# The Metropolitan District

# Maintenance and Protection of Traffic Design Guidelines

## JULY 2016

| Revision Dates |
| --- |
| REVISION 1: 3-4-16 |
| REVISION 2: 5-10-16 |
| REVISION 3: 7-20-16 |
| |



DATE: 7/20/2016 FILE: c:\users\feldmana\desktop\mdc\standard traffic specs and drawings\2016 mpt guidelines\2016 mpt guidelines (7-20-16).dwg

# Table of Contents

# METROPOLITAN DISTRICT
## Design Guidelines
## Maintenance and Protection of Traffic

**INTRODUCTION**

The Metropolitan District (MDC) has created the following document which provides particular design guidelines for the purpose of maintenance and protection of traffic (MPT) during construction operations. The design guidelines are based on the Manual of Uniform Traffic Control Devices (MUTCD 2009), The Connecticut Department of Transportation (CTDOT), and specific MDC requirements. If work is on a state road, please use CTDOT Construction Traffic Control plans found at: http://www.ct.gov/dot/cwp/view.asp?a=3199&q=259402 (0971991A – Traffic Control Plans and Typical Materials) or reference Appendix B of this document.

The purpose of these Design Guidelines is to provide the necessary information to assist in the design of temporary traffic control plans to meet the requirements of the MDC. The intent of any temporary traffic control plan is to provide a safe and effective travel environment for vehicular and pedestrian traffic in and around the construction work zone. A correctly established work zone and traffic pattern is of importance to the surrounding public as well as the construction personnel performing the work.

This document provides the following Maintenance and Protection of Traffic design information:

- Notes for Traffic Control Plans
- Component Parts of a Temporary Traffic Control Zone
- Type of Tapers and Buffer Spaces
- Traffic Control Details
- Traffic Control Signs
- Typical Temporary Traffic Control Plans (general construction)
- Typical Temporary Traffic Control Plans (CCTV/Cleaning and CIPP Lining)

The MPT Design Guidelines are also available in an AutoCAD format by request. The information contained herein should not be considered a final design for a construction project, but should be used as a guideline to develop the temporary traffic control plans.

The guidelines supplement and do not replace the requirements of the Manual of Uniform Traffic Control Devices (MUTCD) Latest Edition, CTDOT and municipality.

## USING TYPICAL TRAFFIC CONTROL DETAILS IN DESIGN

When using the typical traffic control (TTC) details during design for any construction project's traffic management, the final designer shall assign a number to the detail used and develop a table for the contractor to reference as to what detail is required for use by construction activity location.

If any portion of the construction cannot be completed using a typical traffic control detail, a site specific plan is required as part of the design in addition to the standard traffic control sheets.

See the example table below for format:

| Street | Construction Activity | Approximate Station | TTC Detail # |
|---|---|---|---|
| Street 1 | Install water main | 00+00 to 1+00 | 1 |
| Street 2 | Install water main | 1+00 to 5+00 | 1 |
| Street 3 | Install water service | 2+50 | Site specific – see sheet X |
| Street 4 | CIPP Lining (sewer) | 5+00 to 6+50 | 3 |
| Street 5 | Trench restoration | 6+50 to 7+50 | 4 |
| Street 6 | Milling | 00+00 to 7+50 | 5 |
| Street 7 | Paving | 00+00 to 7+50 | 5 |

# TEMPORARY TRAFFIC CONTROL PLANS – GENERAL INFORMATION

## MPT DESIGN GUIDELINE NOTES

1. TEMPORARY TRAFFIC CONTROL ON STATE ROADWAYS SHALL CONFORM WITH CTDOT CONSTRUCTION TRAFFIC CONTROL PLANS.
2. TRAFFIC CONTROL (POLICE) OFFICERS ARE REQUIRED FOR WORK ON STATE ROADWAYS.
3. UNIFORMED TRAFFIC CONTROL PERSONNEL SHOWN ON THE TYPICAL TEMPORARY TRAFFIC CONTROL PLANS ARE APPROXIMATE IN LOCATION AND QUANTITY. THE USE OF TRAFFIC CONTROL PERSONNEL SHALL BE DETERMINED BY THE FDE AND SHOWN ACCORDINGLY IN THE CONTRACT DOCUMENTS. CONSIDERATIONS TO SIGHT LINE, TRAFFIC VOLUMES AND OTHER FIELD CONDITIONS SHALL BE HAD WHEN DETERMINING THE USE OF TRAFFIC CONTROL PERSONNEL.
4. SIGN IDENTIFICATION SHALL BE IN ACCORDANCE WITH MDC TEMPORARY TRAFFIC CONTROL PLAN GUIDELINES.
5. PROVIDE RAMP IF NEEDED TO ACCOMMODATE ACCESS OR TRAFFIC FLOW OVER BY–PASS HOSES.
6. PROVIDE "BUMP" SIGNS WHEN RAMP IS USED.
7. MAINTAIN BUSINESS AND LOCAL ACCESS AT ALL TIMES.
8. MAINTAIN BUS STOPS AT ALL TIMES.
9. TRAFFIC DRUMS SHALL BE USED FOR NIGHT TIME WORK ZONES.
10. BUFFER SPACE IS OPTIONAL. HOWEVER, IT IS DESIRABLE TO PROVIDE BUFFER SPACE AT WORK ZONES TO PROVIDE RECOVERY SPACE FOR AN ERRANT VEHICLE AND A SAFER WORKING ENVIRONMENT FOR WORKERS. SEE TABLE 5 FOR BUFFER SPACE.
11. LANE WIDTH OF TRAVEL LANE SHALL BE A MINIMUM OF 11' MEASURED TO THE FACE OF THE CHANNELIZING DEVICE. 10' MINIMUM MAY BE ACCEPTED WITH APPROVAL OF OWNER (MDC) ON A CASE–BY–CASE BASIS.
12. IN GENERAL, 36" SIGNS SHALL BE USED ON LOCAL ROADWAYS, AND 48" SIGNS SHALL BE USED ON STATE ROADWAYS UNLESS OTHERWISE SPECIFIED WITHIN THE CONTRACT DOCUMENTS.
13. CONTRACTOR SHALL COORDINATE THE NEED FOR TEMPORARY "NO PARKING SIGNS" THROUGH OR ADJACENT TO THE WORK ZONE WITH THE APPROPRIATE TOWN/CITY/STATE OFFICIALS. THE FINAL DESIGN ENGINEER SHALL INDICATE THE "NO PARKING" AREA(S) ON THE TRAFFIC CONTROL PLAN WHERE APPLICABLE.
14. AS A MINIMUM REQUIREMENT, THE FOLLOWING INFORMATION SHALL BE SHOWN IN THE PLANS.
    - NORTH ARROW
    - POSTED/REGULATORY SPEED
    - EXISTING AND PROPOSED LANE CONFIGURATION
    - EXISTING AND PROPOSED ROADWAY/TRAVEL WAY WIDTH
    - WORK ZONE LIMITS
    - STREET NAMES (MAIN AND SIDE STREETS)
    - SIGN INVENTORY
    - LEGEND WHEN UTILIZING TRAFFIC CONTROL SIGNS AND/OR DEVICES THAT ARE NOT SHOWN IN MDC TRAFFIC CONTROL PLANS.
    - SCALE WITH SCALE BAR (INDICATE "N.T.S." FOR PLANS THAT ARE NOT TO SCALE)
    - SIDEWALKS/CROSSWALKS

TABLE 1: TAPER LENGTH
TRAVEL LANE CLOSURE OR MERGE

| POSTED SPEED (MPH) | MIN. TAPER LENGTH L (FT) TRAVEL LANE WIDTH 10' | 11' | 12' | NOTES |
|---|---|---|---|---|
| 20 | 67 | 74 | 80 | $L=\frac{WS^2}{60}$ |
| 25 | 105 | 115 | 125 | |
| 30 | 150 | 165 | 180 | |
| 35 | 205 | 225 | 245 | |
| 40 | 267 | 294 | 320 | |
| 45 | 450 | 495 | 540 | L=WS |
| 50 | 500 | 550 | 600 | |

L = LENGTH OF TRAVEL LANE TAPER (FT)
W = TOTAL TRAVEL LANE WIDTH (FT)
S = POSTED OR REGULATORY SPEED (MPH)

TABLE 2: TAPER LENGTH
TRAVEL LANE SHIFT

| POSTED SPEED (MPH) | MIN. TAPER LENGTH $\frac{1}{2}L$ (FT) TRAVEL LANE WIDTH 10' | 11' | 12' | NOTES |
|---|---|---|---|---|
| 20 | 34 | 37 | 40 | $L=\frac{WS^2}{60}$ |
| 25 | 53 | 58 | 63 | |
| 30 | 75 | 83 | 90 | |
| 35 | 103 | 113 | 123 | |
| 40 | 134 | 147 | 160 | |
| 45 | 225 | 248 | 270 | L=WS |
| 50 | 250 | 275 | 300 | |

$\frac{1}{2}L$ = LENGTH OF TRAVEL LANE TAPER (FT)
W = TOTAL TRAVEL LANE WIDTH (FT)
S = POSTED OR REGULATORY SPEED (MPH)

TABLE 3: TAPER LENGTH
SHOULDER CLOSURE

| POSTED SPEED (MPH) | MIN. TAPER LENGTH $\frac{1}{3}L$ (FT) SHLDR WIDTH 4' | 8' | 10' | NOTES |
|---|---|---|---|---|
| 20 | 9 | 18 | 23 | $L=\frac{WS^2}{60}$ |
| 25 | 14 | 28 | 35 | |
| 30 | 20 | 40 | 50 | |
| 35 | 28 | 55 | 68 | |
| 40 | 36 | 72 | 90 | |
| 45 | 60 | 120 | 150 | L=WS |
| 50 | 67 | 133 | 167 | |

$\frac{1}{3}L$ = LENGTH OF SHOULDER TAPER (FT)
W = TOTAL SHOULDER WIDTH (FT)
S = POSTED OR REGULATORY SPEED (MPH)

TABLE 4: DISTANCE BETWEEN SIGNS

| ROAD TYPE | DISTANCE (FT) |
|---|---|
| URBAN (< 45 MPH) | 100 |
| URBAN (=>45 MPH) | 350 |
| RURAL | 500 |

TABLE 5: LONGITUDINAL BUFFER SPACE

| POSTED SPEED (MPH) | DISTANCE (FT) |
|---|---|
| 20 | 115 |
| 25 | 155 |
| 30 | 200 |
| 35 | 250 |
| 40 | 305 |
| 45 | 360 |
| 50 | 425 |

WHEN BUFFER SPACE CANNOT BE PROVIDED DUE TO GEOMETRIC CONSTRAINTS, THE GREATEST ATTAINABLE LENGTH SHOULD BE USED,

TABLE 6: CLEAR ZONE WIDTHS

| POSTED SPEED (MPH) | *DISTANCE (FT) |
|---|---|
| 30–40 | 14 |
| 45–50 | 20 |

* DISTANCES FOR SLOPE 1:6 OR FLATTER ONLY. SEE CTDOT HIGHWAY DESIGN MANUAL CHAPTER 13–2.0 CLEAR ZONES FOR OTHER CONDITIONS.

### SYMBOLS

- WORK AREA
- WORK ZONE SIGN
- CHANNELIZING DEVICE
- TRAFFIC CONTROL PERSON (POLICE OR FLAGGER – APPROX. LOCATION AND NUMBER, REFERENCE NOTE #3 ABOVE)
- WORK VEHICLE
- LANE IDENTIFICATION AND DIRECTION OF TRAFFIC
- TYPE III BARRICADE

SOURCE: MUTCD 2009 EDITION AND MDC.

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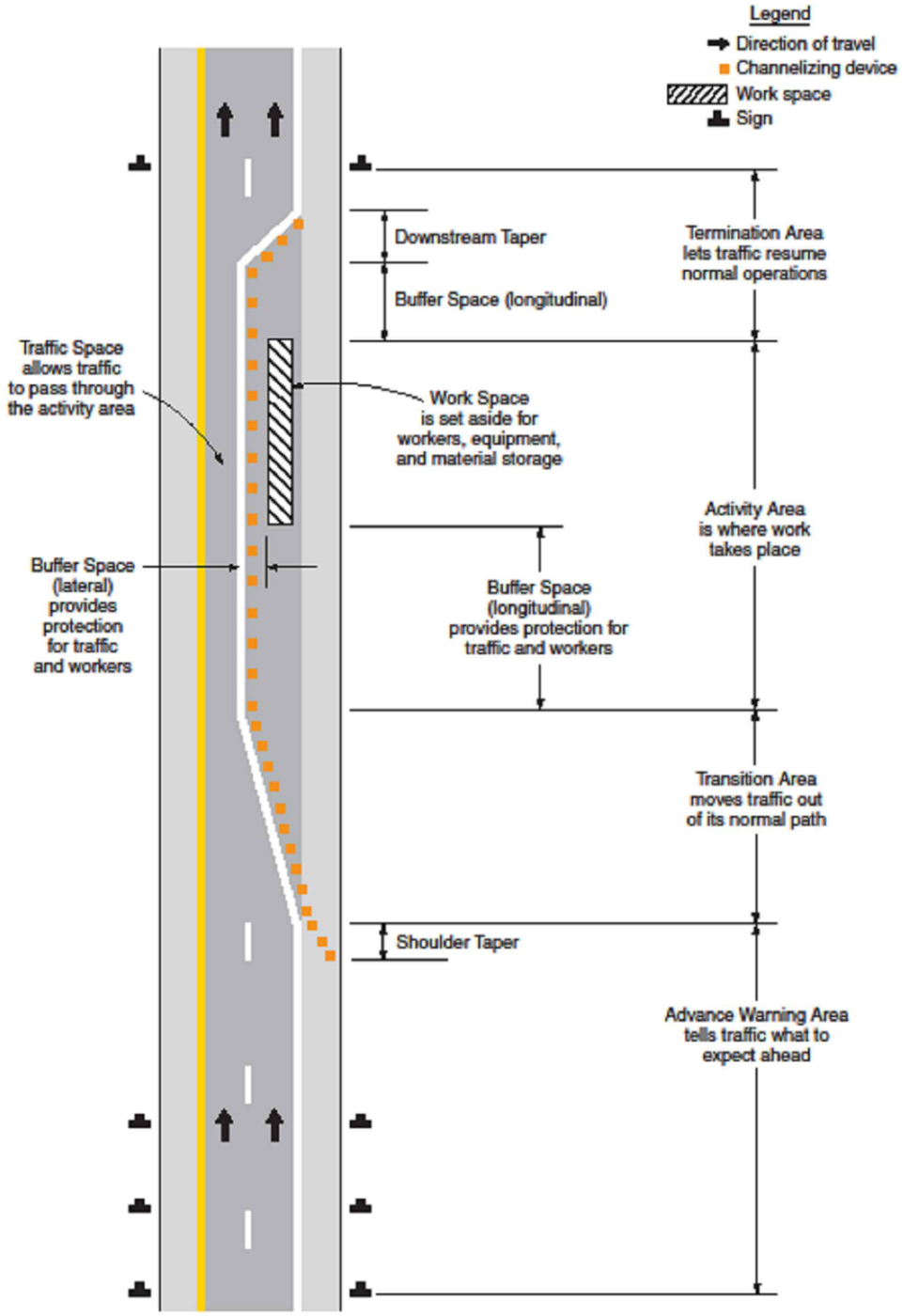
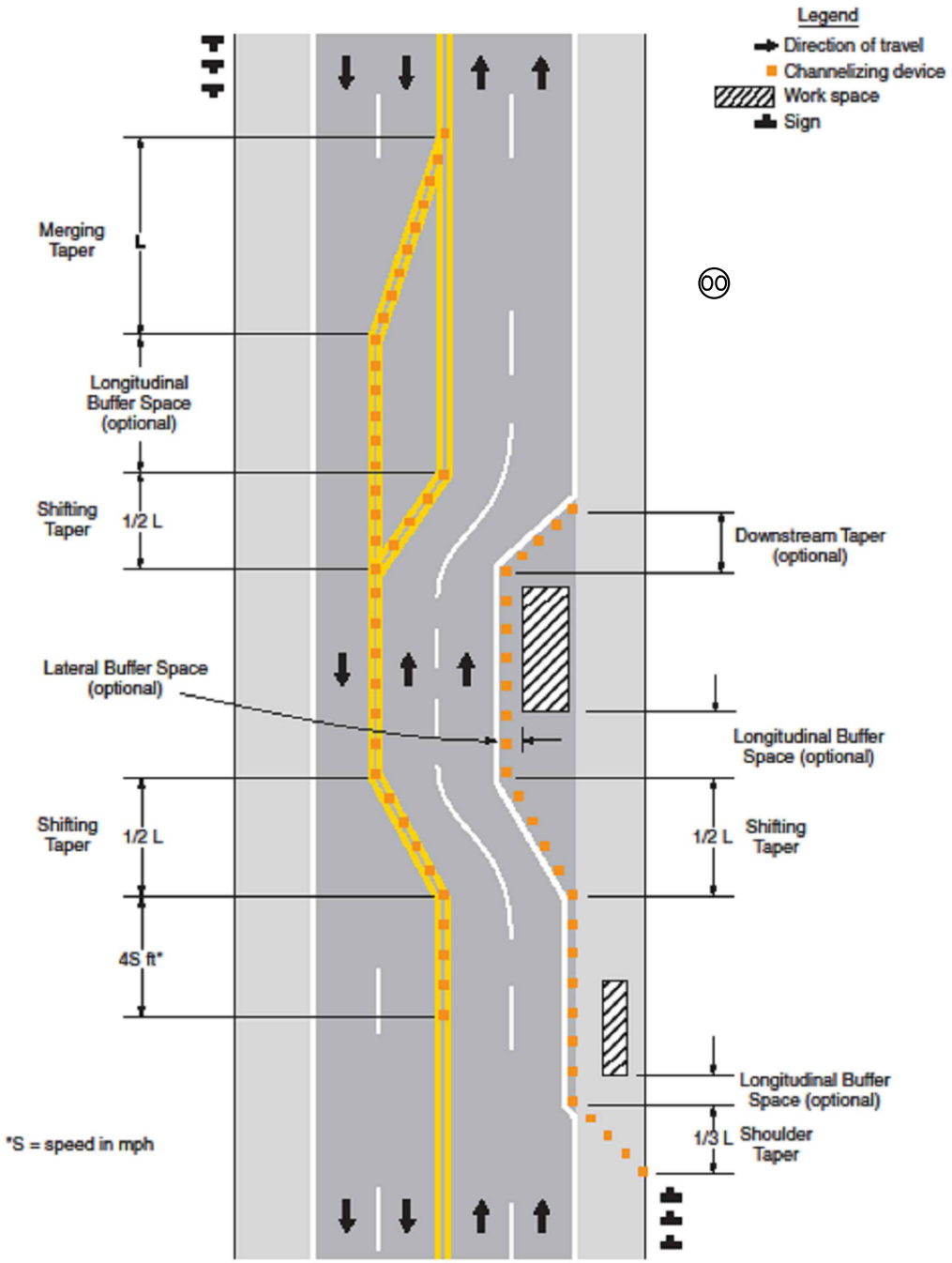
TEMPORARY TRAFFIC CONTROL PLAN
GENERAL INFORMATION

FIGURE 1: COMPONENT PARTS OF A TEMPORARY TRAFFIC CONTROL ZONE




SOURCE: MUTCD 2009 EDITION.

FIGURE 2: TYPES OF TAPERS & BUFFER SPACES




SOURCE: MUTCD 2009 EDITION.

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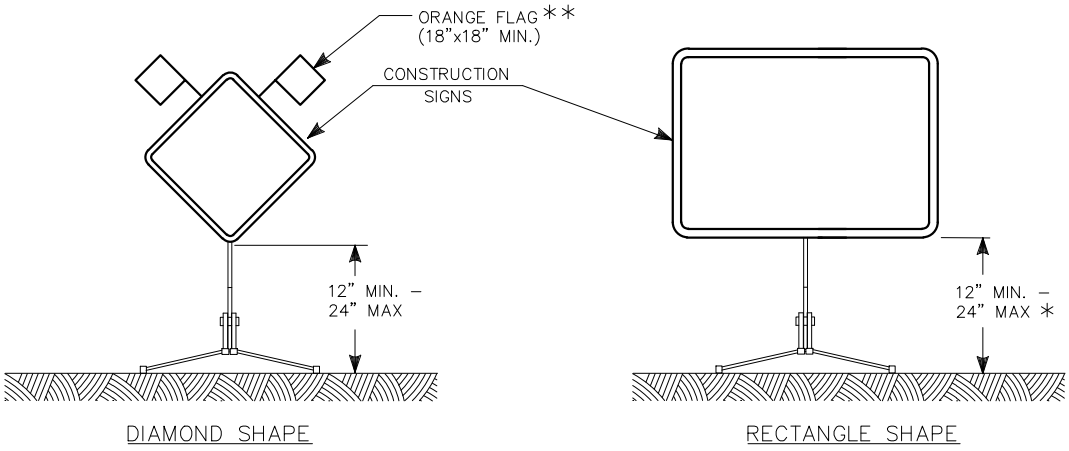
TEMPORARY TRAFFIC CONTROL PLAN
GENERAL INFORMATION

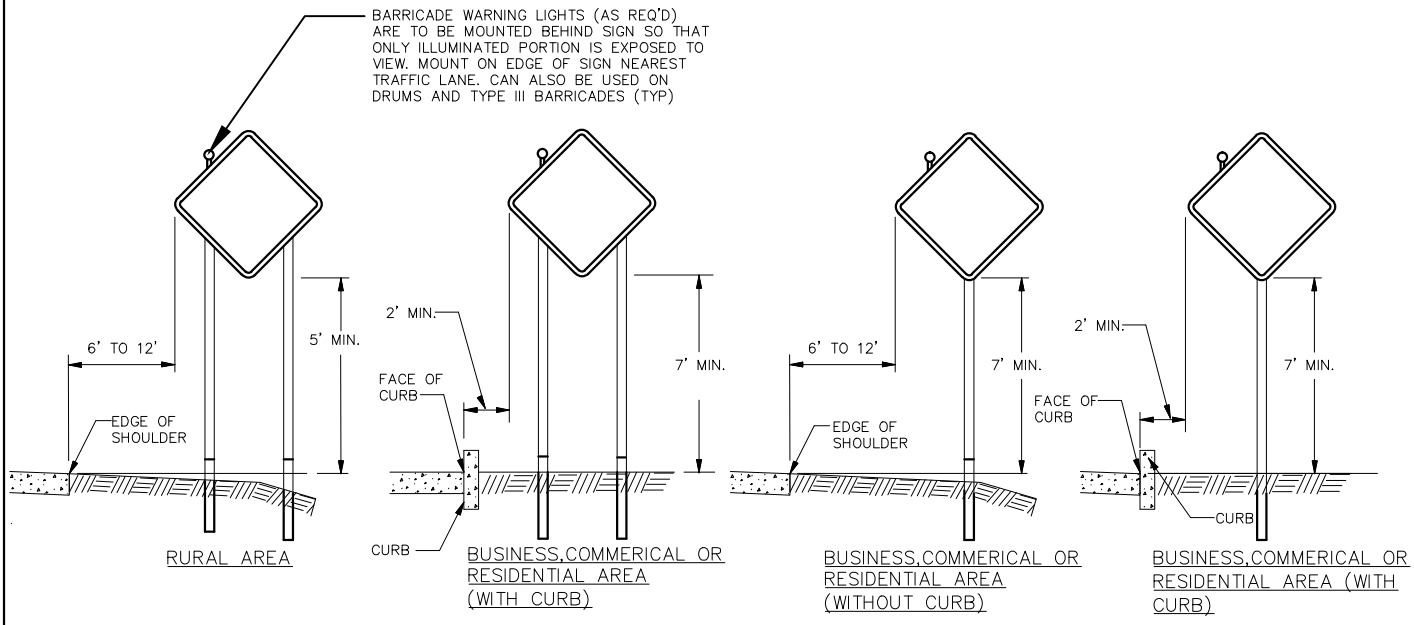



## CONSTRUCTION SIGNS

** SIGN WITH ORANGE FLAGS SHALL REQUIRED AT THE OWNER'S DISCRETION.

NOTES FOR PORTABLE SIGN SUPPORTS:

1. SIGNS AND THEIR PORTABLE SUPPORTS SHALL CONFORM TO THE REQUIREMENTS OF NCHRP REPORT 350 (TL–3) AND THE LATEST EDITION OF THE MUTCD.
2. MOUNTING HEIGHT OF SIGNS SHALL BE A MINIMUM OF 12" AND A MAXIMUM OF 24". SIGNS SHALL BE MOUNTED HIGHER AS NEEDED TO MEET FIELD CONDITIONS OR AS DIRECTED BY THE OWNER.
3. THE MDC RESERVES THE RIGHT TO REJECT ANY SUPPORT DEEMED UNSUITABLE FOR THE PURPOSE INTENDED.
4. PORTABLE SIGN SUPPORTS SHALL BE STABILIZED IN A MANNER THAT WILL NOT AFFECT THEIR COMPLIANCE WITH NCHRP REPORT 350 (TL–3). SIGNS NEED TO BE STABILIZED AS NEEDED, WHICH MAY INCLUDE SAND BAGS OR OTHER WEIGHTED DEVICES.
5. ROLL–UP SIGNS ARE PERMITTED FOR SHORT DURATION WORK ZONES (LESS THAN 1 HOUR).
6. USE 48" SIGNS ON ARTERIAL ROADWAYS WHEN FEASIBLE.



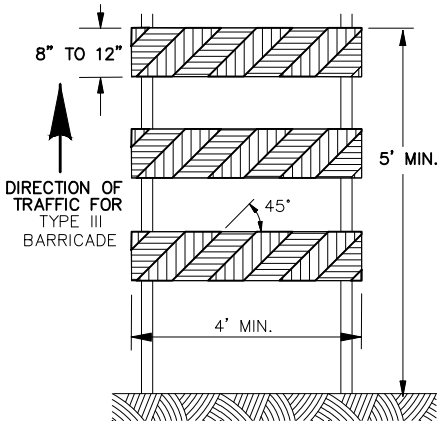

## PLACEMENT OF CONSTRUCTION SIGNS
## TYPICAL LONG TERM INSTALLATION

NOTES:

1. SUPPORTS SHALL BE METAL SIGN POSTS AND HAVE BREAK–AWAY FEATURES.

SOURCE: MUTCD 2009 EDITION AND MDC.

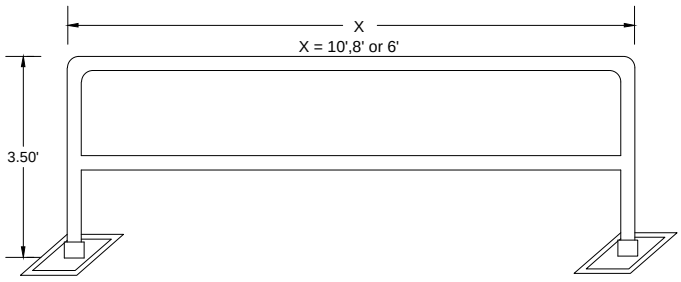
## TYPE III BARRICADE (TYP.)




NOTES:

1. CONSTRUCTION BARRICADES SHALL CONFORM TO THE REQUIREMENTS OF NCHRP REPORT 350 (TL-3) AND THE LATEST EDITION OF THE MUTCD.
2. MARKINGS FOR BARRICADE RAILS SHALL BE ALTERNATE ORANGE AND WHITE STRIPES SLOPING DOWNWARD IN THE DIRECTION TRAFFIC IS TO PASS. 6" WIDE STRIPES SHALL BE USED.
3. THE MDC RESERVES THE RIGHT TO REJECT ANY BARRICADE DEEMED UNSUITABLE FOR THE PURPOSE INTENDED.
4. CORNERS OF BARRICADE RAILS SHALL BE ROUNDED.
5. THE ENTIRE AREA OF ORANGE AND WHITE STRIPES SHALL BE RETROREFLECTIVE SHEETING AS REQUIRED IN THE SPECIFICATIONS.

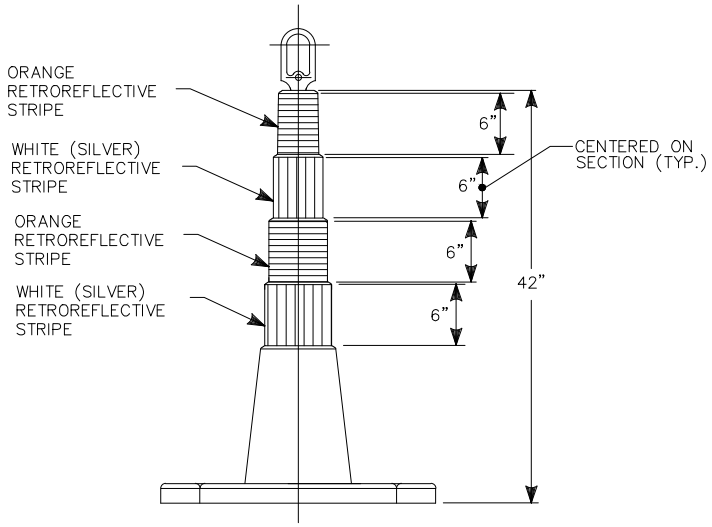
## PEDESTRIAN GUIDE RAIL




NOTES:

1. PEDESTRIAN GUIDE RAILS SHALL BE FREE STANDING, PORTABLE MEET ALL APPLICABLE OSHA AND ANSI STANDARDS.
2. PEDESTRIAN GUIDE RAILS SHALL BE POWDER COATED YELLOW.
3. PEDESTRIAN GUIDE RAIL BASE PLATES SHALL BE HOT DIPPED GALVANIZED FOR DURABILITY AND BE SKID RESISTANT.

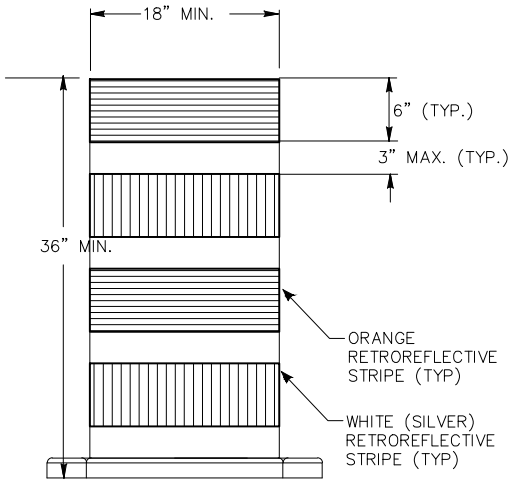
## 42" TRAFFIC CONE




NOTES:

1. TRAFFIC CONES SHALL CONFORM TO THE REQUIREMENTS OF NCHRP REPORT 350 (TL-3) AND THE LATEST EDITION OF THE MUTCD.
2. IF RUBBER CONES ARE USED, THEY SHALL HAVE INTERIOR RIBS FOR RIGIDITY.
3. IF PLASTIC CONES ARE USED, THEY SHALL BE COLOR IMPREGNATED.
4. THE MDC RESERVES THE RIGHT TO REJECT ANY CONES DEEMED UNSUITABLE FOR THE PURPOSE INTENDED.

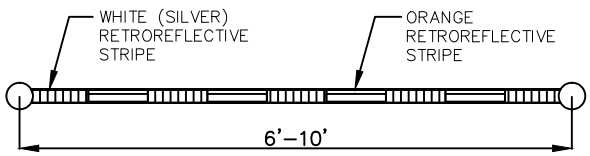
## TRAFFIC DRUM




NOTES:

1. TRAFFIC DRUM SHALL CONFORM TO THE REQUIREMENTS OF NCHRP REPORT 350 (TL-3) AND THE LATEST EDITION OF THE MUTCD.
2. THE MDC RESERVES THE RIGHT TO REJECT ANY DRUM DEEMED UNSUITABLE FOR THE PURPOSE INTENDED.
3. THE ENTIRE AREA OF ORANGE AND WHITE STRIPES SHALL BE RETROREFLECTIVE SHEETING AS REQUIRED IN THE SPECIFICATIONS.
4. THE SECTIONS OF DRUMS NOT COVERED WITH RETROREFLECTIVE STRIPES SHALL BE ORANGE.

## TRAFFIC CONE BAR (HOOK ON TOP OF 42" CONE)




SOURCE: MUTCD 2009 EDITION AND MDC.

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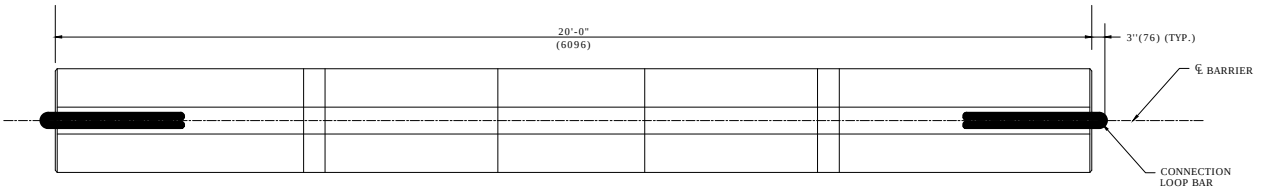
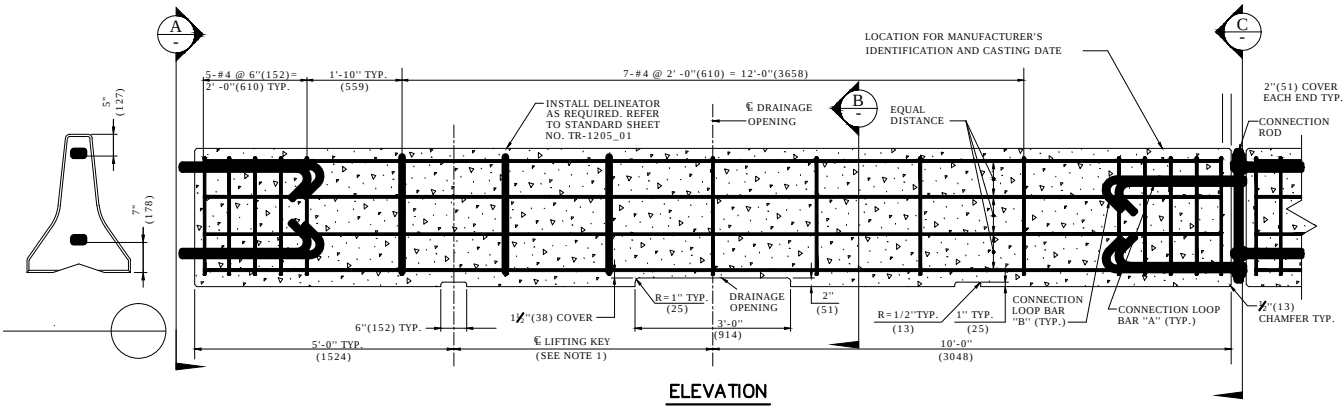
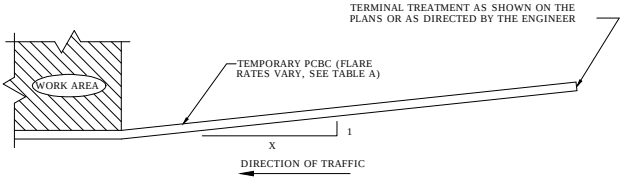
# TEMPORARY TRAFFIC CONTROL PLAN
# TRAFFIC CONTROL DEVICES




PLAN




ELEVATION




PLAN - TYPICAL INSTALLATION

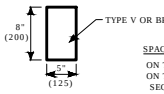
TABLE A

FLARE RATES

| * SPEED | FLARE RATE (X : 1) |
|---|---|
| ≤ 30MPH(48KPH) | 4 : 1 |
| > 30MPH(48KPH) <45MPH(72KPH) | 6 : 1 |
| ≥ 45MPH(72KPH) NON-LIMITED ACCESS HIGHWAYS | 8 : 1 |
| ALL LIMITED ACCESS HIGHWAYS | 10 : 1 |

* DESIGN SPEED THROUGH THE WORK AREA.

## DELINEATORS DE-7, DE-7A, DE-7B, DE-7C
FOR INSTALLATION ON TEMPORARY PRECAST CONCRETE BARRIER CURB
AND TEMPORARY PRECAST CONCRETE BARRIER CURB (STRUCTURE)

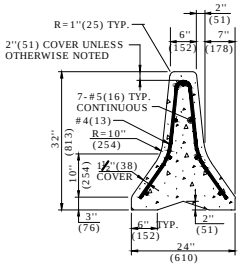



DE-7 ONE WAY WHITE
DE-7A ONE WAY YELLOW
DE-7B TWO WAY YELLOW
DE-7C WHITE/YELLOW BACK TO BACK
TEMPORARY PRECAST CONCRETE BARRIER DELINEATORS ARE TO BE FABRICATED OF ALUMINUM, STEEL, PLASTIC, OR OF A MATERIAL APPROVED BY THE ENGINEER AND MOUNTED IN THE CENTER OF EACH SECTION OF TEMPORARY BARRIER AS REQUIRED AND PER MANUFACTURER'S INSTRUCTIONS.

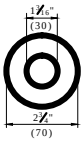
SPACING FOR TEMPORARY BARRIER CURB DELINEATORS:

ON THE LEADING TAPERED SECTION - EVERY 20' (6.2m),
ON THE FIRST 100' (30m) OF THE PARALLEL SECTION - EVERY 20' (6.2m),
ON THE REMAINING LENGTH - EVERY 100' (30m), MINIMUM OF 2 IF LESS THAN 100' (30m),
ALTERNATING ONE WAY TRAFFIC - EVERY 20' (6.2m),
ALL OTHER ROADWAYS SHALL BE DELINEATED IN ACCORDANCE WITH MUTCD.

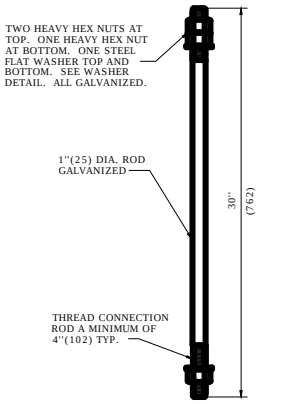
DELINEATORS DE-7, DE-7A, DE-7B, DE-7C
TO BE PAID FOR UNDER SECTION 12.05 DELINEATORS.



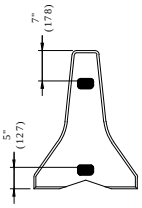

SECTION B -



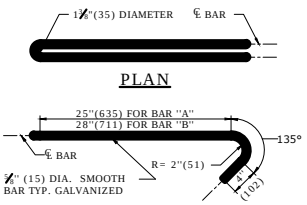

WASHER DETAIL




CONNECTION ROD




END VIEW C -




BAR "A" = 6' -0"(1829) TOTAL
BAR "B" = 6' -6"(1981) TOTAL

CONNECTION LOOP BAR

GENERAL NOTES:

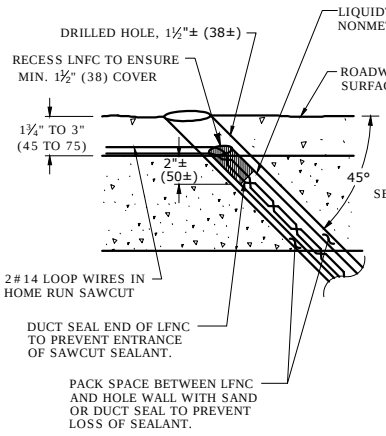
1. ALTERNATE DESIGNS FOR LIFTING KEYS, HOLES OR OTHER HANDLING DEVICES MAY BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
2. EXPECTED PERMANENT DYNAMIC DEFLECTION IS 3'-6" (1148) BASED ON TL-3 CRASH TESTS WITH 240' (73152) OF TPCBC.

ALL METRIC DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS OTHERWISE NOTED.

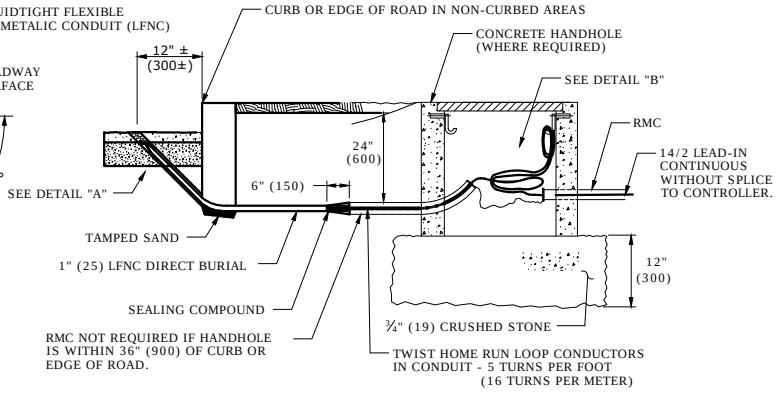
SOURCE: CTDOT 7–24–13

**The Metropolitan District**
**Hartford, Connecticut**

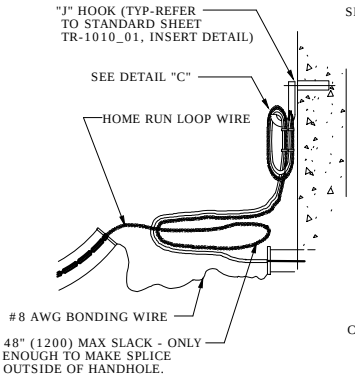
# TEMPORARY TRAFFIC CONTROL PLAN
# TEMPORARY PRECAST CONCRETE BARRIER CURB



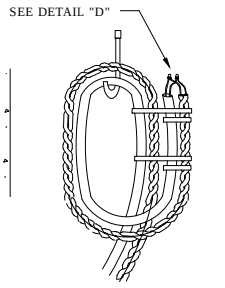

DETAIL "A"



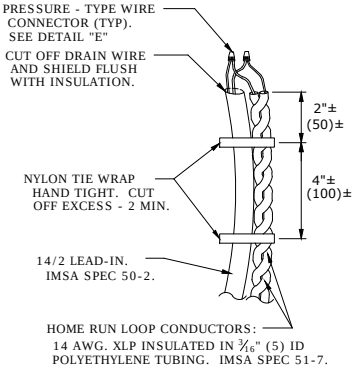

TYPICAL ELEVATION VIEW
LOOP DETECTOR LEAD-IN



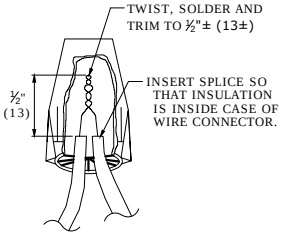

DETAIL "B"




DETAIL "C"
FRONT VIEW



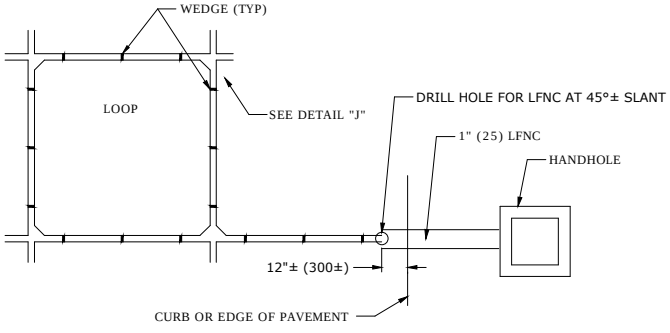

DETAIL "D"



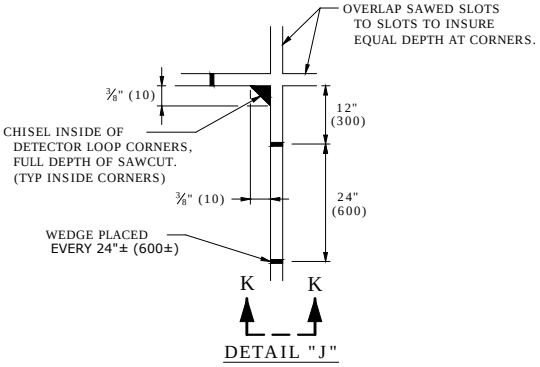

NOTE:

WATER RESISTANT CONNECTOR DESIGNED FOR WET, DAMP AND CORROSIVE APPLICATIONS. ONE TIME USE ONLY. DISCARD ALL REMOVED CONNECTORS.

