

I:\0 ENGINEERING PROJECTS\ARCHITECTURAL GRILLES\X - FEMA 361 Grille Development\Submittal Documents\

	Width (Inches)																				
	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120	
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12	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300
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24	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300
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84	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300
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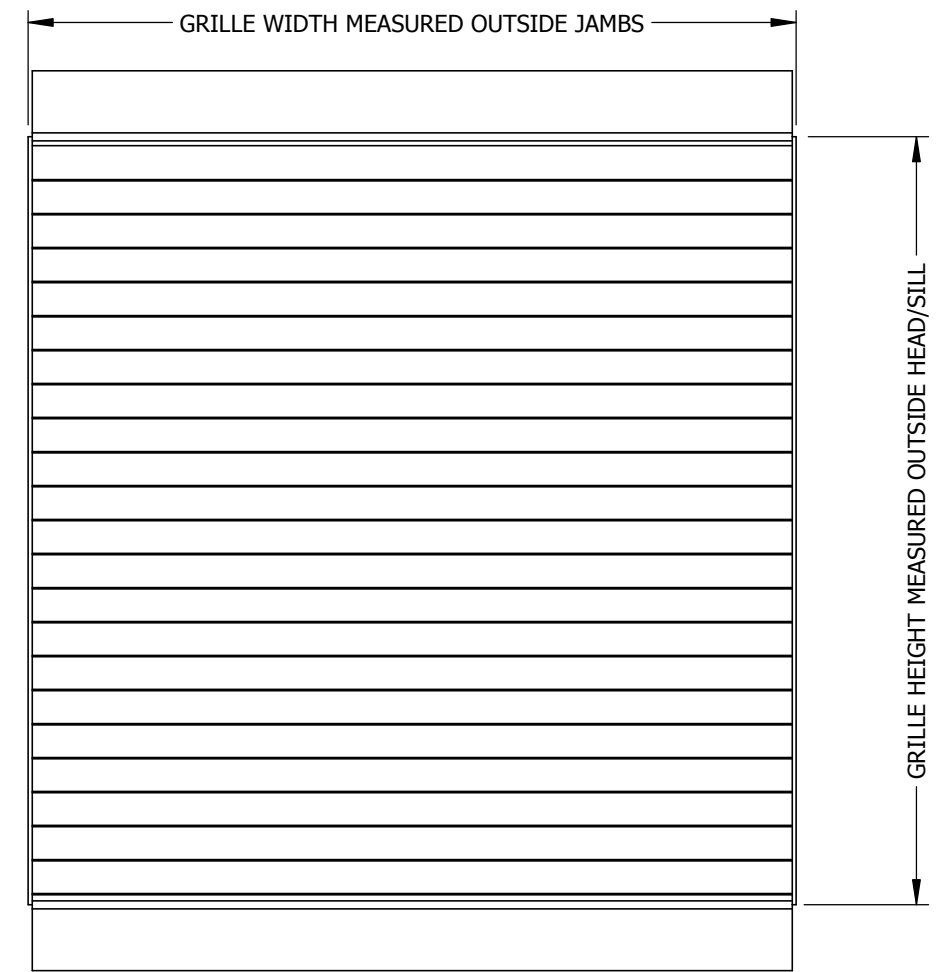
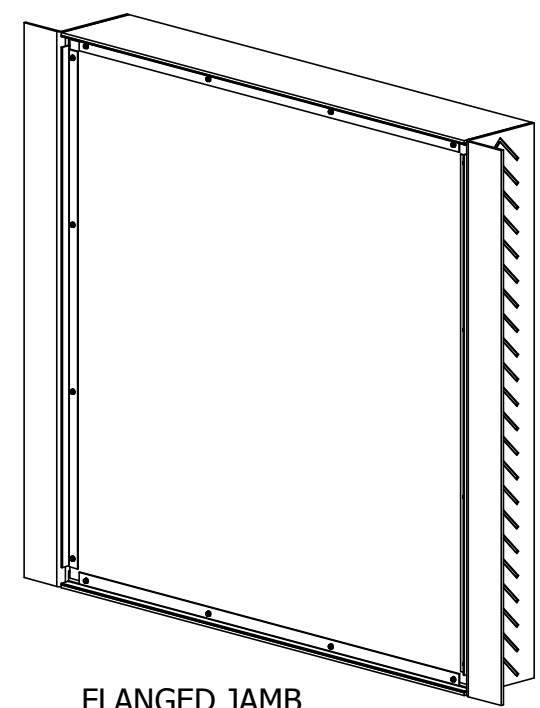
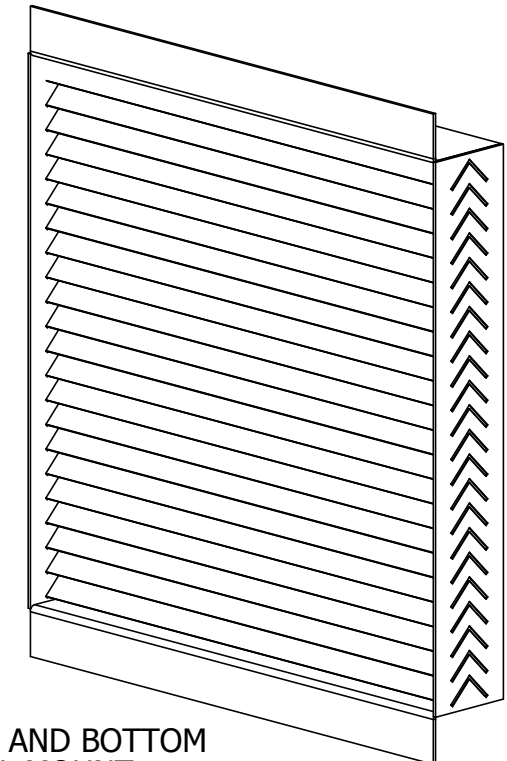


CHART 1 - ALLOWABLE POUNDS/SQUARE FOOT FOR MULTI-SECTION AND FLANGED HEAD / BOTTOM STEEL GRILLES
 FLANGED JAMB UNITS ARE GOOD FOR 300 PSF FOR ALL SIZES



FLANGED JAMB
EXTERNAL MOUNT



FLANGED TOP AND BOTTOM
INTERNAL MOUNT

FOR INTERNAL MOUNT UNITS - GRILLE IS SIZED 1/2" UNDER NOMINAL SIZE
 FOR EXTERNAL MOUNT UNITS - GRILLE IS SIZED 1/2" OVER NOMIAL SIZE

- DRAWING NOTES:
1. THIS DRAWING INCLUDES INSTALLATION DETAILS TO ATTAIN MAXIMUM DESIGN PRESSURES PER CHART 1 AND FEMA 320/361 LARGE MISSILE IMPACT TESTS.
 2. GRILLE TESTED FOR LARGE MISSILE IMPACT TEST WITH 15 LB 2 X 4 AND 100 MPH VELOCITY.
 3. IT IS ASSUMED THAT THE GRILLE SYSTEMS DO NOT SUPPORT ANY LOADS TRANSFERRED FROM THE BUILDING CONDITION.
 4. IT IS ASSUMED THAT THE BUILDING CONDITIONS ARE ADEQUATELY DESIGNED TO SUPPORT LOADS IMPARTED BY THE GRILLE.
 5. GRILLE DOES NOT PREVENT MOISTURE INGRESS. CRITICAL EQUIPMENT SHOULD BE PROTECTED.
 6. MOUNTING HARDWARE AND HOLES IN GRILLE BY OTHERS.

