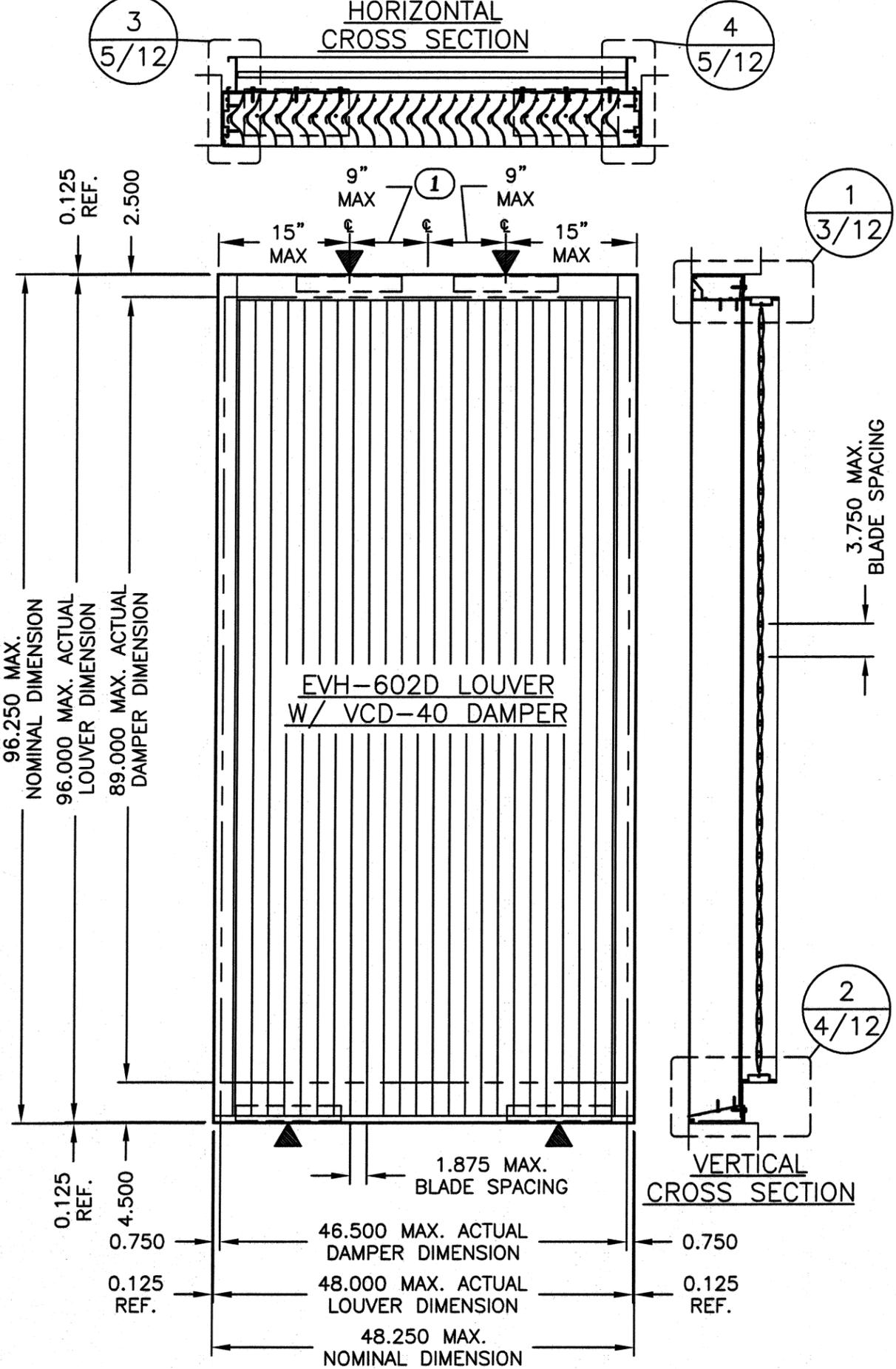
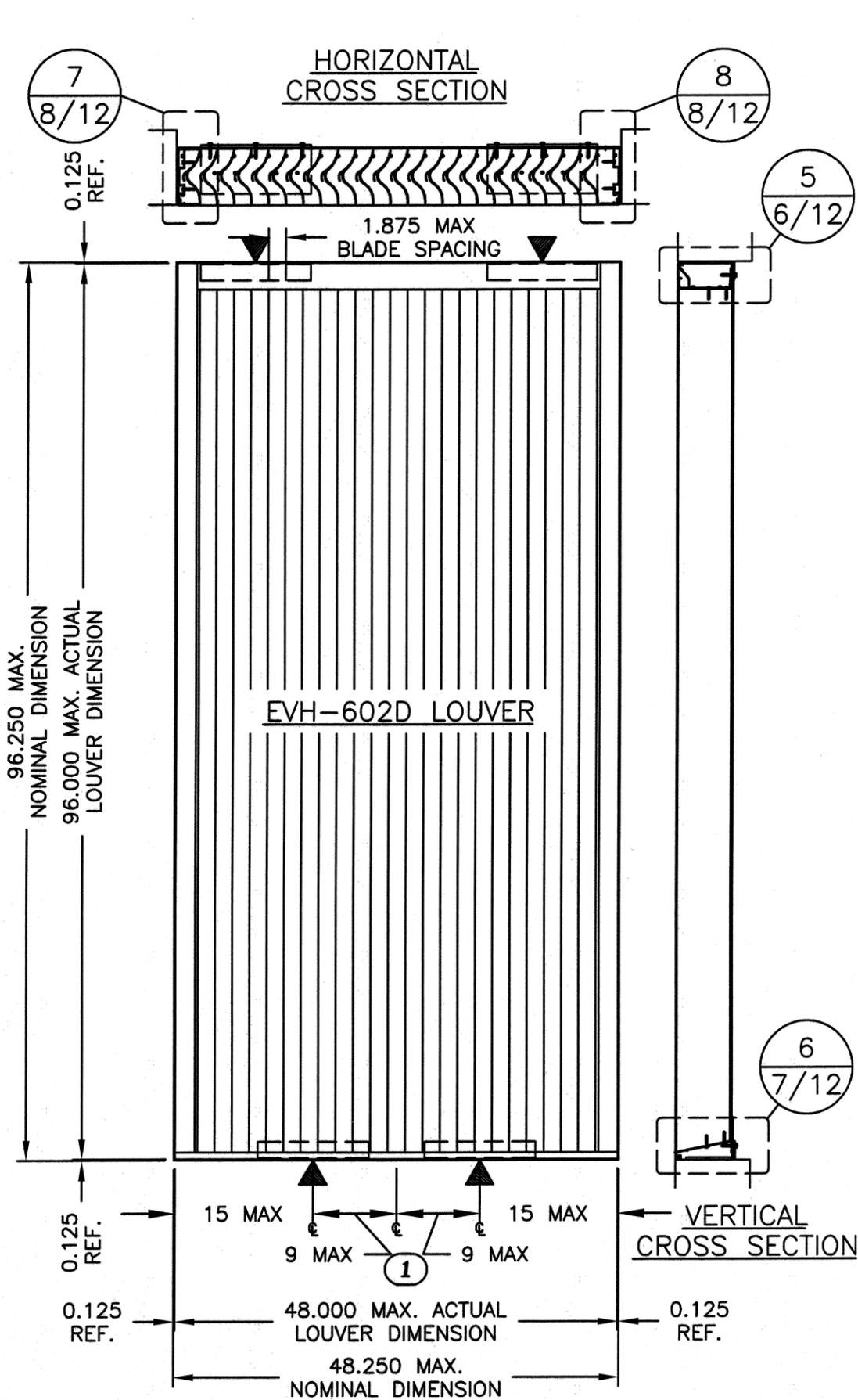


