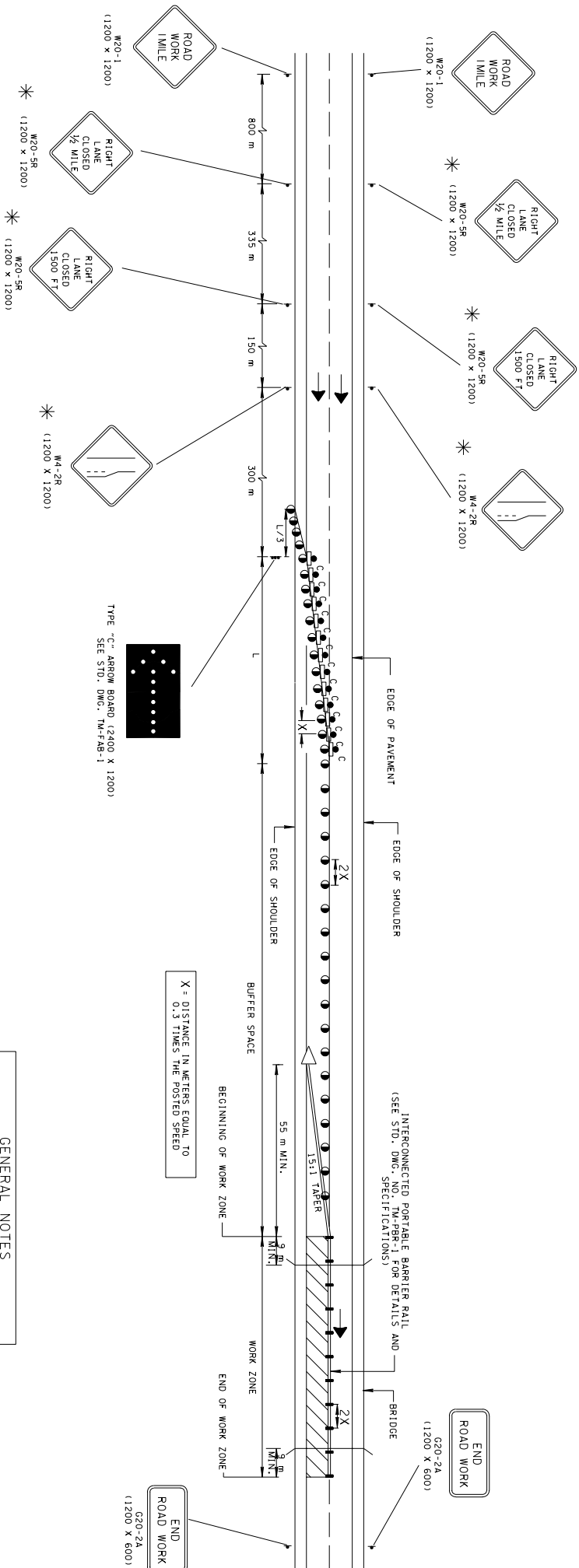
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

ONE LANE CLOSURE
DETAIL ON
DIVIDED
HIGHWAYS
TM-WZ-11

5-27-98

TRAFFIC CONTROL FOR ONE LANE CLOSURE FOR BRIDGES ON DIVIDED HIGHWAYS

* FOR LEFT LANE CLOSURE USE SIGNS W20-5L AND W4-2L



* FOR LEFT LANE CLOSURE USE SIGNS W20-5L AND W4-2L

COMPUTATION FOR DISTANCE L
 L = W X S
 L = TAPER LENGTH IN METERS
 W = WIDTH OF OFFSET IN METERS
 S = POSTED SPEED IN MPH

CHANNELIZATION DEVICE LEGEND

- FLEXIBLE DRUMS
- SIGN SUPPORT
- FLEXIBLE DRUMS WITH TYPE "C" WARNING LIGHTS ATTACHED
- DIRECTION OF TRAFFIC
- WORK SITE
- ▲ OPTICAL PANEL (SEE STD. DWG. NO. TM-PBR-2 FOR DETAILS AND SPECIFICATIONS)
- FLASHING YELLOW ARROW BOARD (SEE STD. DWG. NO. TM-FAB-1 FOR DETAILS AND SPECIFICATIONS)
- ▽ ATTENUATOR (SEE STANDARD DRAWINGS)

GENERAL NOTES

- A THIS STANDARD CAN BE USED FOR THE CLOSURE OF DIVIDED HIGHWAY 15:1 TAPER FOR THE CLOSURE OF AN LANE INTERIOR LANE. SEE STANDARD DRAWING NOS. TM-WZ-13, TM-WZ-14, OR TM-WZ-15 FOR DETAILS.
- B PORTABLE BARRIER RAIL REQUIRED FOR BRIDGE DECK AND EXPANSION JOINT WORK.
- C SEE STANDARD DRAWING NO. TM-WZ-10 FOR OTHER NEEDED ADVANCE SIGNING.
- D SEE TABLE 6C-2 OF PART VI OF THE MANUAL ON DIRECTIONAL TRAFFIC CONTROL DEVICES (MUTCD) FOR BRIDGE DECK AND EXPANSION JOINT WORK. ADVANCE SIGNING IS BASED ON STOPPING SIGHT DISTANCE AS A FUNCTION OF SPEED.
- E TAPER LENGTH SHOWN FOR THE PORTABLE BARRIER RAIL IS A MINIMUM. PORTABLE BARRIER RAIL MAY BE EXTENDED BEYOND THE CLEAR ZONE TO ELIMINATE THE NEED FOR AN ATTENUATOR. SEE STANDARD DRAWING NUMBER 5-1E FOR CLEAR ZONE DISTANCE.
- F A SECOND ARROW BOARD MAY BE USED WHEN ATTENUATORS LIMITS THE VISIBILITY OF A LANE CLOSURE.

X = DISTANCE IN METERS EQUAL TO 0.3 TIMES THE POSTED SPEED

- REV. 4-15-99: ADDED GENERAL NOTE ①
- REV. 2-18-99: MODIFIED GENERAL NOTE ②
- REV. 7-29-03: CHANGED GENERAL NOTE ③
- REV. 4-15-04: CHANGED W4-2 SIGN, CHANGED GENERAL NOTE ④ TO COMPLY WITH 2003 MUTCD.



ALL UNITS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 □ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION

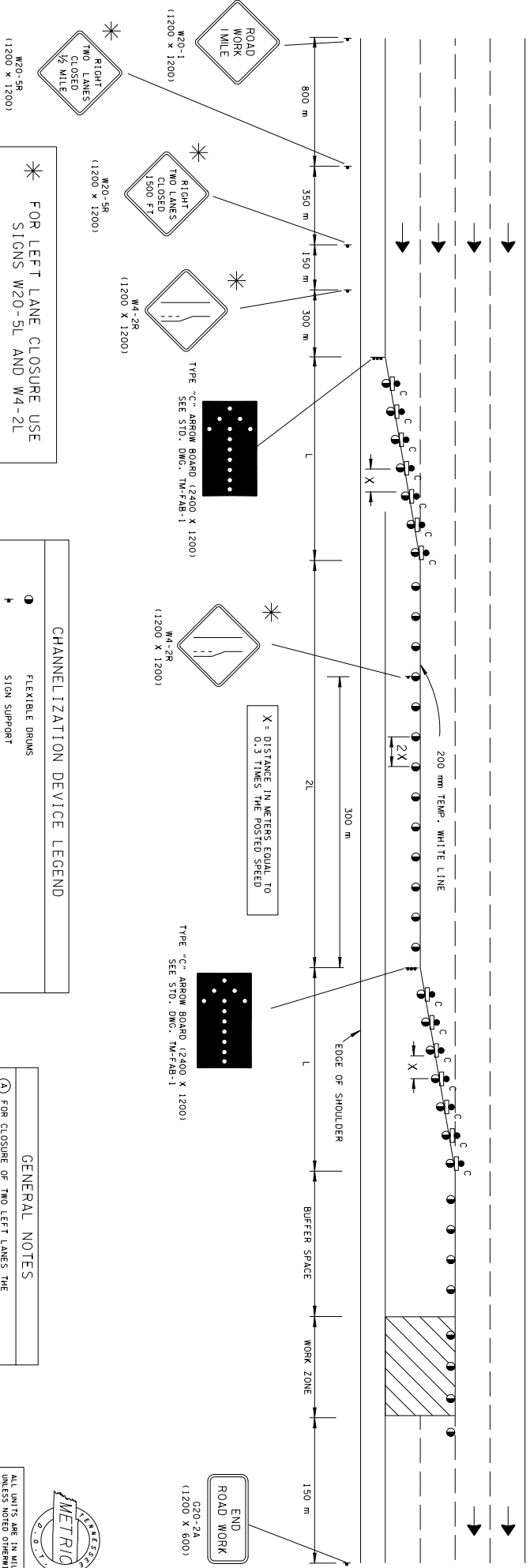
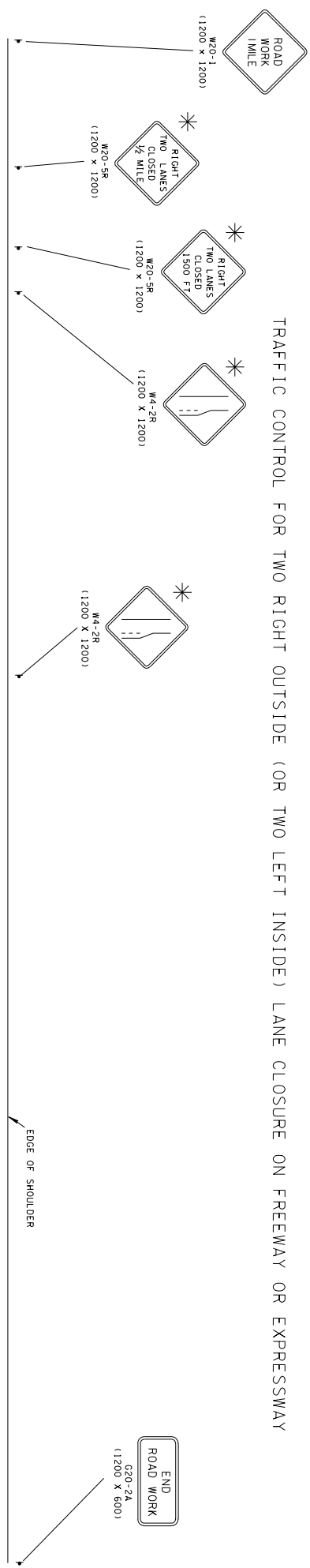
ONE LANE CLOSURE
 DETAIL FOR BRIDGES
 ON
 DIVIDED HIGHWAYS

5-27-98

TM-WZ-12

REV. 12-18-99, MODIFIED WARNING
 TWO LEFT INSIDE LANE CLOSURE
 REV. 4-15-04, CHANGED W4-2 SIGN
 CHANGED GENERAL NOTE TO COMPLY
 WITH 2003 MUTCD.

TRAFFIC CONTROL FOR TWO RIGHT OUTSIDE (OR TWO LEFT INSIDE) LANE CLOSURE ON FREEWAY OR EXPRESSWAY



FOR LEFT LANE CLOSURE USE
 SIGNS W20-5L AND W4-2L

COMPUTATION FOR DISTANCE L
 $L = W \times S$
 L = TAPER LENGTH IN METERS
 W = WIDTH OF OFFSET IN METERS
 S = POSTED SPEED IN MPH

CHANNELIZATION DEVICE LEGEND

- FLEXIBLE DRUMS
- SIGN SUPPORT
- FLEXIBLE DRUMS WITH TYPE "C" WARNING LIGHTS ATTACHED
- DIRECTION OF TRAFFIC
- WORK SITE
- VERTICAL PANEL (SEE STD. DWG. NO. TM-FBR-2 FOR DETAILS AND SPECIFICATIONS)
- FLASHING YELLOW ARROW BOARD (SEE STD. DWG. NO. TM-FAR-1 FOR DETAILS AND SPECIFICATIONS)

GENERAL NOTES

- FOR CLOSURE OF TWO LEFT LANES THE CHANNELIZING DEVICES SHALL BE SET UP SYMMETRICALLY TO THE 2 RIGHT LANES CLOSURE. SEE TABLE 66-2 OF PART VI OF THE MANUAL ON ROADWAY DESIGN FOR RECOMMENDED LENGTHS OF BUFFER SPACE WHICH APPLIES TO FREEWAYS AND EXPRESSWAYS WITH 6 OR MORE LANES.
- SEE STANDARD DRAWING NO. TM-WZ-10 FOR OTHER NEEDED ADVANCE SIGNING.
- SEE TABLE 66-2 OF PART VI OF THE MANUAL ON ROADWAY DESIGN FOR RECOMMENDED LENGTHS OF BUFFER SPACE WHICH ARE BASED ON STOPPING SIGHT DISTANCE AS A FUNCTION OF SPEED.

STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION

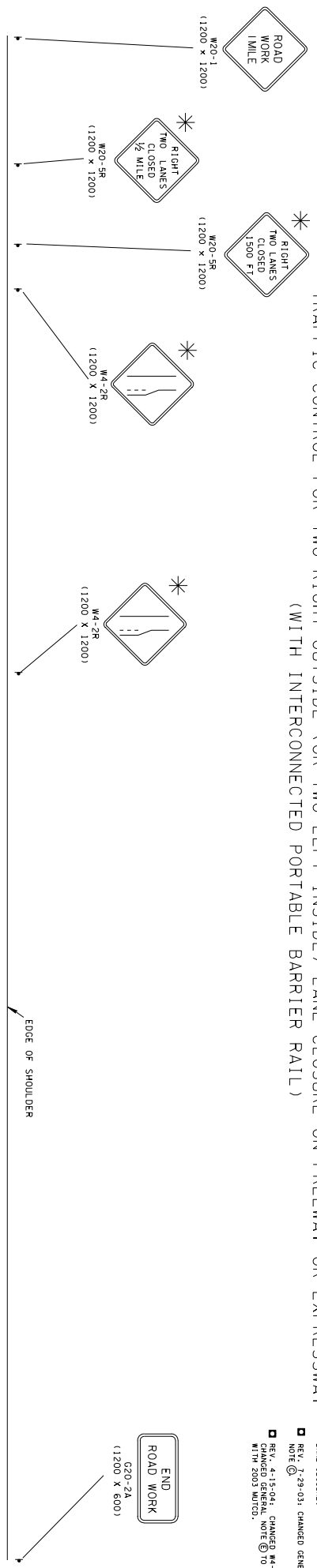
ALL UNITS ARE IN MILLIMETERS
 UNLESS NOTED OTHERWISE.
 MINOR REVISION -- FHWA
 APPROVAL NOT REQUIRED.