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1	APPROVED (ECN 013-0106)	9/27/2013	BSR

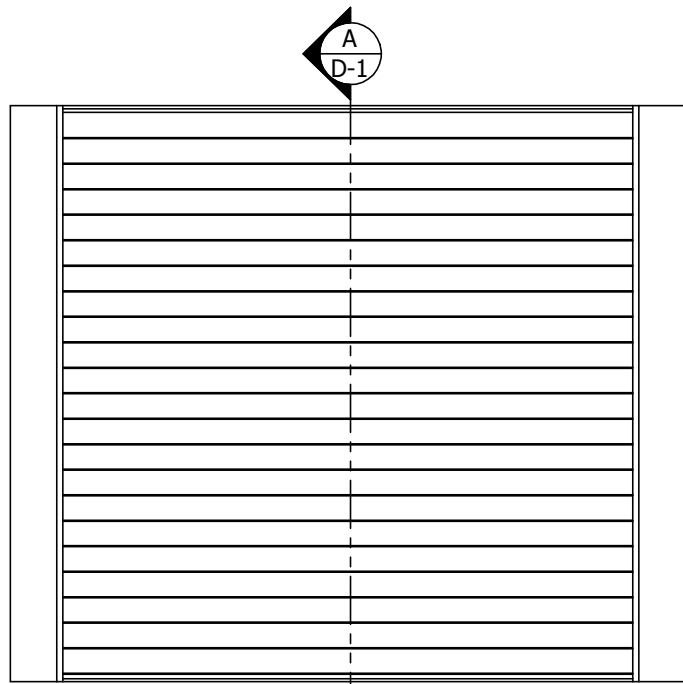
UNLESS OTHERWISE SPECIFIED DIMENSION ARE IN INCHES.
 TOLERANCE UNLESS NOTED:
 X.X ±0.030
 X.XX ±0.015
 X.XXX ±0.010
 ANGLE ±1°
 FRACTION ±1/16
 MAX HOLE BREAKOUT:
 15% OF MATERIAL THICKNESS

5101 Blue Mound Road
 Fort Worth, Texas 76106
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 Fax: 817-831-3110
 THIRD ANGLE PROJECTION

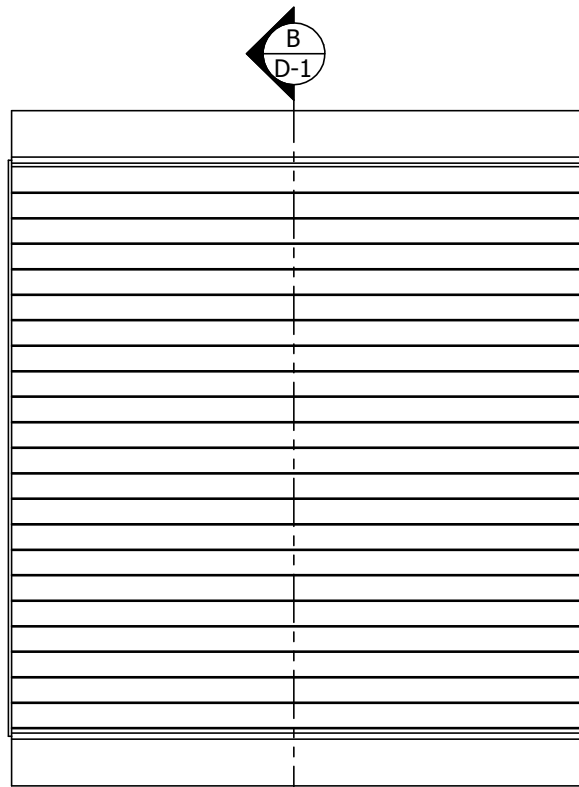
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DRAWING DESCR: COVER SHEET				
PROJECT: FEMA 361 GRILLE ASSEMBLY & INSTALLATION DETAILS				
LOCATION:				
CUSTOMER:				
PROJ. MGR.: BRIAN REDFORD		DRAWN BY: LGH		
DATE: 1/11/2013	CHK'D BY: BR	ORDER NUMBER	P.O. NUMBER	DRAWING NUMBER
SHEET: 1 of 6	SCALE:			M-53742 C-1

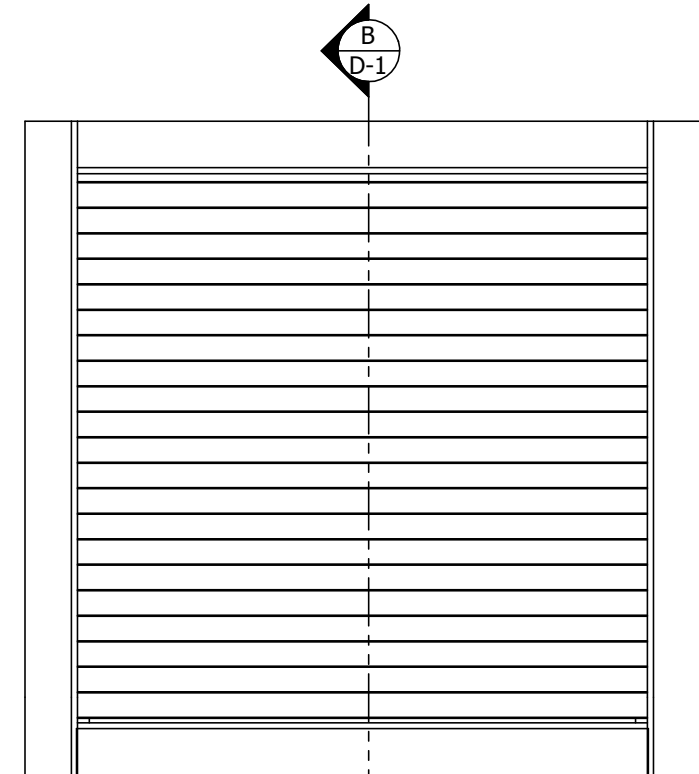
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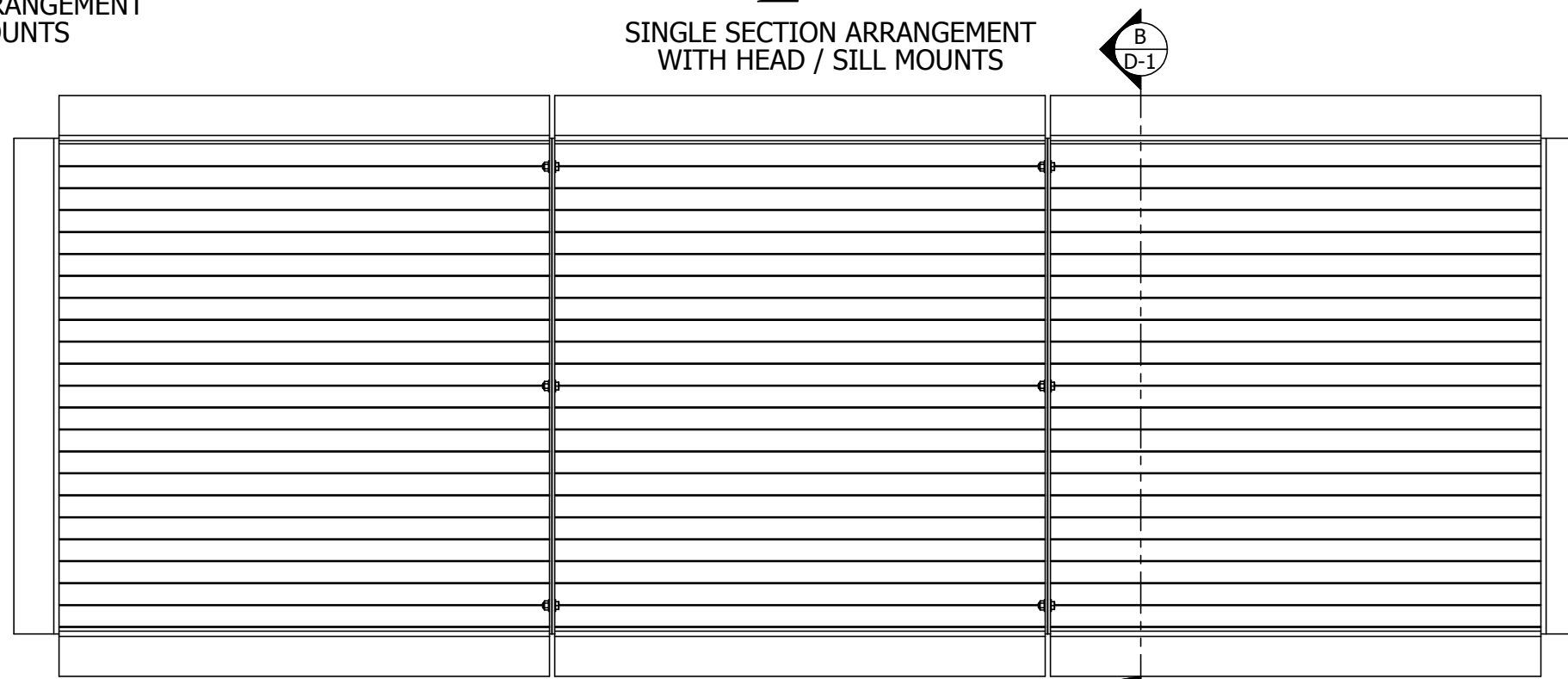
SINGLE SECTION ARRANGEMENT WITH JAMB MOUNTS