▲ = ANCHOR LOCATION (REFER TO CHART ON 9/12 FOR QUANTITY AND SIZE)



▲ = ANCHOR LOCATION (REFER TO CHART ON 9/12 FOR QUANTITY AND SIZE)



REVISION	BY	DATE	SYM
ADD ANCHOR SPACING	CWC	10/19/2006	1

DRAWN BY: BRINKMAN
 DATE: 6/16/2006
 SCALE: 1/16
 SHEET NO.: 1 OF 12
 CAD DRAWING NO.: MD-101

GREENHECK
 P.O. BOX 410 SCHOFIELD, WISCONSIN 54476-0410

TITLE: EVH-602D LOUVER W/ VCD-40 DAMPER AND EVH-602D LOUVER ELEVATIONS

STATE OF TEXAS
 L. DAVID RICE
 81248
 REGISTERED PROFESSIONAL ENGINEER
 MAY 09 2013

RICE ENGINEERING
 105 School Creek Trail
 Luxemburg, WI 54217
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Texas Firm No: F-2183
 L. David Rice
 Registration No: 81248

GENERAL NOTES:

- IT SHALL BE THE RESPONSIBILITY OF THE PERMIT HOLDER TO VERIFY THE STRUCTURAL INTEGRITY OF THE EXISTING STRUCTURE TO SUPPORT THE LOADS IMPOSED BY THE LOUVERS.
- THE EVH-602D AND EVH-602D/VCD-40 HAVE BEEN DESIGNED AND TESTED IN ACCORDANCE WITH THE FLORIDA BUILDING CODE (FBC) AND TEST PROTOCOLS TAS-201 (IMPACT), TAS-202 (UNIFORM STATIC PRESSURE), AND TAS-203 (CYCLIC FATIGUE). THE EVH-602D/VCD-40 HAS BEEN TESTED IN ACCORDANCE WITH TAS100(A)-95 (WIND DRIVEN RAIN).
- MAXIMUM SINGLE SECTION SIZE IS 48" WIDE X 96" HIGH.
- MAXIMUM ASSEMBLED LOUVER SIZE IS UNLIMITED WIDE X 96" HIGH.
- SECTIONS OR ASSEMBLIES MAY BE STACKED VERTICALLY PROVIDING A SUITABLE STRUCTURAL SUPPORT IS DESIGNED AND INSTALLED BY OTHERS TO SUPPORT ALL LOADS TRANSFERRED FROM THE LOUVER.
- ALL WOOD SUBSTRATE SHALL BE G = 0.55 DENSITY OR BETTER. (1)
- ALL METAL STUD SUBSTRATE SHOULD BE MIN. 16 GA. FY = 50 KSI.
- ALL STRUCTURAL STEEL SUBSTRATE SHALL BE MIN. 1/4" THICK FY = 36 KSI.
- ALL CONCRETE SUBSTRATE SHALL BE MIN. 3000 PSI.
- CONCRETE MASONRY SHALL BE ASTM C90, TYPE II, 2000 PSI GROUT-FILLED.
- LOUVER ASSEMBLY IS TO BE ANCHORED AT HEAD AND SILL ONLY. NO ANCHORAGE IS REQUIRED AT THE JAMBS.
- LOUVER ASSEMBLY IS QUALIFIED FOR A MAXIMUM DESIGN LOAD OF +/- 150 PSF.
- LOUVER ASSEMBLY IS QUALIFIED FOR LARGE AND SMALL MISSILE IMPACT RESISTANCE.
- LOUVER ASSEMBLY WITHOUT VCD-40 DAMPER SHALL ONLY BE INSTALLED IN A LOCATION WHERE THE ROOM BEHIND THE LOUVER IS DESIGNED TO DRAIN WATER PENETRATING INTO THE ROOM AND THE ROOM WILL HOUSE WATER RESISTANT/WATER PROOF EQUIPMENT, COMPONENTS, OR SUPPLIES.
- LOUVER ASSEMBLY WITH VCD-40 DAMPER MAY BE INSTALLED IN A LOCATION WHERE THE ROOM BEHIND THE LOUVER IS NOT DESIGNED TO DRAIN WATER PENETRATING INTO THE ROOM OR THE ROOM WILL HOUSE NON-WATER RESISTANT/ WATER PROOF EQUIPMENT, COMPONENTS, OR SUPPLIES. (1)(2)(3)
- INSTALLER TO PROVIDE SEPARATION OF DISSIMILAR MATERIALS AS REQUIRED.
- THE VCD-40 MAY BE OPERATED BY THE MANUAL QUADRANT SHOWN ON 12/12 OR BY AN ELECTRIC OR PNEUMATIC ACTUATOR. THE DAMPER'S ACTUATOR IS NOT PART OF THIS APPROVAL, BUT SHALL BE CERTIFIED BY AN INDEPENDENT TESTING AGENCY.
- FRAME CONSTRUCTION. HEADS AND SILLS ARE SQUARE CUT. JAMBS SQUARE CUT @HEAD AND MITERED @SILL. CORNERS ARE SECURED WITH (2) #10x1-1/4 SMS AND SILICONE SEALED. BLADES ARE SECURED TO HEAD AND SILL WITH (2) #10x1-1/4 SMS AND WELDED @EACH END. (1)(2)