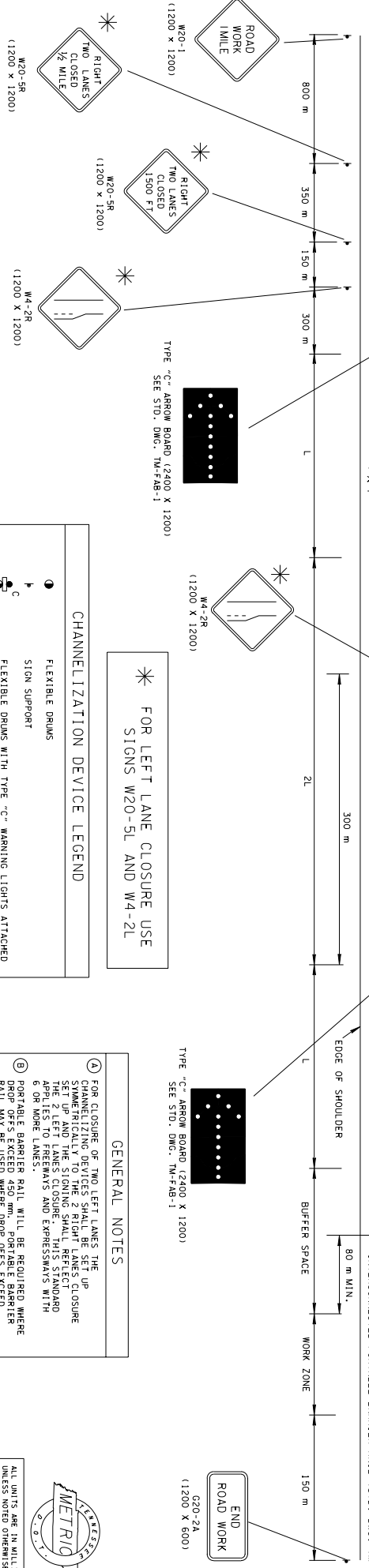
TWO-OUTSIDE LANE
 CLOSURE ON
 FREEWAY
 OR EXPRESSWAY

TM-WZ-13

TRAFFIC CONTROL FOR TWO RIGHT OUTSIDE (OR TWO LEFT INSIDE) LANE CLOSURE ON FREEWAY OR EXPRESSWAY
(WITH INTERCONNECTED PORTABLE BARRIER RAIL)



- REV. 4-15-99, MODIFIED CHANNELIZATION DEVICE LEGEND.
- REV. 12-18-99, ADDED BLOCKED LANE CLOSURE.
- REV. 7-29-03, CHANGED GENERAL NOTE ②.
- REV. 4-15-04, CHANGED W4-2 SIGN, CHANGED GENERAL NOTE ③ TO COMPLY WITH 2003 MOTO.



* FOR LEFT LANE CLOSURE USE SIGNS W20-5L AND W4-2L

COMPUTATION FOR DISTANCE L
L = W X S
L = TAPER LENGTH IN METERS
W = WIDTH OF OFFSET IN METERS
S = POSTED SPEED IN MPH

CHANNELIZATION DEVICE LEGEND	
	FLEXIBLE DRUMS
	SIGN SUPPORT
	DIRECTION OF TRAFFIC
	WORK SITE
	FLASHING YELLOW ARROW BOARD (SEE STD. DWG. NO. TM-PBR-2 FOR DETAILS AND SPECIFICATIONS)
	VERTICAL PANEL (SEE STD. DWG. NO. TM-FAB-1 FOR DETAILS AND SPECIFICATIONS)
	ATTENUATOR (SEE STANDARD DRAWINGS)

- GENERAL NOTES
- A FOR CLOSURE OF TWO LEFT LANES THE CHANNELIZING DEVICES SHALL BE SET UP CHANNELIZATION TO THE 2 RIGHT LANES CLOSURE. THIS STANDARD APPLIES TO FREEWAYS AND EXPRESSWAYS WITH 6 OR MORE LANES.
 - B PORTABLE BARRIER RAIL WILL BE REQUIRED WHERE DROPS EXCEED 450 MM. PORTABLE BARRIER RAIL SHALL BE SET UP FOR INFORMATION SEE T07 DROP-OFF POLICY.
 - C TAPER LENGTH SHOWN FOR THE PORTABLE BARRIER RAIL IS A MINIMUM. PORTABLE BARRIER RAIL MAY BE EXTENDED BEYOND CLEAR ZONE TO ELIMINATE THE NEED FOR AN ATTENUATOR. SEE STANDARD DRAWING RMD01-S-12 FOR CLEAR ZONE DISTANCE.
 - D SEE STANDARD DRAWING NO. TM-WZ-10 FOR OTHER NEEDED ADVANCE SIGNING.
 - E SEE TABLE GC-2 OF PART VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR ARE BASED ON STOPPING SIGHT DISTANCE AS A FUNCTION OF SPEED.

ALL UNITS ARE IN METERS UNLESS NOTED OTHERWISE.

MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TWO-OUTSIDE LANE CLOSURE ON FREEWAY OR EXPRESSWAY (PORTABLE BARRIER RAIL)

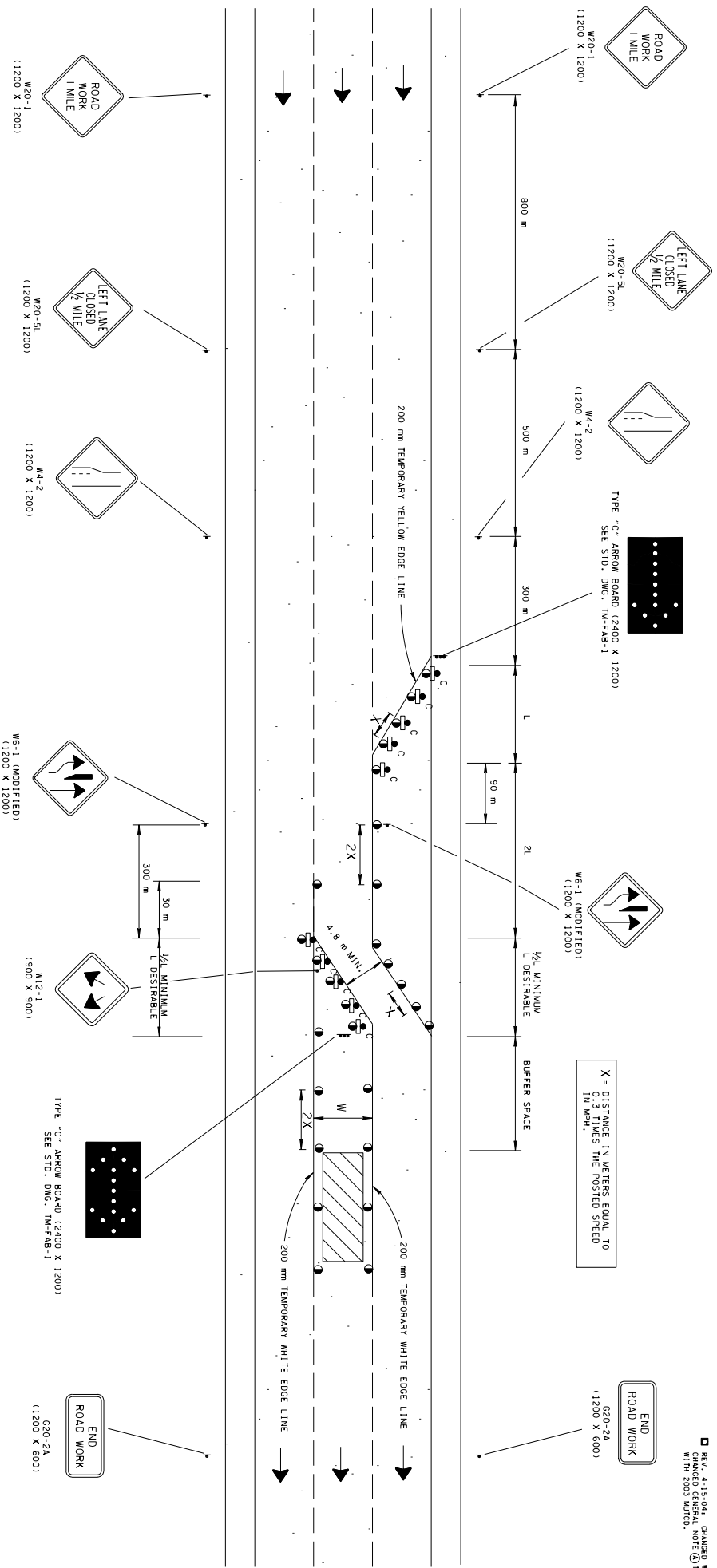
TM-WZ-14

5-27-98



TRAFFIC CONTROL FOR INTERIOR LANE CLOSURE ON FREEWAYS OR EXPRESSWAYS

REV. 2-28-98: ADDED CHANNELIZATION DEVICE LEGEND, DRAWING MODIFIED METHOD AND SHEET NAME.
 REV. 5-27-98: CHANGED DRAWING NO. TM-WZ-10 TO TM-WZ-15. ADDED GENERAL NOTES.
 REV. 7-29-98: CHANGED FORMULA FOR COMPUTATION OF L.
 REV. 4-15-04: CHANGED W4-2 SIGN, CHANGED GENERAL NOTE (B) TO COMPLY WITH 2003 MCDOT.



COMPUTATION FOR DISTANCE L

$L = W \times S$

L = TAPE LENGTH IN METERS
 W = WIDTH OF OFFSET IN METERS
 S = POSTED SPEED IN MPH

GENERAL NOTES

(A) SEE TABLE GC-2 OF PART VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND SIGNS FOR THE STANDARD DRAWING NO. TM-WZ-10 FOR OTHER NEEDED ADVANCE SIGNING.

(B) SEE STANDARD DRAWING NO. TM-WZ-10 FOR OTHER NEEDED ADVANCE SIGNING.

CHANNELIZATION DEVICE LEGEND

	FLEXIBLE DRUMS
	SIGN SUPPORT
	FLEXIBLE DRUMS WITH TYPE -C- WARNING LIGHTS ATTACHED
	DIRECTION OF TRAFFIC
	WORK SITE
	VERTICAL PANEL (SEE STD. DWG. NO. TM-PBR-2 FOR DETAILS AND SPECIFICATIONS)
	FLASHING YELLOW ARROW BOARD (SEE STD. DWG. NO. TM-FAB-1 FOR DETAILS AND SPECIFICATIONS)

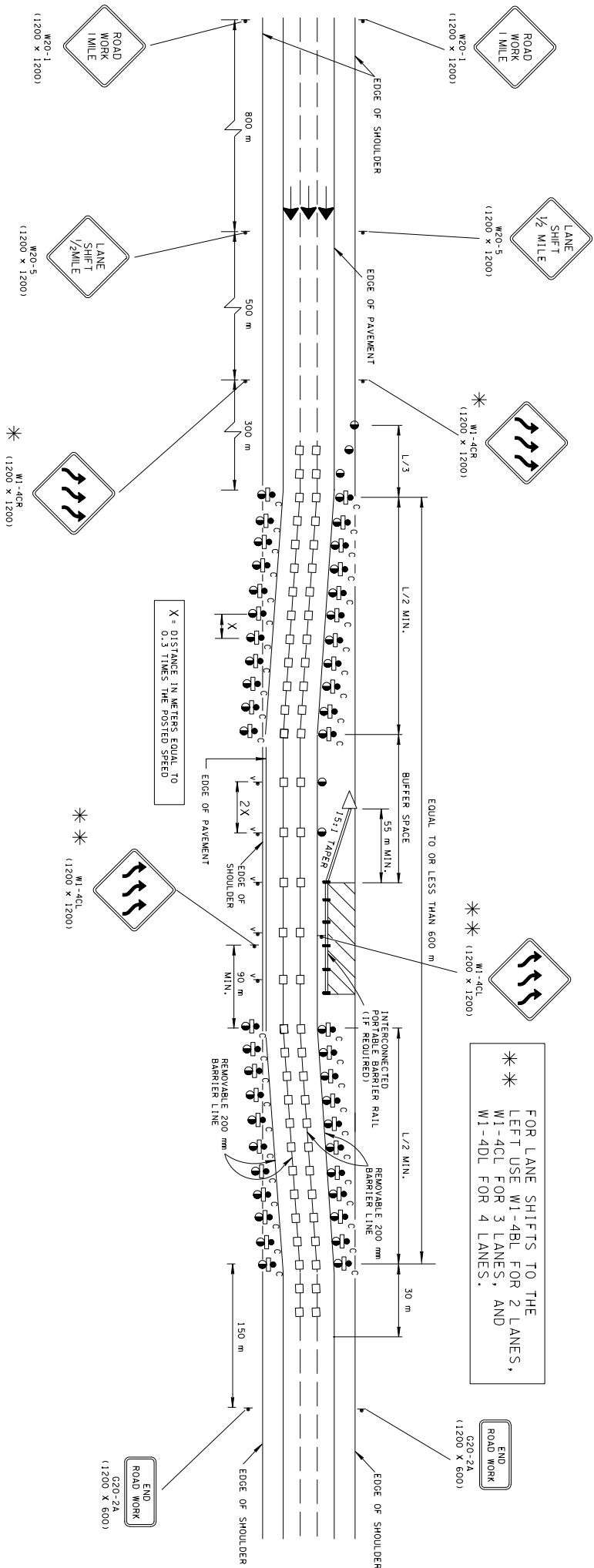
ALL UNITS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.
 MAJOR REVISION -- FHWA APPROVAL REQUIRED.

