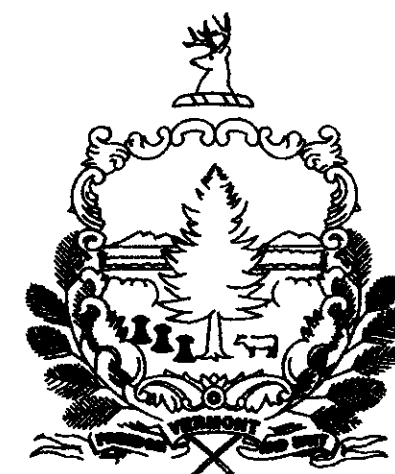


- INDEX OF SHEETS**
1. TITLE SHEET
  2. TYPICAL SECTION - PAVER PLACED SURFACE TREATMENT, TYPE C
  3. ASPHALTIC PLUG JOINT DETAIL SHEET
  4. BRIDGE DETAIL SHEET
  5. QUANTITY SHEET
  6. INTERCHANGE #17 DETAIL SHEET
  7. PAVEMENT MARKING DETAIL SHEET
  8. CONSTRUCTION APPROACH SIGNING SHEET
  9. CONSTRUCTION APPROACH SIGNING INTERCHANGE #17
  10. - 11. TRAFFIC CONTROL SHEETS 1 & 2

**STANDARDS**

E-100	01/02/04
E-100A	01/02/04
E-101	05/30/03
E-102	06/30/03
E-102A	05/01/04
E-103	03/01/04
E-105	05/01/04
E-106	03/01/04
E-107A	08/08/95
E-108	12/08/08
E-108A	12/08/08
E-191	02/01/99
E-192	10/12/00

# STATE OF VERMONT AGENCY OF TRANSPORTATION

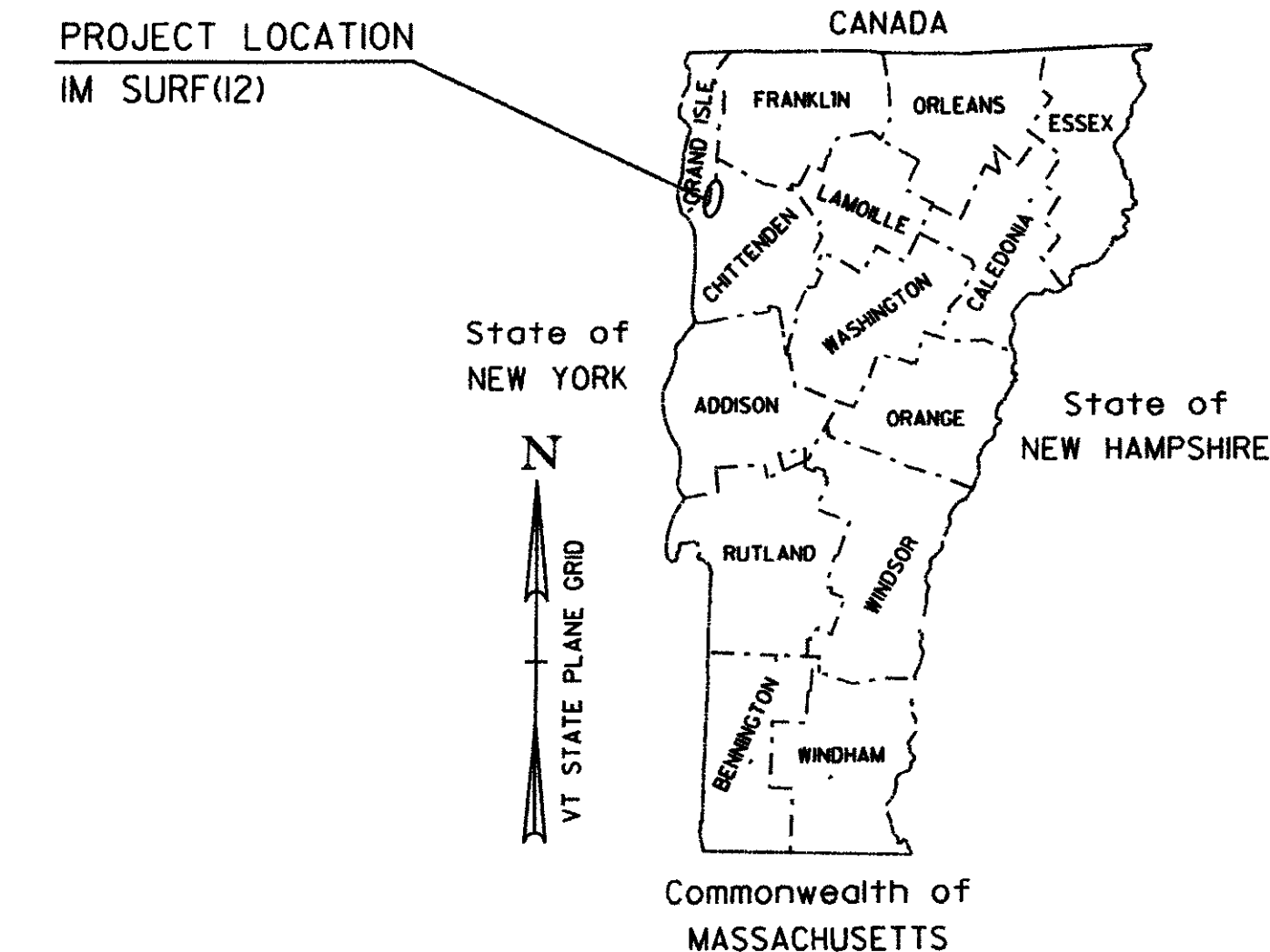


## PROPOSED IMPROVEMENT TOWN OF COLCHESTER COUNTY OF CHITTENDEN INTERSTATE ROUTE 89 (NB & SB)

BEGINNING IN THE TOWN OF COLCHESTER AT MILE MARKER 91.875 AND EXTENDING NORTHERLY ALONG INTERSTATE ROUTE 89 (NORTHBOUND & SOUTHBOUND) FOR A DISTANCE OF 32,366.40 FT (6.130 MILES) TO MILE MARKER 98.005 IN THE TOWN OF COLCHESTER.

LENGTH OF ROADWAY      32,366.40 FT      (6.130 MILES)  
LENGTH OF PROJECT      32,366.40 FT      (6.130 MILES)

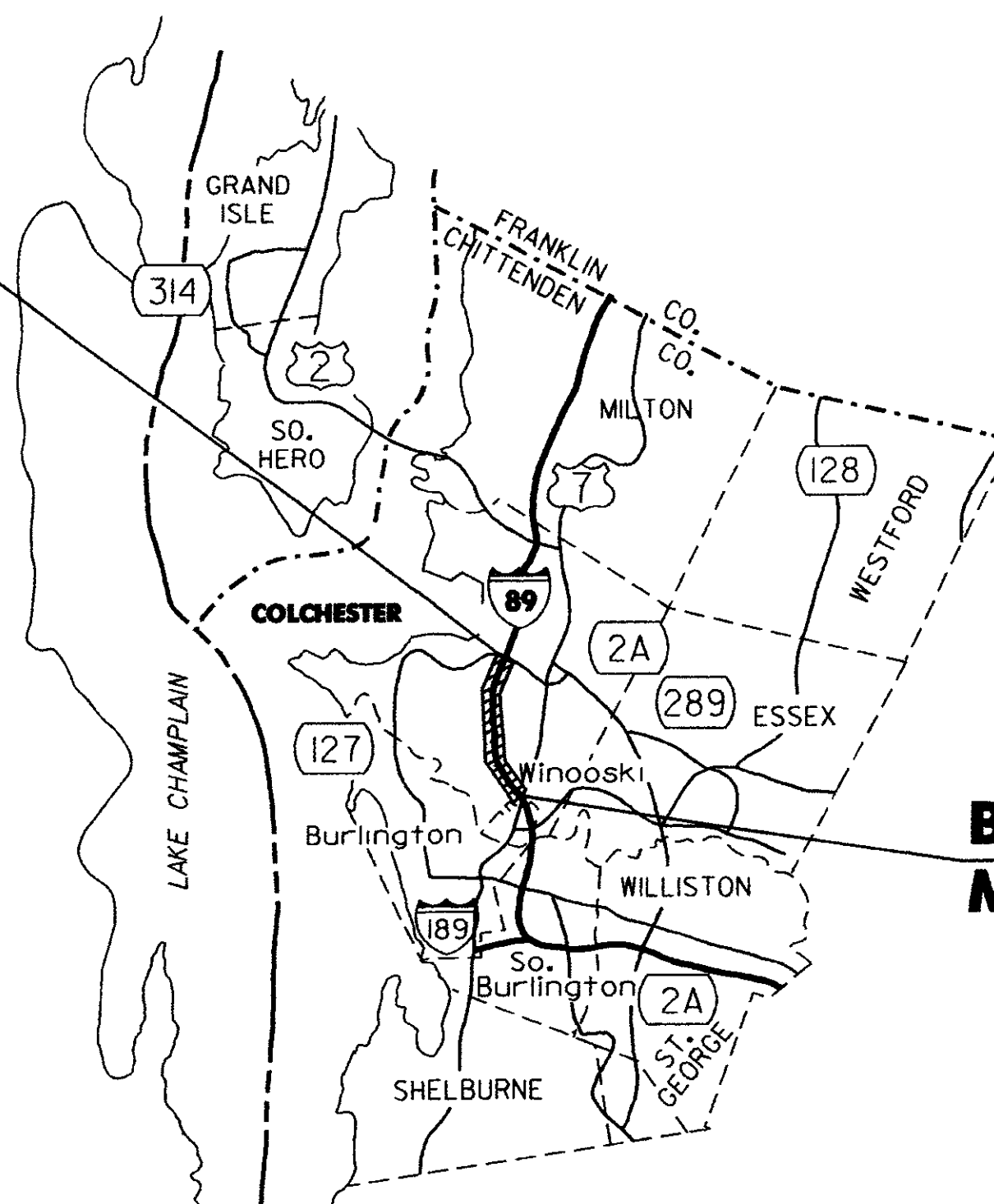
WORK TO BE PERFORMED UNDER THIS PROJECT INCLUDES SURFACE PREPARATION INVOLVING PATCHING, POTHOLE REPAIR, AND CRACKSEALING; THE CONSTRUCTION OF A MODIFIED BITUMINOUS CONCRETE PAVEMENT TREATMENT ON THE EXISTING INTERSTATE TYPICAL, AND APPLICABLE PAVEMENT MARKINGS.



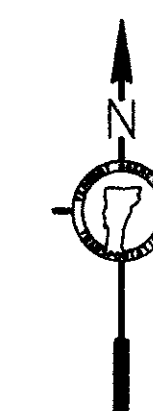
**TRAFFIC DATA**

SECTION	ADT		DHV		ESALS	
	2009	2019	2009	2019	2009-2019	2009-2019
COLCHESTER NORTHBOUND	15 700	19 100	2500	3100	4 563 000	13 289 000
COLCHESTER SOUTHBOUND	15 700	19 100	2900	3500	4 982 000	14 137 000

**END IM SURF(12)  
MM 98.005**



**BEGIN IM SURF(12)  
MM 91.875**



**RECORD PLANS**

CONTRACTOR      THE GORMAN GROUP, LLC - ALBANY, NY

RESIDENT ENGINEER      DELVIN WARNER

CONSTRUCTION BEGAN      JULY 30, 2009

CONSTRUCTION COMPLETE      SEPTEMBER 9, 2009

RECORD PLANS BY      DELVIN WARNER

I HEREBY CERTIFY THAT ALL THE CONSTRUCTION REQUIRED BY THIS SET OF DRAWINGS HAS BEEN ACCOMPLISHED AS INDICATED HEREIN

BY *Delvin Warner*      RESIDENT ENGINEER  
DATE      08/03/10

NOTE      Any further information concerning final quantities, amounts or other details relative to this project may be found at Central Files in the electronic archives

**BUILT AS DESIGNED**

THESE PLANS ARE SUBJECT TO SUCH ENGINEERING CHANGES AS MAY BE REQUIRED BY THE FEDERAL HIGHWAY ADMINISTRATION OR THE DIRECTOR OF PROGRAM DEVELOPMENT.  
CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2006, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JUNE 15, 2006 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

DIRECTOR OF PROGRAM DEVELOPMENT

APPROVED *James V. Bul*      DATE 5-29-2009

PROJECT MANAGER : TED DOMEY

PROJECT NAME : COLCHESTER  
PROJECT NUMBER : IM SURF (12)

SHEET 1 OF 11 SHEETS

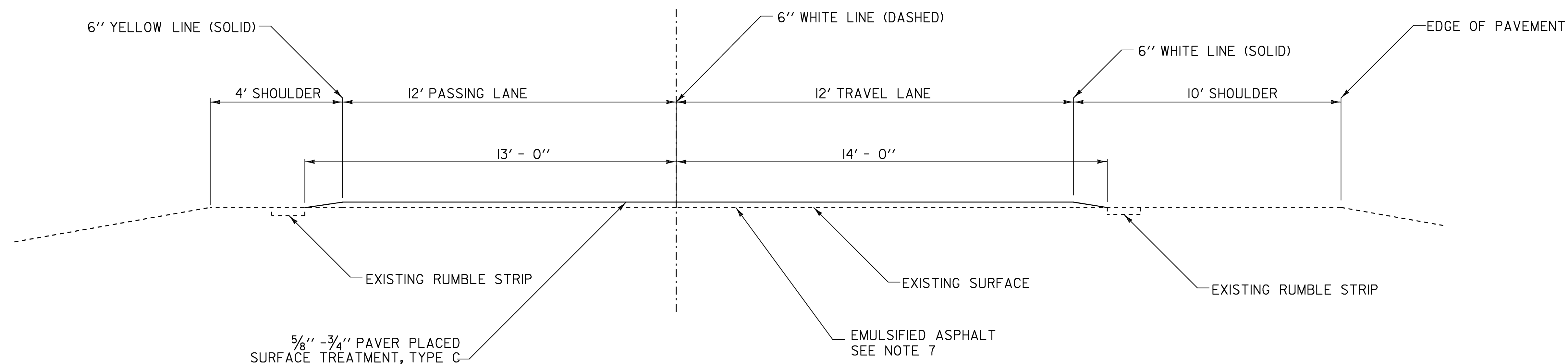
**CONVENTIONAL SYMBOLS**

COUNTY LINE	
TOWN LINE	
LIMITS OF ACCESS	
POINT OF ACCESS	
FENCE LINE	
STONE WALL	
TRAVELED WAY	
GUARD RAIL	
RAILROAD	
SURVEY LINE	
CULVERT	
POWER POLE	
TELEPHONE POLE	
TREES	
CONTROL OF ACCESS	
PROPERTY LINE	
R.O.W. TAKING LINE	
SLOPE RIGHTS	
TOE OF CUT	
TOE OF SLOPE	

**DATUM**

VERTICAL      N/A  
HORIZONTAL      N/A

PLOTTED: 29-MAY-2009



**TYPICAL SECTION**  
**1 89 (SB & NB) MM 91.875 TO MM 98.005**

NOT TO SCALE

**NOTES:**

1. ALL NECESSARY SURFACE PREPARATION INVOLVING PATCHING, POT-HOLE REPAIR, AND CRACK-SEALING SHALL BE PERFORMED PRIOR TO APPLICATION OF THE PAVER PLACED SURFACE TREATMENT. ALL CRACKS GREATER THAN 0.10" AND UP TO 1.0" IN WIDTH SHALL BE SEALED USING THE "BLOW AND GO" METHOD. ALL COSTS ASSOCIATED WITH THIS WORK SHALL BE PAID FOR UNDER ITEM 417.20, BITUMINOUS CRACK SEALING, "BLOW AND GO" METHOD. THE PATCHING OF ALL CRACKS GREATER THAN 1.0" AND ALL OTHER PATCHING AND POT-HOLE REPAIR SHALL BE COMPLETED USING BITUMINOUS CONCRETE PAVEMENT IN ACCORDANCE WITH ITEM 900.680 SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT SURFACE PREPARATION, TYPE I). AN ESTIMATED QUANTITY FOR THIS ITEM HAS BEEN INCLUDED TO COVER ALL COSTS ASSOCIATED WITH THIS WORK.
2. EXISTING SHOULDER PAVEMENT SURFACES BEYOND THE LIMITS OF THE PAVER PLACED SURFACE TREATMENT SHALL ALSO RECEIVE CRACK-SEALING AND RELATED PATCHING AND POT-HOLE REPAIR TREATMENTS, AS DIRECTED BY THE RESIDENT ENGINEER.
3. FOLLOWING COMPLETION OF COLD PLANING, THE MILLED SURFACE FOR ALL BRIDGES SHALL ALSO RECEIVE CRACK-SEALING AND RELATED PATCHING AND POT-HOLE REPAIR TREATMENTS, AS DIRECTED BY THE RESIDENT ENGINEER.
4. ALL EXISTING PAVEMENT MARKINGS SHALL BE REMOVED PRIOR TO APPLYING THE PAVER PLACED SURFACE TREATMENT. PAVEMENT MARKINGS SHALL BE REMOVED PRIOR TO ANY CRACK SEALING BEING PERFORMED. ALL LANE DELINEATION IS TO BE MAINTAINED DURING CONSTRUCTION BY THE USE OF LINE STRIPING TARGETS OR TEMPORARY PAINT.
5. A 50' COLD PLANED WEDGE SHALL BE CONSTRUCTED AT THE PROJECT BEGIN, PROJECT END, AND AT ALL BRIDGE APPROACHES; 25' COLD PLANED WEDGE AT U-TURNS, OR AS DIRECTED BY THE RESIDENT ENGINEER. THE LONGITUDINAL EDGES OF THE SURFACE TREATMENT SHALL BE FEATHERED AS SHOWN ON THE TYPICAL SECTION, OR AS DIRECTED BY THE RESIDENT ENGINEER. ANY SAWCUTTING AT BUTT JOINTS SHALL BE PAID INCIDENTAL TO ITEM 210.10, COLD PLANING, BITUMINOUS PAVEMENT.
6. IF IT IS DETERMINED IN AREAS ALONG THE BASE OF THE GUARDRAIL WHERE WINTER SAND AND OTHER DEBRIS HAS ACCUMULATED SUFFICIENTLY TO AFFECT PROPER CRACK-SEALING AND RELATED PATCHING AND POT-HOLE REPAIR TREATMENTS, THIS MATERIAL SHALL BE REMOVED PRIOR TO CRACK-SEALING, PATCHING, AND POT-HOLE REPAIR AS DIRECTED BY THE RESIDENT ENGINEER. AN ESTIMATED QUANTITY FOR ITEM 203.40 SHOULDER BERM REMOVAL HAS BEEN INCLUDED TO COVER THE COSTS ASSOCIATED WITH THIS WORK.
7. FOR ESTIMATING PURPOSES, A TARGET APPLICATION RATE OF 0.25 GAL/SY WAS USED FOR THE POLYMER MODIFIED ASPHALT EMULSION PRIMER (TACK) COAT. ACTUAL YIELD SHALL BE CHECKED FOR EACH DAY'S PRODUCTION OF PAVER PLACED SURFACE TREATMENT PLACEMENT. ACTUAL YIELD SHALL VARY BY NO MORE THAN +/- 0.05 GAL/SY ON A DAILY BASIS. IF THE APPLICATION RATE IS LESS THAN 0.25 GAL/SY FOR TWO CONSECUTIVE DAYS THE CONTRACTOR SHALL TAKE CORRECTIVE ACTION AS DIRECTED BY THE ENGINEER.