DETAIL "E"




TYPICAL PLAN VIEW
LOOP DETECTOR SAWCUT AND LEAD-IN




DETAIL "J"

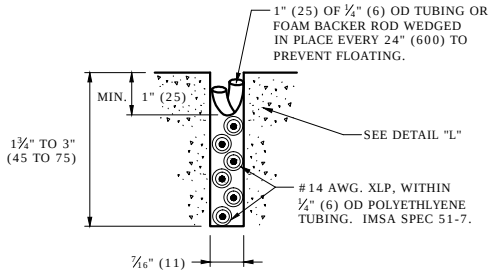
NOTE:

CONTRACTOR TO COORDINATE REPLACEMENT OF LOOP DETECTOR WITH LOCAL MUNICIPALITY AND/OR CTDOT.

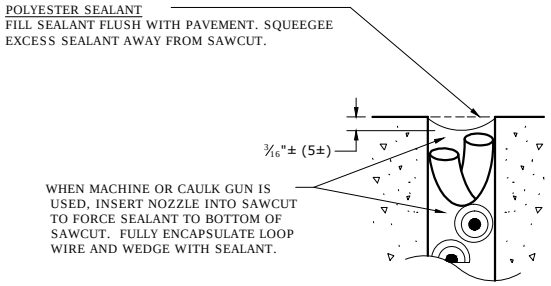
SOURCE: CTDOT 4/2014

**The Metropolitan District**
**Hartford, Connecticut**

# TEMPORARY TRAFFIC CONTROL PLAN
# LOOP VEHICLE DETECTOR AND SAWCUT



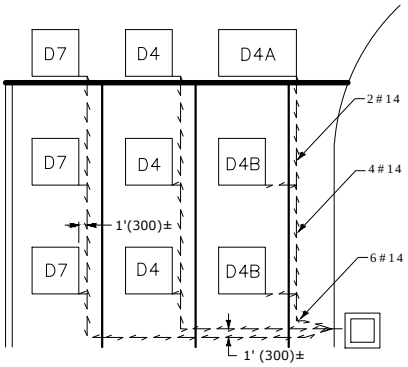

DETAIL "K"



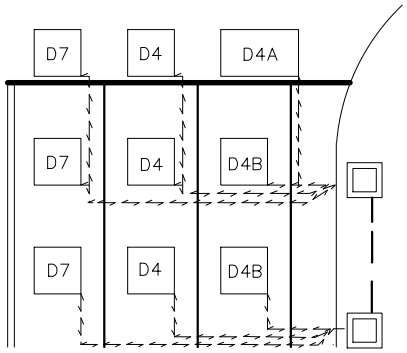

DETAIL "L"

NOTES:

REFER TO STANDARD SPECIFICATIONS, SECTION 11-11.
ONLY USE POLYESTER COMPOUND AS SEALANT, UNLESS OTHER TYPE IS APPROVED BY ENGINEER.
WET SAW CUT ONLY, DRY SAW CUT NOT PERMITTED.
RECOMMENDED SAW BLADE: 14" x ⅜" (350 x 10) PRODUCES 7/16" (11) SLOT.
SAW CUT LOOP & HOME RUN DEPTH TO ENSURE MIN. 1" (25) SEALANT COVERAGE.



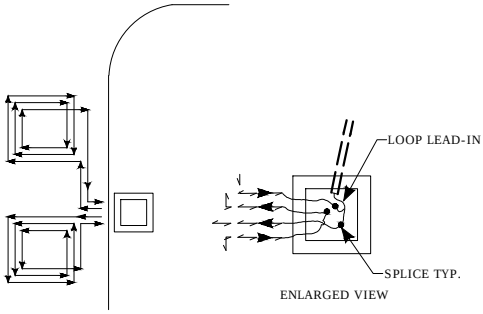

EXAMPLE A




EXAMPLE B

REAR SEGMENTS ALSO USED FOR VOLUME COUNTS

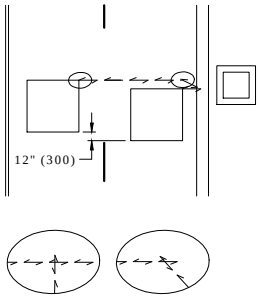
SEE TRAFFIC SIGNAL PLAN FOR ACTUAL LOOP PLACEMENT, NUMBERS, ETC...
LOOP SEGMENTS ON SAME AMPLIFIERS MAY SHARE HOME RUN SAW CUT. SPLICE SEGMENTS IN SERIES.
LOOP SEGMENTS ON DIFFERENT AMPLIFIERS MUST BE IN SEPARATE HOME RUN SAW CUT.




ENLARGED VIEW

TYPICAL WINDING
SEGMENTED LOOPS, 3 TURNS EACH

TO CREATE A UNIFORM MAGNETIC FIELD, WIND ADJACENT LOOPS IN OPPOSITE DIRECTIONS.




ACCEPTABLE SAW CUT

NOT ACCEPTABLE SAW CUT

DO NOT OVERLAP MORE THAN TWO SAWCUTS.

LEGEND AS SHOWN ON TRAFFIC CONTROL SIGNAL PLAN:
- INDUCTIVE LOOP DETECTOR
- SAW CUT
- RIGID METAL CONDUIT
- HANDHOLE

SOURCE: CTDOT 4/2014

**The Metropolitan District**
**Hartford, Connecticut**

# TEMPORARY TRAFFIC CONTROL PLAN
# LOOP VEHICLE DETECTOR AND SAWCUT

# TYPICAL TEMPORARY TRAFFIC CONTROL SIGNS

**(A) W20-1 B/O**


| | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|
| | 36 | 80-9603 | |
| | 48 | 80-9604 | |

**(B) G20-2 B/O**


| | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|
| | 36x18 | 80-9612 | |
| | | | |

**(CL) W20-5L B/O**


| | SIZE (INCHES) | CONN. D.O.T. # | SUPPORTS |
|---|---|---|---|
| | 36 | | |
| | 48 | 80-9847 | |

**(CR) W20-5R B/O**


| | SIZE (INCHES) | CONN. D.O.T. # | SUPPORTS |
|---|---|---|---|
| | 36 | | |
| | 48 | 80-9848 | |

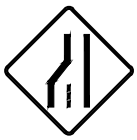
**(D) W20-4 B/O**


| | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|
| | 36 | 80-9834 | |
| | 48 | 80-9835 | |

**(E) W20-7 B/O**

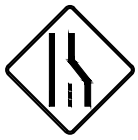
| | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|
| | 36 | 80-9803 | |
| | 48 | 80-9804 | |

**(FL) W4-2L B/O**



| | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|
| | 36 | | |
| | 48 | 80-9918L | |

**(FR) W4-2R B/O**



| | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|
| | 36 | | |
| | 48 | 80-9917R | |

**(GL) R3-2 RB/W**

| | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|
| | 30 | 31-1619 | |
| | | | |

**(GR) R3-1 RB/W**

| | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|
| | 30 | 31-1617 | |
| | | | |

**(H) W20-3 B/O**


| | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|
| | 36 | 80-3014 | |
| | 48 | | |

**(I) R11-2 B/W**


| | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|
| | 48x30 | 80-9080 | |

**(J) R5-1 WR/W**


| | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|
| | 30 | 31-1119 | |

**(K) R11-4 B/W**


| | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|
| | 60x30 | 80-9081 | |

**(L) B/W**


| | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|
| | 24X24 | | |

**(KL) B/W**


| | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|
| | 60x30 | | |

**(M) W20-2 B/O**


| | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|
| | 36 | | |
| | 48 | | |

**(N) M4-8 B/O**


| | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|
| | 24x12 | 80-9707 | |

**(O) M4-8A B/O**


| | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|
| | 24x18 | 80-9708 | |

**(PL) M4-10L O/B**


| | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|
| | 48X18 | 80-9702L | |

**(PR) M4-10R O/B**


| | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|
| | 48X18 | 80-9001R | |

**(QS) M4-9 B/O**


| | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|
| | 30X24 | 80-9710 | |

**(QL) M4-9L B/O**


| | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|
| | 30x24 | 80-9710L | |

**(QR) M4-9R B/O**


| | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|
| | 30x24 | 80-9710R | |

**(RL) W1-6 B/O**

| | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|
| | 36x18 | 80-9422 | |

SIGN COLOR LEGEND

| | | | |
|---|---|---|---|
| B/O | = BLACK/ORANGE | RB/W | = RED BLACK/WHITE |
| B/W | = BLACK/WHITE | WR/W | = WHITE RED/WHITE |
| R/W | = RED/WHITE | BLUE/W | = BLUE/WHITE |

SOURCE: CTDOT, MUTCD AND MDC.

**The Metropolitan District**
**Hartford, Connecticut**

TEMPORARY TRAFFIC CONTROL PLAN
GENERAL INFORMATION

# TYPICAL TEMPORARY TRAFFIC CONTROL SIGNS

**RR — W1-6 B/O**

| | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|
| | 36x18 | 80-9422 | |

**SL — W16-7P(L) B/O**

| | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|
| | 24x12 | 41-2607 | |

**SR — W16-7P(R) B/O**

| | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|
| | 24x12 | 41-2609 | |

**TR — W1-4R B/O**

| | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|
| | 36 | 80-9431R | |
| | 48 | 80-9451R | |

**TL — W1-4L B/O**

| | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|
| | 36 | 80-9432L | |
| | 48 | 80-9452L | |

**U — W8-1 B/O**


| | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|
| | 36 | 80-9901 | |
| | 48 | 80-9902 | |

**UC — W8-1A B/O**


| | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|
| | 36 | 80-9801 | |
| | 48 | 80-9802 | |

**VR — R4-7 B/W**

| | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|
| | 24x30 | 31-1526 | |
| | | | |

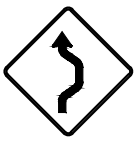
**VL — R4-8 B/W**

| | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|
| | 24x30 | | |
| | | | |

**WL — W24-1L B/O**

| | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|
| | 36 | | |
| | 48 | | |

**WR — W24-1R B/O**



| | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|
| | 36 | | |
| | 48 | | |

**WW — W6-3 B/O**

| | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|
| | 36 | | |
| | 48 | 80-9945 | |

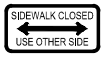
**XA — W11-2 B/O**

| | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|
| | 36 | 41-4811 | |
| | 48 | 41-4812 | |

**XC — R9-9 B/W**


| | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|
| | 24x12 | | |
| | | | |

**XD — R9-10 B/W**




| | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|
| | 24x12 | | |
| | | | |

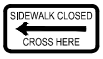
**XL — R9-11(L) B/W**


| | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|
| | 24x12 | 80-9074L | |
| | | | |

**XR — R9-11(R) B/W**

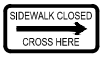

| | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|
| | 24x12 | 80-9074R | |
| | | | |

**XLA — R9-11A(L) B/W**




| | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|
| | 24x12 | 80-9075L | |
| | | | |

**XRA — R9-11A(R) B/W**




| | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|
| | 24x12 | 80-9075R | |
| | | | |

**YO — BLUE/W**


| | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|
| | | | |
| | | | |

**YA — BLUE/W**


| | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|
| | | | |
| | | | |

**YL — BLUE/W**


| | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|
| | | | |
| | | | |

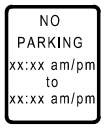
**YR — BLUE/W**


| | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|
| | | | |
| | | | |

**Z — W5-1 B/O**


| | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|
| | 36 | | |
| | 48 | | |

**AA**




| | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|
| | | | |
| | | | |

SIGN COLOR LEGEND

| | | | |
|---|---|---|---|
| B/O | = BLACK/ORANGE | RB/W | = RED BLACK/WHITE |
| B/W | = BLACK/WHITE | WR/W | = WHITE RED/WHITE |
| R/W | = RED/WHITE | BLUE/W | = BLUE/WHITE |

SOURCE: CTDOT, MUTCD AND MDC.

**The Metropolitan District**
**Hartford, Connecticut**

TEMPORARY TRAFFIC CONTROL PLAN
GENERAL INFORMATION

# TYPICAL TEMPORARY TRAFFIC CONTROL SIGNS

**(BB) W16-8P B/O**

1) STREET NAME

**W16-8AP B/O**

2) STREET NAME

| | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|
| 1) | VAR.x 8 | | |
| 2) | VAR.x 15 | | |

**(CC) R4-7A B/W**

KEEP RIGHT

| SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|
| 24x30 | | |

**(DD) R4-8A B/W**

KEEP LEFT

| SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|
| 24x30 | | |

**(EE) B/O**

RAISED STRUCTURES

| SIZE (INCHES) | CONN. D.O.T. # | SUPPORTS |
|---|---|---|
| 36 | | |
| 48 | | |

**(FF) W8-8 B/O**

ROUGH ROAD

| SIZE (INCHES) | CONN. D.O.T. # | SUPPORTS |
|---|---|---|
| 36 | | |
| 48 | | |

**(GG) R6-1L B/W**

ONE WAY

| SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|
| 36x12 | 31-1188L | |

**(HH) R6-1R B/W**

ONE WAY

| SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|
| 36x12 | 31-1177R | |

**(II) R3-7L B/W**

LEFT LANE MUST TURN LEFT

| SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|
| 30 | 31-0117L | |

**(JJ) R3-7R B/W**

RIGHT LANE MUST TURN RIGHT

| SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|
| 30 | 31-0118R | |

**(KK) M3-1 B/O**

NORTH

| SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|
| 24x12 | | |

**(LL) M3-2 B/O**

EAST

| SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|
| 24x12 | | |

**(MM) M3-3 B/O**

SOUTH

| SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|
| 24x12 | | |

**(NN) M3-4 B/O**

WEST

| SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|
| 24x12 | | |

**(OO) W21-1 B/O**

| SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|
| 36 | | |
| 48 | | |

**(PP) W16-9P B/O**

AHEAD

| SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|
| 24x12 | | |

**(QQ) W9-3 B/O**

CENTER LANE CLOSED AHEAD

| SIZE (INCHES) | CONN. D.O.T. # | SUPPORTS |
|---|---|---|
| 36 | | |
| 48 | | |

**(RR) W8-24 B/O**

STEEL PLATE AHEAD

| SIZE (INCHES) | CONN. D.O.T. # | SUPPORTS |
|---|---|---|
| 36 | | |
| 48 | | |

**(SS) W12-1 B/O**

| SIZE (INCHES) | CONN. D.O.T. # | SUPPORTS |
|---|---|---|
| 24 | 41-4212 | |
| 48 | 41-4214 | |

**(TT) W21-5a B/O**

SHOULDER CLOSED

| SIZE (INCHES) | CONN. D.O.T. # | SUPPORTS |
|---|---|---|
| 36 | 80-9958 | |
| 48 | 80-9959 | |

**(UU) W8-15 B/O**

GROOVED PAVEMENT

| SIZE (INCHES) | CONN. D.O.T. # | SUPPORTS |
|---|---|---|
| 36 | | |
| 48 | 41-4513 | |

NOTES: SPECIAL PROJECT SIGNS:

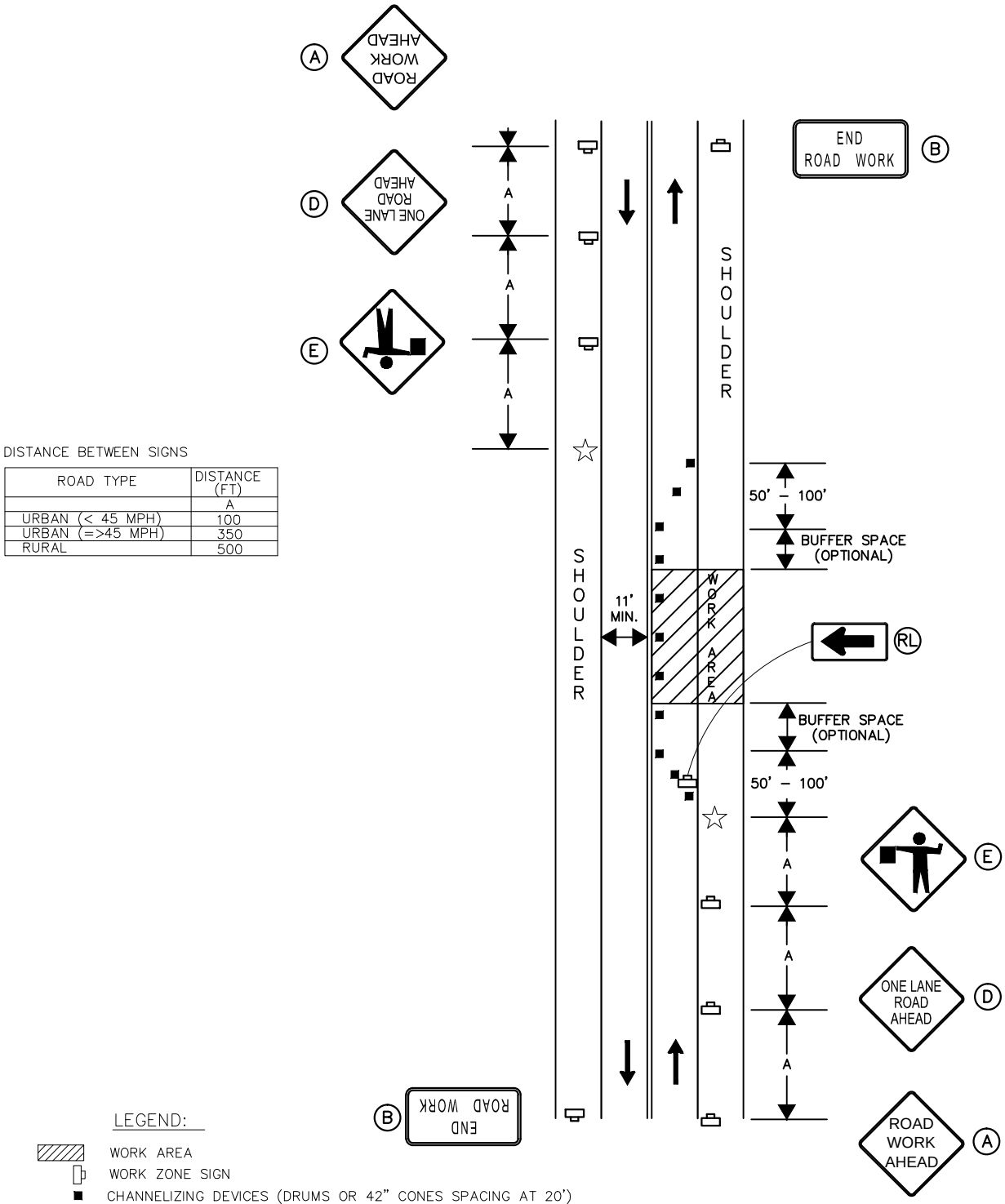
1. THIS IS NOT A COMPREHENSIVE LIST OF ROADWAY SIGNS. REFER TO MUTCD AND/OR PROVIDE SPECIAL SIGNS AS NEEDED.
2. SPECIAL (PROJECT SPECIFIC) SIGNS SHALL BE ADDED ON A NEW PLAN SHEET T-1A; TO BE CREATED AND INSERTED BY THE FDE AFTER STANDARD MDC SHEET T-1.

SIGN COLOR LEGEND

| | | | |
|---|---|---|---|
| B/O | = BLACK/ORANGE | RB/W | = RED BLACK/WHITE |
| B/W | = BLACK/WHITE | WR/W | = WHITE RED/WHITE |
| R/W | = RED/WHITE | BLUE/W | = BLUE/WHITE |

SOURCE: CTDOT, MUTCD AND MDC.

# TWO LANE HIGHWAY
## WORK IN TRAVEL LANE AND SHOULDER
## ALTERNATING ONE–WAY TRAFFIC OPERATION




DISTANCE BETWEEN SIGNS

| ROAD TYPE | DISTANCE (FT) |
|---|---|
| | A |
| URBAN (< 45 MPH) | 100 |
| URBAN (=>45 MPH) | 350 |
| RURAL | 500 |

LEGEND:

- WORK AREA
- WORK ZONE SIGN
- CHANNELIZING DEVICES (DRUMS OR 42" CONES SPACING AT 20')
- TRAFFIC CONTROL PERSON (POLICE OR FLAGGER – APPROX. LOCATION AND NUMBER, REFERENCE NOTE #3 ON PAGE 1)
- LANE IDENTIFICATION AND DIRECTION OF TRAFFIC

SOURCE: MUTCD 2009 EDITION AND MDC.

**The Metropolitan District**
**Hartford, Connecticut**

TEMPORARY TRAFFIC CONTROL PLAN
TWO–LANE, TWO–WAY
WORK IN TRAVEL WAY & SHOULDER

# TWO LANE HIGHWAY
## WORK IN TRAVEL LANE AND SHOULDER

DISTANCE BETWEEN SIGNS

| ROAD TYPE | DISTANCE (FT) |
|---|---|
| | A |
| URBAN (< 45 MPH) | 100 |
| URBAN (=>45 MPH) | 350 |
| RURAL | 500 |

TABLE I: TAPER LENGTH
SHOULDER CLOSURE

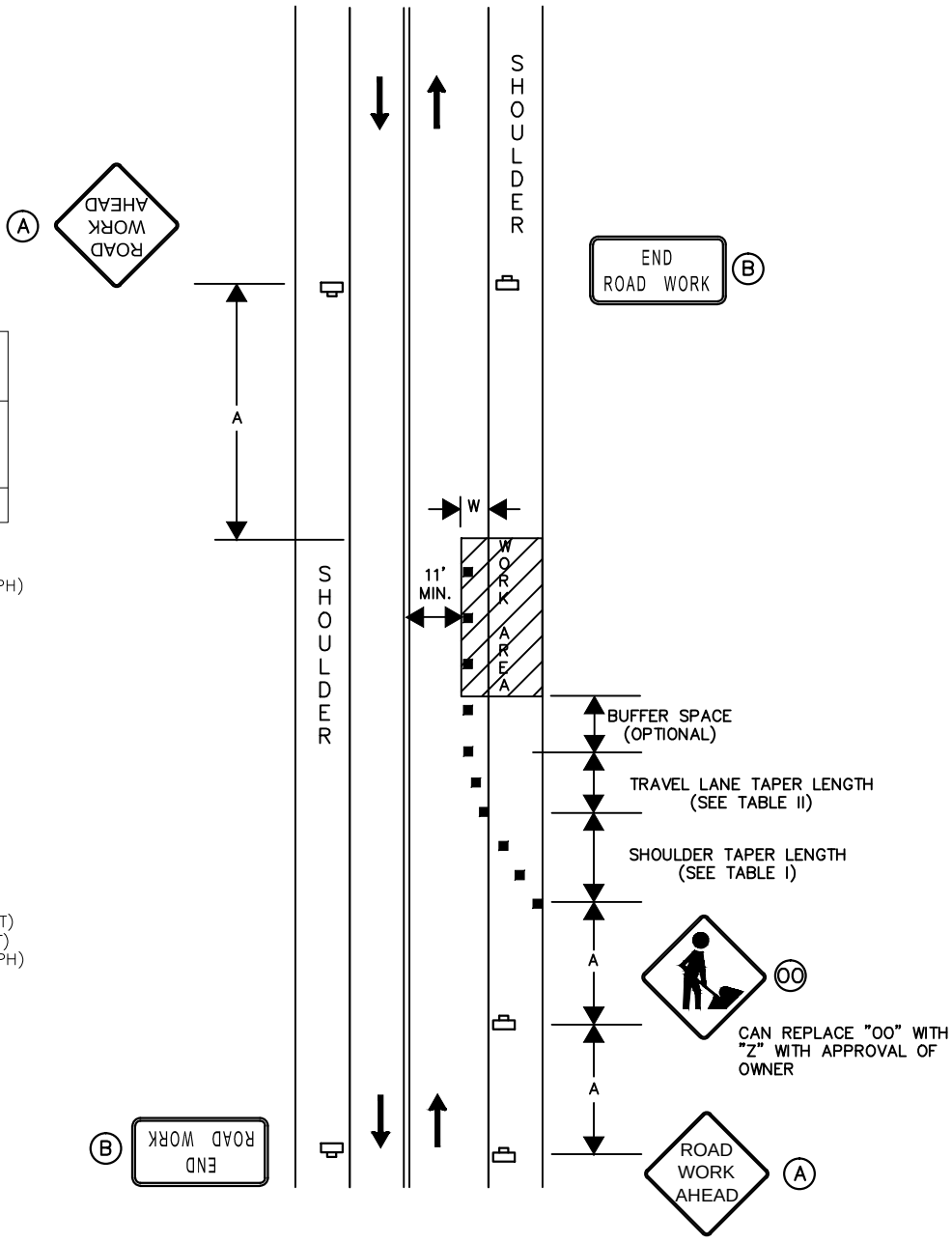
| POSTED SPEED (MPH) | MIN. TAPER LENGTH $\frac{1}{3}$L (FT) SHLDR LANE WIDTH 4' | 8' | 11' | NOTES |
|---|---|---|---|---|
| 20 | 9 | 18 | 23 | $L=\frac{WS^2}{60}$ |
| 25 | 14 | 28 | 35 | |
| 30 | 20 | 40 | 50 | |
| 35 | 28 | 55 | 68 | |
| 40 | 36 | 72 | 90 | |
| 45 | 60 | 120 | 150 | L=WS |
| 50 | 67 | 133 | 167 | |

$\frac{1}{3}$L = LENGTH OF SHOULDER TAPER (FT)
W = TOTAL SHOULDER WIDTH (FT)
S = POSTED OR REGULATORY SPEED (MPH)

TABLE II: TAPER LENGTH
TRAVEL LANE WIDTH REDUCTION

| POSTED SPEED (MPH) | MIN. TAPER LENGTH L (FT) TRAVEL LANE WIDTH REDUCTION (W) 2' | 4' | 6' | NOTES |
|---|---|---|---|---|
| 20 | 13 | 27 | 40 | $L=\frac{WS^2}{60}$ |
| 25 | 21 | 42 | 63 | |
| 30 | 30 | 60 | 90 | |
| 35 | 41 | 82 | 123 | |
| 40 | 53 | 107 | 160 | |
| 45 | 90 | 180 | 270 | L=WS |
| 50 | 100 | 200 | 300 | |

L = LENGTH OF TRAVEL LANE TAPER (FT)
W = TRAVEL LANE WIDTH REDUCTION (FT)
S = POSTED OR REGULATORY SPEED (MPH)




LEGEND:

- WORK AREA
- WORK ZONE SIGN
- CHANNELIZING DEVICES (DRUMS OR 42" CONES SPACING AT 20')
- LANE IDENTIFICATION AND DIRECTION OF TRAFFIC

SOURCE: MUTCD 2009 EDITION AND MDC.

**The Metropolitan District**
**Hartford, Connecticut**

TEMPORARY TRAFFIC CONTROL PLAN
TWO-LANE, TWO-WAY
WORK IN TRAVEL WAY & SHOULDER

# TWO LANE HIGHWAY
## WORK IN TRAVEL LANE AND SHOULDER

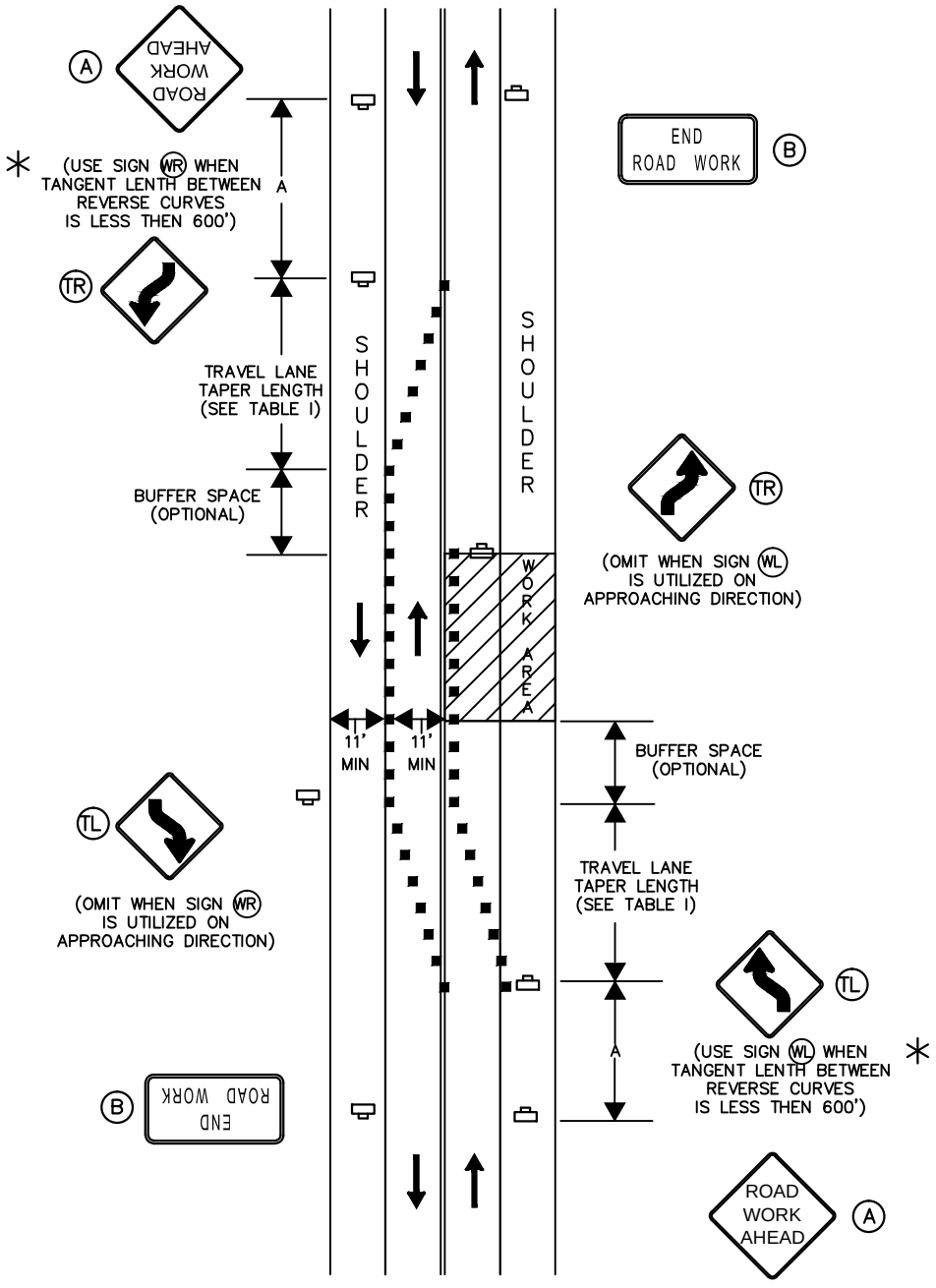



TABLE I: TAPER LENGTH
TRAVEL LANE SHIFT

| POSTED SPEED (MPH) | MIN. TAPER LENGTH $\frac{1}{2}L$ (FT) TRAVEL LANE WIDTH 10' | 11' | 12' | NOTES |
|---|---|---|---|---|
| 20 | 34 | 37 | 40 | $L=\frac{WS^2}{60}$ |
| 25 | 53 | 58 | 63 | |
| 30 | 75 | 83 | 90 | |
| 35 | 103 | 113 | 123 | |
| 40 | 134 | 147 | 160 | |
| 45 | 225 | 248 | 270 | L=WS |
| 50 | 250 | 275 | 300 | |

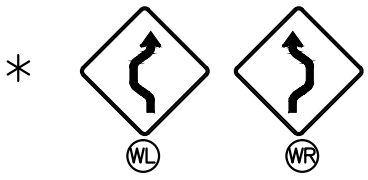
$\frac{1}{2}L$ = LENGTH OF TRAVEL LANE TAPER (FT)
W = TOTAL TRAVEL LANE WIDTH (FT)
S = POSTED OR REGULATORY SPEED (MPH)

DISTANCE BETWEEN SIGNS

| ROAD TYPE | DISTANCE (FT) A |
|---|---|
| URBAN (< 45 MPH) | 100 |
| URBAN (=>45 MPH) | 350 |
| RURAL | 500 |

LEGEND:

- WORK AREA
- WORK ZONE SIGN
- CHANNELIZING DEVICES (DRUMS OR 42" CONES SPACING AT 20')
- LANE IDENTIFICATION AND DIRECTION OF TRAFFIC




SOURCE: MUTCD 2009 EDITION AND MDC.

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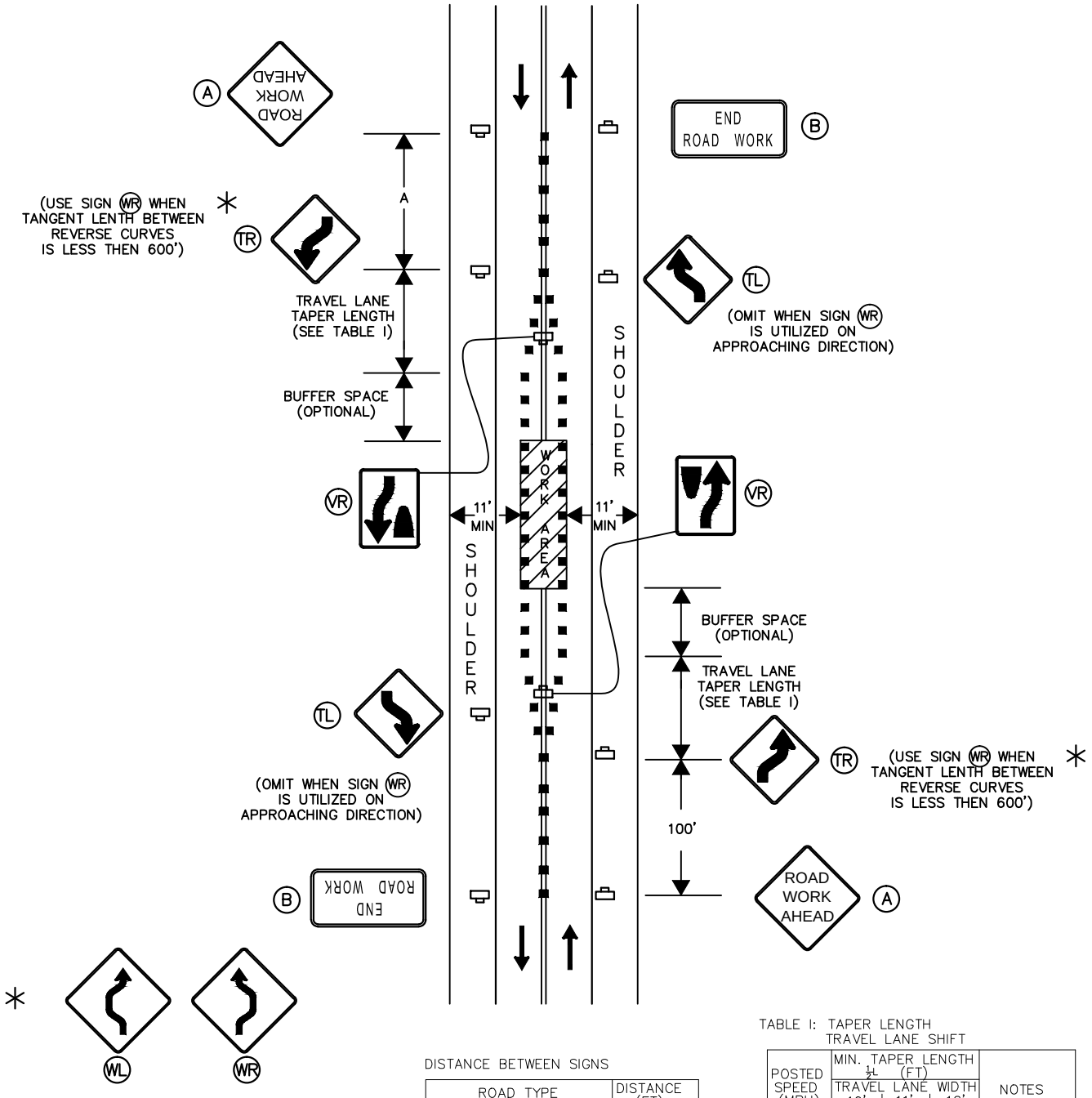
**Hartford, Connecticut**

TEMPORARY TRAFFIC CONTROL PLAN
TWO-LANE, TWO-WAY
WORK IN TRAVEL WAY & SHOULDER

# TWO LANE HIGHWAY
## WORK IN CENTER OF ROADWAY




DISTANCE BETWEEN SIGNS

| ROAD TYPE | DISTANCE (FT) |
|---|---|
| | A |
| URBAN (< 45 MPH) | 100 |
| URBAN (=>45 MPH) | 350 |
| RURAL | 500 |

TABLE I: TAPER LENGTH
TRAVEL LANE SHIFT

| POSTED SPEED (MPH) | MIN. TAPER LENGTH $\frac{1}{2}L$ (FT) TRAVEL LANE WIDTH 10' | 11' | 12' | NOTES |
|---|---|---|---|---|
| 20 | 34 | 37 | 40 | $L=\frac{WS^2}{60}$ |
| 25 | 53 | 58 | 63 | |
| 30 | 75 | 83 | 90 | |
| 35 | 103 | 113 | 123 | |
| 40 | 134 | 147 | 160 | |
| 45 | 225 | 248 | 270 | L=WS |
| 50 | 250 | 275 | 300 | |

LEGEND:

- WORK AREA
- WORK ZONE SIGN
- CHANNELIZING DEVICES (DRUMS OR 42" CONES SPACING AT 20')
- LANE IDENTIFICATION AND DIRECTION OF TRAFFIC

$\frac{1}{2}L$ = LENGTH OF TRAVEL LANE TAPER (FT)
W = TOTAL TRAVEL LANE WIDTH (FT)
S = POSTED OR REGULATORY SPEED (MPH)

SOURCE: MUTCD 2009 EDITION AND MDC.

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**Hartford, Connecticut**

TEMPORARY TRAFFIC CONTROL PLAN
TWO–LANE, TWO–WAY
WORK IN CENTER OF ROADWAY

# TWO LANE HIGHWAY
## WORK IN BI–DIRECTIONAL TURN LANE

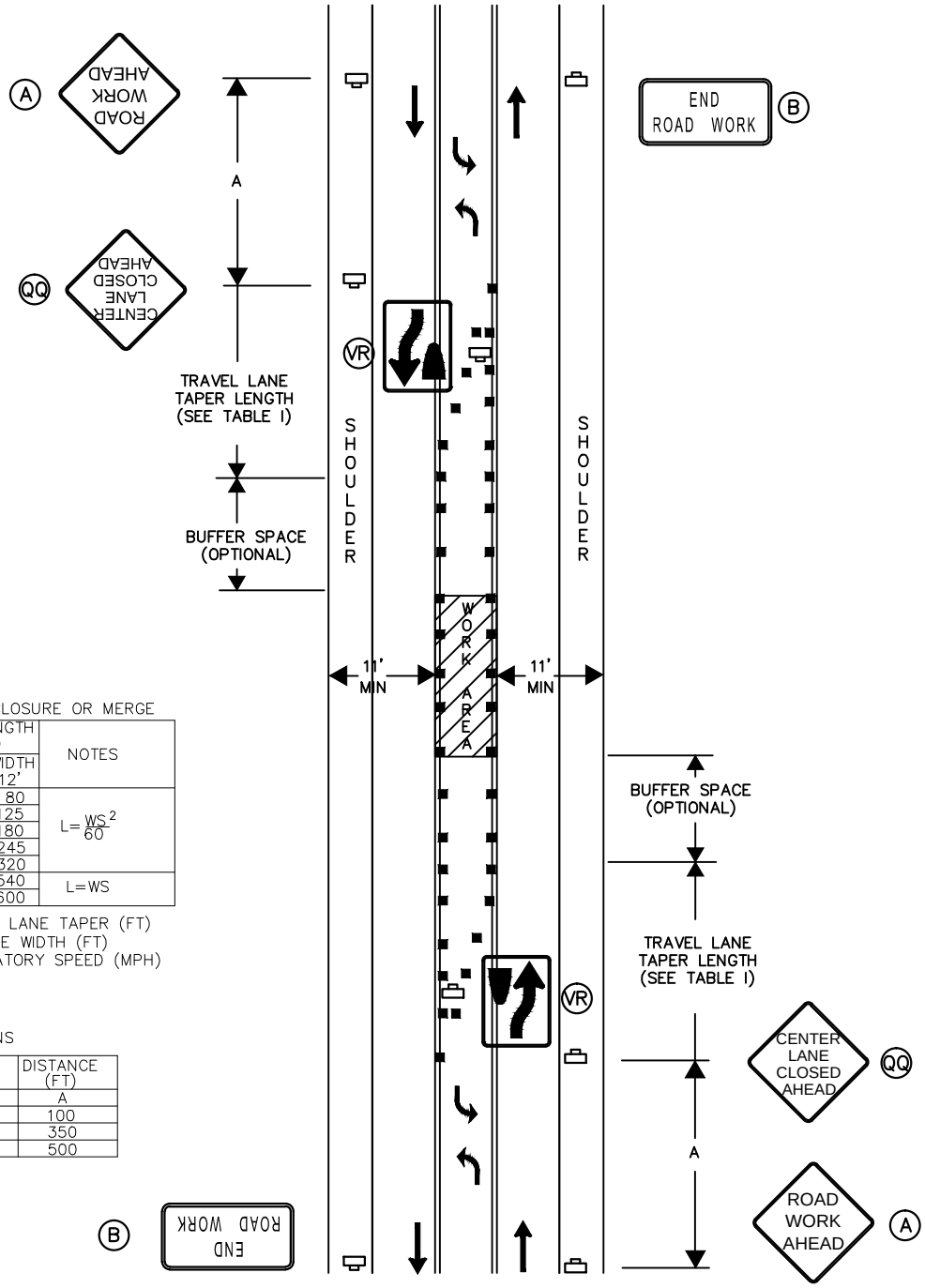


TABLE I: TAPER LENGTH
TRAVEL LANE CLOSURE OR MERGE

| POSTED SPEED (MPH) | MIN. TAPER LENGTH L (FT) TRAVEL LANE WIDTH 10' | 11' | 12' | NOTES |
|---|---|---|---|---|
| 20 | 67 | 74 | 80 | $L=\frac{WS^2}{60}$ |
| 25 | 105 | 115 | 125 | |
| 30 | 150 | 165 | 180 | |
| 35 | 205 | 225 | 245 | |
| 40 | 267 | 294 | 320 | |
| 45 | 450 | 495 | 540 | L=WS |
| 50 | 500 | 550 | 600 | |

L = LENGTH OF TRAVEL LANE TAPER (FT)
W = TOTAL TRAVEL LANE WIDTH (FT)
S = POSTED OR REGULATORY SPEED (MPH)

DISTANCE BETWEEN SIGNS

| ROAD TYPE | DISTANCE (FT) |
|---|---|
| | A |
| URBAN (< 45 MPH) | 100 |
| URBAN (=>45 MPH) | 350 |
| RURAL | 500 |

LEGEND:

- WORK AREA
- WORK ZONE SIGN
- CHANNELIZING DEVICES (DRUMS OR 42" CONES SPACING AT 20')
- LANE IDENTIFICATION AND DIRECTION OF TRAFFIC

SOURCE: MUTCD 2009 EDITION AND MDC.

