

GUIDE FOR PLACEMENT OF STOP LINES, EDGE LINE & CENTERLINE
 BASED ON TRAVELED WAY AND PAVEMENT WIDTHS FOR UNDIVIDED HIGHWAY

TABLE 1
TYPICAL LENGTH (L)

*POSTED SPEED	FORMULA
30, 35, 40	$L = \frac{(WS)^2}{60}$
45, 50, 55, 60, 65, 70	$L = WS$

*85TH PERCENTILE SPEED MAY BE USED ON ROADS WHERE TRAFFIC SPEEDS NORMALLY EXCEED THE POSTED SPEED LIMIT. CROSSHATCHING LENGTH SHOULD BE ROUNDED UP TO THE NEAREST 5' INCREMENT
 L=LENGTH OF CROSSHATCHING (FT.)
 W=WIDTH OF OFFSET (FT.)
 S=POSTED SPEED (MPH)

EXAMPLES:
 AN 8' SHOULDER IN ADVANCE OF A BRIDGE REDUCES TO 4' ON A 70 MPH ROADWAY. THE LENGTH OF THE CROSSHATCHING SHOULD BE:
 $L = 8 \times 70 = 560'$
 A 4' SHOULDER IN ADVANCE OF A BRIDGE REDUCES TO 2' ON A 40 MPH ROADWAY. THE LENGTH OF THE CROSSHATCHING SHOULD BE:
 $L = \frac{4(40)}{60} = 106.67'$
 ROUNDED TO 110'

ALL MEDIANS SHALL BE FIELD MEASURED TO DETERMINE THE LOCATION OF NECESSARY STRIPING. STOP/YIELD BARS AND SHALL BE PLACED WHEN THE MEDIAN WIDTH IS GREATER THAN 30 FT. THE MEDIAN IS DEFINED AS THE AREA BETWEEN TWO ROADWAYS OF A DIVIDED HIGHWAY MEASURED FROM EDGE OF TRAVELED WAY TO EDGE OF TRAVELED WAY. THE MEDIAN EXCLUDES TURN LANES. THE MEDIAN WIDTH MIGHT BE DIFFERENT BETWEEN INTERSECTIONS, INTERCHANGES AND OF OPPOSITE APPROACHES OF THE SAME INTERSECTION. THE NARROW MEDIAN WIDTH WILL BE THE CONTROLLING WIDTH TO DETERMINE IF MARKINGS ARE REQUIRED.

- NOTES:
- NO-PASSING ZONE ON BRIDGE APPROACH IS OPTIONAL BUT IF USED, IT SHALL BE A MINIMUM 500' LONG.
 - FOR CROSSHATCHING LENGTH (L) SEE TABLE 1.
 - THE WIDTH OF THE OFFSET (W) AND THE REQUIRED CROSSHATCHING WIDTH IS THE FULL SHOULDER WIDTH IN ADVANCE OF THE BRIDGE.
 - THE CROSSHATCHING SHOULD BE REQUIRED IF THE SHOULDER WIDTH IN ADVANCE OF THE BRIDGE IS 4' OR WIDER IF ANY REDUCTION IN SHOULDER WIDTH ACROSS THE BRIDGE OCCURS.
 - FOR GUARD FENCE DETAILS, REFER ELSEWHERE IN THE PLANS.

- NOTES:
- EDGE LINE STRIPING SHALL BE AS SHOWN IN THE PLANS OR AS DIRECTED BY THE ENGINEER. THE EDGE LINE SHOULD TYPICALLY BE PLACED A MINIMUM OF 6" FROM THE EDGE OF PAVEMENT. THIS DISTANCE MAY VARY DUE TO TRAVELING OR OTHER CONDITIONS. EDGELINES ARE NOT REQUIRED IN CURB AND GUTTER SECTIONS OF ROADWAYS.
 - THE TRAVELED WAY INCLUDES ONLY THAT PORTION OF THE ROADWAY USED FOR VEHICULAR TRAVEL AND NOT THE PARKING LANES, SIDEWALKS, BERMS AND SHOULDERS. THE TRAVELED WAYS SHALL BE MEASURED FROM THE INSIDE OF EDGELINE TO INSIDE OF EDGELINE OF A TWO LANE ROADWAY.
 - ALL PAVEMENT MARKING MATERIALS SHALL MEET THE REQUIRED DEPARTMENTAL MATERIAL SPECIFICATIONS. AFTER PAVING TYPE II (PAINT TYPE MATERIALS) WILL BE USED FOR TEMPORARY PAVEMENT MARKING AND WILL BE REPLACED WITH TYPE I (THERMOPLASTIC) NO SOONER THAN 2 WEEKS AFTER PAVING AND NO LATER THAN 1 CALENDAR MONTH AFTER PAVING.