SINGLE SECTION ARRANGEMENT WITH HEAD / SILL MOUNTS



SINGLE SECTION ARRANGEMENT ALL SIDES FLANGED



MULTI-SECTION WIDE (UNLIMITED) ARRANGEMENT AVAILABLE ONLY IN HEAD / SILL MOUNT
FLANGED JAMBS ON END SECTIONS OPTIONAL

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1	APPROVED (ECN 013-0106)	9/27/2013	BSR

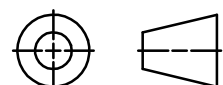
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 X.XX ±0.015
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 ANGLE ±1°
 FRACTION ±1/16

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THIRD ANGLE PROJECTION



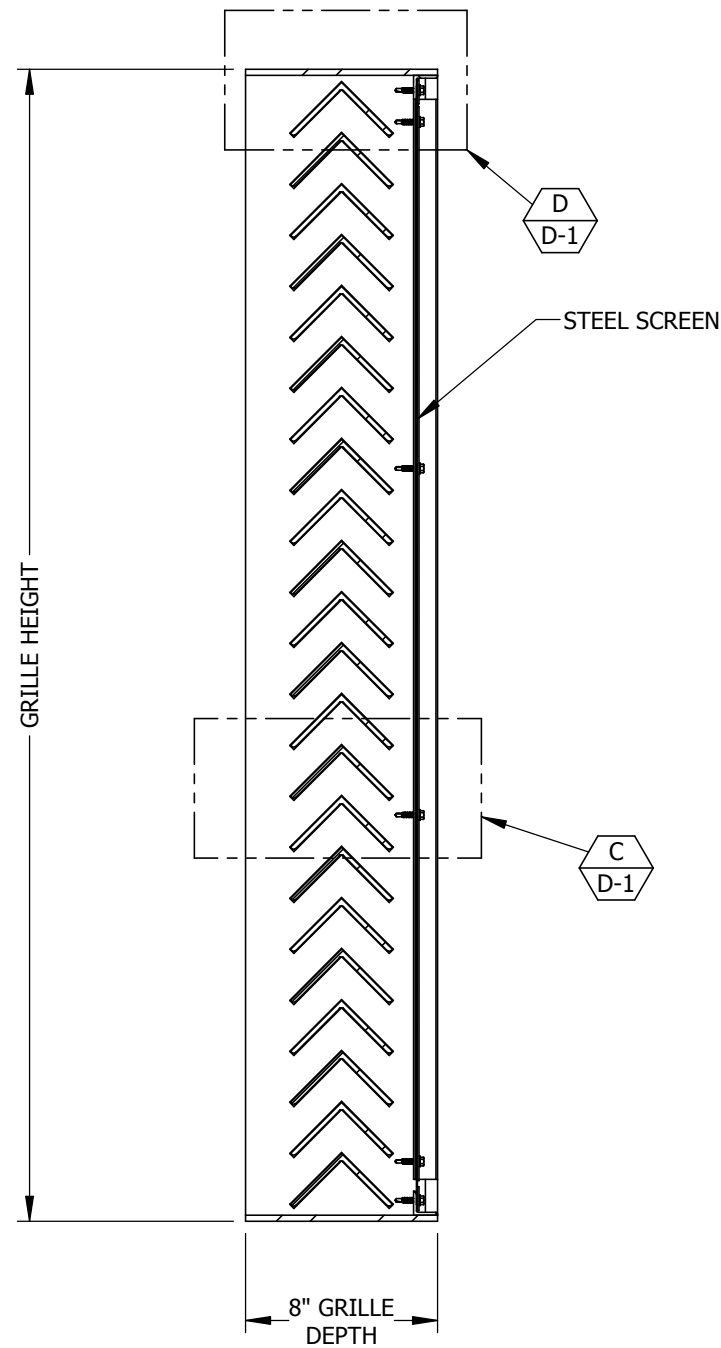
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ARCHITECTURAL PRODUCTS

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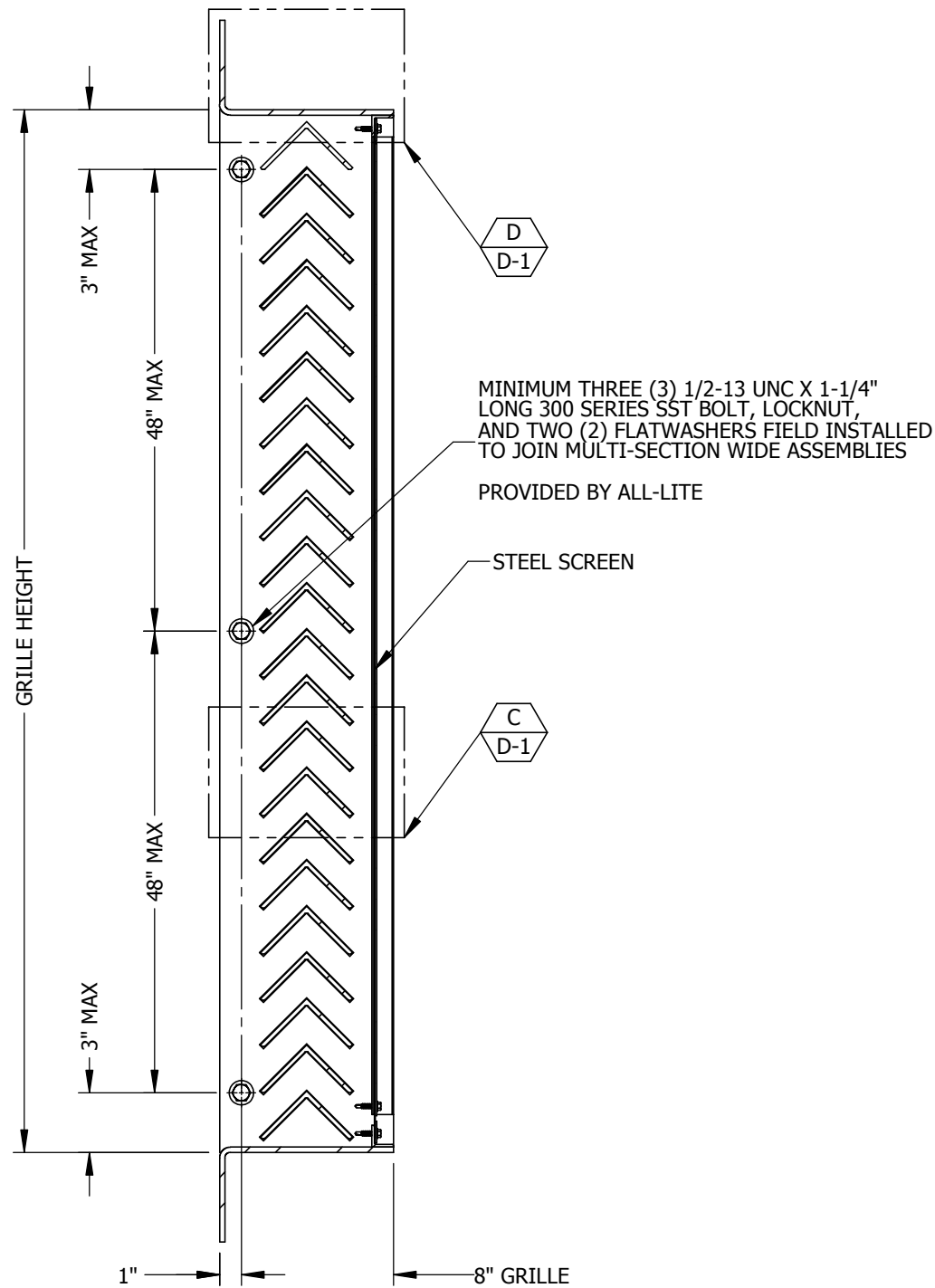
DRAWING DESCR: ELEVATION VIEWS				
PROJECT: FEMA 361 GRILLE ASSEMBLY & INSTALLATION DETAILS				
LOCATION:				
CUSTOMER:				
PROJ. MGR.: BRIAN REDFORD		DRAWN BY: LGH		
DATE: 1/11/2013	CHK'D BY: BR	ORDER NUMBER	P.O. NUMBER	DRAWING NUMBER
SHEET: 2 of 6	SCALE: 3/4"=1'-0"			M-53472 E-1