<b>TYPICAL SECTION - PAVER PLACED SURFACE TREATMENT, TYPE C</b>	PROJECT NAME:	COLCHESTER
	PROJECT NUMBER:	IM SURF (12)
	FILE NAME: ...08A154\...P08a154.dgn	PLOT DATE: 01-JUN-2009
	PROJECT LEADER: DOMEY	DRAWN BY: JLR
	DESIGNED BY: JLR	CHECKED BY: PAVT MGMT
	IPARM FILE NAME: p08a154+yp.l	SHEET 2 OF 11

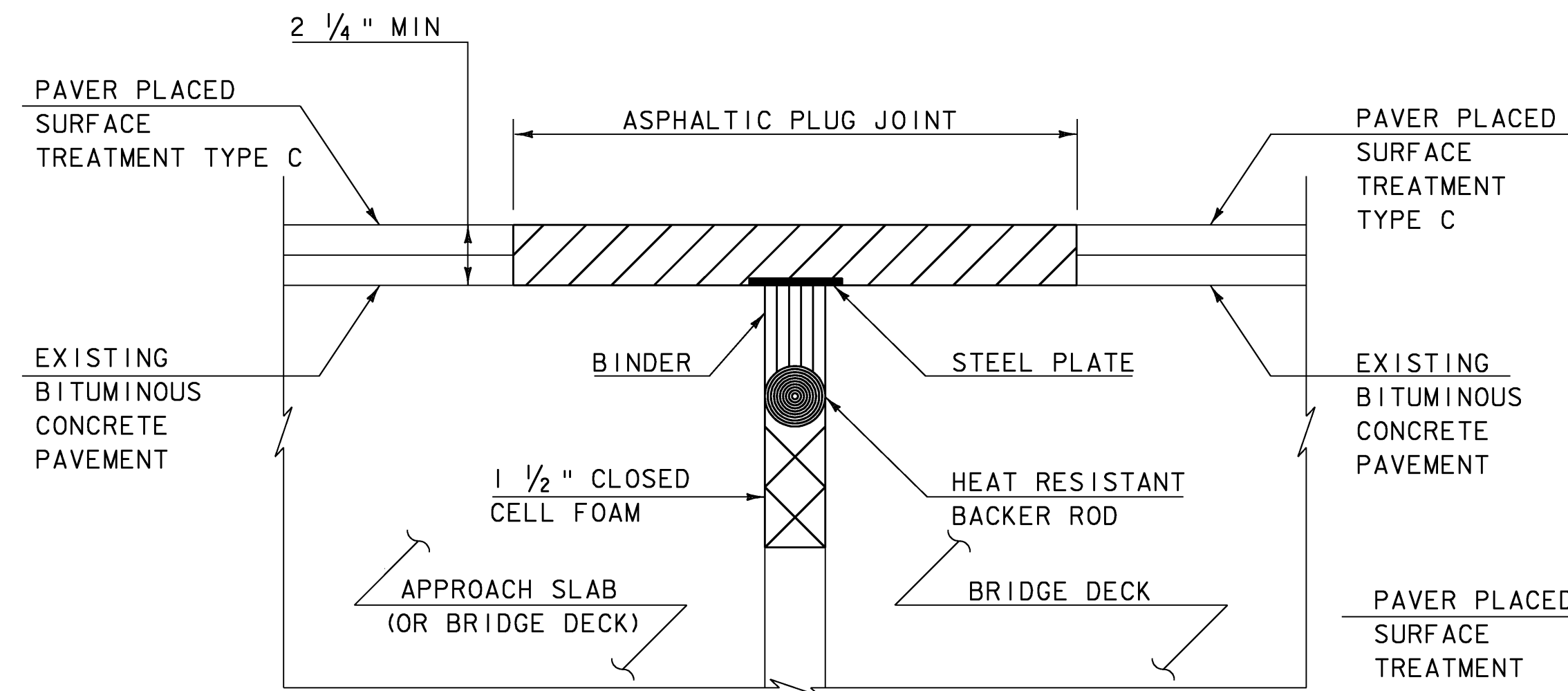
## ASPHALTIC PLUG JOINT NOTES

### 1. INSTALLATION

- A. LOCATE THE JOINT CENTRALLY OVER THE DECK OVERLAY EXPANSION GAP OR FIXED JOINT MARKED OUT TO THE MANUFACTURER'S RECOMMENDED WIDTH.
- B. REMOVE THE BITUMINOUS CONCRETE PAVEMENT FULL DEPTH AS SHOWN ON THE PLANS. THE PAVEMENT SHALL BE DRY AND SAW CUT TO THE LIMITS REQUIRED TO PLACE THE JOINT. A PNEUMATIC HAMMER AND CHISEL MAY BE USED ADJACENT TO THE CURB ONLY WHEN SAW CUTTING IS NOT POSSIBLE.
- C. BLAST CLEAN THE JOINT AREA OF DEBRIS, ASPHALT AND SHEET MEMBRANE. THOROUGHLY DRY THE JOINT AREA WITH COMPRESSED AIR PRIOR TO APPLYING BINDER MATERIAL.
- D. REPAIR SPALLED AND DEFECTIVE CONCRETE WITH AN APPROVED MATERIAL AS AGREED UPON BY THE ENGINEER.
- E. PLACE PROPERLY SIZED HEAT RESISTANT BACKER ROD IN THE MOVEMENT GAP ALLOWING FOR 1" +/- OF BINDER ABOVE THE ROD.
- F. HEAT AND PLACE THE BINDER MATERIAL AS RECOMMENDED BY THE MANUFACTURER.
- G. PLACE 1/4" THICK BY 8" WIDE SECTIONS OF STEEL PLATE OVER THE CENTER OF THE MOVEMENT GAP. SECURE THE PLATES FROM MOVING BY INSERTING LOCATING PINS THROUGH THE PRESTAMPED HOLES INTO BACKER ROD AND COVER WITH HOT BINDER. THE STEEL PLATES MAY BE OMITTED WHERE THE ENGINEER DETERMINES THAT THE APPROACH SLAB OR BRIDGE DECK WILL PROVIDE INADEQUATE SUPPORT AND WHERE VERTICAL MOVEMENT OF THE PLATES MIGHT OCCUR.
- H. HEAT AND MIX THE BINDER MATERIAL AND AGGREGATE AS RECOMMENDED BY THE MANUFACTURER.
- I. INSTALLATION OF MATERIAL, COMPACTION, AND TOP COATING SHALL BE AS RECOMMENDED BY THE MANUFACTURER.
- J. IMMEDIATELY AFTER TOP COATING, CAST AN ANTI-SKID MATERIAL OVER THE JOINT TO REDUCE THE RISK OF TRACKING.
- K. ONCE THE JOINT REACHES 82 DEG C (180 DEG F) +/-, WATER MAY BE USED TO EXPEDITE THE COOLING PROCESS.
- L. PROTECT JOINT FROM TRAFFIC UNTIL THE MATERIAL HAS COOLED TO 51 DEG C (125 DEG F) +/-.

### 2. WEATHER LIMITATIONS. (APPLY BINDER MATERIAL ONLY WHEN THE FOLLOWING CONDITIONS PREVAIL OR AS RECOMMENDED BY THE MANUFACTURER):

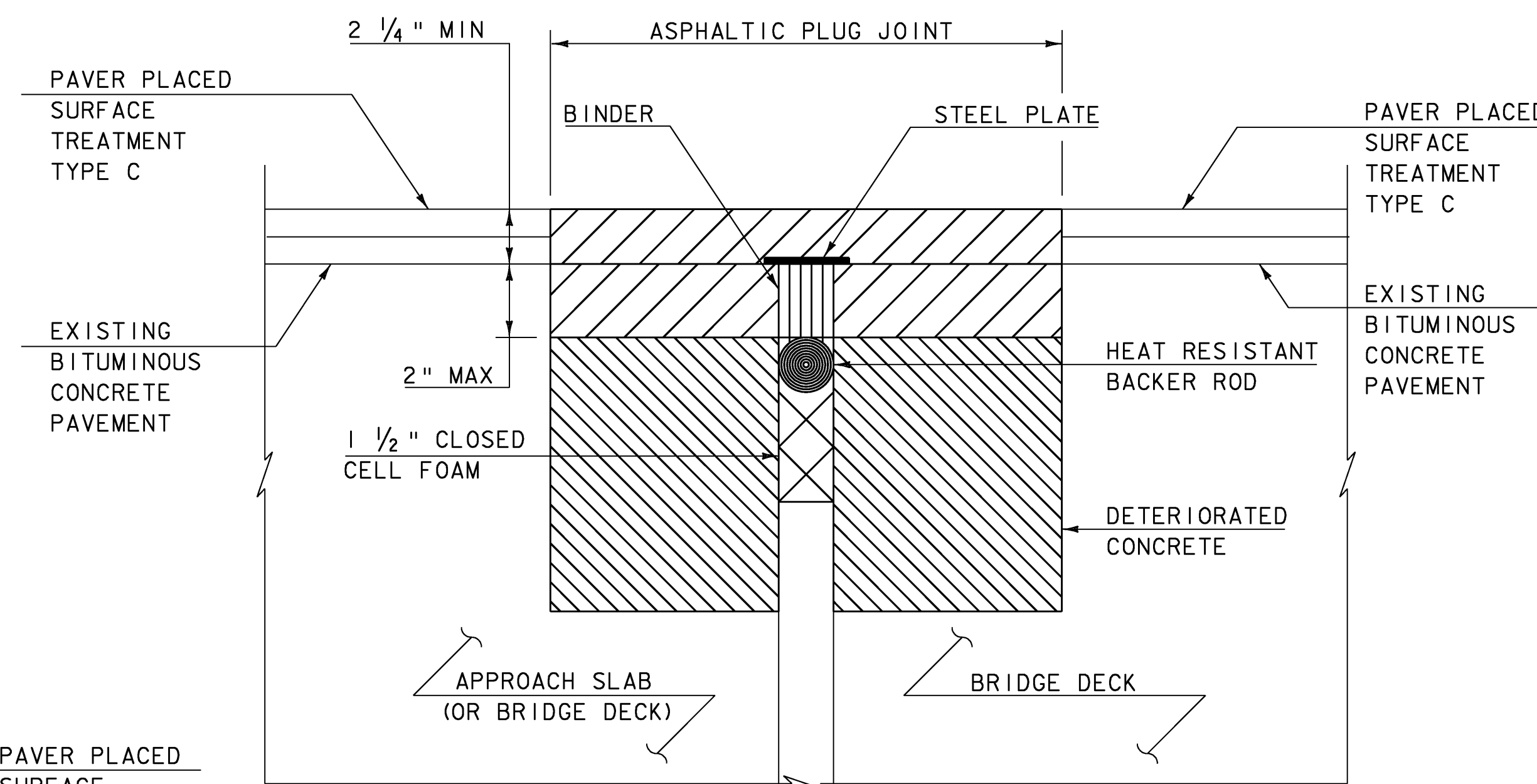
- A. THE AMBIENT AIR TEMPERATURE IS AT LEAST 10 DEG C (50 DEG F) AND RISING.
- B. THE ROAD SURFACE IS DRY.
- C. WEATHER CONDITIONS OR OTHER CONDITIONS ARE FAVORABLE AND ARE EXPECTED TO REMAIN SO FOR THE PERFORMANCE OF SATISFACTORY WORK.



**ASPHALTIC PLUG-TYPE  
JOINT DETAIL**  
(NOT TO SCALE)

#### LOCATIONS

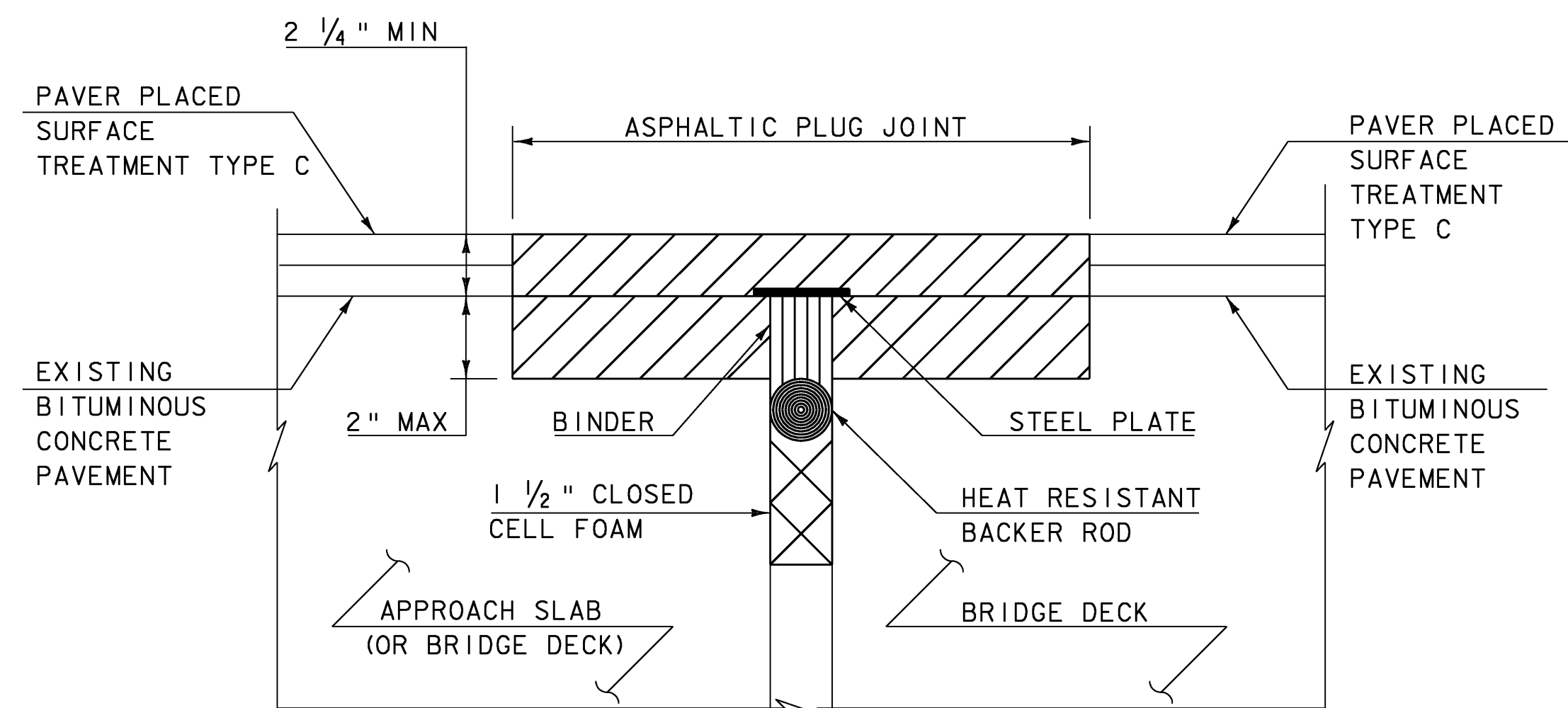
BR 76-N MM 95.307 NB 40 FT  
 BR 76-S MM 95.307 SB 40 FT  
 BR 77-N MM 96.566 NB 40 FT  
 BR 77-S MM 96.566 SB 40 FT



**ASPHALTIC PLUG-TYPE JOINT DETAIL  
REMOVAL OF > 2" DETERIORATED CONCRETE**  
(NOT TO SCALE)

#### NOTES:

1. UPON ENCOUNTERING GREATER THAN 2" AVERAGE OF DETERIORATED CONCRETE, THE CONTRACTOR SHALL REMOVE THE DETERIORATED MATERIAL AND REPLACE IT WITH RAPID SETTING CONCRETE REPAIR MATERIAL WITH COARSE AGGREGATE FORMED TO EXISTING ELEVATION.
2. REMOVAL OF THE DETERIORATED CONCRETE WILL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 580.20 "RAPID SETTING CONCRETE REPAIR MATERIAL WITH COARSE AGGREGATE".
3. REINFORCING STEEL NOT SHOWN FOR CLARITY.