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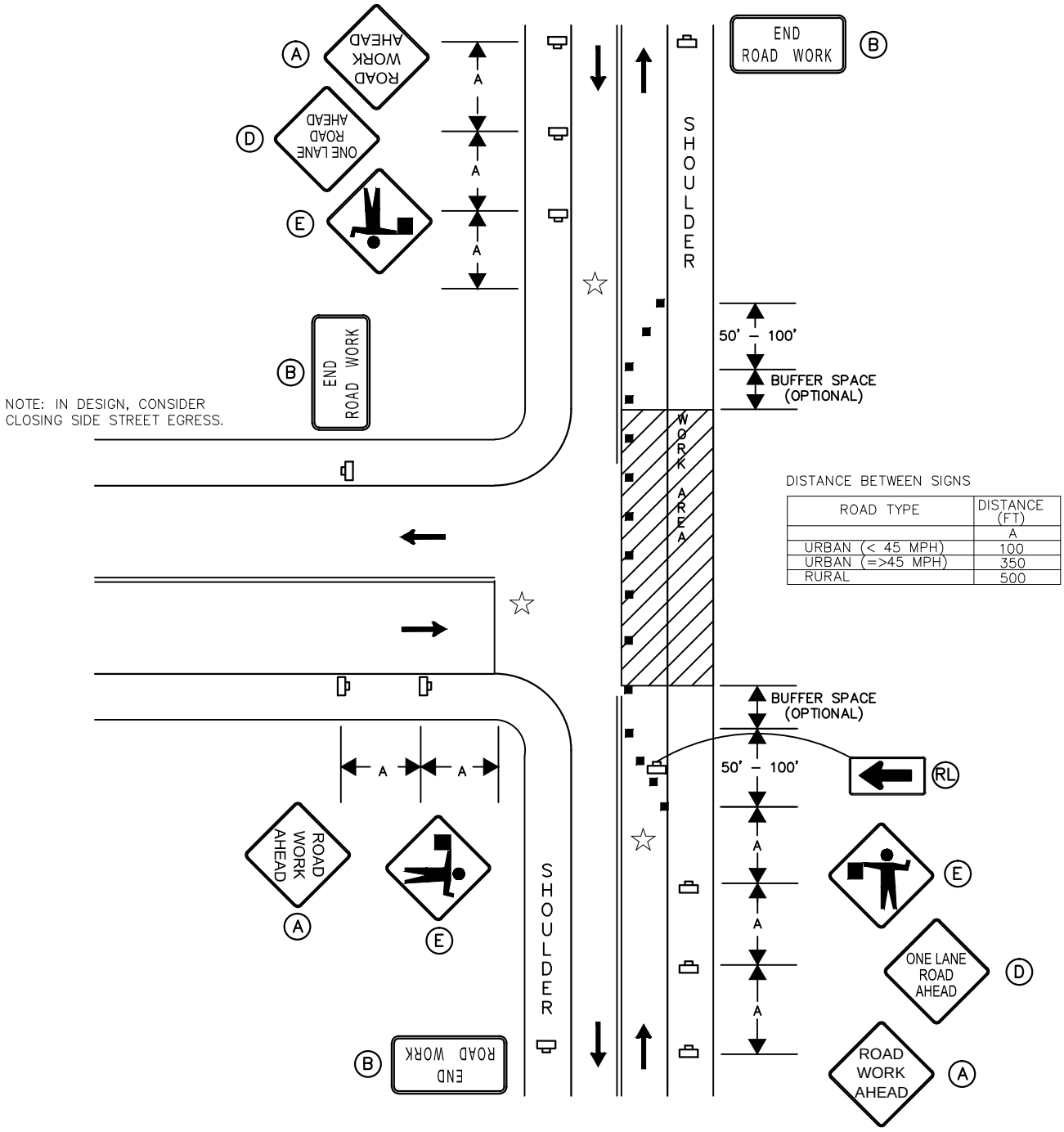
**Hartford, Connecticut**

TEMPORARY TRAFFIC CONTROL PLAN
TWO–LANE, TWO–WAY
WORK BI–DIRECTIONAL TURN LANE

# TWO LANE HIGHWAY
## WORK IN TRAVEL LANE AND SHOULDER
## ALTERNATING ONE–WAY TRAFFIC OPERATION AT INTERSECTION




LEGEND:

- WORK AREA
- WORK ZONE SIGN
- CHANNELIZING DEVICES (DRUMS OR 42" CONES SPACING AT 20')
- TRAFFIC CONTROL PERSON (POLICE OR FLAGGER – APPROX. LOCATION AND NUMBER, REFERENCE NOTE #3 ON PAGE 1)
- LANE IDENTIFICATION AND DIRECTION OF TRAFFIC

SOURCE: MUTCD 2009 EDITION AND MDC.

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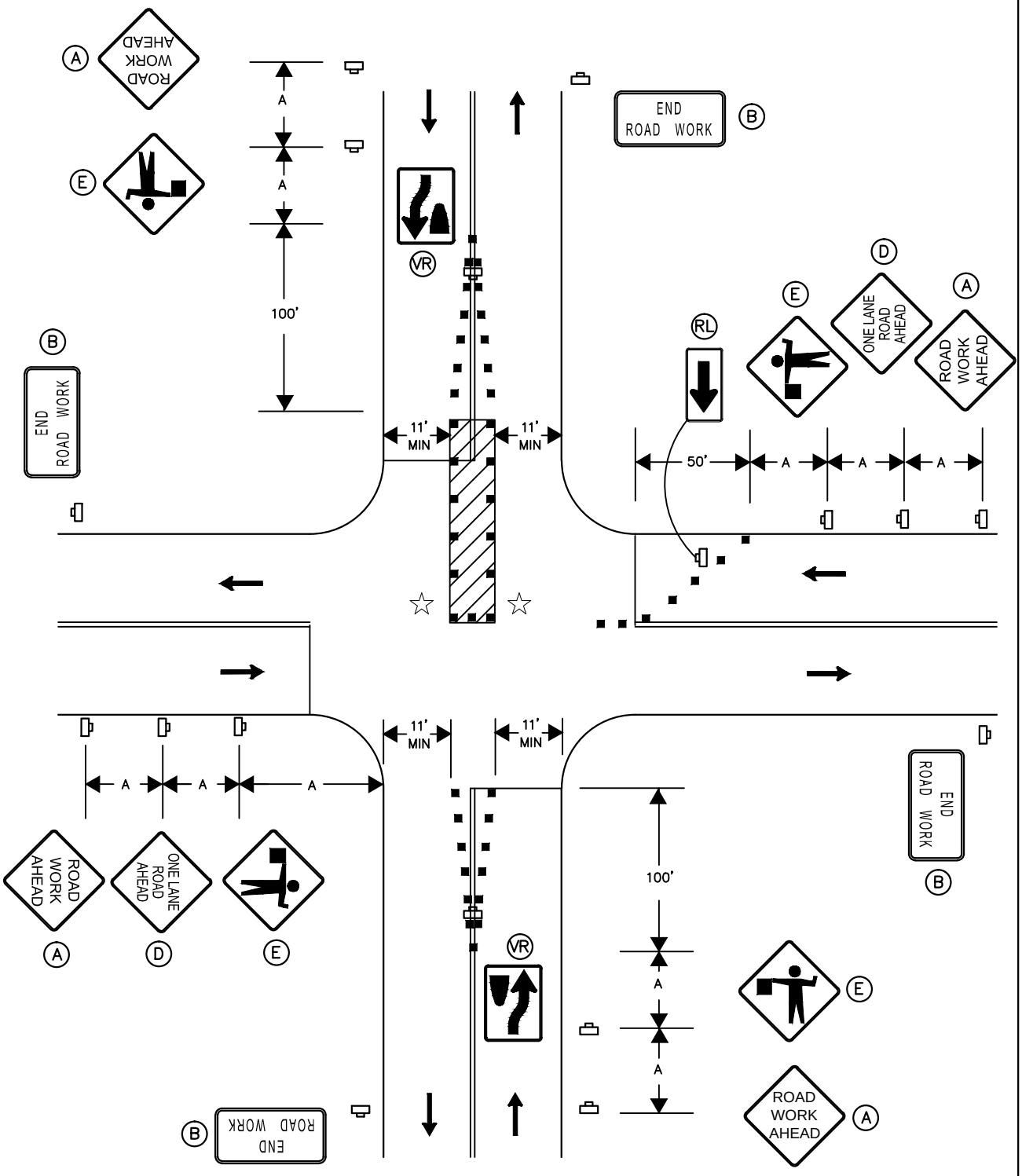
**Hartford, Connecticut**

TEMPORARY TRAFFIC CONTROL PLAN
TWO–LANE, TWO–WAY
WORK IN INTERSECTION

# TWO LANE HIGHWAY
## WORK IN TRAVEL LANE
## ALTERNATING ONE–WAY TRAFFIC OPERATION AT INTERSECTION




DISTANCE BETWEEN SIGNS

| ROAD TYPE | DISTANCE (FT) |
|---|---|
| | A |
| URBAN (< 45 MPH) | 100 |
| URBAN (=>45 MPH) | 350 |
| RURAL | 500 |

LEGEND:

- WORK AREA
- WORK ZONE SIGN
- CHANNELIZING DEVICES (DRUMS OR 42" CONES SPACING AT 20')
- TRAFFIC CONTROL PERSON (POLICE OR FLAGGER – APPROX. LOCATION AND NUMBER, REFERENCE NOTE #3 ON PAGE 1)
- LANE IDENTIFICATION AND DIRECTION OF TRAFFIC

SOURCE: MUTCD 2009 EDITION AND MDC.

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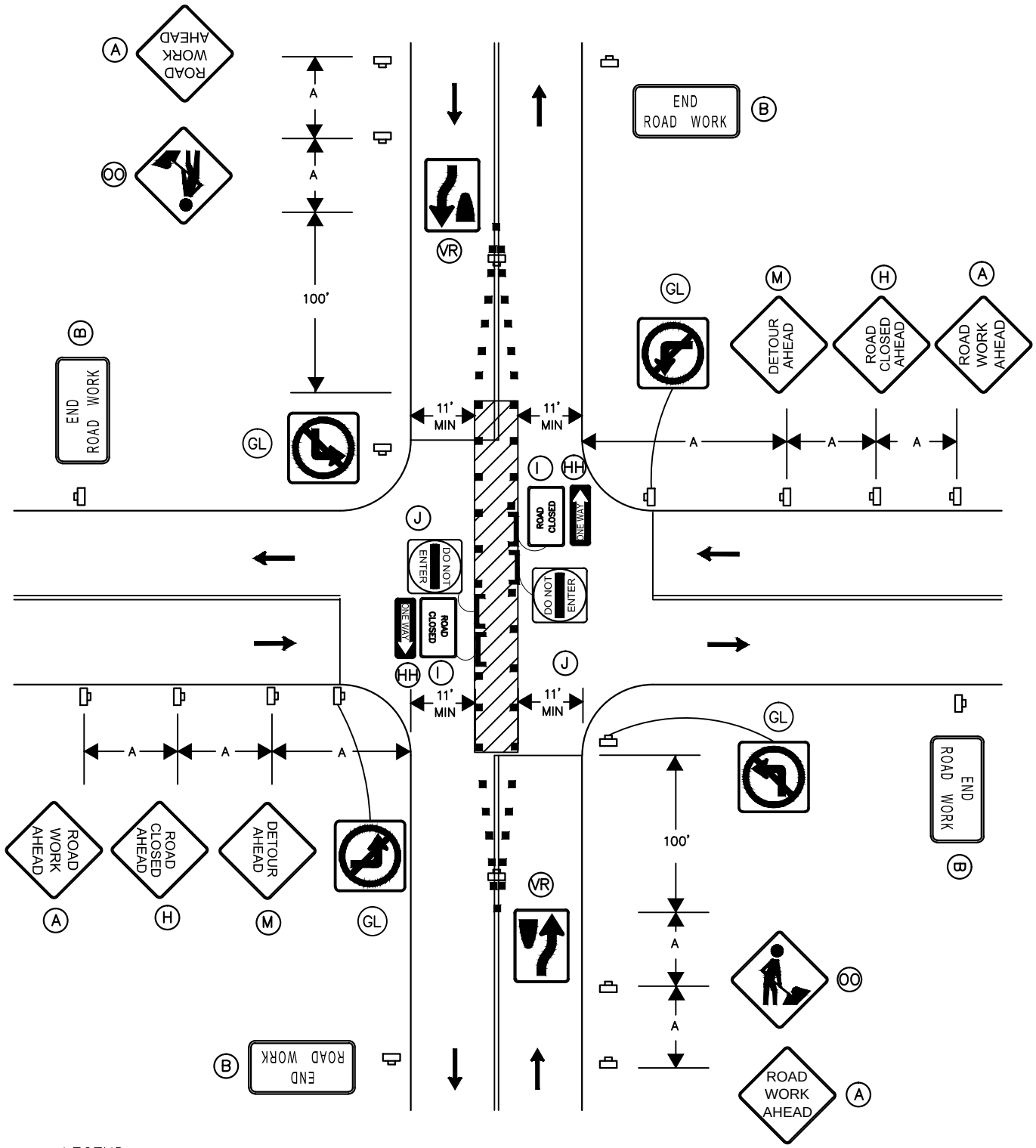
TEMPORARY TRAFFIC CONTROL PLAN
TWO–LANE, TWO–WAY
WORK IN INTERSECTION

# TWO LANE HIGHWAY
## WORK IN TRAVEL LANE AT INTERSECTION

NOTE: PLAN TO BE SUPPLEMENTED WITH DETOUR PLAN.




LEGEND:

- WORK AREA
- WORK ZONE SIGN
- CHANNELIZING DEVICES (DRUMS OR 42" CONES SPACING AT 20')
- LANE IDENTIFICATION AND DIRECTION OF TRAFFIC
- TYPE III BARRICADE

DISTANCE BETWEEN SIGNS

| ROAD TYPE | DISTANCE (FT) |
|---|---|
| | A |
| URBAN (< 45 MPH) | 100 |
| URBAN (=>45 MPH) | 350 |
| RURAL | 500 |

SOURCE: MUTCD 2009 EDITION AND MDC.

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**Hartford, Connecticut**

TEMPORARY TRAFFIC CONTROL PLAN
TWO-LANE, TWO-WAY
WORK IN INTERSECTION

# TWO LANE HIGHWAY
## WORK IN SHOULDER

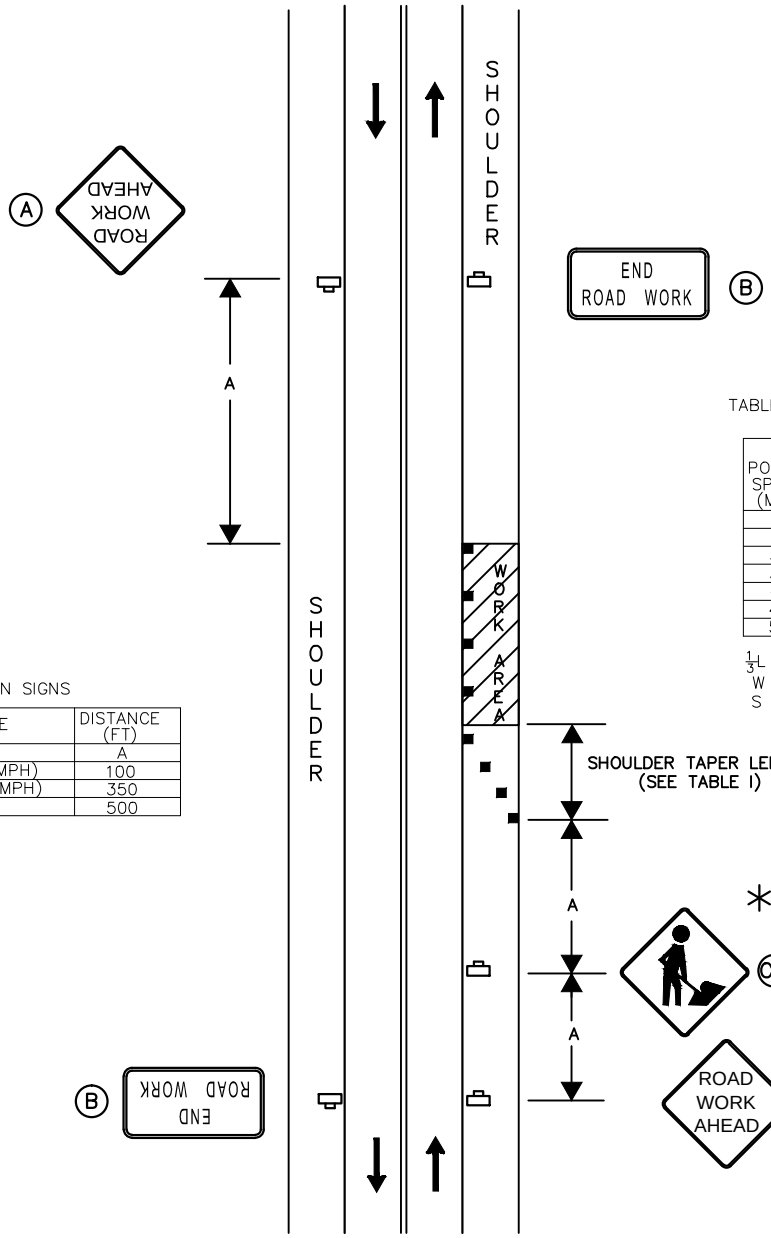


TABLE I: TAPER LENGTH
SHOULDER CLOSURE

| POSTED SPEED (MPH) | MIN. TAPER LENGTH $\frac{1}{3}L$ (FT) SHLDR 4' | LANE 8' | WIDTH 11' | NOTES |
|---|---|---|---|---|
| 20 | 9 | 18 | 23 | $L=\frac{WS^2}{60}$ |
| 25 | 14 | 28 | 35 | |
| 30 | 20 | 40 | 50 | |
| 35 | 28 | 55 | 68 | |
| 40 | 36 | 72 | 90 | |
| 45 | 60 | 120 | 150 | L=WS |
| 50 | 67 | 133 | 167 | |

$\frac{1}{3}L$ = LENGTH OF SHOULDER TAPER (FT)
W = TOTAL SHOULDER WIDTH (FT)
S = POSTED OR REGULATORY SPEED (MPH)

DISTANCE BETWEEN SIGNS

| ROAD TYPE | DISTANCE (FT) |
|---|---|
| | A |
| URBAN (< 45 MPH) | 100 |
| URBAN (=>45 MPH) | 350 |
| RURAL | 500 |

LEGEND:

- WORK AREA
- WORK ZONE SIGN
- CHANNELIZING DEVICES (DRUMS OR 42" CONES SPACING AT 20')
- LANE IDENTIFICATION AND DIRECTION OF TRAFFIC

* SHOULDER CLOSED (JU)

SOURCE: MUTCD 2009 EDITION AND MDC.

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**Hartford, Connecticut**

TEMPORARY TRAFFIC CONTROL PLAN
TWO-LANE, TWO-WAY
WORK IN SHOULDER

# MULTILANE UNDIVIDED HIGHWAY
## WORK IN RIGHT TRAVEL LANE

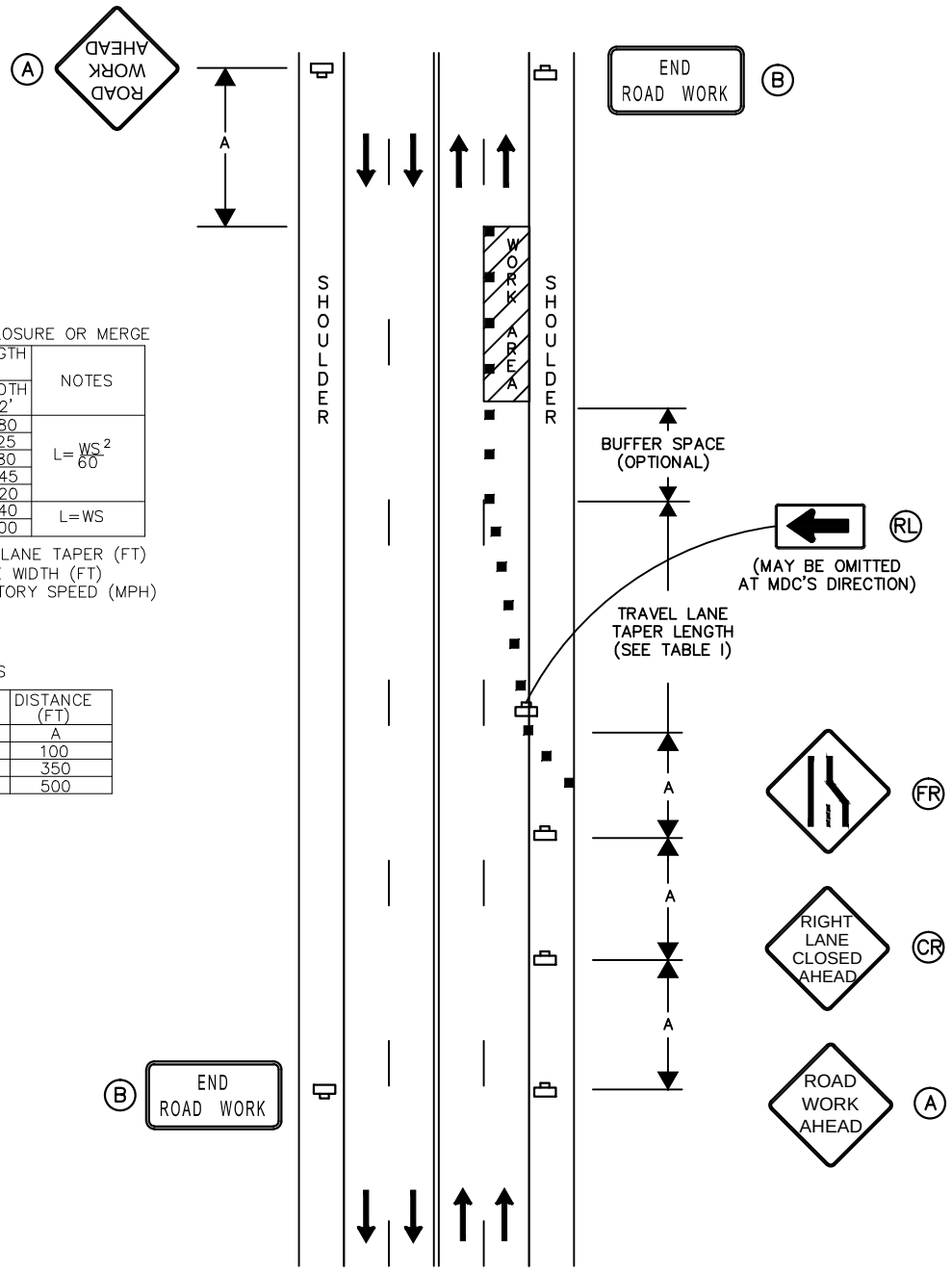


TABLE I: TAPER LENGTH
TRAVEL LANE CLOSURE OR MERGE

| POSTED SPEED (MPH) | MIN. TAPER LENGTH L (FT) TRAVEL 10' | LANE 11' | WIDTH 12' | NOTES |
|---|---|---|---|---|
| 20 | 67 | 74 | 80 | |
| 25 | 105 | 115 | 125 | |
| 30 | 150 | 165 | 180 | $L=\frac{WS^2}{60}$ |
| 35 | 205 | 225 | 245 | |
| 40 | 267 | 294 | 320 | |
| 45 | 450 | 495 | 540 | L=WS |
| 50 | 500 | 550 | 600 | |

L = LENGTH OF TRAVEL LANE TAPER (FT)
W = TOTAL TRAVEL LANE WIDTH (FT)
S = POSTED OR REGULATORY SPEED (MPH)

DISTANCE BETWEEN SIGNS

| ROAD TYPE | DISTANCE (FT) |
|---|---|
| | A |
| URBAN (< 45 MPH) | 100 |
| URBAN (=>45 MPH) | 350 |
| RURAL | 500 |

LEGEND:

- WORK AREA
- WORK ZONE SIGN
- CHANNELIZING DEVICES (DRUMS OR 42" CONES SPACING AT 20')
- LANE IDENTIFICATION AND DIRECTION OF TRAFFIC

SOURCE: MUTCD 2009 EDITION AND MDC.

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**Hartford, Connecticut**

TEMPORARY TRAFFIC CONTROL PLAN
MULTILANE
WORK IN TRAVEL LANE

# MULTILANE UNDIVIDED HIGHWAY
## WORK IN LEFT TRAVEL LANE

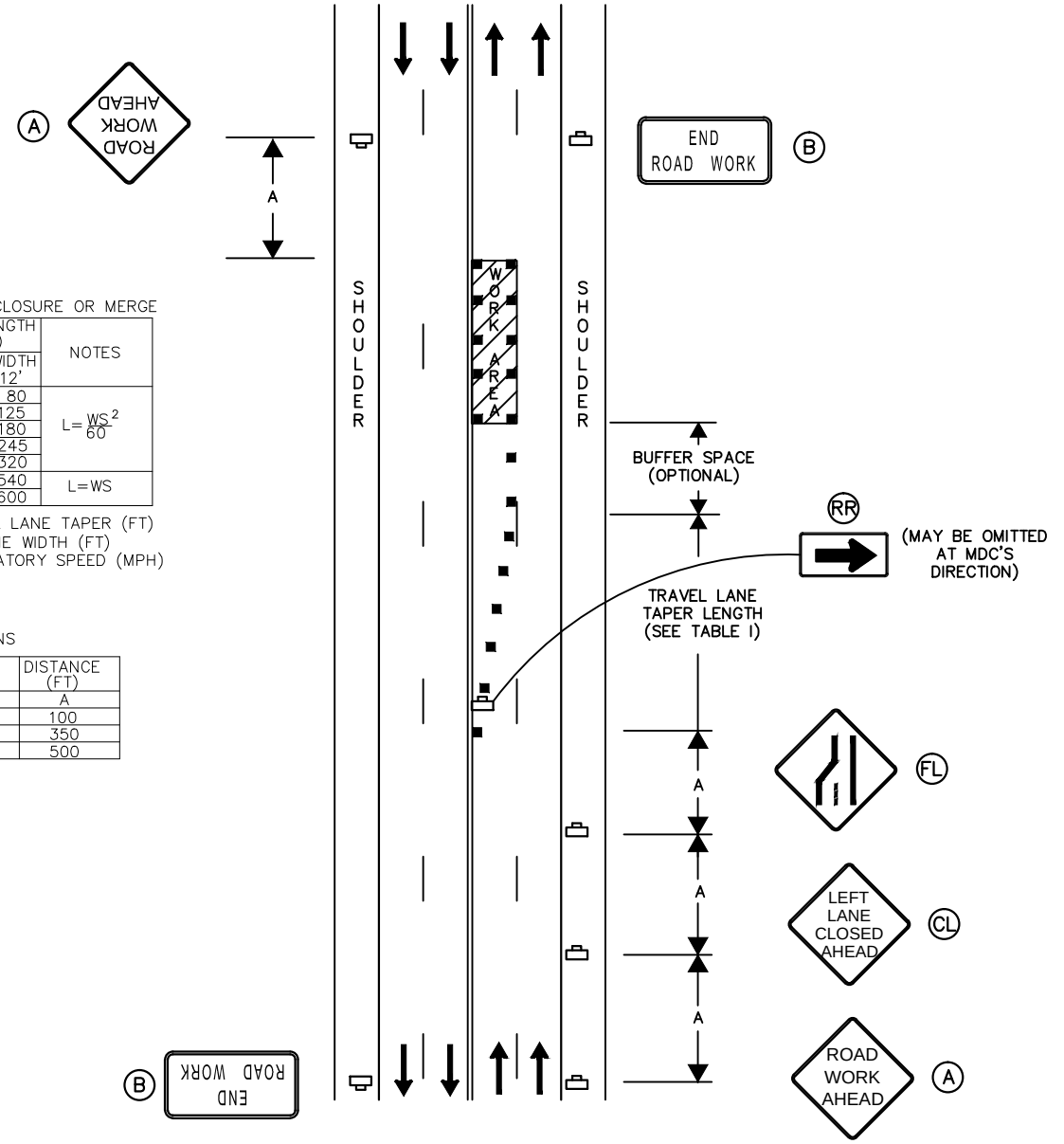


TABLE I: TAPER LENGTH
TRAVEL LANE CLOSURE OR MERGE

| POSTED SPEED (MPH) | MIN. TAPER LENGTH L (FT) TRAVEL LANE WIDTH 10' | 11' | 12' | NOTES |
|---|---|---|---|---|
| 20 | 67 | 74 | 80 | $L=\frac{WS^2}{60}$ |
| 25 | 105 | 115 | 125 | |
| 30 | 150 | 165 | 180 | |
| 35 | 205 | 225 | 245 | |
| 40 | 267 | 294 | 320 | |
| 45 | 450 | 495 | 540 | L=WS |
| 50 | 500 | 550 | 600 | |

L = LENGTH OF TRAVEL LANE TAPER (FT)
W = TOTAL TRAVEL LANE WIDTH (FT)
S = POSTED OR REGULATORY SPEED (MPH)

DISTANCE BETWEEN SIGNS

| ROAD TYPE | DISTANCE (FT) |
|---|---|
| | A |
| URBAN (< 45 MPH) | 100 |
| URBAN (=>45 MPH) | 350 |
| RURAL | 500 |

LEGEND:

- WORK AREA
- WORK ZONE SIGN
- CHANNELIZING DEVICES (DRUMS OR 42" CONES SPACING AT 20')
- LANE IDENTIFICATION AND DIRECTION OF TRAFFIC

SOURCE: MUTCD 2009 EDITION AND MDC.

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TEMPORARY TRAFFIC CONTROL PLAN
MULTILANE
WORK IN TRAVEL LANE

# MULTILANE UNDIVIDED HIGHWAY
## WORK IN BOTH TRAVEL LANES

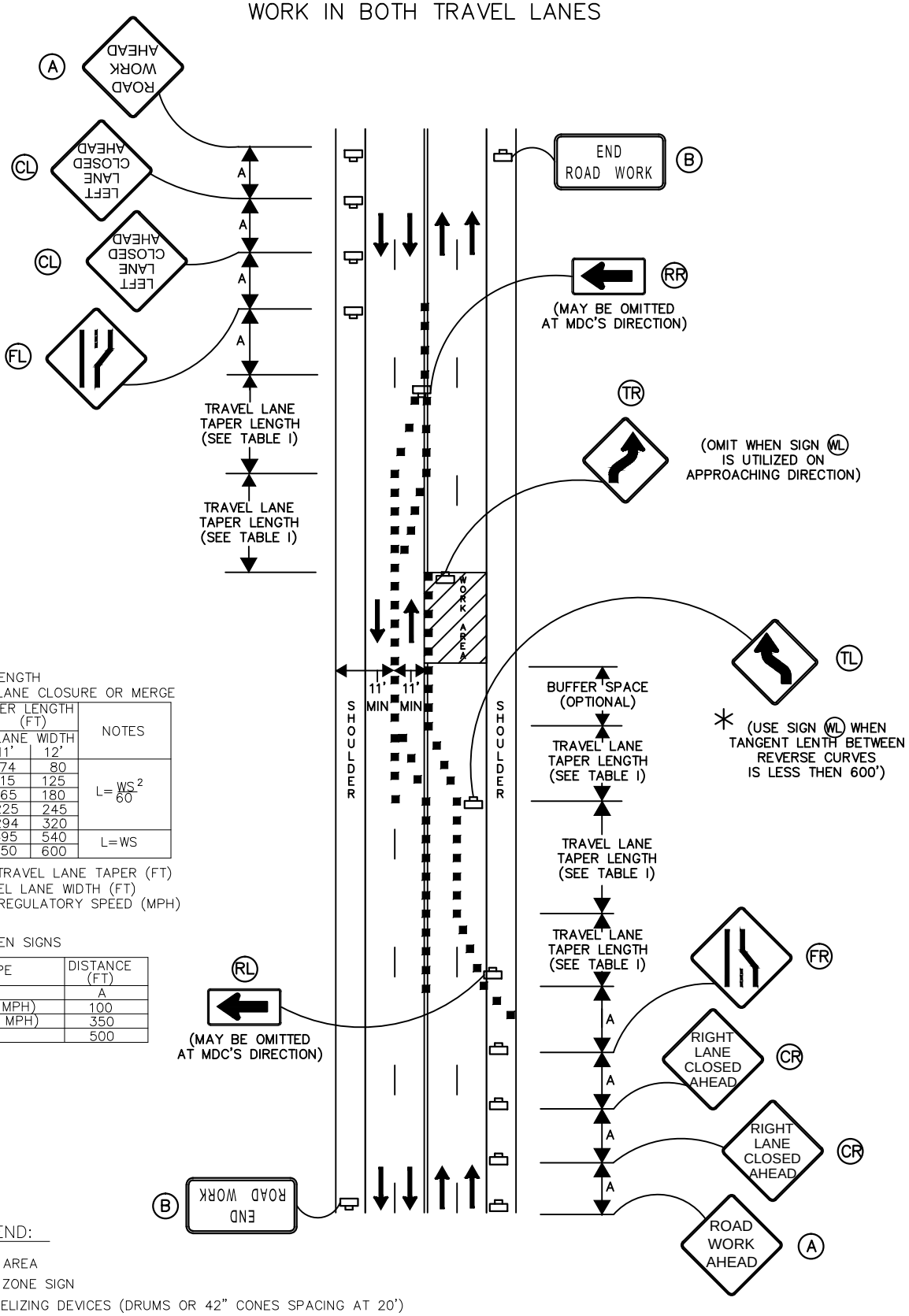


TABLE I: TAPER LENGTH
TRAVEL LANE CLOSURE OR MERGE

| POSTED SPEED (MPH) | MIN. TAPER LENGTH L (FT) TRAVEL LANE WIDTH 10' | 11' | 12' | NOTES |
|---|---|---|---|---|
| 20 | 67 | 74 | 80 | $L=\frac{WS^2}{60}$ |
| 25 | 105 | 115 | 125 | |
| 30 | 150 | 165 | 180 | |
| 35 | 205 | 225 | 245 | |
| 40 | 267 | 294 | 320 | |
| 45 | 450 | 495 | 540 | L=WS |
| 50 | 500 | 550 | 600 | |

L = LENGTH OF TRAVEL LANE TAPER (FT)
W = TOTAL TRAVEL LANE WIDTH (FT)
S = POSTED OR REGULATORY SPEED (MPH)

DISTANCE BETWEEN SIGNS

| ROAD TYPE | DISTANCE (FT) |
|---|---|
| | A |
| URBAN (< 45 MPH) | 100 |
| URBAN (=>45 MPH) | 350 |
| RURAL | 500 |

LEGEND:

- WORK AREA
- WORK ZONE SIGN
- CHANNELIZING DEVICES (DRUMS OR 42" CONES SPACING AT 20')
- LANE IDENTIFICATION AND DIRECTION OF TRAFFIC

SOURCE: MUTCD 2009 EDITION AND MDC.

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**Hartford, Connecticut**

TEMPORARY TRAFFIC CONTROL PLAN
MULTILANE
WORK IN TRAVEL LANE

# MULTILANE UNDIVIDED HIGHWAY
## WORK IN BI-DIRECTIONAL TURN LANE

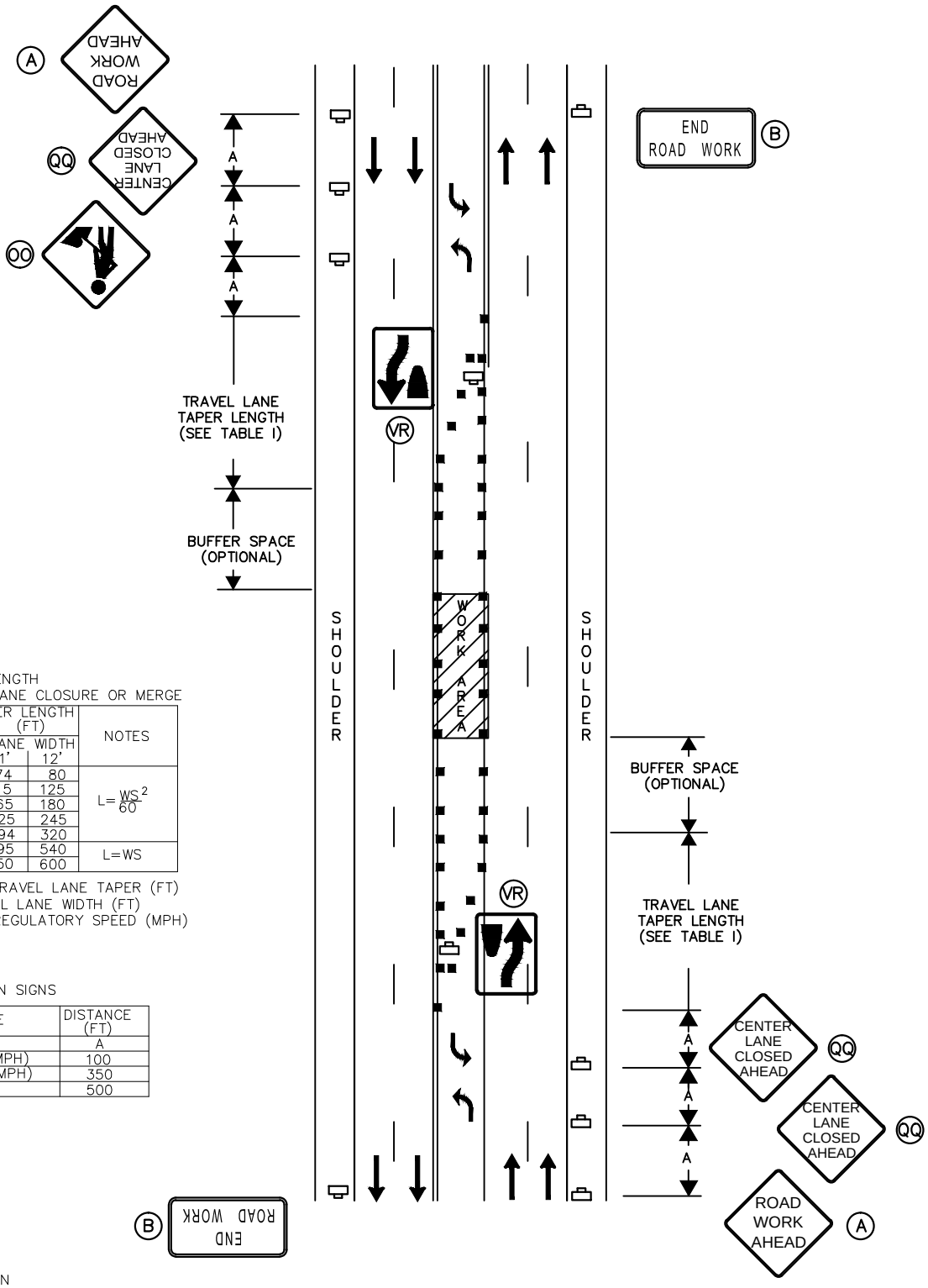


TABLE I: TAPER LENGTH
TRAVEL LANE CLOSURE OR MERGE

| POSTED SPEED (MPH) | MIN. TAPER LENGTH L (FT) TRAVEL LANE WIDTH 10' | 11' | 12' | NOTES |
|---|---|---|---|---|
| 20 | 67 | 74 | 80 | $L=\frac{WS^2}{60}$ |
| 25 | 105 | 115 | 125 | |
| 30 | 150 | 165 | 180 | |
| 35 | 205 | 225 | 245 | |
| 40 | 267 | 294 | 320 | |
| 45 | 450 | 495 | 540 | L=WS |
| 50 | 500 | 550 | 600 | |

L = LENGTH OF TRAVEL LANE TAPER (FT)
W = TOTAL TRAVEL LANE WIDTH (FT)
S = POSTED OR REGULATORY SPEED (MPH)

DISTANCE BETWEEN SIGNS

| ROAD TYPE | DISTANCE (FT) |
|---|---|
| | A |
| URBAN (< 45 MPH) | 100 |
| URBAN (=>45 MPH) | 350 |
| RURAL | 500 |

LEGEND:

- WORK AREA
- WORK ZONE SIGN
- CHANNELIZING DEVICES (DRUMS OR 42" CONES SPACING AT 20')
- LANE IDENTIFICATION AND DIRECTION OF TRAFFIC

SOURCE: MUTCD 2009 EDITION AND MDC.

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**Hartford, Connecticut**

TEMPORARY TRAFFIC CONTROL PLAN
MULTILANE
WORK IN TRAVEL LANE

# MULTILANE UNDIVIDED HIGHWAY
## WORK IN TRAVEL LANE AT INTERSECTION

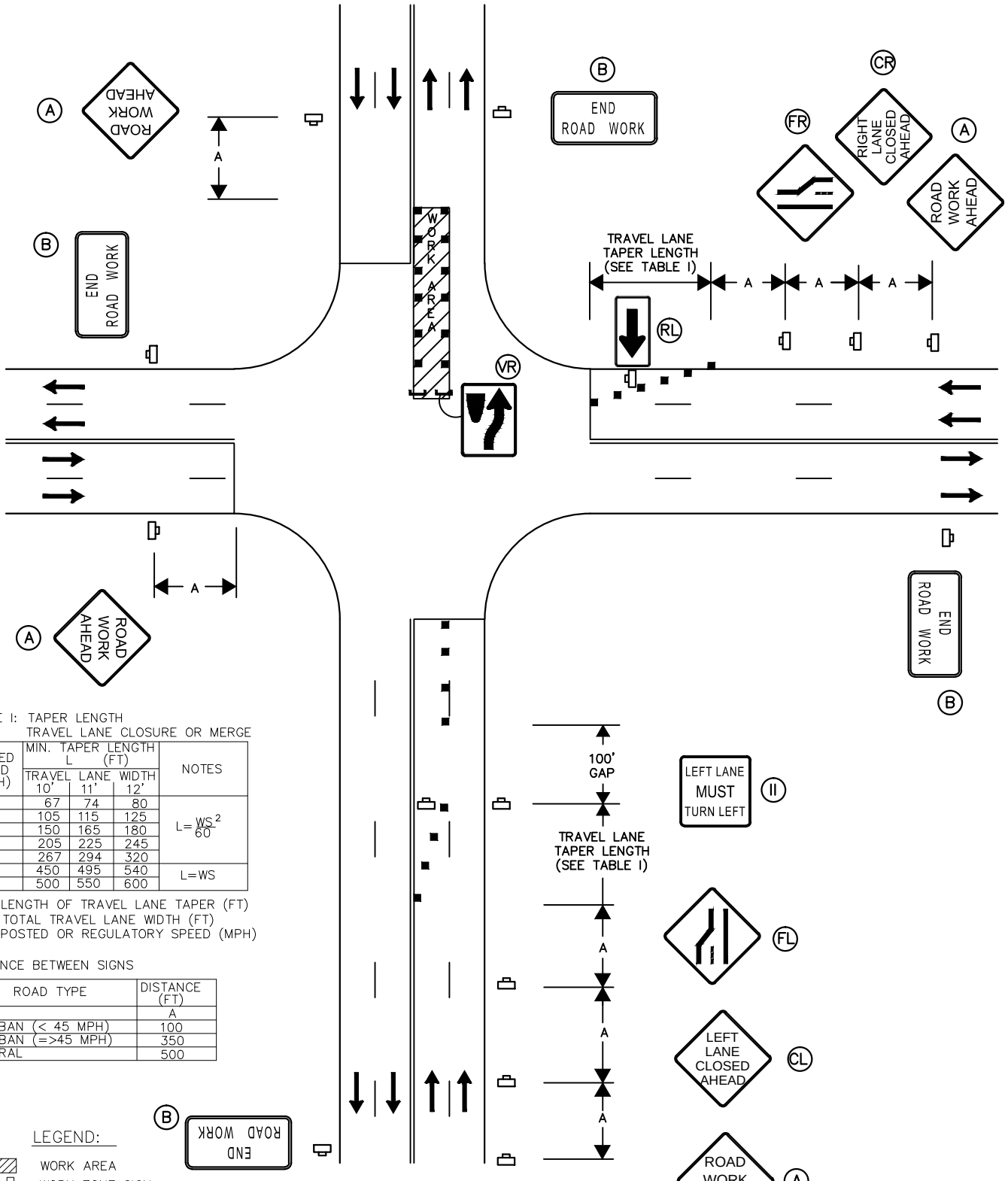


TABLE I: TAPER LENGTH
TRAVEL LANE CLOSURE OR MERGE

| POSTED SPEED (MPH) | MIN. TAPER LENGTH L (FT) TRAVEL LANE WIDTH 10' | 11' | 12' | NOTES |
|---|---|---|---|---|
| 20 | 67 | 74 | 80 | |
| 25 | 105 | 115 | 125 | |
| 30 | 150 | 165 | 180 | $L=\frac{WS^2}{60}$ |
| 35 | 205 | 225 | 245 | |
| 40 | 267 | 294 | 320 | |
| 45 | 450 | 495 | 540 | L=WS |
| 50 | 500 | 550 | 600 | |

L = LENGTH OF TRAVEL LANE TAPER (FT)
W = TOTAL TRAVEL LANE WIDTH (FT)
S = POSTED OR REGULATORY SPEED (MPH)

DISTANCE BETWEEN SIGNS

| ROAD TYPE | DISTANCE (FT) |
|---|---|
| | A |
| URBAN (< 45 MPH) | 100 |
| URBAN (=>45 MPH) | 350 |
| RURAL | 500 |

LEGEND:
- WORK AREA
- WORK ZONE SIGN
- CHANNELIZING DEVICES (DRUMS OR 42" CONES SPACING AT 20')
- LANE IDENTIFICATION AND DIRECTION OF TRAFFIC
- TYPE III BARRICADE

SOURCE: MUTCD 2009 EDITION AND MDC.

