

# NORTH CAROLINA TURNPIKE AUTHORITY

## SIGNING STANDARD DETAILS

List of Sheets

**NCTA TOLL ROAD SIGNING**

- T-01 Electronic Toll Collection
- T-02 Entrances - Exit Ramps and Mainlines
- T-03 Entrances - Service Interchanges

**NCTA EXRESS LANE SIGNING (NOT INCLUDED)**

- E-01 Initial Entry
- E-02 Intermediate Ingress
- E-03 Intermediate Ingress and Egress
- E-04 Intermediate Egress
- E-05 Direct Exit
- E-06 Direct Entrance
- E-07 Mainline End

**NCTA STANDARD HIGHWAY SIGNS**

- D-01 Toll Road Electronic Toll Collection Sign
- D-02 Toll Road Rate Signs
- D-03 Toll Panels
- D-04 ETC Logos
- D-05 Payments Accepted Signs
- D-06A Route Sign Assemblies - Layouts
- D-06B Route Sign Assemblies - Mounting Method
- D-06C Route Sign Assemblies - Mounting Method

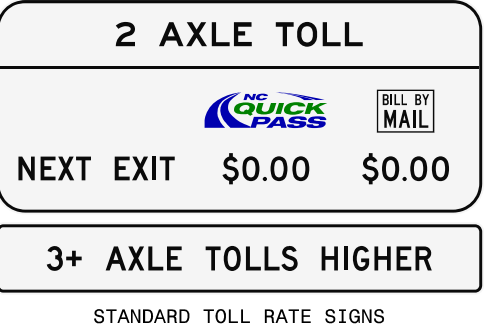
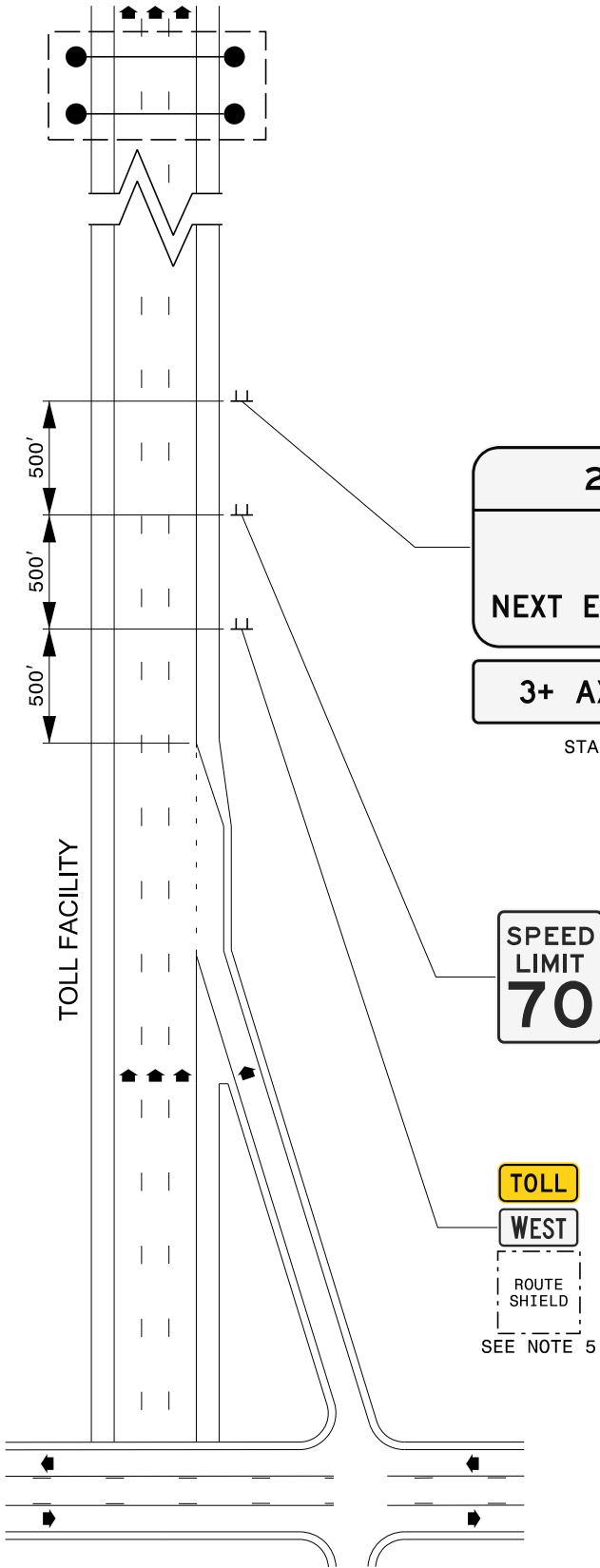
**NCTA STANDARD HIGHWAY SIGNS (CONTINUED) (NOT INCLUDED)**

- D-07 Express Lane Only
- D-08 Express Lane Regulatory Panels
- D-09A Express Lane Regulatory Signs
- D-09B Express Lane Regulatory Signs
- D-09C Express Lane Regulatory Signs
- D-09D Express Lane Regulatory Signs
- D-10 Express Lane End Signs
- D-11 Express Lane Entrance
- D-12A Express Lane Exits
- D-12B Express Lane Exits
- D-13 Local Exits
- D-14 Express Lane Pull Through
- D-15A Direct Entrance Guide Signs
- D-15B Direct Entrance Guide Signs
- D-16 Express Exit
- D-17 Toll Panels
- D-18 Comparison Sign
- D-19A Express Lane Toll Rate Signs
- D-19B Express Lane Toll Rate Signs
- D-19C Express Lane Toll Rate Signs
- D-19D Express Lane Toll Rate Signs
- D-19E Express Lane Toll Rate Signs
- D-19F Express Lane Toll Rate Signs
- D-19G Express Lane Toll Rate Signs

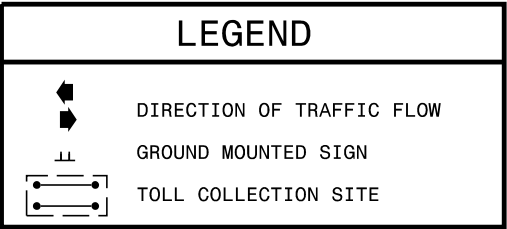
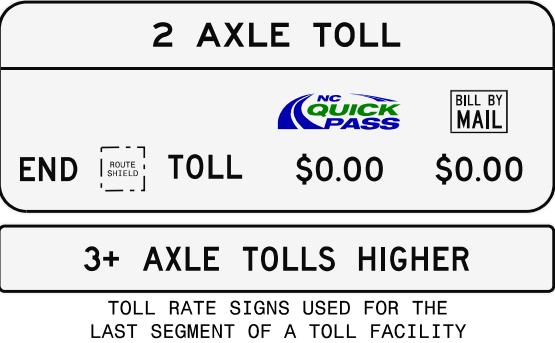


REV. NO.	BY	DATE	DESCRIPTION

- NOTES:
- SUPPORTS SHALL BE BREAKAWAY STEEL BEAMS AND DESIGNED WITH THE LATEST NCDOT SUPPORT DESIGN PROGRAM.
  - POST INTERCHANGE SIGNING SEQUENCE SPACING FOR TOLL FACILITIES SHOWN. MAINTAIN SPACING WITH OTHER SIGNS ACCORDING TO THE CURRENT EDITION OF THE MUTCD.
  - TOLL RATE SCHEDULE TO BE PROVIDED BY NCTA.
  - TOLL RATE SIGNS SHALL BE LOCATED BEFORE TOLL COLLECTION SITES.
  - INSTALL ROUTE CONFIRMATION SIGNS ON TWO U-CHANNEL SUPPORTS.