YIELD LINES

ROAD SPEED LIMIT FOR POSTED SPEED EQUAL TO OR GREATER THAN 45 MPH	A	B	C
FOR POSTED SPEED EQUAL TO OR GREATER THAN 45 MPH	36"	3" TO 12"	24"
FOR POSTED SPEED EQUAL TO OR LESS THAN 40 MPH	18"	3" TO 12"	12"

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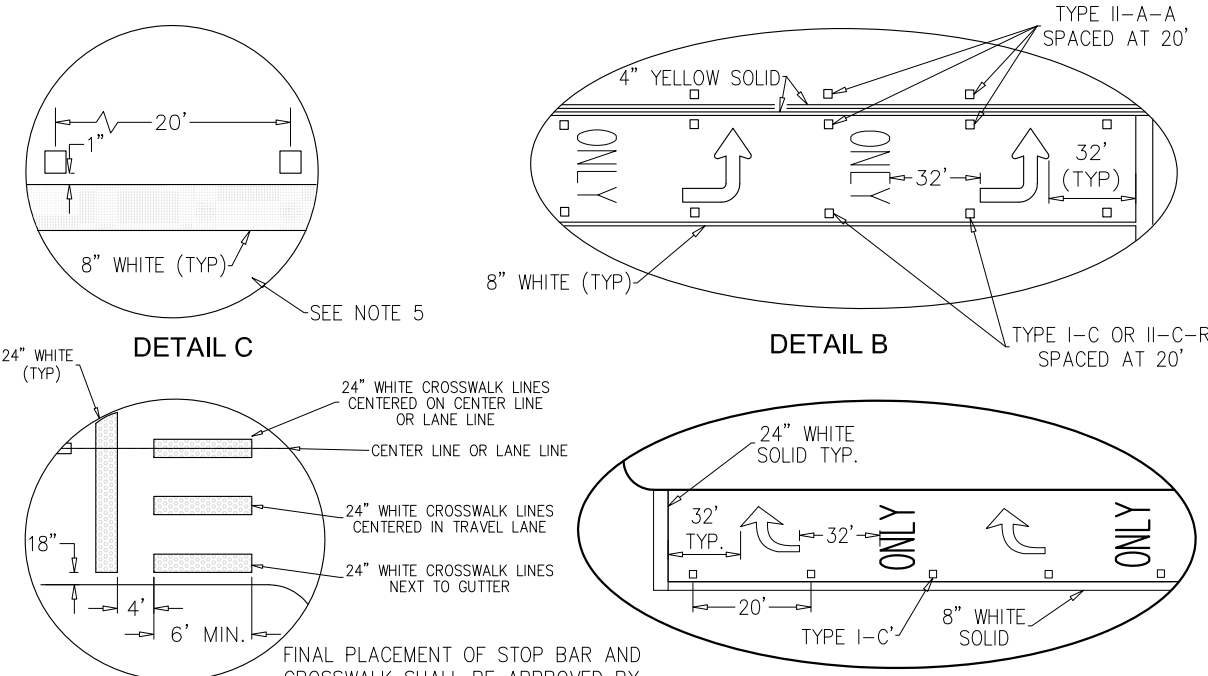
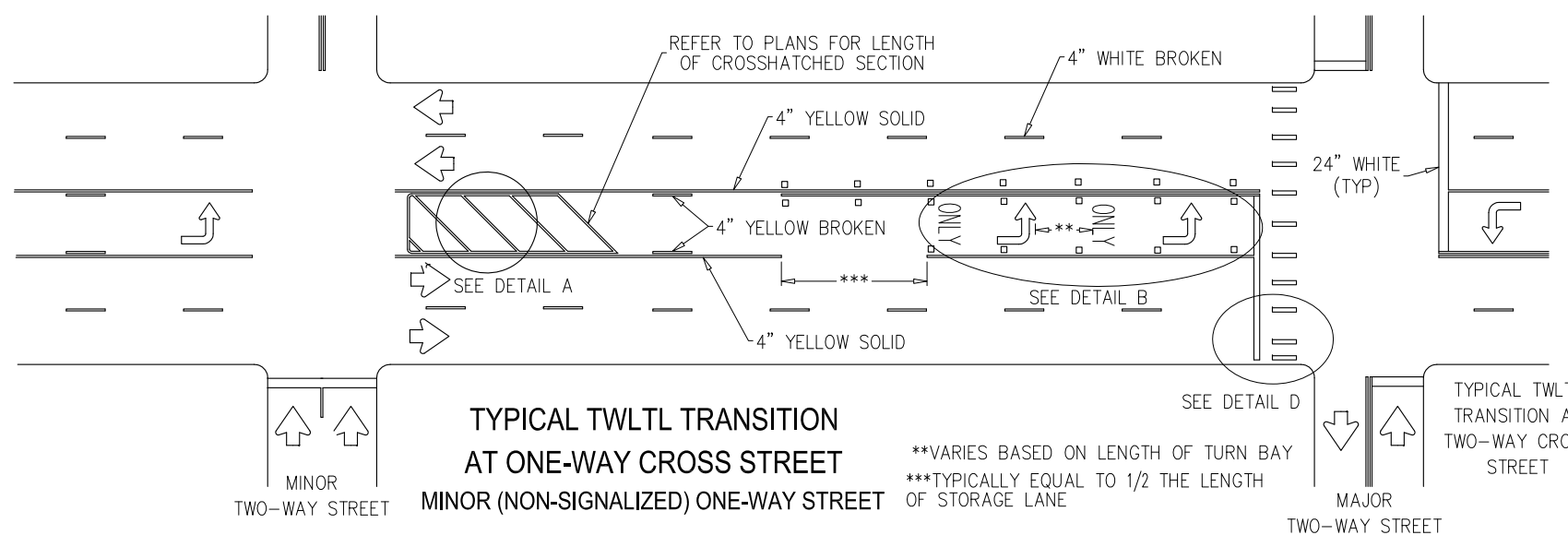