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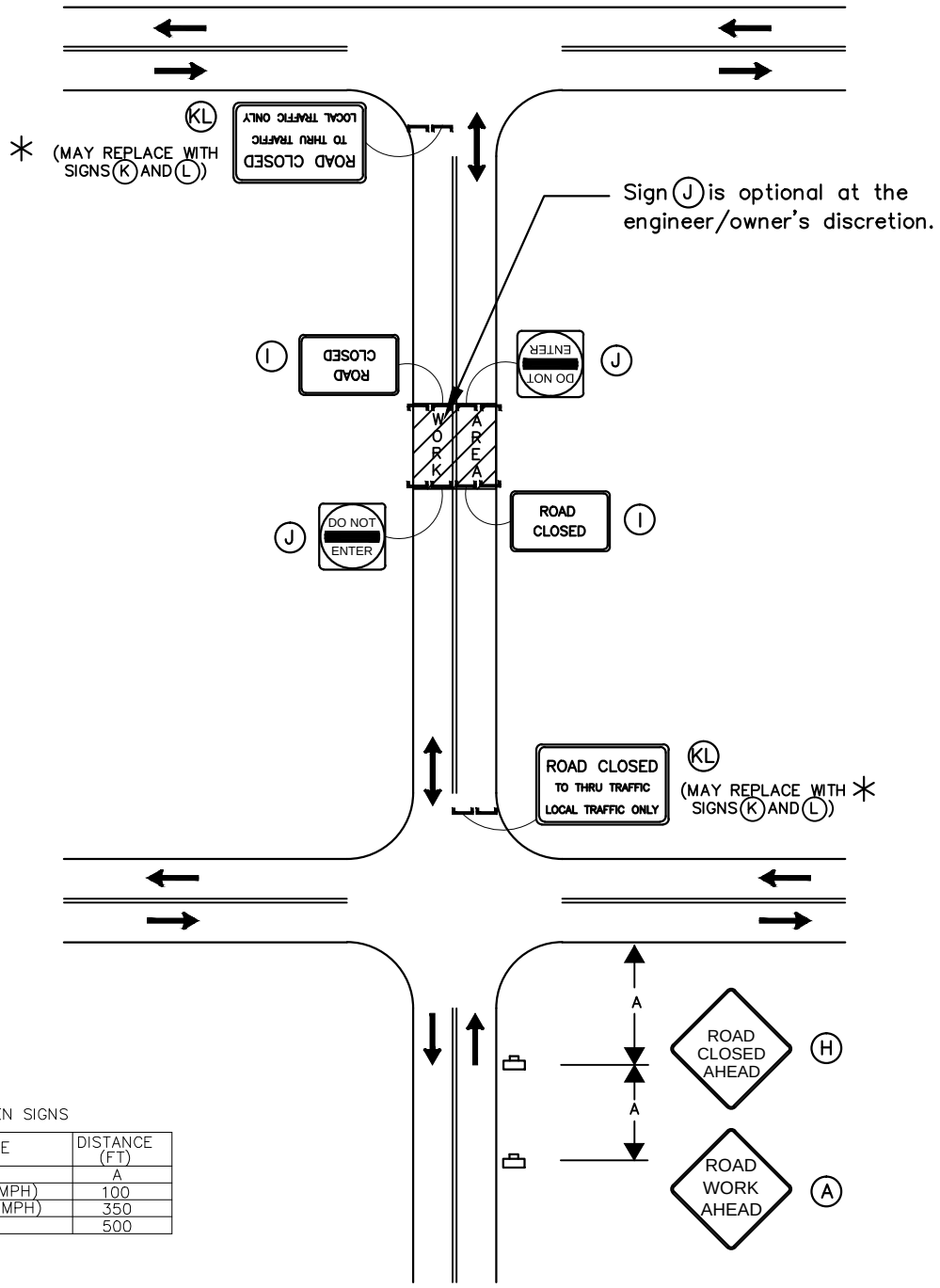
TEMPORARY TRAFFIC CONTROL PLAN
MULTILANE
WORK IN TRAVEL LANE

# ROAD CLOSURE
## LOCAL STREET
## WITHOUT DETOUR




DISTANCE BETWEEN SIGNS

| ROAD TYPE | DISTANCE (FT) |
|---|---|
| | A |
| URBAN (< 45 MPH) | 100 |
| URBAN (=>45 MPH) | 350 |
| RURAL | 500 |

LEGEND:

- WORK AREA
- WORK ZONE SIGN
- LANE IDENTIFICATION AND DIRECTION OF TRAFFIC
- TYPE III BARRICADE

* ROAD CLOSED TO THRU TRAFFIC (K) LOCAL TRAFFIC ONLY (L)

SOURCE: MUTCD 2009 EDITION AND MDC.

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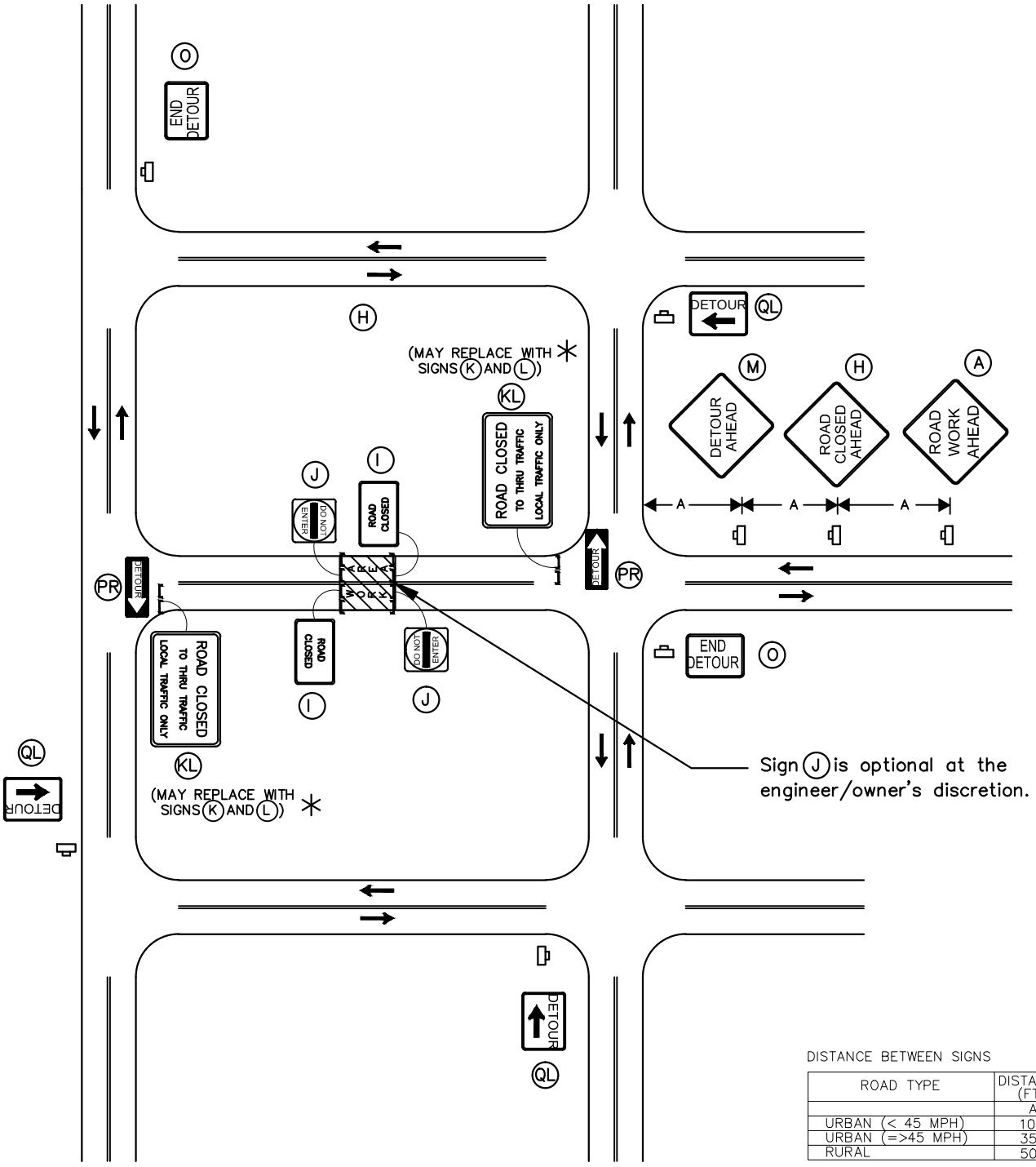
TEMPORARY TRAFFIC CONTROL PLAN
ROAD CLOSURE

# ROAD CLOSURE
## LOCAL STREET WITH DETOUR




DISTANCE BETWEEN SIGNS

| ROAD TYPE | DISTANCE (FT) |
|---|---|
| | A |
| URBAN (< 45 MPH) | 100 |
| URBAN (=>45 MPH) | 350 |
| RURAL | 500 |

LEGEND:

- WORK AREA
- WORK ZONE SIGN
- CHANNELIZING DEVICES (DRUMS OR 42" CONES SPACING AT 20')
- LANE IDENTIFICATION AND DIRECTION OF TRAFFIC
- TYPE III BARRICADE

* ROAD CLOSED TO THRU TRAFFIC (K) LOCAL TRAFFIC ONLY (L)

SOURCE: MUTCD 2009 EDITION AND MDC.

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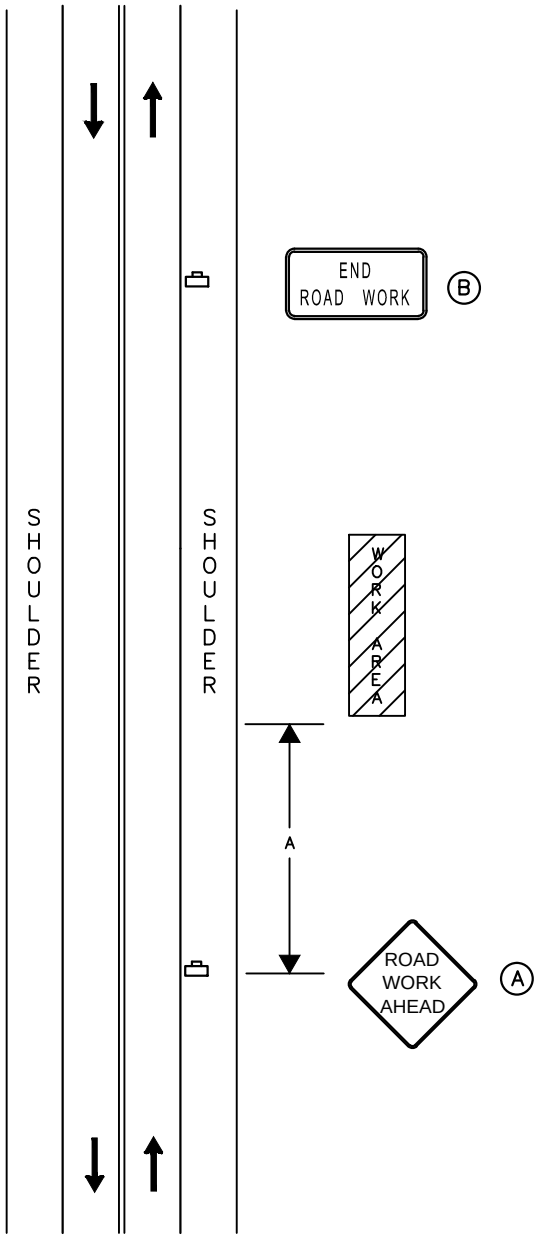
TEMPORARY TRAFFIC CONTROL PLAN
ROAD CLOSURE

# TWO LANE HIGHWAY
## WORK BEYOND THE SHOULDER




LEGEND:

- WORK AREA
- WORK ZONE SIGN
- CHANNELIZING DEVICES (DRUMS OR 42" CONES SPACING AT 20')
- LANE IDENTIFICATION AND DIRECTION OF TRAFFIC

DISTANCE BETWEEN SIGNS

| ROAD TYPE | DISTANCE (FT) |
|---|---|
| | A |
| URBAN (< 45 MPH) | 100 |
| URBAN (=>45 MPH) | 350 |
| RURAL | 500 |

SOURCE: MUTCD 2009 EDITION AND MDC.

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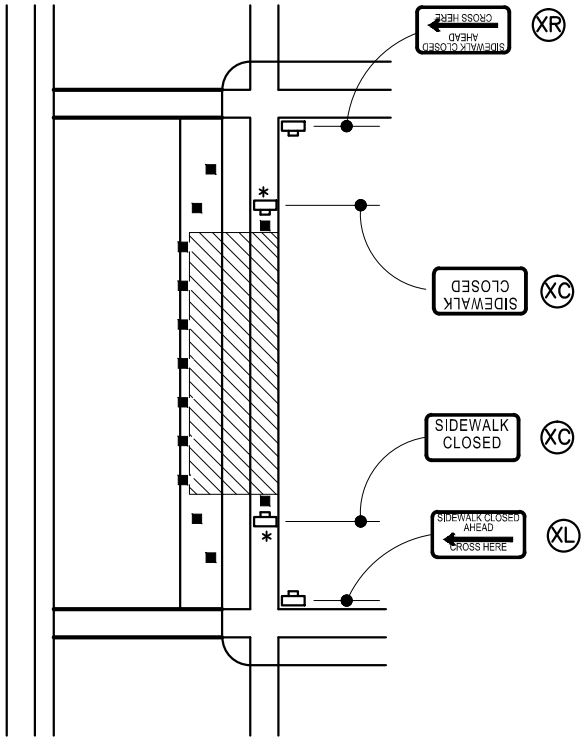
TEMPORARY TRAFFIC CONTROL PLAN
TWO-LANE, TWO-WAY
WORK BEYOND THE SHOULDER

# MIDBLOCK SIDEWALK CLOSURE




IF A PEDESTRIAN DIVERSION ALONG SIDE THE WORK ZONE IS REQUIRED, A SITE SPECIFIC PLAN SHALL BE DESIGNED BY THE FINAL DESIGN ENGINEER.

* Consider use of Type III Barricade

LEGEND:

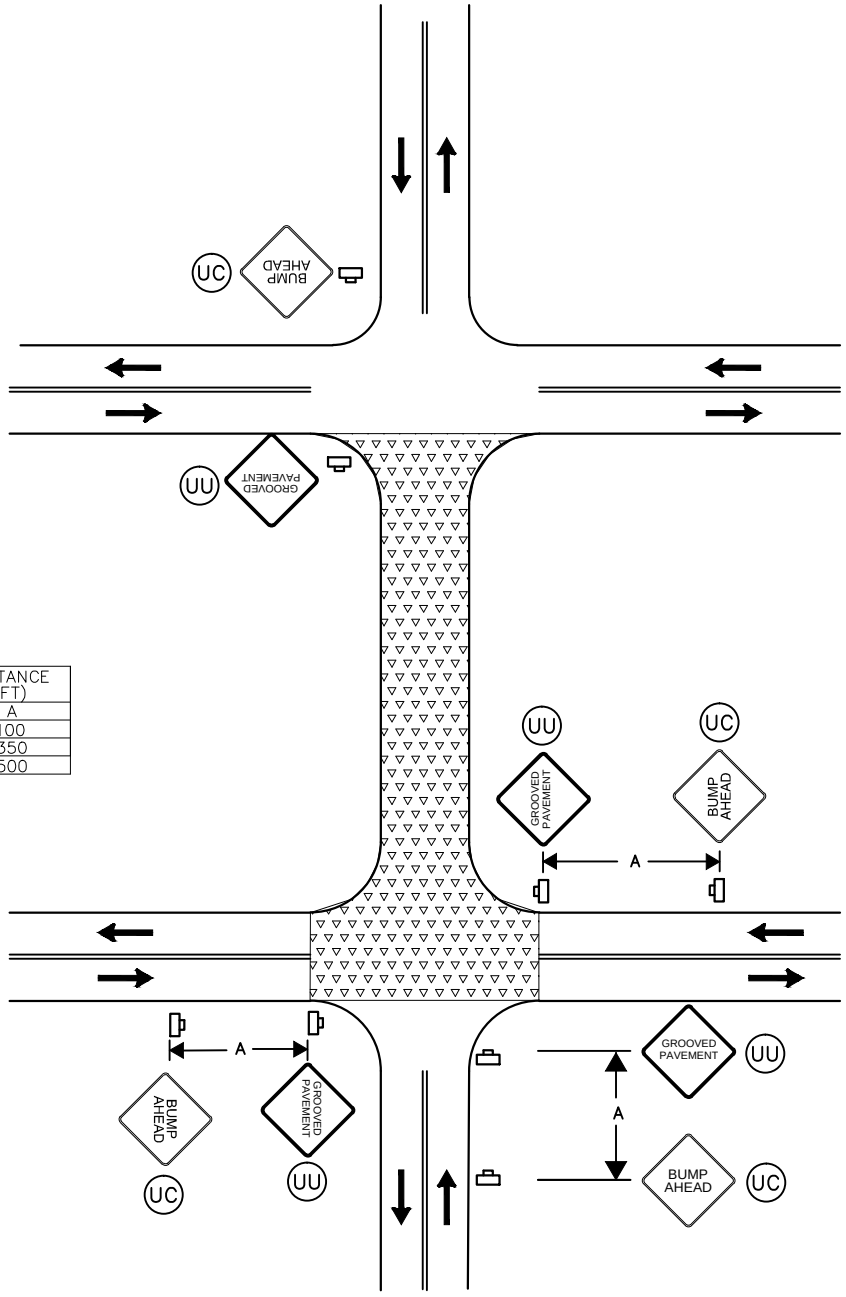
- WORK AREA
- WORK ZONE SIGN
- CHANNELIZING DEVICES (DRUMS OR 42" CONES SPACING AT 20')
- LANE IDENTIFICATION AND DIRECTION OF TRAFFIC

SOURCE: MUTCD 2009 EDITION AND MDC.

**The Metropolitan District**
**Hartford, Connecticut**

TEMPORARY TRAFFIC CONTROL PLAN
SIDEWALK CLOSURE

# MILLED ROADWAY SURFACE
## LOCAL STREET (NON STATE ROAD)
## OVERNIGHT




DISTANCE BETWEEN SIGNS

| ROAD TYPE | DISTANCE (FT) |
|---|---|
| | A |
| URBAN (< 45 MPH) | 100 |
| URBAN (=>45 MPH) | 350 |
| RURAL | 500 |

NOTES:

1. SIGN SPACING AND ADDITIONAL SIGNS TO BE FIELD ADJUSTED/DETERMINED.
2. PLACE CONES AND DRUMS ON RAISED BASINS AND/OR MANHOLES AS NEEDED.
3. PAINT ALL RAISED STRUCTURES INCLUDING GATES, ETC.
4. USE "RAISED STRUCTURE" SIGNS IF NEEDED.
5. "BUMP" SIGNS MAY BE USED IN PLACE OF "BUMP AHEAD" SIGNS WITH OWNER'S APPROVAL. IF "BUMP" SIGN IS USED, SWITCH LOCATION WITH THE "GROOVED PAVEMENT" SIGN.

LEGEND:

- MILLED WORK AREA
- WORK ZONE SIGN
- LANE IDENTIFICATION AND DIRECTION OF TRAFFIC

SOURCE: MUTCD 2009 EDITION AND MDC.

**The Metropolitan District**
**Hartford, Connecticut**

TEMPORARY TRAFFIC CONTROL PLAN
MILLED ROADWAY SURFACE

# Appendix A:

# Typical Temporary Traffic Control Plans:

- CIPP Lining
- CCTV/Cleaning
- Point Repairs

THE FOLLOWING TYPICAL TRAFFIC CONTROL DETAILS ARE INCLUDED ON MDC STANDARD 24"x36" TRAFFIC CONTROL SHEETS (T-4 THROUGH T-8) FOR ANY SEWER REHABILITATION / CIPP LINING CONTRACT.

MDC

METROPOLITAN DISTRICT

# Appendix A
# Temporary Traffic Control Plans
# Point Repairs, CCTV, Cleaning and CIPP Lining

## PURPOSE

As part of the overall "Maintenance and Protection of Traffic Design Guidelines", Appendix A has been created to highlight the temporary traffic control plans typically used for work such as point repairs, CCTV and cleaning of pipes, and CIPP lining on local roadways with speeds less than 45MPH. The design guidelines are based on the Manual of Uniform Traffic Control Devices (MUTCD 2009), The Connecticut Department of Transportation (CTDOT), and specific MDC requirements. If work is on a state road, please use CTDOT Construction Traffic Control plans found at: http://www.ct.gov/dot/cwp/view.asp?a=3199&q=259402 (0971991A – Traffic Control Plans and Typical Materials) or reference Appendix B of this document.

The purpose of these Design Guidelines is to provide the necessary information to assist in the design of temporary traffic control plans to meet the requirements of the MDC for the type of work activities stated above. The MDC has created these Design Guidelines with temporary traffic control designs used on previously completed similar construction activities in mind.

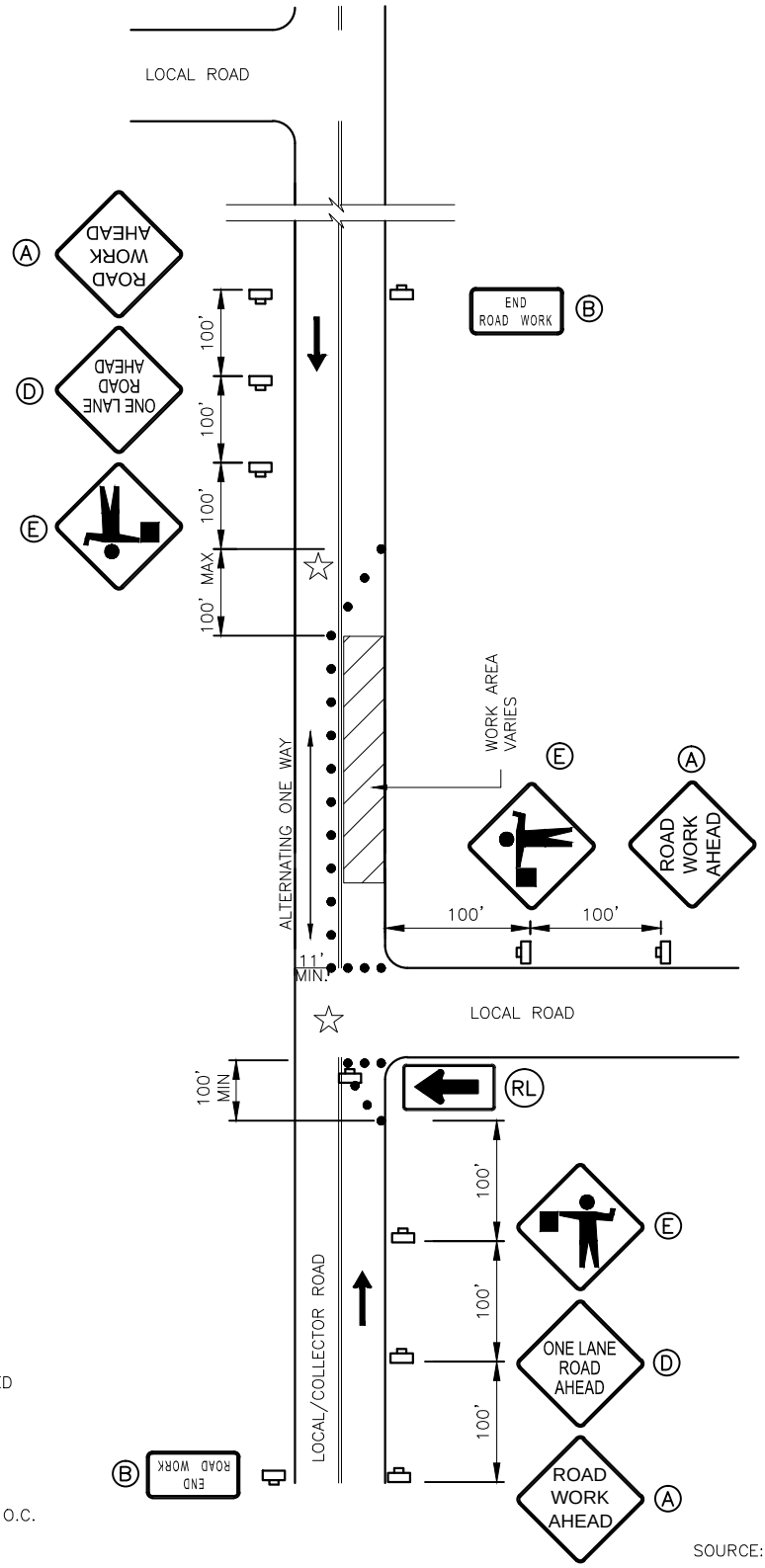
The intent of any temporary traffic control plan is to provide a safe and effective travel environment for vehicular and pedestrian traffic in and around the construction work zone. A correctly established work zone and traffic pattern is of importance to the surrounding public as well as the construction personnel performing the work.

The guidelines supplement and do not replace the requirements of the Manual of Uniform Traffic Control Devices (MUTCD) Latest Edition, CTDOT and municipality.

## TYPICAL TRAFFIC CONTROL DETAIL SUMMARY TABLE

| DETAIL | DETAIL TITLE | TRAFFIC PATTERN | ROAD TYPE |
|---|---|---|---|
| A | TYPICAL WORK ZONE ADJACENT TO "T" INTERSECTION | ALTERNATING ONE WAY TRAFFIC | LOCAL/COLLECTOR |
| B | TYPICAL WORK ZONE MID BLOCK | ALTERNATING ONE WAY TRAFFIC | LOCAL/COLLECTOR |
| C | TYPICAL WORK ZONE AT A "T" INTERSECTION WITH ROAD CLOSURE | ALTERNATING ONE WAY AND ROAD CLOSURE | LOCAL/COLLECTOR |
| D | TYPICAL WORK ZONE AT 4-WAY INTERSECTION | SHIFTED TWO WAY TRAFFIC (2-LANE ROAD) WITH LOCAL ROAD CLOSURE | LOCAL/COLLECTOR/ARTERIAL |
| E | TYPICAL WORK ZONE AT 4-WAY INTERSECTION | SHIFTED TWO WAY TRAFFIC (4-LANE ROAD) WITH LOCAL ROAD CLOSURE | LOCAL/COLLECTOR/ARTERIAL |
| F | TYPICAL WORK ZONE AT 4-WAY INTERSECTION (ALTERNATING ONE WAY TRAFFIC) | ALTERNATING ONE WAY TRAFFIC WITH A LOCAL ROAD CLOSURE | LOCAL |
| G | TYPICAL CIPP LINING ADJACENT TO "T" INTERSECTION (1) | ALTERNATING ONE WAY TRAFFIC | LOCAL |
| H | TYPICAL CIPP LINING ADJACENT TO "T" INTERSECTION (2) | ALTERNATING ONE WAY TRAFFIC | LOCAL |
| I | TYPICAL CCTV AND CLEANING WORK IN TRAVEL LANE ACROSS FROM "T" INTERSECTION | ALTERNATING ONE WAY TRAFFIC | LOCAL |
| J | TYPICAL CIPP LINING AND CCTV 4-WAY INTERSECTION | ALTERNATING ONE WAY TRAFFIC IN BOTH DIRECTIONS | LOCAL |
| K | TYPICAL CIPP LINING AND CCTV AT TWO 4-WAY INTERSECTIONS | WORK IN CENTER OF ROADWAY/BI-DIRECTIONAL TRAFFIC WITH RAMP SETUP AND ALTERNATING ONE WAY TRAFFIC | LOCAL |
| L | TYPICAL CCTV AND CIPP LINING ON LOCAL ROAD MID BLOCK | ONE LANE TRAFFIC WITH DETOUR | LOCAL |
| M | TYPICAL CIPP LINING AT TWO "T" INTERSECTIONS | ALTERNATING ONE WAY TRAFFIC AT EACH INTERSECTION WITH BYPASS RAMP SETUP | LOCAL |
| N | TYPICAL CIPP LINING ON COLLECTOR ROAD NEAR INTERSECTION WITH DETOUR | ALTERNATING ONE WAY TRAFFIC WITH DETOUR | LOCAL/COLLECTOR |
| O | TYPICAL CORNER SIDEWALK CLOSURE | SIDEWALK CLOSURE AT A CORNER OF AN INTERSECTION | STATE/COLLECTOR/ ARTERIAL/LOCAL |

# DETAIL A: TYPICAL WORK ZONE ADJACENT TO "T" INTERSECTION




NOTE:

THIS PLAN IS ONLY INTENDED FOR USE ON STREETS WITH A SPEED LIMIT OF <45 MPH. A TEMPORARY TRAFFIC CONTROL PLAN WILL NEED TO BE DESIGNED FOR GREATER SPEEDS.

LEGEND:

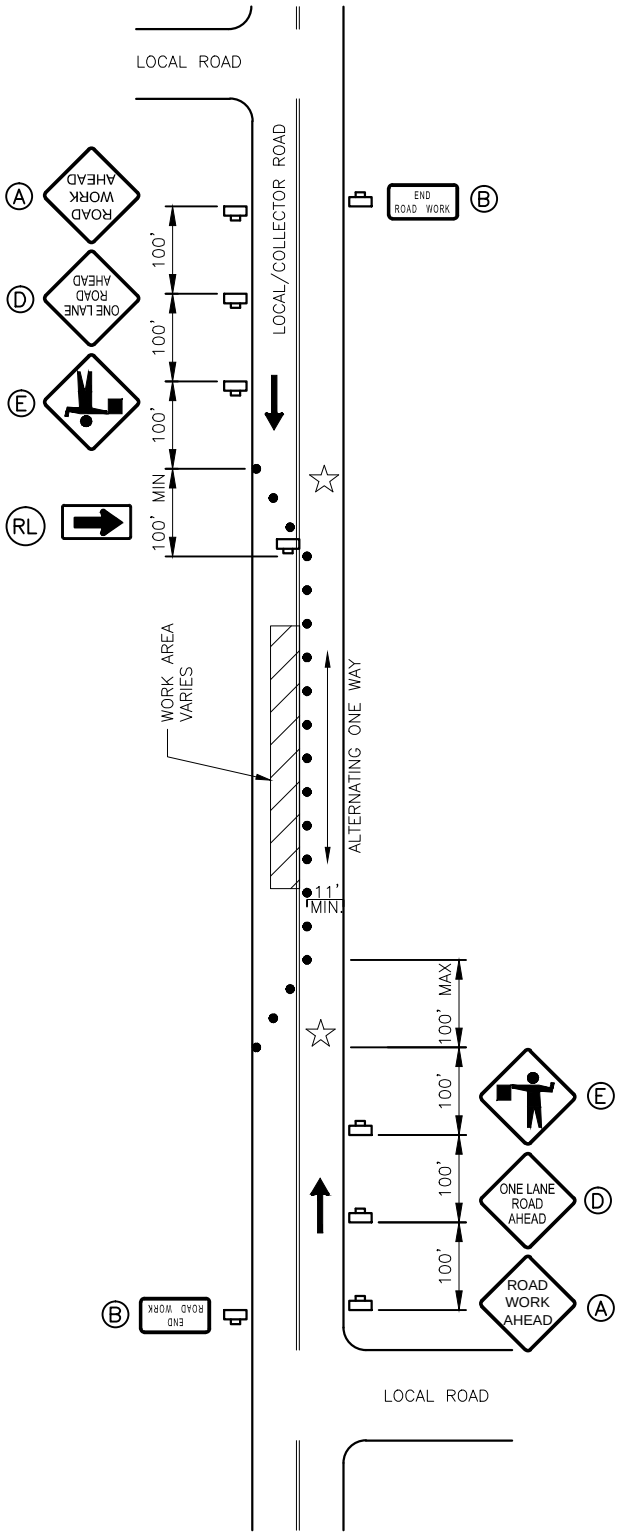
- DRUMS/42" CONES AT 20' O.C.
- WORK ZONE SIGNS
- WORK AREA
- LANE IDENTIFICATION AND DIRECTION OF TRAFFIC
- TRAFFIC CONTROL PERSON (POLICE OR FLAGGER – APPROX. LOCATION AND NUMBER, REFERENCE NOTE #3 ON PAGE 1

SOURCE: MUTCD 2009 EDITION AND MDC.

**The Metropolitan District**
**Hartford, Connecticut**

TEMPORARY TRAFFIC CONTROL PLAN
TYPICAL WORK ZONE
ADJACENT TO "T" INTERSECTION

# DETAIL B: TYPICAL WORK ZONE MID BLOCK




NOTE:

THIS PLAN IS ONLY INTENDED FOR USE ON STREETS WITH A SPEED LIMIT OF <45 MPH. A TEMPORARY TRAFFIC CONTROL PLAN WILL NEED TO BE DESIGNED FOR GREATER SPEEDS.

LEGEND:

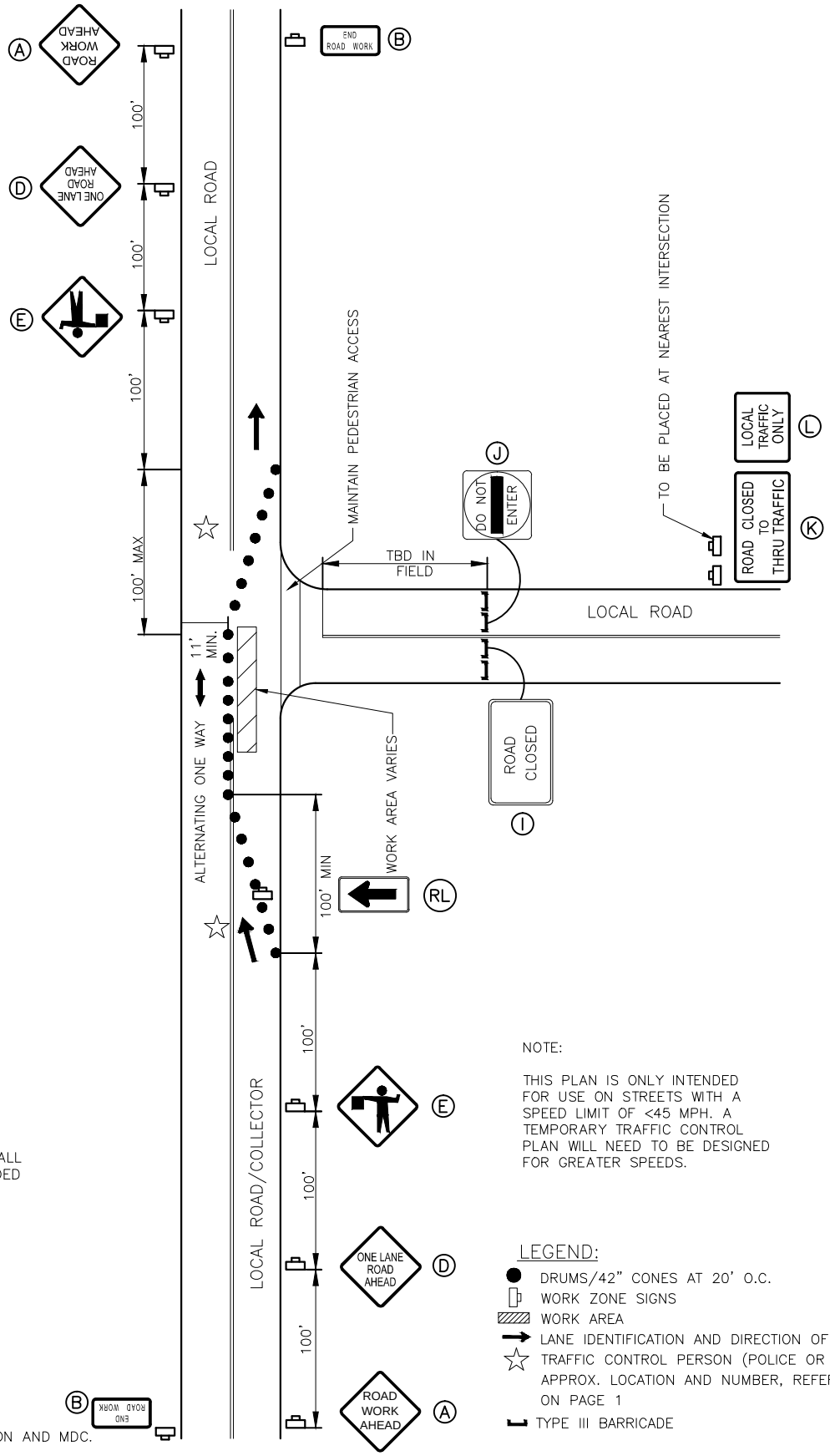
- DRUMS/42" CONES AT 20' O.C.
- WORK ZONE SIGNS
- WORK AREA
- LANE IDENTIFICATION AND DIRECTION OF TRAFFIC
- TRAFFIC CONTROL PERSON (POLICE OR FLAGGER – APPROX. LOCATION AND NUMBER, REFERENCE NOTE #3 ON PAGE 1

SOURCE: MUTCD 2009 EDITION AND MDC.

**The Metropolitan District**
**Hartford, Connecticut**

TEMPORARY TRAFFIC CONTROL PLAN
TYPICAL WORK ZONE MID BLOCK

# DETAIL C: TYPICAL WORK ZONE AT "T" INTERSECTION W/ ROAD CLOSURE




GL — R3-2 RB/W

| SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|
| 30 | 31-1619 | |
| | | |

GR — R3-1 RB/W

| SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|
| 30 | 31-1617 | |
| | | |

SIGNS "GL" AND "GR" SHALL BE USED ON AN AS NEEDED BASIS BASED ON FIELD CONDITIONS.

NOTE:

THIS PLAN IS ONLY INTENDED FOR USE ON STREETS WITH A SPEED LIMIT OF <45 MPH. A TEMPORARY TRAFFIC CONTROL PLAN WILL NEED TO BE DESIGNED FOR GREATER SPEEDS.

LEGEND:

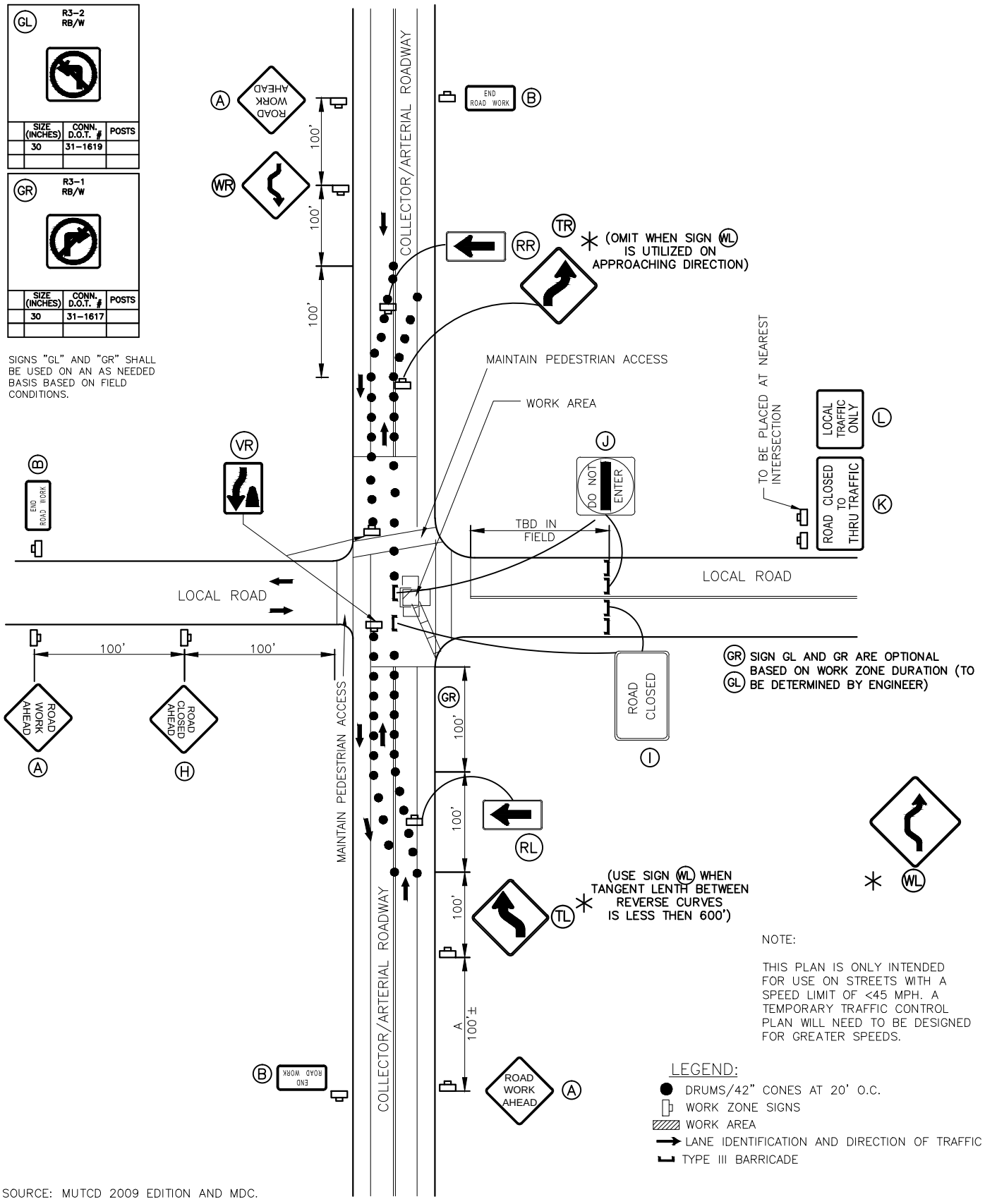
- DRUMS/42" CONES AT 20' O.C.
- WORK ZONE SIGNS
- WORK AREA
- LANE IDENTIFICATION AND DIRECTION OF TRAFFIC
- TRAFFIC CONTROL PERSON (POLICE OR FLAGGER – APPROX. LOCATION AND NUMBER, REFERENCE NOTE #3 ON PAGE 1
- TYPE III BARRICADE

SOURCE: MUTCD 2009 EDITION AND MDC.