**ASPHALTIC PLUG-TYPE JOINT DETAIL  
REMOVAL OF < 2" DETERIORATED CONCRETE**  
(NOT TO SCALE)

#### NOTES:

1. UPON ENCOUNTERING UP TO 2" AVERAGE OF DETERIORATED CONCRETE, THE CONTRACTOR SHALL REMOVE THE DETERIORATED MATERIAL AND REPLACE IT WITH THE ASPHALTIC PLUG JOINT MATERIAL AS DIRECTED BY THE RESIDENT ENGINEER.
2. REMOVAL OF THE DETERIORATED CONCRETE WILL NOT BE PAID SEPARATELY BUT WILL BE CONSIDERED INCIDENTAL TO THE UNIT BID PRICE FOR THE ITEM 516.10. THE ADDITIONAL PLUG JOINT MATERIAL BELOW THE DESIGN DEPTH TO REPLACE THE DETERIORATED CONCRETE WILL BE CONSIDERED INCIDENTAL TO THE UNIT BID PRICE FOR THE ITEM 516.10.

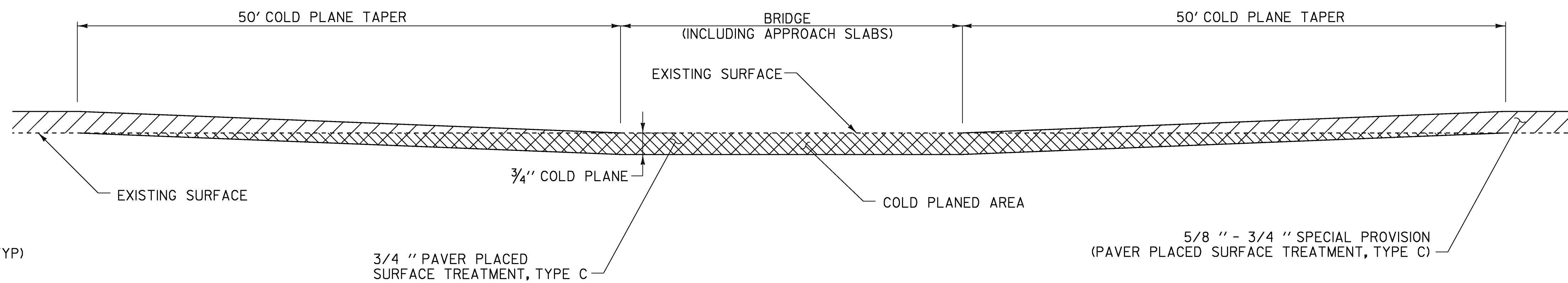
### DETAILS ARE NOT TO SCALE

## ASPHALTIC PLUG JOINT DETAIL SHEET

PROJECT NAME: COLCHESTER  
 PROJECT NUMBER: IM SURF(12)

FILE NAME: /pave/08a154/08a154.dgn  
 PROJECT LEADER: DOMEY  
 DESIGNED BY: JLR  
 PLOT FILE: 08a154d+01I

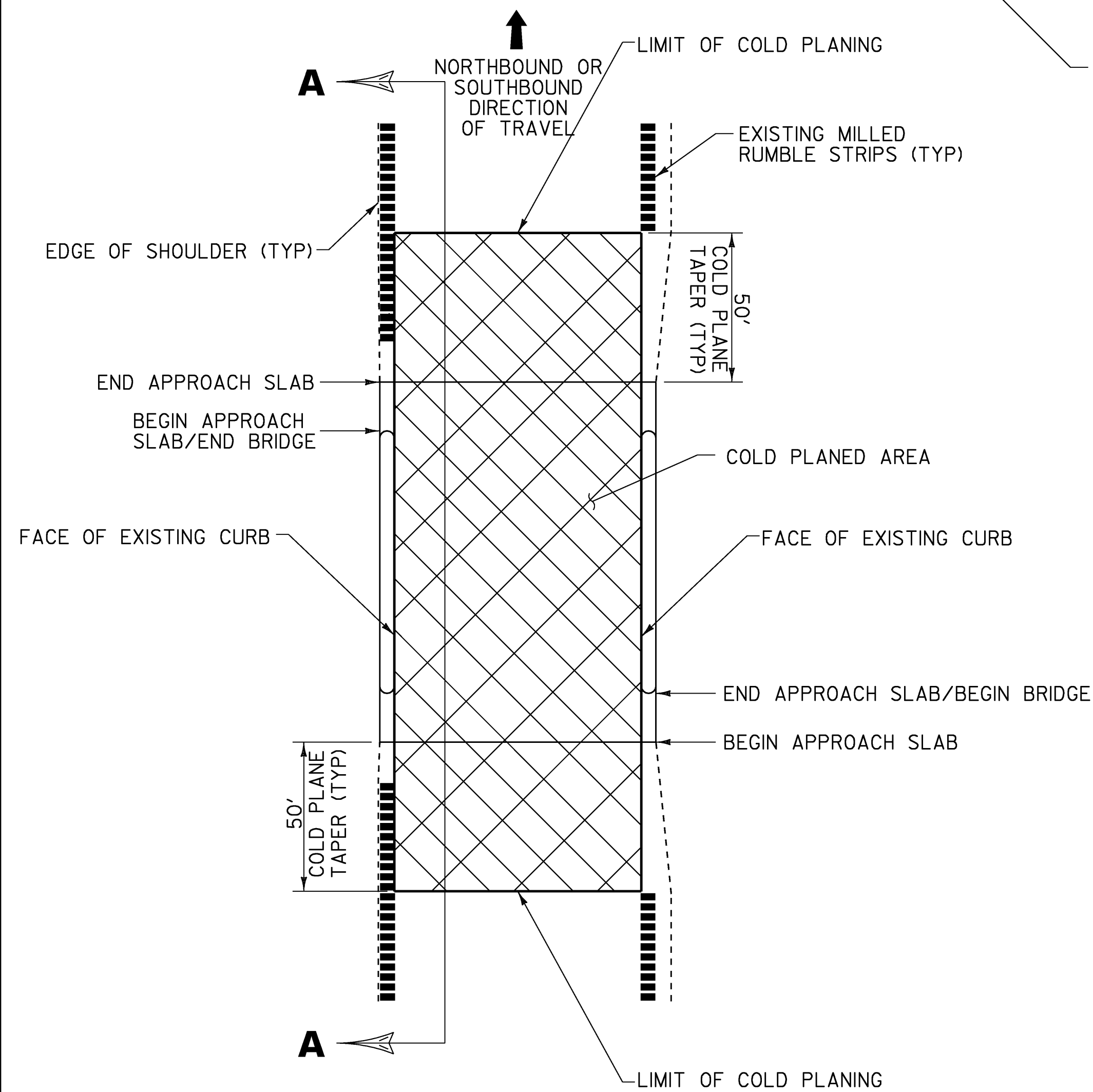
PLOT DATE: 01-JUN-2009  
 DRAWN BY: JLR  
 CHECKED BY: JLR  
 SHEET 3 OF 11



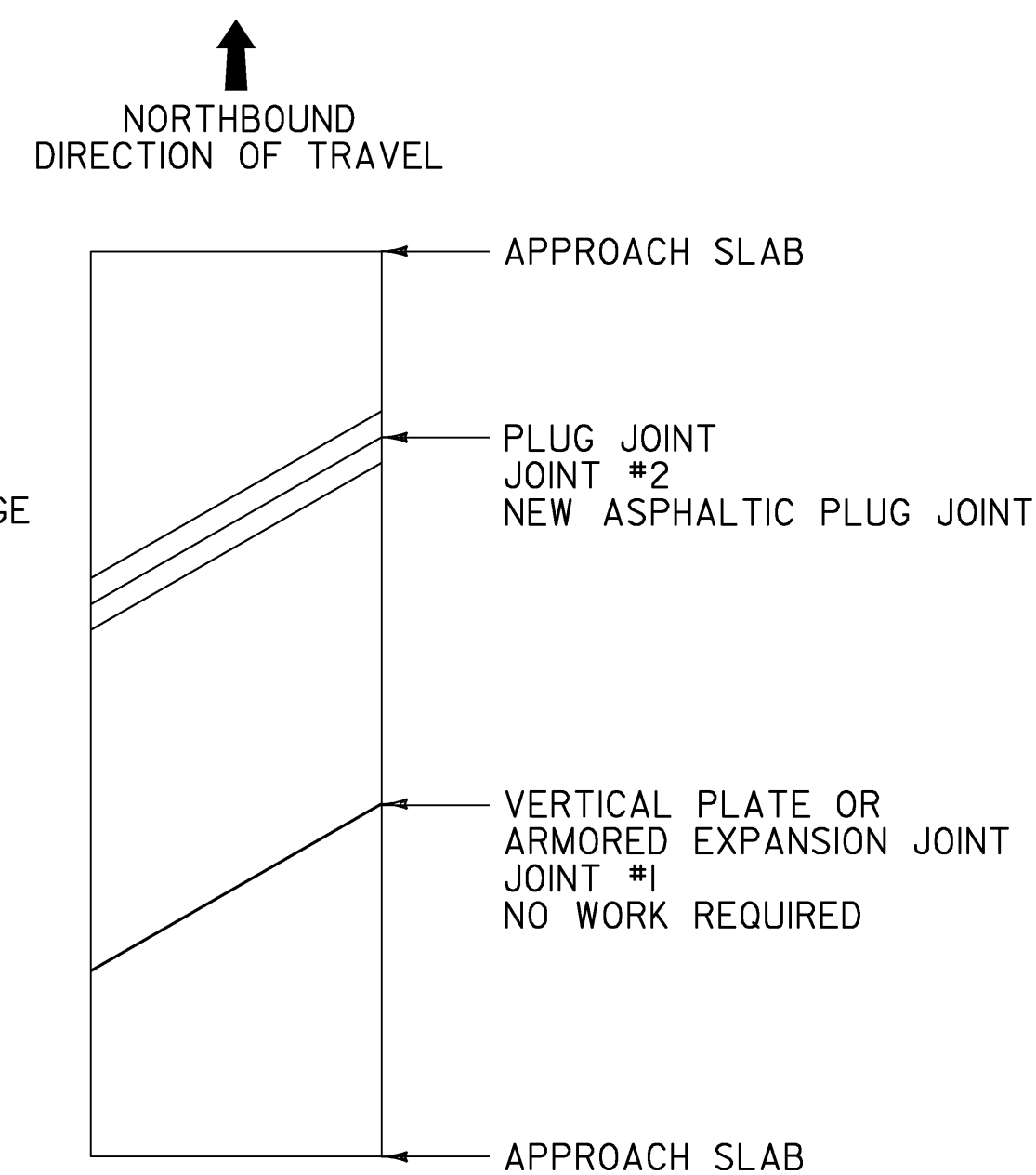
**BRIDGE COLD PLANE TYPICAL SECTION A-A**

BR #76N = MM 95.307  
 BR #76S = MM 95.307  
 BR #77N = MM 96.566  
 BR #77S = MM 96.566

5/8" - 3/4" SPECIAL PROVISION  
 (PAVER PLACED SURFACE TREATMENT, TYPE C)