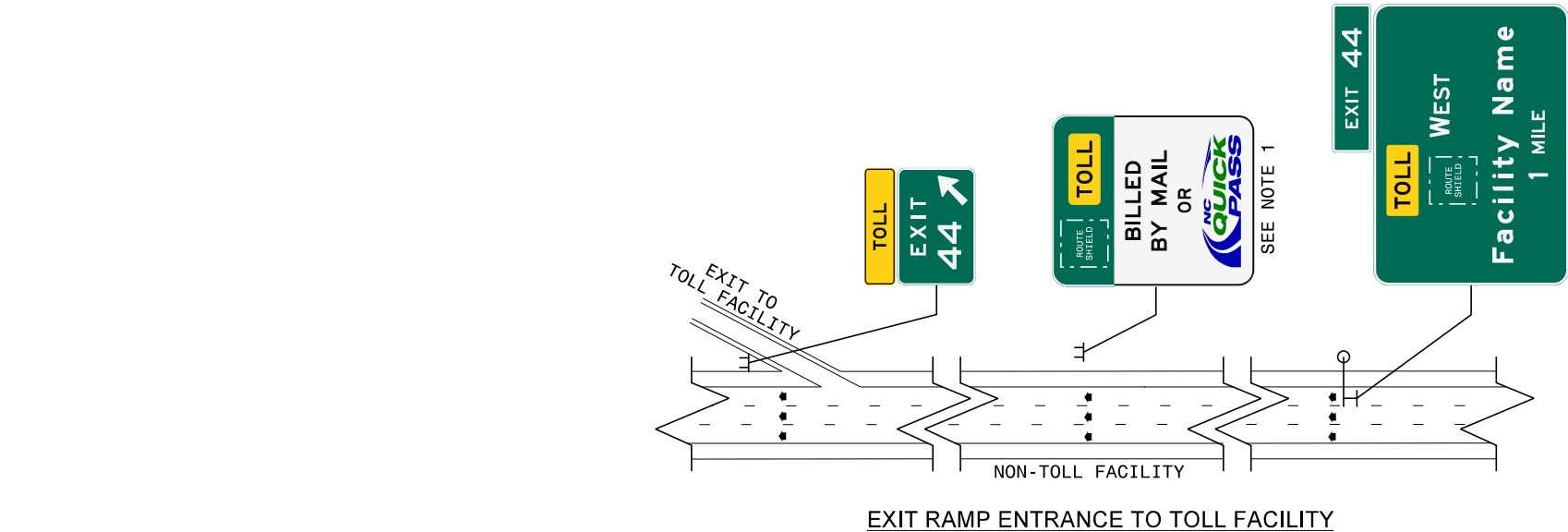
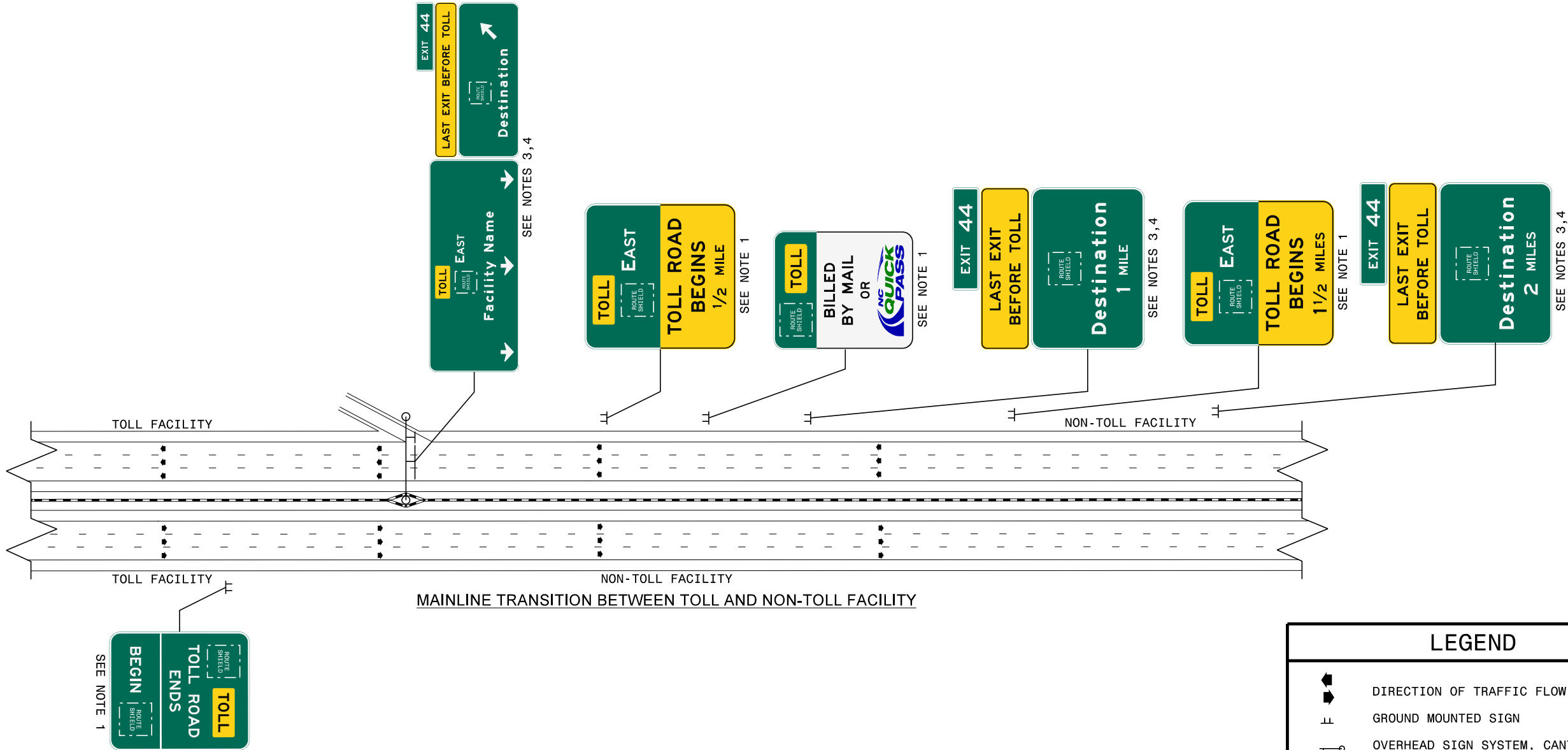
OR



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- NOTES:
- SUPPORTS SHALL BE BREAKAWAY STEEL BEAMS AND DESIGNED WITH THE LATEST NCDOT SUPPORT DESIGN PROGRAM.
  - AN END ROUTE ASSEMBLY SIGN SHALL BE INSTALLED AT THE END OF A ROUTE THAT TERMINATES AT A TOLL ROAD IN ACCORDANCE WITH THE CURRENT EDITION OF THE MUTCD.
  - "LAST EXIT BEFORE TOLL," MUTCD SIGN W16-16P, SHALL BE THE SAME WIDTH AS THE GUIDE SIGN BELOW IT. THE SIGN MAY BE MODIFIED TO READ "LAST EXIT" AND "BEFORE TOLL" ON TWO LINES OF COPY AS SHOWN.
  - "LAST EXIT BEFORE TOLL" SIGN SHALL BE USED ABOVE ALL PRIMARY ADVANCE GUIDE SIGNS FOR THE LAST EXIT BEFORE A TOLL IS INCURED.



LEGEND

DIRECTION OF TRAFFIC FLOW

GROUND MOUNTED SIGN

OVERHEAD SIGN SYSTEM, CANTILEVER

OVERHEAD SIGN SYSTEM, SPAN

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ROADWAY DETAIL DRAWING FOR

NCTA TOLL ROAD SIGNING

ENTRANCES - EXIT RAMPS AND MAINLINES

STATE OF

NORTH CAROLINA

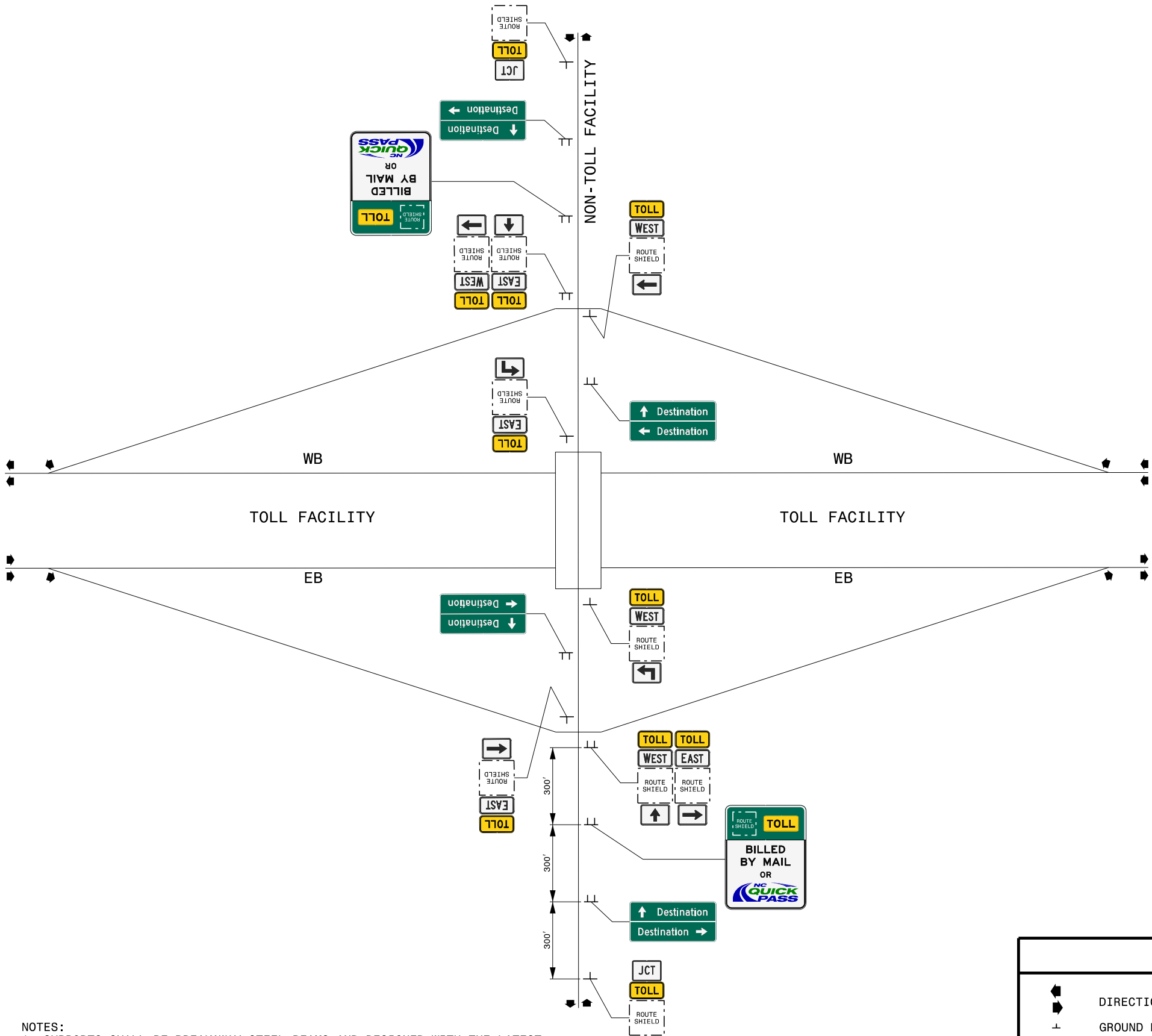
DEPT. OF TRANSPORTATION

DIVISION OF HIGHWAYS

RALEIGH, N.C.