**The Metropolitan District**
**Hartford, Connecticut**

TEMPORARY TRAFFIC CONTROL PLAN
TYPICAL WORK ZONE
AT "T" INTERSECTION

# DETAIL D: TYPICAL WORK ZONE AT 4–WAY INTERSECTION (SHIFTED TRAFFIC – 2 Lane)

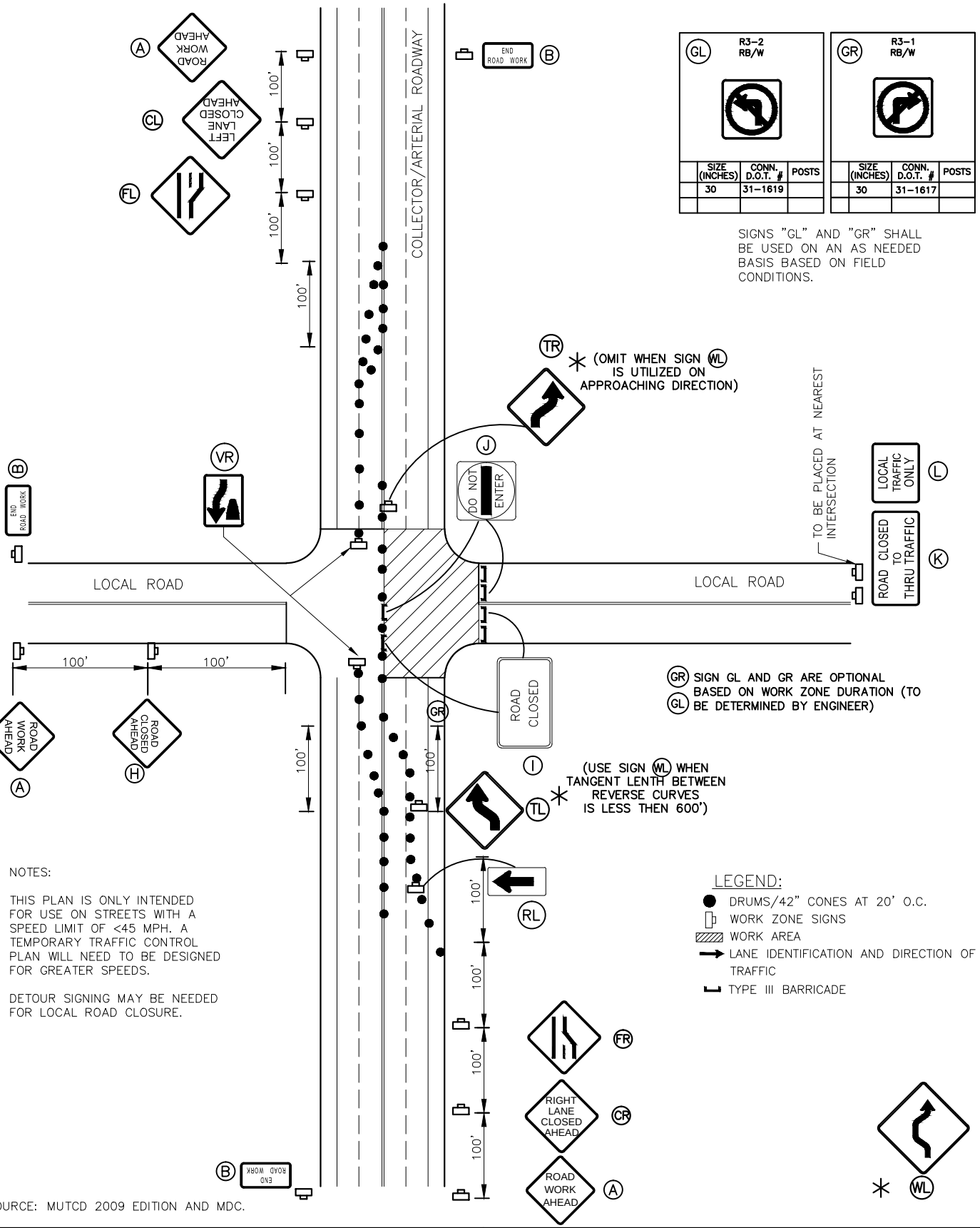



SOURCE: MUTCD 2009 EDITION AND MDC.

**The Metropolitan District**
**Hartford, Connecticut**

TEMPORARY TRAFFIC CONTROL PLAN
TYPICAL WORK ZONE
AT 4–WAY INTERSECTION (SHIFTED TRAFFIC)

# DETAIL E: TYPICAL WORK ZONE
## AT 4–WAY INTERSECTION (SHIFTED TRAFFIC 4 – Lane)




| GL R3–2 RB/W | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|
| | 30 | 31–1619 | |
| | | | |

| GR R3–1 RB/W | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|
| | 30 | 31–1617 | |
| | | | |

SIGNS "GL" AND "GR" SHALL BE USED ON AN AS NEEDED BASIS BASED ON FIELD CONDITIONS.

GR SIGN GL AND GR ARE OPTIONAL BASED ON WORK ZONE DURATION (TO GL BE DETERMINED BY ENGINEER)

NOTES:

1. THIS PLAN IS ONLY INTENDED FOR USE ON STREETS WITH A SPEED LIMIT OF <45 MPH. A TEMPORARY TRAFFIC CONTROL PLAN WILL NEED TO BE DESIGNED FOR GREATER SPEEDS.
2. DETOUR SIGNING MAY BE NEEDED FOR LOCAL ROAD CLOSURE.

LEGEND:

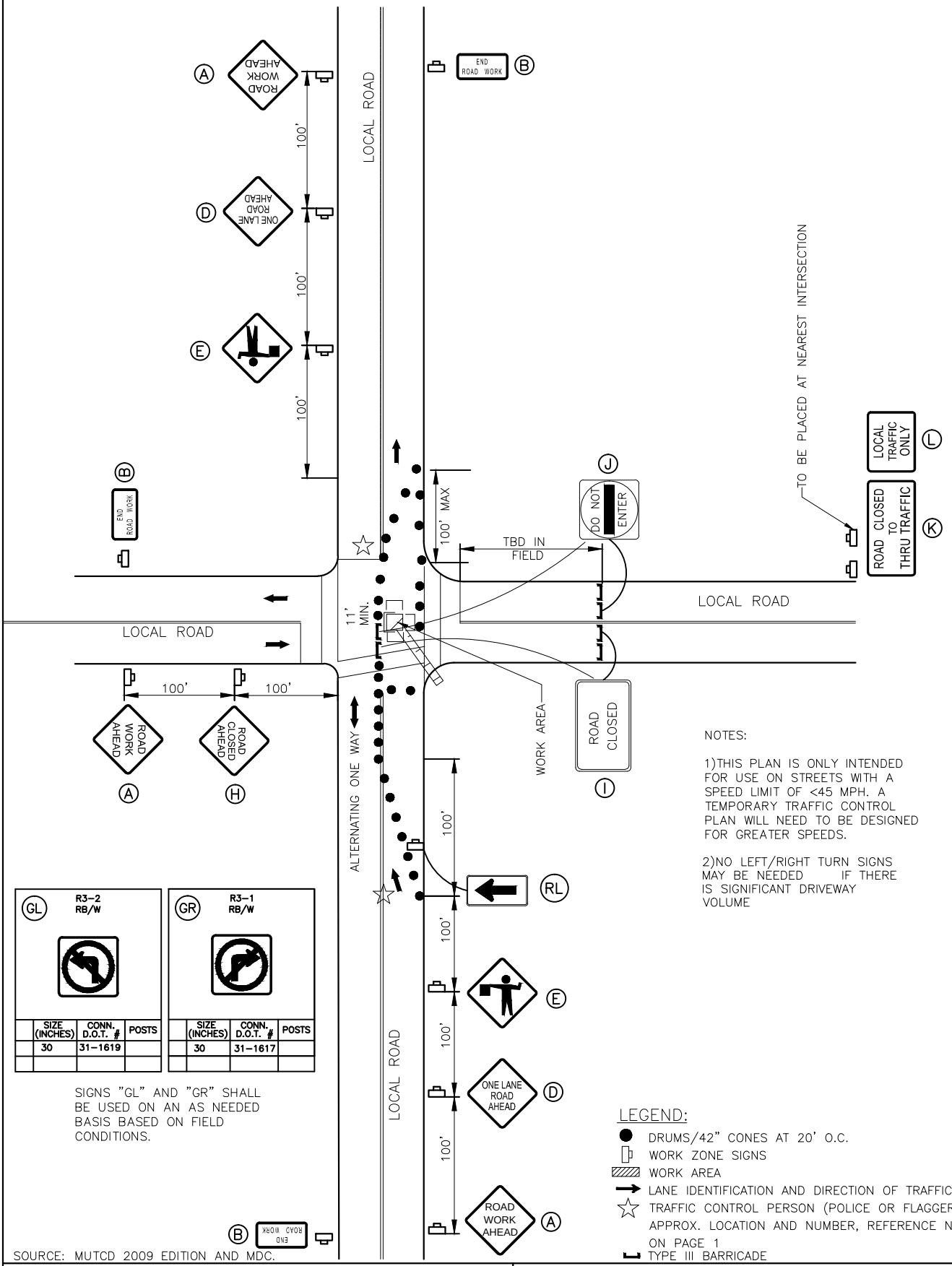
- DRUMS/42" CONES AT 20' O.C.
- WORK ZONE SIGNS
- WORK AREA
- LANE IDENTIFICATION AND DIRECTION OF TRAFFIC
- TYPE III BARRICADE

SOURCE: MUTCD 2009 EDITION AND MDC.

**The Metropolitan District**
**Hartford, Connecticut**

TEMPORARY TRAFFIC CONTROL PLAN
TYPICAL WORK ZONE
AT 4–WAY INTERSECTION (SHIFTED TRAFFIC)

# DETAIL F: TYPICAL WORK ZONE
# AT 4–WAY INTERSECTION (ALTERNATING ONE WAY TRAFFIC)




NOTES:

1)THIS PLAN IS ONLY INTENDED FOR USE ON STREETS WITH A SPEED LIMIT OF <45 MPH. A TEMPORARY TRAFFIC CONTROL PLAN WILL NEED TO BE DESIGNED FOR GREATER SPEEDS.

2)NO LEFT/RIGHT TURN SIGNS MAY BE NEEDED IF THERE IS SIGNIFICANT DRIVEWAY VOLUME

(GL) R3–2 RB/W

| | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|
| | 30 | 31–1619 | |
| | | | |

(GR) R3–1 RB/W

| | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|
| | 30 | 31–1617 | |
| | | | |

SIGNS "GL" AND "GR" SHALL BE USED ON AN AS NEEDED BASIS BASED ON FIELD CONDITIONS.

LEGEND:

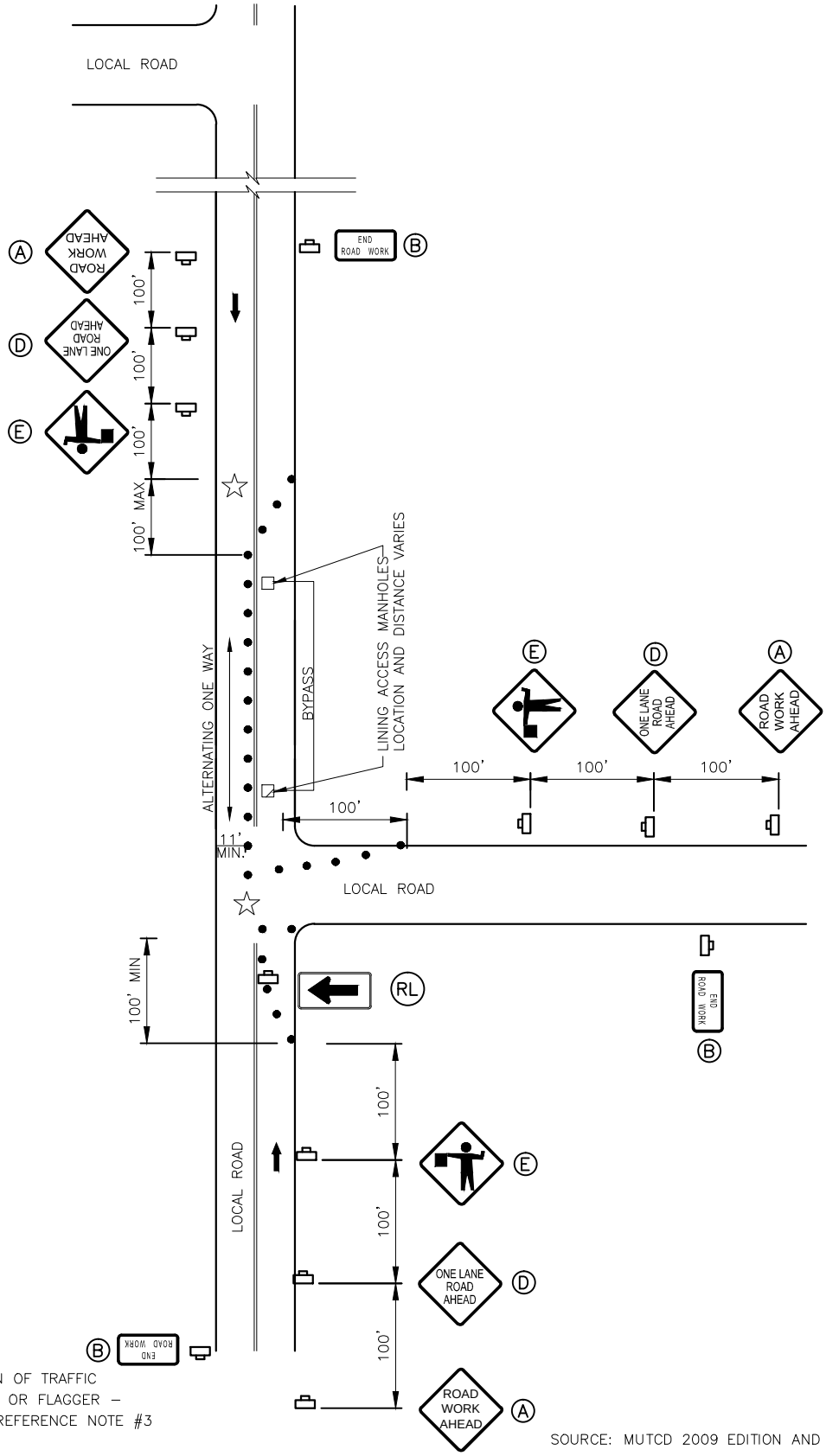
- DRUMS/42" CONES AT 20' O.C.
- WORK ZONE SIGNS
- WORK AREA
- LANE IDENTIFICATION AND DIRECTION OF TRAFFIC
- TRAFFIC CONTROL PERSON (POLICE OR FLAGGER – APPROX. LOCATION AND NUMBER, REFERENCE NOTE #3 ON PAGE 1
- TYPE III BARRICADE

SOURCE: MUTCD 2009 EDITION AND MDC.

**The Metropolitan District**
**Hartford, Connecticut**

## TEMPORARY TRAFFIC CONTROL PLAN
TYPICAL WORK ZONE
AT 4–WAY INTERSECTION (ALTERNATING ONE WAY TRAFFIC)

# DETAIL G: TYPICAL CIPP LINING ADJACENT TO "T" INTERSECTION (1)




NOTE:

THIS PLAN IS ONLY INTENDED FOR USE ON STREETS WITH A SPEED LIMIT OF <45 MPH. A TEMPORARY TRAFFIC CONTROL PLAN WILL NEED TO BE DESIGNED FOR GREATER SPEEDS.

LEGEND:

- DRUMS/42" CONES AT 20' O.C.
- WORK ZONE SIGNS
- WORK AREA
- LANE IDENTIFICATION AND DIRECTION OF TRAFFIC
- TRAFFIC CONTROL PERSON (POLICE OR FLAGGER – APPROX. LOCATION AND NUMBER, REFERENCE NOTE #3 ON PAGE 1

SOURCE: MUTCD 2009 EDITION AND MDC.

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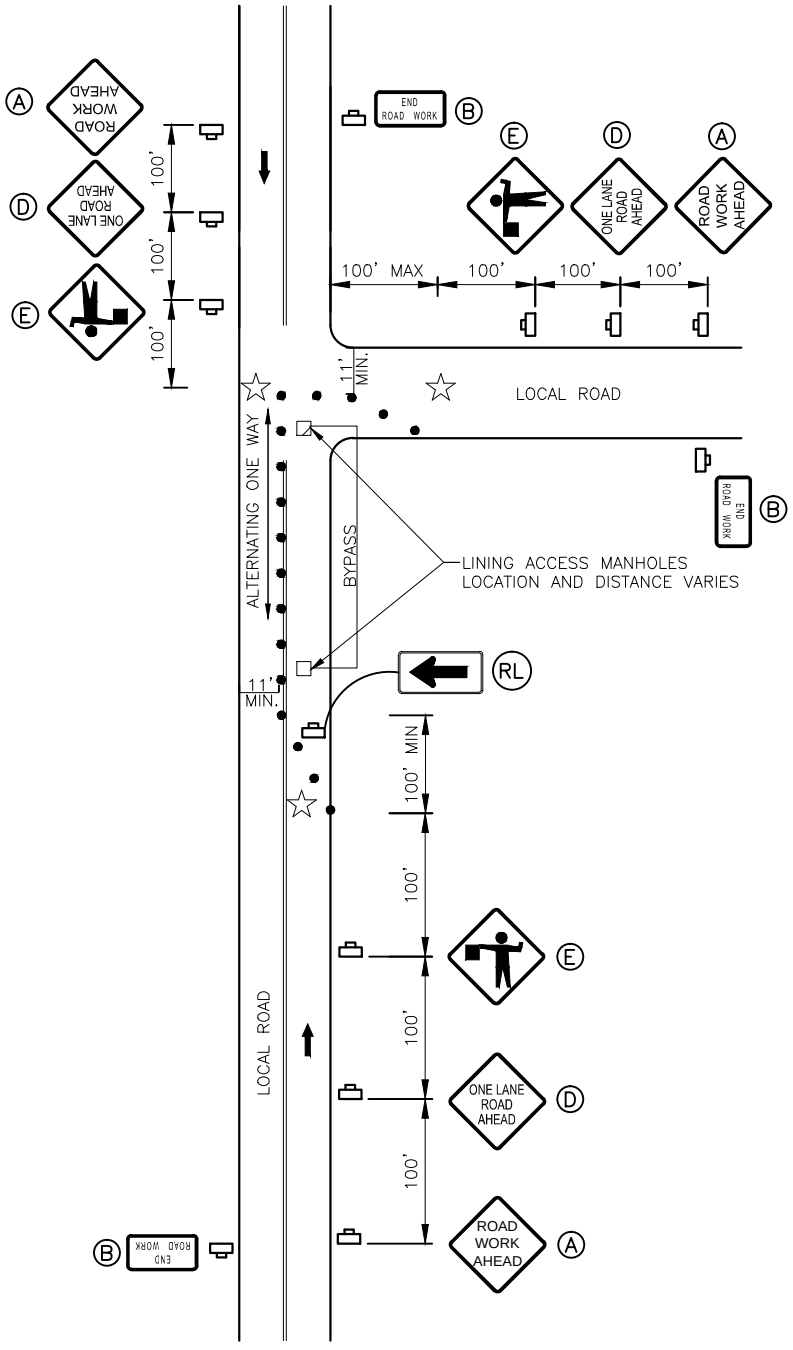
**Hartford, Connecticut**

TEMPORARY TRAFFIC CONTROL PLAN
TYPICAL CIPP LINING ADJACENT TO
"T" INTERSECTION (1)

# DETAIL H: TYPICAL CIPP LINING ADJACENT TO "T" INTERSECTION (2)




NOTE:

THIS PLAN IS ONLY INTENDED FOR USE ON STREETS WITH A SPEED LIMIT OF <45 MPH. A TEMPORARY TRAFFIC CONTROL PLAN WILL NEED TO BE DESIGNED FOR GREATER SPEEDS.

LEGEND:

- DRUMS/42" CONES AT 20' O.C.
- WORK ZONE SIGNS
- WORK AREA
- LANE IDENTIFICATION AND DIRECTION OF TRAFFIC
- TRAFFIC CONTROL PERSON (POLICE OR FLAGGER – APPROX. LOCATION AND NUMBER, REFERENCE NOTE #3 ON PAGE 1

SOURCE: MUTCD 2009 EDITION AND MDC.

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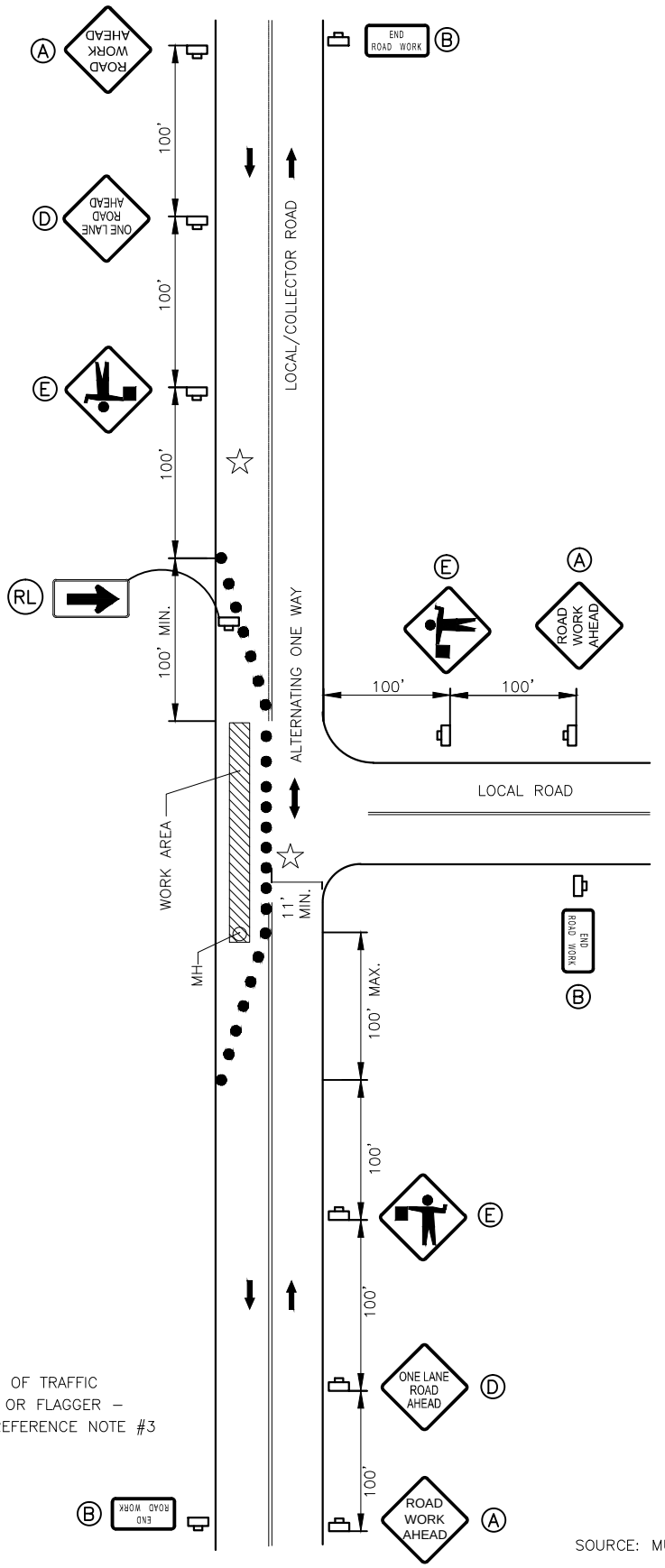
**Hartford, Connecticut**

TEMPORARY TRAFFIC CONTROL PLAN
TYPICAL CIPP LINING ADJACENT TO
"T" INTERSECTION (2)

# DETAIL I: TYPICAL CCTV AND CLEANING WORK IN TRAVEL LANE ACROSS FROM "T" INTERSECTION




NOTE:

THIS PLAN IS ONLY INTENDED FOR USE ON STREETS WITH A SPEED LIMIT OF <45 MPH. A TEMPORARY TRAFFIC CONTROL PLAN WILL NEED TO BE DESIGNED FOR GREATER SPEEDS.

LEGEND:

- DRUMS/42" CONES AT 20' O.C.
- WORK ZONE SIGNS
- WORK AREA
- LANE IDENTIFICATION AND DIRECTION OF TRAFFIC
- TRAFFIC CONTROL PERSON (POLICE OR FLAGGER – APPROX. LOCATION AND NUMBER, REFERENCE NOTE #3 ON PAGE 1

SOURCE: MUTCD 2009 EDITION AND MDC.

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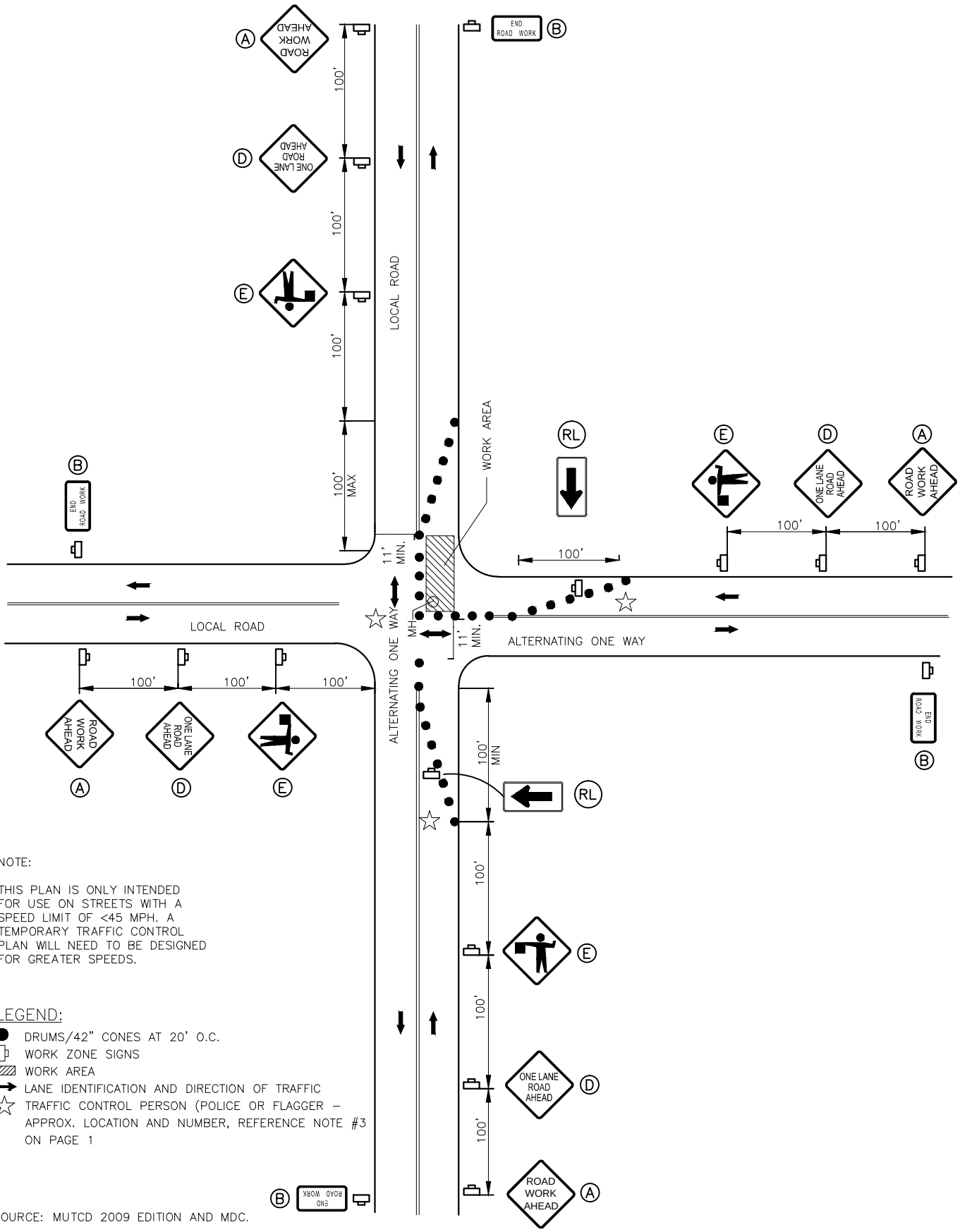
**Hartford, Connecticut**

TEMPORARY TRAFFIC CONTROL PLAN
TYPICAL CCTV AND CLEANING WORK IN TRAVEL LANE ACROSS FROM "T" INTERSECTION

# DETAIL J: TYPICAL CCTV AND CLEANING WORK AT 4–WAY INTERSECTION




NOTE:

THIS PLAN IS ONLY INTENDED FOR USE ON STREETS WITH A SPEED LIMIT OF <45 MPH. A TEMPORARY TRAFFIC CONTROL PLAN WILL NEED TO BE DESIGNED FOR GREATER SPEEDS.

LEGEND:

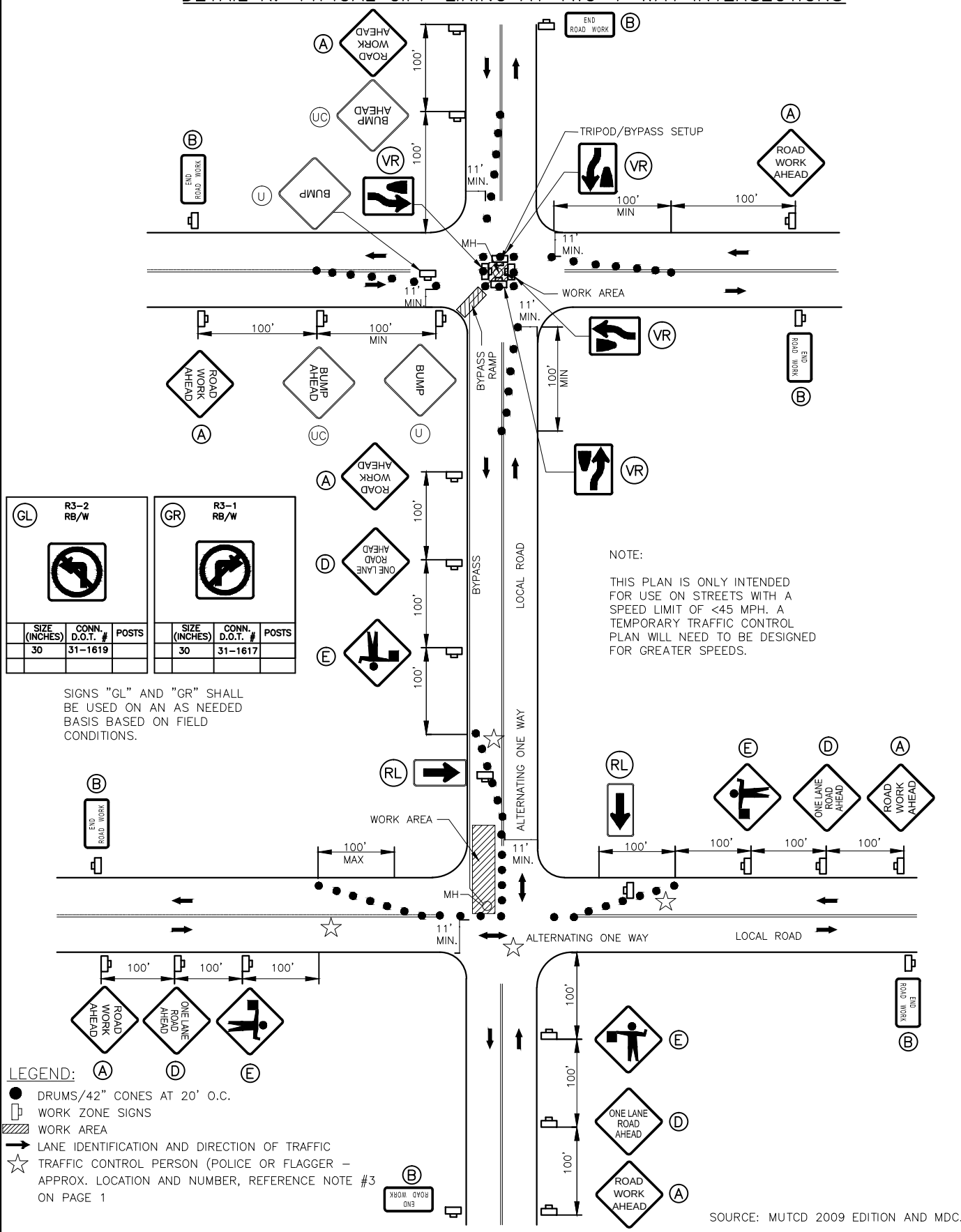
- DRUMS/42" CONES AT 20' O.C.
- WORK ZONE SIGNS
- WORK AREA
- LANE IDENTIFICATION AND DIRECTION OF TRAFFIC
- TRAFFIC CONTROL PERSON (POLICE OR FLAGGER – APPROX. LOCATION AND NUMBER, REFERENCE NOTE #3 ON PAGE 1

SOURCE: MUTCD 2009 EDITION AND MDC.

**The Metropolitan District**
**Hartford, Connecticut**

TEMPORARY TRAFFIC CONTROL PLAN
TYPICAL CCTV AND CLEANING WORK AT
4–WAY INTERSECTION

# DETAIL K: TYPICAL CIPP LINING AT TWO 4-WAY INTERSECTIONS




SOURCE: MUTCD 2009 EDITION AND MDC.

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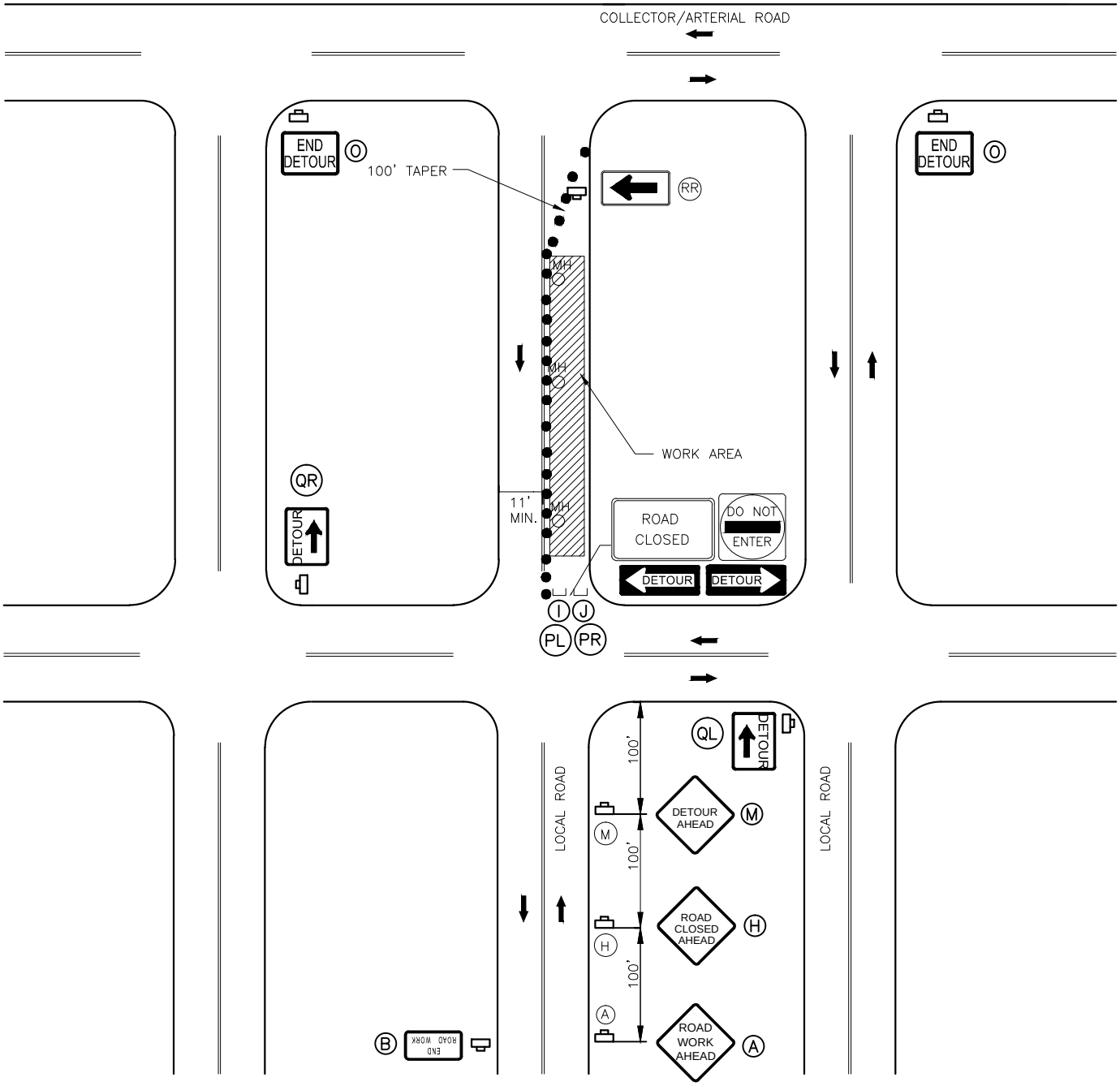
**Hartford, Connecticut**

TEMPORARY TRAFFIC CONTROL PLAN
TYPICAL CIPP LINING AT TWO
4-WAY INTERSECTIONS

# DETAIL L: TYPICAL CIPP LINING ON LOCAL ROAD NEAR INTERSECTION WITH DETOUR




LEGEND:

- DRUMS/42" CONES AT 20' O.C.
- WORK ZONE SIGNS
- WORK AREA
- LANE IDENTIFICATION AND DIRECTION OF TRAFFIC
- TYPE III BARRICADE

NOTE:

THIS PLAN IS ONLY INTENDED FOR USE ON STREETS WITH A SPEED LIMIT OF <45 MPH. A TEMPORARY TRAFFIC CONTROL PLAN WILL NEED TO BE DESIGNED FOR GREATER SPEEDS.

SOURCE: MUTCD 2009 EDITION AND MDC.

**The Metropolitan District**
**Hartford, Connecticut**

TEMPORARY TRAFFIC CONTROL PLAN
TYPICAL CIPP LINING ON LOCAL ROAD NEAR INTERSECTION WITH DETOUR

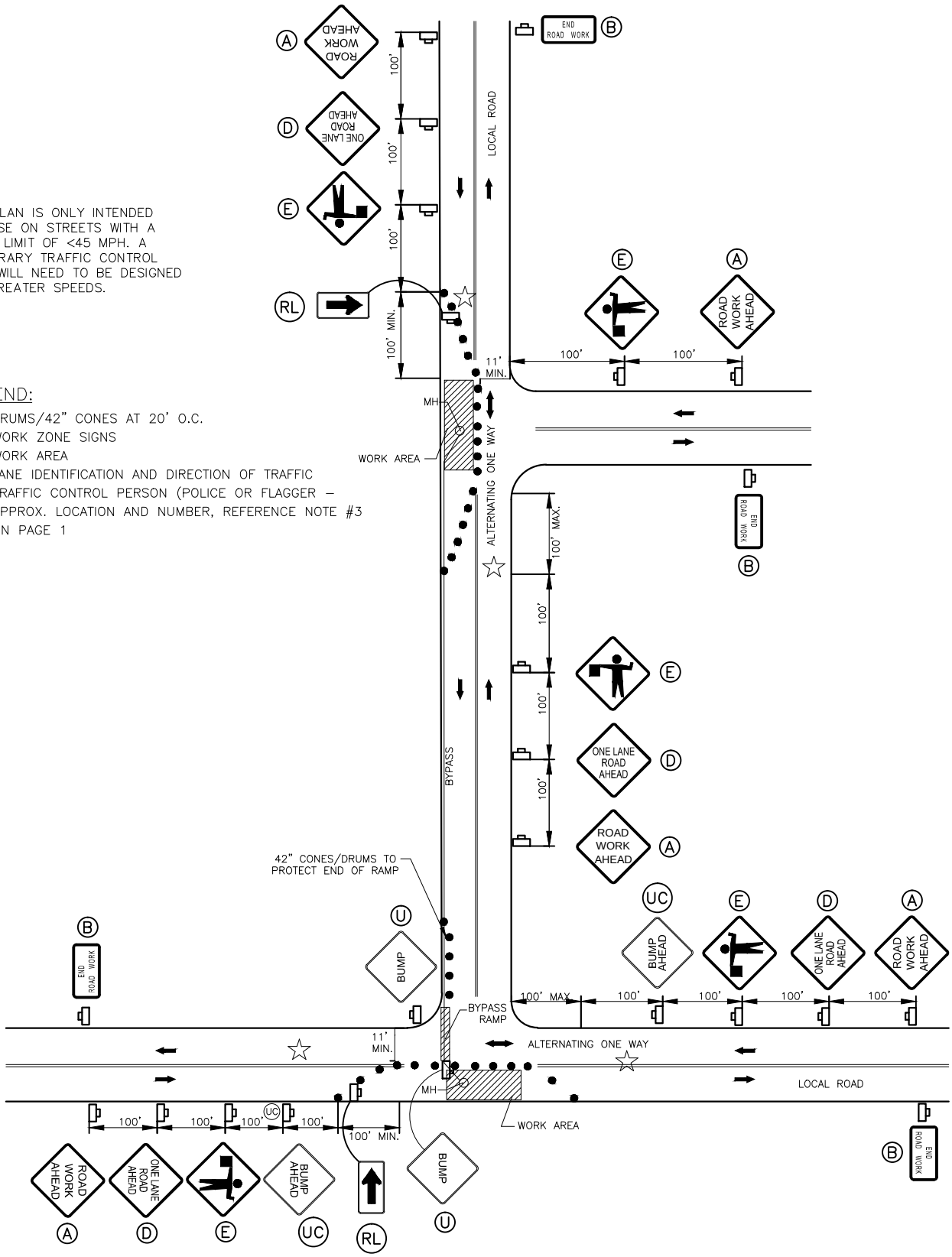
# DETAIL M: TYPICAL CIPP LINING AT TWO "T" INTERSECTIONS

NOTE:

THIS PLAN IS ONLY INTENDED FOR USE ON STREETS WITH A SPEED LIMIT OF <45 MPH. A TEMPORARY TRAFFIC CONTROL PLAN WILL NEED TO BE DESIGNED FOR GREATER SPEEDS.

LEGEND:

- DRUMS/42" CONES AT 20' O.C.
- WORK ZONE SIGNS
- WORK AREA
- LANE IDENTIFICATION AND DIRECTION OF TRAFFIC
- TRAFFIC CONTROL PERSON (POLICE OR FLAGGER – APPROX. LOCATION AND NUMBER, REFERENCE NOTE #3 ON PAGE 1

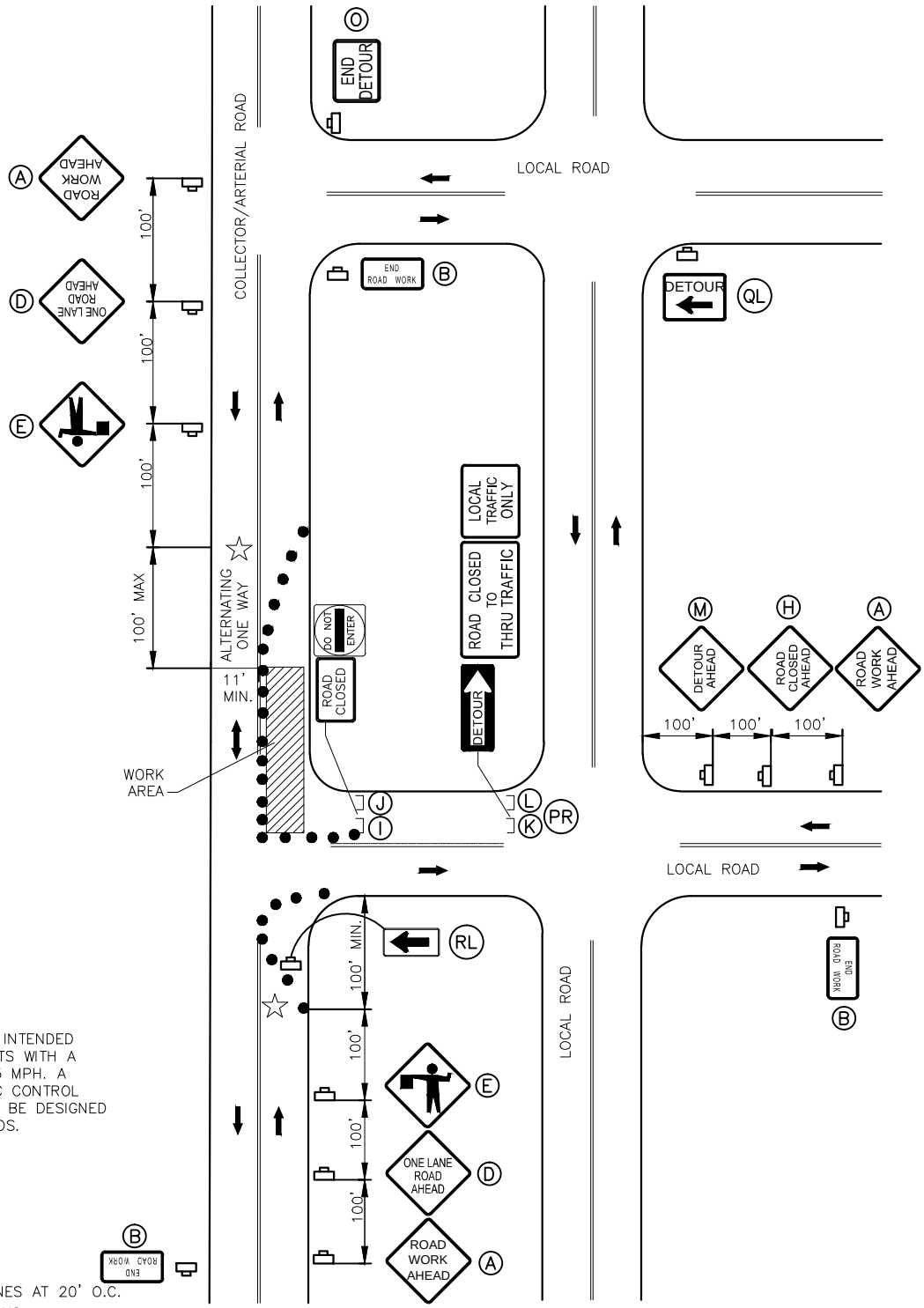



SOURCE: MUTCD 2009 EDITION AND MDC.