ITEM #	DESCRIPTION	MATERIAL	NOTES
1	LOUVER HEAD	6063-T5 ALUMINUM	
2	LOUVER BLADE	6063-T5 ALUMINUM	1.88 MAX. SPACING
3	LOUVER SILL	6063-T5 ALUMINUM	
4	LOUVER JAMB	6063-T5 ALUMINUM	
5	LOUVER BLANK-OFF (AS REQ'D)	6063-T5 ALUMINUM	NOT REQUIRED W/ VCD-40 DAMPER
6A	ANCHOR (6.75 LONG)	6063-T5 ALUMINUM	REFER TO CHART ON 9/12
6B	ANCHOR (9.00 LONG)	6063-T5 ALUMINUM	REFER TO CHART ON 9/12
6C	ANCHOR (12.00 LONG)	6063-T5 ALUMINUM	REFER TO CHART ON 9/12
7	#10 X 1.25 TPH TYPE AB SMS	316 SS	7.75' MAX D.C. SPACING (DAMPER ATTACHMENT)
8	1/8 DIA. BLIND RIVET	ALUMINUM	3' FROM END & 14' D. C. MAX. SPACING
9	SILICONE SEALANT (3)	SILICONE SEALANT	
10	INSTALLATION FASTENER	1/4-20 X 1.50 SELF DRILLING (3)	GRADE 5 MIN EQUIVALENT
11	ANCHOR FASTENER (BY OTHERS)	1/4 DIA. WOOD SCREW	REFER TO CHART ON 9/12
12	ANCHOR FASTENER (BY OTHERS)	1/4-14 AISI 1022 SELF-DRILLING SCREW	REFER TO CHART ON 9/12
13	ANCHOR FASTENER (BY OTHERS)	1/4-20 HILTI DRIL-FLEX	REFER TO CHART ON 9/12
14	ANCHOR FASTENER (BY OTHERS)	3/8 DIA. POWERS SS POWER BOLT	REFER TO CHART ON 9/12
15	PERIMETER SEAL (BY OTHERS)		
16	DAMPER HEAD/SILL	6063-T5 ALUMINUM	
17	DAMPER JAMB	6063-T5 ALUMINUM	
18	DAMPER BLADE	6063-T5 ALUMINUM	3.75 MAX. SPACING
19A	NON-DRIVE DAMPER AXLE ASSY.	ZC STEEL PIN W/ DELRIN BUSHING	
19B	NON-DRIVE DAMPER AXLE ASSY.	ZC STEEL PIN W/ BRONZE BUSHING	
19C	NON-DRIVE DAMPER AXLE ASSY.	ZC STEEL PIN W/ SS BUSHING	
19D	NON-DRIVE DAMPER AXLE ASSY.	SS PIN W/ DELRIN BUSHING	
19E	NON-DRIVE DAMPER AXLE ASSY.	SS PIN W/ BRONZE BUSHING	
19F	NON-DRIVE DAMPER AXLE ASSY.	SS PIN W/ SS BUSHING	
20A	DRIVE-SIDE DAMPER AXLE ASSY.	ZC/GALV. STEEL	UNIQUE SHAPE AT DRIVER BLADE
20B	DRIVE-SIDE DAMPER AXLE ASSY.	SS	UNIQUE SHAPE AT DRIVER BLADE
21A	DAMPER AXLE BUSHING	DELIN	
21B	DAMPER AXLE BUSHING	BRONZE	
21C	DAMPER AXLE BUSHING	SS	
22A	DAMPER BLADE SEAL	EPDM	
22B	DAMPER BLADE SEAL	SILICONE	
23	DAMPER JAMB SEAL	SS	
24	DAMPER TOP/BOTTOM CLOSURE	ALUMINUM	HEIGHT VARIES
25A	DAMPER LINKAGE BAR	GALV. STEEL	
25B	DAMPER LINKAGE BAR	SS	
26	FORMED 'Z' CLIP	ALUMINUM	12.00 MAX. SPACING
27	#10 X .50 TEK	ZP	
28	SHIM AT LOUVER/DAMPER	ALUMINUM	
29	BLANK-OFF AT LOUVER/DAMPER	ALUMINUM	WIDTH VARIES
30	FOAM TAPE BACKER		USED AT HEAD
31	#8 X .75 TPH TYPE AB SMS	18-8 SS	
32A	1/4 DIA. E-CLIP	ZP	
32B	1/4 DIA. E-CLIP	SS	
33A	DAMPER BLADE DRIVE LEVER	GALV. STEEL	
33B	DAMPER BLADE DRIVE LEVER	SS	
34	REINFORCING STRAP	ALUMINUM	
35A	1/4-20 X 1.25 HH CS	ZP	
35B	1/4-20 X 1.5 HH CS	SS	
36A	1/4-20 SF NUT	ZP	
36B	1/4-20 SF NUT	SS	
37	DAMPER MANUAL QUAD ASSY.		
38	#14 X .75 TEK	ZP	
39	1/4-20 X .562 BALL SWIVEL	ZP	
40	5/16 DIA. LINKAGE ROD	ZP	
41	DEADLOAD SHIM (BY OTHERS)		
42	OPTIONAL FLANGE	6063-T5 ALUMINUM	

(3)
(1)
(3)