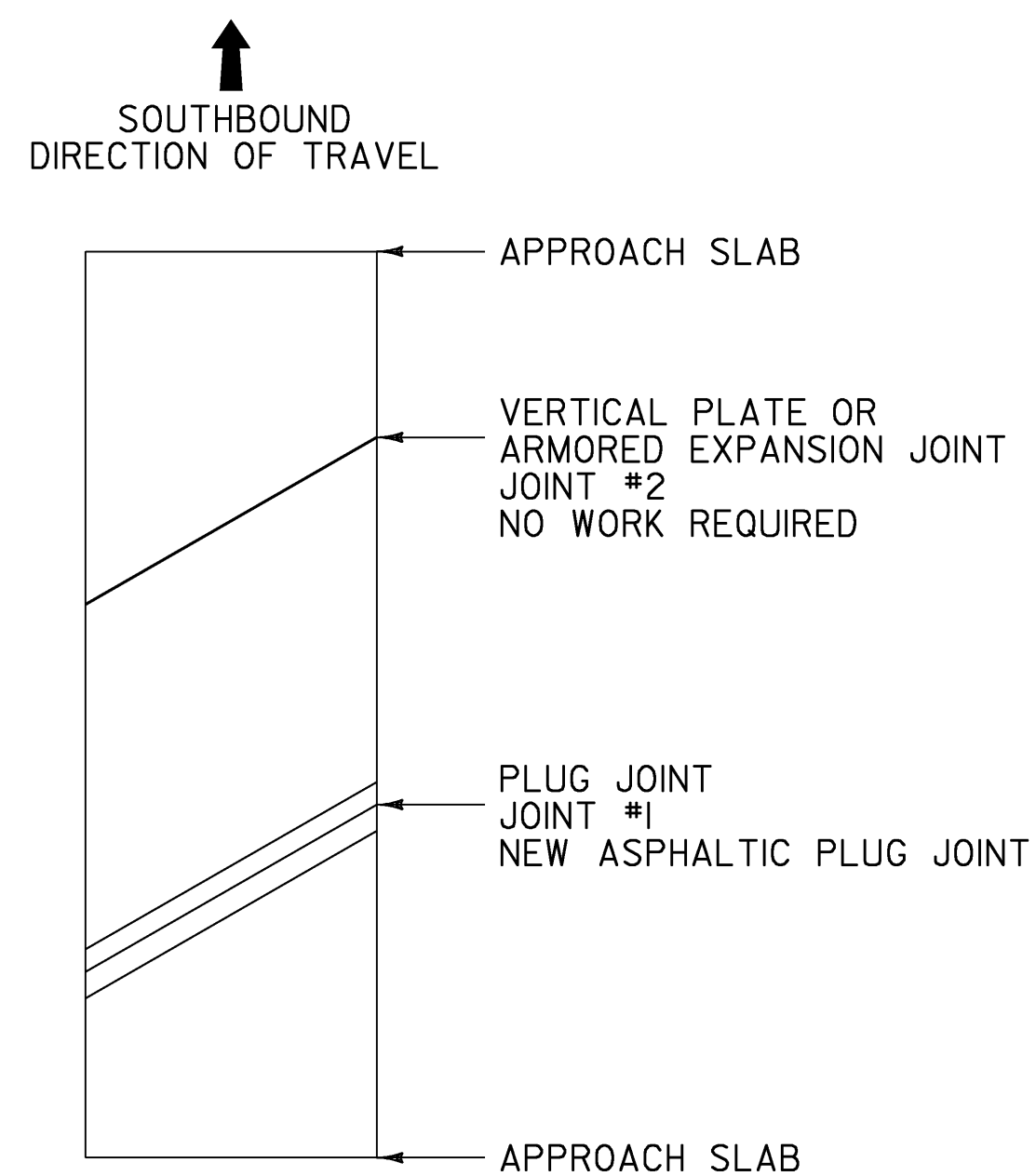
**BRIDGE COLD PLANE TYPICAL PLAN**



**BRIDGE #76N**

MM 95.307

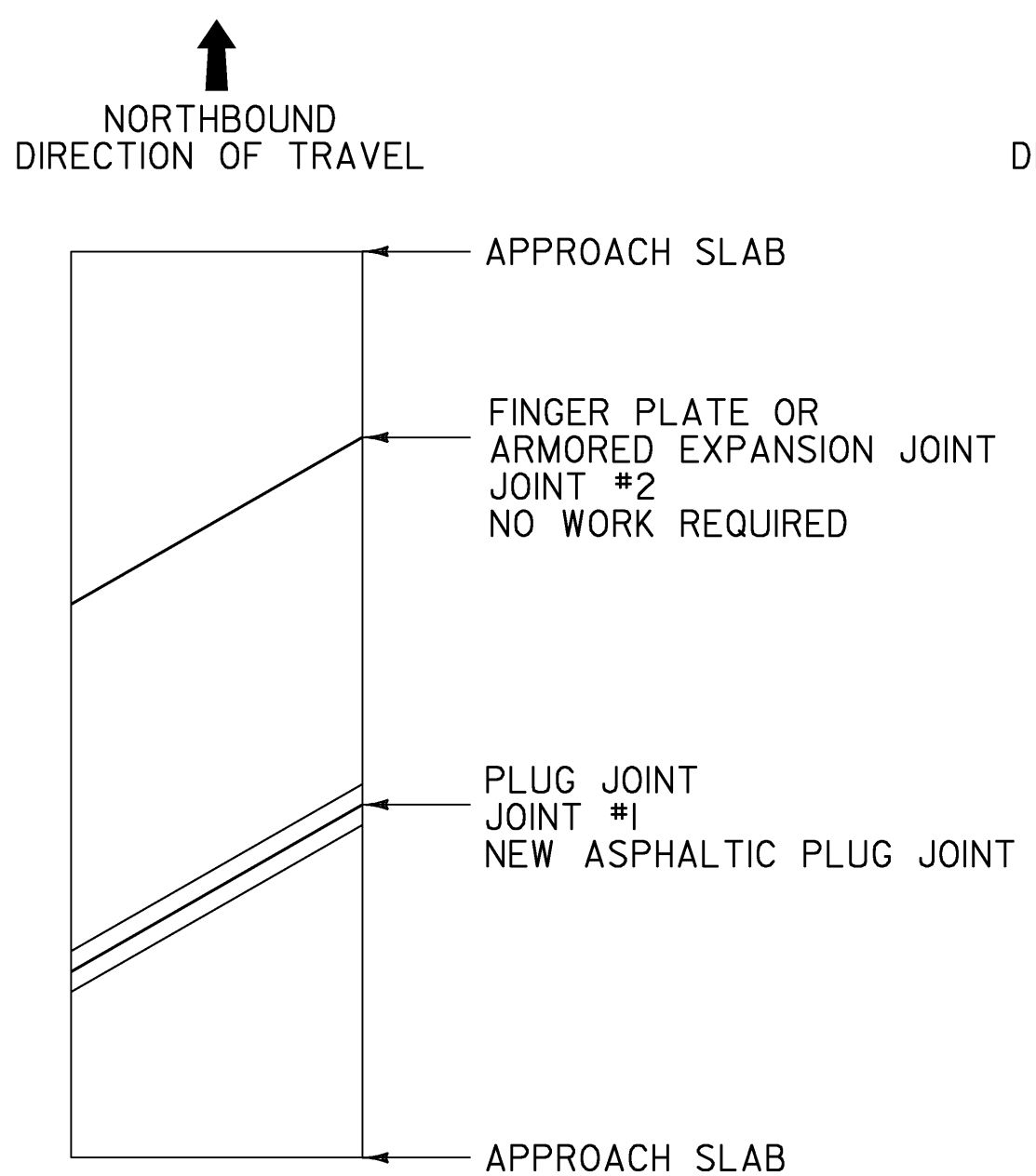
LENGTH OF ASPHALTIC PLUG JOINTS:  
 JOINT #1 = 0'  
 JOINT #2 = 40'  
 TOTAL = 40'



**BRIDGE #76S**

MM 95.307

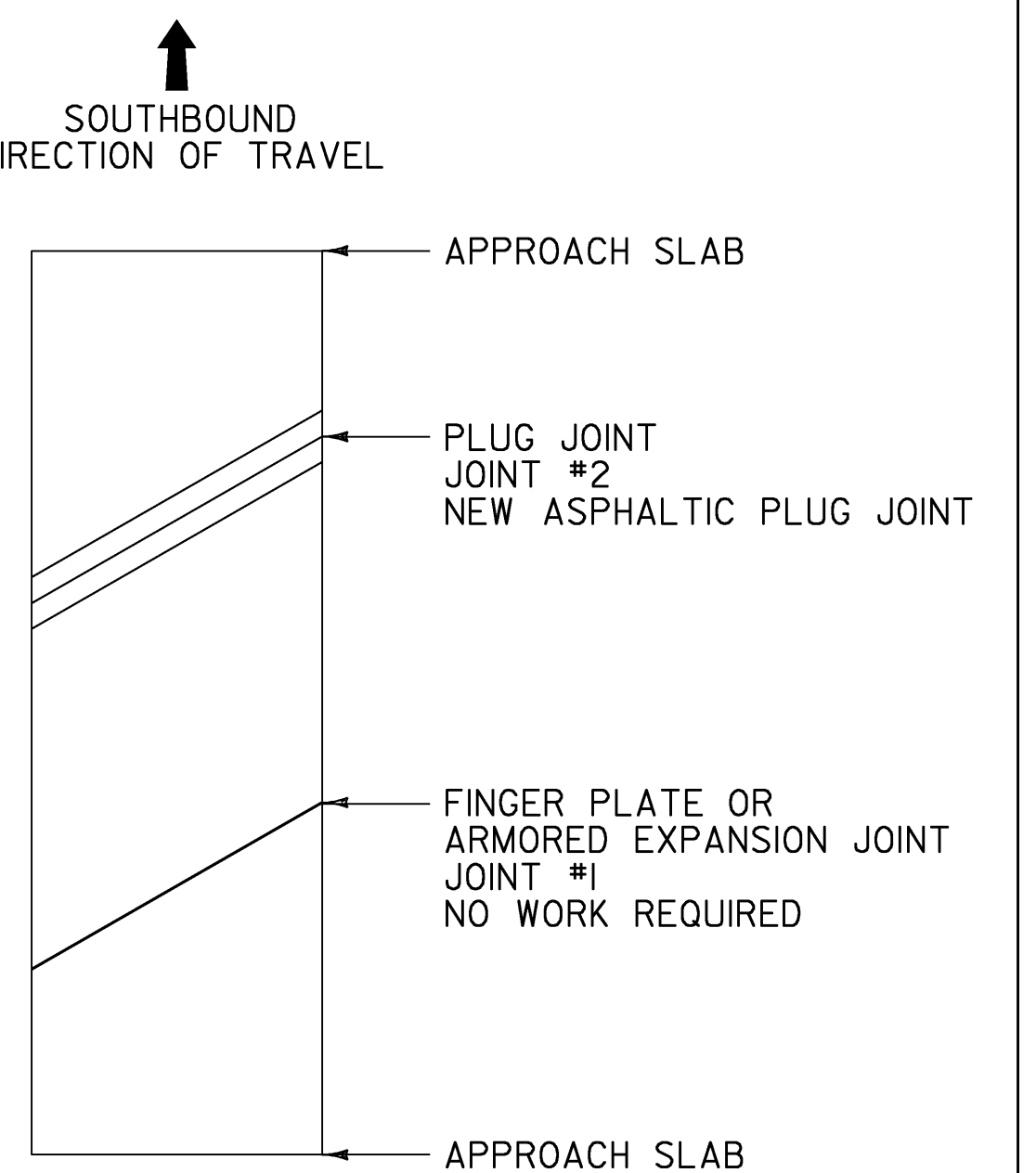
LENGTH OF ASPHALTIC PLUG JOINTS:  
 JOINT #1 = 40'  
 JOINT #2 = 0'  
 TOTAL = 40'



**BRIDGE #77N**

MM 96.566

LENGTH OF ASPHALTIC PLUG JOINTS:  
 JOINT #1 = 40'  
 JOINT #2 = 0'  
 TOTAL = 40'



**BRIDGE #77S**

MM 96.566

LENGTH OF ASPHALTIC PLUG JOINTS:  
 JOINT #1 = 0'  
 JOINT #2 = 40'  
 TOTAL = 40'

**LEGEND**

EXISTING BRIDGE JOINTS TO BE REPAIRED WITH ASPHALTIC PLUG JOINT

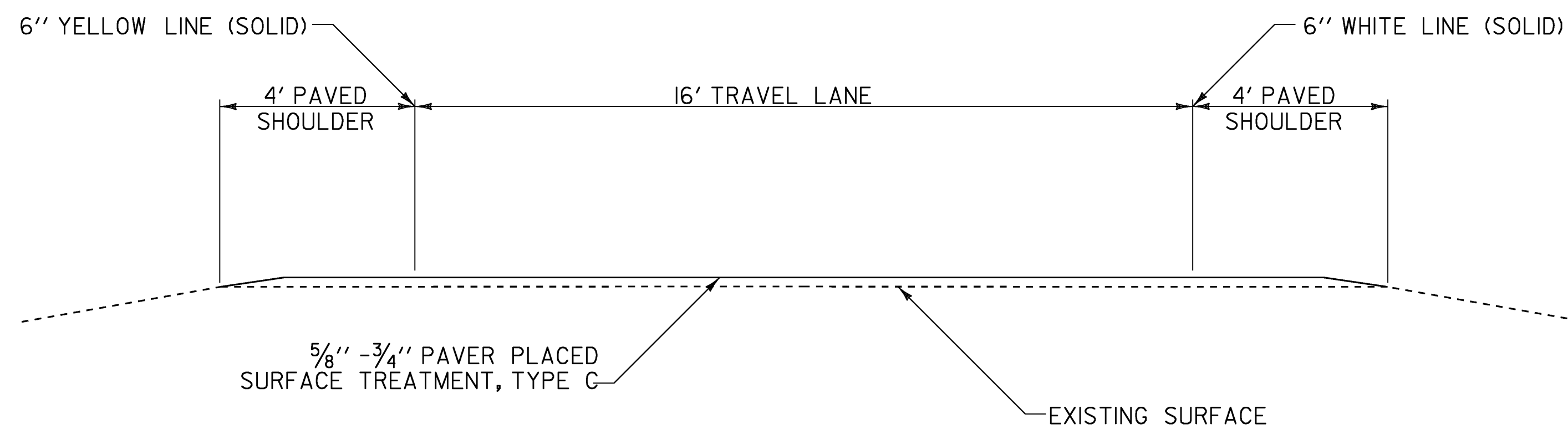
**BRIDGE  
 DETAIL  
 SHEET**

PROJECT NAME: COLCHESTER  
 PROJECT NUMBER: IM SURF(12)

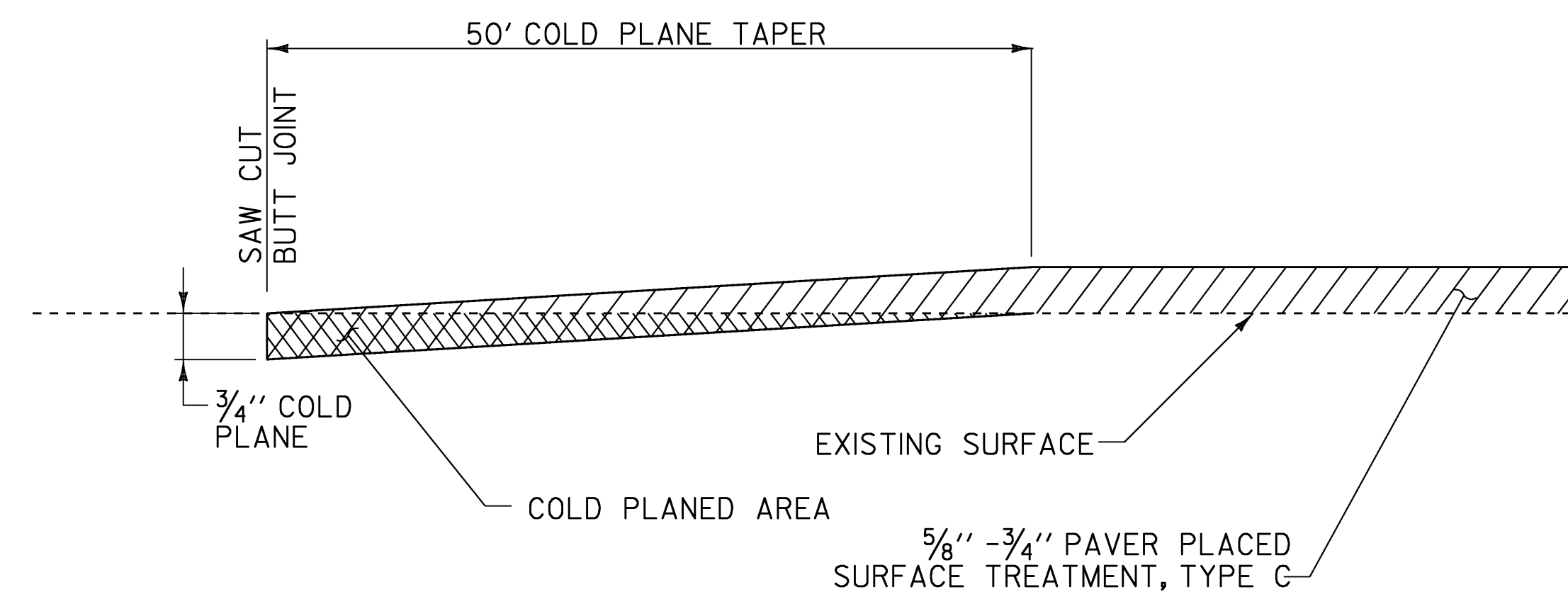
FILE NAME: /pave/08a154/p08a154.dgn  
 PROJECT LEADER: DOMEY  
 DESIGNED BY: JLR  
 p08a154bds.1

PLOT DATE: 29-MAY-2009  
 DRAWN BY: JLR  
 CHECKED BY: JLR  
 SHEET 4 OF 11



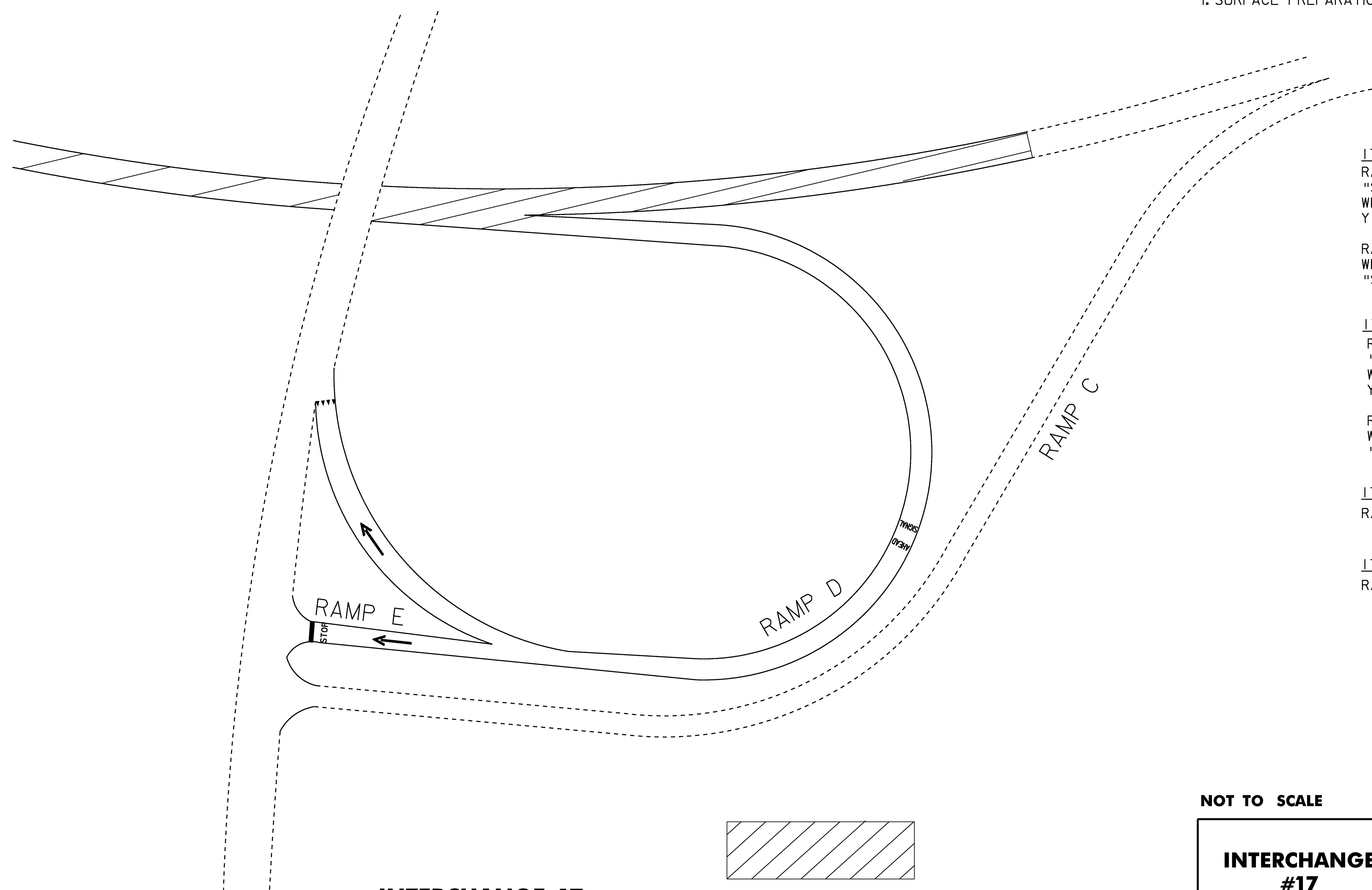


**TYPICAL RAMP SECTION**



**COLD PLANE DETAIL AT RAMPS**

NOTES:  
1. SURFACE PREPARATION IS REQUIRED ON THE RAMP.