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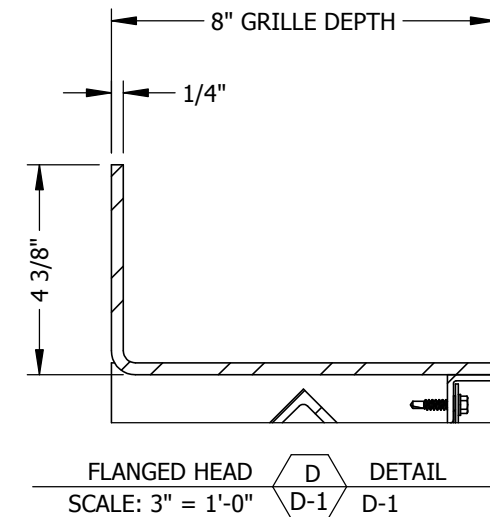
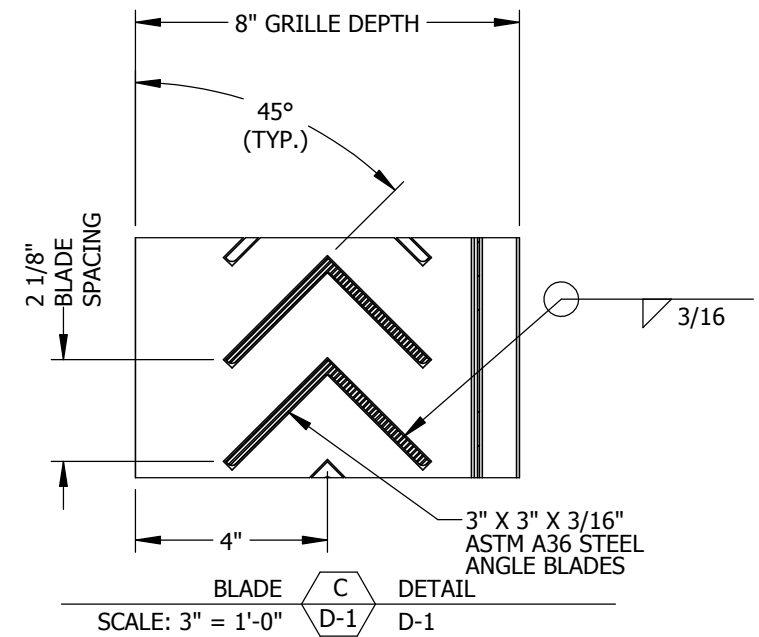
SECTION **A** VIEW
SCALE: 1 1/2" = 1'-0" **D-1** E-1

EXTERNAL JAMB MOUNT ARRANGEMENT SHOWN
INTERNAL MOUNT ARRANGEMENT HAS SCREEN
OPPOSITE SIDES



SECTION **B** VIEW
SCALE: 1 1/2" = 1'-0" **D-1** E-1

INTERNAL MOUNT ARRANGEMENT SHOWN
EXTERNAL MOUNT ARRANGEMENT HAS SCREEN
AND BOLTS OPPOSITE SIDES



FLANGED HEAD DETAIL SHOWN
FLANGED SILL AND FLANGED JAMB DETAILS SIMILAR

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1	APPROVED (ECN 013-0106)	9/27/2013	BSR

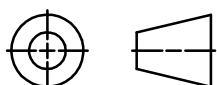
UNLESS OTHERWISE SPECIFIED
DIMENSION ARE IN INCHES.