SYN	1	2
DATE	10/19/2006	11/07/2006
BY	CWC	CWC
REVISION	REVISE NOTES	REVISE NOTES
SYN	3	3
DATE	7/14/2011	
BY	MES	

DATE: 6/16/2006
DRAWN BY: BRINKMAN
SCALE: []
SHEET NO.: 2 OF 12
CAD DRAWING NO.: MD-101

GREENHECK
P.O. BOX 410 SCHOFIELD, WISCONSIN 54476-0410

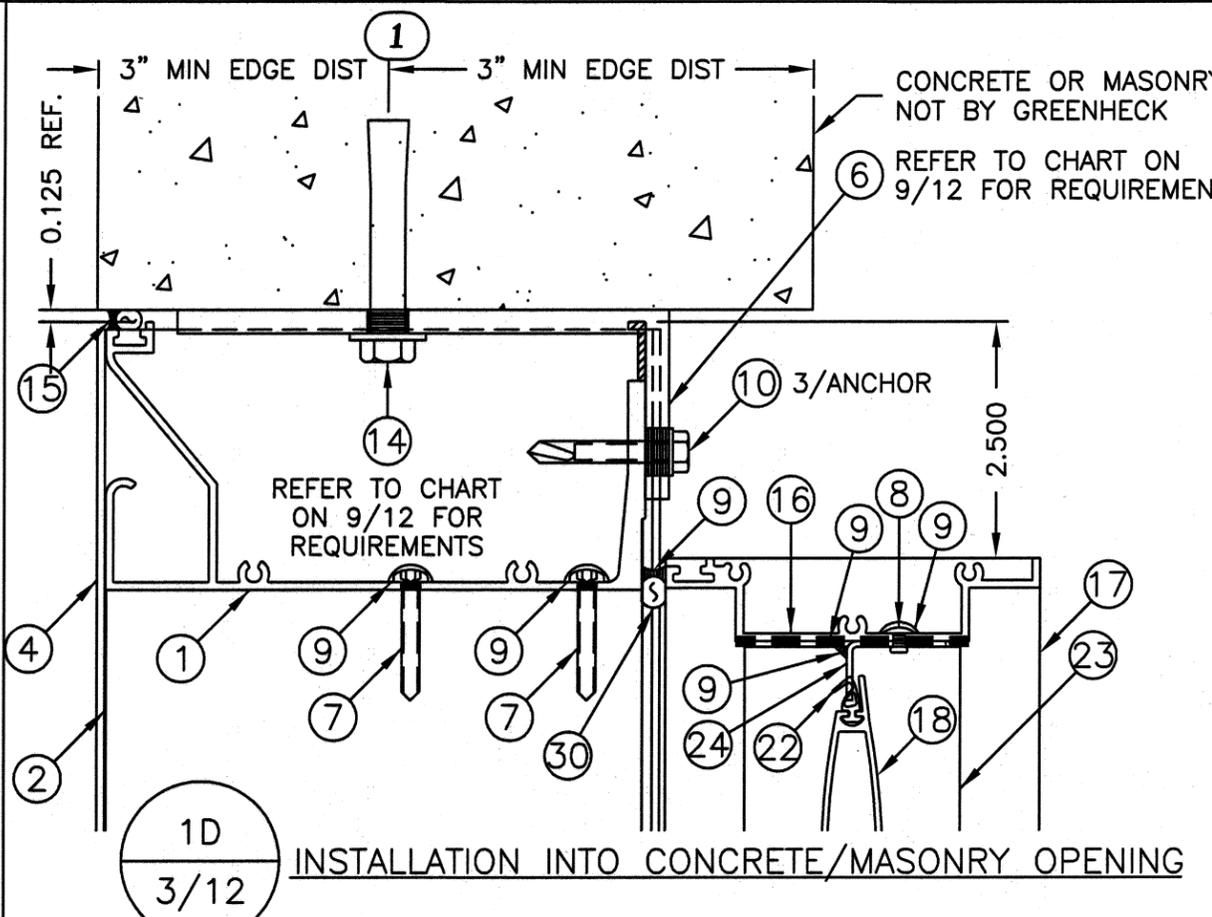
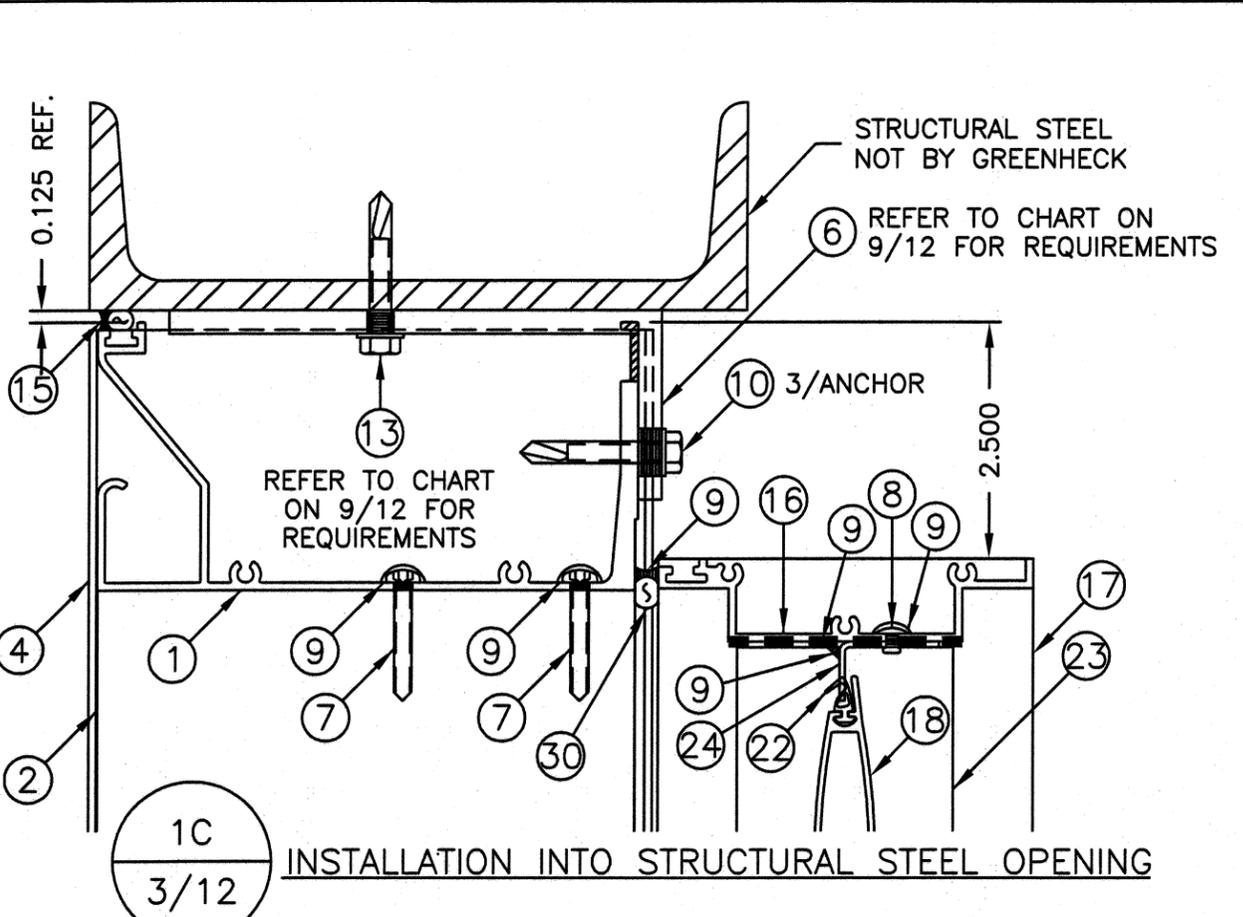
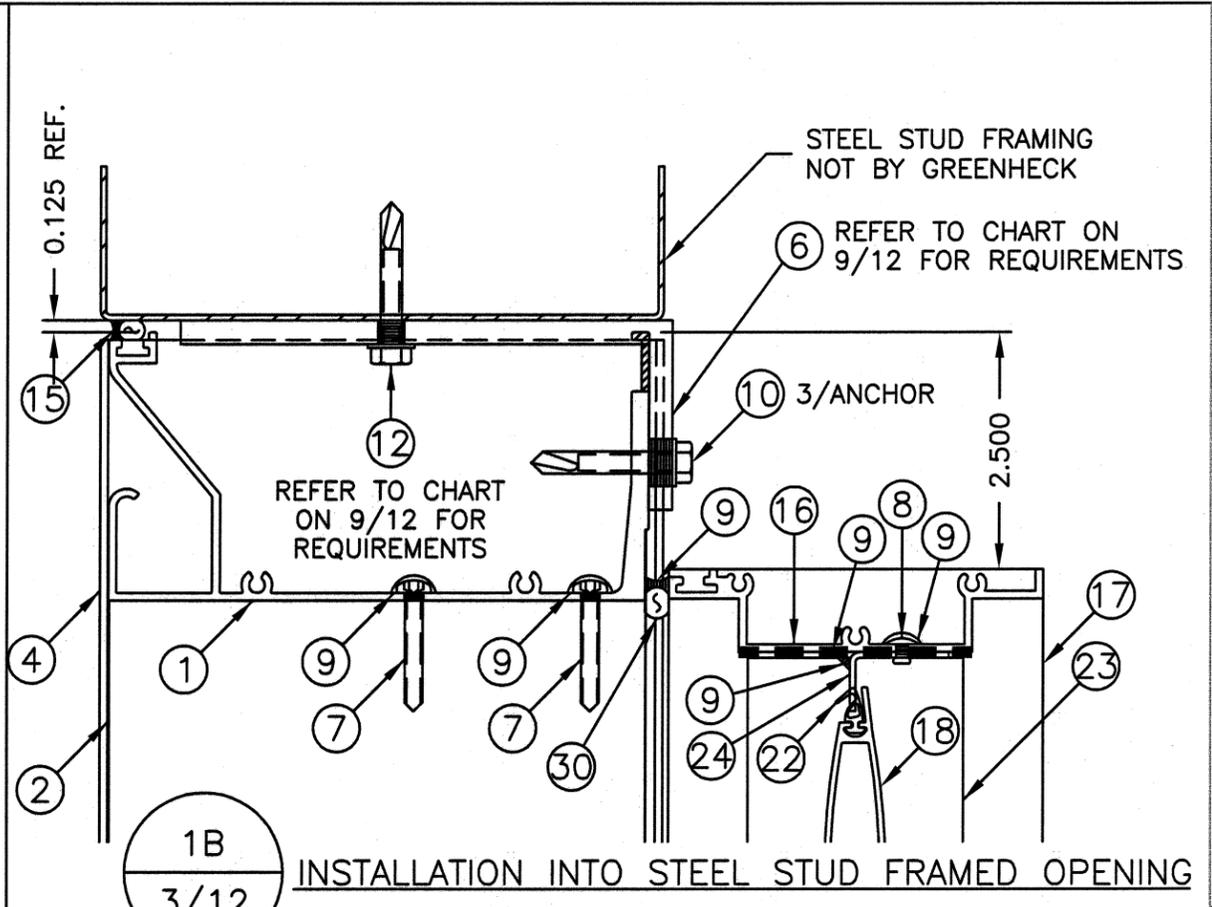
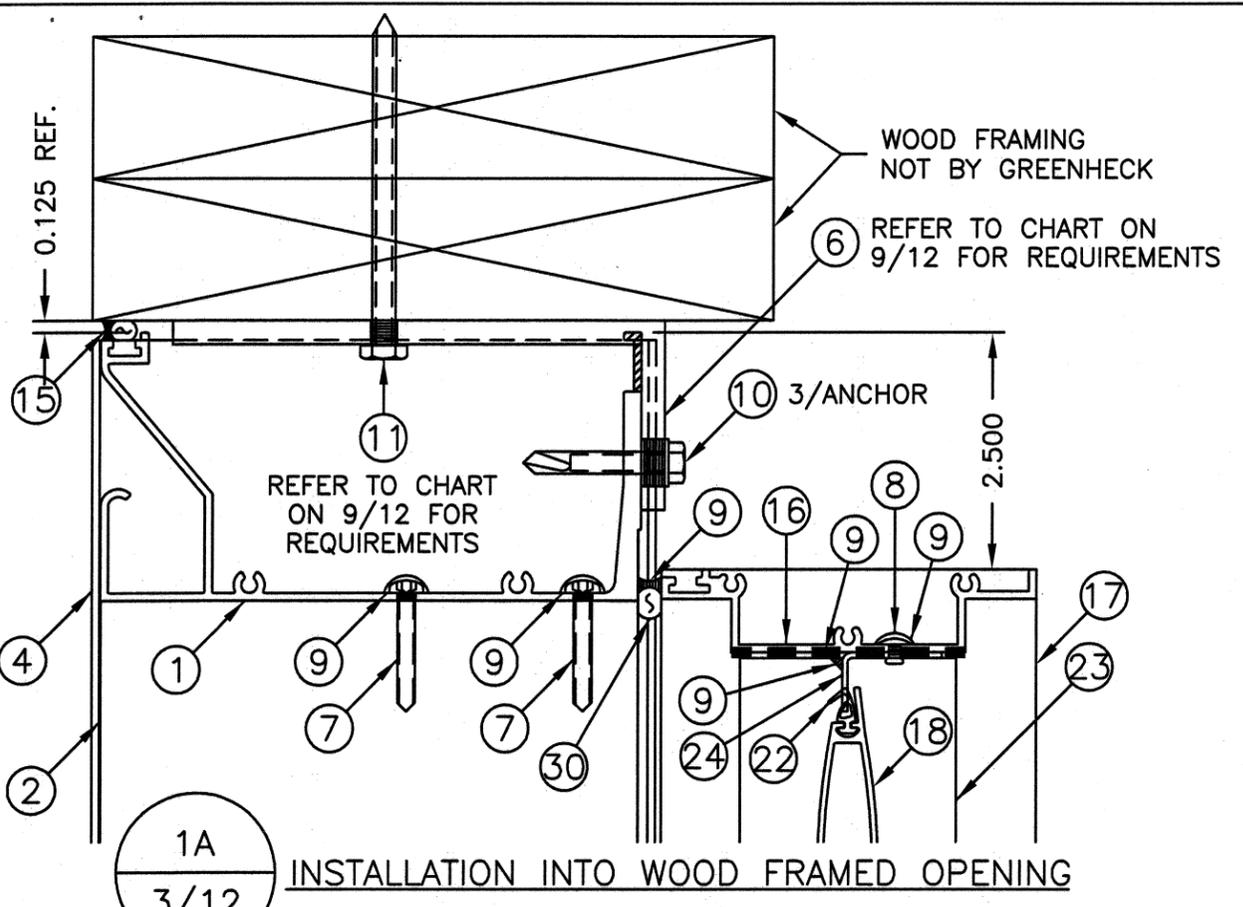
TITLE: EVH-602D LOUVER W/ VCD-40 DAMPER AND EVH-602D LOUVER NOTES/BILL OF MATERIAL