METRIC

STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION
 INTERIOR LANE
 CLOSURE ON
 FREEWAYS
 OR EXPRESSWAYS

5-27-98 TM-WZ-15

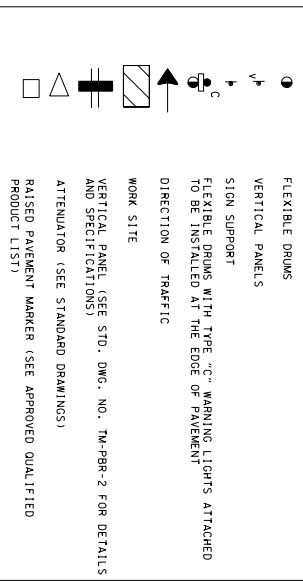
TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATION
(FOR LANE SHIFTS EQUAL TO OR LESS THAN 600 m IN LENGTH)



* FOR LANE SHIFTS TO THE RIGHT USE W1-4BR FOR 2 LANES, W1-4CR FOR 3 LANES, AND W1-4DR FOR 4 LANES.

COMPUTATION FOR DISTANCE L
L = W X S
L = TAPER LENGTH IN METERS
W = WIDTH OF OFFSET IN METERS
S = POSTED SPEED IN MPH

CHANNELIZATION DEVICE LEGEND



GENERAL NOTES

- (A) PORTABLE BARRIER RAIL WILL BE REQUIRED WHERE DROP OFFS EXCEED 450 mm. PORTABLE BARRIER RAIL SHALL BE 150 mm HIGH FOR MORE SPECIFIC INFORMATION SEE T001 DROP-OFF POLICY.
- (B) SEE TABLE GC-2 OF PART VI OF THE MANUAL ON RECOMMENDED LENGTHS OF BUFFER SPACE WHICH FUNCTION OF SPEED.
- (C) SEE STANDARD DRAWING NO. TM-WZ-10 FOR OTHER NEEDED ADVANCE SIGNING.
- (D) TAPER LENGTH SHOWN FOR THE PORTABLE BARRIER IS A MINIMUM. PORTABLE BARRIER RAIL MAY BE EXTENDED BEYOND THE CLEAR ZONE TO ELIMINATE THE NEED FOR AN ATTENUATOR. SEE STANDARD DRAWING R0M01-S-12 FOR CLEAR ZONE DISTANCE.

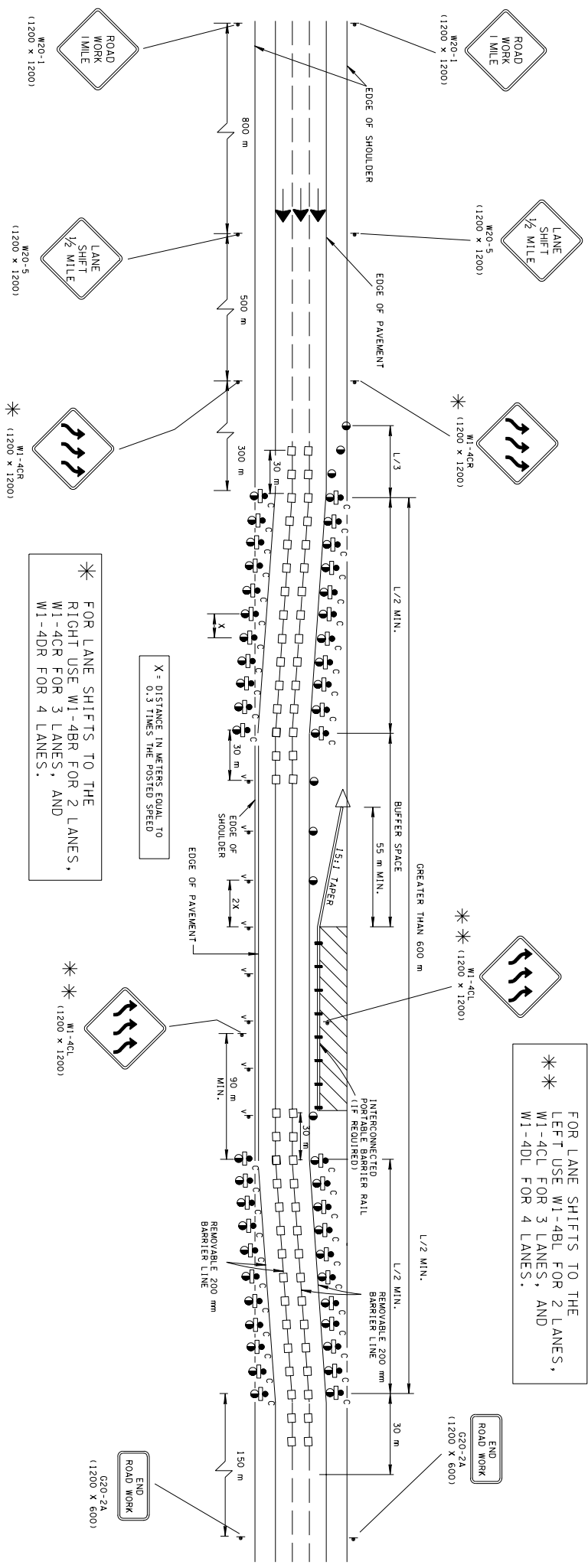
* * * FOR LANE SHIFTS TO THE LEFT USE W1-4BL FOR 2 LANES, W1-4CL FOR 3 LANES, AND W1-4DL FOR 4 LANES.

- REV. 4-15-99, MODIFIED CHANNELIZATION DEVICE LEGEND.
- REV. 10-26-99, CHANGED DRAWING NAME.
- REV. 12-18-99, CHANGED OUT FLEXIBLE DRUMS FOR NEWER TYPE. MODIFIED GENERAL NOTE (D).
- REV. 7-29-03, CHANGED GENERAL NOTE (C).
- REV. 4-15-04, CHANGED GENERAL NOTE (B) TO COMPLY WITH 2003 MUTCD.



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
LANE SHIFT ON DIVIDED HIGHWAYS AND FREEWAYS
(600 m OR LESS)
TM-WZ-16
5-27-98

TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATION
(FOR LANE SHIFTS GREATER THAN 600 m IN LENGTH)



** FOR LANE SHIFTS TO THE LEFT USE W1-4BL FOR 2 LANES, W1-4CL FOR 3 LANES, AND W1-4DL FOR 4 LANES.

* FOR LANE SHIFTS TO THE RIGHT USE W1-4BR FOR 2 LANES, W1-4CR FOR 3 LANES, AND W1-4DR FOR 4 LANES.

- GENERAL NOTES**
- A PORTABLE BARRIER RAIL WILL BE REQUIRED WHERE DROP-OFFS EXCEED 450 mm. PORTABLE BARRIER RAIL MAY BE USED WHERE DROP-OFFS EXCEED 450 mm. FOR MORE INFORMATION SEE "DROP-OFF" POLICY.
 - B SEE TABLE 6C-2 OF PART VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR RECOMMENDED LENGTHS OF BUFFER SPACE WHICH ARE BASED ON STOPPING SIGHT DISTANCE AS A FUNCTION OF SPEED.
 - C SEE STANDARD DRAWING NO. TM-W2-10 FOR OTHER NEEDED ADVANCE SIGNING.
 - D TAPER LENGTH SHOWN FOR THE PORTABLE BARRIER MAY BE EXTENDED BEYOND THE CLEAR ZONE TO ELIMINATE THE NEED FOR AN ATTENUATOR. SEE STANDARD DRAWING ROAD-1-S-12 FOR CLEAR ZONE DISTANCE.

CHANNELIZATION DEVICE LEGEND

	FLEXIBLE DRUMS
	VERTICAL PANELS
	SION SUPPORT
	FLEXIBLE DRUMS WITH TYPE "C" WARNING LIGHTS ATTACHED TO BE INSTALLED AT THE EDGE OF PAVEMENT
	DIRECTION OF TRAFFIC
	WORK SITE
	VERTICAL PANEL (SEE STD. DWG. NO. TM-498-2 FOR DETAILS AND SPECIFICATIONS)
	ATTENUATOR (SEE STANDARD DRAWINGS)
	RAISED PAVEMENT MARKER (SEE APPROVED QUALIFIED PRODUCT LIST)

COMPUTATION FOR DISTANCE L

L = W X S
L = TAPER LENGTH IN METERS
W = WIDTH OF OFFSET IN METERS
S = POSTED SPEED IN MPH

- REV. 4-15-99, MODIFIED CHANNELIZATION DEVICE LEGEND.
- REV. 12-18-99, CHANGED OUT FLEXIBLE DRUMS FOR VERTICAL PANELS ALONG OUTSIDE SHOULDER IN WORK ZONE AREA. MODIFIED GENERAL NOTE ②.
- REV. 7-29-03, CHANGED GENERAL NOTE ②.
- REV. 4-15-04, CHANGED GENERAL NOTE ② TO COMPLY WITH 2003 MUTCD.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

LANE SHIFT ON DIVIDED HIGHWAYS AND FREEWAYS (GREATER THAN 600 m)

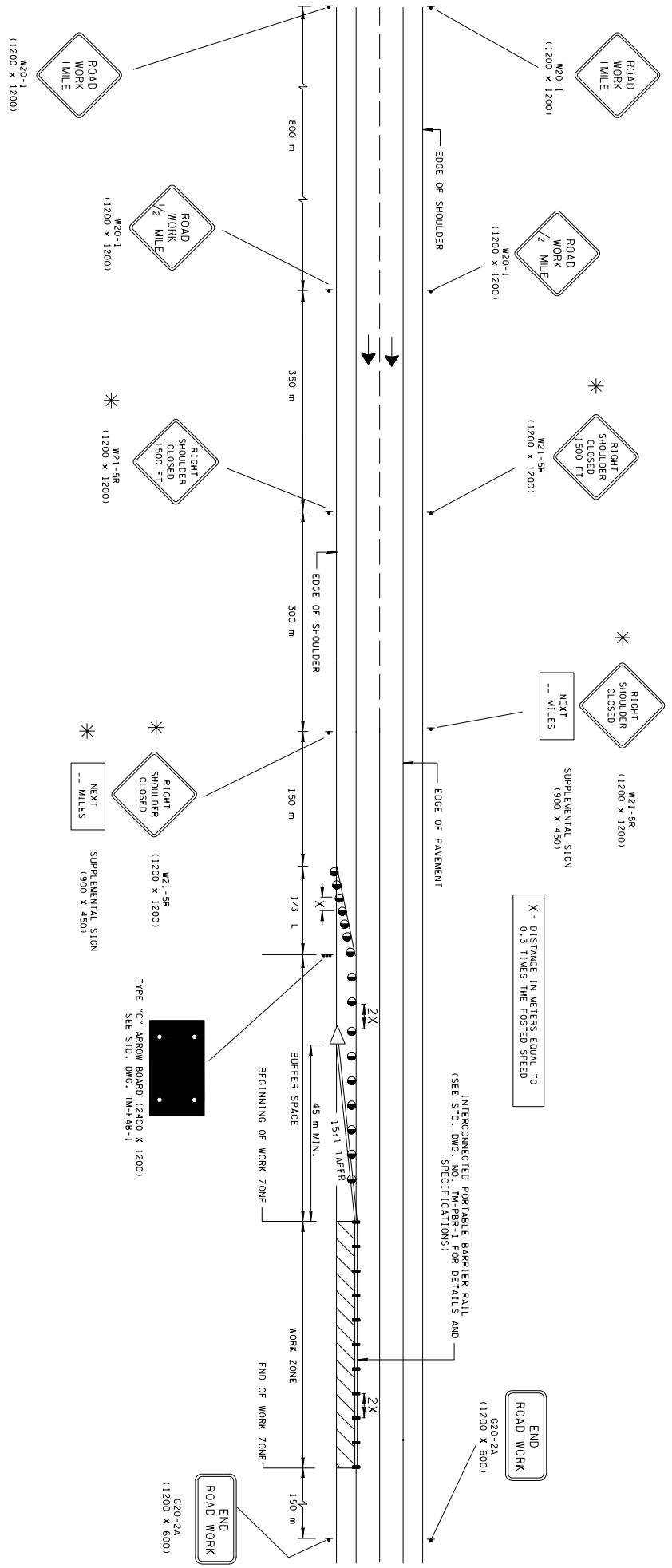
5-27-98 TM-WZ-17

METRIC

ALL UNITS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

TRAFFIC CONTROL FOR SHOULDER CLOSURE FOR FREEWAYS AND DIVIDED HIGHWAYS

- REV. 4-15-93, MODIFIED CHANNELIZATION DEVICE LEGEND.
- REV. 12-18-99, MODIFIED GENERAL NOTE ③
- REV. 7-29-03, CHANGED GENERAL NOTE ③
- REV. 4-15-04, CHANGED GENERAL NOTE ③ TO COMPLY WITH 2003 MUTCD.



* FOR LEFT SHOULDER CLOSURES USE SIGNS W21-5L (LEFT SHOULDER CLOSED 1500 FT AND LEFT SHOULDER CLOSED)

COMPUTATION FOR DISTANCE L
 L = W X S
 L = TAPER LENGTH IN METERS
 W = WIDTH OF OFFSET IN METERS
 S = POSTED SPEED IN MPH

CHANNELIZATION DEVICE LEGEND

- FLEXIBLE DRUMS
- STION SUPPORT
- DIRECTION OF TRAFFIC
- ▨ WORK SITE

VERTICAL PANEL (SEE STD. DWG. NO. TM-PBR-2 FOR DETAILS AND SPECIFICATIONS)
 FLASHING YELLOW ARROW BOARD (SEE STD. DWG. NO. TM-FAB-1 FOR DETAILS AND SPECIFICATIONS)
 ATTENUATOR (SEE STANDARD DRAWINGS)

- GENERAL NOTES**
- ① PORTABLE BARRIER RAIL WILL BE REQUIRED WHERE DROP-OFFS EXCEED 450 mm. PORTABLE BARRIER RAIL MAY BE USED WHERE DROP-OFFS EXCEED 1007 mm. DROP-OFF POLICY INFORMATION SEE RDM01-5-12 FOR CLEAR ZONE DISTANCE.
 - ② ATTENUATOR ON PORTABLE BARRIER RAIL MAY BE ELIMINATED BY EXTENDING PORTABLE BARRIER RAIL BEYOND CLEAR ZONE. SEE STANDARD DRAWING RDM01-5-12 FOR CLEAR ZONE DISTANCE.
 - ③ SEE STANDARD DRAWING NO. TM-WZ-10 FOR OTHER NEEDED ADVANCE SIGNING.
 - ④ SEE TABLE 6C-2 OF PART VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR RECOMMENDED LENGTHS OF BUFFER SPACE WHICH ARE BASED ON STOPPING SIGHT DISTANCE AS A FUNCTION OF SPEED.