**The Metropolitan District**
**Hartford, Connecticut**

TEMPORARY TRAFFIC CONTROL PLAN
TYPICAL CIPP LINING AT TWO "T" INTERSECTIONS

# DETAIL N: TYPICAL CIPP LINING ON COLLECTOR ROAD NEAR INTERSECTION WITH DETOUR




NOTE:

THIS PLAN IS ONLY INTENDED FOR USE ON STREETS WITH A SPEED LIMIT OF <45 MPH. A TEMPORARY TRAFFIC CONTROL PLAN WILL NEED TO BE DESIGNED FOR GREATER SPEEDS.

LEGEND:

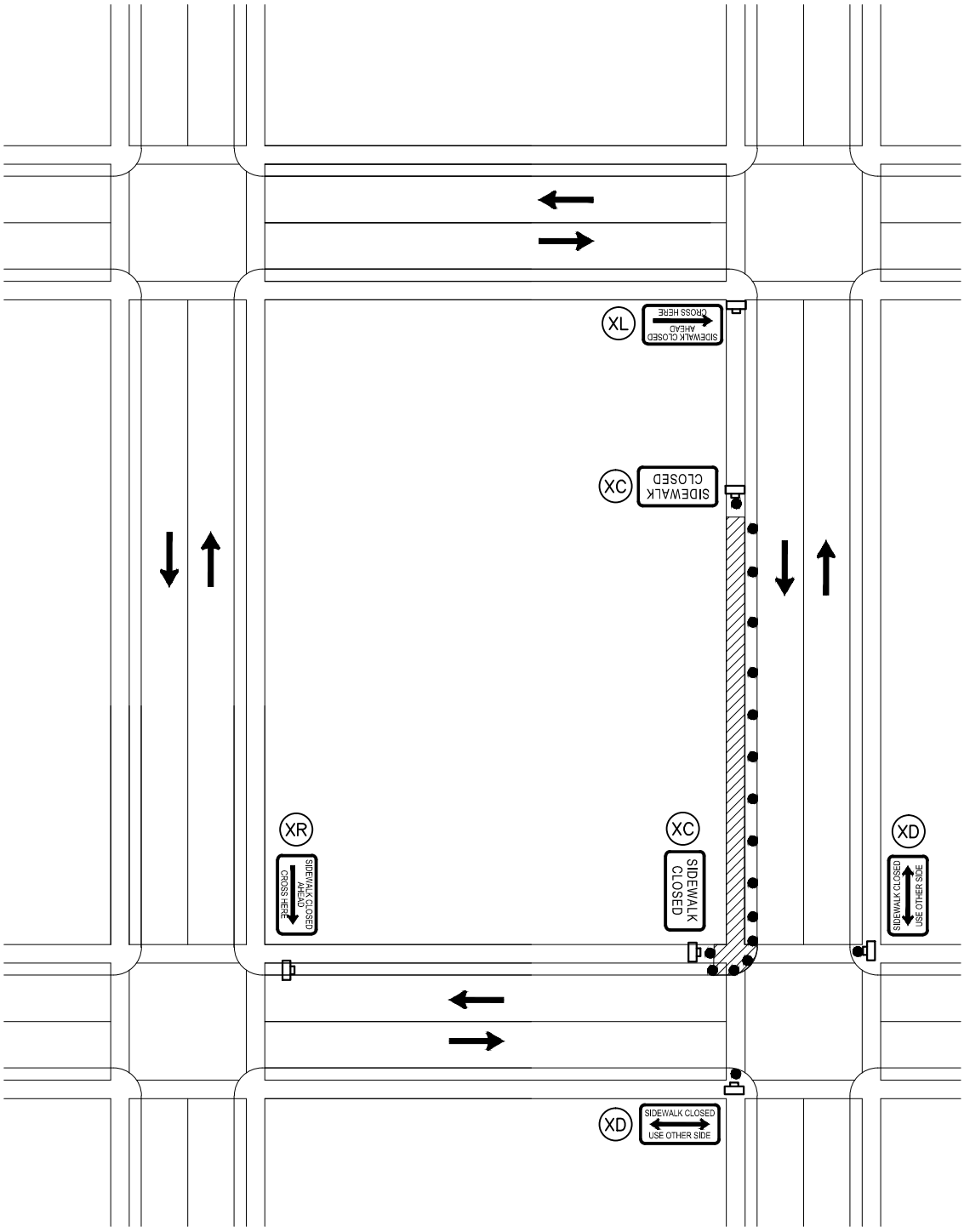
- DRUMS/42" CONES AT 20' O.C.
- WORK ZONE SIGNS
- WORK AREA
- LANE IDENTIFICATION AND DIRECTION OF TRAFFIC
- TRAFFIC CONTROL PERSON (POLICE OR FLAGGER – APPROX. LOCATION AND NUMBER, REFERENCE NOTE #3 ON PAGE 1
- TYPE III BARRICADE

SOURCE: MUTCD 2009 EDITION AND MDC.

**The Metropolitan District**
**Hartford, Connecticut**

TEMPORARY TRAFFIC CONTROL PLAN
TYPICAL CIPP LINING ON COLLECTOR ROAD
NEAR INTERSECTION WITH DETOUR

# DETAIL O: TYPICAL CORNER SIDEWALK CLOSURE




LEGEND:

- DRUMS/42" CONES AT 20' O.C.
- WORK ZONE SIGNS
- WORK AREA
- LANE IDENTIFICATION AND DIRECTION OF TRAFFIC

SOURCE: MUTCD 2009 EDITION AND MDC.

**The Metropolitan District**
**Hartford, Connecticut**

TEMPORARY TRAFFIC CONTROL PLAN
TYPICAL CORNER SIDEWALK CLOSURE

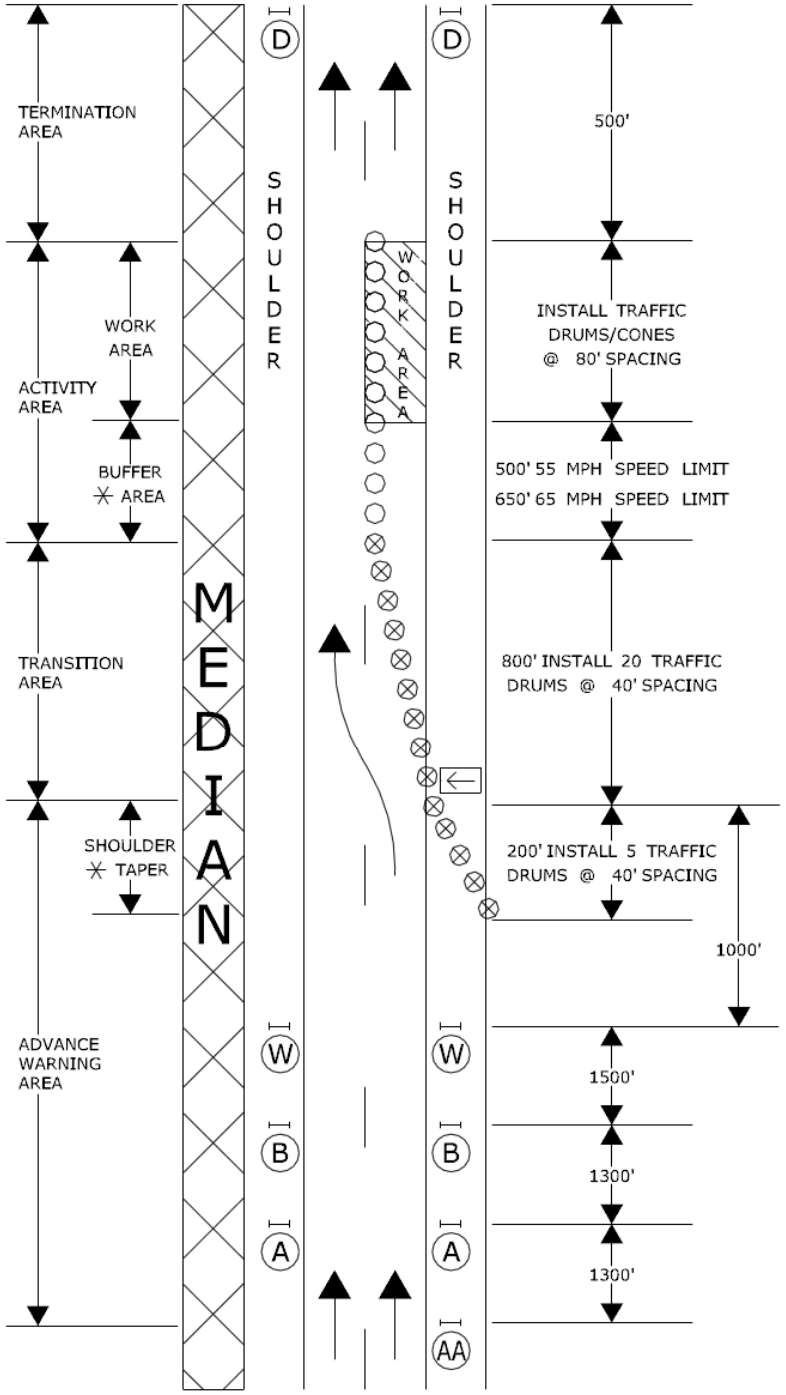
# Appendix B:

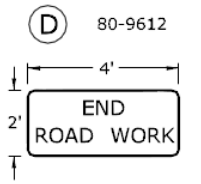
# CTDOT CONSTRUCTION TRAFFIC CONTROL PLANS

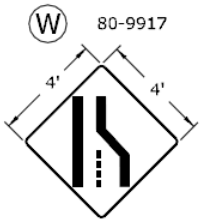
SOURCE: CTDOT JUNE 2012

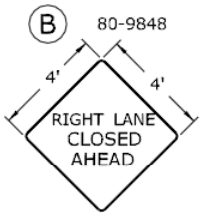
# WORK IN RIGHT LANE - MULTILANE HIGHWAY

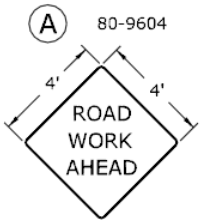
SIGN FACE
126 SQ. FT (MIN.)

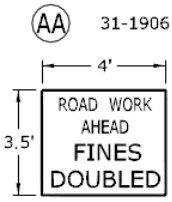



TRAFFIC CONE **OR** TRAFFIC DRUM
OPTIONAL TRAFFIC DRUM PORTABLE SIGN SUPPORT
HIGH MOUNTED INTERNALLY ILLUMINATED FLASHING ARROW

SCALE: NONE

CONSTRUCTION TRAFFIC CONTROL PLAN

## PLAN 1

SEE NOTES 1, 2, 3, 4, 5, 6, 8, 9

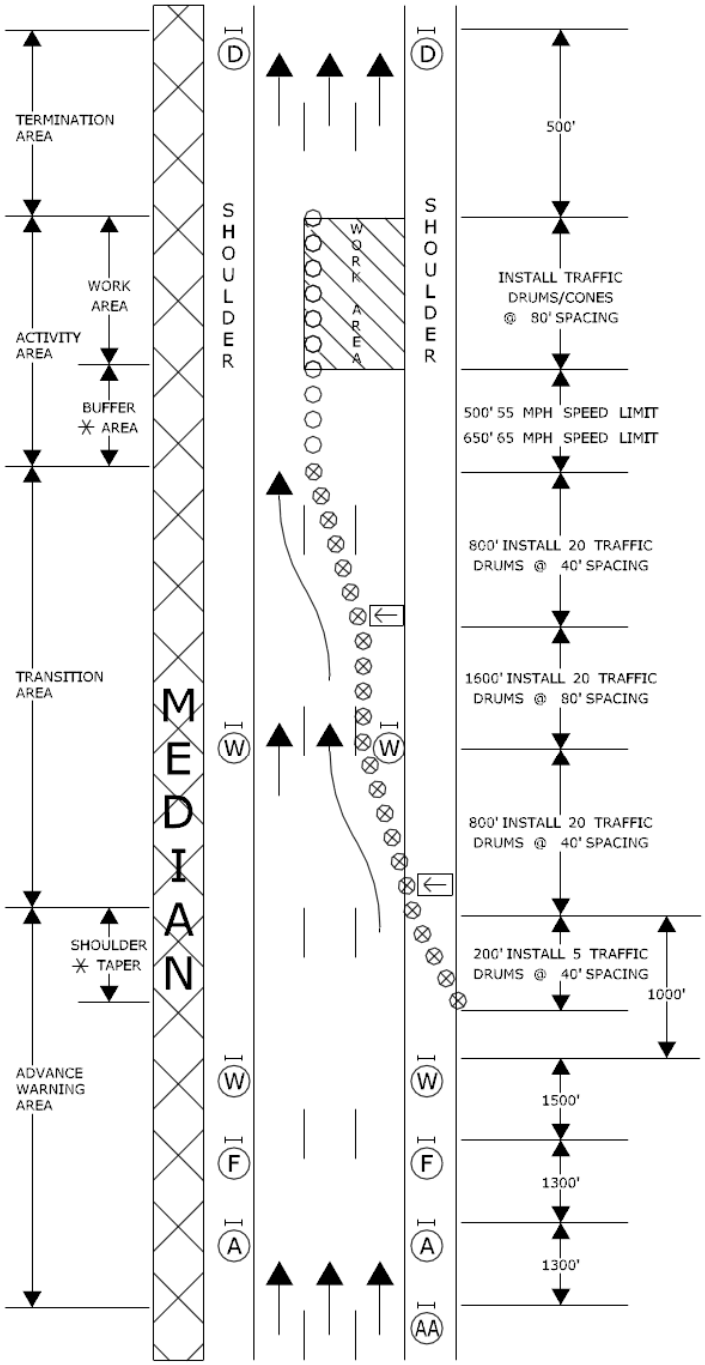
CONNECTICUT DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & CONSTRUCTION

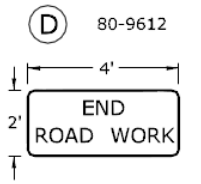
APPROVED Charles S. Harlow 2012.06.05 15:51:00-04'00'
PRINCIPAL ENGINEER

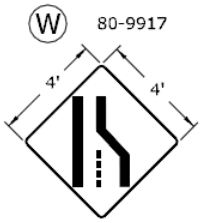
ITEM #971001A

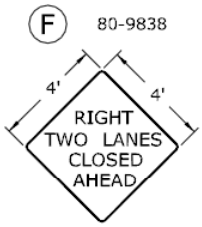
# WORK IN RIGHT TWO LANES - MULTILANE HIGHWAY

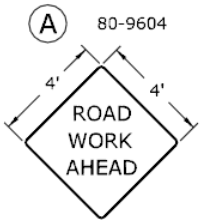
SIGN FACE
158 SQ. FT (MIN.)

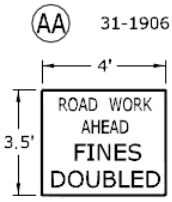



TRAFFIC CONE **OR** TRAFFIC DRUM
OPTIONAL ⊗ TRAFFIC DRUM ⊢ PORTABLE SIGN SUPPORT
HIGH MOUNTED INTERNALLY ILLUMINATED FLASHING ARROW

SCALE: NONE

CONSTRUCTION TRAFFIC CONTROL PLAN

## PLAN 2

SEE NOTES 1, 2, 3, 4, 5, 6, 8, 9

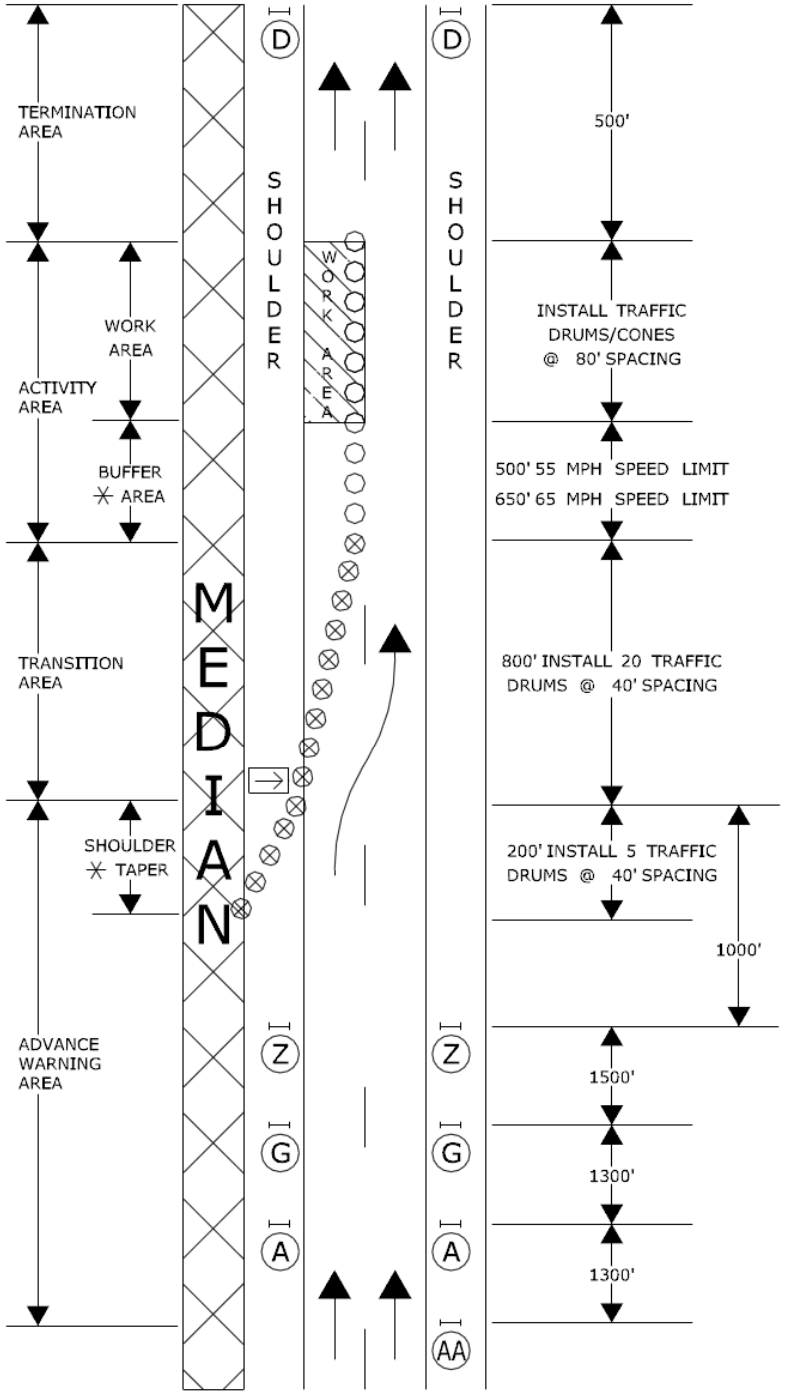
CONNECTICUT DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & CONSTRUCTION

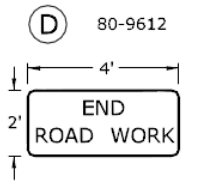
APPROVED Charles S. Harlow 2012.06.05 15:51:23-04'00'
PRINCIPAL ENGINEER

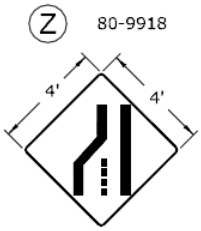
ITEM #971001A

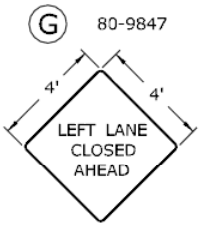
# WORK IN LEFT LANE - MULTILANE HIGHWAY

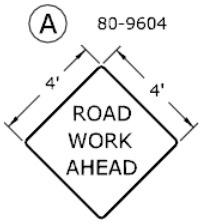
SIGN FACE
126 SQ. FT (MIN.)

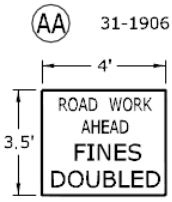



TRAFFIC CONE **OR** TRAFFIC DRUM
OPTIONAL TRAFFIC DRUM PORTABLE SIGN SUPPORT
HIGH MOUNTED INTERNALLY ILLUMINATED FLASHING ARROW

SCALE: NONE

CONSTRUCTION TRAFFIC CONTROL PLAN

## PLAN 3

SEE NOTES 1, 2, 3, 4, 5, 6, 8, 9

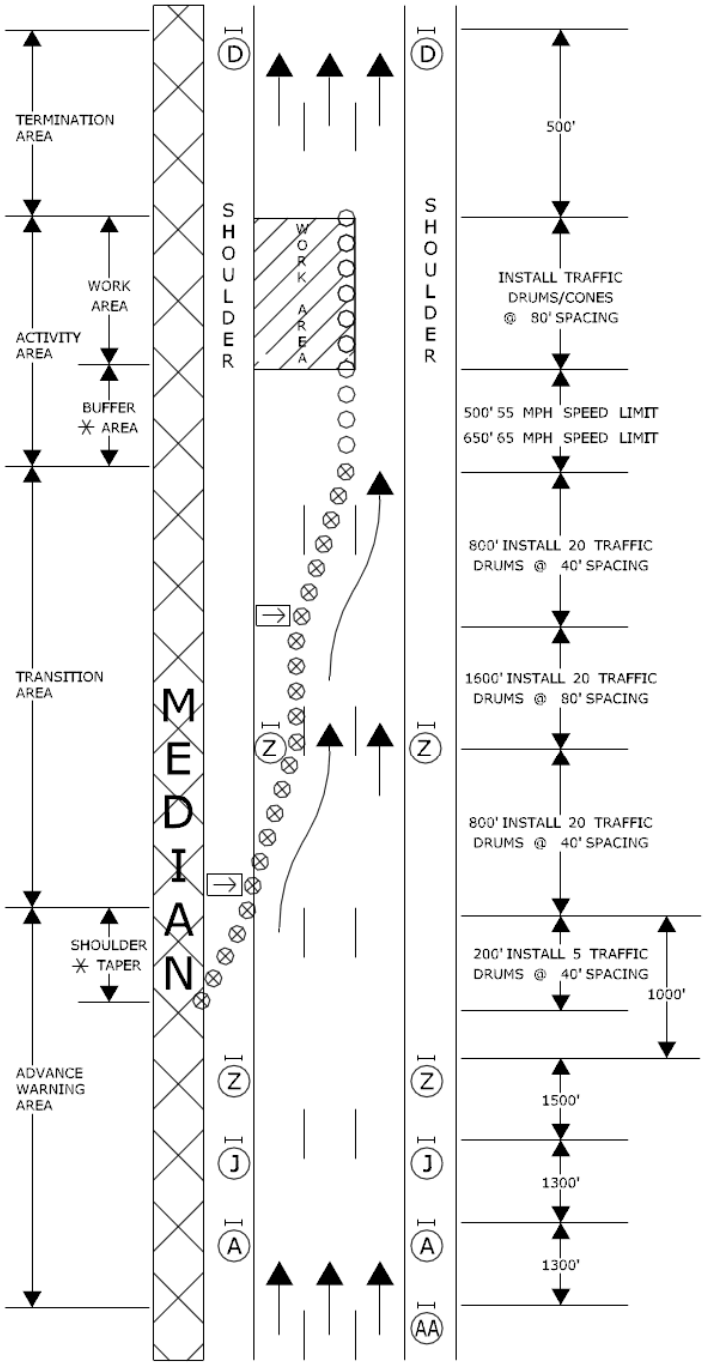
CONNECTICUT DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & CONSTRUCTION

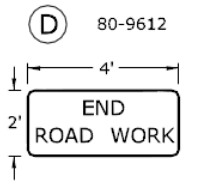
APPROVED Charles S. Harlow 2012.06.05 15:51:46-04'00'
PRINCIPAL ENGINEER

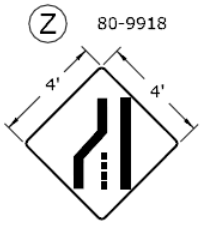
ITEM #971001A

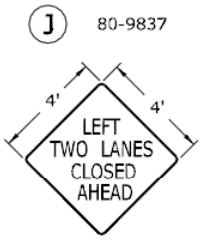
# WORK IN LEFT TWO LANES - MULTILANE HIGHWAY

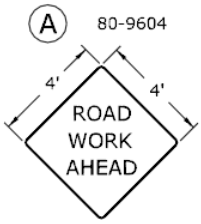
SIGN FACE
158 SQ. FT (MIN.)

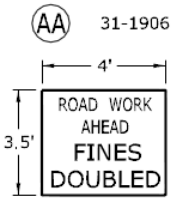



○ TRAFFIC CONE **OR** TRAFFIC DRUM
✳ OPTIONAL ⊗ TRAFFIC DRUM ⊢ PORTABLE SIGN SUPPORT
⇐ HIGH MOUNTED INTERNALLY ILLUMINATED FLASHING ARROW

SCALE: NONE

CONSTRUCTION TRAFFIC CONTROL PLAN

## PLAN 4

SEE NOTES 1, 2, 3, 4, 5, 6, 8, 9

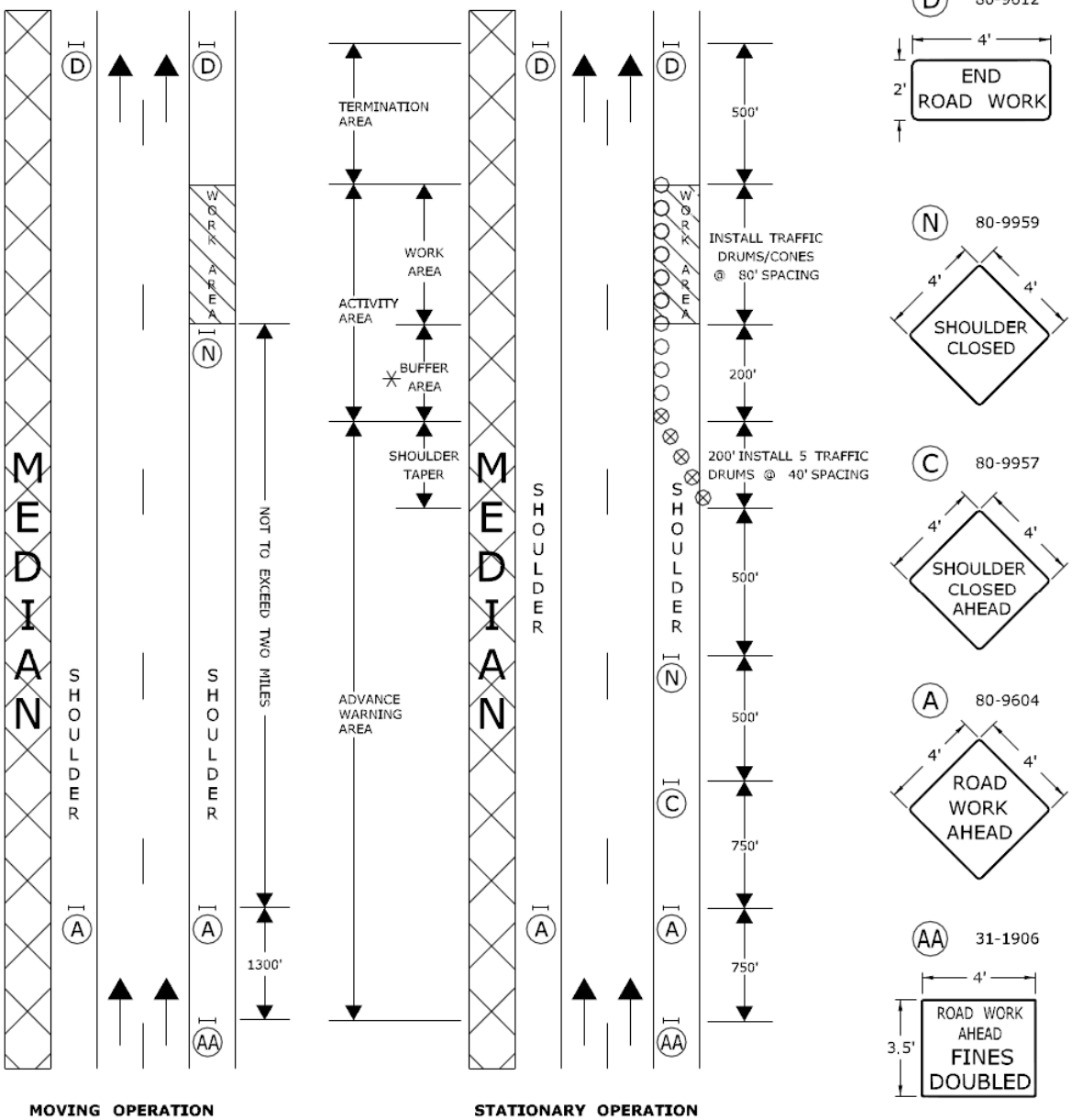
CONNECTICUT DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & CONSTRUCTION

APPROVED Charles S. Harlow 2012.06.05 15:52:10-04'00'
PRINCIPAL ENGINEER

ITEM #971001A

# WORK IN SHOULDER AREA - MULTILANE HIGHWAY

SIGN FACE
94 SQ. FT (MIN.)



















TRAFFIC CONE **OR** TRAFFIC DRUM
OPTIONAL TRAFFIC DRUM PORTABLE SIGN SUPPORT
HIGH MOUNTED INTERNALLY ILLUMINATED FLASHING ARROW

SCALE: NONE

CONSTRUCTION TRAFFIC CONTROL PLAN

## PLAN 6

SEE NOTES 1, 2, 4, 8

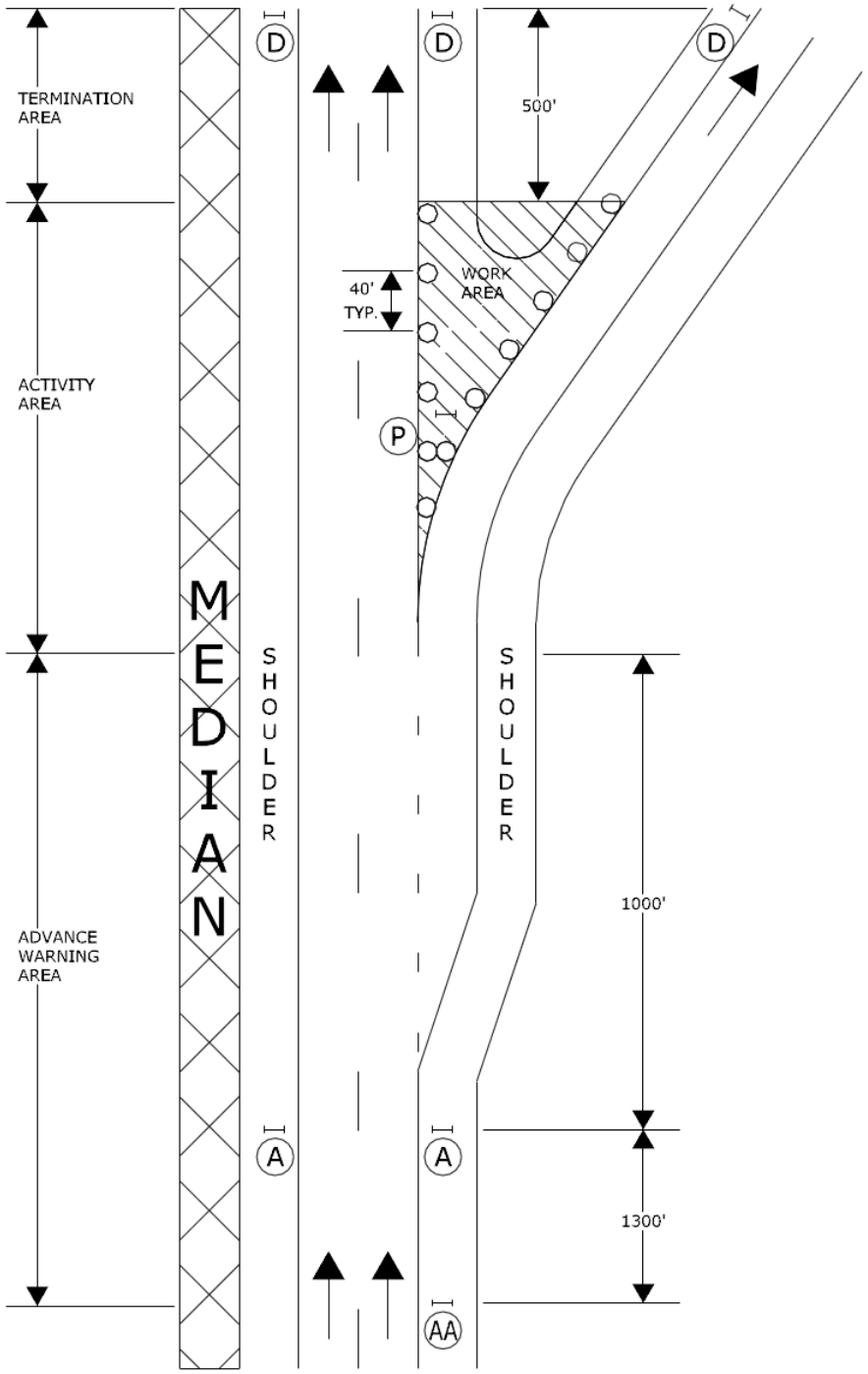
CONNECTICUT DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & CONSTRUCTION

APPROVED _____ Charles S. Harlow 2012.06.05 15:52:38-04'00'
PRINCIPAL ENGINEER

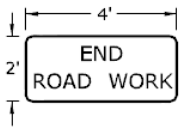
ITEM #971001A

# WORK IN RAMP GORE AREA

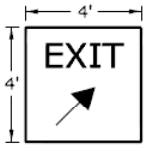
SIGN FACE
86 SQ. FT (MIN.)




D 80-9612

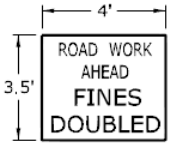



P 51-6147




A 80-9604


AA 31-1906




TRAFFIC CONE **OR** TRAFFIC DRUM
OPTIONAL TRAFFIC DRUM PORTABLE SIGN SUPPORT
HIGH MOUNTED INTERNALLY ILLUMINATED FLASHING ARROW

SCALE: NONE

CONSTRUCTION TRAFFIC CONTROL PLAN

## PLAN 7

SEE NOTES 1, 2, 4, 8, 10

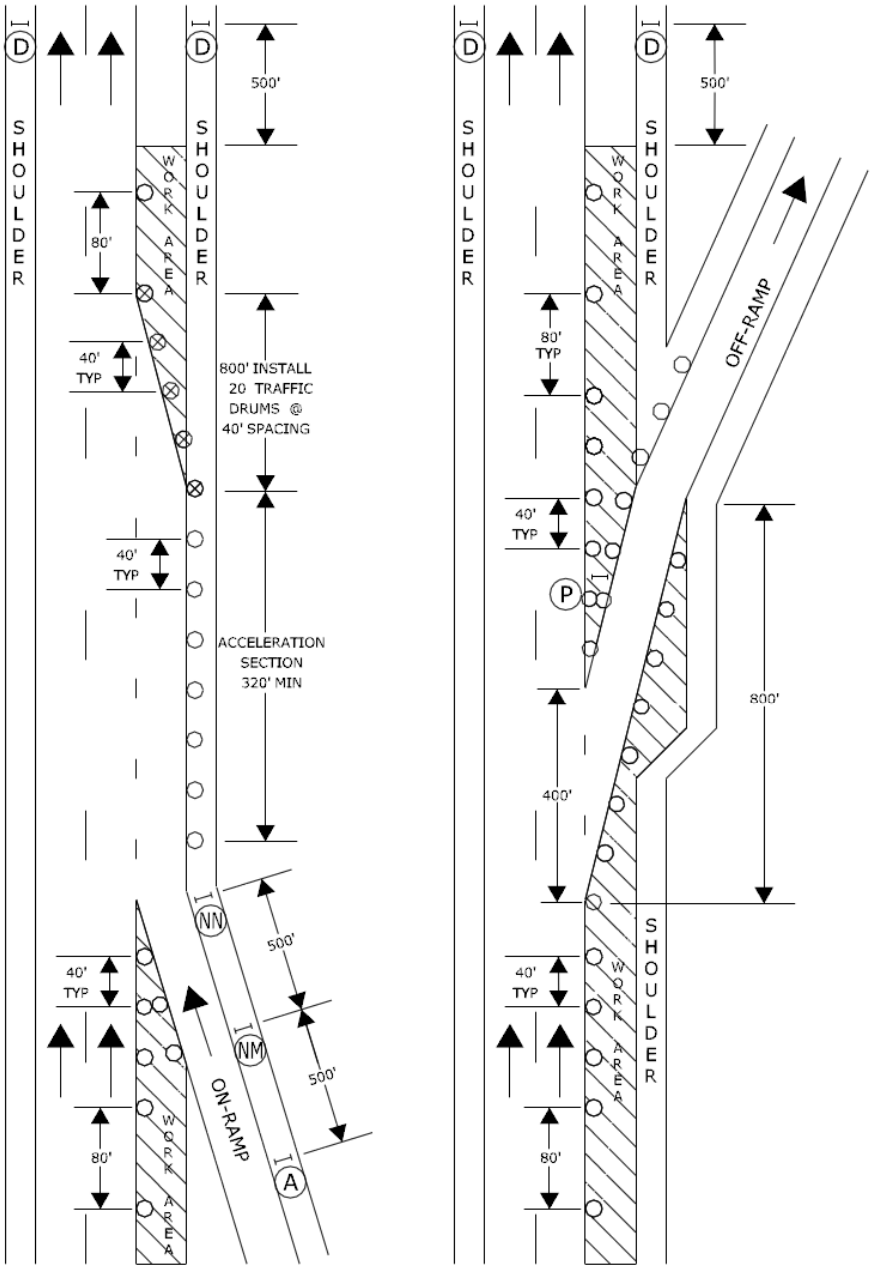
CONNECTICUT DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & CONSTRUCTION

APPROVED Charles S. Harlow 2012.06.05 15:53:03-04'00'
PRINCIPAL ENGINEER

ITEM #971001A

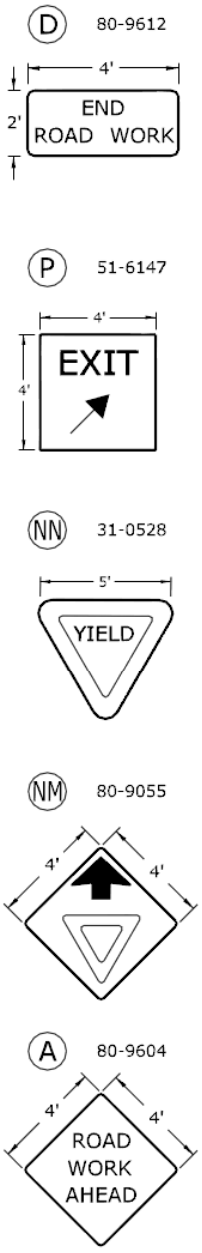
# TYPICAL RAMP TREATMENTS FOR MAINLINE LANE CLOSURE - MULTILANE HIGHWAY

SIGN FACE
SQ. FT VARIES




ON-RAMP TREATMENT

OFF-RAMP TREATMENT




USE TRAFFIC CONTROL PLAN 1 TO CLOSE THE RIGHT LANE

TRAFFIC CONE **OR** TRAFFIC DRUM
OPTIONAL TRAFFIC DRUM PORTABLE SIGN SUPPORT
HIGH MOUNTED INTERNALLY ILLUMINATED FLASHING ARROW

SCALE: NONE

CONSTRUCTION TRAFFIC CONTROL PLAN

## PLAN 8

SEE NOTES 1, 2, 3, 4, 5, 6, 8, 9, 10

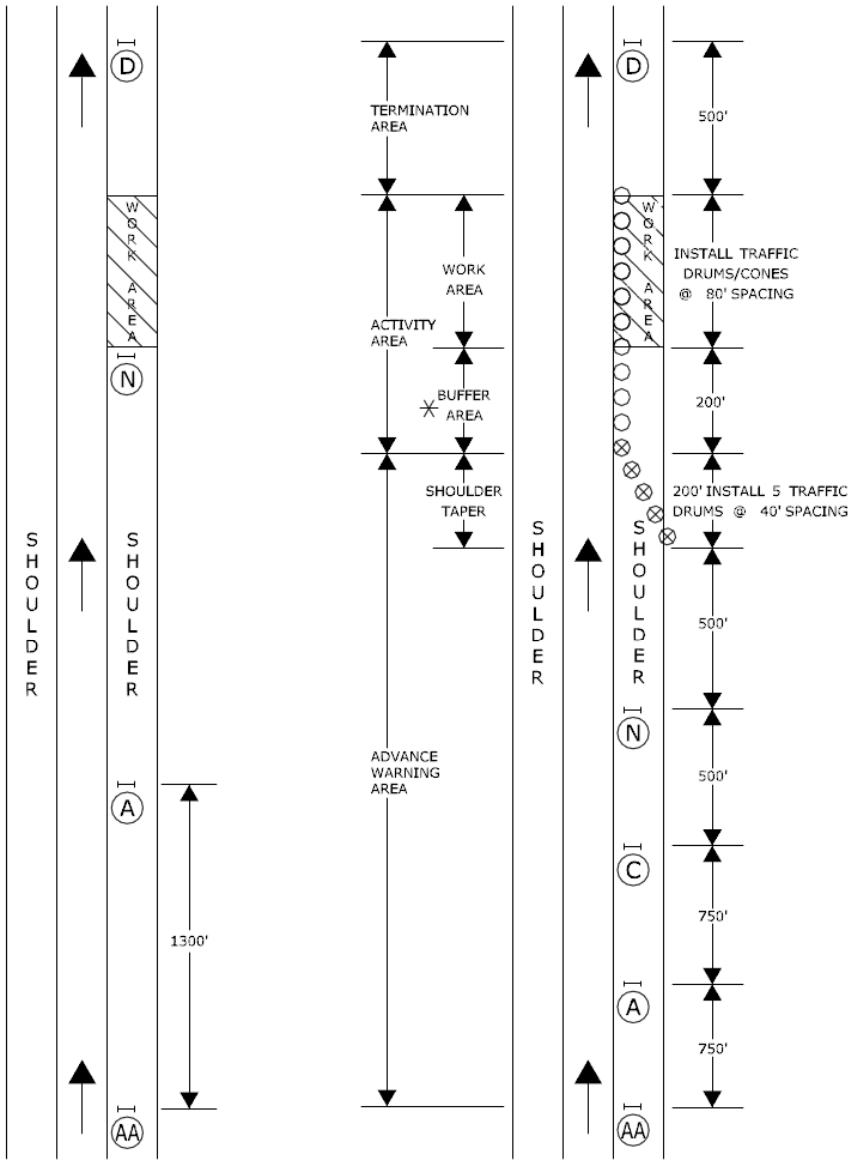
CONNECTICUT DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & CONSTRUCTION

APPROVED Charles S. Harlow 2012.06.05 15:53:31-04'00'
PRINCIPAL ENGINEER

ITEM #971001A

# WORK IN SHOULDER AREA - TURNING ROADWAYS / RAMPS

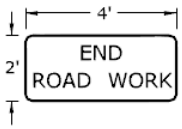
SIGN FACE
70 SQ. FT (MIN.)