MAY 09 2013

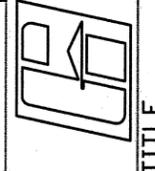
RICE ENGINEERING
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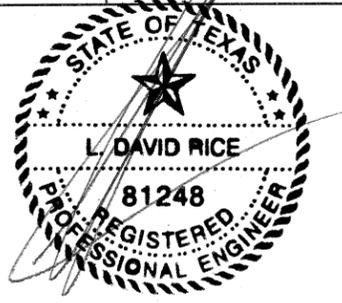


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DATE	10/19/2006
BY	CWC
REVISION	
ADD DIMENSION	
DRAWN BY	BRINKMAN
DATE	6/19/2006
SCALE	1/2
SHEET NO.	3 OF 12
CAD DRAWING NO.	MD-101

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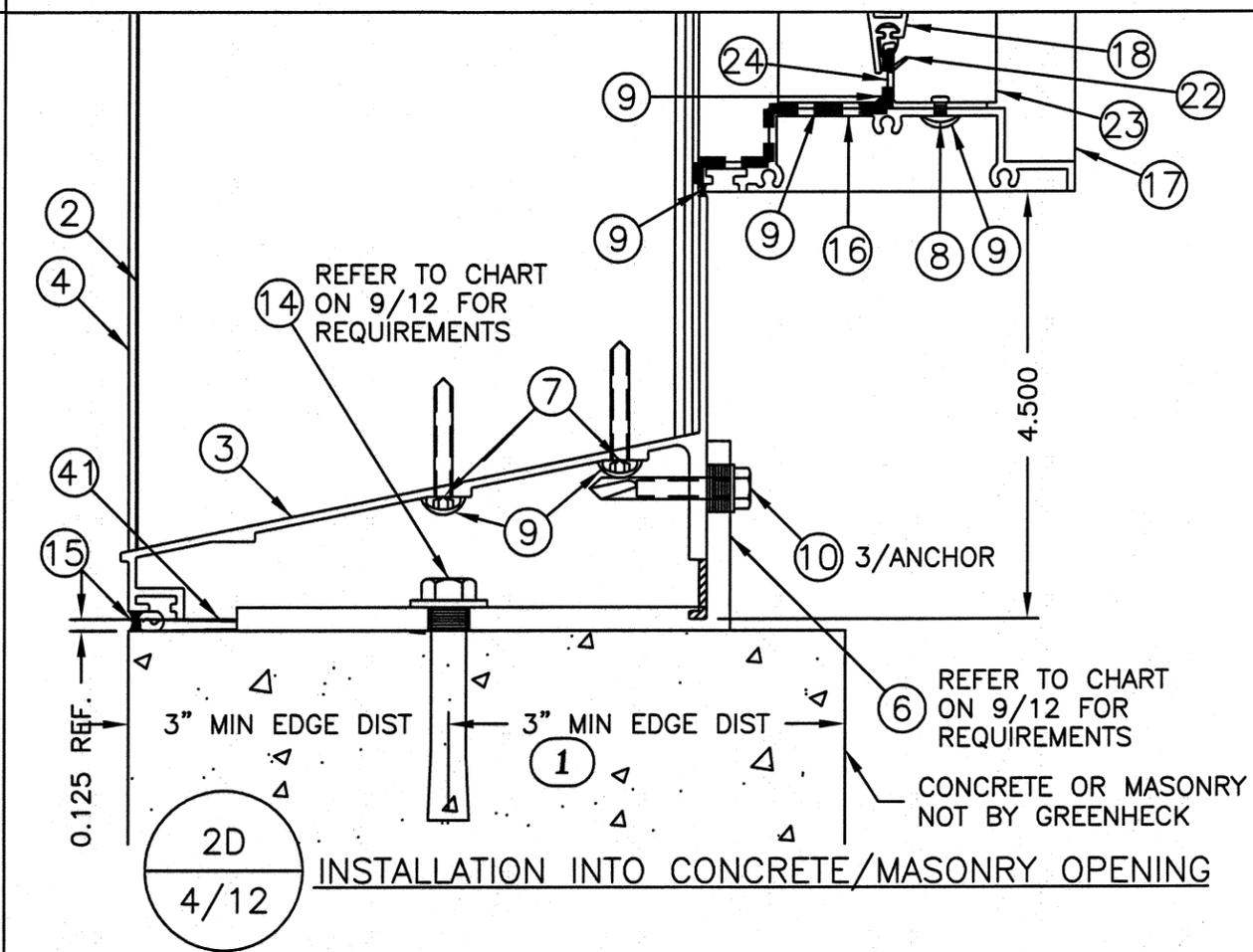
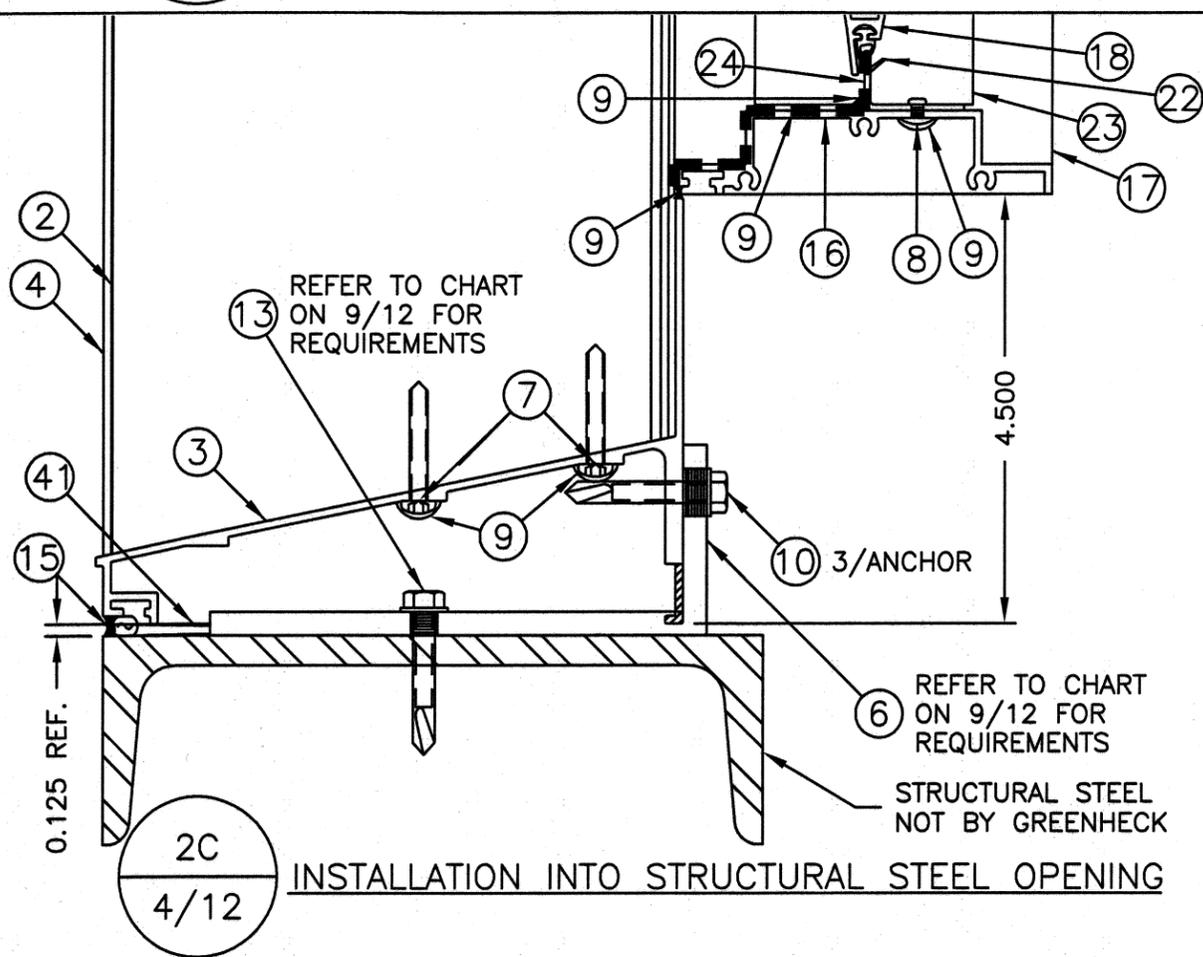
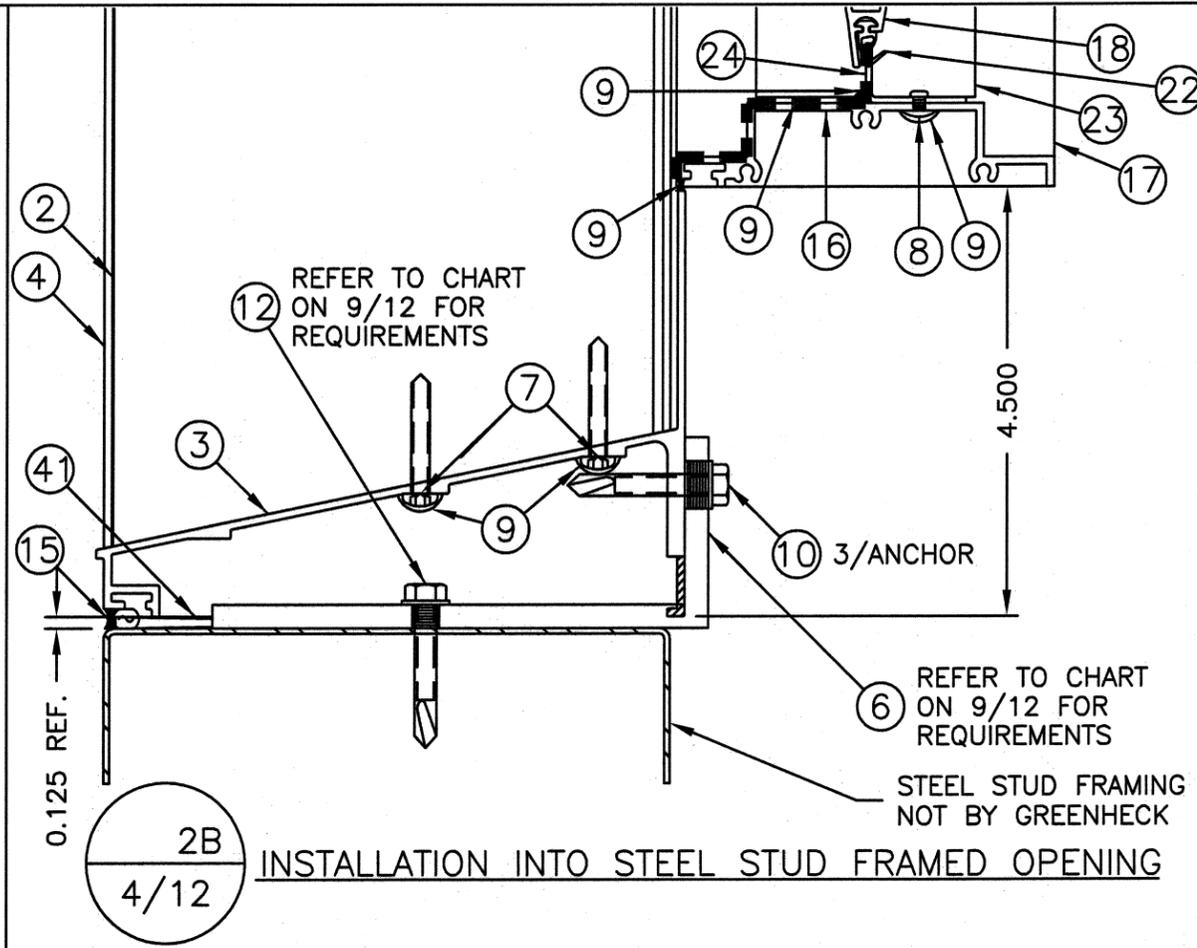
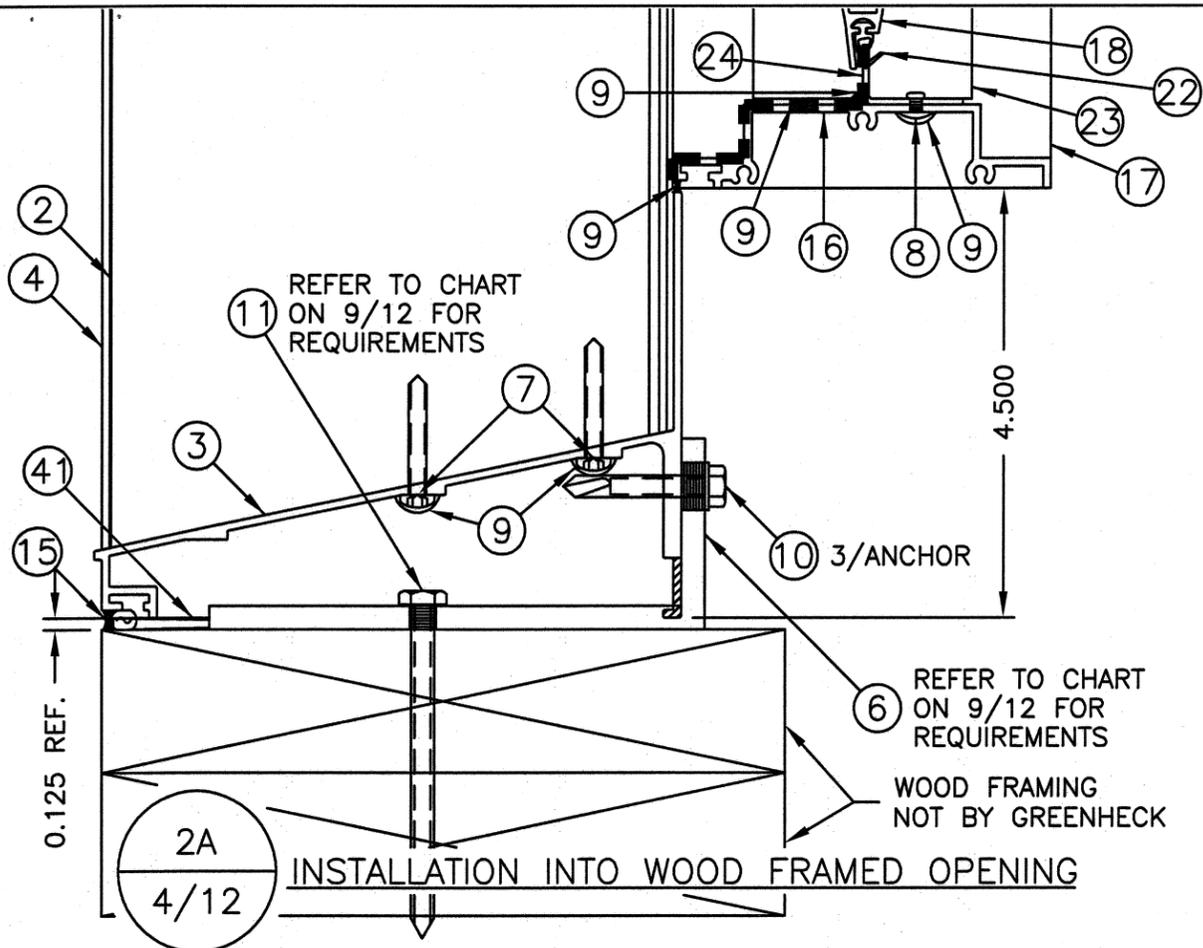
TITLE
 EVH-602D LOUVER W/
 VCD-40 DAMPER
 HEAD DETAILS