METRIC

ALL UNITS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

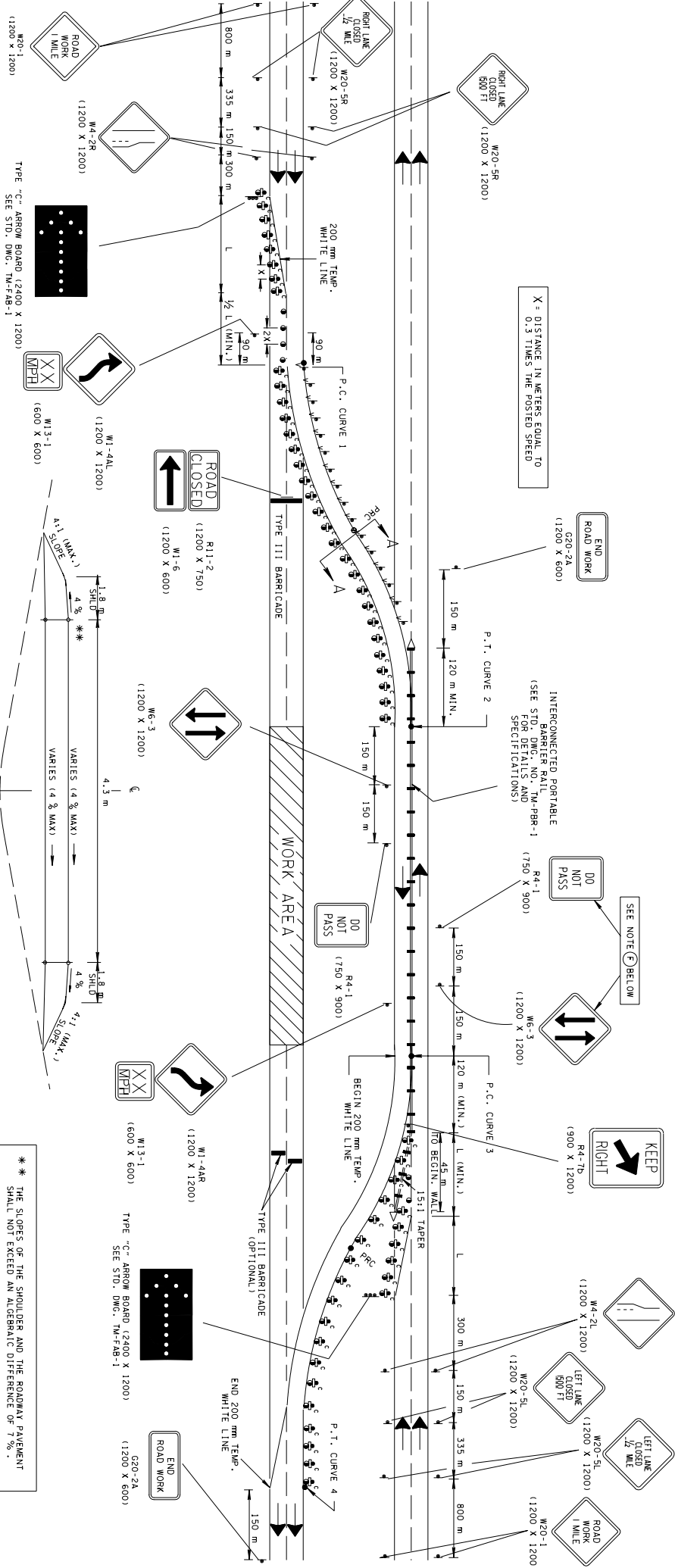
□ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION
 SHOULDER CLOSURE
 DETAIL FOR
 FREEWAYS AND
 DIVIDED HIGHWAYS

5-27-98 TM-WZ-18

MEDIAN CROSS-OVER DETAIL ON DIVIDED HIGHWAYS

REV. 4-15-04 CHANGED W4-2 SIGN. REV. 5-2-01 CHANGE PAY
 REV. 7-29-03 CHANGED GENERAL NOTE ②



SECTION A-A

TYPICAL SECTION OF TEMPORARY MEDIAN CROSS-OVER



GENERAL NOTES

- ① CROSS-OVERS SHALL BE DESIGNED FOR SPEEDS NOT LESS THAN 16 KILOMETERS PER HOUR BELOW THE POSTED SPEED. THE GEOMETRY DETAIL FOR CROSS-OVER SHOWN ON STANDARD DRAWING TM-WZ-20 IS FOR A TANGENT DIVIDED HIGHWAY SECTION ONLY. THE DESIGNER SHALL PROVIDE GEOMETRIC DETAILS OF CROSS-OVER(S) ON CURVED DIVIDED HIGHWAY SECTIONS.
- ② ADVISORY SPEED PLATES ON REVERSE CURVE SIGNS (W1-4) SHALL BE 16 KILOMETERS PER HOUR LESS THAN THE DESIGN SPEED OF THE CROSS-OVER.
- ③ TEMPORARY CROSSOVERS SHALL BE PROVIDED WHERE CROSS-OVER CROSSES THE LOW POINT OF THE DERESSED MEDIAN. THE DESIGNER WILL PROVIDE THE LENGTH AND SIZE OF THESE CROSSOVERS THROUGH 621M03-10.
- ④ PAVEMENT SECTION OF TEMPORARY MEDIAN CROSS-OVER IS SHOWN ON TYPICAL SECTION SHEETS OF PLANS.
- ⑤ SEE STANDARD DRAWING TM-WZ-10 FOR OTHER NEEDED ADVANCE SIGNING.
- ⑥ TWO-WAY TRAFFIC SIGN (W6-3), AND DO NOT PASS SIGN (R4-1) TO BE PLACED AT 800 METER INTERVALS ON TWO-WAY TEMPORARY TRAFFIC SECTION.
- ⑦ A SECOND ARROW BOARD MAY BE USED WHEN GEOMETRIC CONDITIONS LIMITS THE VISIBILITY OF A LANE CLOSURE.
- ⑧ PORTABLE BARRIER RAIL MAY BE EXTENDED BEYOND THE CLEAR ZONE TO ELIMINATE THE NEED FOR AN ATTENUATOR. SEE STANDARD DRAWING NO. RDM01-5-1-12 FOR CLEAR ZONE DISTANCE.

COMPUTATION FOR DISTANCE L

$L = W \times S$

L = TAPER LENGTH IN METERS
 W = WIDTH OF OFFSET IN METERS
 S = POSTED SPEED IN MPH

CHANNELIZATION DEVICE LEGEND

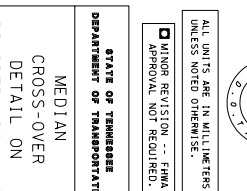
	FLEXIBLE DRUMS
	VERTICAL PANELS
	SIGN SUPPORT
	FLEXIBLE DRUMS WITH TYPE "C" WARNING LIGHTS ATTACHED
	DIRECTION OF TRAFFIC
	WORK SITE
	VERTICAL PANEL (SEE STD. DWG. NO. TM-PBR-2 FOR DETAILS AND SPECIFICATIONS)
	FLASHING YELLOW ARROW BOARD (SEE STD. DWG. NO. TM-FAB-1 FOR DETAILS AND SPECIFICATIONS)
	ATTENUATOR (SEE STANDARD DRAWINGS)

* THE SLOPES OF THE SHOULDER AND THE ROADWAY PAVEMENT SHALL NOT EXCEED AN ALGEBRAIC DIFFERENCE OF 7%.

STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION

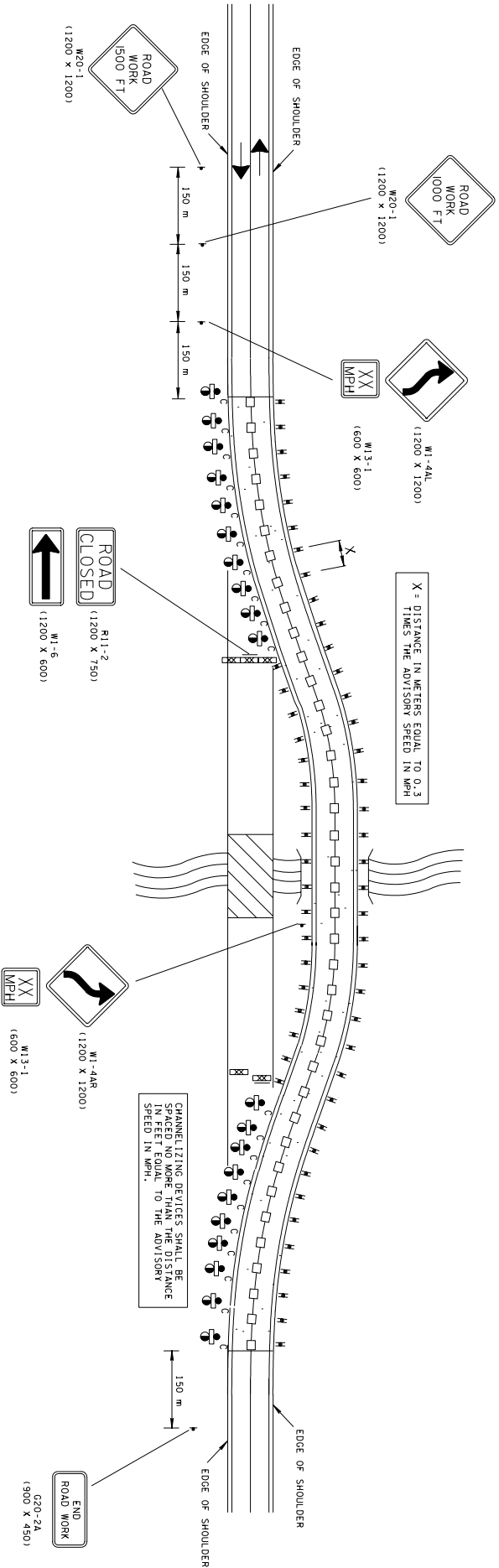
ALL UNITS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

MEDIAN CROSS-OVER DETAIL ON DIVIDED HIGHWAYS
 TM-WZ-19



10-26-98

**TRAFFIC CONTROL FOR 2-LANE, 2-WAY DIVERSION DETAIL
(FOR 60 KILOMETERS PER HOUR OR LESS)**



- GENERAL NOTES**
- STIONS SHOWN ARE FOR ONE DIRECTION OF TRAVEL ONLY.
 - THIS STANDARD FOR 2-LANE, 2-WAY DIVERSION IS TO BE USED FOR DESIGN SPEEDS LESS THAN OR EQUAL TO 60 km/h.
 - DESIGN SPEED OF DIVERSION SHOULD BE NO MORE THAN 15 km/h BELOW POSTED SPEED LIMITS FOR HORIZONTAL AND VERTICAL GEOMETRIC DETAILS OF DIVERSION.
 - STIONS MOUNTED TO TYPE III BARRICADES SHALL BE MOUNTED ABOVE THE BARRICADE.
 - TYPE "C" WARNING LIGHTS ARE OPTIONAL IN LIGHTED URBAN AREAS.

CHANNELIZATION DEVICE LEGEND

	SIGN SUPPORT
	VERTICAL PANELS (BACK TO BACK)
	FLEXIBLE DRUMS WITH TYPE "C" WARNING LIGHTS ATTACHED
	DIRECTION OF TRAFFIC
	WORK SITE
	TYPE III BARRICADE WITH STIONS ATTACHED
	RAISED PAVEMENT MARKER (SEE APPROVED QUALIFIED PRODUCT LIST) - OPTIONAL

CONSTRUCTION SIGN QUANTITIES
(ITEM NO. 712M06)

AREA	=	17.96 m ²
------	---	----------------------

- ☐ REV. 4-15-99: ADDED GENERAL NOTE ①
- ☐ REV. 12-18-99: MODIFIED GENERAL NOTE ①
- ☐ REV. 7-29-03: CHANGED SIZE OF END ROAD WORK CONSTRUCTION FROM 1200 X 600 TO 900 X 450.
- ☐ REV. 4-15-04: CHANGED W13-1 SIGN.

METRIQ
TRANSCENDENT QUALITY

ALL UNITS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

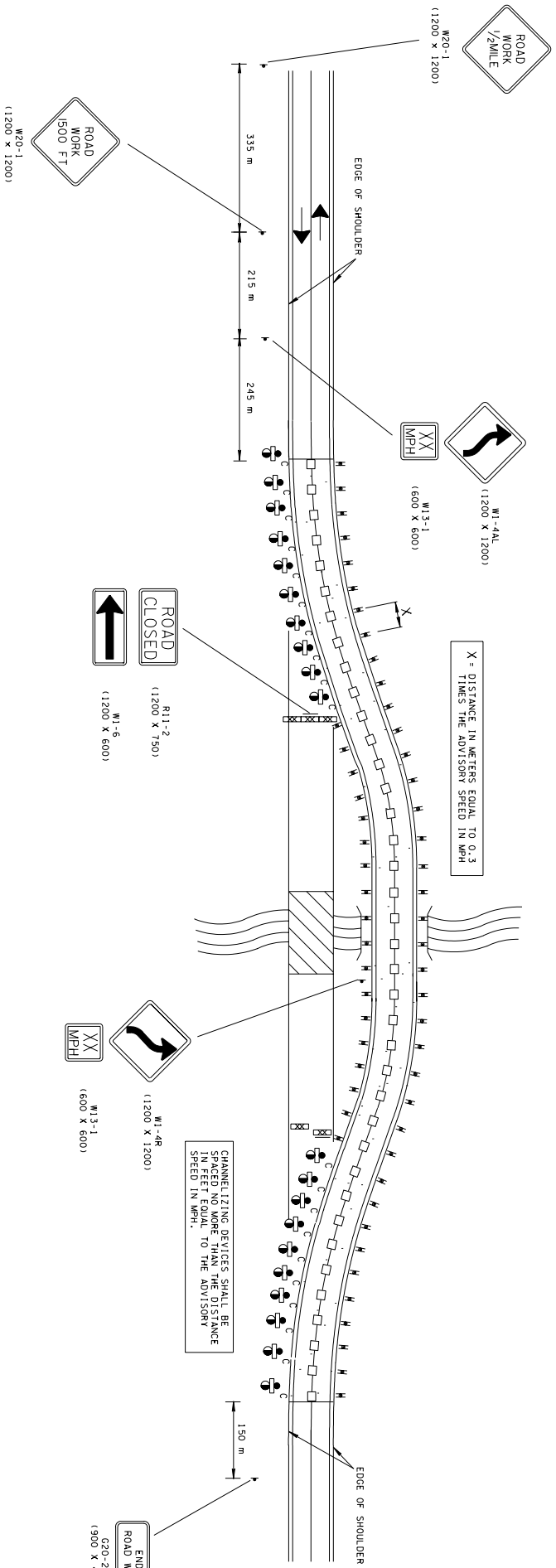
☐ MINOR REVISION -- FINAL APPROVAL NOT REQUIRED.

**STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION**

**TRAFFIC CONTROL
2-LANE, 2-WAY
DIVERSION**

5-27-98 **TM-WZ-30**

TRAFFIC CONTROL FOR 2-LANE, 2-WAY DIVERSION DETAIL
(FOR GREATER THAN 60 KILOMETERS PER HOUR)



- GENERAL NOTES**
- A) SIGNS SHOWN ARE FOR ONE DIRECTION OF TRAVEL ONLY.
 - B) THIS STANDARD FOR 2-LANE, 2-WAY DIVERSION IS TO BE USED FOR DESIGN SPEEDS GREATER THAN 60 km/h.
 - C) DESIGN SPEED OF DIVERSION SHOULD BE NO MORE THAN 15 km/h BELOW THE POSTED SPEED LIMIT. SEE PLANS FOR HORIZONTAL AND VERTICAL GEOMETRIC DETAILS OF DIVERSION.
 - D) SIGNS MOUNTED TO TYPE III BARRICADES SHALL BE MOUNTED ABOVE THE BARRICADE.
 - E) TYPE "C" WARNING LIGHTS ARE OPTIONAL IN LIGHTED URBAN AREAS.

CHANNELIZATION DEVICE LEGEND

	SIGN SUPPORT
	VERTICAL PANELS (BACK TO BACK)
	FLEXIBLE DRUMS WITH TYPE "C" WARNING LIGHTS ATTACHED
	DIRECTION OF TRAFFIC
	WORK SITE
	TYPE III BARRICADE WITH SIGNS ATTACHED
	RAISED PAVEMENT MARKER (SEE APPROVED QUALIFIED PRODUCT LIST)

CONSTRUCTION SIGN QUANTITIES

AREA	17.56 m ²
(ITEM NO. 712006)	

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
TRAFFIC CONTROL
2-LANE, 2-WAY
DIVERSION
(GREATER THAN
60 KILOMETERS)
5-27-98 TM-WZ-31

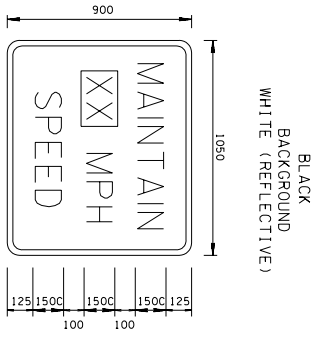
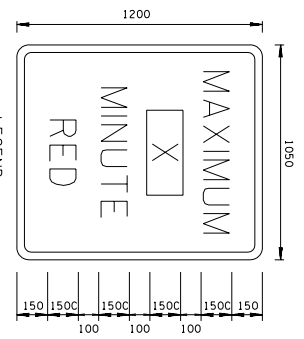
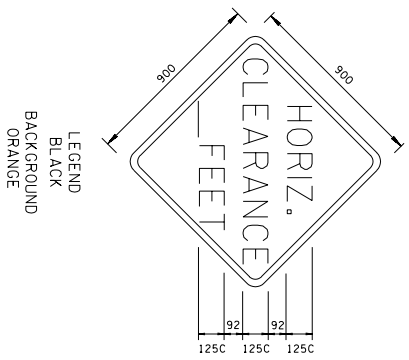
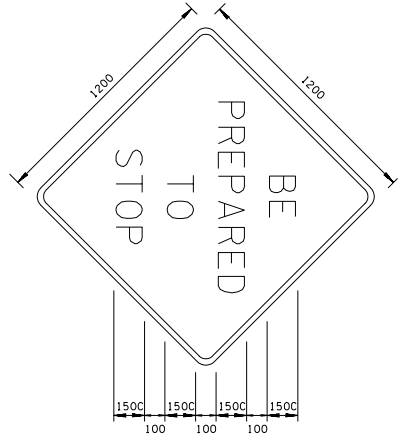
- REV. 4-15-99: ADDED GENERAL NOTE
- REV. 12-18-92: MODIFIED GENERAL NOTE
- REV. 7-29-03: CHANGED SIZE OF END ROAD WORK CONSTRUCTION FROM 1500 X 600 TO 500 X 450
- REV. 4-15-04: CHANGED W13-1 SIGN.

	DESCRIPTION
①	SIGNAL HEAD ASSEMBLY (130 WITH BACKPLATE)
②	SIGNAL CABLE - 5 CONDUCTOR
③	SIGNAL CABLE - 7 CONDUCTOR OR 12 CONDUCTOR
④	SPAN WIRE ASSEMBLY (56000 N MINIMAL BREAKING STRENGTH)
⑤	TEETHER WIRE ASSEMBLY -
⑥	STEEL CONDUIT RISER ASSEMBLY
⑦	DETECTOR AMPLIFIERS WITH CABINET
⑧	FOUR PHASE ACTUATED CONTROLLER WITH CABINET OR EIGHT PHASE ACTUATED CONTROLLER WITH CABINET
⑨	SHIELDED DETECTOR CABLE
⑩	WOOD POLE (SIGNAL SUPPORT) CL. 3, 10.7 m LENGTH
⑪	GUYING DEVICE (VERTICAL ANCHOR)
⑫	MESSENGER CABLE - 6 mm DIAMETER
⑬	VEHICLE LOOP DETECTOR
⑭	SAW SLOT
⑮	LOOP WIRE

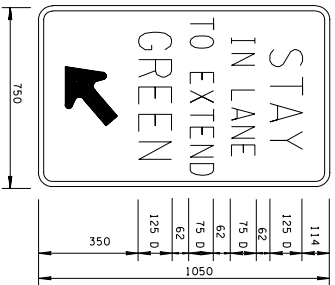
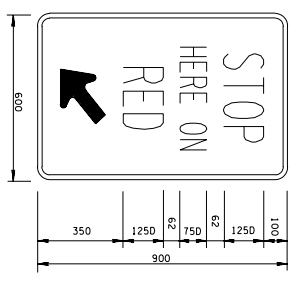
④ FOR LONG CABLE RUNS (GREATER THAN 760 m) WHERE VOLTAGE DROP IS EXCESSIVE CONTRACTOR SHALL USE 2 mm DIA. (NO.12) CONDUCTORS.
 ⑤ POLE MOUNTED
 TRAFFIC CONTROL ITEMS (SIGNALS)

THE COST OF THE ABOVE ITEMS SHALL BE INCLUDED IN THE PRICE LISTED FOR EACH ITEM NO. THROUGHOUT, TEMPORARY TRAFFIC SIGNAL SYSTEM EACH.

DESIGNATION	LEGEND	SIZE
W20-1	ROAD WORK 1/2 MILE	1200 X 1200
W20-1	ROAD WORK 1500 FT.	1200 X 1200
W20-1	ROAD WORK 500 FT.	1200 X 1200
W20-1	ROAD WORK AHEAD	1200 X 1200
W20-4	ONE LANE ROAD 1500 FT.	1200 X 1200
W3-3	SIGNAL AHEAD (SYMBOL)	900 X 900
W20-7A	FLAGGER AHEAD (SYMBOL) WITH SUPPLEMENTAL PLATE	900 X 900 600 X 450
R10-6	STOP HERE ON RED	600 X 900
R10-6 (MOD.)	STAY IN LANE TO EXT. GREEN	750 X 1050
R10-11A	NO TURN ON RED	600 X 750
G20-2A	END ROAD WORK	900 X 450
W1-4DR	LANE SHIFT (SYMBOL)	750 X 750



DISTANCES AND LOCATIONS AS NOTED IN PLANS
 SPECIAL SIGN DETAILS
 SEE STANDARD DRAWING TM-WZ-34
 FOR SIGNING NOTES



- REV. 11-1-95: CHANGED TO METRIC.
- REV. 5-27-98: CHANGED GRADING NO. TM-CP-3 TO TM-WZ-35.
- REV. 12-18-99: ADDED SIGN R10-6 TO SHEET.
- REV. 7-29-03: IN STANDARD SIGNS BLOCK CHANGED SIZE OF END ROAD WORK CONSTRUCTION FROM 1200 X 600 TO 900 X 450.
- REV. 10-26-03: CORRECTED DESCRIPTION BLOCK.

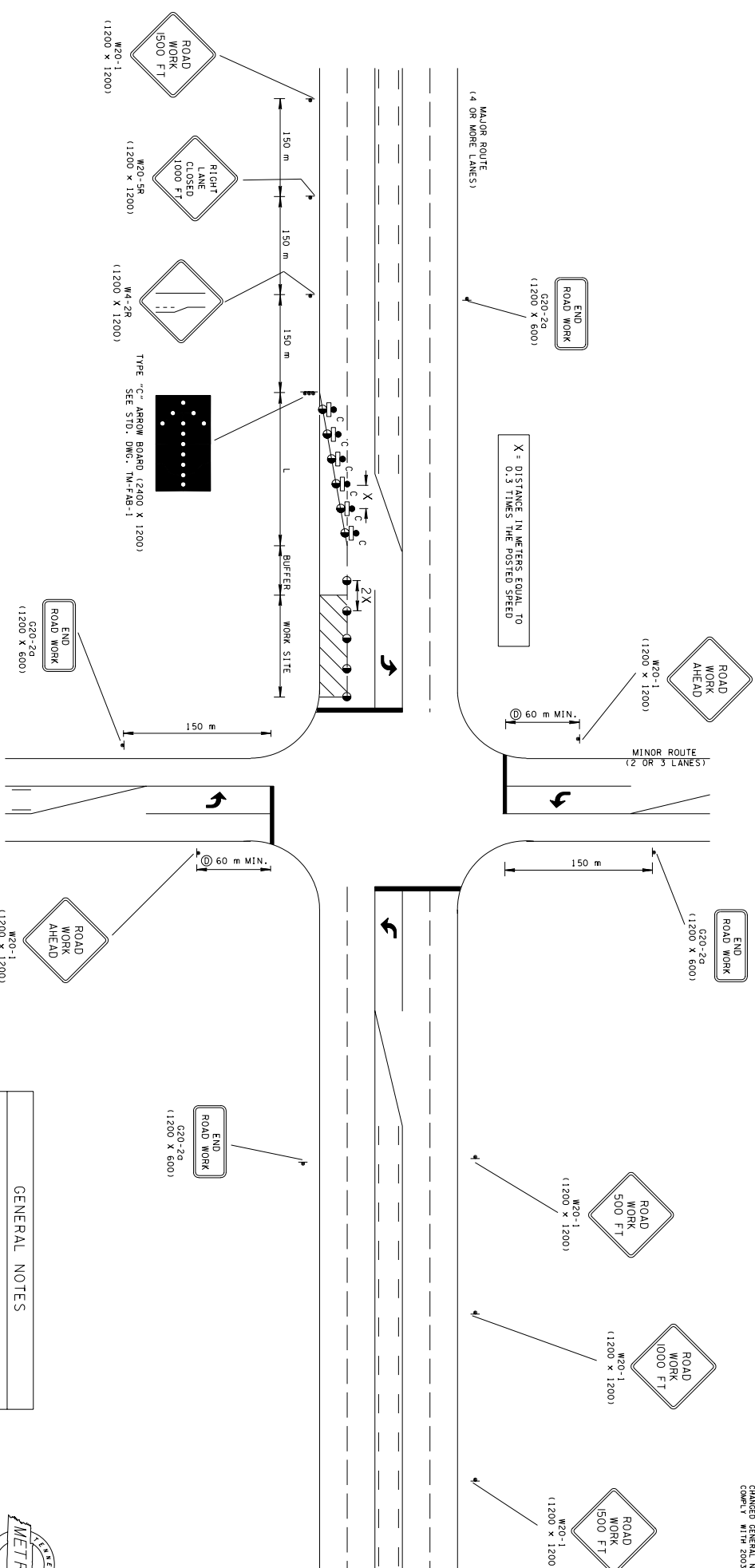


ALL UNITS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 MINOR REVISION -- FHMA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION
 TRAFFIC CONTROL PLAN
 PAY ITEM AND SIGN
 DETAILS FOR TRAFFIC
 SIGNAL AT TWO LANE
 BRIDGE RECONSTRUCTION
 SITE
 5-27-98 TM-WZ-35

CROSS REFERENCE DRAWINGS FOR THIS SHEET: TM-WZ-32, TM-WZ-33 AND TM-WZ-34.
 SHEET NOT TO SCALE

RIGHT LANE CLOSURES AT NEAR SIDE OF INTERSECTIONS



- REV. 7-29-98: CHANGED FORMULA FOR COMPUTATION OF L.
- REV. 4-15-99: ADDED GENERAL NOTE ①.
- REV. 12-18-99: MODIFIED HEADING DESCRIPTION AND ELIMINATED OLD GENERAL NOTE ②.
- REV. 7-1-01: GENERAL REVISION.
- REV. 4-15-04: CHANGED W4-2 SIGN CHANGED GENERAL NOTES ① AND ② TO COMPLY WITH 2003 MUTCD.