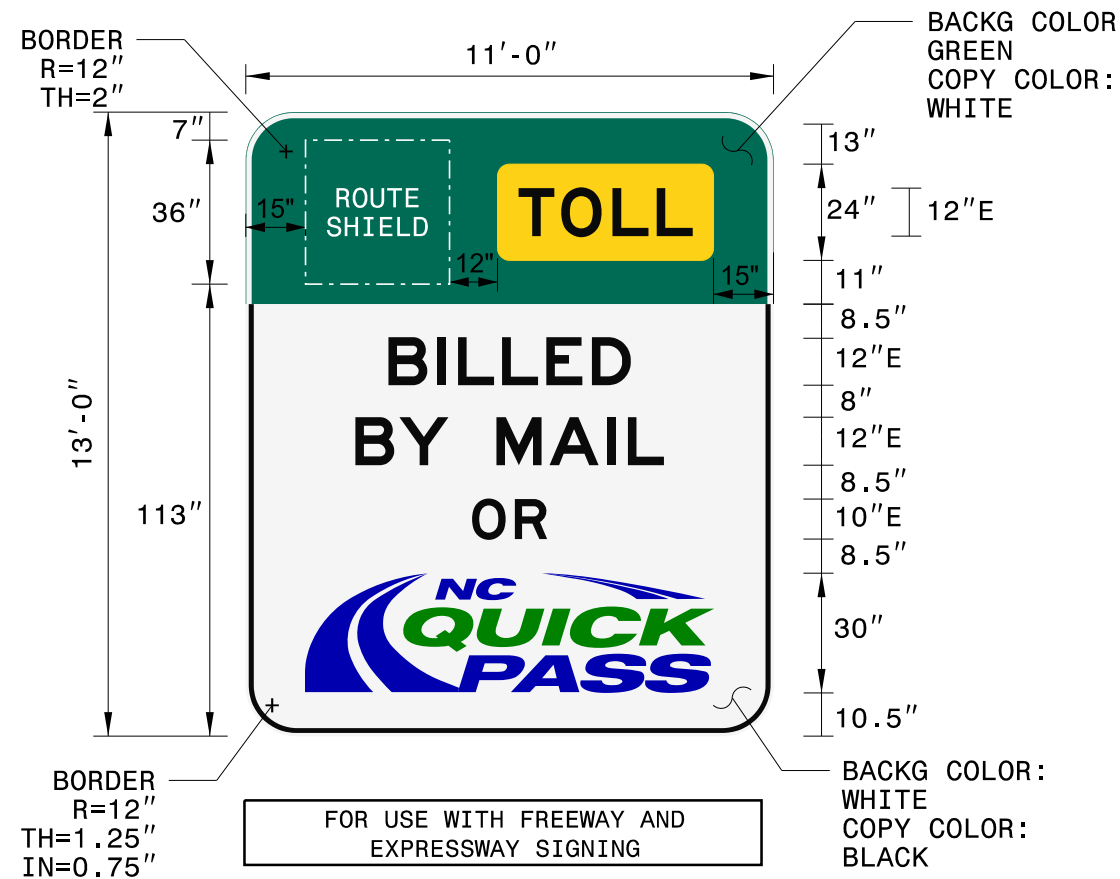
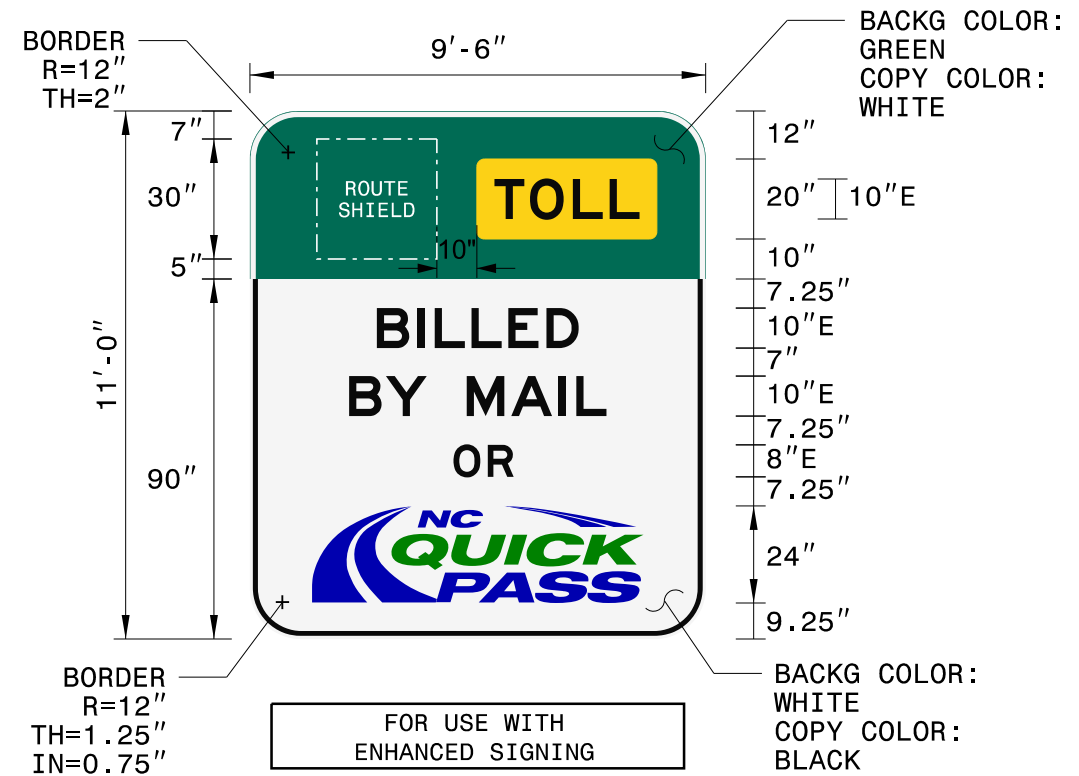
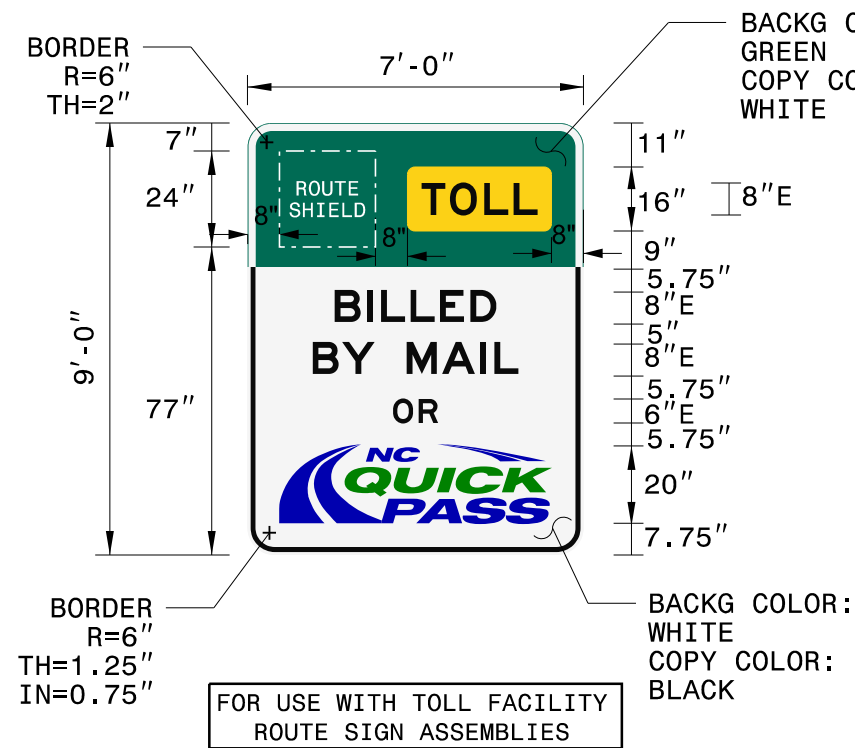
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- NOTES:
- SUPPORTS SHALL BE BREAKAWAY STEEL BEAMS AND DESIGNED WITH THE LATEST NCDOT SUPPORT DESIGN PROGRAM.
  - MINIMUM REQUIRED ROUTE ASSEMBLY SIGNING IS SHOWN. SEE CURRENT EDITION OF MUTCD, RFP, AND SIGNING SCHEMATIC FOR ADDITIONAL OVERHEAD AND ENHANCED GROUND MOUNTED GUIDE SIGNING REQUIREMENTS.
  - APPLY INTERCHANGE DETAIL AS APPROPRIATE TO FIT INTERCHANGE GEOMETRY.
  - SEE TOLL SIGNING DETAILS FOR TOLL FACILITY ROUTE SIGN ASSEMBLIES.
  - SEE TOLL SIGNING DETAILS FOR TOLL FACILITY ROUTE SIGN ASSEMBLIES MOUNTING METHOD.



LEGEND	
	DIRECTION OF TRAFFIC FLOW
	GROUND MOUNTED SIGN ON ONE SUPPORT
	GROUND MOUNTED SIGN ON TWO SUPPORTS

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NOTES:

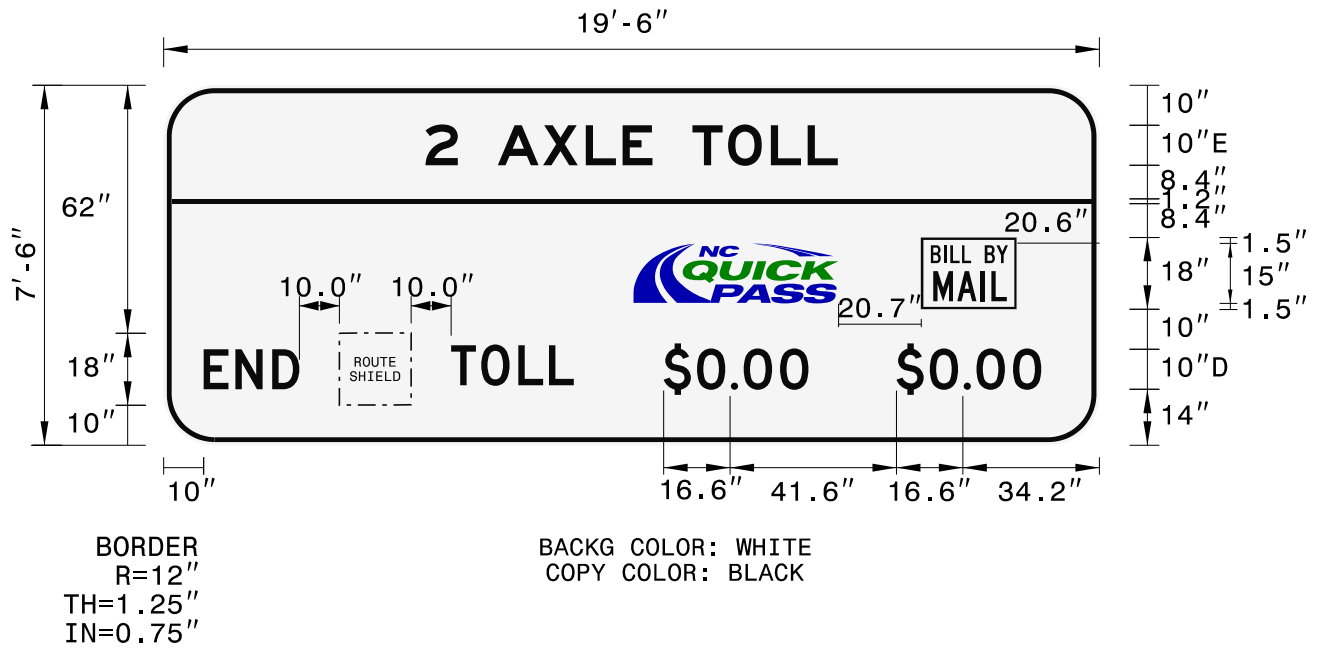
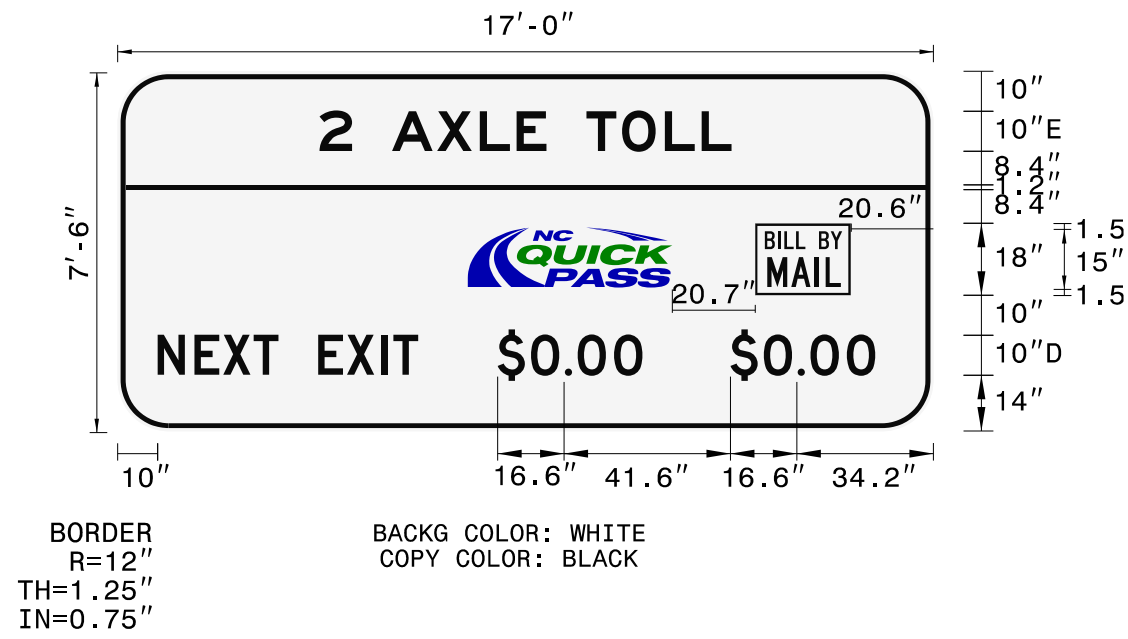
1. SUPPORTS SHALL BE BREAKAWAY STEEL BEAMS AND DESIGNED WITH THE LATEST NCDOT SUPPORT DESIGN PROGRAM.
2. "TOLL" PLAQUES MOUNTED ON GREEN OR BLUE SIGNS SHALL NOT HAVE BORDERS.
3. MINIMUM SIZES ARE AS SHOWN UNLESS OTHERWISE SPECIFICALLY STATED IN NCTA, NCDOT OR FHWA STANDARDS. IN SUCH CASES, THE LARGEST MINIMUM SHALL APPLY.
4. ETC LOGOS SHALL BE DEMOUNTABLE.