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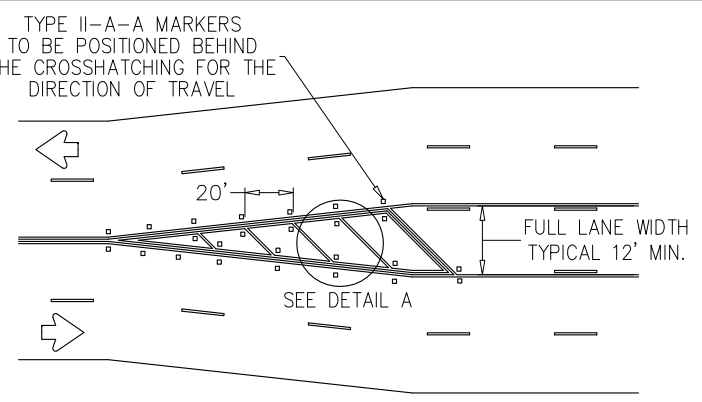
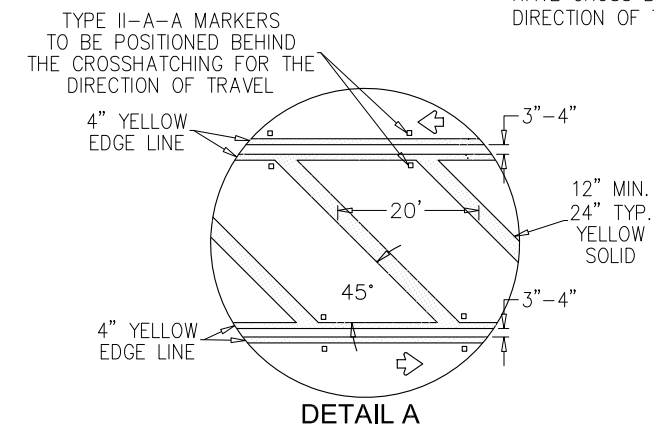
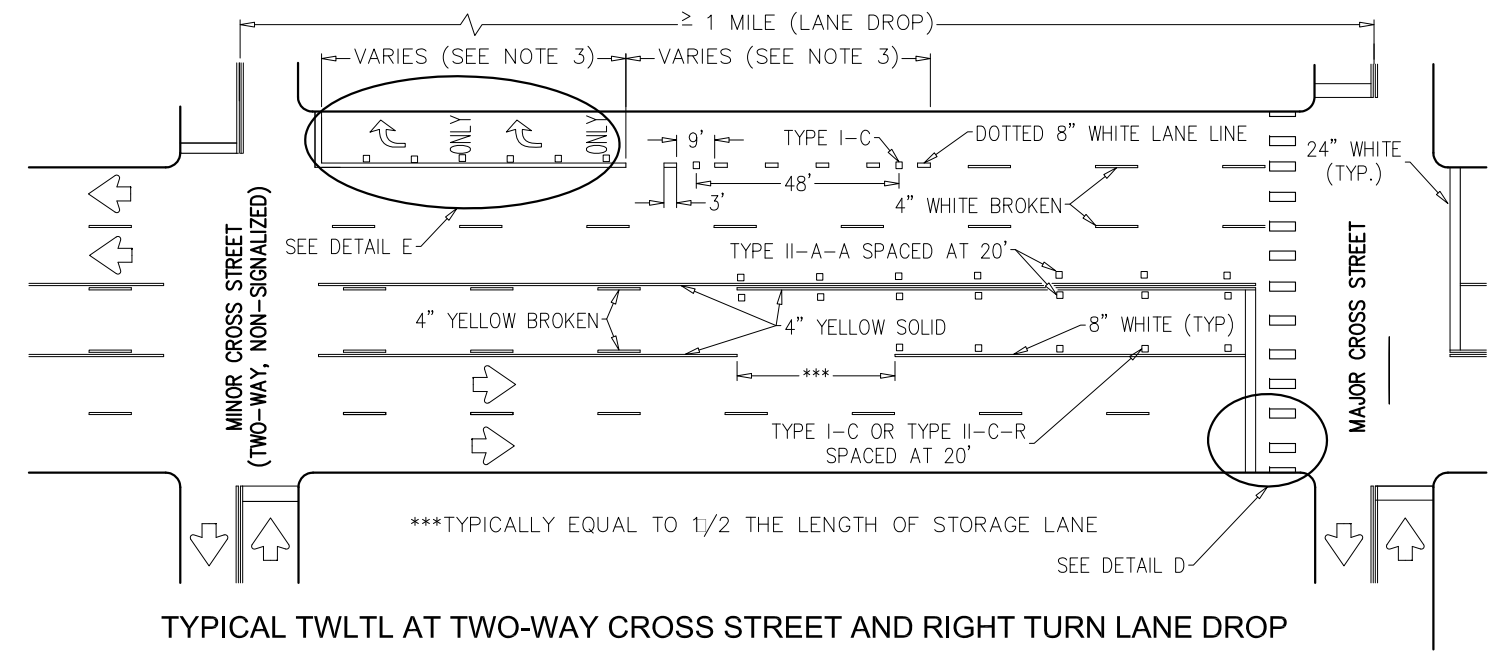
PAVEMENT MARKING

THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD

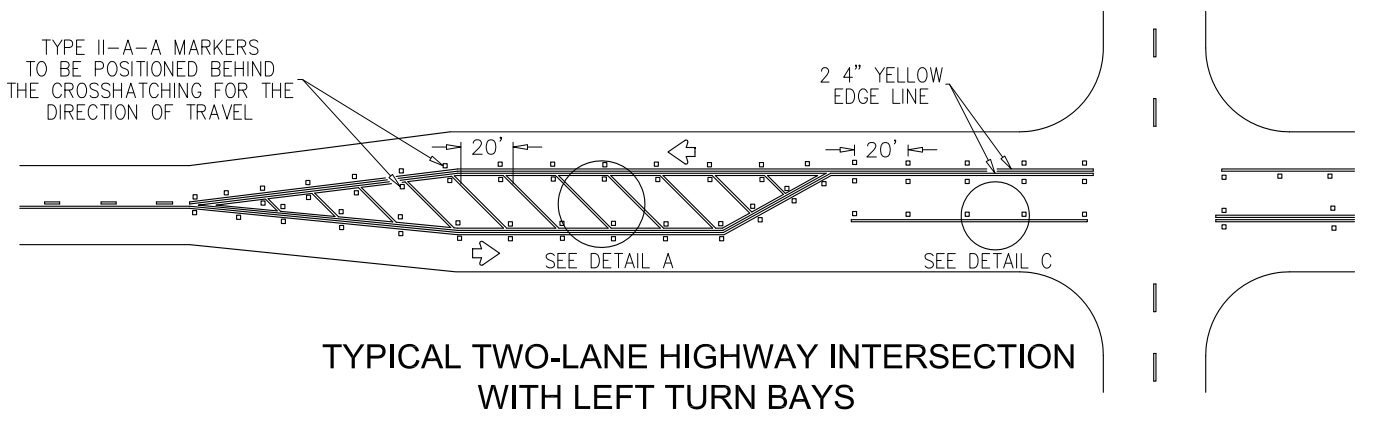
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 N.T.S. STANDARD DETAIL



FINAL PLACEMENT OF STOP BAR AND CROSSWALK SHALL BE APPROVED BY THE ENGINEER IN THE FIELD. SPACING OF LINES SELECTED TO AVOID WHEEL PATH. SKEWED INTERSECTION WILL HAVE CROSS BARS SKEWED IN THE DIRECTION OF TRAFFIC.



TYPICAL TRANSITION FOR TWLTL AND DIVIDED HIGHWAY



- GENERAL NOTES:**
- REFER ELSEWHERE IN PLANS FOR ADDITIONAL RPM PLACEMENT AND DETAILS.
 - LANE USE WORD AND ARROW MARKINGS SHALL BE USED WHERE THROUGH LANES APPROACHING AN INTERSECTION BECOME MANDATORY TURN LANES. LANE USE WORD AND ARROW MARKINGS SHOULD BE USED IN AUXILIARY LANES OF SUBSTANTIAL LENGTH. LANE USE ARROW MARKINGS OR WORD AND ARROW MARKINGS MAY BE USED IN OTHER LANES AND TURN BAYS FOR EMPHASIS. DETAILS FOR WORDS AND ARROWS AS SHOWN IN THE STANDARD HIGHWAY SIGN DESIGNS FOR TEXAS.
 - WHEN LANE USED WORD AND ARROW MARKINGS ARE USED, TWO SETS OF ARROWS SHOULD BE USED IF THE LENGTH OF THE BAY IS GREATER THAN 180 FEET. WHEN A SINGLE LANE USE ARROW OR WORD AND ARROW MARKING IS USED FOR A SHORT TURN LANE, IT SHOULD BE LOCATED AT OR NEAR THE UPSTREAM END OF THE FULL-WIDTH TURN LANE.
 - OTHER CROSSWALK PATTERNS AS SHOWN IN THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" MAY BE USED.
 - RAISED PAVEMENT MARKER TYPE I-C WITH UNDIVIDED HIGHWAYS, FLUSH MEDIANS AND TWO WAY LEFT TURN LANES. RAISED PAVEMENT MARKER TYPE II-C-R WITH DIVIDED HIGHWAYS AND RAISED MEDIANS.
 - A TWO-WAY LEFT-TURN (TWLTL) LANE-USE ARROW PAVEMENT MARKING SHOULD BE USED AT OR JUST DOWNSTREAM FROM THE BEGINNING OF A TWO-WAY LEFT-TURN LANE WITHIN A CORRIDOR. REPEATING THE MARKING AFTER EACH INTERSECTION OR DEDICATED TURN BAY IS NOT REQUIRED UNLESS STATED ELSEWHERE IN THE PLANS.