CHANNELIZATION DEVICE LEGEND

	FLEXIBLE DRUMS
	SIGN SUPPORT
	FLEXIBLE DRUMS WITH TYPE "C" WARNING LIGHTS ATTACHED
	WORK SITE

FLASHING YELLOW ARROW BOARD (SEE STD. DWG. NO. TM-FAB-1, FOR DETAILS AND SPECIFICATIONS)

COMPUTATION FOR DISTANCE L

$L = W \times S$	(FOR POSTED SPEEDS OF 45 MPH OR GREATER)
$L = \frac{W \times S}{2}$	(FOR POSTED SPEEDS OF 40 MPH OR LESS)

L = TAPER LENGTH IN METERS
 W = WIDTH OF OFFSET IN METERS
 S = POSTED SPEED IN MPH

- GENERAL NOTES**
- ① FLEXIBLE DRUMS OR CONES MAY BE USED FOR SIGN SUPPORT TERM IN THIS MANUAL. ONLY FLEXIBLE DRUMS SHALL BE USED FOR LONG TERM (OVERNIGHT) CLOSURES.
 - ② SEE TABLE EC-2 OF PART VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR RECOMMENDED LENGTHS OF BUFFER SPACE WHICH ARE BASED ON STOPPING SIGHT DISTANCE AS A FUNCTION OF SPEED.
 - ③ SEE TABLE GC-1 OF PART VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR RECOMMENDED LENGTHS OF BUFFER SPACE WHICH ARE BASED ON STOPPING SIGHT DISTANCE FOR "ROAD WORK AHEAD" SIGN TO BE PLACED PRIOR TO INTERSECTION.
 - ④ TYPE "C" WARNING LIGHTS ARE OPTIONAL IN LIGHTED URBAN AREAS.

METRIC

ALL UNITS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

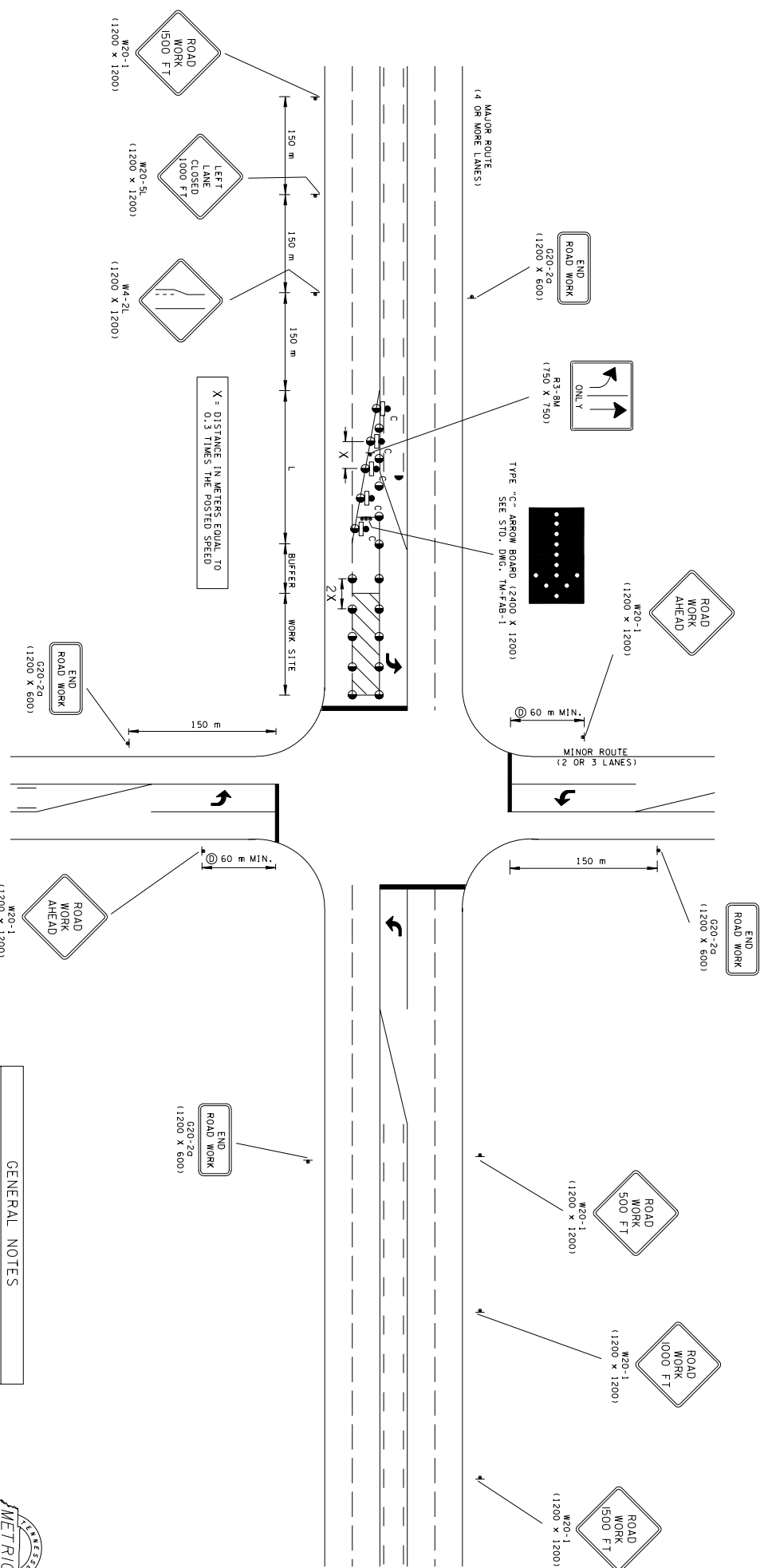
□ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE DEPARTMENT OF TRANSPORTATION

RIGHT LANE CLOSURES AT NEAR SIDE OF INTERSECTIONS

5-27-98 TM-WZ-40

LEFT LANE CLOSURES AT NEAR SIDE OF INTERSECTIONS (FOR 60 KILOMETERS PER HOUR AND GREATER)



CHANNELIZATION DEVICE LEGEND

	FLEXIBLE DRUMS
	SIGN SUPPORT
	FLEXIBLE DRUMS WITH TYPE "C" WARNING LIGHTS ATTACHED
	WORK SITE
	FLASHING YELLOW ARROW BOARD (SEE STD. DWG. NO. TM-FAB-1 FOR DETAILS AND SPECIFICATIONS)

COMPUTATION FOR DISTANCE L

$L = W \times S$	(FOR POSTED SPEEDS OF 45 MPH OR GREATER)
$L = \frac{W \times S^2}{60}$	(FOR POSTED SPEEDS OF 40 MPH OR LESS)
$L = \frac{W \times S^2}{60}$	(FOR TAPER LENGTH IN METERS)
$S = \text{POSTED SPEED IN MPH}$	

- GENERAL NOTES**
- STIONS MAY BE PORTABLE FOR SHORT TERM CLOSURES.
 - FLEXIBLE DRUMS OR CONES MAY USED FOR SHORT TERM LANE CLOSURES (DAY TIME ONLY). FLEXIBLE DRUMS SHALL BE USED FOR LONG TERM (OVERNIGHT) CLOSURES.
 - SEE TABLE 6C-2 OF PART VI OF THE MANUAL ON UNIT-ON-TAFC CONTROL DEVICES (MUTCD) FOR RECOMMENDED LENGTHS OF BUFFER SPACE WHICH ARE BASED ON STOPPING SIGHT DISTANCE AS A FUNCTION OF SPEED.
 - SEE TABLE 6C-1 OF PART VI OF THE MANUAL ON UNIT-ON-TAFC CONTROL DEVICES (MUTCD) FOR RECOMMENDED LENGTHS OF BUFFER SPACE WHICH ARE BASED ON STOPPING SIGHT DISTANCE AS A FUNCTION OF SPEED.
 - TYPE "C" WARNING LIGHTS ARE OPTIONAL IN LIGHTED URBAN AREAS.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

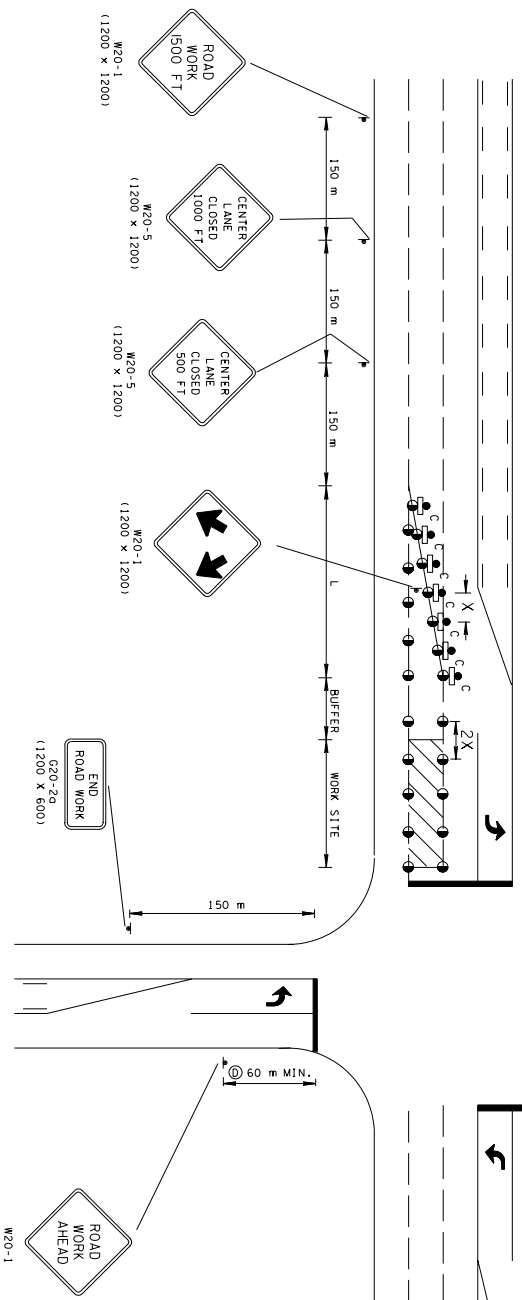
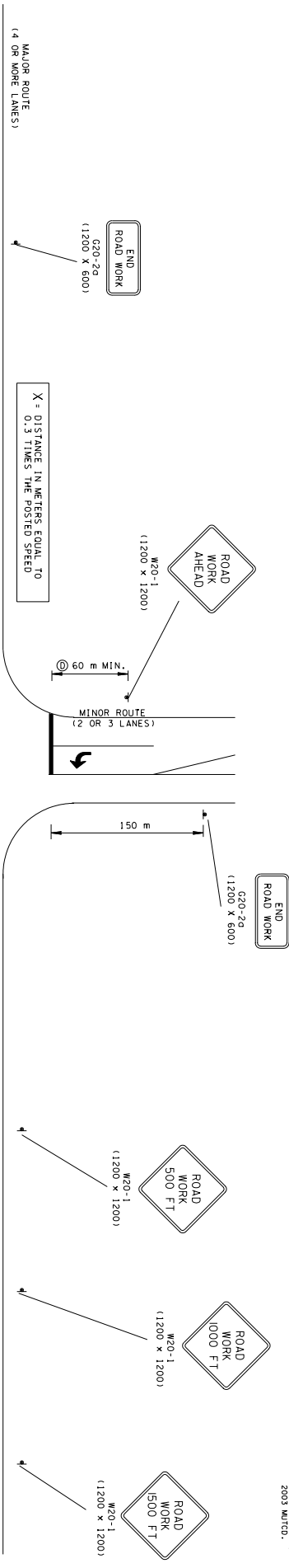
LEFT LANE CLOSURES AT NEAR SIDE OF INTERSECTIONS

5-27-98 TM-WZ-41

REV. 7-28-98; CHANGED FORMULA FOR COMPUTATION OF L.
REV. 1-15-99; ADDED GENERAL NOTE 5.
REV. 4-15-04; CHANGED W4-2 SIGN, COMPLETELY WITH 2003 MUTCD.

CENTER LANE CLOSURES AT NEAR SIDE OF INTERSECTIONS

- REV. 7-29-98: CHANGED FORMULA FOR COMPUTATION OF L.
- REV. 4-15-99: ADDED GENERAL NOTE ②
- REV. 12-18-99: MODIFIED HEADING DESCRIPTION AND EQUIPMENT DESIGNATION NOTE ③
- REV. 4-30-00: CHANGED GENERAL NOTE ③ TO CORRELATE WITH 2003 MUTCD.



CHANNELIZATION DEVICE LEGEND	
①	FLEXIBLE DRUMS
②	STON SUPPORT
③	FLEXIBLE DRUMS WITH TYPE "C" WARNING LIGHTS ATTACHED
④	WORK SITE

COMPUTATION FOR DISTANCE L	
$L = W \times X \times S$	(FOR POSTED SPEEDS OF 45 MPH OR GREATER)
$L = \frac{W \times X \times S}{2}$	(FOR POSTED SPEEDS OF 40 MPH OR LESS)
$L = \frac{W \times X \times S}{60}$	(FOR POSTED SPEEDS OF 40 MPH OR LESS)
$L = \frac{W \times X \times S}{60}$	(FOR POSTED SPEEDS OF 40 MPH OR LESS)
W	= WIDTH OF OFFSET IN METERS
S	= POSTED SPEED IN MPH

- ### GENERAL NOTES
- ① FLEXIBLE DRUMS OR CONES MAY BE USED FOR SHORT TERM LANE CLOSURES FOR ONE-WAY (ONE-WAY) FLEXIBLE DRUMS SHALL BE USED FOR ONE-WAY (ONE-WAY) CLOSURES.
 - ② SEE TABLE 6C-2 OF PART VI OF THE MANUAL ON SIGN PLACEMENT FOR THE RECOMMENDED LENGTH OF BUFFER SPACE WHICH ARE BASED ON STOPPING SIGHT DISTANCE AS A FUNCTION OF SPEED.
 - ③ SEE TABLE 6C-1 OF PART VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR GUIDELINES FOR ADVANCE WARNING SIGN SPACING. THE RECOMMENDED LENGTH OF BUFFER SPACE WHICH ARE "AHEAD" SIGN TO BE PLACED PRIOR TO INTERSECTION.
 - ④ TYPE "C" WARNING LIGHTS ARE OPTIONAL IN LIGHTED URBAN AREAS.