ITEM 646.30 LETTER OR SYMBOL  
RAMP D  
"SIGNAL AHEAD"  
WRONG WAY ARROW  
YIELD MARKINGS

RAMP E  
WRONG WAY ARROW  
"STOP"

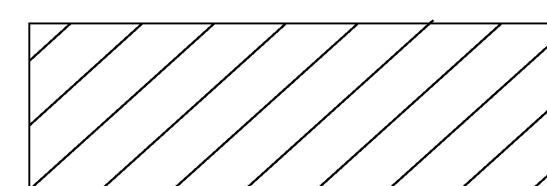
ITEM 646.690 TEMPORARY LETTER OR SYMBOL  
RAMP D  
"SIGNAL AHEAD"  
WRONG WAY ARROW  
YIELD MARKINGS

RAMP E  
WRONG WAY ARROW  
"STOP"

ITEM 646.26 24" STOP BAR  
RAMP E

ITEM 646.680 TEMPORARY 24" STOP BAR  
RAMP E

**INTERCHANGE 17**



**PROJECT AREA**

NOT TO SCALE

**INTERCHANGE  
#17  
DETAIL SHEET**

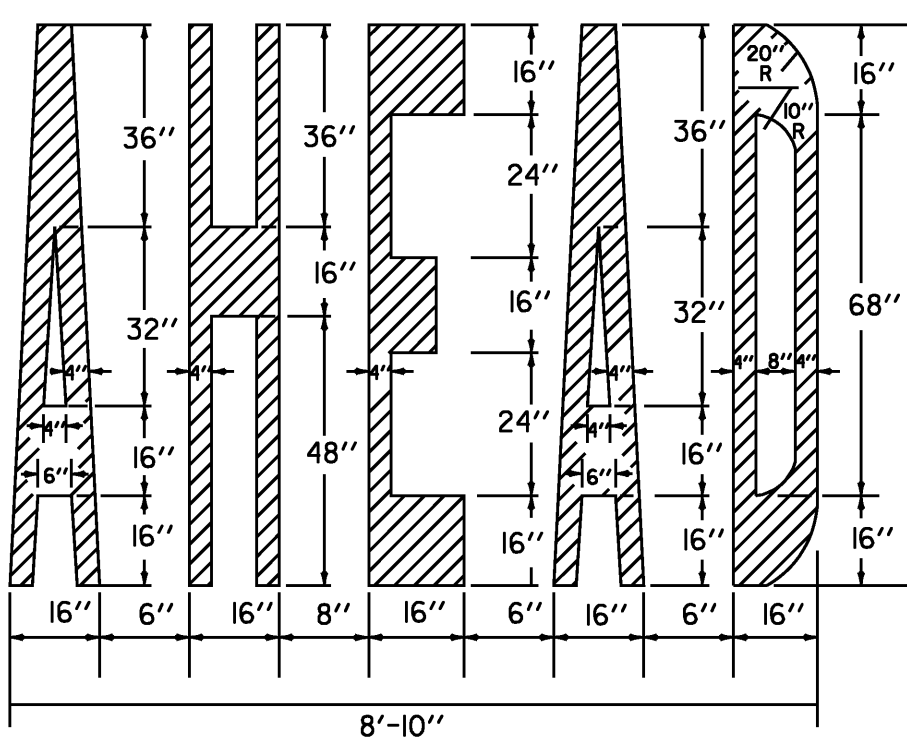
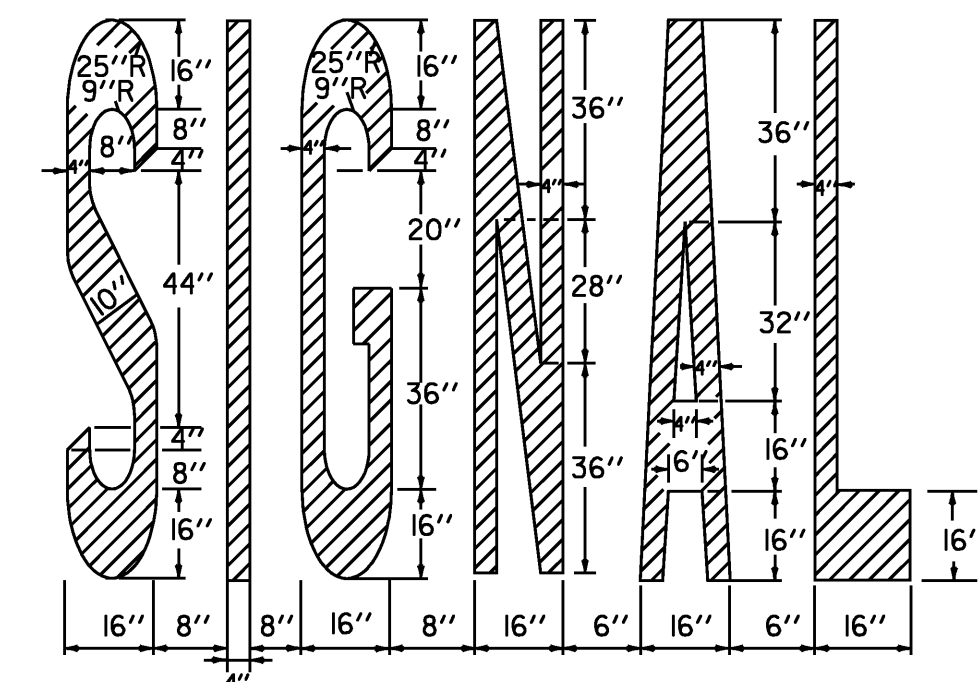
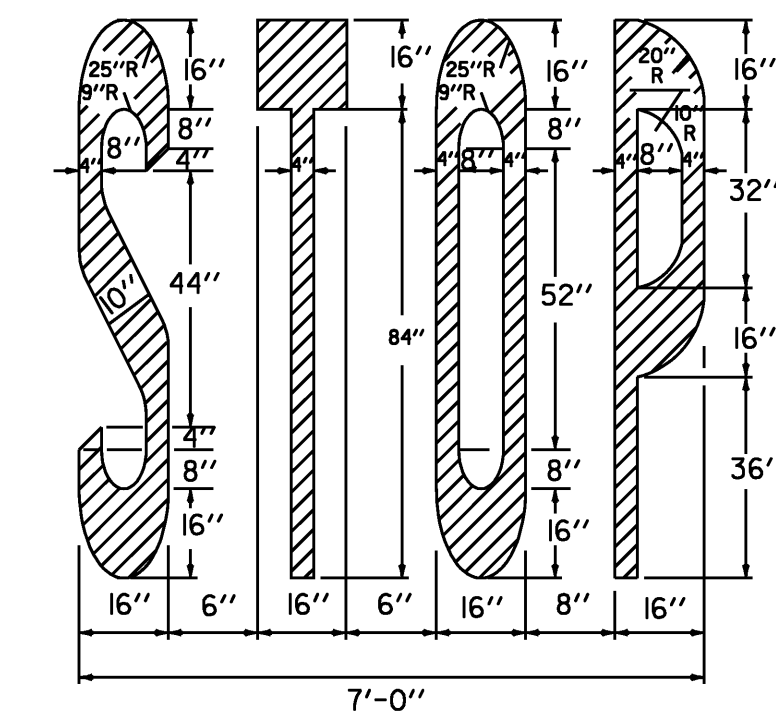
PROJECT NAME: COLCHESTER  
PROJECT NUMBER: IM SURF(12)

FILE NAME: P08al54.dgn  
PROJECT LEADER: T. DOMEY  
DESIGNED BY: JLR  
PLOT FILE: p08al54id17.1

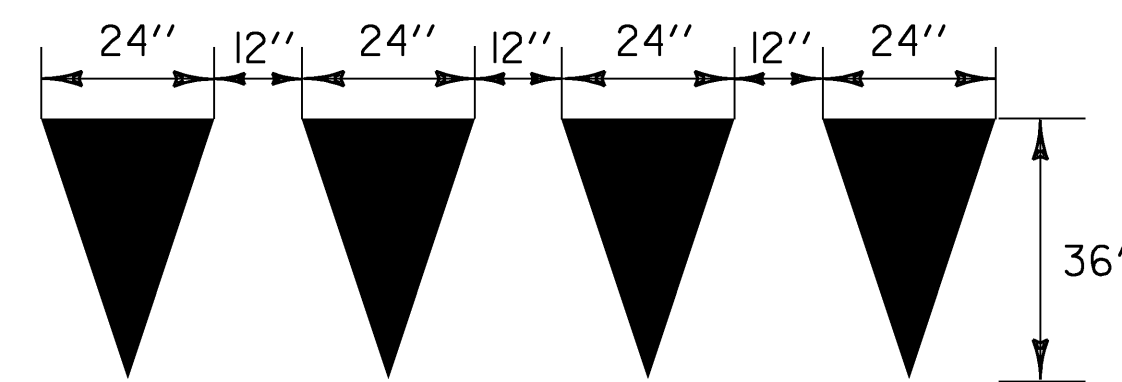
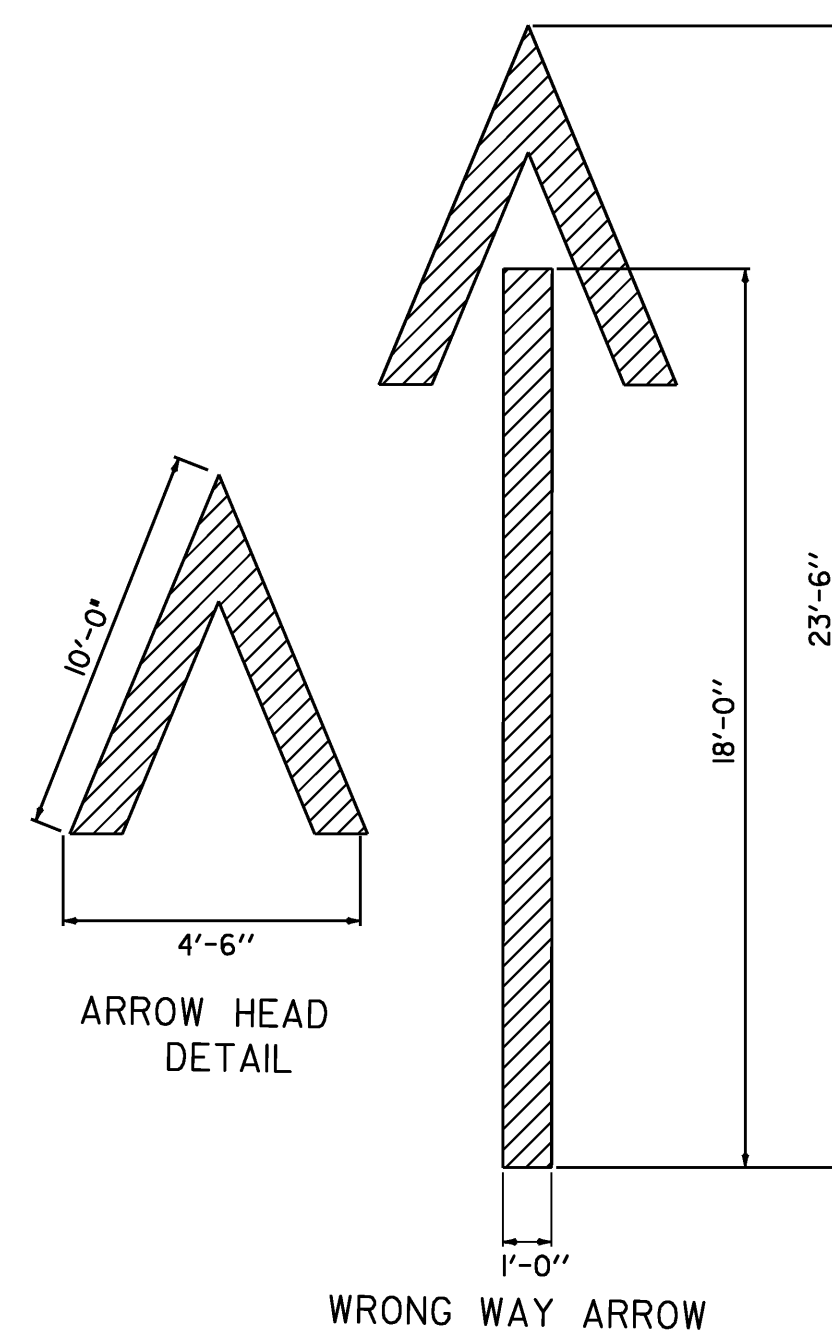
PLOT DATE: 29-MAY-2009  
DRAWN BY: JLR  
CHECKED BY: KML  
SHEET 6 OF 11

# INTERSTATE TYPICAL PAVEMENT MARKINGS

NOT TO SCALE



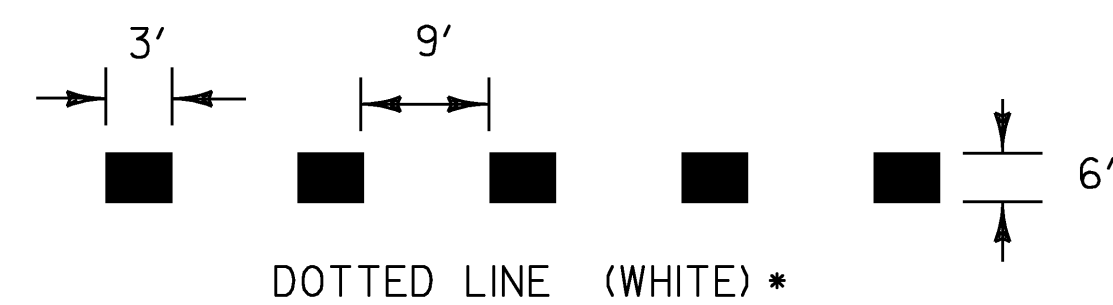
**STOP BAR DETAIL**



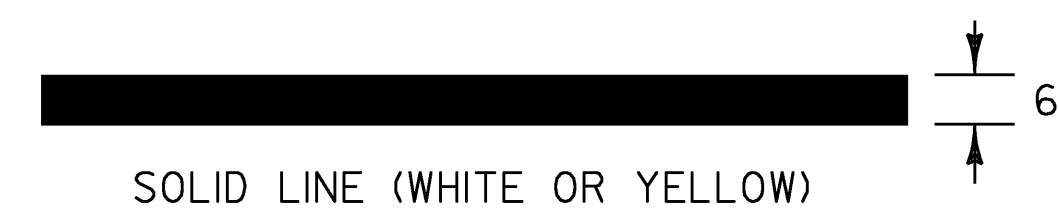
**YIELD LINE DETAILS**

TO BE INSTALLED ONLY AT THE DIRECTION OF THE RESIDENT ENGINEER TO BE PAID AS ONE LETTER OR SYMBOL PER TRIANGLE

\* TO BE INSTALLED ONLY AT THE DIRECTION OF THE RESIDENT ENGINEER



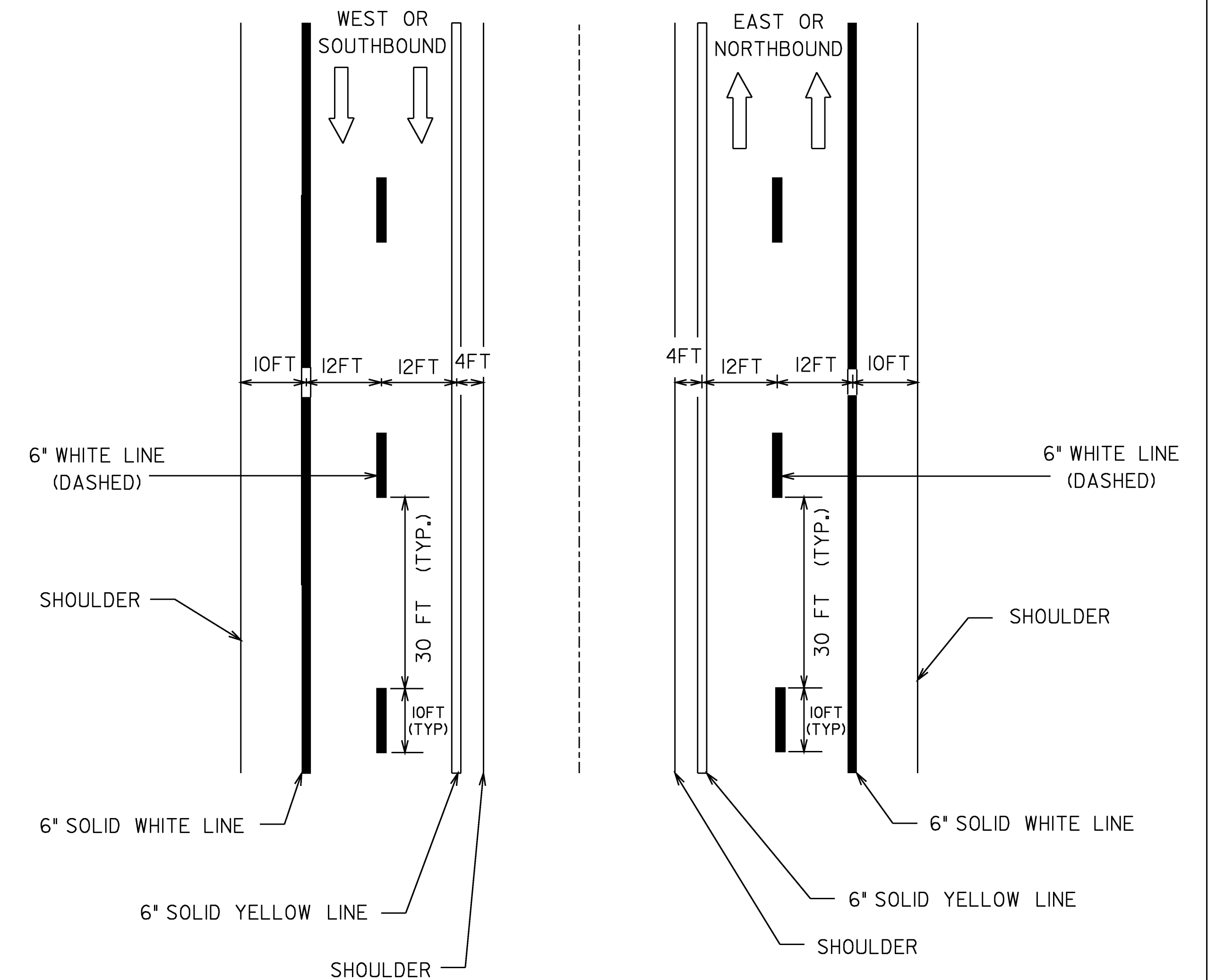
TYPICAL TWO-WAY RAMP CENTERLINE MARKING



SOLID LINE (WHITE OR YELLOW)