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ROADWAY DETAIL DRAWING FOR  
NCTA STANDARD HIGHWAY SIGNS  
TOLL ROAD ELECTRONIC TOLL COLLECTION SIGN

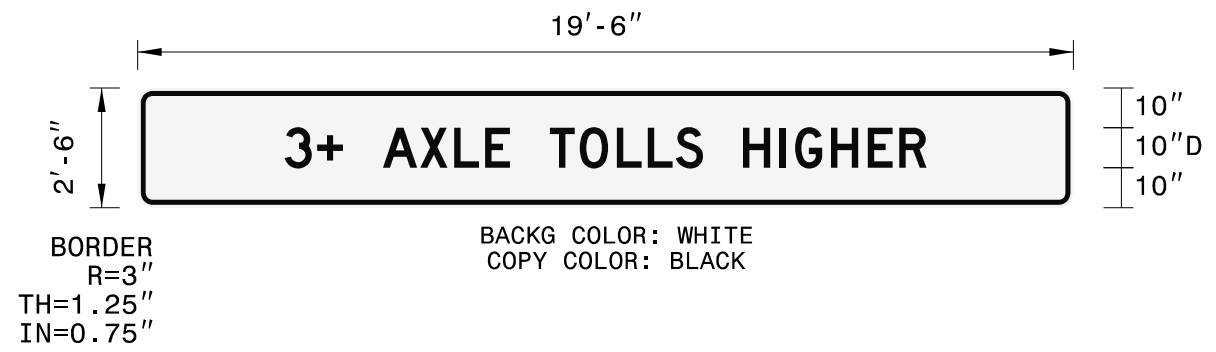
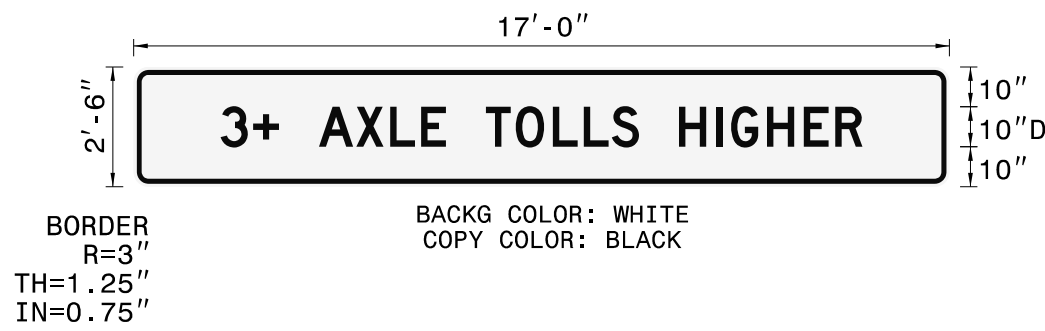
D-01



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ROADWAY DETAIL DRAWING FOR  
NCTA STANDARD HIGHWAY SIGNS  
TOLL ROAD RATE SIGNS

D-02



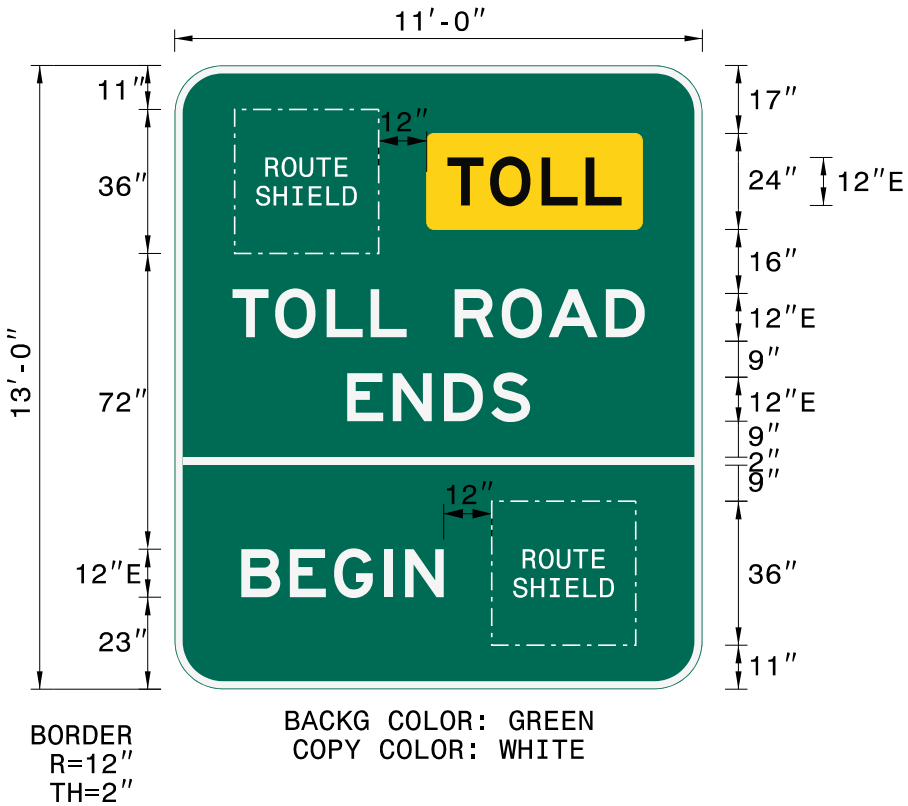
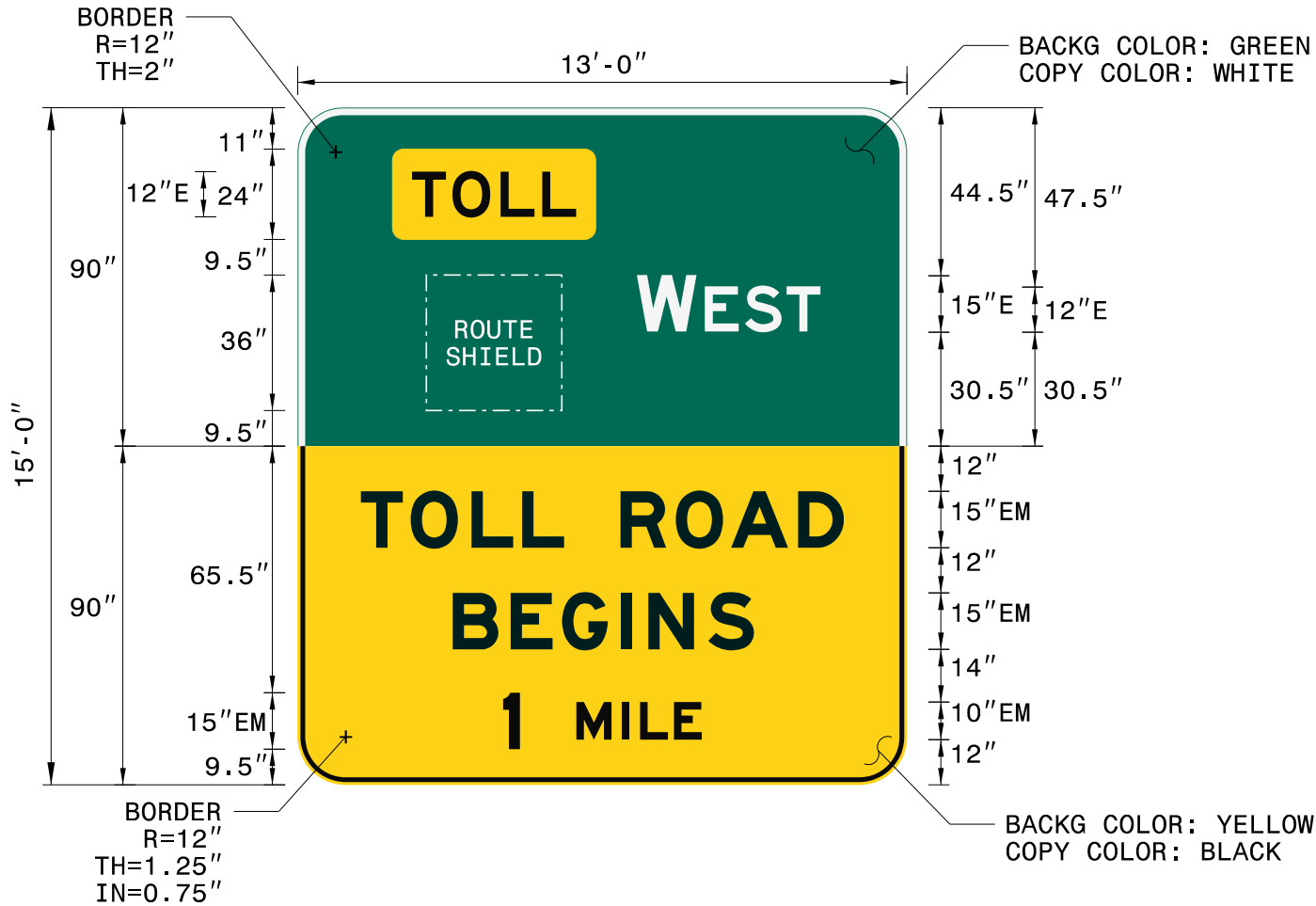
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- NOTES:
1. SUPPORTS SHALL BE BREAKAWAY STEEL BEAMS DESIGNED WITH A 158" FUTURE WIND LOAD HEIGHT USING THE LATEST NCDOT SUPPORT DESIGN PROGRAM.
  2. TOLL RATE SCHEDULE TO BE PROVIDED BY NCTA.
  3. MINIMUM SIZES ARE AS SHOWN UNLESS OTHERWISE SPECIFICALLY STATED IN NCTA, NCDOT OR FHWA STANDARDS. IN SUCH CASES, THE LARGEST MINIMUM SHALL APPLY.
  4. ETC LOGOS SHALL BE DEMOUNTABLE.
  5. VERTICALLY ALIGN DOLLAR AND DECIMAL SYMBOLS.