ALL UNITS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

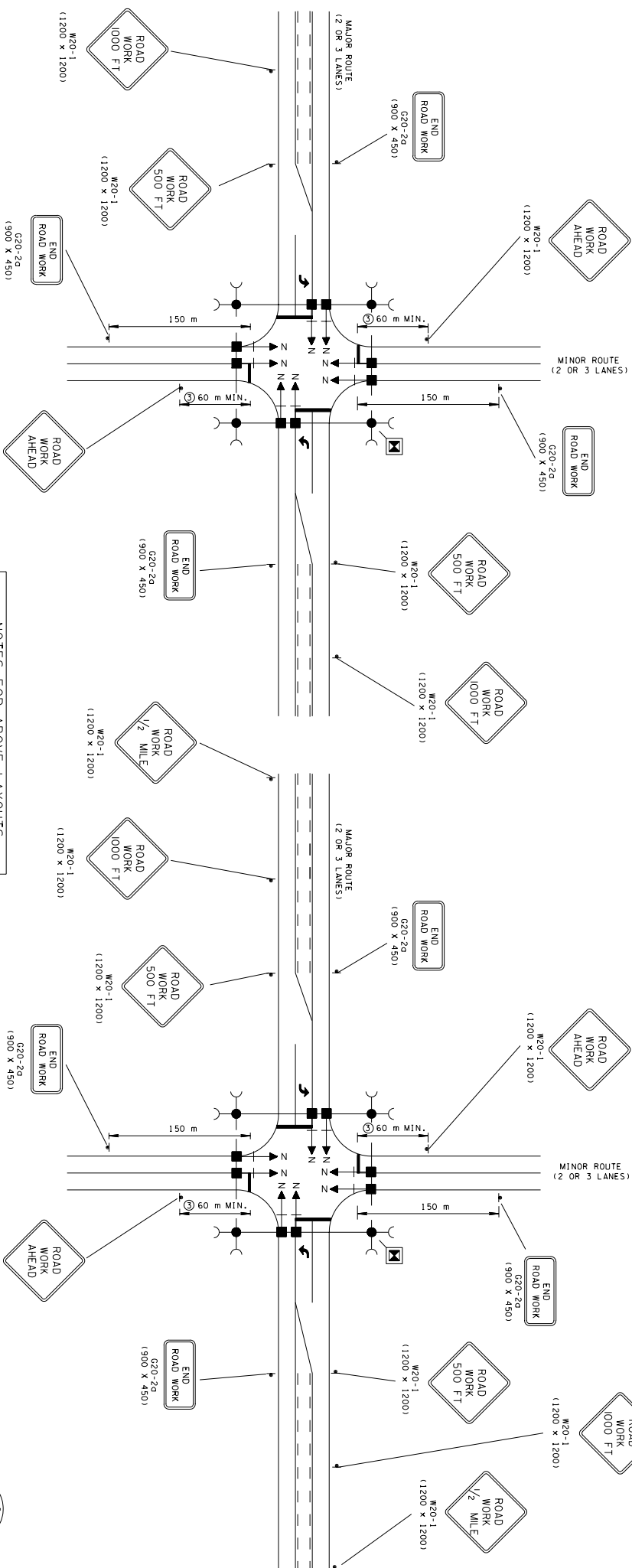
CENTER LANE CLOSURES AT NEAR SIDE OF INTERSECTIONS

5-27-98 TM-WZ-42

TRAFFIC CONTROL FOR SIGNAL ONLY PROJECTS
WITH 2 OR 3 LANES ENTERING FROM ALL DIRECTIONS

DETAIL FOR 60 KM/H DESIGN OR LESS

DETAIL FOR GREATER THAN 60 KM/H DESIGN



- NOTES FOR ABOVE LAYOUTS
- ① TWO "FLASHER AHEAD" SYMBOL SIGNS (W20-76) SHALL BE PROVIDED. THE SIZES OF THESE SIGNS SHALL BE 1200 X 1200. SEE TABLE VI-3 IN PART VI OF THE MUTCD (CURRENT EDITION).
 - ②

CONSTRUCTION SIGN QUANTITIES
(ITEM NO. 712M06)

"T" INTERSECTIONS	- 8.69 m ²
4 - LEGGED INTERSECTIONS	- 10.59 m ²

CONSTRUCTION SIGN QUANTITIES
(ITEM NO. 712M06)

"T" INTERSECTIONS	- 11.66 m ²
4 - LEGGED INTERSECTIONS	- 13.56 m ²

LEGEND

	PAD MOUNTED CONTROLLER
	WOOD POLE FOR SIGNAL SUPPORT
	GUYING DEVICE ANGLE ANCHOR
	SIGNAL HEAD WITH NUMBER AND BACKPLATE

CONSTRUCTION SIGN QUANTITIES
(ITEM NO. 712M06)

"T" INTERSECTIONS	- 11.66 m ²
4 - LEGGED INTERSECTIONS	- 13.56 m ²

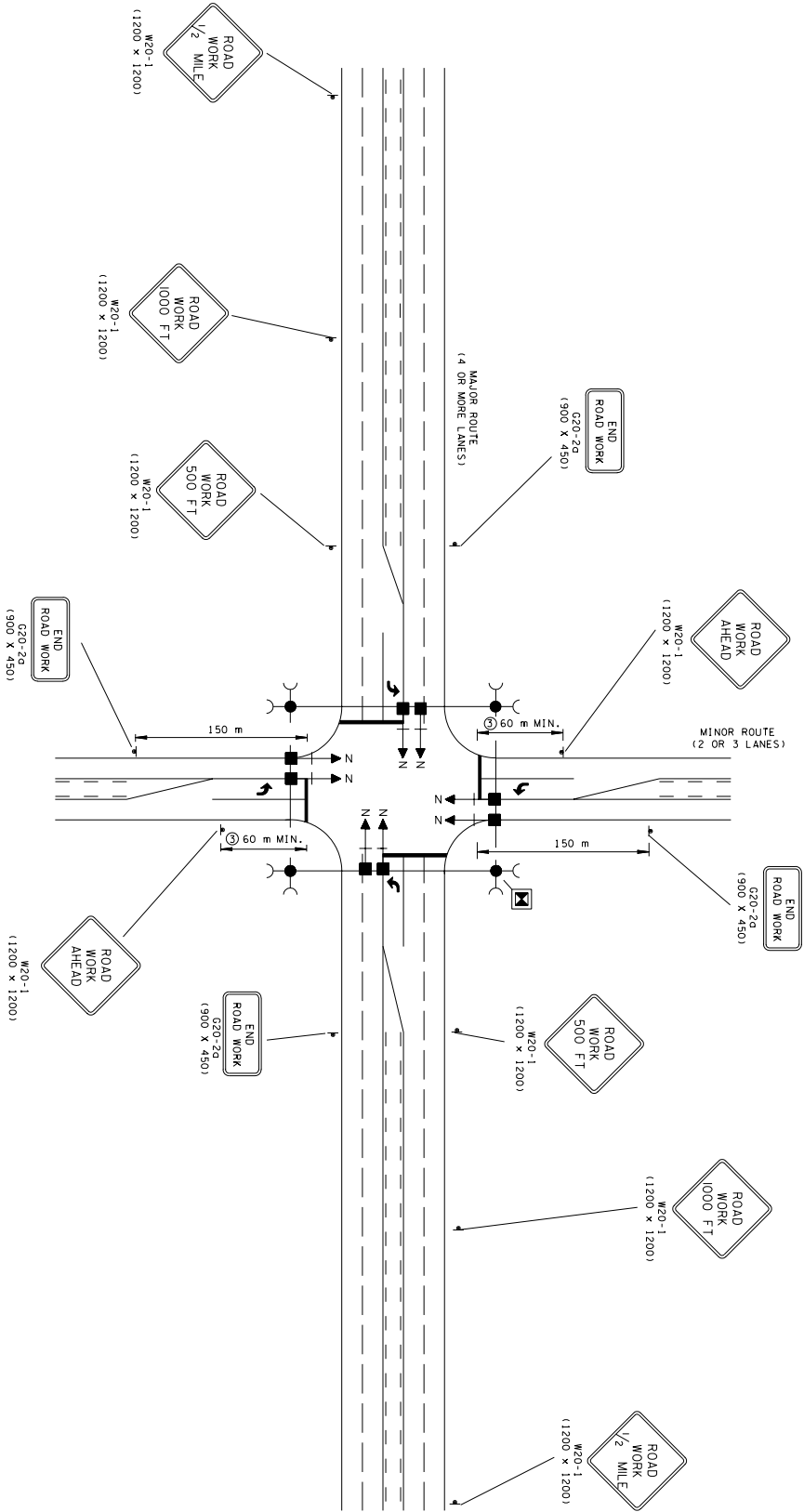
REV. 10-26-98: CHANGED CONSTRUCTION SIGN QUANTITIES.
REV. 12-18-99: IN NOTES FOR ABOVE LAYOUT BLOCK DELETED OLD NOTE NO. 1.
REV. 1-29-03: CHANGED SIZE OF END ROAD WORK SIGN FROM 1200 X 800 TO 900 X 450.



ALL UNITS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
TRAFFIC CONTROL
FOR SIGNALS ONLY
PROJECTS ON 2 OR
3 LANE MAJOR
ROUTES
5-27-98 TM-WZ-50

TRAFFIC CONTROL FOR SIGNAL ONLY PROJECTS
WITH A 4 OR 5 LANE MAJOR ROUTE AND A 2 OR 3 LANE MINOR ROUTE



NOTES FOR ABOVE LAYOUT

① ONE LEFT LANE CLOSED 1000 FT. SIGN (W20-5B), ONE RIGHT LANE CLOSED 1000 FT. SIGN (W20-5B), ONE "LEFT LANE MERGE" SYMBOL SIGN (W4-2L), ONE "RIGHT LANE MERGE" SYMBOL SIGN (W4-2R), ONE "ROAD WORK" SYMBOL SIGN (W4-2W), ONE "ROAD WORK AHEAD" SYMBOL SIGN (W4-2A). THESE SIGNS SHALL BE 1200 X 1200. SEE STANDARD DRAWING NOS. TM-WZ-40 AND TM-WZ-41 FOR MORE DETAILS. (CURRENT EDITION).

② SEE TABLE VI-3 IN PART VI OF THE MUTCD.

LEGEND

	PAD MOUNTED CONTROLLER
	WOOD POLE FOR SIGNAL SUPPORT
	QUITTING DEVICE ANGLE ANCHOR
	SIGNAL HEAD WITH NUMBER AND BACKPLATE

CONSTRUCTION SIGN QUANTITIES
(ITEM NO. 712006)

"T" INTERSECTIONS	- 11.66 m ²
4 - LEGGED INTERSECTIONS	- 13.56 m ²

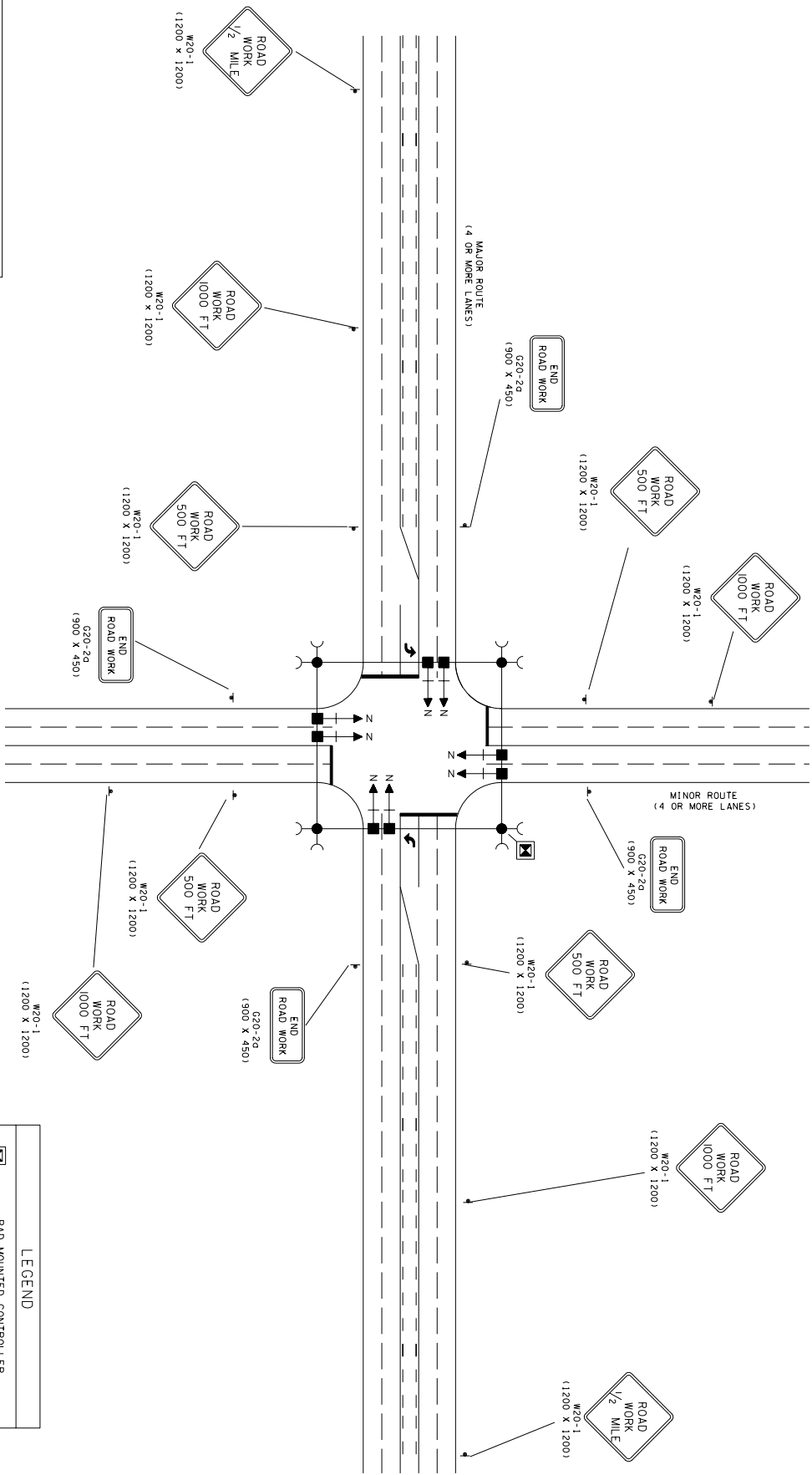
REV. 10-26-98: CHANGED CONSTRUCTION SIGN QUANTITIES.
REV. 12-18-99: IN NOTES FOR ABOVE LAYOUT BLOCK DELETED OLD NOTE NO. ②.
REV. 7-29-03: CHANGED SIZE OF END ROAD WORK SIGN FROM 1200 X 600 TO 900 X 450.