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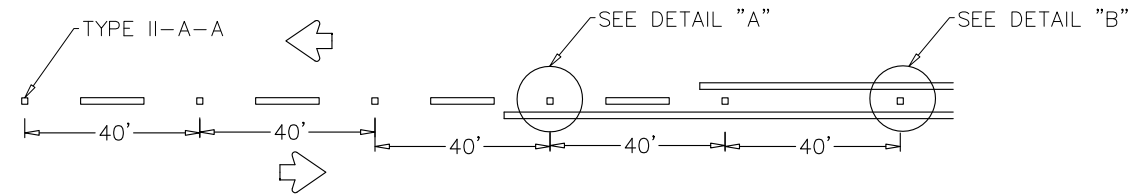
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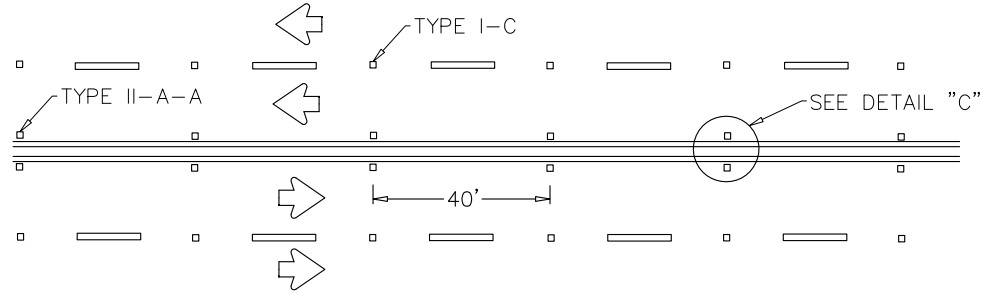
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD

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REFLECTIVE RAISED PAVEMENT MARKERS FOR POSITIONING GUIDANCE

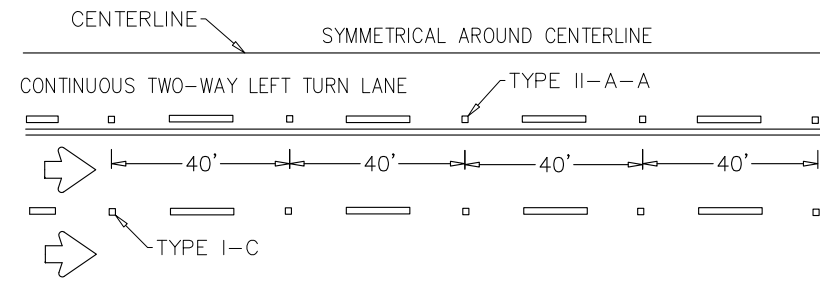


CENTERLINE FOR ALL TWO LANE ROADWAYS

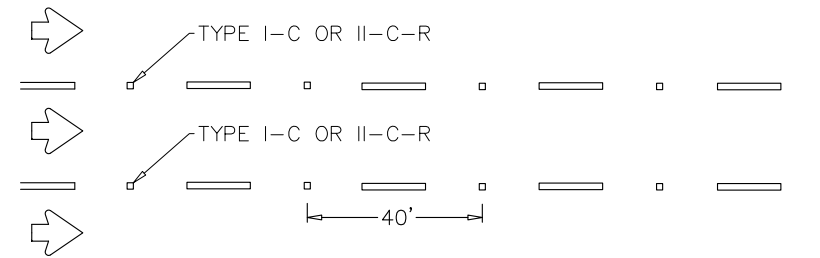


CENTERLINE & LANE LINES FOR FOUR LANE TWO-WAY HIGHWAYS

RAISED PAVEMENT MARKER TYPE I-C, CLEAR FACE TOWARD NORMAL TRAFFIC, SHALL BE PLACED ON 40' CENTERS.