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"TOLL" PLAQUE SIZES		
<div>TOLL</div>		
ROUTE SIGN SIZE	SIZE	COPY
48"	72" x 30"	15"E
36"	54" x 24"	12"E
30"	45" x 20"	10"E
24"	36" x 16"	8"E
ROUTE SIGN ASSEMBLY	36" x 18" (W16-17P)	8"D
BACKG COLOR: YELLOW COPY COLOR: BLACK		

EXIT GORE "TOLL" PANEL SIZES
<div> <div>60" MIN. - 156" MAX.</div> <div> <div>2'-6"</div> <div>TOLL</div> <div>9"</div> <div>12"E</div> <div>9"</div> </div> </div> <div>           BORDER            R=3"            TH=0.88"            IN=0.63"         </div>
BACKG COLOR: YELLOW COPY & BORDER COLOR: BLACK



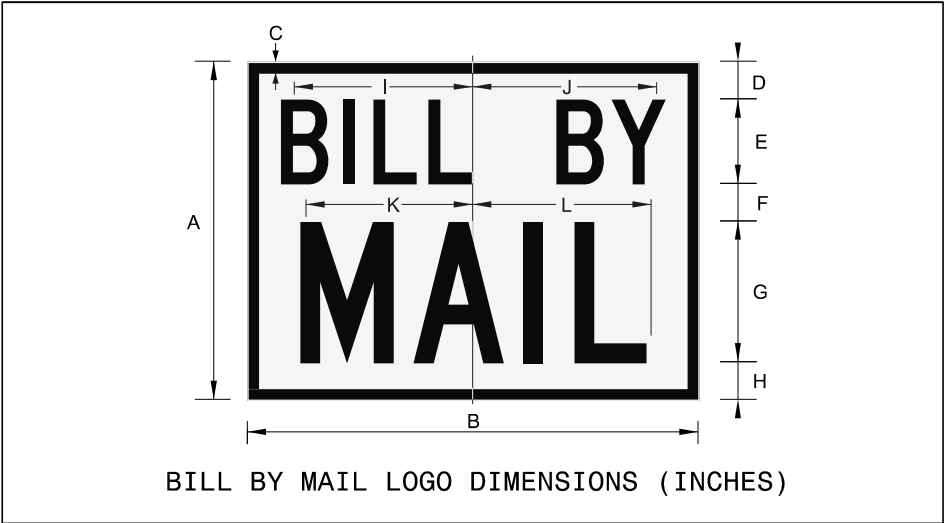
REV. NO.	BY	DATE	DESCRIPTION

- NOTES:
- SUPPORTS SHALL BE BREAKAWAY STEEL BEAMS AND DESIGNED WITH THE LATEST NCDOT SUPPORT DESIGN PROGRAM.
  - "TOLL" PLAQUES MOUNTED ON GREEN OR BLUE SIGNS SHALL NOT HAVE BORDERS.
  - MINIMUM SIZES ARE AS SHOWN UNLESS OTHERWISE SPECIFICALLY STATED IN NCTA, NCDOT OR FHWA STANDARDS. IN SUCH CASES, THE LARGEST MINIMUM SHALL APPLY.
  - PLAQUES SHALL BE DEMOUNTABLE EXCEPT FOR ROUTE SIGN ASSEMBLIES.

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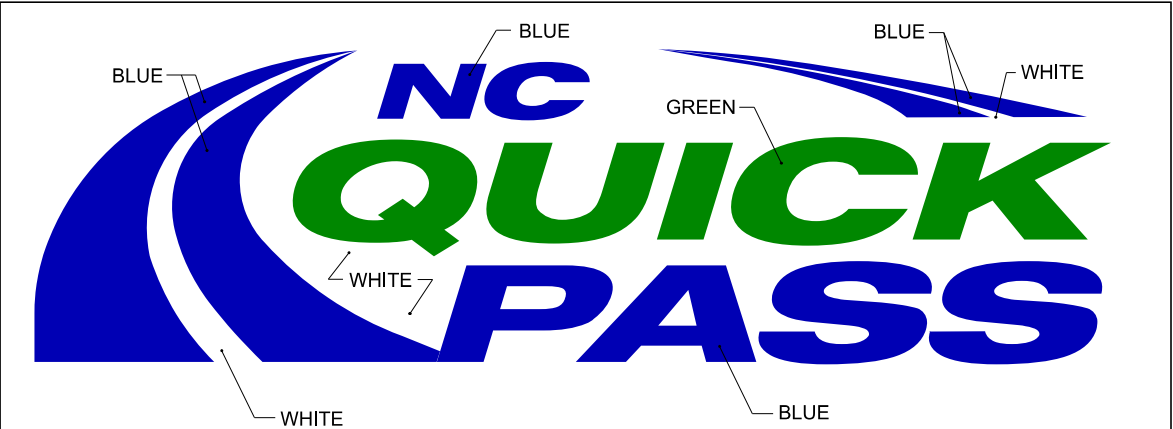
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ROADWAY DETAIL DRAWING FOR  
NCTA STANDARD HIGHWAY SIGNS  
TOLL PANELS



A	B	C	D	E	F	G	H	I	J	K	L
18	24	0.625	2	4.5 C	2	7.5 C	2	9.512	9.817	8.875	9.5
24	32	0.75	2.6	6 C	2.8	10 C	2.6	12.667	13.074	11.833	12.667

BACKG COLOR: WHITE  
COPY & BORDER COLOR: BLACK  
SPACING BETWEEN "BILL" AND "BY" IS 0.75 TIMES LETTER HEIGHT



NC QUICK PASS LOGO DETAIL

- NOTES:
- A. COLORS FOR USE ON THE NC QUICK PASS LOGO SHALL BE FHWA BLUE AND FHWA GREEN.
  - B. THE NC QUICK PASS LOGO SHALL BE SCALED PROPORTIONALLY TO MEET REQUIRED DIMENSIONS SHOWN IN THE NCTA STANDARD HIGHWAY SIGNS IN THE SIGNING STANDARD DETAILS.
  - C. NC QUICK PASS LOGO SHALL BE THE SIZE AS SHOWN IN THE NCTA STANDARDS HIGHWAY SIGNS OR IF NOT SHOWN, IT SHALL BE BETWEEN 1.5 TO 2 TIMES THE LETTER HEIGHT OF THE MAJOR COPY.
  - D. NCTA WILL PROVIDE AN ELECTRONIC ARTWORK FILE OF THE NC QUICK PASS LOGO IN AN EPS FORMAT FOR PANEL FABRICATION.
  - E. DO NOT USE BORDER FOR NC QUICK PASS LOGO.

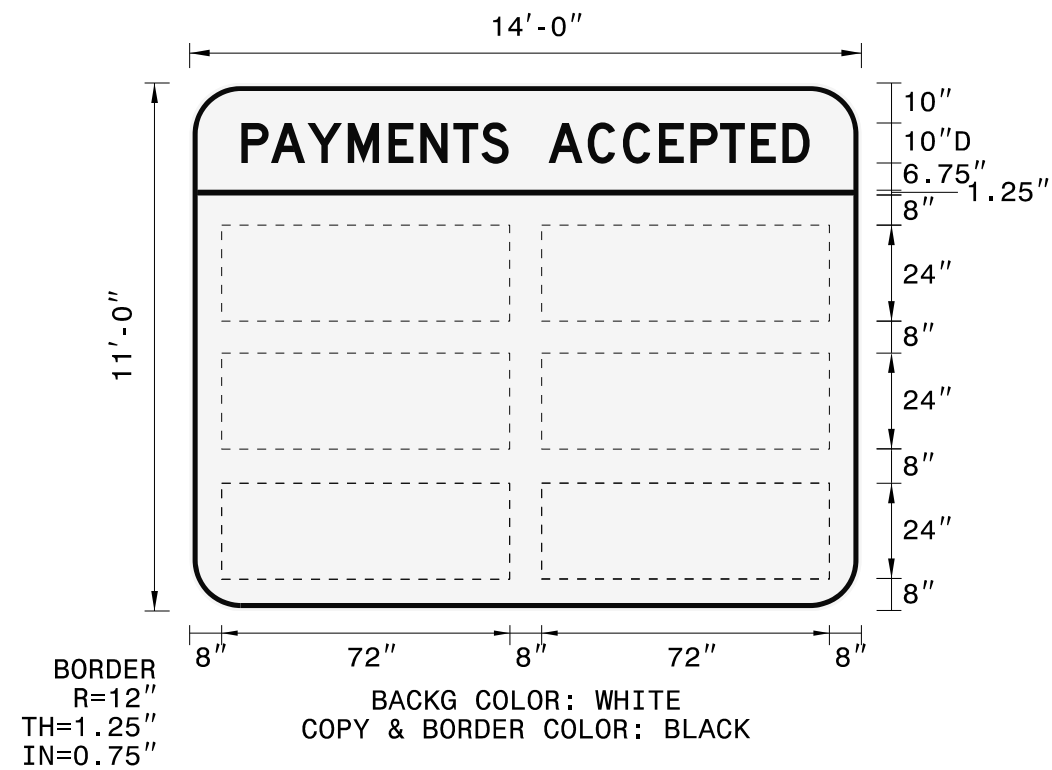
COMMON NC QUICK PASS DIMENSIONS	
WIDTH	HEIGHT
102.3"	30"
81.9"	24"
68.2"	20"
51.2"	15"
40.9"	12"
34.1"	10"
27.6"	8"