ALL UNITS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
 TRAFFIC CONTROL
 FOR SIGNALS ONLY
 PROJECTS ON 4 OR
 5 LANE MAJOR
 ROUTES
 5-27-98

TM-WZ-51

TRAFFIC CONTROL FOR SIGNAL ONLY PROJECTS
WITH 4 OR 5 LANES ENTERING FROM ALL DIRECTIONS



NOTES FOR ABOVE LAYOUT

① ONE LEFT LANE CLOSED 1000 FT. SIGN (W20-5b), ONE "LEFT LANE MERGE" SYMBOL SIGN (W4-2U), AND ONE "RIGHT LANE MERGE" SYMBOL SIGN (W4-2R), SHALL BE PROVIDED. THE SIZES OF THESE SIGNS AND THE SPACING SET FOR MORE DETAILS. NOS. - TM-W2-30 AND TM-W2-51 FOR MORE DETAILS.

CONSTRUCTION SIGN QUANTITIES	
(ITEM NO. 712M06)	
"T" INTERSECTIONS	- 13.15 m ²
4 - LEGGED INTERSECTIONS	- 16.54 m ²

LEGEND	
	PAD MOUNTED CONTROLLER
	WOOD POLE FOR SIGNAL SUPPORT
	GUYING DEVICE ANGLE ANCHOR
	SIGNAL HEAD WITH NUMBER AND BACKPLATE

REV. 10-26-98: MODIFIED GENERAL NOTE ON UNMAINTAINED ROAD WORK 1/2 QUANTITIES.
REV. 12-18-99: IN NOTES FOR ABOVE LAYOUT BLOCK DELETED OLD NOTE NO. ①.
REV. 7-29-03: CHANGED SIZE OF END ROAD WORK CONSTRUCTION SIGN FROM 1200 X 600 TO 500 X 450.

ALL UNITS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

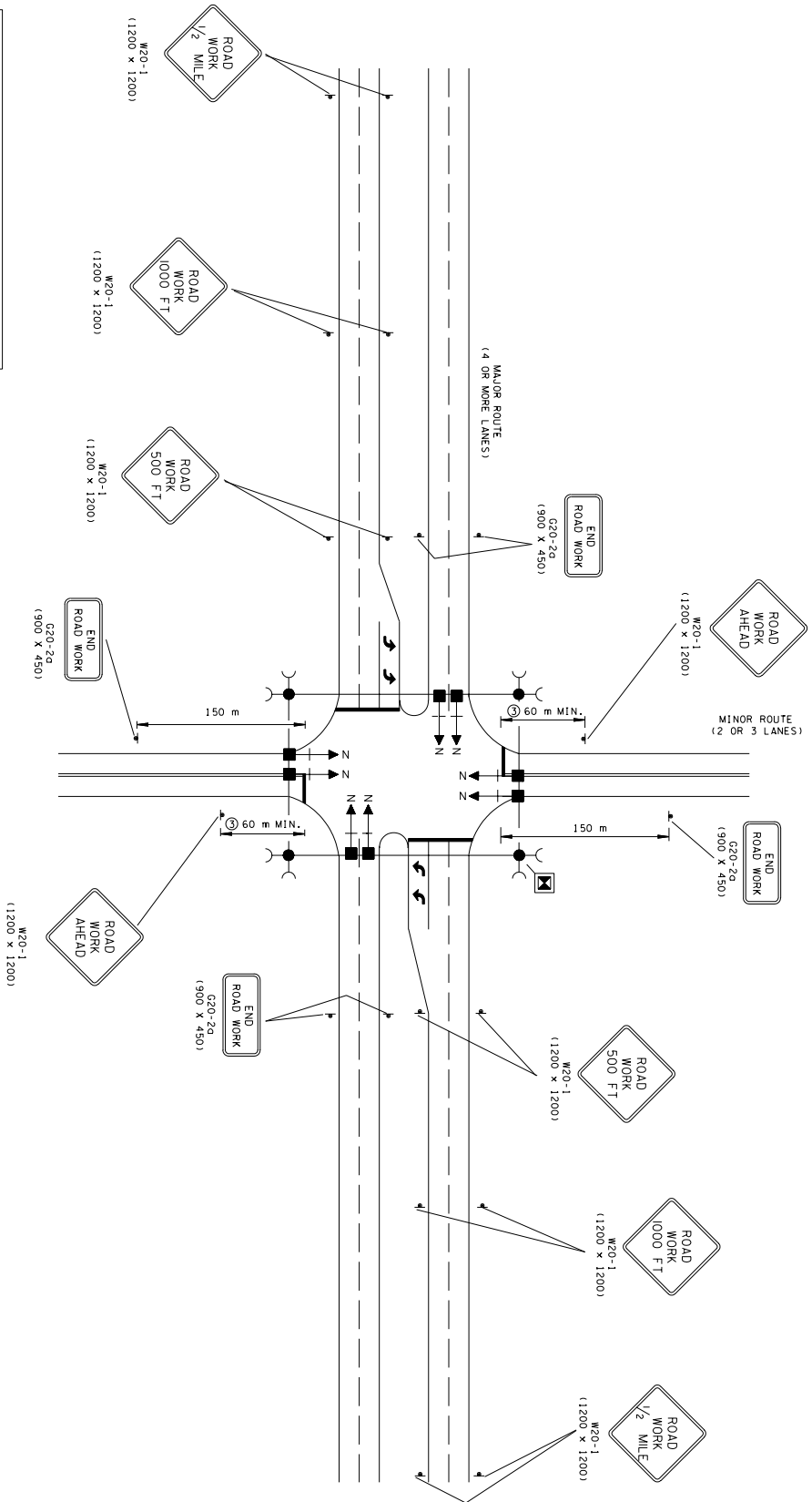


STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL FOR SIGNALS ONLY PROJECTS ON 4 OR 5 LANE MAJOR AND MINOR ROUTES

5-27-98 TM-WZ-52

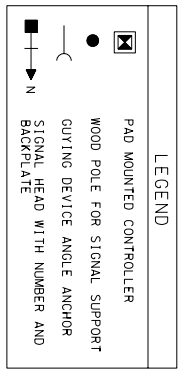
TRAFFIC CONTROL FOR SIGNAL ONLY PROJECTS WITH
A 4 OR MORE LANE DIVIDED MAJOR ROUTE AND 2 OR 3 LANES MINOR ROUTE



NOTES FOR ABOVE LAYOUT

① ONE LEFT LANE CLOSED 1000 FT. SIGN (W20-51), ONE RIGHT LANE CLOSED 1000 FT. SIGN (W20-5R), ONE "LEFT LANE MERGE" SYMBOL SIGN (W4-2L), ONE "RIGHT LANE MERGE" SYMBOL SIGN (W4-2R), AND "ROAD WORK AHEAD" SYMBOL SIGN (W20-2) SHALL BE PROVIDED. SIGN SPACING AND SETBACKS SHALL BE 1200 X 1200. SEE STANDARD DRAWINGS NOS. TM-WZ-40 AND TM-WZ-41 FOR MORE DETAILS.

② SEE TABLE VI-3 IN PART VI OF THE MUTCD (CURRENT EDITION).



CONSTRUCTION SIGN QUANTITIES
(ITEM NO. 712A06)

"T" INTERSECTIONS	- 21.41 m ²
4 - LEGGED INTERSECTIONS	- 23.32 m ²

REV. 12-18-99 - IN NOTES FOR ABOVE LAYOUT BLOCK DELETED OLD NOTE
 REV. 7-29-03 - CHANGED SIZE OF END SIGN FROM 1200 X 500 TO 900 X 450.
 REV. 7-29-03 - CHANGED SIZE OF END SIGN FROM 1200 X 500 TO 900 X 450.

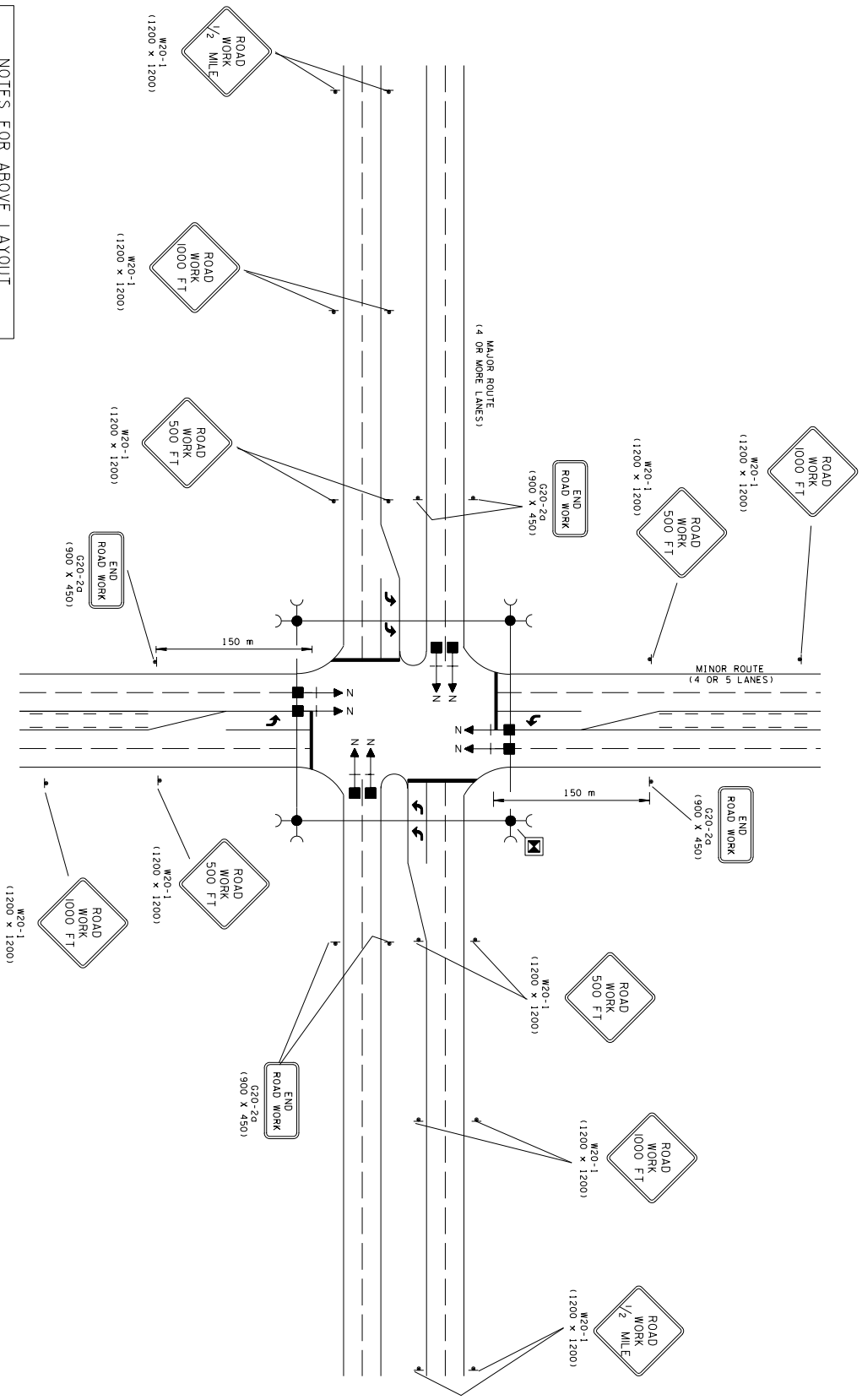


ALL UNITS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL FOR SIGNALS ONLY PROJECTS ON 4 OR MORE LANE DIVIDED MAJOR ROUTES
 TM-WZ-53

TRAFFIC CONTROL FOR SIGNAL ONLY PROJECTS WITH
4 OR MORE LANE DIVIDED MAJOR ROUTES AND 4 OR MORE LANE MINOR ROUTES



NOTES FOR ABOVE LAYOUT

① ONE LEFT LANE CLOSED 1000 FT. SIGN (W20-SL1), ONE RIGHT LANE CLOSED 1000 FT. SIGN (W20-SR1), ONE LEFT LANE CLOSED 500 FT. SIGN (W20-SL2), AND ONE RIGHT LANE CLOSED 500 FT. SIGN (W20-SR2) SHALL BE PROVIDED. THE SIZES OF THESE SIGNS SHALL BE 1200 X 1200. SEE STANDARD DRAWING NOS. TM-WZ-40 AND TM-WZ-41 FOR MORE DETAILS.

LEGEND

- PAD MOUNTED CONTROLLER
- WOOD POLE FOR SIGNAL SUPPORT
- CUYING DEVICE ANGLE ANCHOR
- SIGNAL HEAD WITH NUMBER AND BACKPLATE

CONSTRUCTION SIGN QUANTITIES
(ITEM NO. 712M06)

"T" INTERSECTIONS	- 22.90 m ²
4 - LEGGED INTERSECTIONS	- 26.29 m ²

REV. 12-18-99, IN NOTES FOR ABOVE
LAYOUT, BLOCK DELETED OLD NOTE
REV. 7-29-01, CHANGED SIZE OF END
SIGN FROM 1200 X 600 TO 900 X 450.



ALL UNITS ARE IN MILLIMETERS
UNLESS NOTED OTHERWISE.
MINOR REVISION -- FIMA
APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL FOR
SIGNALS ONLY PROJECTS
ON 4 OR MORE LANE
DIVIDED MAJOR ROUTES
AND 4 OR MORE LANE
MINOR ROUTES

-10-26-98 TM-WZ-54