CHANNELIZING LINE (WHITE)



**TYPICAL MAINLINE MARKING PLAN**

**LEGEND**

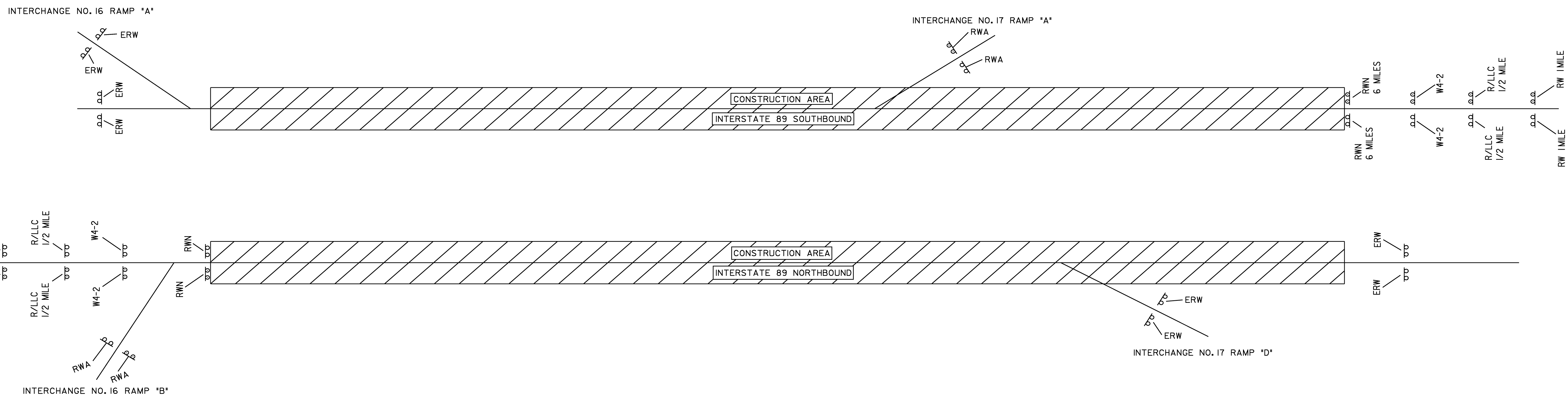
- 6" WHITE LINES
- 6" YELLOW LINES
- DIRECTION OF TRAFFIC FLOW

**PAVEMENT MARKING LINE DETAILS**

**NOTES**

1. TWO (2) APPLICATIONS OF FINAL PAVEMENT MARKINGS WILL BE REQUIRED ON THE PAVER PLACED SURFACE TREATMENT. THE FIRST APPLICATION WILL BE IMMEDIATELY FOLLOWING PLACEMENT OF THE SURFACE TREATMENT, THE SECOND AND FINAL APPLICATION WILL BE APPLIED NO SOONER THAN 14 CALENDER DAYS AFTER THE FIRST APPLICATION AND NO LATER THAN OCTOBER 16, 2009.

PROJECT: <b>COLCHESTER</b>	PROJECT NO. : <b>IM SURF(12)</b>
DESIGN FILE NAME: p08a154.dgn IPARM FILE NAME: p08a154pm2.1 SURVEYED BY: SQUAD LEADER: T DOMEY	PLOT DATE: 01-JUN-2009 SURVEY DATE: DRAWN BY: KAS SHEET: 7 OF 11



**CONSTRUCTION APPROACH SIGNING**

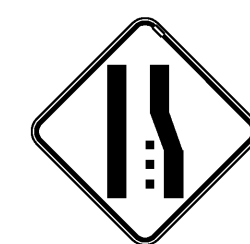
SEE VAOT STANDARDS E-100 AND E-103 FOR SIGN PLACEMENT.  
SEE VAOT STANDARDS E-100, E-101 AND E-102 FOR SIGN DETAILS

- LEGEND**
- ERW = END ROAD WORK
  - RWF = ROAD WORK --- FT
  - RWA = ROAD WORK AHEAD
  - RWN = ROAD WORK NEXT 6 MILES

**NOTES:**

1. THE CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN FOR APPROVAL PRIOR TO THE START OF CONSTRUCTION. THE COST OF PREPARING THIS PLAN (AND MAKING CHANGES IF NECESSARY) SHALL NOT BE PAID SEPARATELY BUT SHALL BE INCIDENTAL TO ITEM 641.10, "TRAFFIC CONTROL".
2. THE CONTRACTOR SHALL INCLUDE A CONSTRUCTION SIGN APPROACH PACKAGE FOR EXPECTED LANE CLOSURES AND WORK ZONE SPEED REDUCTIONS IN COMPLIANCE WITH THE LATEST EDITION OF THE MUTCD AND VTRANS STANDARD E-103. PAYMENT FOR PROVIDING THIS PACKAGE SHALL BE INCIDENTAL TO ITEM 641.10, "TRAFFIC CONTROL".
3. ADDITIONAL RAMP SIGNING MAY BE REQUIRED AS DIRECTED BY THE RESIDENT ENGINEER.
4. THE BID PRICE FOR "TRAFFIC CONTROL", ITEM 641.10, SHALL INCLUDE ALL APPROACH AND ON-PROJECT CONSTRUCTION SIGNING, PORTABLE ARROW BOARDS, BARRIERS, BARRELS, CONES, BARRICADES, TEMPORARY REGULATORY AND WARNING SIGNS, AND POSTS AS DETAILED IN VTRANS STANDARDS. ALL ADJUSTING, RELOCATING, AND REMOVING OF THESE DEVICES AS DIRECTED BY THE RESIDENT ENGINEER SHALL ALSO BE INCLUDED. THE FOLLOWING ITEMS WILL BE PAID FOR SEPARATELY:  
646.620, 646.630, 646.660, 646.680, 646.690 - TEMPORARY PAVEMENT MARKINGS  
630.10 AND 630.15 - UNIFORMED TRAFFIC OFFICERS AND FLAGGERS
5. PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) SHALL BE PROVIDED FOR USE ALONG THIS PROJECT. THE PLACEMENT OF THESE UNITS AS WELL AS THE MESSAGE WILL BE APPROVED BY THE RESIDENT ENGINEER. THESE SIGNS WILL BE PAID FOR UNDER ITEM 641.15, "PORTABLE CHANGEABLE MESSAGE SIGN".  
  
THE CONTRACTOR SHALL POSITION A PCMS PRIOR TO I-89 INTERCHANGE #17 (COLCHESTER) WARNING NORTHBOUND MOTORISTS OF EXPECTED ROADWAY CONDITIONS AND REDUCED ROADWAY WIDTHS.  
  
PCMS SHOULD NOT REPLACE ANY OF THE SIGNING DETAILED IN THE MUTCD AND SHOULD NOT BE USED IF STANDARD TRAFFIC CONTROL DEVICES ADEQUATELY PROVIDE THE INFORMATION THE MOTORISTS NEED TO TRAVEL SAFELY.

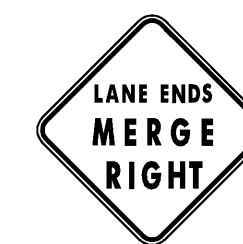
6. THE MUTCD 2003 SHALL BE THE STANDARD FOR ALL TRAFFIC CONTROL DEVICES. EXISTING SIGNS, SIGNALS AND MARKINGS SHALL BE VALID UNTIL SUCH TIME AS THEY ARE REPLACED OR RECONSTRUCTED. WHEN NEW TRAFFIC CONTROL DEVICES ARE ERECTED OR PLACED OR EXISTING TRAFFIC CONTROL DEVICES ARE REPLACED OR REPAIRED THE EQUIPMENT, DESIGN, METHOD OF INSTALLATION, PLACEMENT OR REPAIR SHALL CONFORM WITH SUCH STANDARDS.
7. NO CONSTRUCTION SIGNS SHALL BE INSTALLED AS TO INTERFERE OR OBSTRUCT THE VIEW OF EXISTING TRAFFIC CONTROL DEVICES, STOPPING SIGHT DISTANCE, AND CORNER SIGHT DISTANCE FROM DRIVES AND TOWN HIGHWAYS.
8. ON VTRANS STANDARD E-103, SIGN W4-2 SHOULD BE REPLACED WITH W9-2.



W4-2



W9-2

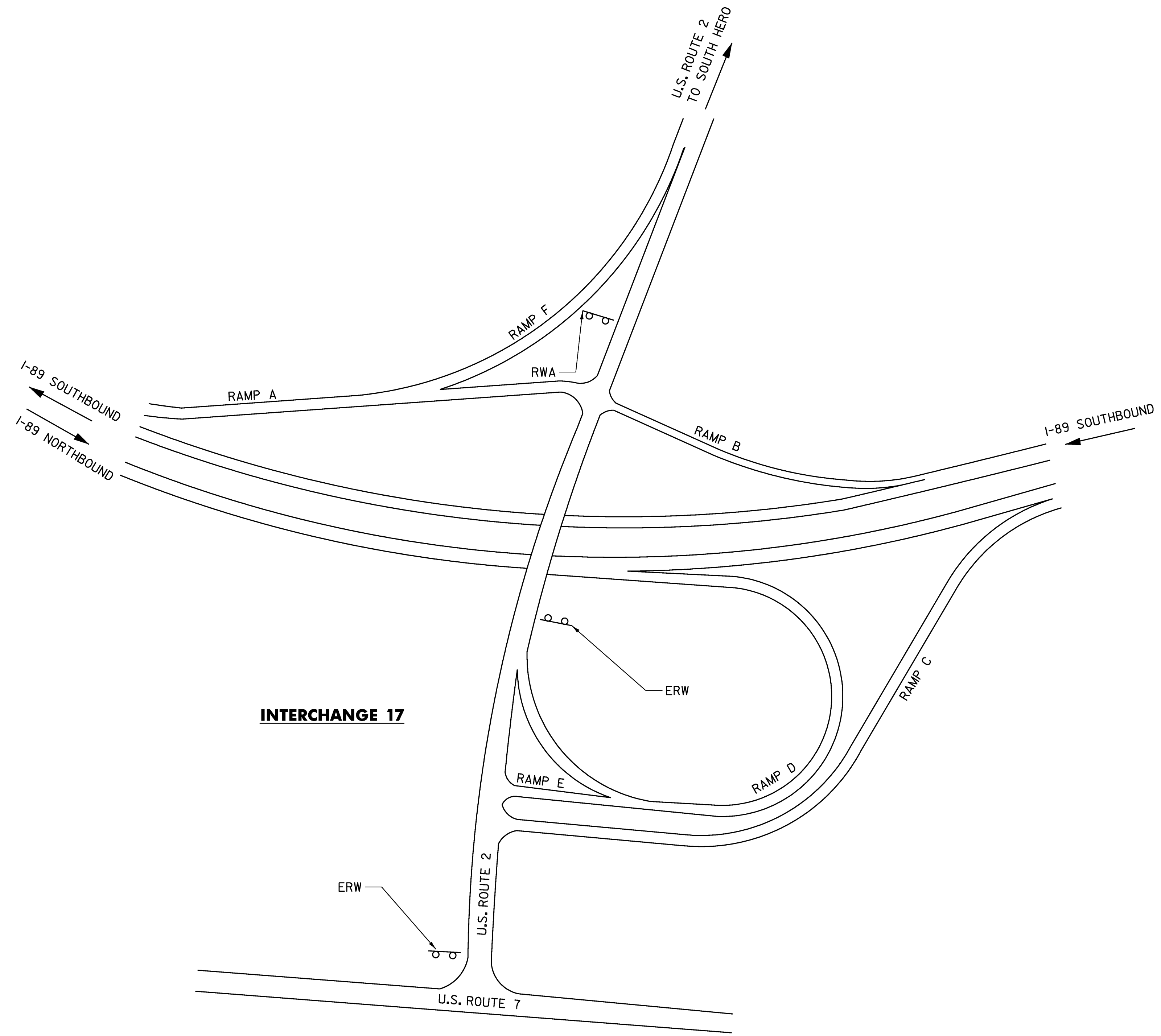


9. ALL SIGNS THAT ARE NOT BEING USED SHALL BE COVERED APPROPRIATELY. PAYMENT WILL BE CONSIDERED INCIDENTAL TO CONTRACT ITEM 641.10.

DATUM	
VERTICAL	N/A
HORIZONTAL	N/A

**CONSTRUCTION APPROACH SIGNING**

SURVEYED BY	N/A	DATE	N/A
DESIGN BY	JLR	DATE	03/09
DRAWN BY	JLR	DATE	03/09
DESIGN FILE NO.	/pave/08a154/p08a154.dgn		
IPARM FILE	p08a154cas1	DATE PLOTTED	29-MAY-2009
PROJ. NAME	COLCHESTER		
PROJ. NO.	IM SURF(12)		
SHEET	8	OF	11 SHEETS



**INTERCHANGE 17**

- LEGEND**
- RW 1 MILE = ROAD WORK 1 MILE
  - RW 1/2 MILE = ROAD WORK 1/2 MILE
  - RWA = ROAD WORK AHEAD
  - RPA = RAMP WORK AHEAD
  - RWN = ROAD WORK NEXT (9 MILES)
  - ERW = END ROAD WORK
  - PCMS = PORTABLE CHANGEABLE MESSAGE SIGN

SEE STD E-100A AND E-103 FOR SIGN PLACEMENT.  
SEE NEXT SHEET FOR LIST OF CONSTRUCTION SIGNS

**NOT TO SCALE**

<b>CONSTRUCTION APPROACH SIGNING INTERCHANGE #17</b>	PROJECT NAME: COLCHESTER - GEORGIA
	PROJECT NUMBER: IM 089-3(64)
	FILE NAME: p06al96.dgn
	PLOT DATE: 29-MAY-2009
PROJECT LEADER: CDL	DRAWN BY: SJL
DESIGNED BY: SJL	CHECKED BY: EPD
PLOT FILE: p06al96cas117.1	SHEET 9 OF 11

Table 6H-2. Meaning of Symbols on Typical Application Diagrams

	Arrow panel
	Arrow panel support or trailer (shown facing down)
	Changeable message sign or support trailer
	Channelizing device
	Crash Cushion
	Direction of temporary traffic detour
	Direction of traffic
	Flagger
	High level warning device (Flag tree)
	Luminaire
	Pavement markings that should be removed for a long term project
	Sign (shown facing left)
	Surveyor
	Temporary barrier
	Temporary barrier with warning lights
	Traffic or Pedestrian signal
	Truck mounted attenuator
	Type III Barricade
	Warning lights
	Work space
	Work vehicle