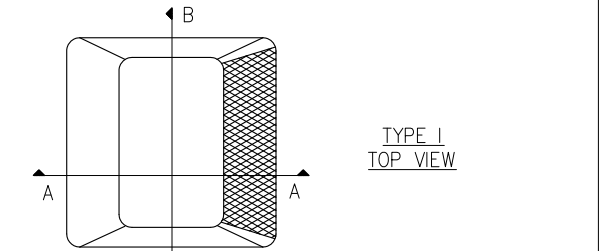
CENTERLINE AND LANE LINES FOR TWO-WAY LEFT TURN LANE



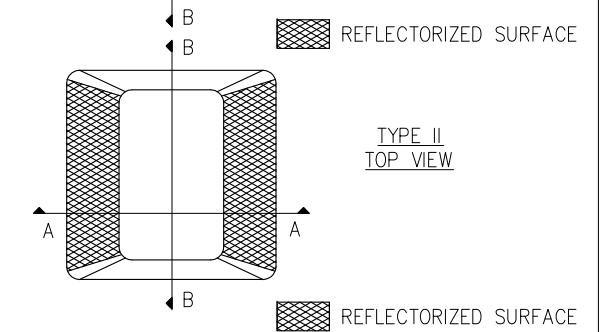
LANE LINES FOR ONE-WAY ROADWAY (NON-FREWAY FACILITIES)

RAISED PAVEMENT MARKERS TYPE II-C-R SHALL HAVE CLEAR FACE TOWARD NORMAL TRAFFIC AND RED FACE TOWARD WRONG-WAY TRAFFIC.

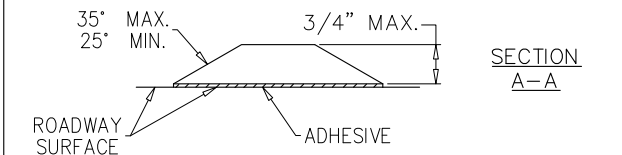
RAISED PAVEMENT MARKERS (REFLECTORIZED)



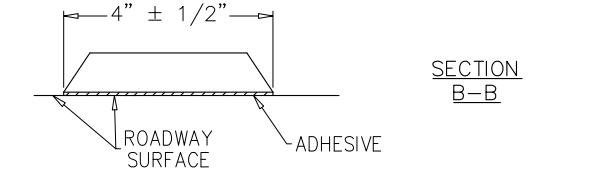
TYPE I TOP VIEW



TYPE II TOP VIEW



SECTION A-A



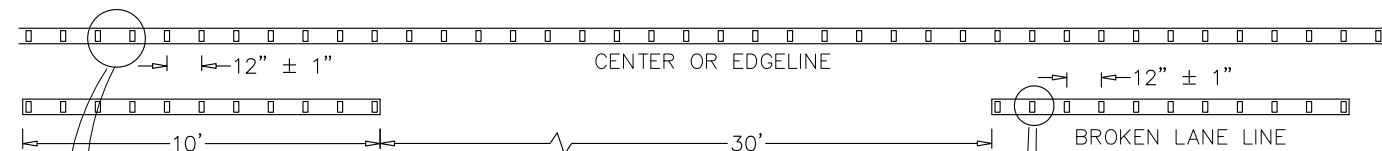
SECTION B-B

GENERAL NOTES:

1. ALL RAISED PAVEMENT MARKERS PLACED IN BROKEN LINES SHALL BE PLACED IN LINE WITH AND MIDWAY BETWEEN THE STRIPES.
2. ON CONCRETE PAVEMENTS THE RAISED PAVEMENT MARKERS SHOULD BE PLACED TO ONE SIDE OF THE LONGITUDINAL JOINTS.
3. ALL PAVEMENT MARKING MATERIALS SHALL MEET THE REQUIRED DEPARTMENTAL MATERIAL SPECIFICATIONS AS SPECIFIED BY THE PLANS.