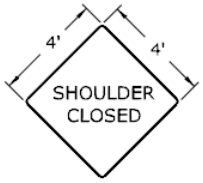

MOVING OPERATION

STATIONARY OPERATION

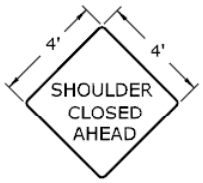
D 80-9612




N 80-9959

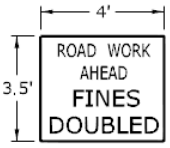



C 80-9957




A 80-9604


AA 31-1906




TRAFFIC CONE **OR** TRAFFIC DRUM
OPTIONAL TRAFFIC DRUM PORTABLE SIGN SUPPORT
HIGH MOUNTED INTERNALLY ILLUMINATED FLASHING ARROW

SCALE: NONE

CONSTRUCTION TRAFFIC CONTROL PLAN

## PLAN 9

SEE NOTES 1, 2, 4, 8

CONNECTICUT DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & CONSTRUCTION

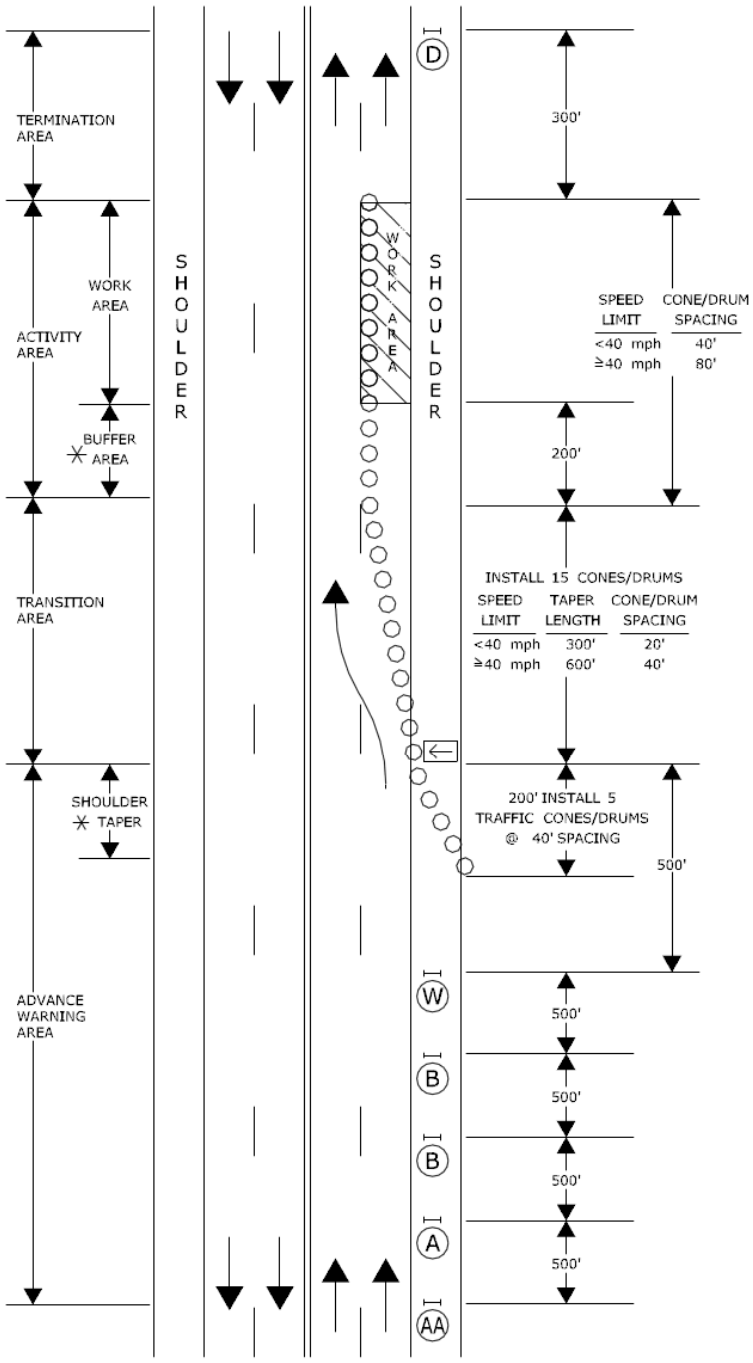
APPROVED _____ PRINCIPAL ENGINEER

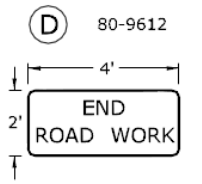
Charles S. Harlow
2012.06.05 15:53:53-04'00'

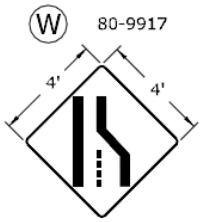
ITEM #971001A

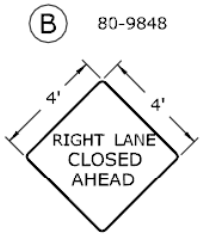
# WORK IN RIGHT LANE - 4 LANE UNDIVIDED HIGHWAY

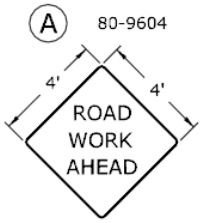
SIGN FACE
86 SQ. FT (MIN.)

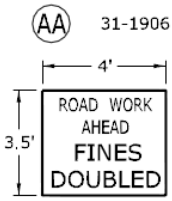



TRAFFIC CONE **OR** TRAFFIC DRUM
OPTIONAL TRAFFIC DRUM PORTABLE SIGN SUPPORT
HIGH MOUNTED INTERNALLY ILLUMINATED FLASHING ARROW

SCALE: NONE

CONSTRUCTION TRAFFIC CONTROL PLAN

## PLAN 10

SEE NOTES 1, 2, 3, 4, 5, 6, 7, 8

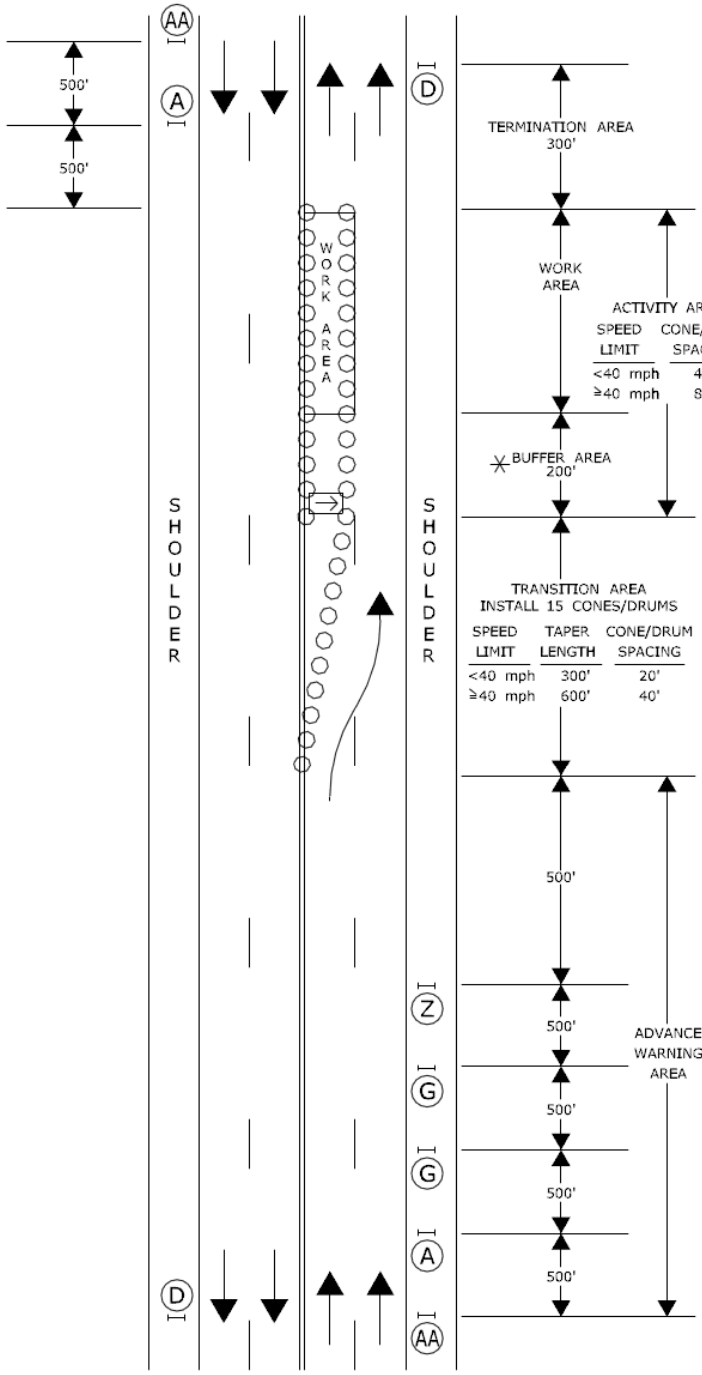
CONNECTICUT DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & CONSTRUCTION

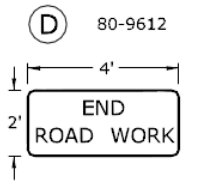
APPROVED _____ Charles S. Harlow 2012.06.05 15:54:15-04'00'
PRINCIPAL ENGINEER

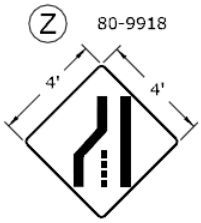
ITEM #971001A

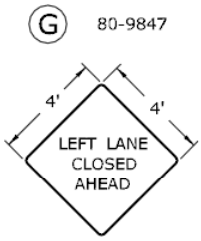
# WORK IN LEFT LANE - 4 LANE UNDIVIDED HIGHWAY

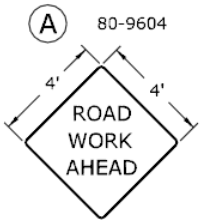
SIGN FACE
124 SQ. FT (MIN.)

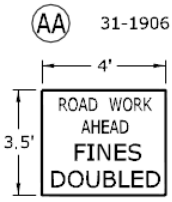



○ TRAFFIC CONE **OR** TRAFFIC DRUM
✳ OPTIONAL ⊗ TRAFFIC DRUM ⊢ PORTABLE SIGN SUPPORT
HIGH MOUNTED INTERNALLY ILLUMINATED FLASHING ARROW

SCALE: NONE

CONSTRUCTION TRAFFIC CONTROL PLAN

## PLAN 11

SEE NOTES 1, 2, 3, 4, 5, 6, 7, 8

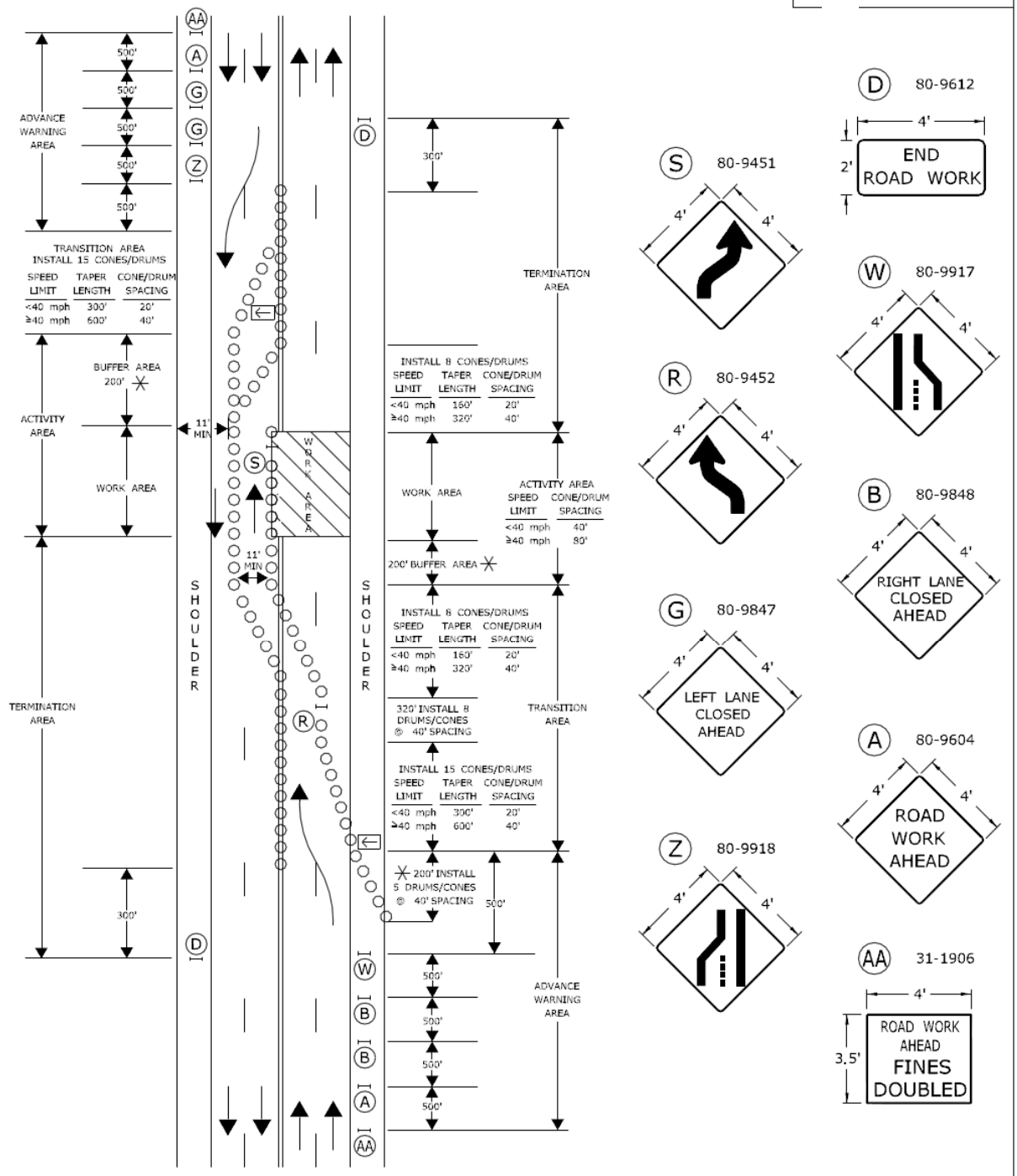
CONNECTICUT DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & CONSTRUCTION

APPROVED _____ Charles S. Harlow 2012.06.05 15:54:36-04'00'
PRINCIPAL ENGINEER

ITEM #971001A

# WORK IN BOTH LANES - 4 LANE UNDIVIDED HIGHWAY

SIGN FACE
204 SQ. FT (MIN.)































TRAFFIC CONE **OR** TRAFFIC DRUM
OPTIONAL TRAFFIC DRUM PORTABLE SIGN SUPPORT
HIGH MOUNTED INTERNALLY ILLUMINATED FLASHING ARROW

SCALE: NONE

CONSTRUCTION TRAFFIC CONTROL PLAN

## PLAN 12

SEE NOTES 1, 2, 3, 4, 5, 6, 7, 8

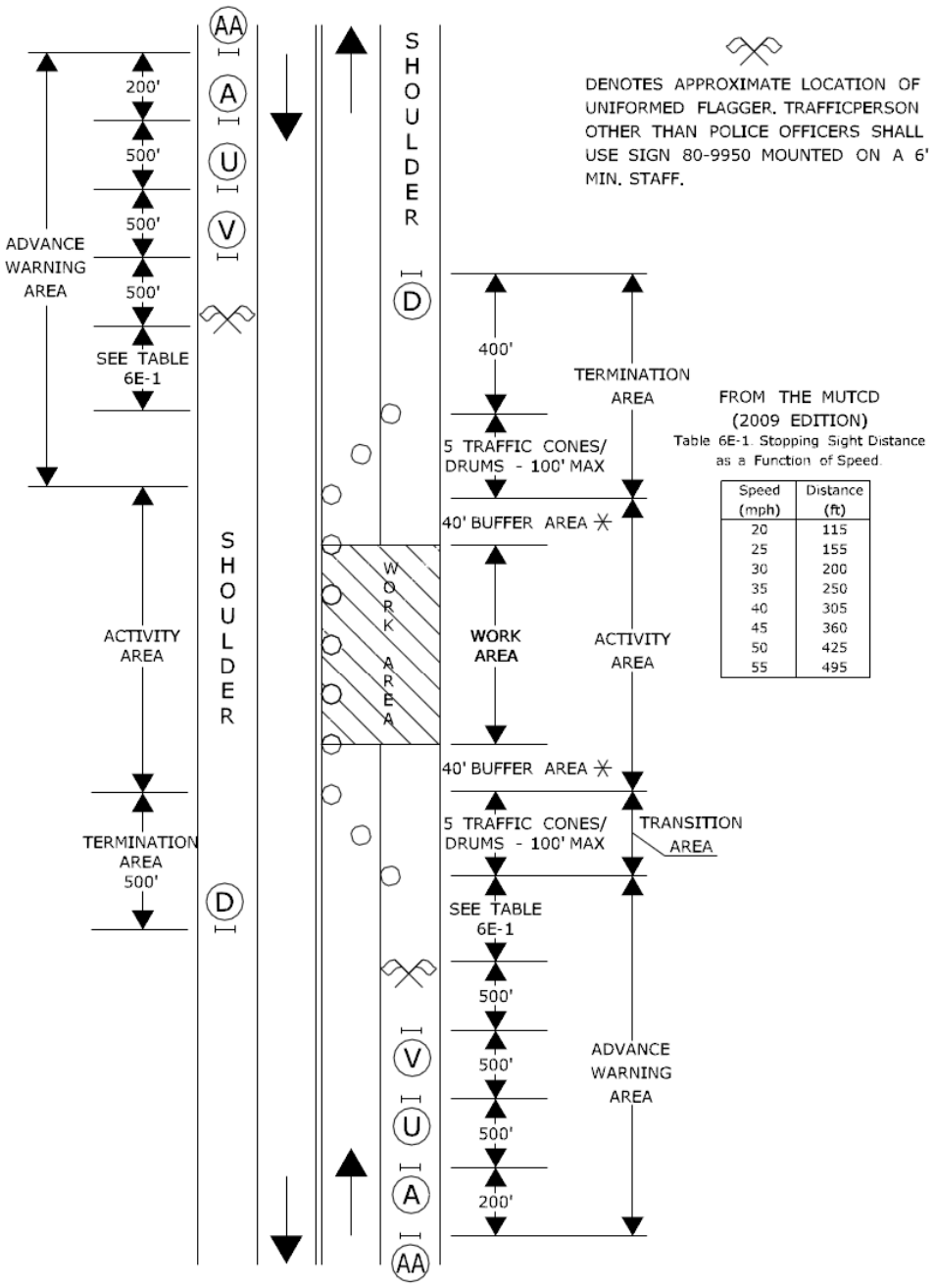
CONNECTICUT DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & CONSTRUCTION

APPROVED _____ Charles S. Harlow 2012.06.05 15:55:01-04'00'
PRINCIPAL ENGINEER

ITEM #971001A

# WORK IN TRAVEL LANE AND SHOULDER
# TWO LANE HIGHWAY
# ALTERNATING ONE-WAY TRAFFIC OPERATIONS

SIGN FACE
108 SQ. FT (MIN.)

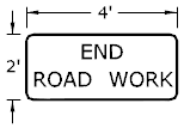



DENOTES APPROXIMATE LOCATION OF UNIFORMED FLAGGER. TRAFFICPERSON OTHER THAN POLICE OFFICERS SHALL USE SIGN 80-9950 MOUNTED ON A 6' MIN. STAFF.

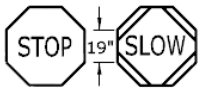
FROM THE MUTCD (2009 EDITION)
Table 6E-1. Stopping Sight Distance as a Function of Speed

| Speed (mph) | Distance (ft) |
|---|---|
| 20 | 115 |
| 25 | 155 |
| 30 | 200 |
| 35 | 250 |
| 40 | 305 |
| 45 | 360 |
| 50 | 425 |
| 55 | 495 |

D 80-9612



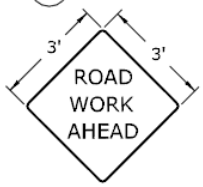

80-9950
SIDE A SIDE B



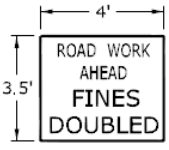

V 80-9803


U 80-9834


A 80-9603




AA 31-1906




TRAFFIC CONE **OR** TRAFFIC DRUM
OPTIONAL TRAFFIC DRUM PORTABLE SIGN SUPPORT
HIGH MOUNTED INTERNALLY ILLUMINATED FLASHING ARROW

SCALE: NONE

CONSTRUCTION TRAFFIC CONTROL PLAN

## PLAN 13 - SHEET 1 OF 2

SEE NOTES 1, 2, 4, 6, 7, 8

CONNECTICUT DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & CONSTRUCTION

APPROVED Charles S. Harlow 2012.06.05 15:55:23-04'00'
PRINCIPAL ENGINEER

ITEM #971001A

# WORK IN TRAVEL LANE AND SHOULDER
# TWO LANE HIGHWAY
# ALTERNATING ONE-WAY TRAFFIC OPERATIONS

SIGN FACE
108 SQ. FT (MIN.)

## HAND SIGNAL METHODS TO BE USED BY UNIFORMED FLAGGERS

THE FOLLOWING METHODS FROM SECTION 6E.07, FLAGGER PROCEDURES, IN THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES," SHALL BE USED BY UNIFORMED FLAGGERS WHEN DIRECTING TRAFFIC THROUGH A WORK AREA. THE STOP/SLOW SIGN PADDLE (SIGN NO. 80-9950) SHOWN ON THE TRAFFIC STANDARD SHEET TR-1220 01 ENTITLED, "SIGNS FOR CONSTRUCTION AND PERMIT OPERATIONS" SHALL BE USED.

A. TO STOP TRAFFIC

TO STOP ROAD USERS, THE FLAGGER SHALL FACE ROAD USERS AND AIM THE STOP PADDLE FACE TOWARD ROAD USERS IN A STATIONARY POSITION WITH THE ARM EXTENDED HORIZONTALLY AWAY FROM THE BODY. THE FREE ARM SHALL BE HELD WITH THE PALM OF THE HAND ABOVE SHOULDER LEVEL TOWARD APPROACHING TRAFFIC.


B. TO DIRECT TRAFFIC TO PROCEED

TO DIRECT STOPPED ROAD USERS TO PROCEED, THE FLAGGER SHALL FACE ROAD USERS WITH THE SLOW PADDLE FACE AIMED TOWARD ROAD USERS IN A STATIONARY POSITION WITH THE ARM EXTENDED HORIZONTALLY AWAY FROM THE BODY. THE FLAGGER SHALL MOTION WITH THE FREE HAND FOR ROAD USERS TO PROCEED.


C. TO ALERT OR SLOW TRAFFIC

TO ALERT OR SLOW TRAFFIC, THE FLAGGER SHALL FACE ROAD USERS WITH THE SLOW PADDLE FACE AIMED TOWARD ROAD USERS IN A STATIONARY POSITION WITH THE ARM EXTENDED HORIZONTALLY AWAY FROM THE BODY. TO FURTHER ALERT OR SLOW TRAFFIC, THE FLAGGER HOLDING THE SLOW PADDLE FACE TOWARD ROAD USERS MAY MOTION UP AND DOWN WITH THE FREE HAND, PALM DOWN.


◯ TRAFFIC CONE **OR** TRAFFIC DRUM
✳ OPTIONAL ⊗ TRAFFIC DRUM ⊢⊣ PORTABLE SIGN SUPPORT
⟵ HIGH MOUNTED INTERNALLY ILLUMINATED FLASHING ARROW

SCALE: NONE

CONSTRUCTION TRAFFIC CONTROL PLAN
PLAN 13 - SHEET 2 OF 2
SEE NOTES 1, 2, 4, 6, 7, 8

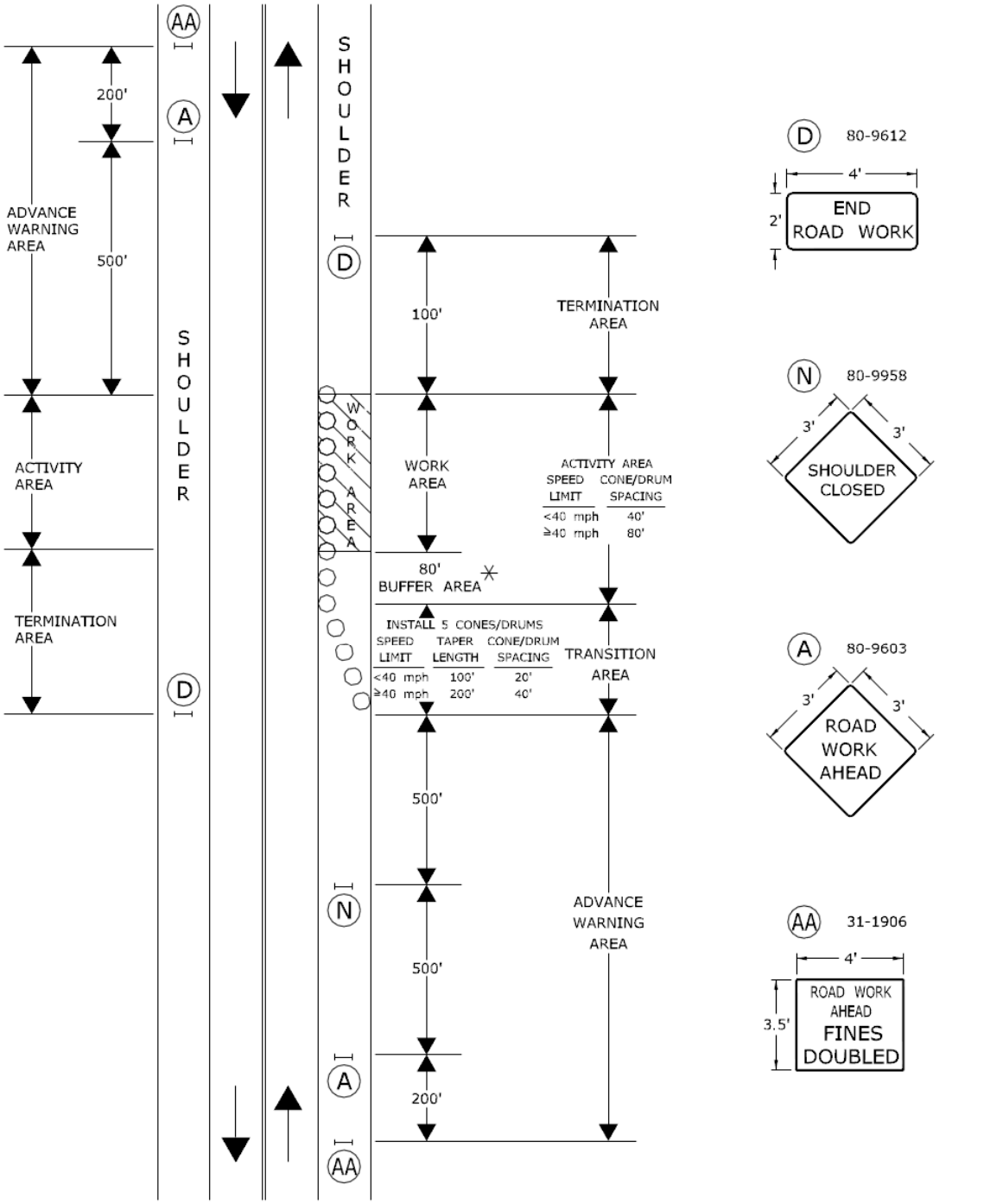
CONNECTICUT DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & CONSTRUCTION

APPROVED Charles S. Harlow 2012.06.05 15:55:45-04'00'
PRINCIPAL ENGINEER

ITEM #971001A

# WORK IN SHOULDER - TWO LANE HIGHWAY

SIGN FACE
71 SQ. FT (MIN.)




TRAFFIC CONE **OR** TRAFFIC DRUM
OPTIONAL TRAFFIC DRUM PORTABLE SIGN SUPPORT
HIGH MOUNTED INTERNALLY ILLUMINATED FLASHING ARROW

SCALE: NONE

CONSTRUCTION TRAFFIC CONTROL PLAN

## PLAN 14

SEE NOTES 1, 2, 4, 7, 8

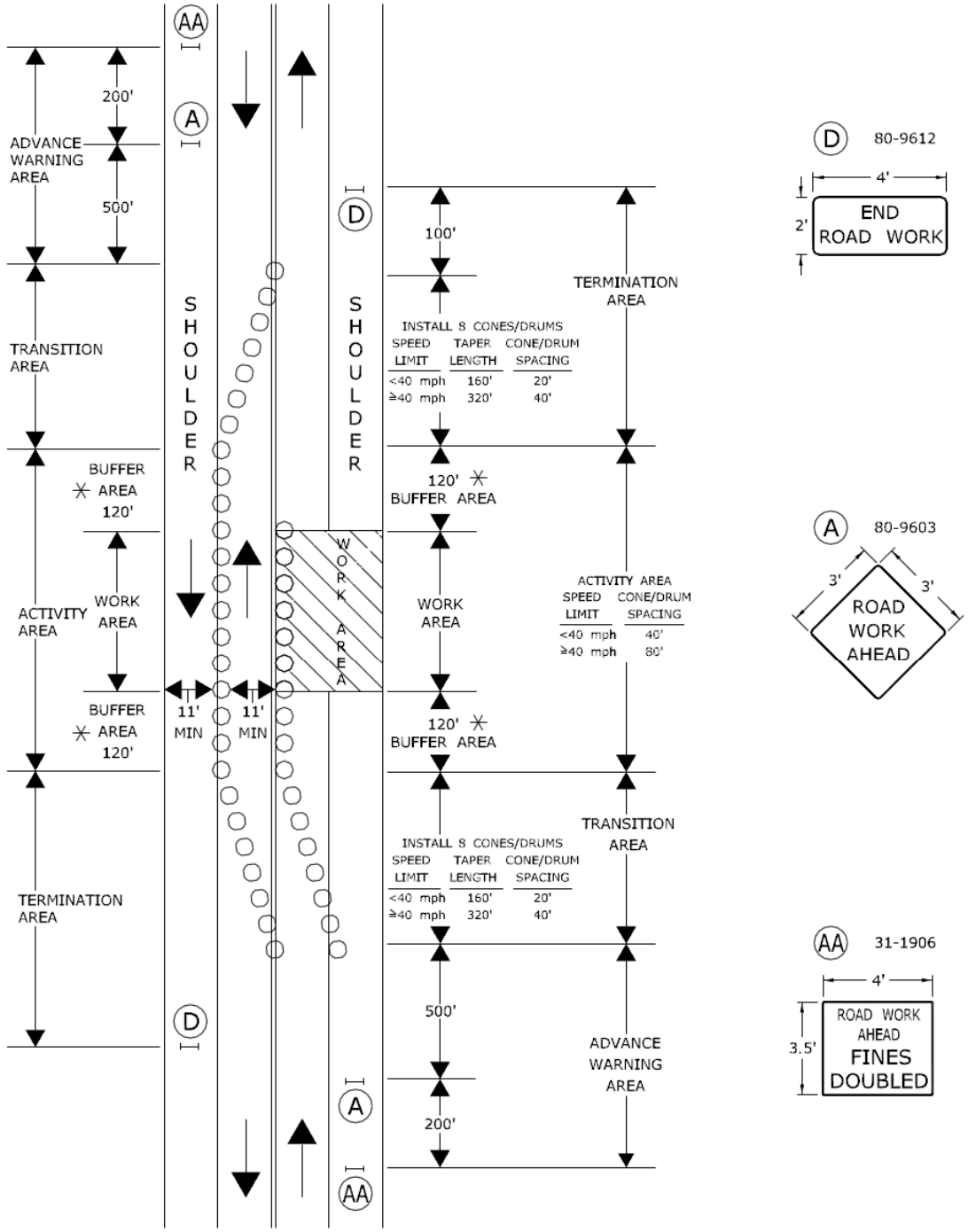
CONNECTICUT DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & CONSTRUCTION

APPROVED Charles S. Harlow 2012.06.05 15:56:09-04'00'
PRINCIPAL ENGINEER

ITEM #971001A

# WORK IN TRAVEL LANE AND SHOULDER
# TWO LANE HIGHWAY

SIGN FACE
62 SQ. FT (MIN.)




D 80-9612




A 80-9603




AA 31-1906




TRAFFIC CONE **OR** TRAFFIC DRUM
OPTIONAL TRAFFIC DRUM PORTABLE SIGN SUPPORT
HIGH MOUNTED INTERNALLY ILLUMINATED FLASHING ARROW

SCALE: NONE

CONSTRUCTION TRAFFIC CONTROL PLAN

## PLAN 15

SEE NOTES 1, 2, 4, 6, 7, 8

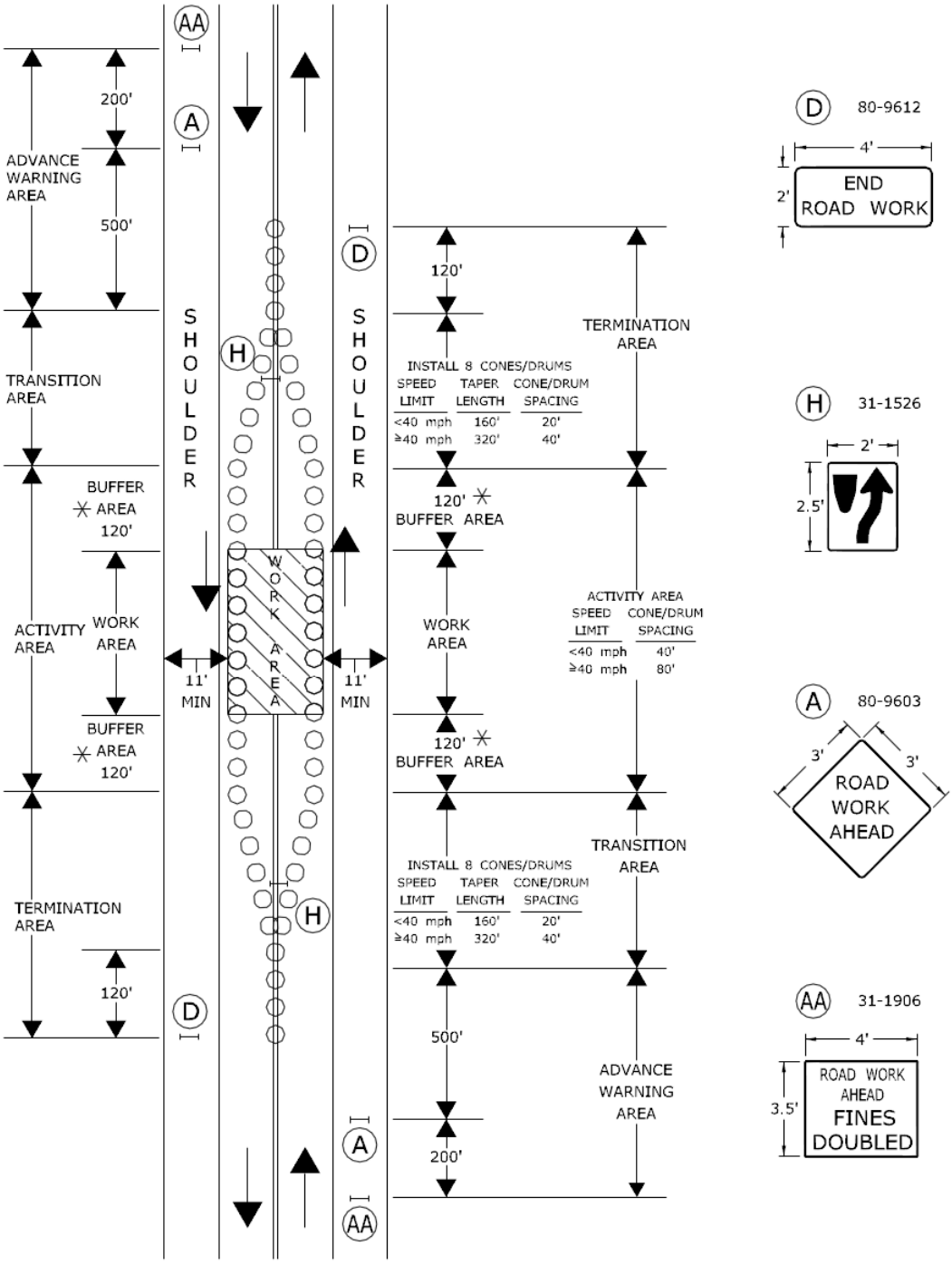
CONNECTICUT DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & CONSTRUCTION

APPROVED _____ Charles S. Harlow 2012.06.05 15:56:29-04'00'
PRINCIPAL ENGINEER

ITEM #971001A

# WORK IN MIDDLE OF ROADWAY
# TWO LANE HIGHWAY

SIGN FACE
72 SQ. FT (MIN.)




◯ TRAFFIC CONE **OR** TRAFFIC DRUM
✳ OPTIONAL ⊗ TRAFFIC DRUM ⊢ PORTABLE SIGN SUPPORT
⟸ HIGH MOUNTED INTERNALLY ILLUMINATED FLASHING ARROW

SCALE: NONE

CONSTRUCTION TRAFFIC CONTROL PLAN

## PLAN 16

SEE NOTES 1, 2, 4, 6, 7, 8

CONNECTICUT DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & CONSTRUCTION

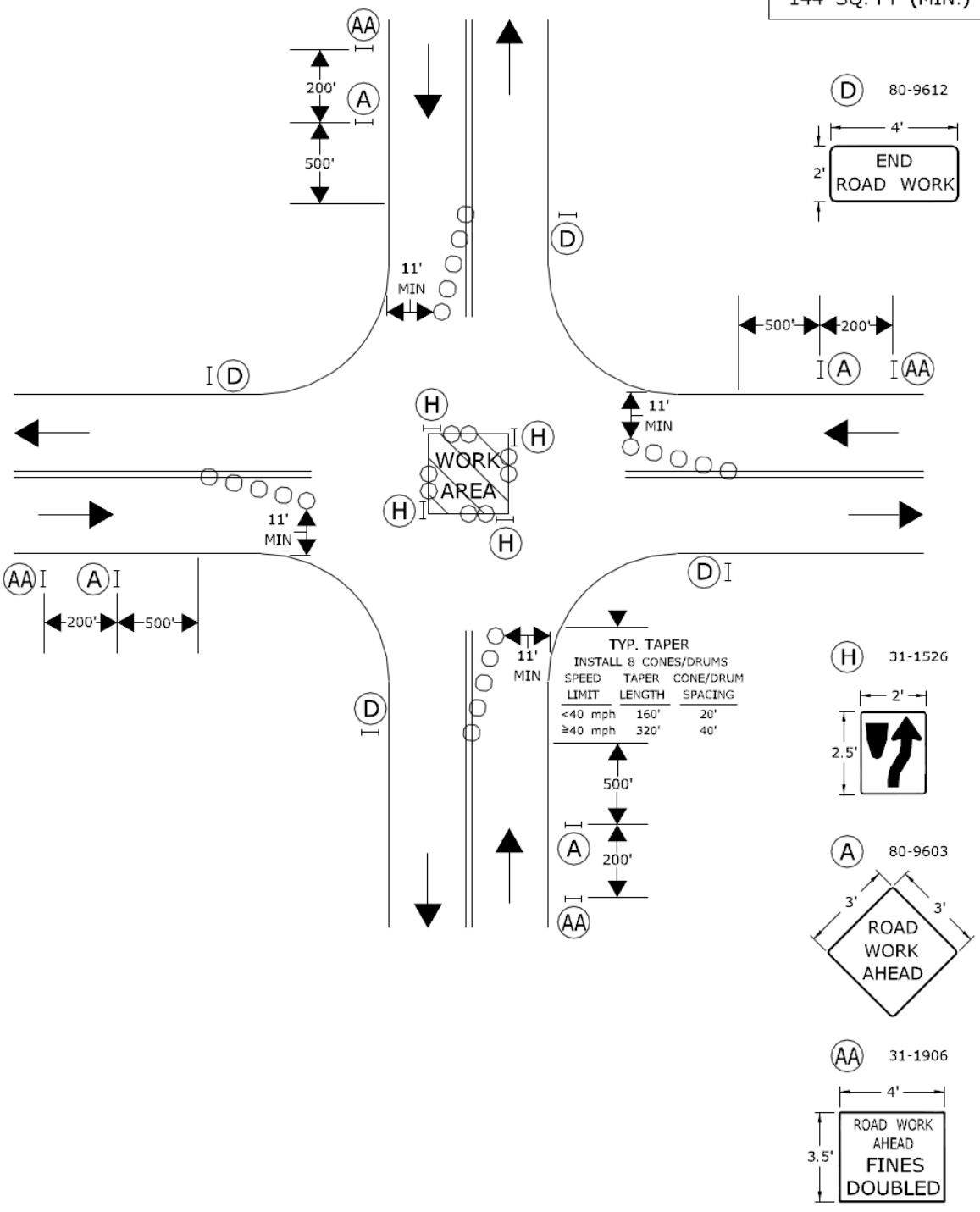
APPROVED _____ PRINCIPAL ENGINEER

Charles S. Harlow
2012.06.05 15:56:51-04'00'

ITEM #971001A

# WORK IN MIDDLE OF ROADWAY AT INTERSECTION

SIGN FACE
144 SQ. FT (MIN.)




TRAFFIC CONE **OR** TRAFFIC DRUM
OPTIONAL TRAFFIC DRUM PORTABLE SIGN SUPPORT
HIGH MOUNTED INTERNALLY ILLUMINATED FLASHING ARROW

SCALE: NONE

CONSTRUCTION TRAFFIC CONTROL PLAN

## PLAN 17

SEE NOTES 1, 2, 4, 6, 7, 8

CONNECTICUT DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & CONSTRUCTION

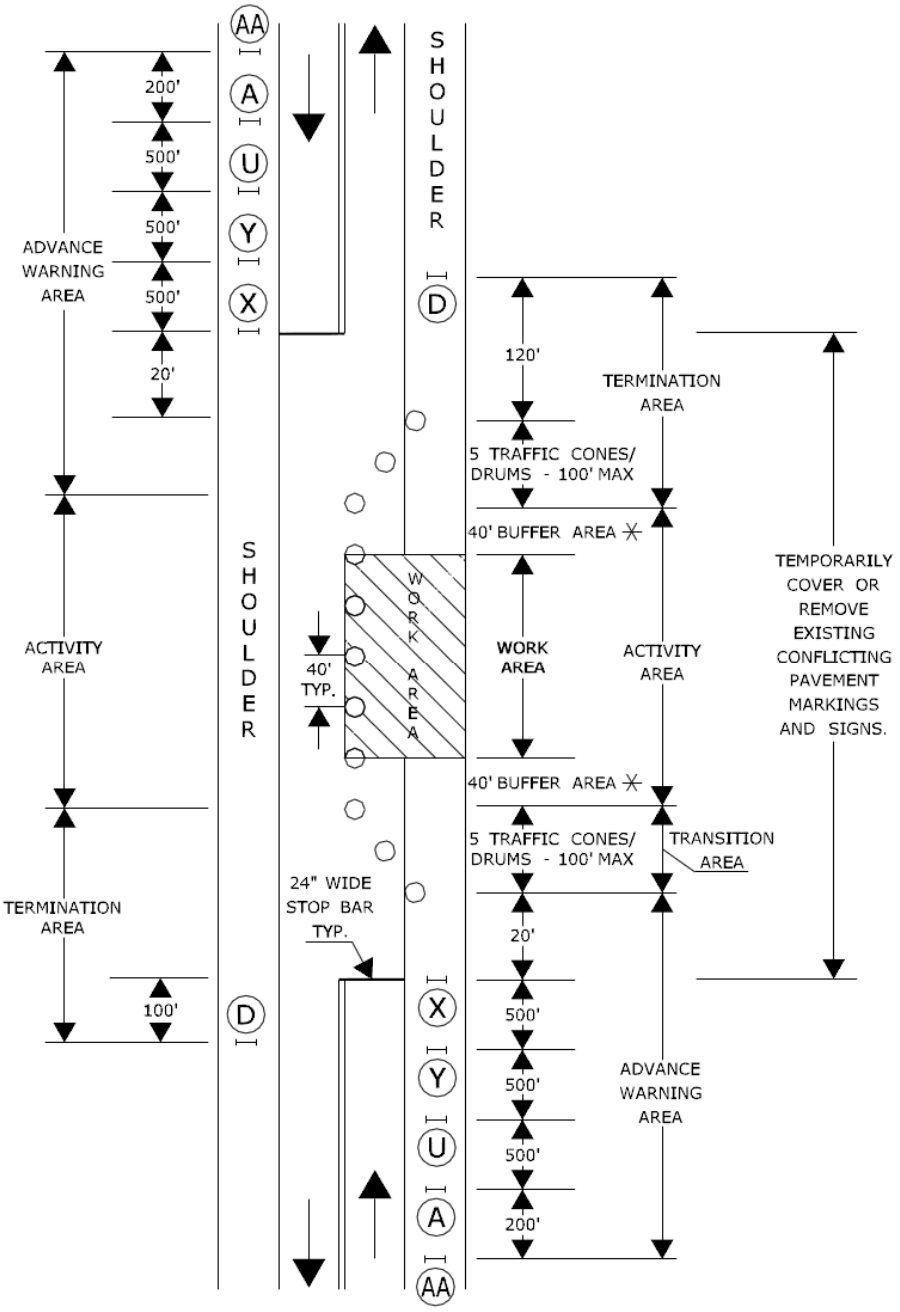
APPROVED

Charles S. Harlow
2012.06.05 15:57:16-04'00'

PRINCIPAL ENGINEER

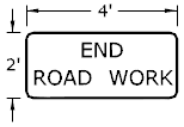
ITEM #971001A

# WORK IN TRAVEL LANE AND SHOULDER
# TWO LANE HIGHWAY
# ALTERNATING ONE-WAY TRAFFIC OPERATIONS
# STOP SIGN CONTROL



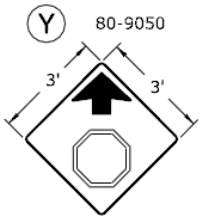

SIGN FACE
125 SQ. FT (MIN.)