REV. NO.	BY	DATE	DESCRIPTION

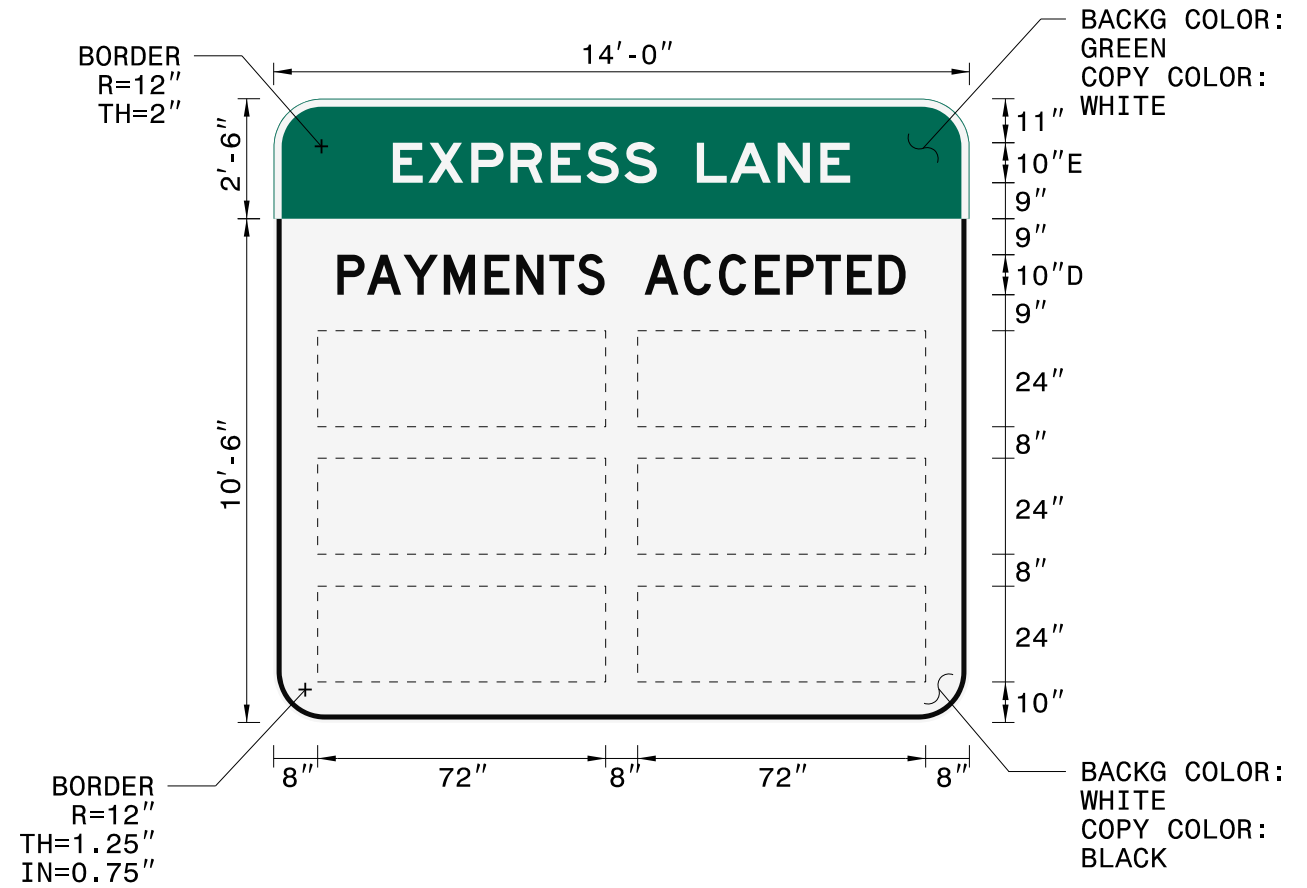
NOTE:  
1. ETC LOGOS SHALL BE DEMOUTABLE.

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FOR USE WITH  
TOLL ROAD FACILITIES



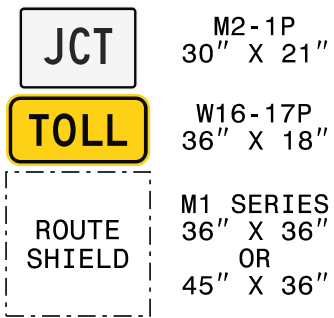
FOR USE WITH  
EXPRESS LANE FACILITIES

- NOTES:
1. SUPPORTS SHALL BE BREAKAWAY STEEL BEAMS AND DESIGNED WITH THE LATEST NCDOT SUPPORT DESIGN PROGRAM.
  2. MAXIMUM WIDTH OF AN INTEROPERABLE AGENCY'S PANEL SHALL BE 72".
  3. MAXIMUM HEIGHT OF AN INTEROPERABLE AGENCY'S PANEL SHALL BE 24".
  4. CENTER INTEROPERABLE AGENCY'S LOGO VERTICALLY AND HORIZONTALLY WITHIN SPACE PROVIDED. INCLUDE DIMENSIONS FOR THE PLACEMENT OF EACH INTEROPERABLE AGENCY LOGO IN CONSTRUCTION PLAN SETS.
  5. INTEROPERABLE AGENCY PANEL ELECTRONIC ARTWORK FILE TO BE PROVIDED BY NCTA.

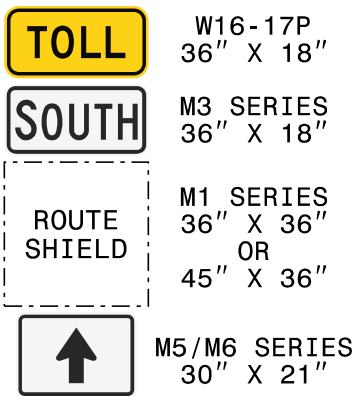
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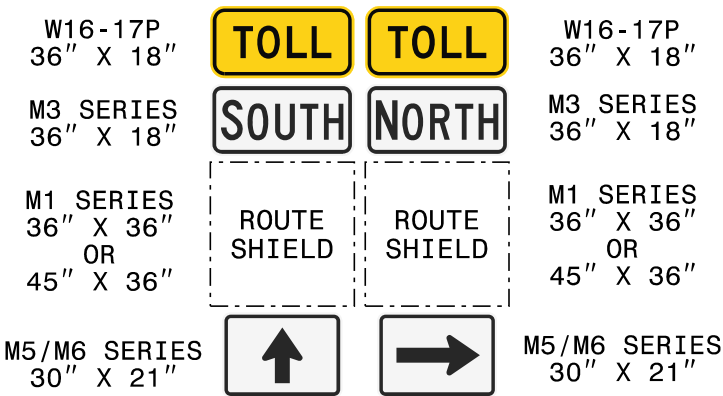
JUNCTION ASSEMBLY



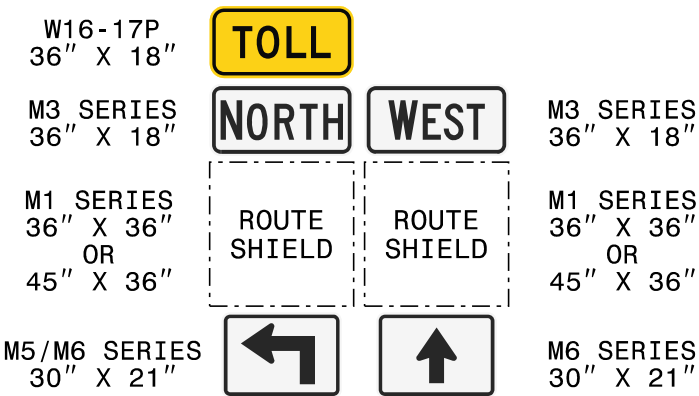
SINGLE ASSEMBLY



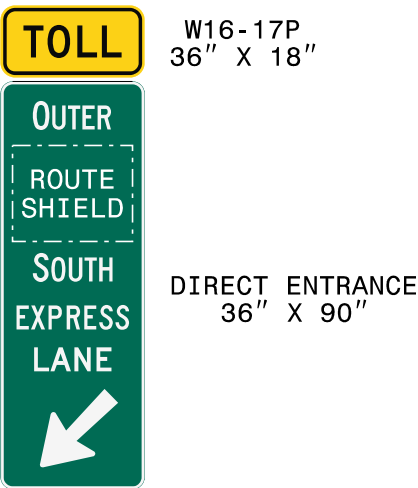
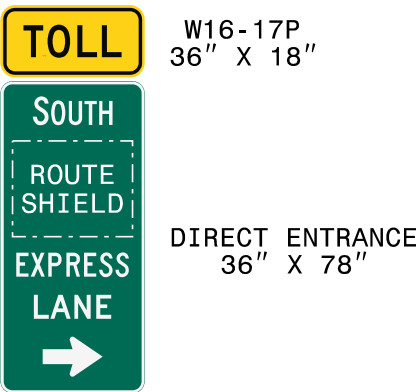
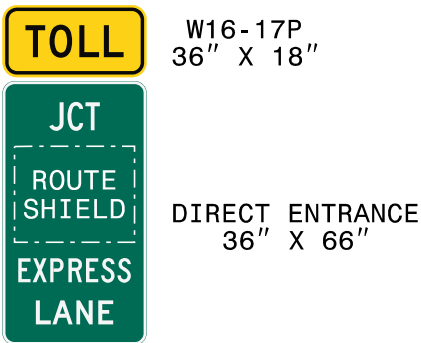
DOUBLE ASSEMBLY



DOUBLE ASSEMBLY  
(ONE ASSEMBLY NON-TOLL)



FOR USE WITH  
TOLL ROAD FACILITIES



FOR USE WITH  
EXPRESS LANE FACILITIES

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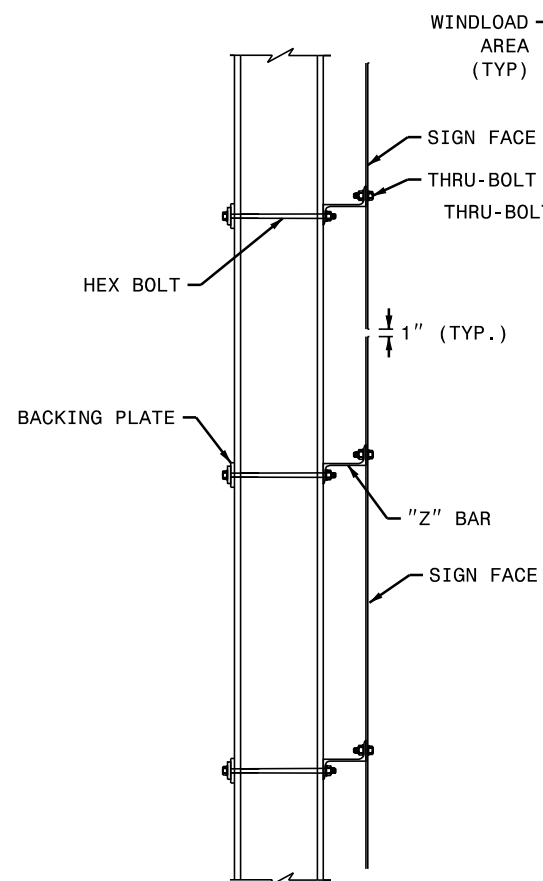
- NOTES:
1. SUPPORTS SHALL BE BREAKAWAY STEEL BEAMS AND DESIGNED WITH THE LATEST NCDOT SUPPORT DESIGN PROGRAM.
  2. MINIMUM SIZES ARE AS SHOWN UNLESS OTHERWISE SPECIFICALLY STATED IN NCTA, NCDOT OR FHWA STANDARDS. IN SUCH CASES, THE LARGEST MINIMUM SHALL APPLY.
  3. ANY REQUIRED AUXILIARY PLAQUES NOT SHOWN (M4 SERIES) SHALL BE DESIGNED IN ACCORDANCE WITH THE "OVERSIZED" COLUMN OF MUTCD TABLE 2D-1 AND INSTALLED DIRECTLY ABOVE THE ROUTE SHIELD.
  4. SEE NCTA STANDARD HIGHWAY SIGNS - ROUTE SIGN ASSEMBLIES MOUNTING DETAILS SHEETS (SHEETS D-06B AND D-06C).
  5. M2 THRU M6 SERIES PLAQUES SHALL MATCH THE BACKGROUND AND LEGEND COLORS OF THE ROUTE SHIELD.