TOLERANCE UNLESS NOTED:
 X.X ±0.030
 X.XX ±0.015
 X.XXX ±0.010
 ANGLE ±1°
 FRACTION ±1/16

MAX HOLE BREAKOUT:
15% OF MATERIAL THICKNESS

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THIRD ANGLE PROJECTION

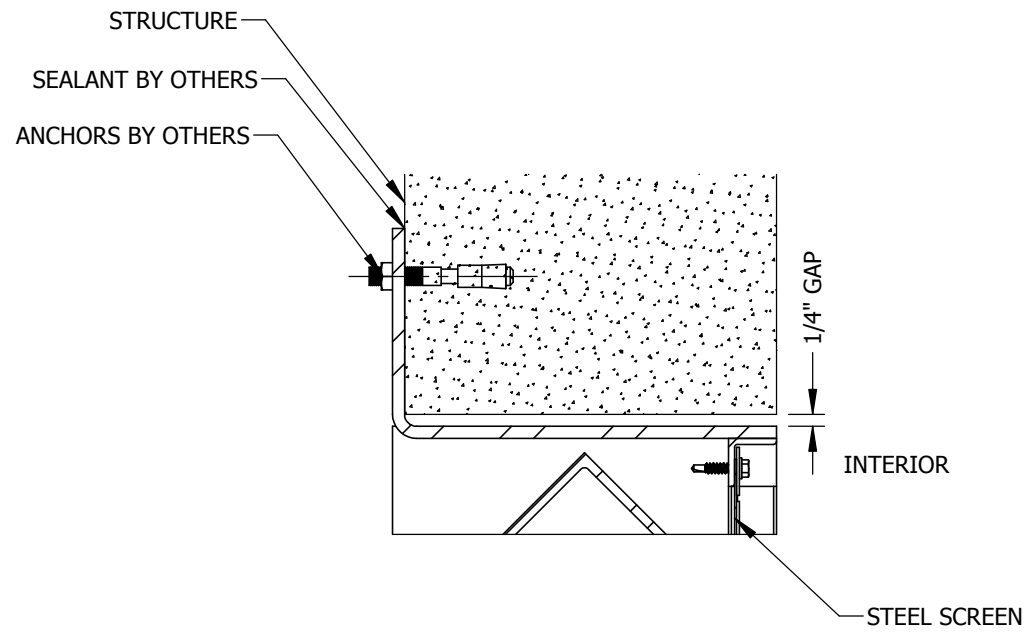


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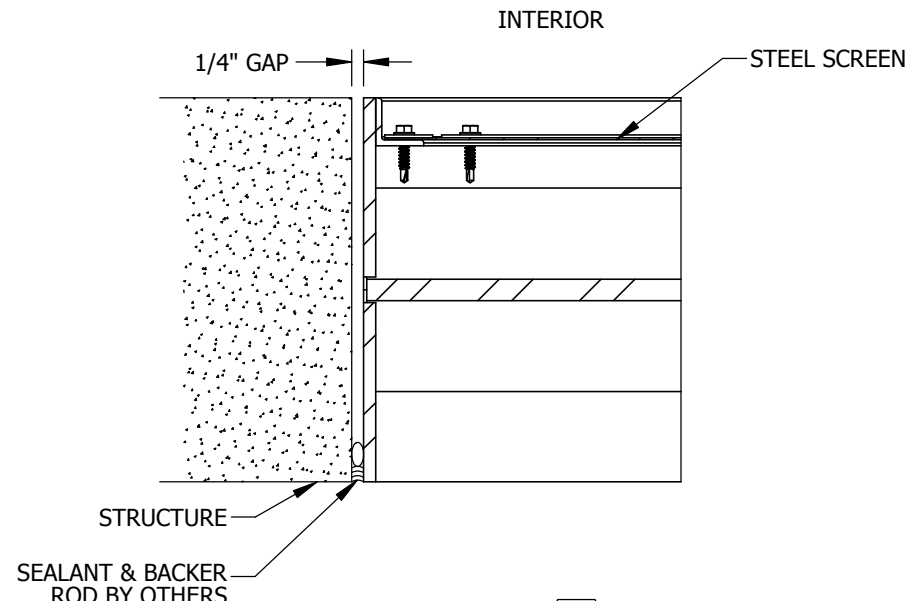
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DRAWING DESCR: SECTIONS AND DETAILS				
PROJECT: FEMA 361 GRILLE ASSEMBLY & INSTALLATION DETAILS				
LOCATION:				
CUSTOMER:				
PROJ. MGR.: BRIAN REDFORD		DRAWN BY: LGH		
DATE: 1/11/2013	CHK'D BY: BR	ORDER NUMBER	P.O. NUMBER	DRAWING NUMBER
SHEET: 3 of 6		SCALE: 1-1/2"=1'-0"		
				M-53472 D-1

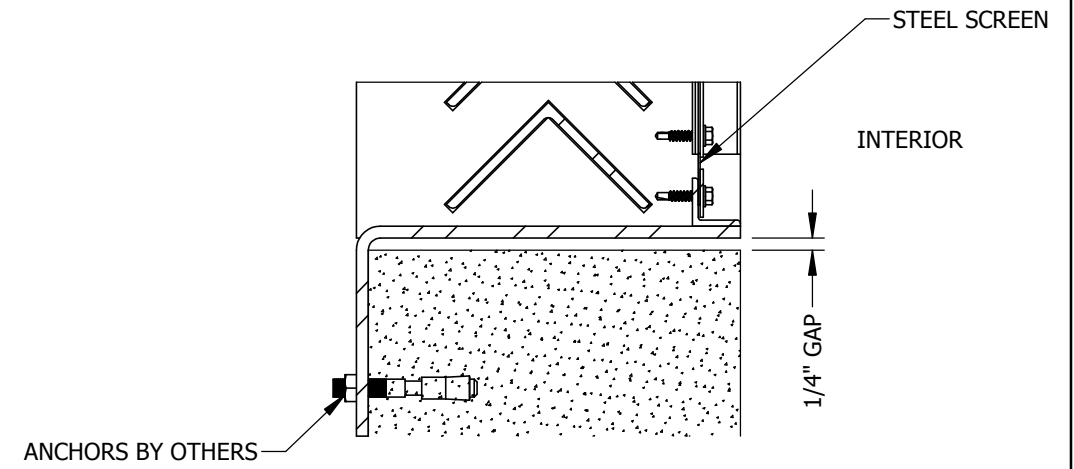
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INSTALLATION DETAIL **E** FLANGED HEAD
SCALE: 3" = 1'-0" **D-2** INTERIOR MOUNT

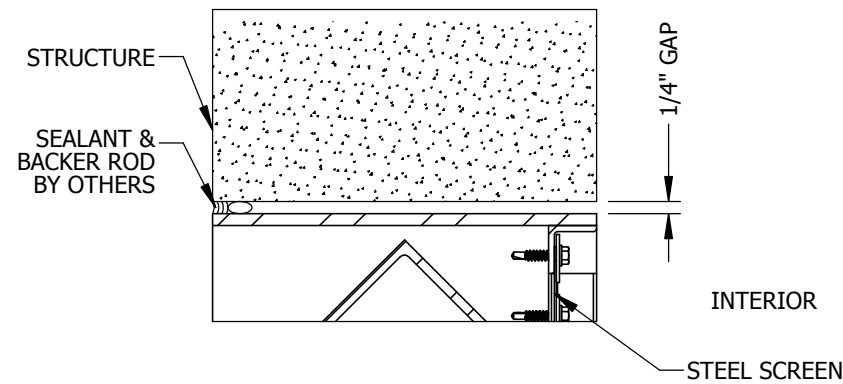


INSTALLATION DETAIL **F** JAMB
SCALE: 3" = 1'-0" **D-2** INTERNAL MOUNT

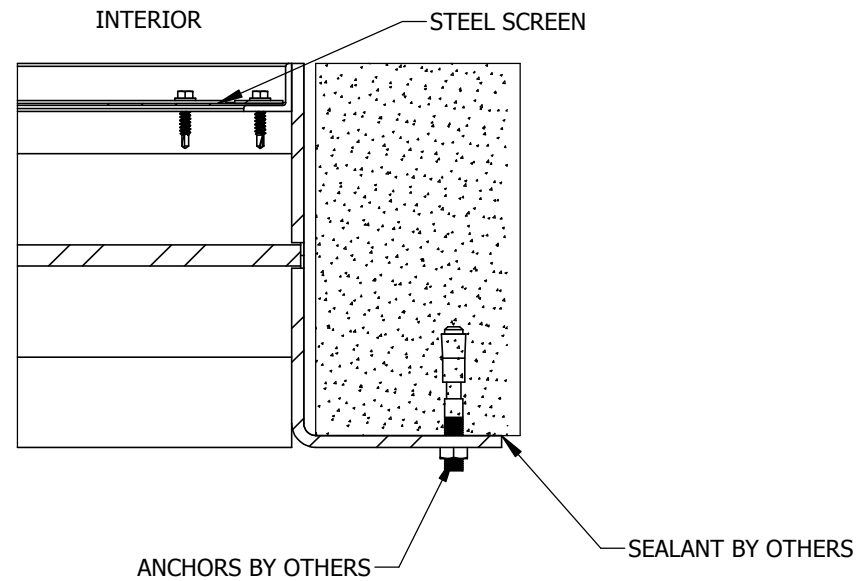


INSTALLATION DETAIL **G** FLANGED SILL
SCALE: 3" = 1'-0" **D-2** INTERIOR MOUNT

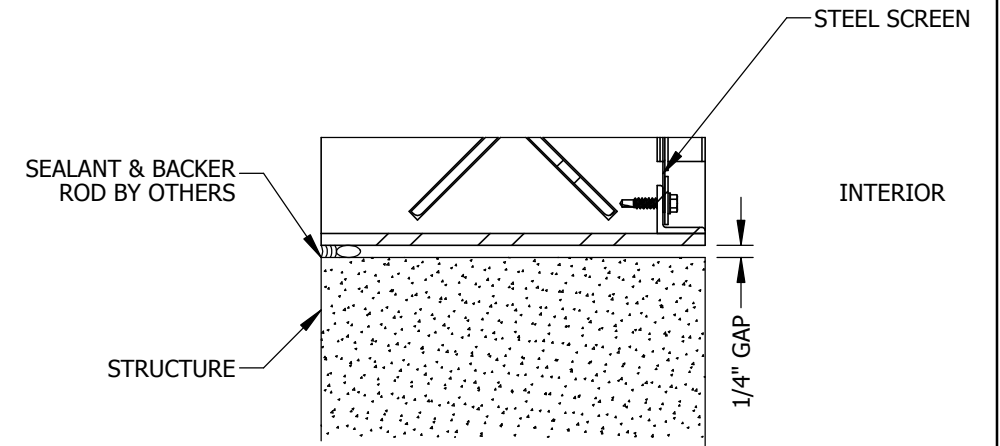
INTERIOR MOUNT, FLANGED HEAD AND SILL CONNECTIONS



INSTALLATION DETAIL **H** HEAD
SCALE: 3" = 1'-0" **D-2** INTERNAL MOUNT



INSTALLATION DETAIL **J** FLANGED JAMB
SCALE: 3" = 1'-0" **D-2** INTERNAL MOUNT



INSTALLATION DETAIL **K** SILL
SCALE: 3" = 1'-0" **D-2** INTERIOR MOUNT

INTERIOR MOUNT, FLANGED JAMB FLAT CONNECTIONS

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1	APPROVED (ECN 013-0106)	9/27/2013	BSR