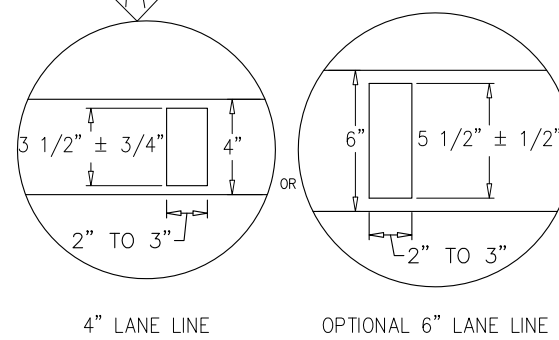
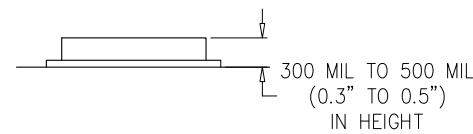
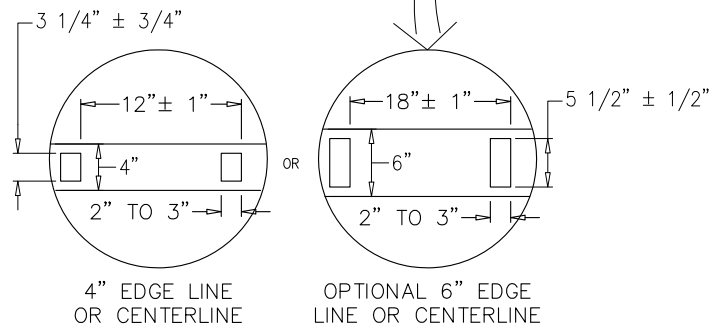
NOTE:

1. PROFILE MARKINGS SHALL NOT BE PLACED ON ROADWAYS WITH A POSTED SPEED LIMIT OF 45 MPH OR LESS.
2. A QUICK FIELD CHECK FOR THE THICKNESS OF BASE LINE AND PROFILE MARKING IS APPROXIMATELY EQUAL TO A STACK OF 5 QUARTERS TO A MAX HEIGHT OF 7 QUARTERS.



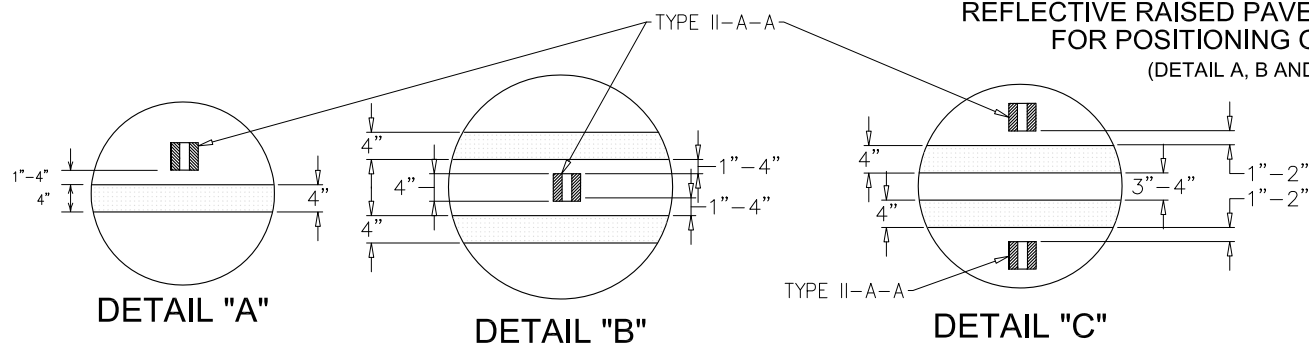
REFLECTORIZED PROFILE PATTERN DETAIL

USING REFLECTIVE PROFILE PAVEMENT MARKINGS



SPECIFICATION REFERENCE TABLE MATERIAL	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130

REFLECTIVE RAISED PAVEMENT MARKERS FOR POSITIONING GUIDANCE (DETAIL A, B AND C)



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PAVEMENT MARKING

THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD

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