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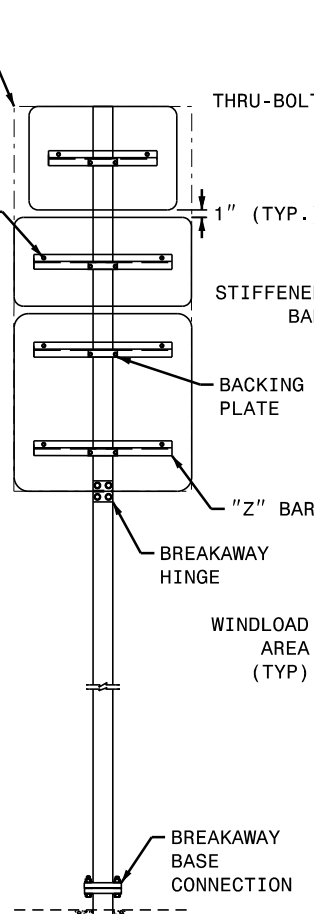
ROADWAY DETAIL DRAWING FOR  
**NCTA STANDARD HIGHWAY SIGNS**  
**ROUTE SIGN ASSEMBLIES - MOUNTING METHOD**

D-06B

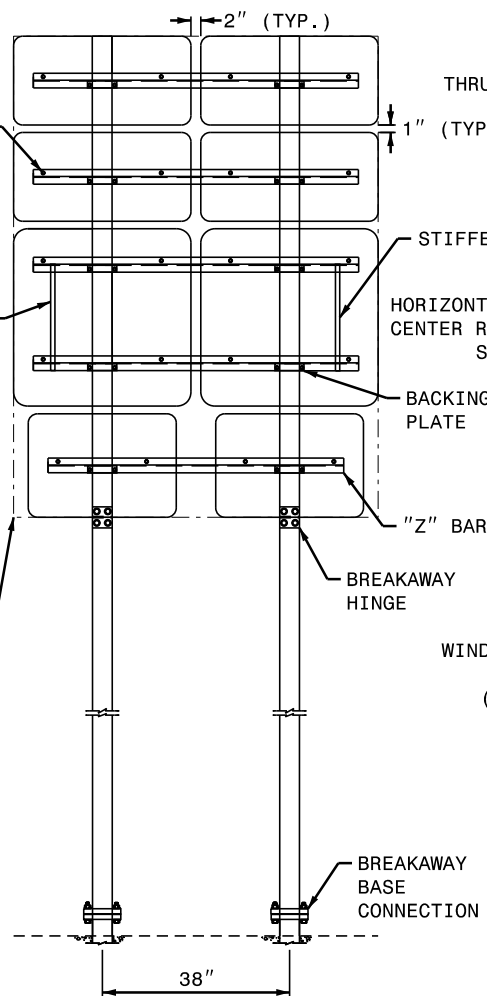
SIDE VIEW  
(TYP.)



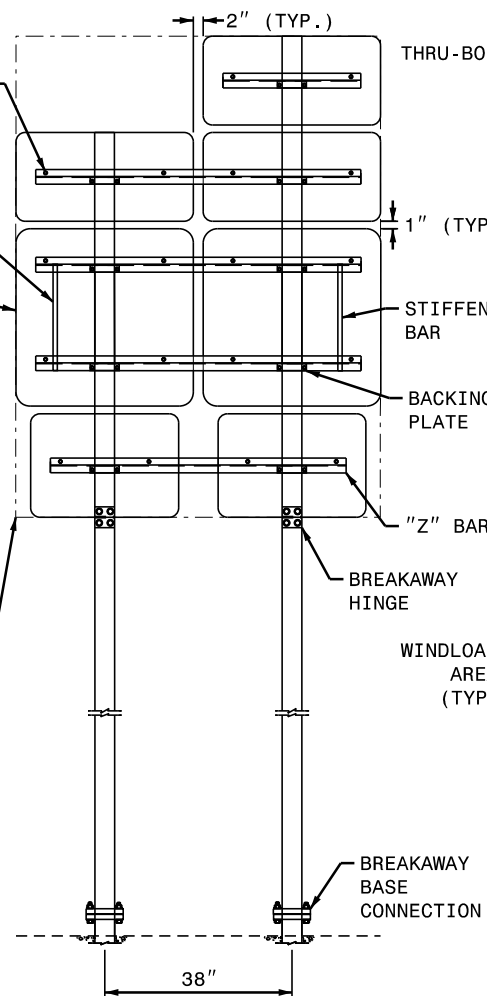
JUNCTION OR SINGLE  
ASSEMBLY



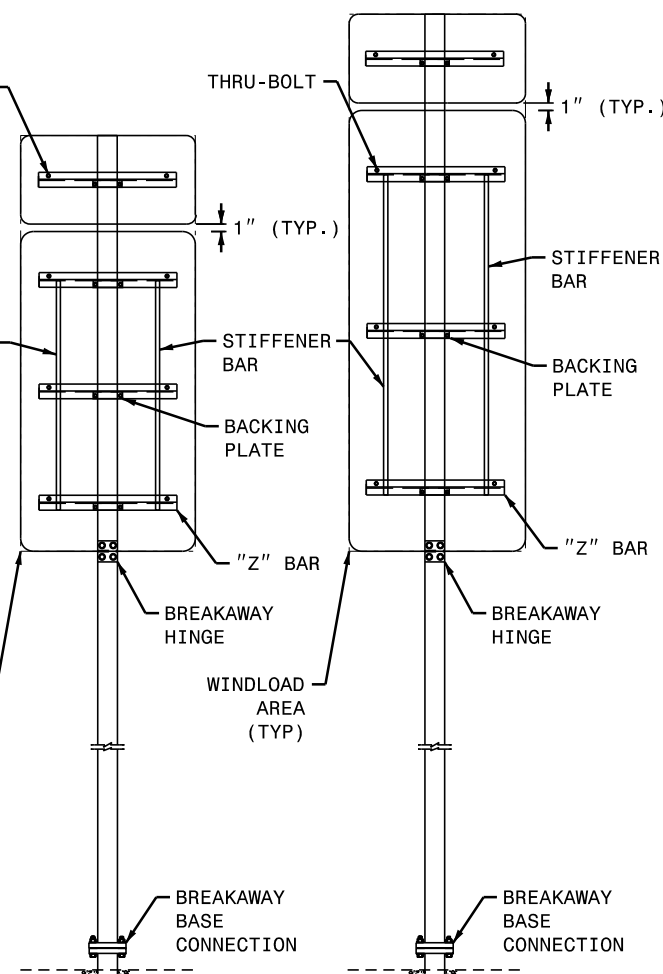
DOUBLE ASSEMBLY



DOUBLE ASSEMBLY  
(ONE ASSEMBLY NON-TOLL)



EXPRESS LANE DIRECT  
ENTRANCE ASSEMBLIES



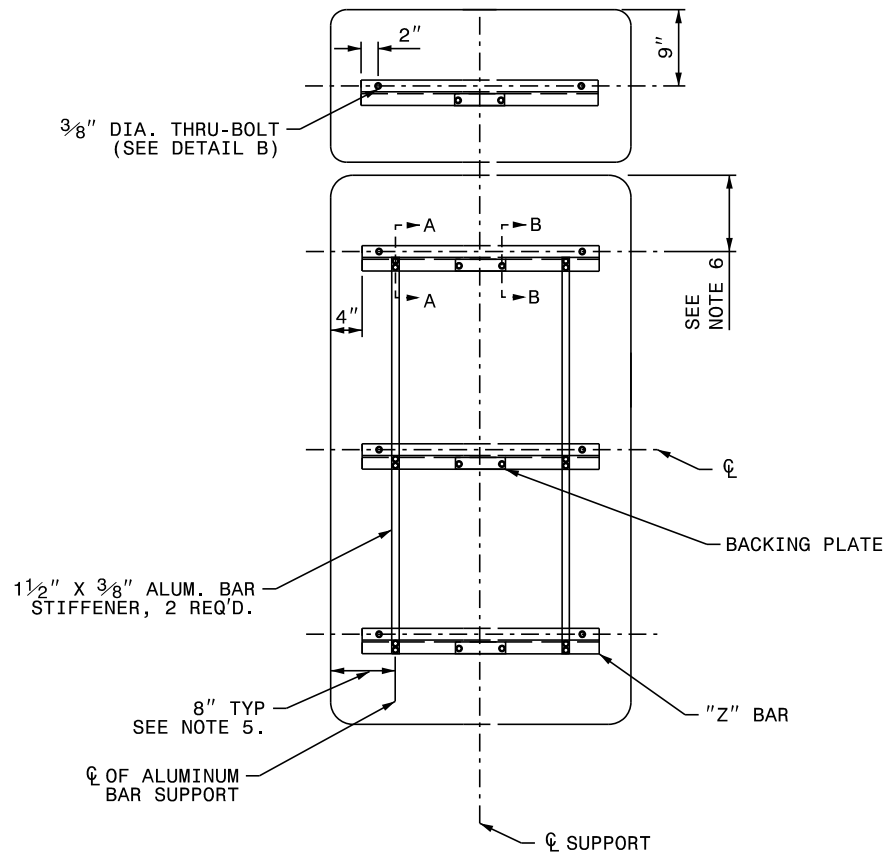
NOTES:

1. SUPPORTS SHALL BE BREAKAWAY STEEL BEAMS AND DESIGNED WITH THE LATEST NCDOT SUPPORT DESIGN PROGRAM.
2. VERTICAL CLEARANCE SHALL BE 7' FROM EDGE OF TRAVEL; HOWEVER, IF THE GROUND ELEVATION IS ABOVE THE EDGE OF TRAVEL, THE VERTICAL CLEARANCE SHALL BE 7' FROM THE GROUND.
3. REFER TO MUTCD 11TH EDITION FIGURE 2A-2 FOR LATERAL CLEARANCE REQUIREMENTS.
4. ALL SIGN PANELS SHALL BE AFFIXED TO "Z" BARS WITH THRU-BOLTS (SEE NCTA STANDARD HIGHWAY SIGNS - ROUTE SIGN ASSEMBLIES MOUNTING METHOD (SHEET D-06C)).
5. DOUBLE ASSEMBLIES SHALL BE DESIGNED WITH TWO STEEL BEAM SUPPORTS. ADJUST STANDARD SPACING SO EACH SUPPORT IS CENTERED ON THE ROUTE MARKER PANEL.
6. TYPE D SIGNS SHALL NOT BE MOUNTED ON SAME SUPPORTS AS NCTA ROUTE SIGN ASSEMBLIES.
7. FABRICATE SIGN PANELS PER THE TYPE F SPECIFICATIONS OF NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES, SECTION 901-2(C)(3) WITH ONLY HOLES DRILLED FOR THRU-BOLTS TO ATTACH TO "Z" BARS.