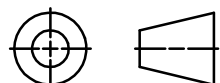
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 ANGLE ±1°
 FRACTION ±1/16

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THIRD ANGLE PROJECTION

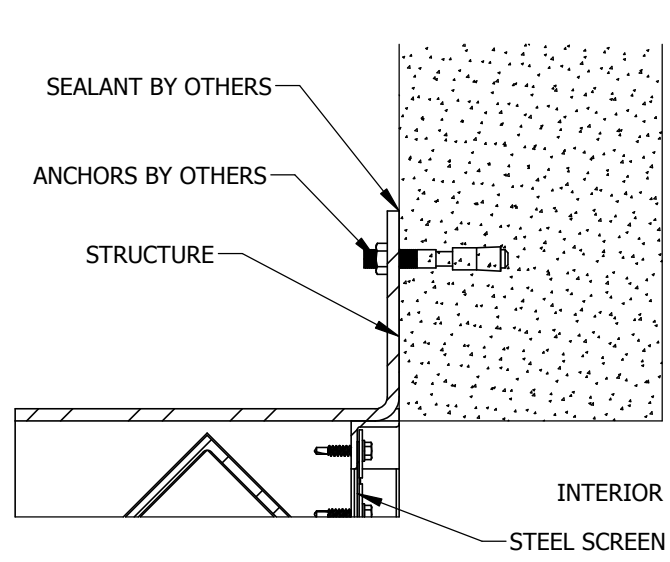


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ARCHITECTURAL PRODUCTS

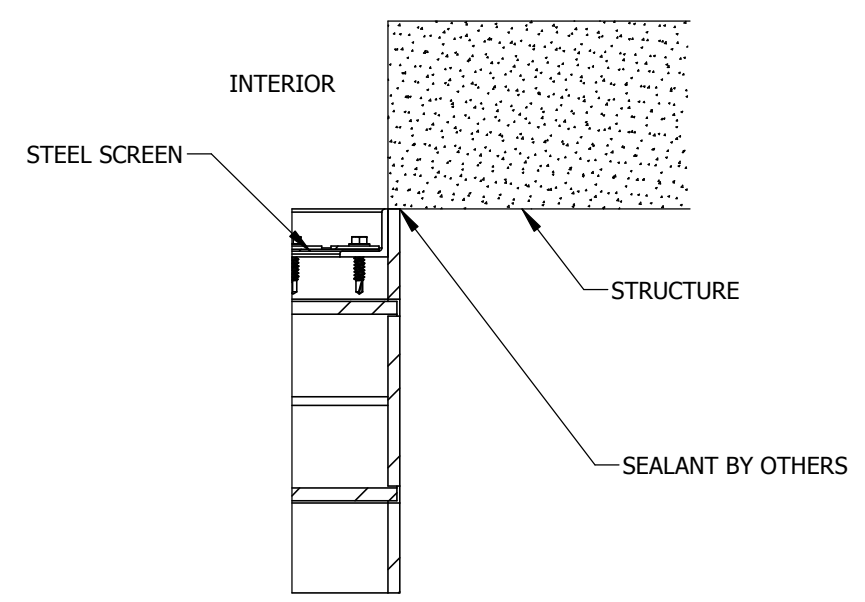
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DRAWING DESCR: INTERIOR MOUNT INSTALLATION DETAILS				
PROJECT: FEMA 361 GRILLE ASSEMBLY & INSTALLATION DETAILS				
LOCATION:				
CUSTOMER:				
PROJ. MGR.: BRIAN REDFORD		DRAWN BY: LGH		
DATE: 1/11/2013	CHK'D BY: BR	ORDER NUMBER	P.O. NUMBER	DRAWING NUMBER
SHEET: 4 of 6	SCALE: 3"=1'-0"			M-53472 D-2

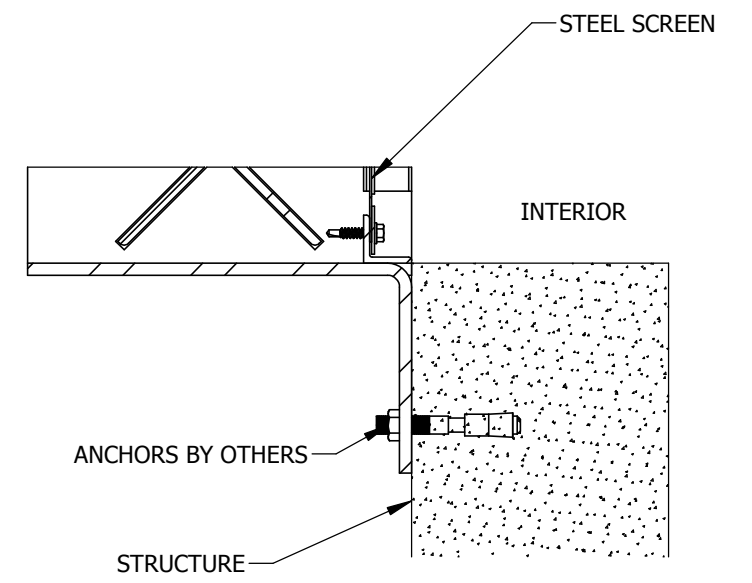
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INSTALLATION DETAIL **L** FLANGED HEAD
SCALE: 3" = 1'-0" **D-3** EXTERIOR MOUNT