Figure 6E-1. Use of Hand-Signaling Devices by Flaggers

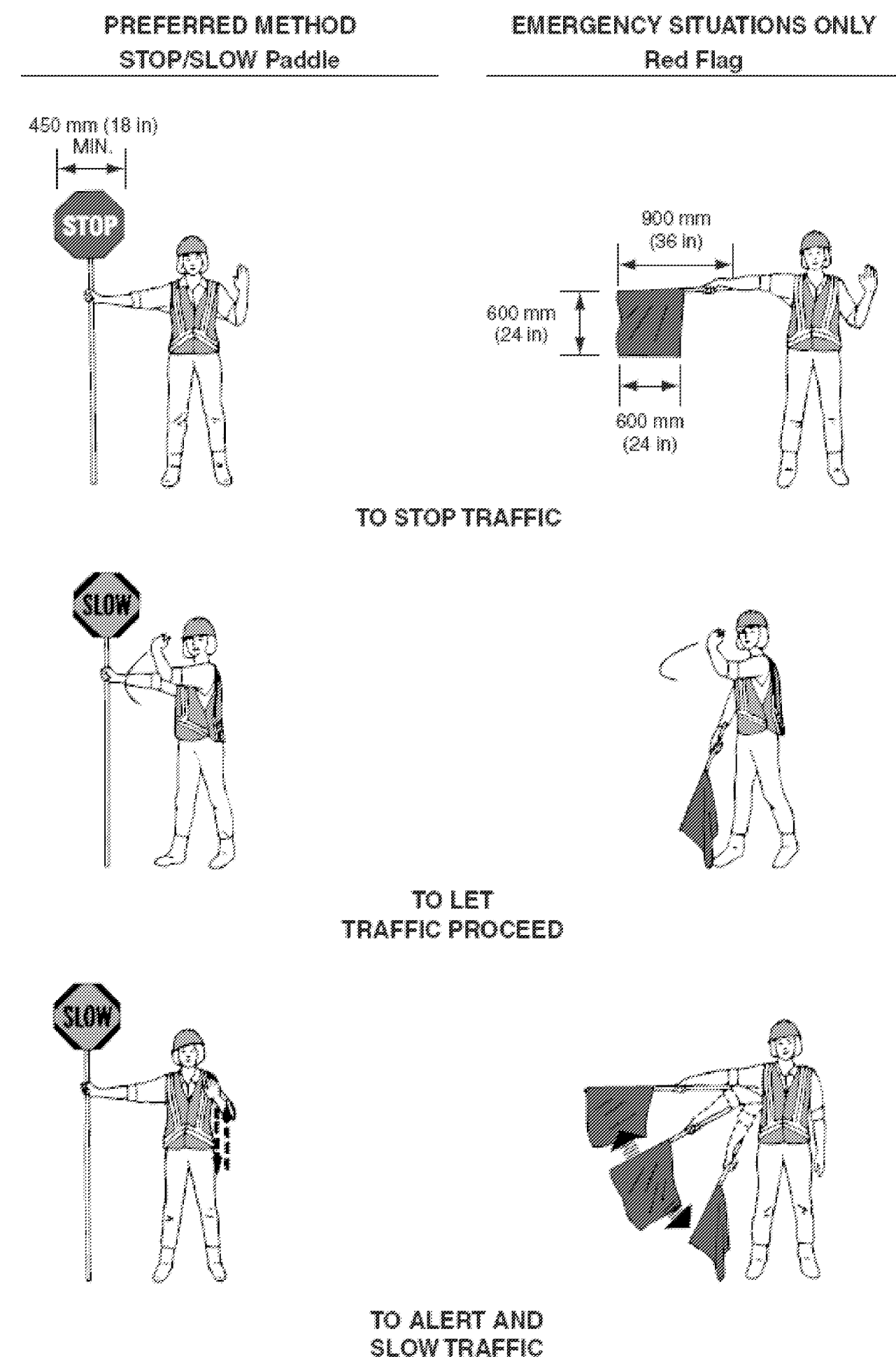


Figure 6C-2. Types of Tapers and Buffer Spaces

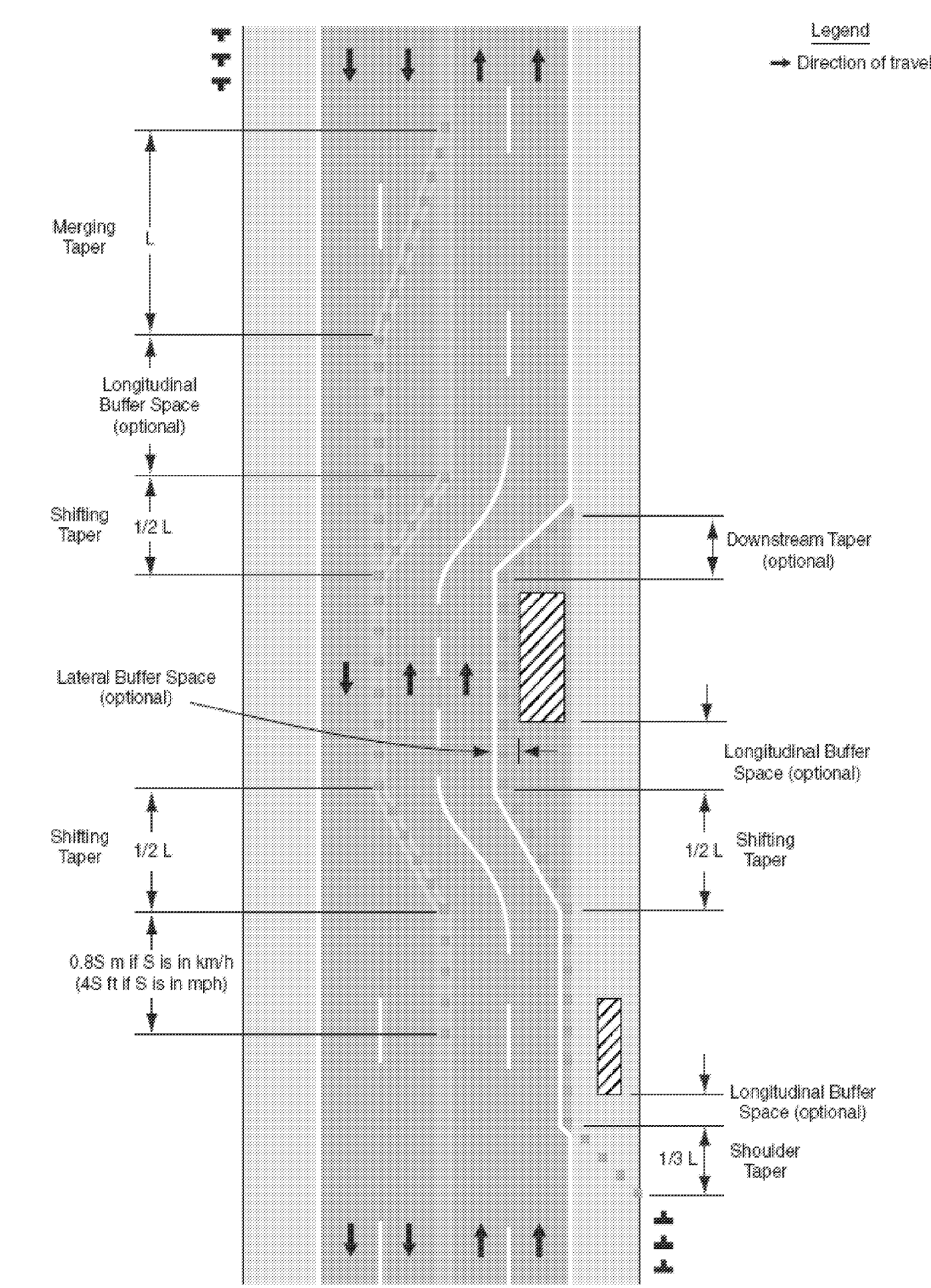


Figure 6H-1. Work Beyond the Shoulder (TA-1)

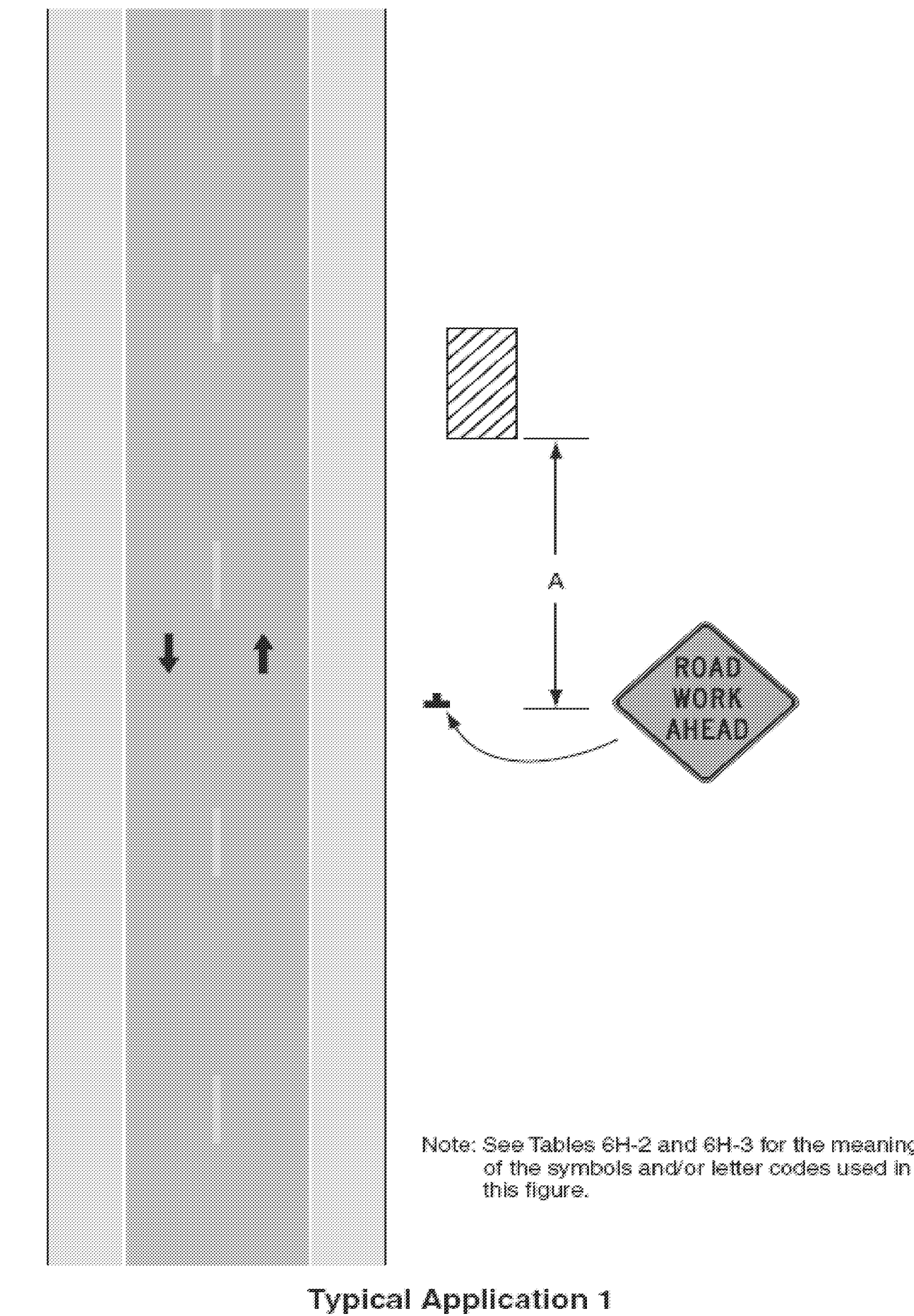


Table 6C-3. Taper Length Criteria for Temporary Traffic Control Zones

Type of Taper	Taper Length (L)*
Merging Taper	at least L
Shifting Taper	at least 0.5L
Shoulder Taper	at least 0.33L
One-Lane, Two-Way Traffic Taper	30 m (100 ft) maximum
Downstream Taper	30 m (100 ft) per lane

Table 6C-4. Formulas for Determining Taper Lengths

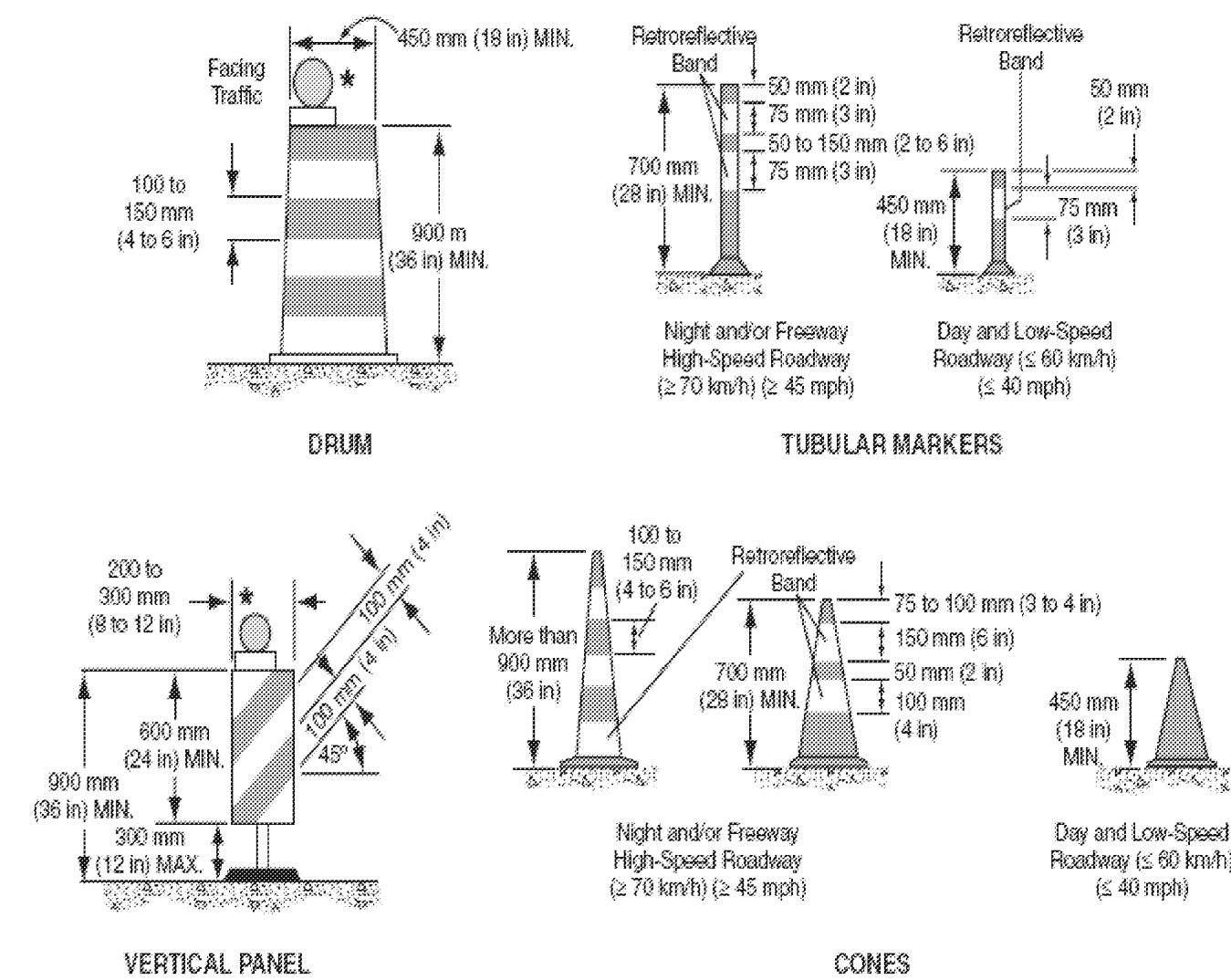
Speed Limit (S)	Taper Length (L) Meters	Speed Limit (S)	Taper Length (L) Feet
60 km/h or less	$L = \frac{WS^2}{155}$	40 mph or less	$L = \frac{WS^2}{60}$
70 km/h or more	$L = \frac{WS}{1.6}$	45 mph or more	$L = WS$

Where: L = taper length in meters (feet)

W = width of offset in meters (feet)

S = posted speed limit, or off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in km/h (mph)

Figure 6F-7. Channelizing Devices (Sheet 1 of 2)



\* Warning lights (optional)

Note: If drums, cones, or tubular markers are used to channelize pedestrians, they shall be located such that there are no gaps between the bases of the devices, in order to create a continuous bottom, and the height of each individual drum, cone, or tubular marker shall be no less than 900 mm (36 in) to be detectable to users of long canes.

TEMPORARY TRAFFIC CONTROL NOTES

- ALL TEMPORARY TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THESE PROJECT PLANS, APPLICABLE VTRANS E-SERIES STANDARD DRAWINGS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), DATED 2003, AND ITS LATEST REVISIONS, OR AS DIRECTED BY THE RESIDENT ENGINEER. IF THE CONTRACTOR DOES NOT WISH TO FOLLOW THE TEMPORARY TRAFFIC CONTROL PROVIDED, HE/SHE MAY SUBMIT AN ALTERNATE PROPOSAL AT THE PRE-CONSTRUCTION MEETING IMPLEMENTING THE PROPOSED CHANGES FOR REVIEW AND APPROVAL BY THE RESIDENT ENGINEER.
- THE CONTRACTOR MUST PROVIDE ACCESS THROUGH THE WORK ZONE FOR EMERGENCY VEHICLES AT ALL TIMES.
- THE CONTRACTOR SHALL CONDUCT THE WORK AT ALL TIMES IN SUCH A MANNER AND IN SUCH SEQUENCE SO AS TO ENSURE THE LEAST INTERFERENCE WITH TRAFFIC OCCURS.
- SIGNS SHALL ONLY BE VISIBLE TO MOTORIST AT THE TIMES WHEN THE MESSAGE IS PERTINENT, I.E. A "FLAGGER AHEAD" SIGN SHALL ONLY BE VISIBLE TO MOTORIST WHEN THE FLAGGER IS ACTUALLY PRESENT PERFORMING THEIR DUTIES.
- PAYMENT FOR CONSTRUCTION SIGNING WILL BE MADE UNDER CONTRACT ITEM 641.0.