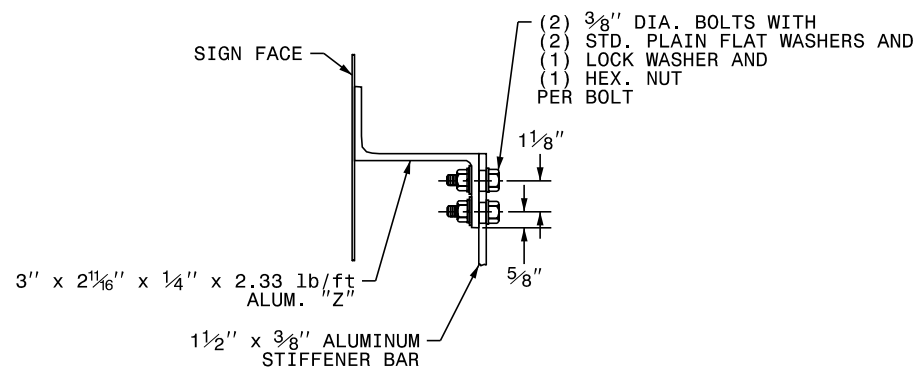
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MARCH 2025

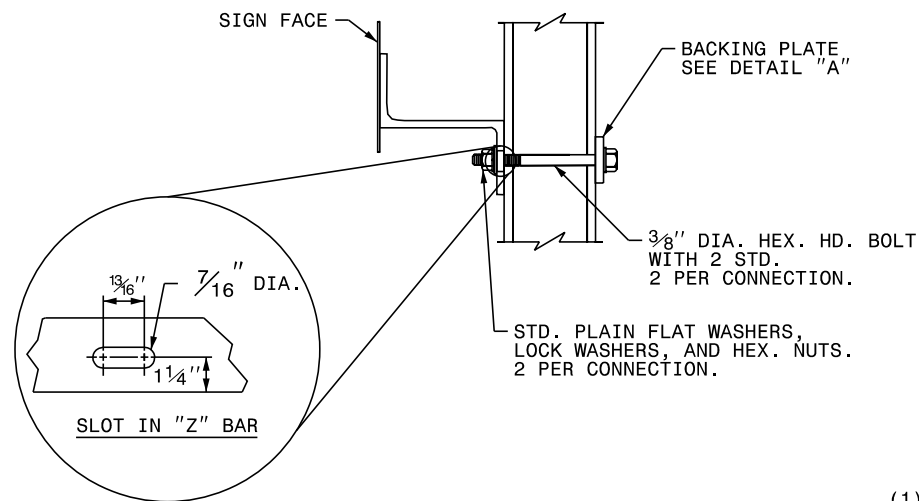
EXPRESS LANE  
ROUTE SIGN ASSEMBLY



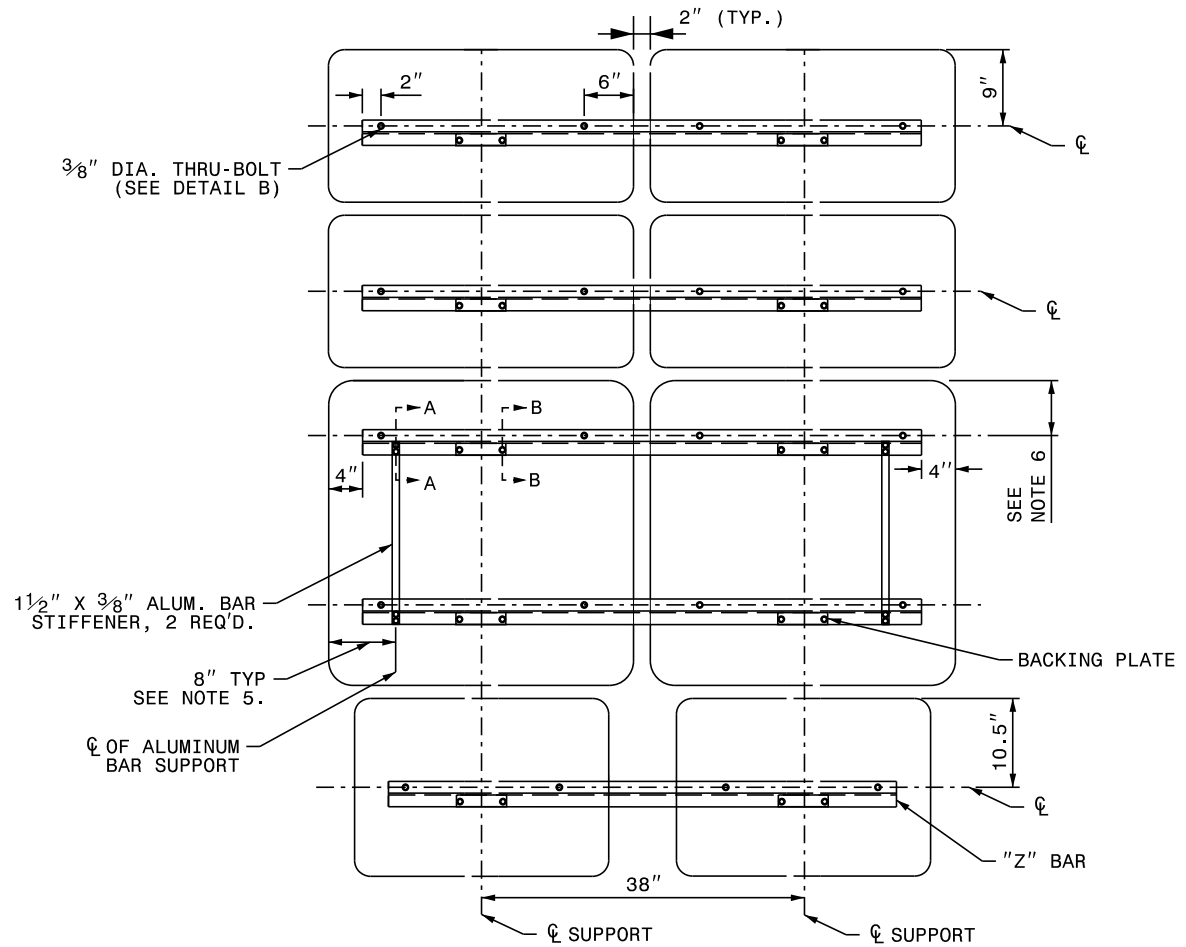
SECTION A-A  
STIFFENER DETAIL



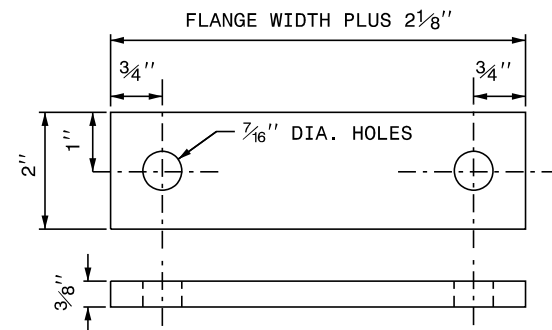
SECTION B-B



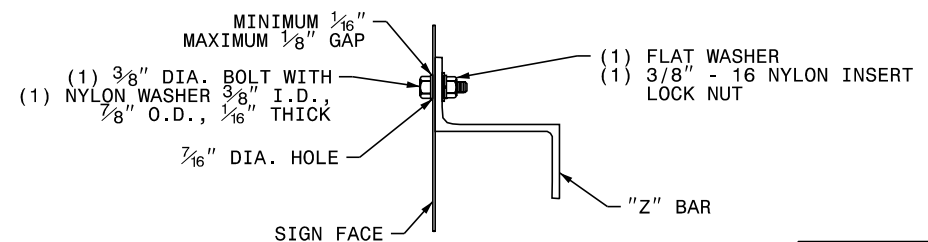
TOLL FACILITY  
ROUTE SIGN ASSEMBLY



BACKING PLATE DETAIL "A"  
W-BEAM OR S-BEAM SUPPORT



DETAIL "B"  
THRU-BOLT CONNECTION



- NOTES:
1. USE NUMBER, SIZE, AND SPACING OF SUPPORTS AS SHOWN ON SUPPORT CHART IN PROJECT PLAN SHEETS.
  2. SEE NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES FOR TYPE OF MATERIAL TO BE USED FOR SIGN PANELS, HANGER ASSEMBLIES, AND SUPPORT. FURNISH ALL MOUNTING HARDWARE.
  3. FURNISH ALL MOUNTING HARDWARE.
  4. THE VERTICAL DIMENSION BETWEEN SIGNS IS ONE (1) INCH.
  5. ADJUST STIFFENERS TO AVOID CONFLICT WITH SUPPORTS.
  6. SEE NCDOT ROADWAY STANDARD DRAWING 901.70 FOR "Z" BAR SPACING.
  7. PLACE NYLON WASHER UNDER HEAD OF 3/8" THRU-BOLTS.
  8. FABRICATE EACH SIGN WITH 3/8" DIA. THRU-BOLT, 6" FROM EACH END OF EACH SIGN PANEL (SEE DETAIL B).
  9. THRU-BOLTS WILL HAVE A MINIMUM 1/16" TO MAXIMUM 1/8" GAP.

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ROADWAY DETAIL DRAWING FOR  
NCTA STANDARD HIGHWAY SIGNS  
ROUTE SIGN ASSEMBLIES - MOUNTING METHOD

D-06C