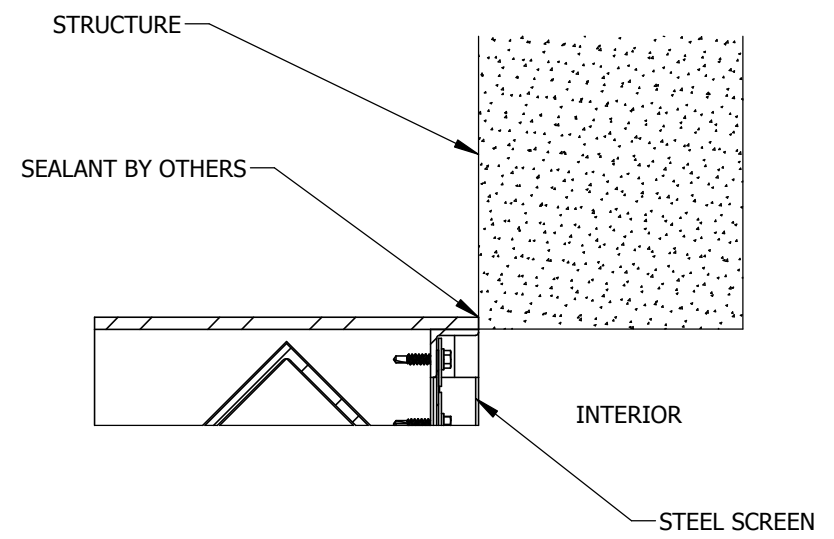


INSTALLATION DETAIL **M** JAMB
SCALE: 3" = 1'-0" **D-3** EXTERNAL MOUNT

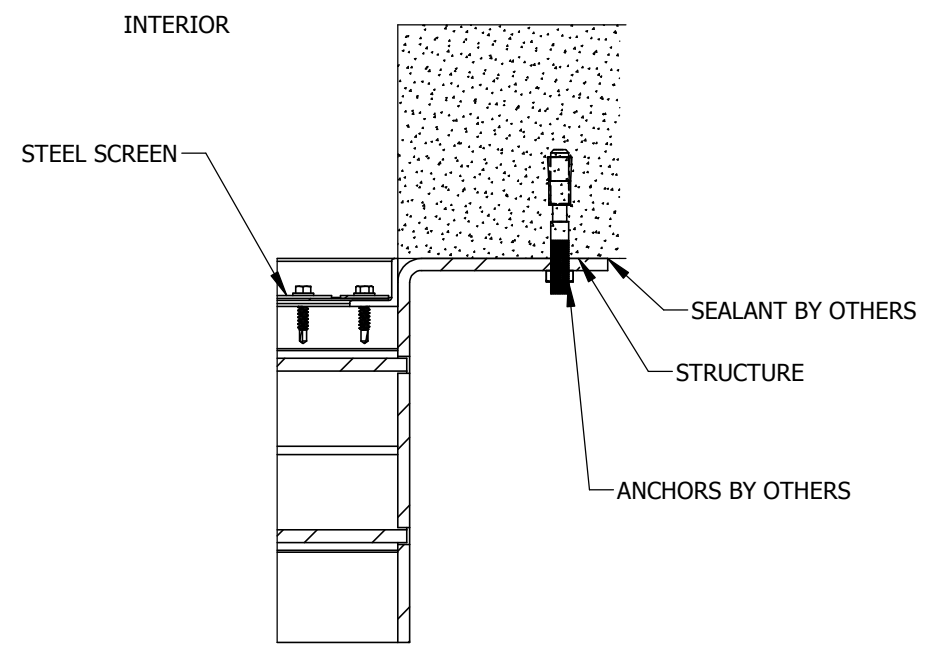


INSTALLATION DETAIL **N** FLANGED SILL
SCALE: 3" = 1'-0" **D-3** EXTERIOR MOUNT

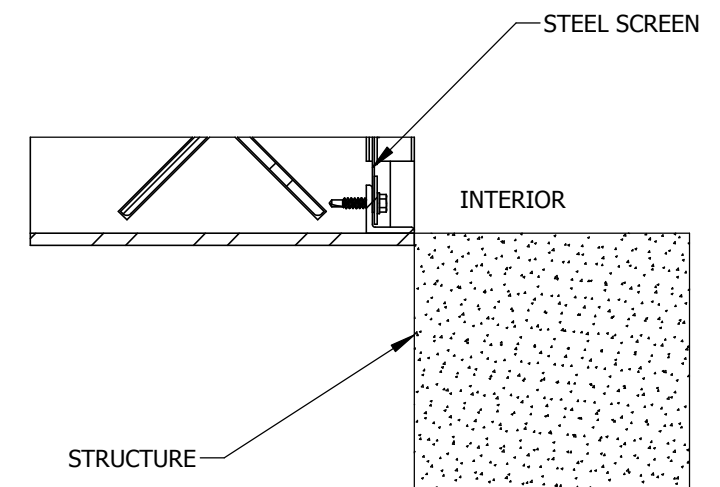
EXTERIOR MOUNT, FLANGED HEAD AND SILL CONNECTIONS



INSTALLATION DETAIL **P** HEAD
SCALE: 3" = 1'-0" **D-3** EXTERIOR MOUNT



INSTALLATION DETAIL **R** FLANGED JAMB
SCALE: 3" = 1'-0" **D-3** EXTERNAL MOUNT



INSTALLATION DETAIL **T** SILL
SCALE: 3" = 1'-0" **D-3** EXTERIOR MOUNT

EXTERIOR MOUNT, FLANGED JAMB CONNECTIONS

REV.	DESCRIPTION	DATE	DRAWN BY
1	APPROVED (ECN 013-0106)	9/27/2013	BSR

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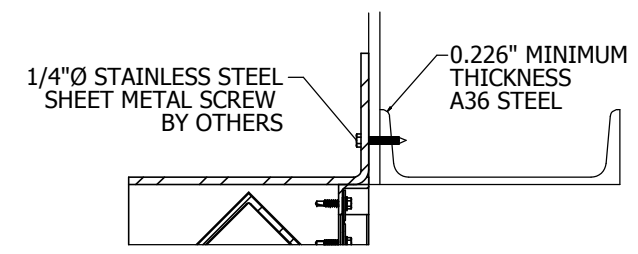
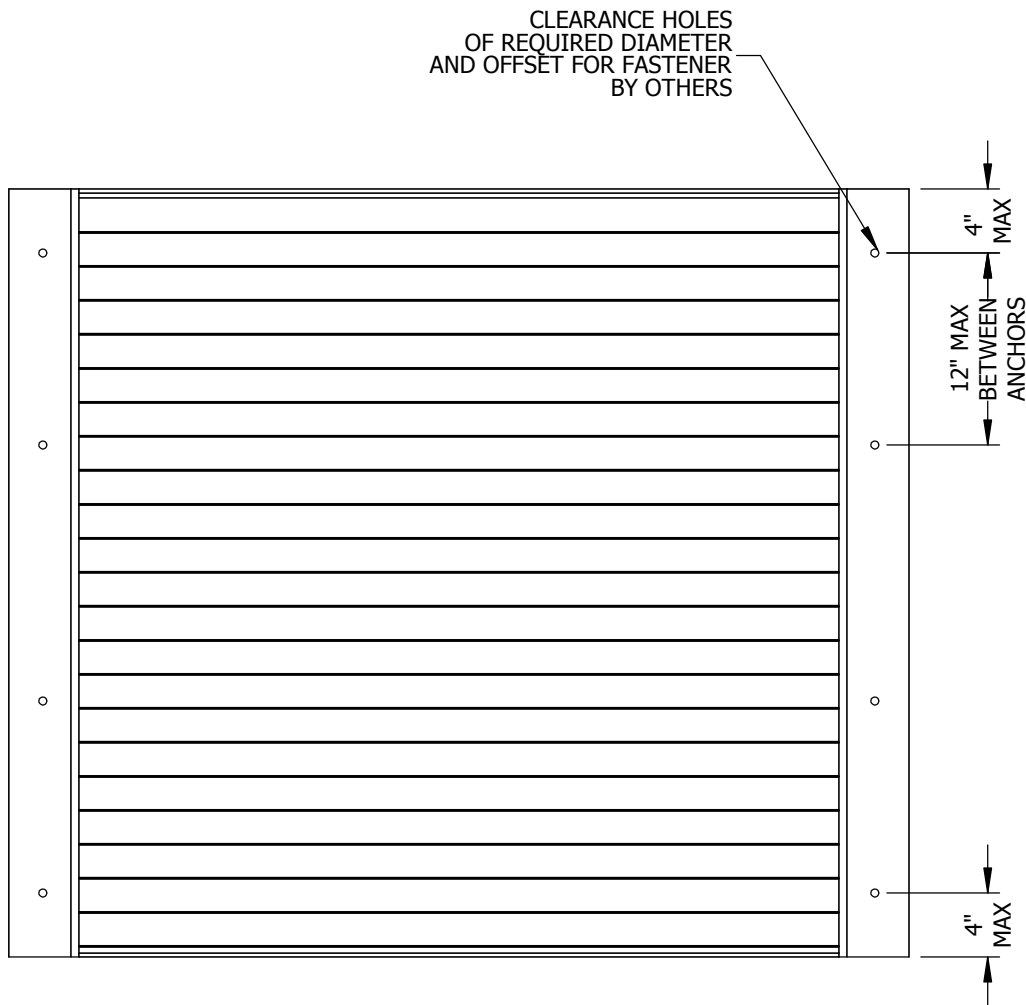
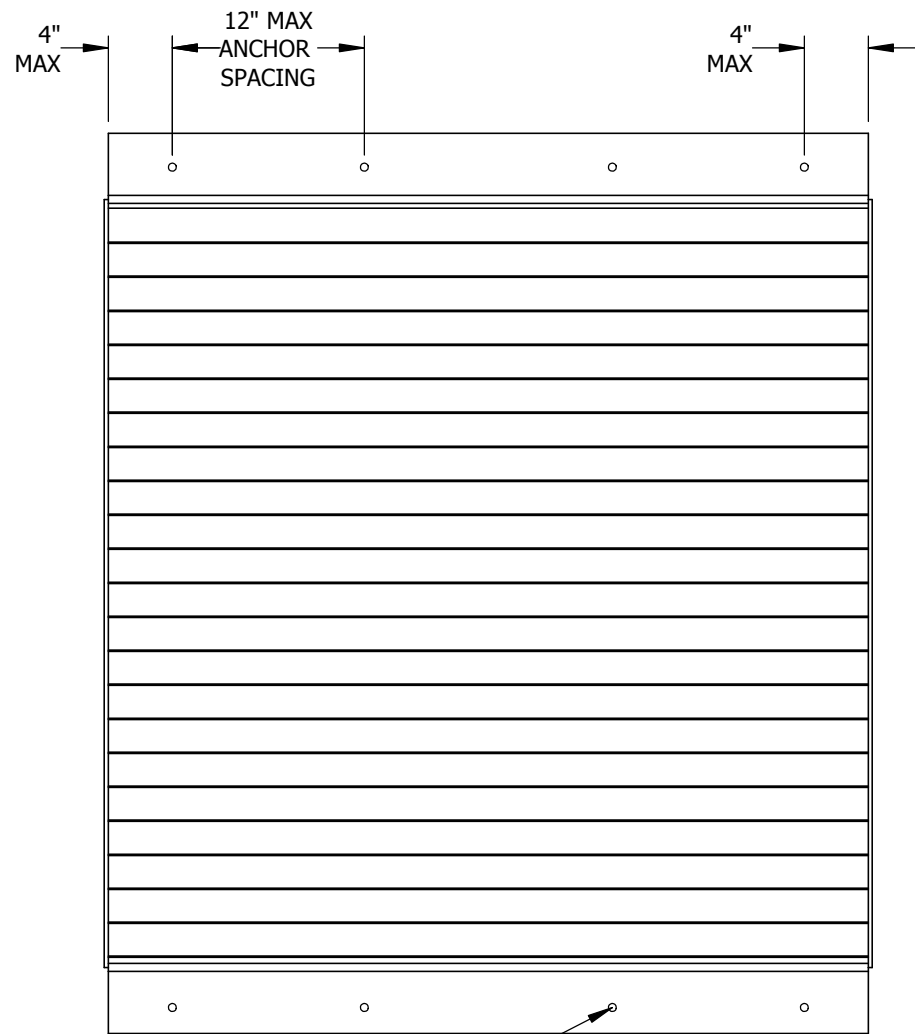
THIRD ANGLE PROJECTION