PROJECT NAME: COLCHESTER

PROJECT NUMBER: IM SURF(12)

FILE NAME: P08cl54.dgn

PROJECT LEADER: DOMEY

DESIGNED BY: KML

TRAFFIC CONTROL SHEET I

PLOT DATE: 29-MAY-2009

DRAWN BY: KML

CHECKED BY: PAVT MGMT

SHEET 10 OF 11

Figure 6H-3. Work on Shoulders (TA-3)

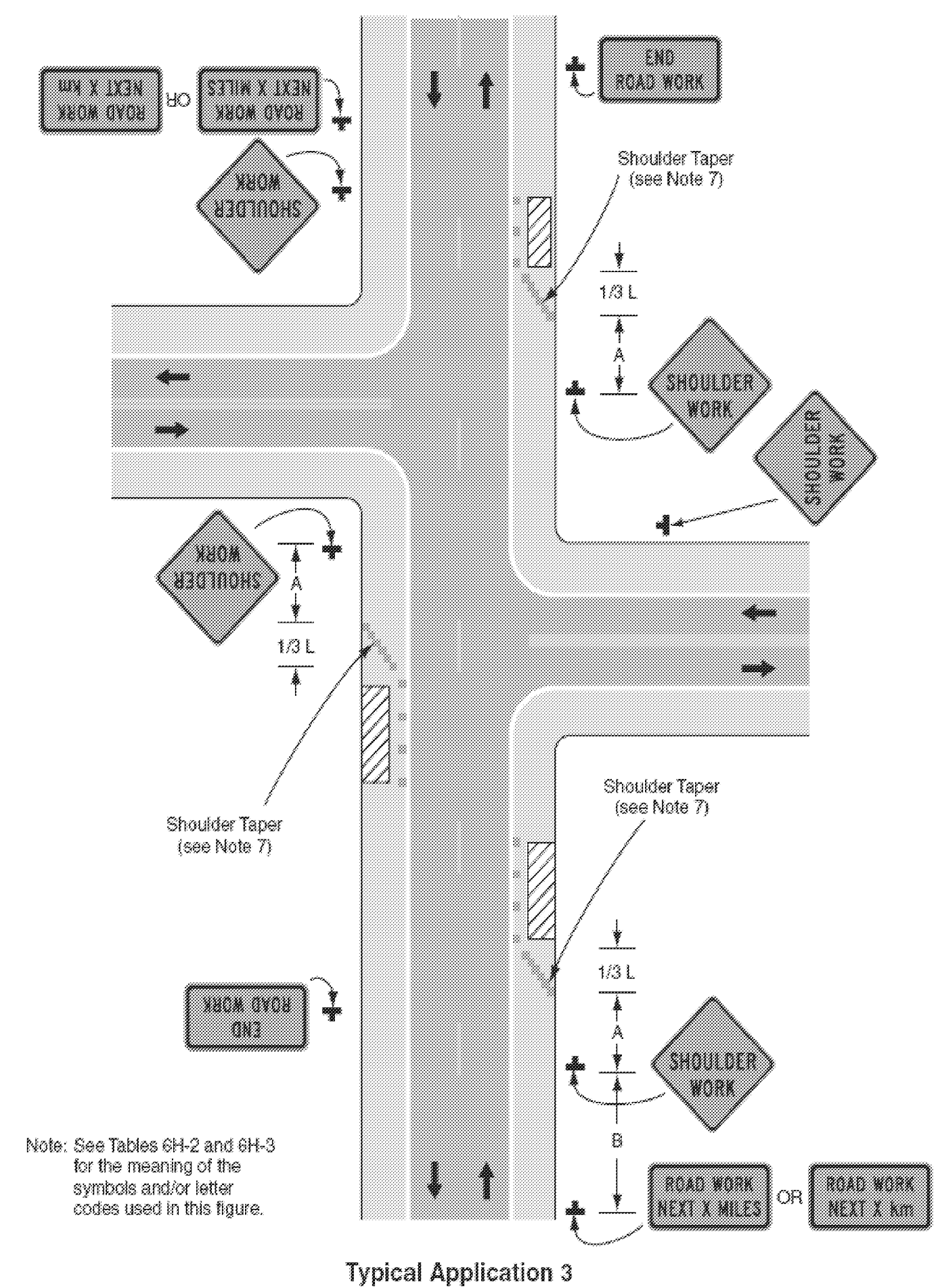


Figure 6H-4. Short-Duration or Mobile Operation on Shoulder (TA-4)

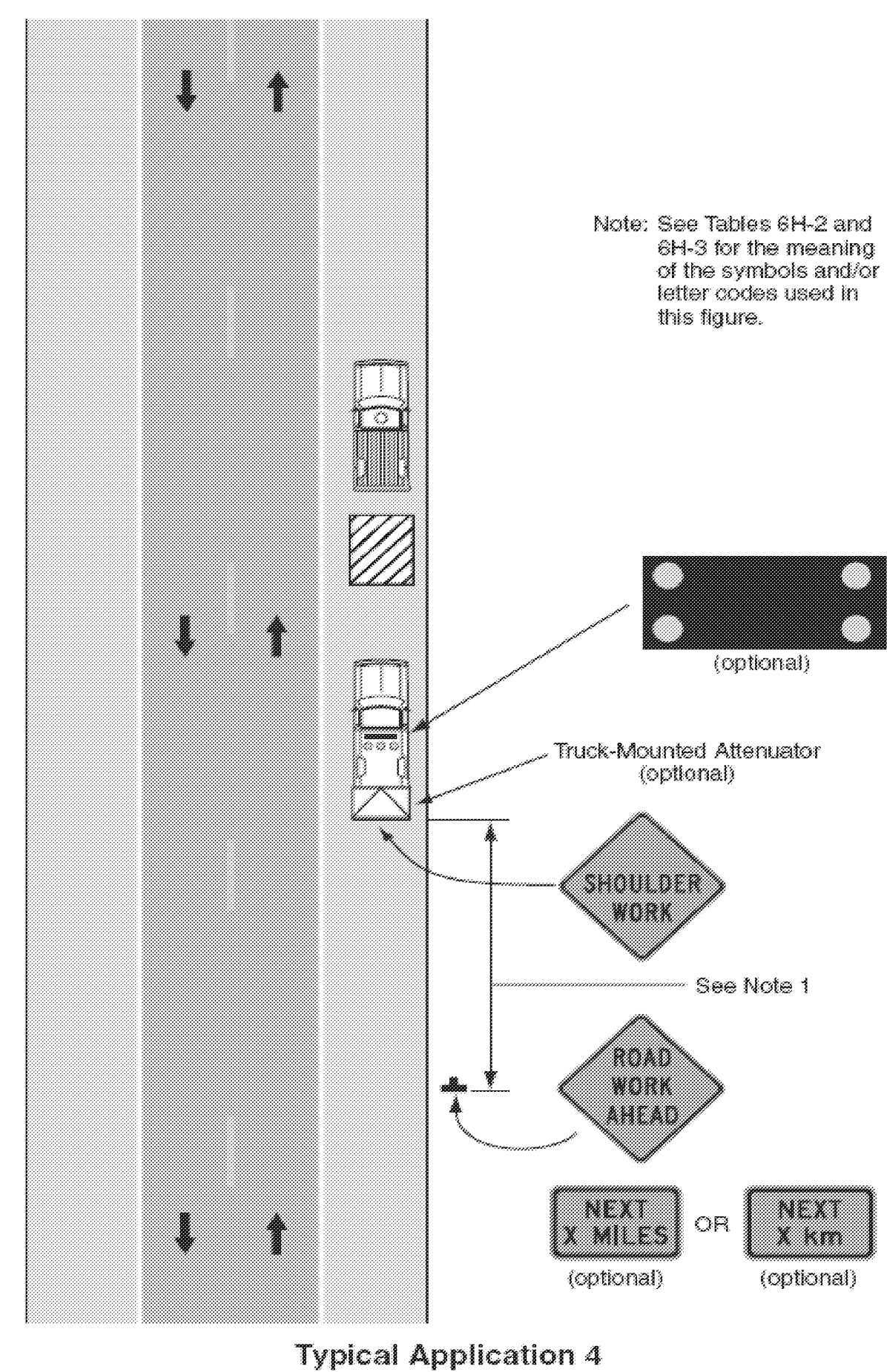


Figure 6H-6. Shoulder Work with Minor Encroachment (TA-6)

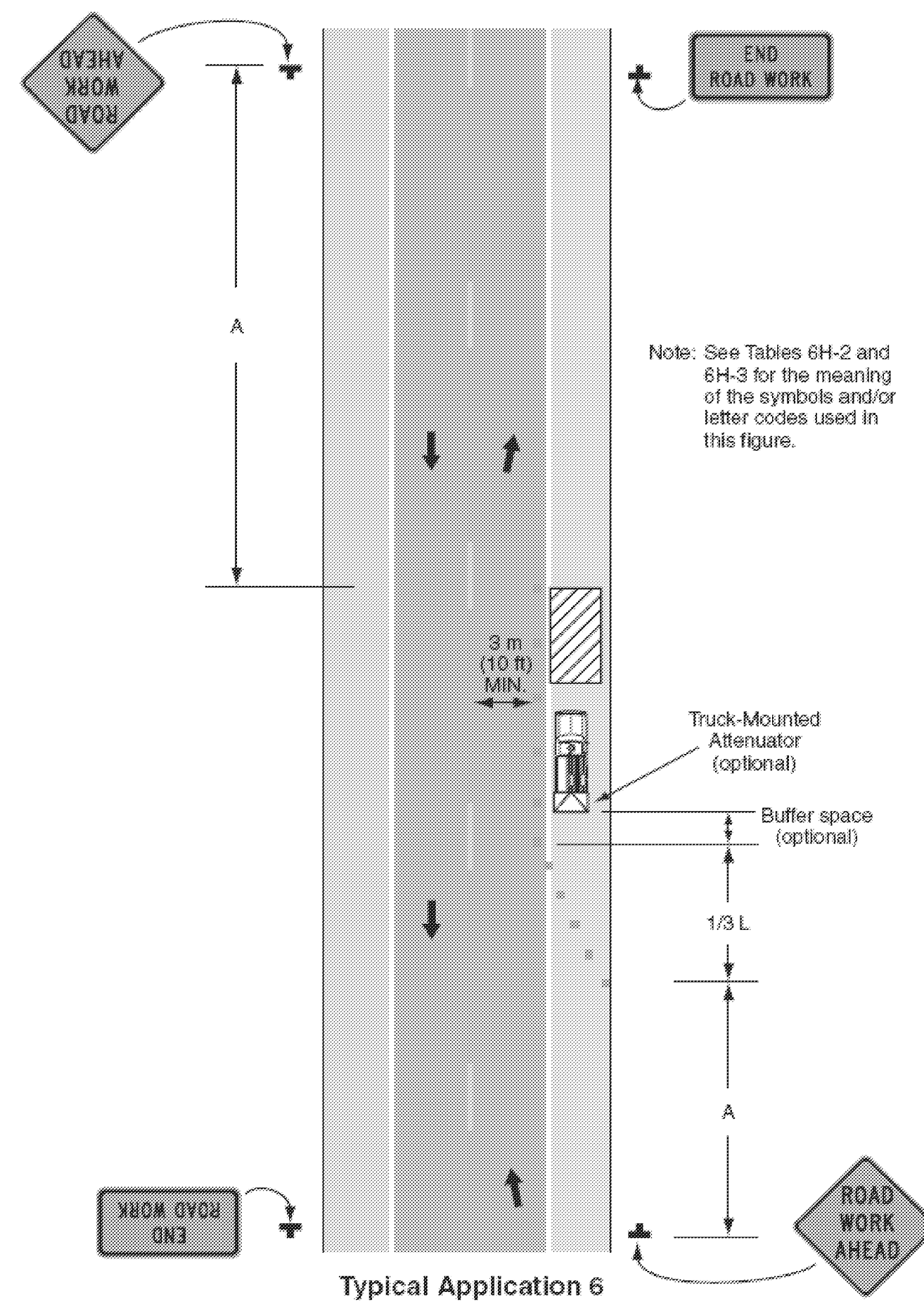
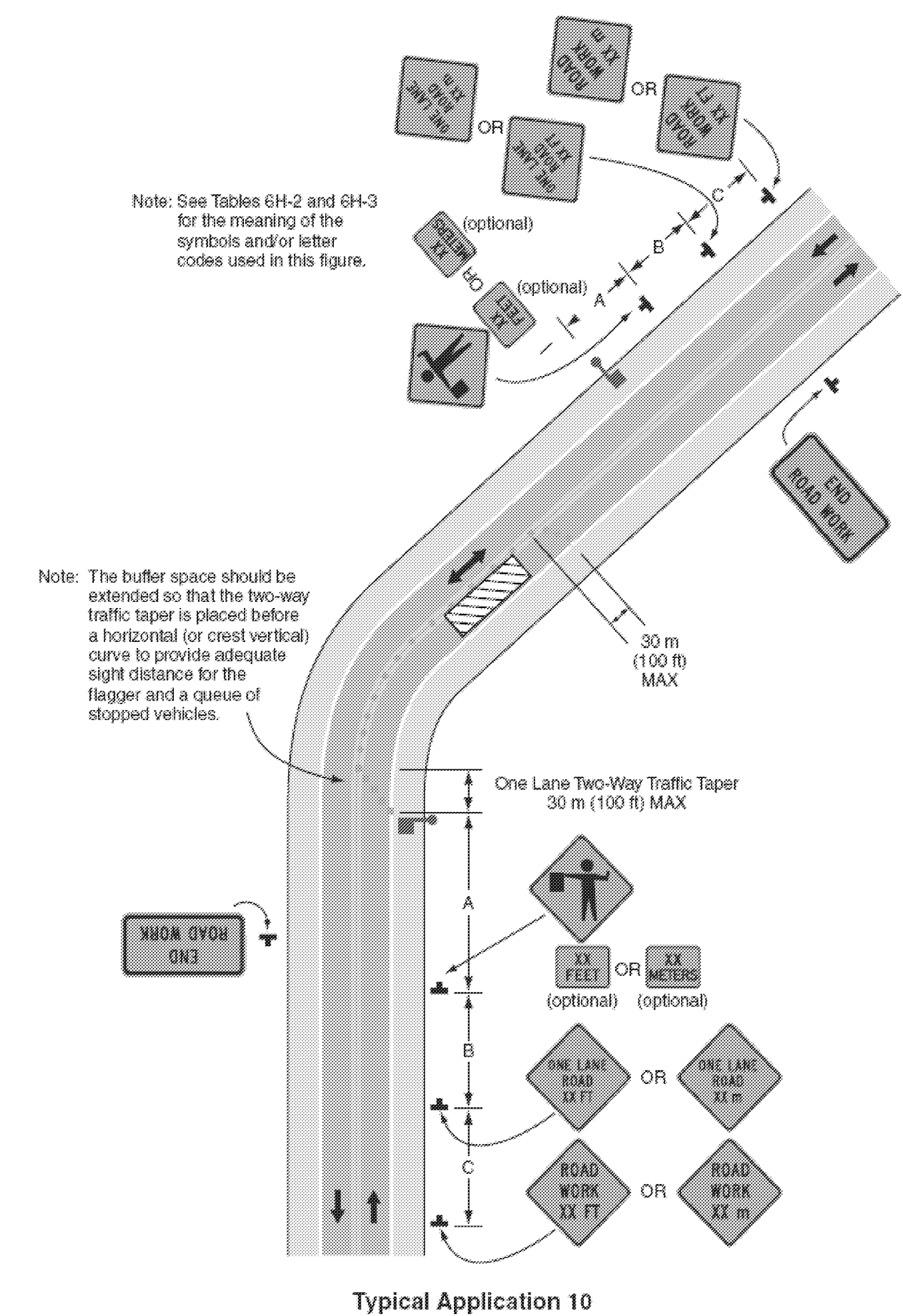


Figure 6H-10. Lane Closure on Two-Lane Road Using Flaggers (TA-10)



TEMPORARY TRAFFIC CONTROL NOTES

1. ALL TEMPORARY TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THESE PROJECT PLANS, APPLICABLE VTRANS E-SERIES STANDARD DRAWINGS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), DATED 2003, AND ITS LATEST REVISIONS, OR AS DIRECTED BY THE RESIDENT ENGINEER. IF THE CONTRACTOR DOES NOT WISH TO FOLLOW THE TEMPORARY TRAFFIC CONTROL PROVIDED, HE/SHE MAY SUBMIT AN ALTERNATE PROPOSAL AT THE PRE-CONSTRUCTION MEETING IMPLEMENTING THE PROPOSED CHANGES FOR REVIEW AND APPROVAL BY THE RESIDENT ENGINEER.
2. THE CONTRACTOR MUST PROVIDE ACCESS THROUGH THE WORK ZONE FOR EMERGENCY VEHICLES AT ALL TIMES.
3. THE CONTRACTOR SHALL CONDUCT THE WORK AT ALL TIMES IN SUCH A MANNER AND IN SUCH SEQUENCE SO AS TO ENSURE THE LEAST INTERFERENCE WITH TRAFFIC OCCURS.
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5. PAYMENT FOR CONSTRUCTION SIGNING WILL BE MADE UNDER CONTRACT ITEM 641.0.

PROJECT NAME: COLCHESTER  
PROJECT NUMBER: IM SURF(12)

FILE NAME: P08cl54.dgn  
PROJECT LEADER: DOMEY  
DESIGNED BY: KML  
TRAFFIC CONTROL SHEET 2

PLOT DATE: 29-MAY-2009  
DRAWN BY: KML  
CHECKED BY: PAVT MGMT  
SHEET 11 OF 11