D 80-9612



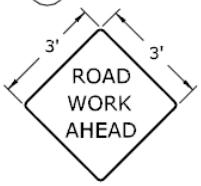

X 31-0557


Y 80-9050

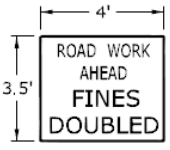



U 80-9834


A 80-9603




AA 31-1906




TRAFFIC CONE **OR** TRAFFIC DRUM
OPTIONAL TRAFFIC DRUM PORTABLE SIGN SUPPORT
HIGH MOUNTED INTERNALLY ILLUMINATED FLASHING ARROW

SCALE: NONE

CONSTRUCTION TRAFFIC CONTROL PLAN

## PLAN 18

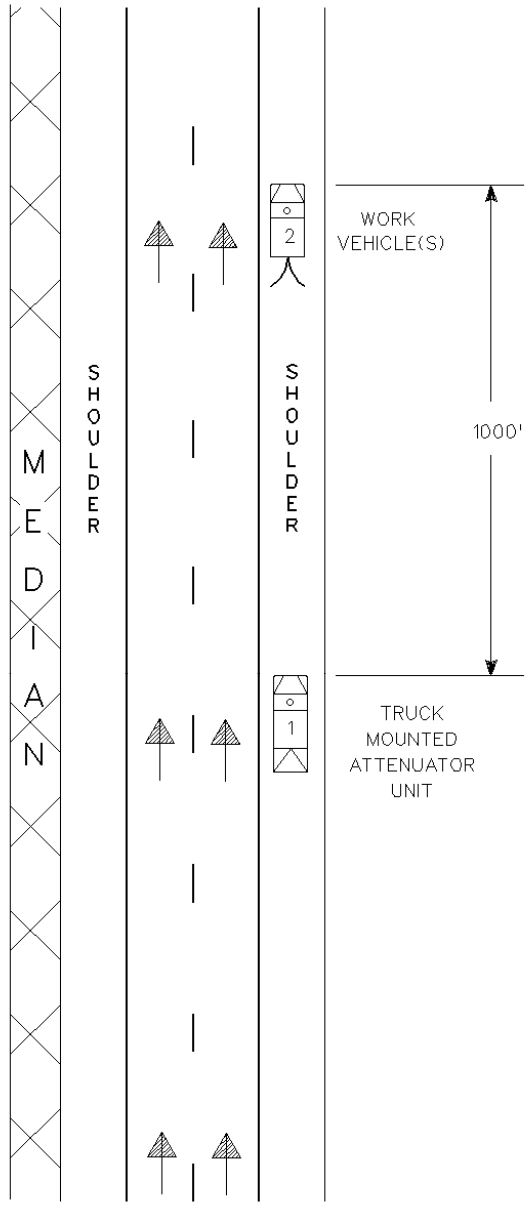
SEE NOTES 1, 2, 4, 7, 8

CONNECTICUT DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & CONSTRUCTION

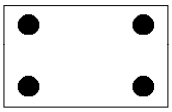
APPROVED _____ Charles S. Harlow 2012.06.05 15:57:37-04'00'
PRINCIPAL ENGINEER

ITEM #971001A

# MOVING OPERATION ON RIGHT SHOULDER
# MULTILANE HIGHWAY & SECONDARY ROADWAYS




SIGN MOUNTED ON TRUCK 1



DEPARTMENT APPROVED
ARROW BOARD
( FLASHING YELLOW MODE )

REV'D 1-02

CONNECTICUT
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING &
HIGHWAY OPERATIONS
DIVISION OF TRAFFIC ENGINEERING

CONSTRUCTION
TRAFFIC CONTROL PLAN

PLAN 19

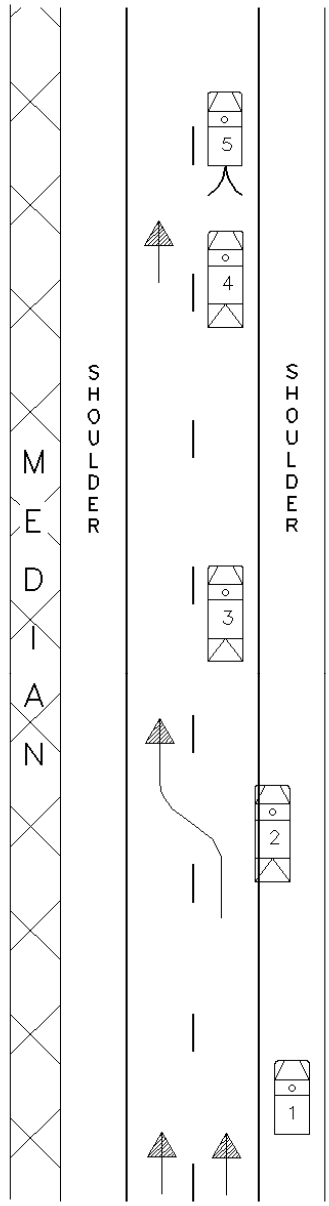
SCALE NONE

APPROVED J. Mccall
PRINCIPAL ENGINEER

DATE 1-30-02

ITEM #971001A

# MOVING OPERATION IN RIGHT LANE AND OUTSIDE SHOULDER AT THE SAME TIME MULTILANE HIGHWAY




WORK VEHICLE(S)

150'

TRUCK MOUNTED ATTENUATOR UNIT

DISTANCE VARIES ACCORDING TO OPERATION

TRUCK MOUNTED ATTENUATOR UNIT

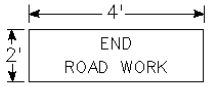
800'

TRUCK MOUNTED ATTENUATOR UNIT

1000'

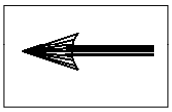
ADVANCE WARNING VEHICLE

**SIGN MOUNTED ON VEHICLE 5**



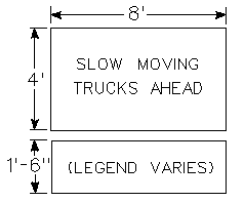

80-9612

**SIGN MOUNTED ON TRUCKS 2, 3, & 4**



DEPARTMENT APPROVED ARROW BOARD

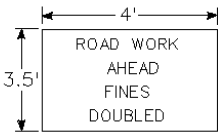
**SIGNS MOUNTED ON VEHICLE 1**




80-9815
THIS SIGN SHOULD BE COVERED WHEN NOT IN USE.

80-9914
USE APPROPRIATE MESSAGE FOR OPERATION.

**SIGN MOUNTED ON VEHICLE 2**




31-1906

REV'D 1-02

CONNECTICUT
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & HIGHWAY OPERATIONS
DIVISION OF TRAFFIC ENGINEERING

CONSTRUCTION
TRAFFIC CONTROL PLAN

PLAN 20

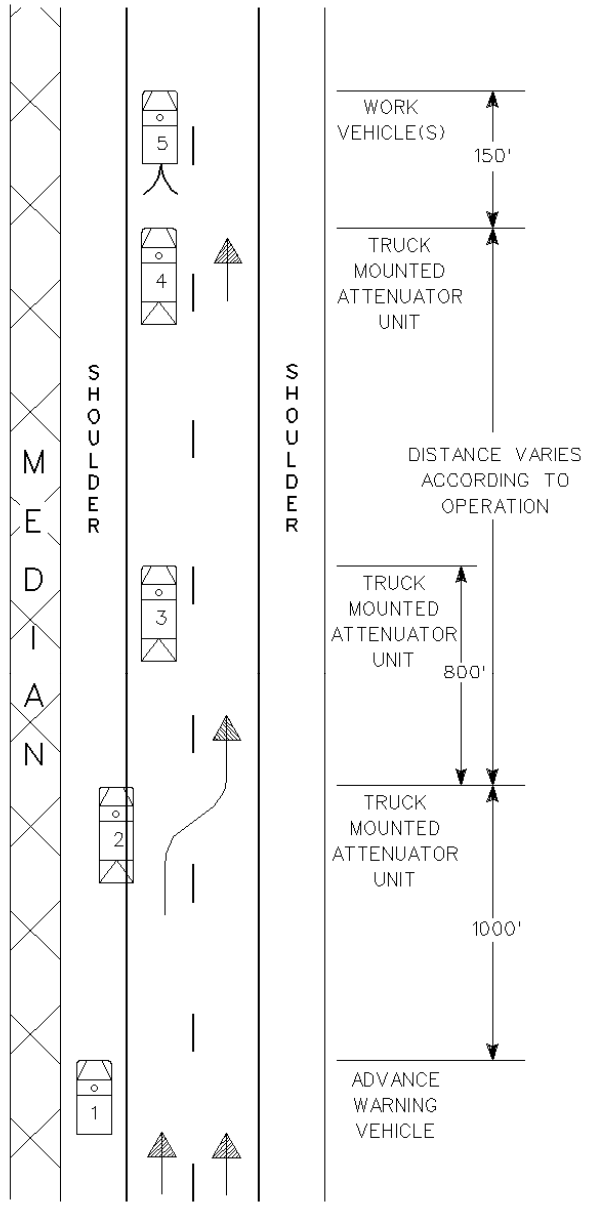
SCALE NONE

APPROVED John D. Micall
PRINCIPAL ENGINEER

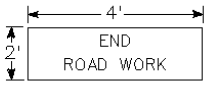
DATE 1-30-02

ITEM #971001A

# MOVING OPERATION IN LEFT LANE AND INSIDE SHOULDER AT THE SAME TIME MULTILANE HIGHWAY

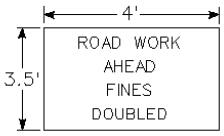



**SIGN MOUNTED ON VEHICLE 5**



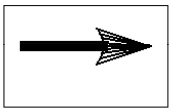

80-9612

**SIGN MOUNTED ON VEHICLE 2**



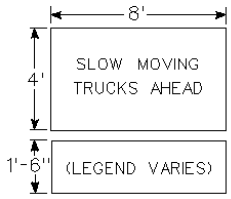

31-1906

**SIGN MOUNTED ON TRUCKS 2, 3, & 4**



DEPARTMENT APPROVED ARROW BOARD

**SIGNS MOUNTED ON VEHICLE 1**




80-9815
THIS SIGN SHOULD BE COVERED WHEN NOT IN USE.

80-9914
USE APPROPRIATE MESSAGE FOR OPERATION.

WHEN THE LEFT SHOULDER WIDTH CANNNOT ACCOMMODATE A VEHICLE, THEN ADVANCE WARNING VEHICLE 1 MAY DRIVE PARTIALLY IN THE LANE.

REV'D 1-02

CONNECTICUT
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & HIGHWAY OPERATIONS
DIVISION OF TRAFFIC ENGINEERING

CONSTRUCTION
TRAFFIC CONTROL PLAN

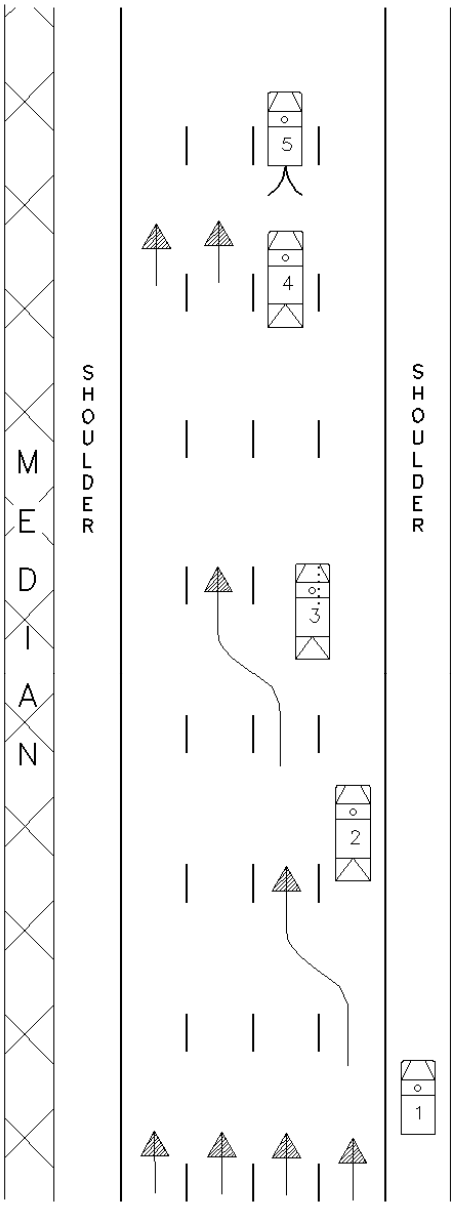
PLAN 21

SCALE NONE

APPROVED John D. Micall PRINCIPAL ENGINEER DATE 1-30-02

ITEM #971001A

# MOVING OPERATION IN CENTER LANE
# MULTILANE HIGHWAY




WORK VEHICLE(S)

150'

TRUCK MOUNTED ATTENUATOR UNIT

DISTANCE VARIES ACCORDING TO OPERATION

TRUCK MOUNTED ATTENUATOR UNIT

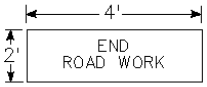
800'

TRUCK MOUNTED ATTENUATOR UNIT

1000'

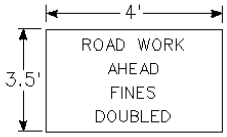
ADVANCE WARNING VEHICLE

**SIGN MOUNTED ON VEHICLE 5**



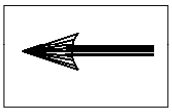

80-9612

**SIGN MOUNTED ON VEHICLE 2**



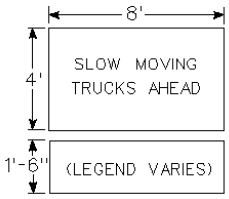

31-1906

**SIGN MOUNTED ON TRUCKS 2, 3, & 4**



DEPARTMENT APPROVED ARROW BOARD

**SIGNS MOUNTED ON VEHICLE 1**




80-9815
THIS SIGN SHOULD BE COVERED WHEN NOT IN USE.

80-9914
USE APPROPRIATE MESSAGE FOR OPERATION.

REV'D 1-02

CONNECTICUT
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & HIGHWAY OPERATIONS
DIVISION OF TRAFFIC ENGINEERING

CONSTRUCTION
TRAFFIC CONTROL PLAN

PLAN 22

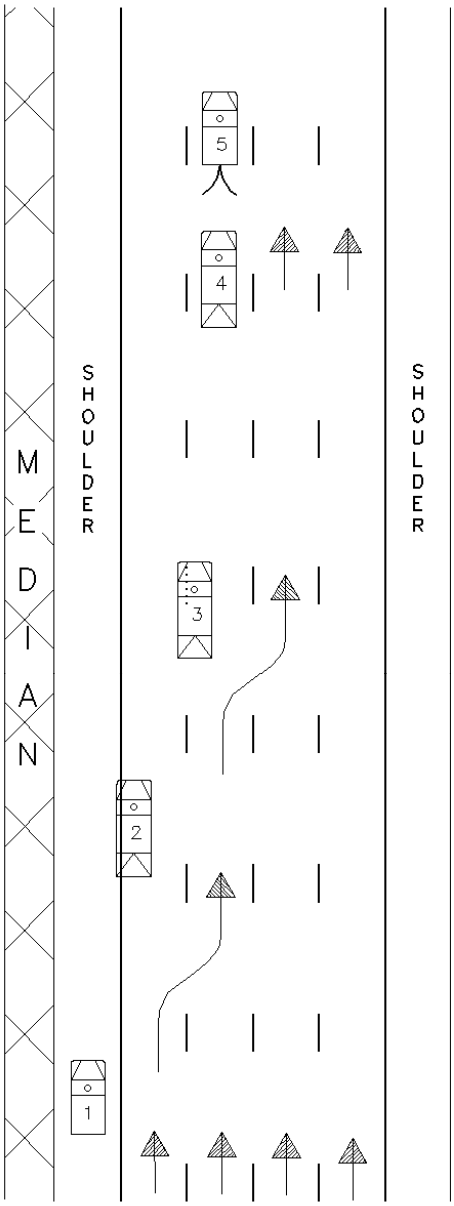
SCALE NONE

APPROVED John D. Micall
PRINCIPAL ENGINEER

DATE 1-30-02

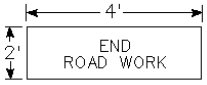
ITEM #971001A

# MOVING OPERATION IN CENTER LANE
# MULTILANE HIGHWAY



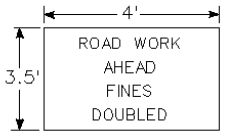

WORK VEHICLE(S)
150'
TRUCK MOUNTED ATTENUATOR UNIT
DISTANCE VARIES ACCORDING TO OPERATION
TRUCK MOUNTED ATTENUATOR UNIT
800'
TRUCK MOUNTED ATTENUATOR UNIT
1000'
ADVANCE WARNING VEHICLE

**SIGN MOUNTED ON VEHICLE 5**



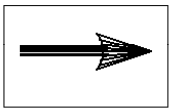

80-9612

**SIGN MOUNTED ON VEHICLE 2**



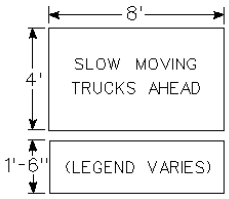

31-1906

**SIGN MOUNTED ON TRUCKS 2, 3, & 4**



DEPARTMENT APPROVED ARROW BOARD

**SIGNS MOUNTED ON VEHICLE 1**




80-9815
THIS SIGN SHOULD BE COVERED WHEN NOT IN USE.

80-9914
USE APPROPRIATE MESSAGE FOR OPERATION.

WHEN THE LEFT SHOULDER WIDTH CANNNOT ACCOMMODATE A VEHICLE, THEN ADVANCE WARNING VEHICLE 1 MAY DRIVE PARTIALLY IN THE LANE.

REV'D 1-02

CONNECTICUT
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & HIGHWAY OPERATIONS
DIVISION OF TRAFFIC ENGINEERING

CONSTRUCTION
TRAFFIC CONTROL PLAN

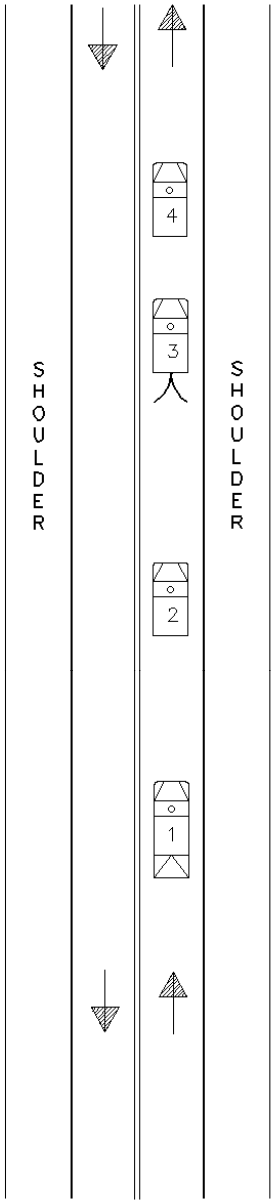
PLAN 23

SCALE NONE

APPROVED John D. Micali
PRINCIPAL ENGINEER
DATE 1-30-02

ITEM #971001A

# MOVING OPERATION
# TWO LANE HIGHWAY




LEAD VEHICLE

DISTANCE VARIES

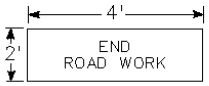
WORK VEHICLE(S)

DISTANCE VARIES ACCORDING TO OPERATION

WORK VEHICLE(S)

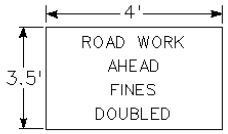
TRUCK MOUNTED ATTENUATOR UNIT

**SIGN MOUNTED ON VEHICLE 4**



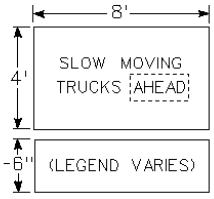

80-9612

**SIGN MOUNTED ON VEHICLE 2**




31-1906

**SIGNS MOUNTED ON VEHICLE 1**




80-9815
COVER THE WORD "AHEAD" WITH BLANK PANEL

80-9914
USE APPROPRIATE MESSAGE FOR OPERATION.

REV'D 1-02

CONNECTICUT
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & HIGHWAY OPERATIONS
DIVISION OF TRAFFIC ENGINEERING

CONSTRUCTION
TRAFFIC CONTROL PLAN

PLAN 24

SCALE NONE

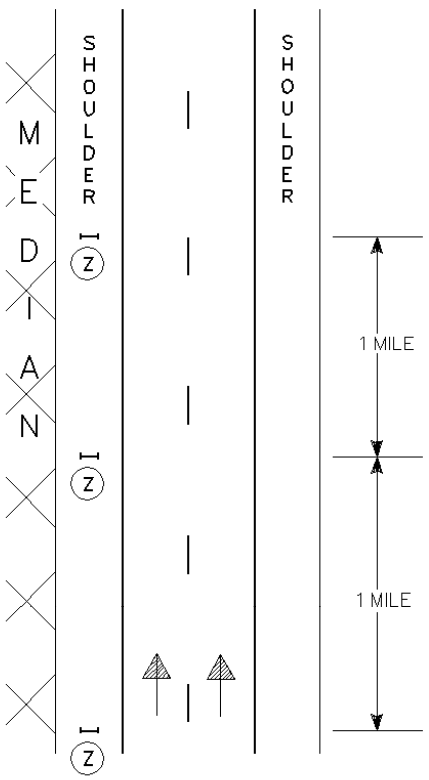
APPROVED John D. Micall
PRINCIPAL ENGINEEER

DATE 1-30-02

ITEM #971001A

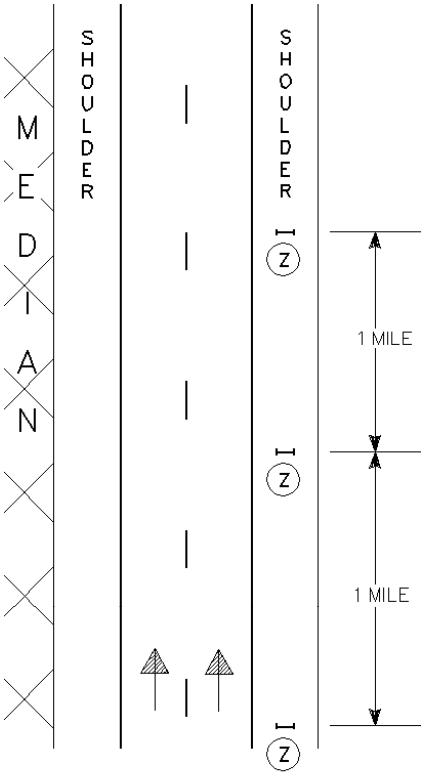
# MOWING OPERATION - MULTILANE HIGHWAY

FOR EQUIPMENT ON THE ROADWAY, ROADSIDE
OR ON THE MEDIAN COMPLETELY OFF THE ROADWAY

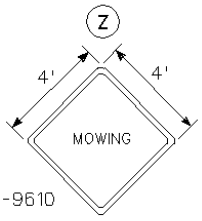



**MOWING IN MEDIAN**

INSTALL "MOWING" SIGNS ON OPPOSITE TRAVELWAY MEDIAN SHOULDER AS SHOWN ABOVE.




**MOWING RIGHT OF TRAVELWAY**




80-9610

ERECT "MOWING" SIGNS AT 1 MILE INTERVAL AND IMMEDIATELY BEYOND THE ENTRANCE RAMPS.

WHEN MOWING FROM A TRAVEL LANE, USE BACK UP VEHICLES 1, 2 & 3 AS SHOWN ON PLANS 20 & 21 TO PROTECT MOWING OPERATIONS. WHEN MOWING EQUIPMENT MUST USE THE TRAVELWAY TO GET AROUND AN OBSTACLE, USE BACKUP VEHICLES 2 & 3 ONLY. THE BACKUP VEHICLES MUST REMAIN OFF THE ROADWAY UNTIL MOWING EQUIPMENT IS READY TO GET OUT ONTO THE TRAVELWAY. THE DISTANCE BETWEEN VEHICLE 3 AND THE MOWING EQUIPMENT IS TO BE 200 FEET.

REV'D 1-02

CONNECTICUT
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & HIGHWAY OPERATIONS
DIVISION OF TRAFFIC ENGINEERING

CONSTRUCTION
TRAFFIC CONTROL PLAN

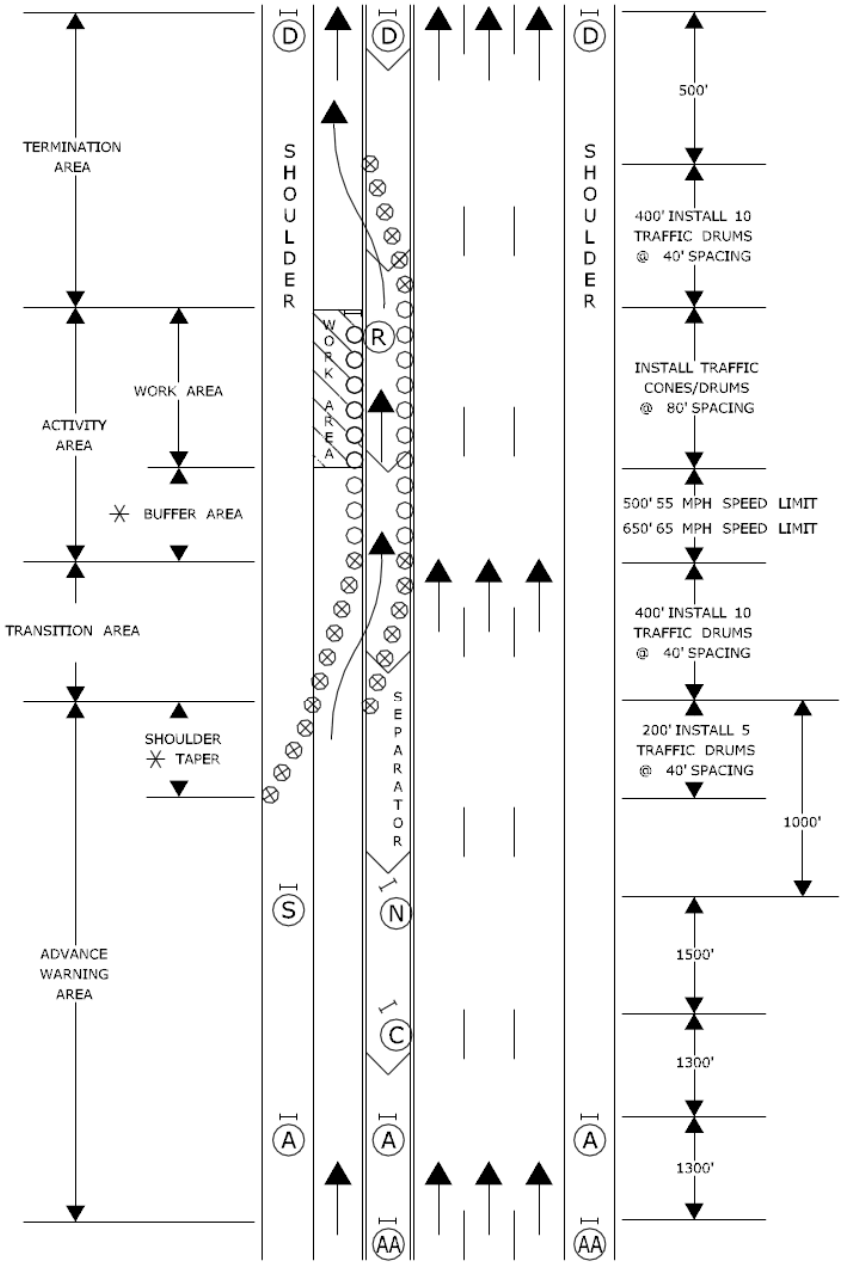
PLAN 25

SCALE NONE

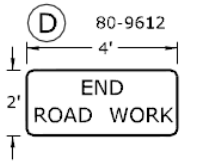
APPROVED John D. Micall
PRINCIPAL ENGINEER
DATE 1-30-02

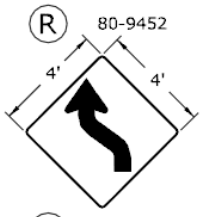
ITEM #971001A

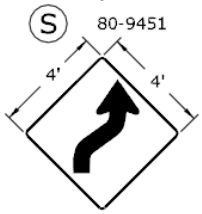
# WORK IN RESTRICTED LANE (STATIONARY CLOSURE)

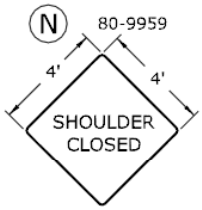


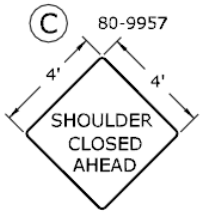

SIGN FACE
164 SQ. FT (MIN.)

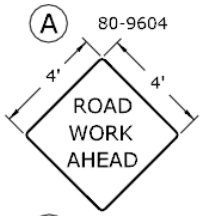


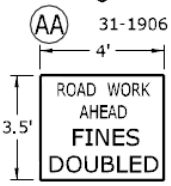




TRAFFIC CONE **OR** TRAFFIC DRUM
OPTIONAL TRAFFIC DRUM PORTABLE SIGN SUPPORT
HIGH MOUNTED INTERNALLY ILLUMINATED FLASHING ARROW

SCALE: NONE

CONSTRUCTION TRAFFIC CONTROL PLAN

## H.O.V. PLAN 1

SEE NOTES 1, 2, 3, 4, 6, 8

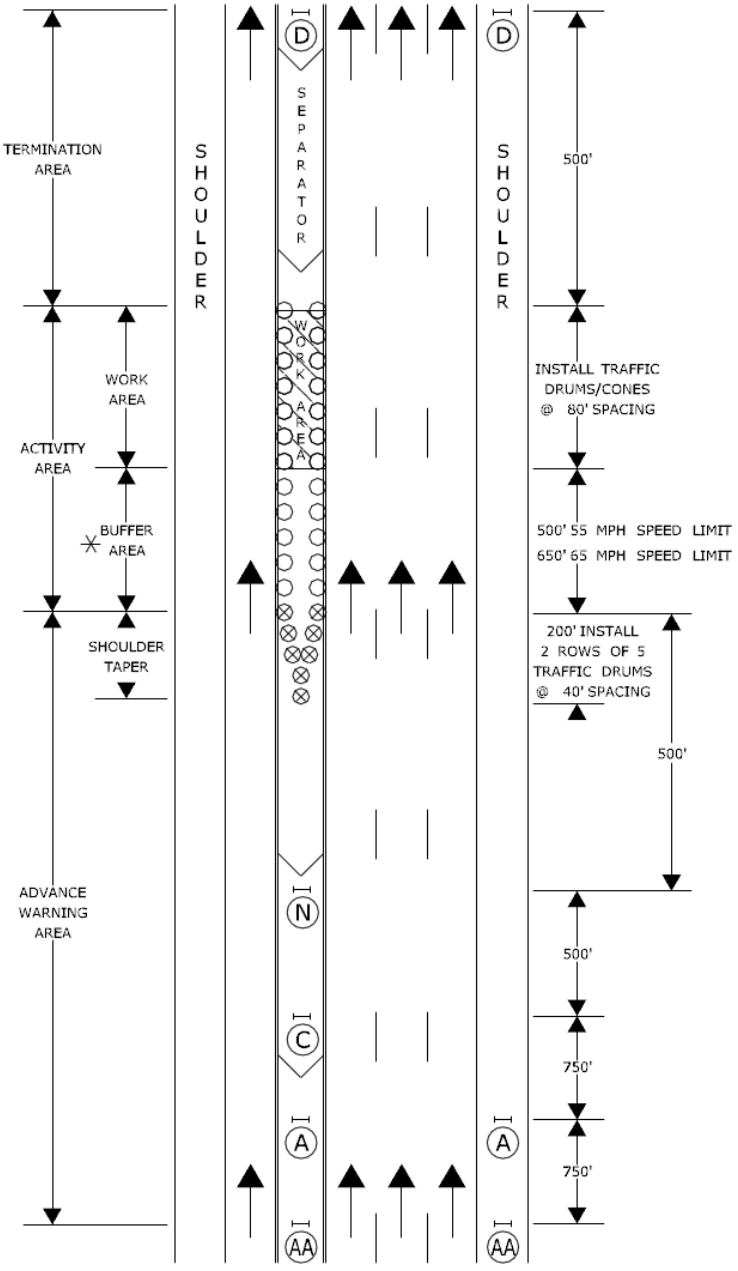
CONNECTICUT DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & CONSTRUCTION

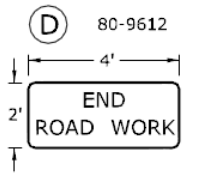
APPROVED Charles S. Harlow 2012.06.05 15:49:08-04'00'
PRINCIPAL ENGINEER

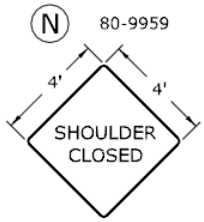
ITEM #971001A

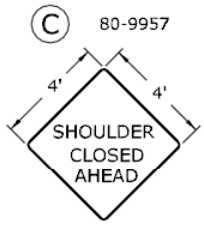
# WORK IN SEPARATOR OF RESTRICTED LANE (STATIONARY CLOSURE)

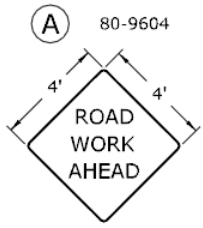
SIGN FACE
108 SQ. FT (MIN.)

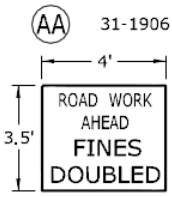



◯ TRAFFIC CONE **OR** TRAFFIC DRUM
✳ OPTIONAL ⊗ TRAFFIC DRUM ⊢⊣ PORTABLE SIGN SUPPORT
⟵ HIGH MOUNTED INTERNALLY ILLUMINATED FLASHING ARROW

SCALE: NONE

CONSTRUCTION TRAFFIC CONTROL PLAN

## H.O.V. PLAN 2

SEE NOTES 1, 2, 4, 8

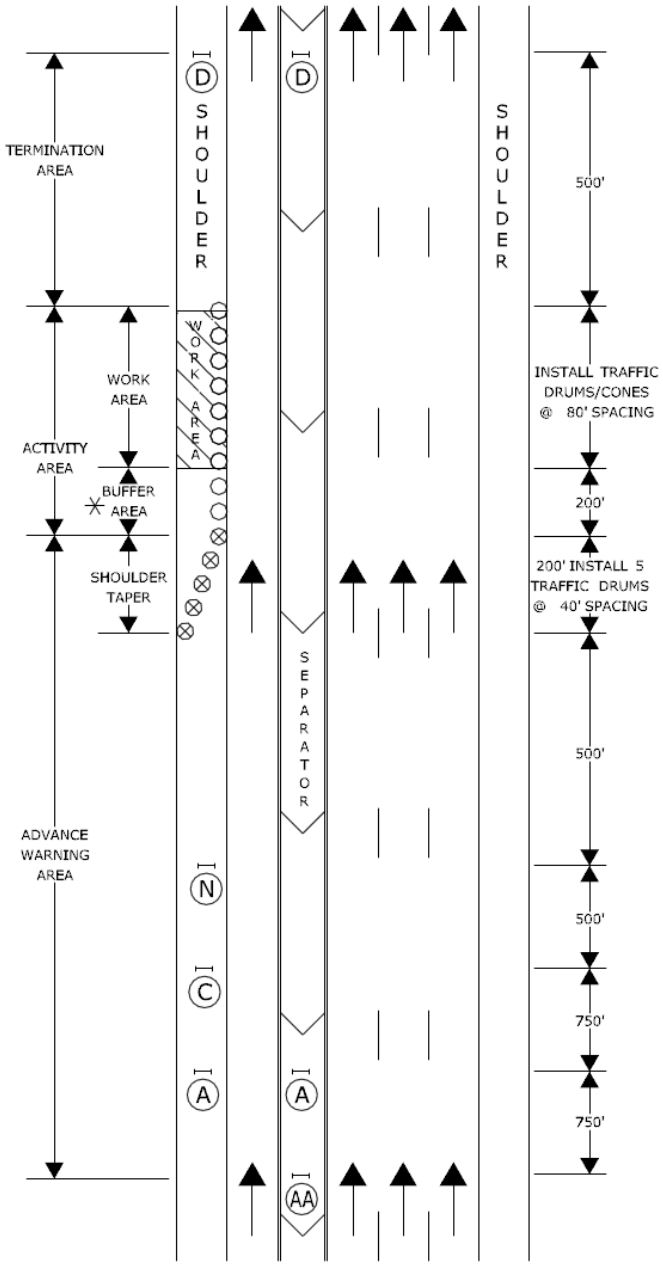
CONNECTICUT DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & CONSTRUCTION

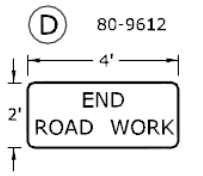
APPROVED _____ Charles S. Harlow 2012.06.05 15:49:33-04'00'
PRINCIPAL ENGINEER

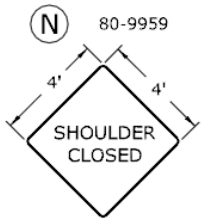
ITEM #971001A

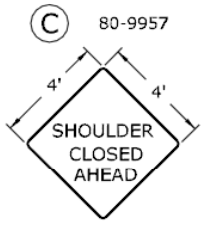
# WORK IN LEFT SHOULDER OF RESTRICTED LANE (STATIONARY CLOSURE)

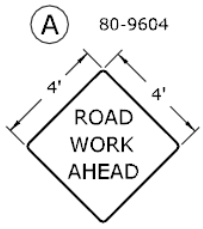
SIGN FACE
94 SQ. FT (MIN.)

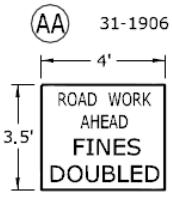



TRAFFIC CONE **OR** TRAFFIC DRUM
OPTIONAL TRAFFIC DRUM PORTABLE SIGN SUPPORT
HIGH MOUNTED INTERNALLY ILLUMINATED FLASHING ARROW

SCALE: NONE

CONSTRUCTION TRAFFIC CONTROL PLAN

## H.O.V. PLAN 3

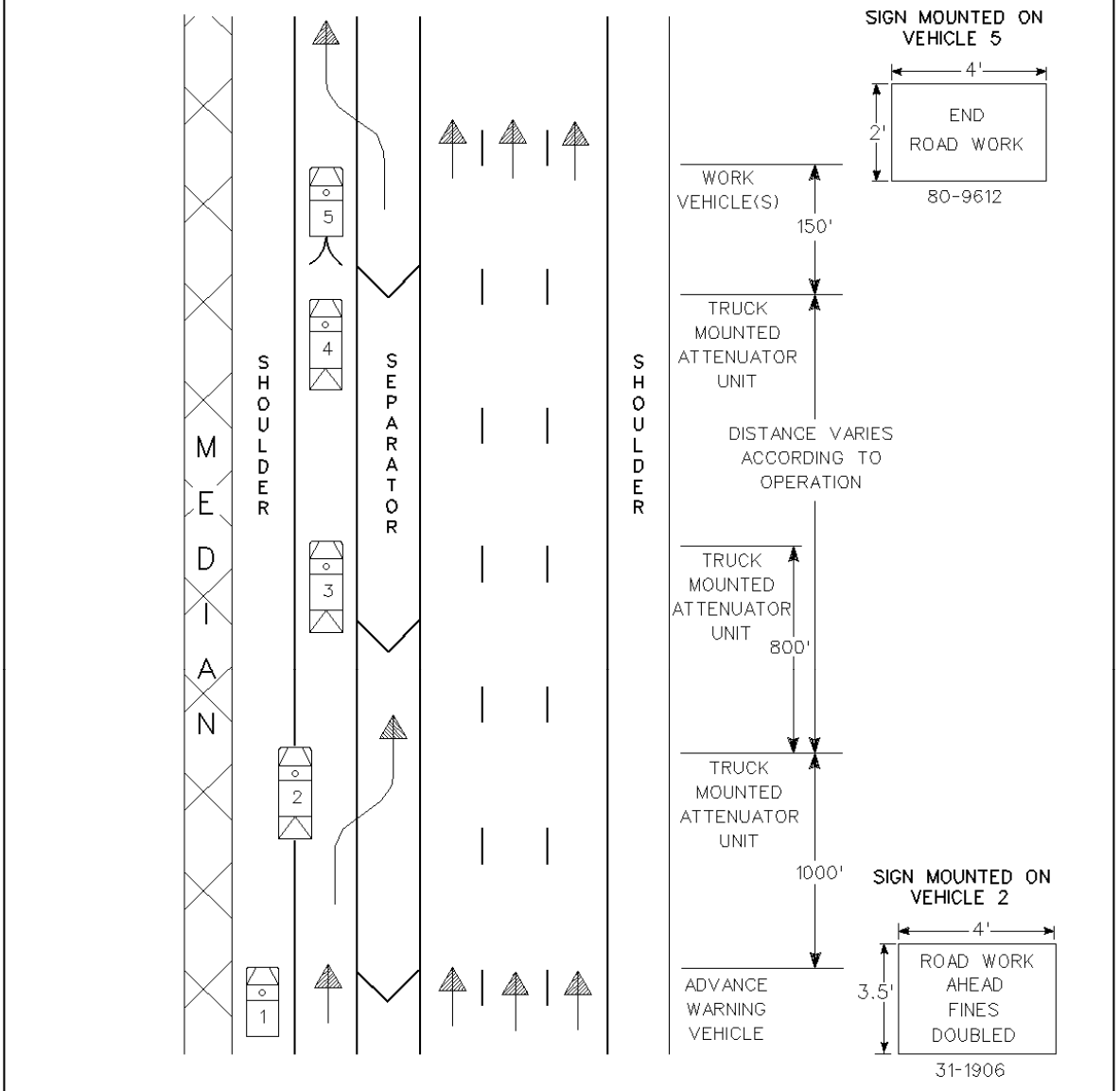
SEE NOTES 1, 2, 4, 8

CONNECTICUT DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & CONSTRUCTION

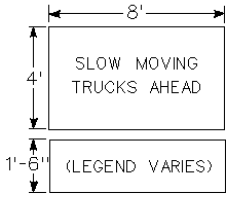
APPROVED Charles S. Harlow 2012.06.05 15:50:10-04'00'
PRINCIPAL ENGINEER

ITEM #971001A

# MOVING OPERATION IN RESTRICTED LANE



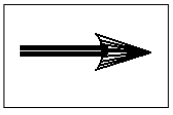

**SIGNS MOUNTED ON VEHICLE 1**




80-9815
THIS SIGN SHOULD BE COVERED WHEN NOT IN USE.

80-9914
USE APPROPRIATE MESSAGE FOR OPERATION.

**SIGN MOUNTED ON TRUCKS 2, 3, & 4**



DEPARTMENT APPROVED ARROW BOARD

REV'D 1-02

CONNECTICUT
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & HIGHWAY OPERATIONS
DIVISION OF TRAFFIC ENGINEERING

CONSTRUCTION
TRAFFIC CONTROL PLAN
H.O.V. PLAN 4

SCALE NONE

APPROVED J. Carey PRINCIPAL ENGINEER DATE 1-02

ITEM #971001A