ALL-LITE
ARCHITECTURAL PRODUCTS

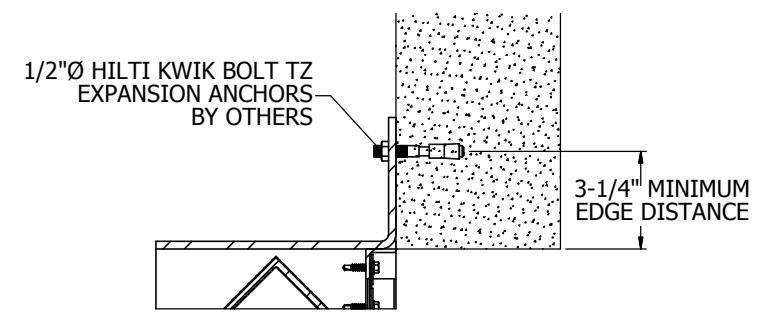
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DRAWING DESCR: EXTERNAL MOUNT INSTALLATION DETAILS				
PROJECT: FEMA 361 GRILLE ASSEMBLY & INSTALLATION DETAILS				
LOCATION:				
CUSTOMER:				
PROJ. MGR.: BRIAN REDFORD		DRAWN BY: LGH		
DATE: 1/11/2013	CHK'D BY: BR	ORDER NUMBER	P.O. NUMBER	DRAWING NUMBER
SHEET: 5 of 6	SCALE: 3"=1'-0"			M-53472 D-3

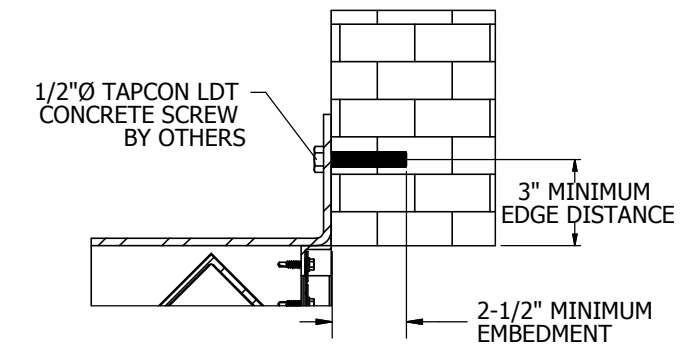
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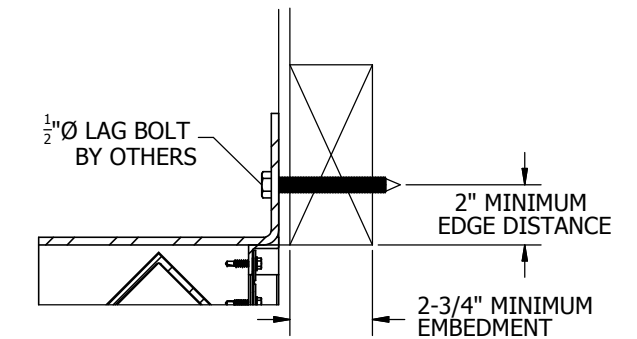
MOUNTING INTO STEEL CONDITION



MOUNTING IN 3000 PSI CONCRETE



MOUNTING IN GROUT-FILLED CMU



MOUNTING IN WOOD BLOCKING

CLEARANCE HOLES OF REQUIRED DIAMETER AND OFFSET FOR FASTENER BY OTHERS

BUILDING CONDITION	ANCHOR HARDWARE	MIN. PENETRATION DEPTH
STEEL	1/4" STAINLESS SHEET METAL SCREW	0.22"
GROUT FILLED CMU	1/2" LARGE DIAMETER TAPCON BY OTHERS	2-1/2"
3000 PSI CONCRETE	1/2" HILTI KWI BOLT TZ	2"
WOOD (≥.43 sg)	1/2" LAG BOLT	3"

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 THIRD ANGLE PROJECTION

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DRAWING DESCR: STEEL INSTALLATION DETAIL				
PROJECT: FEMA 361 GRILLE ASSEMBLY & INSTALLATION DETAILS				
LOCATION:				
CUSTOMER:				
PROJ. MGR.: BRIAN REDFORD		DRAWN BY: LGH		
DATE: 1/11/2013	CHK'D BY: BR	ORDER NUMBER	P.O. NUMBER	DRAWING NUMBER
SHEET: 6 of 6	SCALE: 1"=1'-0"			M-53472 D-4

REV.	DESCRIPTION	DATE	DRAWN BY
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