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REVISION	BY	DATE	SYM
	CWC	10/19/2006	1
ADD DIMENSION			
DRAWN BY	BRINKMAN	DATE	6/19/2006
	SCALE	1/2	SHEET NO.
GREENHECK		4 OF 12	
P.O. BOX 410 SCHOFIELD, WISCONSIN 54476-0410		CAD DRAWING NO.	
EVH-602D LOUVER W/ VCD-40 DAMPER		MD-101	
SILL DETAILS			

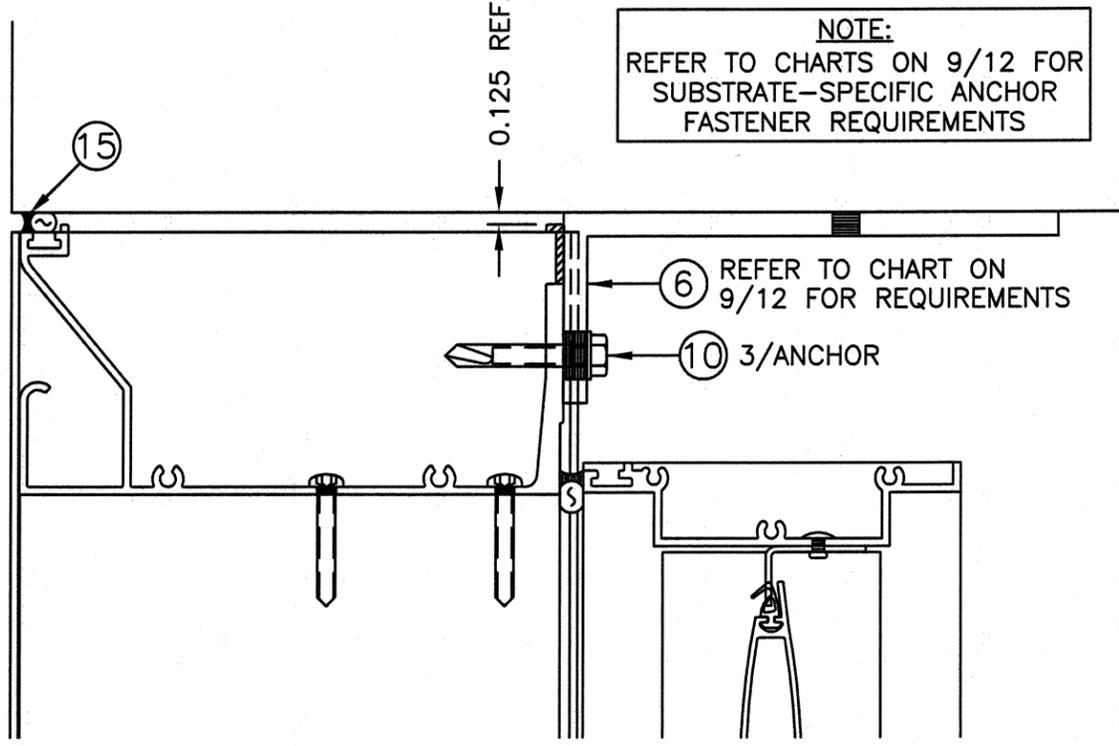
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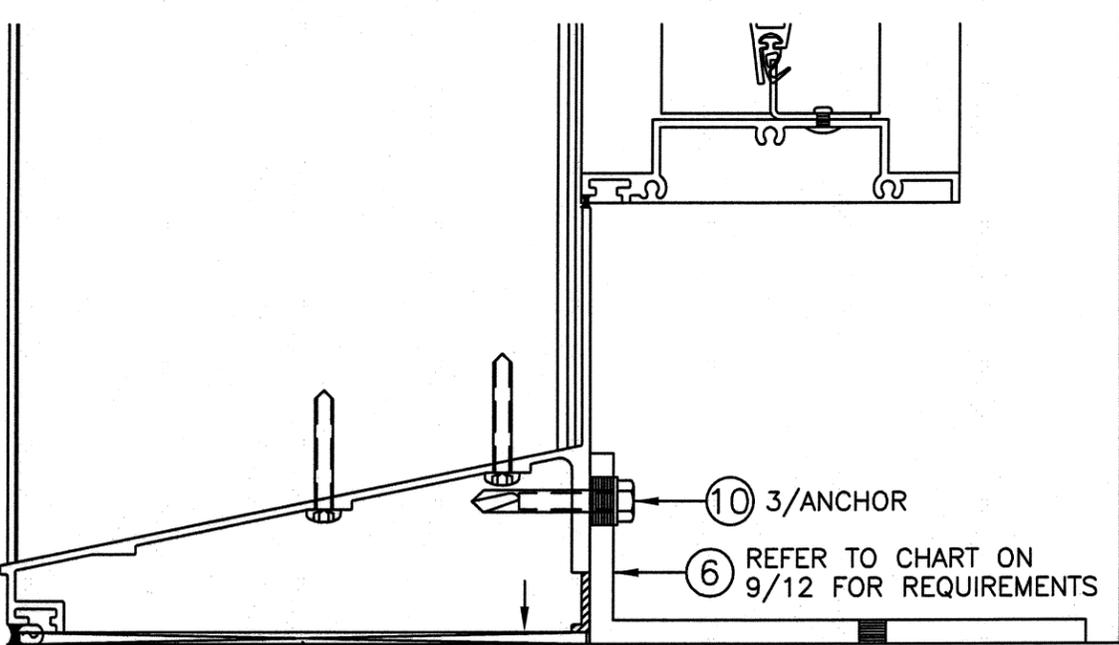
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DAMPER MOUNT OPTION		MES	07/14/2011	1

DATE	6/19/2006
DRAWN BY	BRINKMAN
SCALE	1/2
SHEET NO.	5 OF 12
CAD DRAWING NO.	MD-101

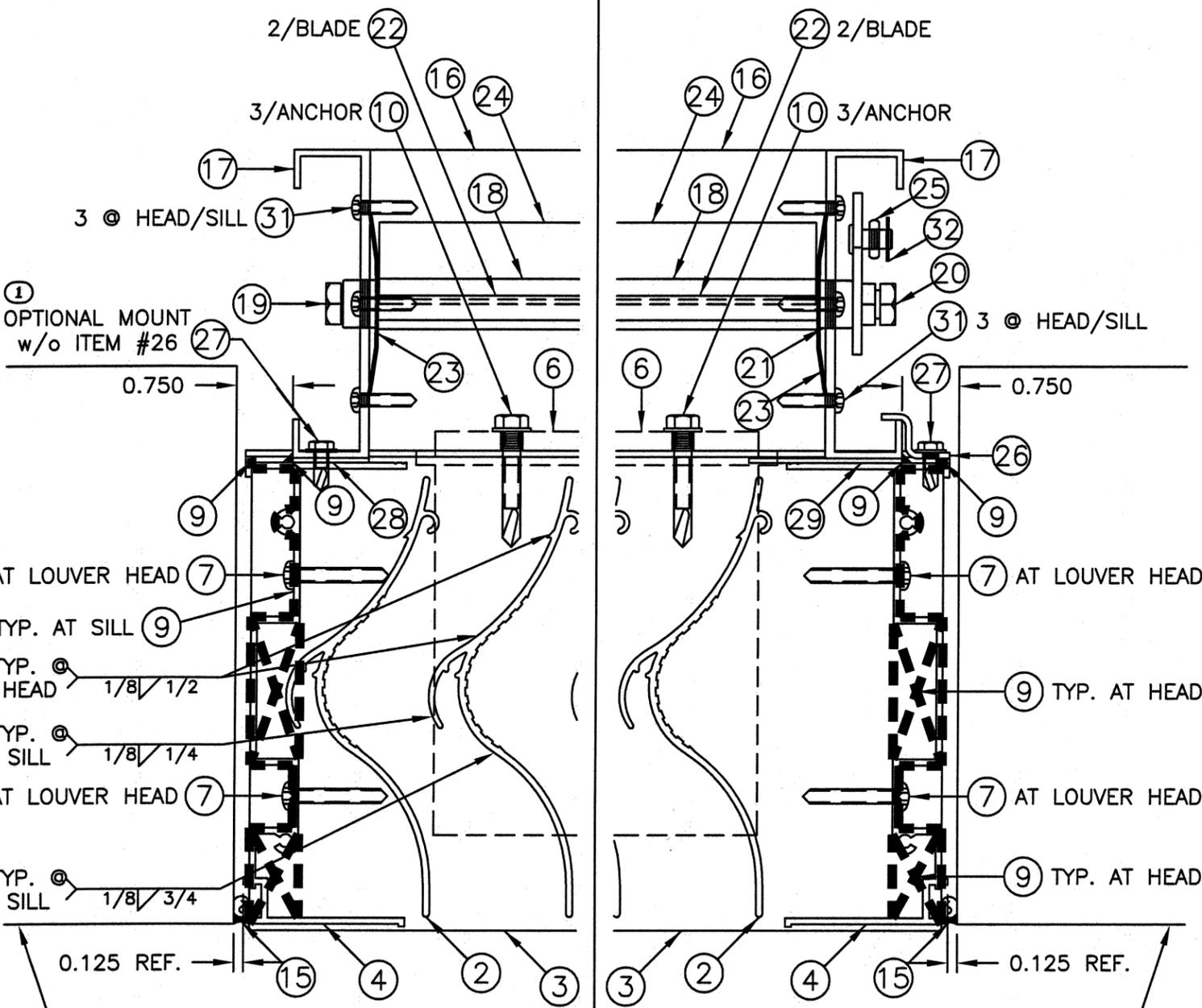
NOTE:
REFER TO CHARTS ON 9/12 FOR SUBSTRATE-SPECIFIC ANCHOR FASTENER REQUIREMENTS



ALTERNATE HEAD ANCHOR CONFIGURATION



ALTERNATE SILL ANCHOR CONFIGURATION



3
5/12 JAMB DETAIL

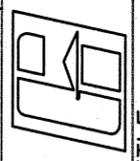
4
5/12 JAMB DETAIL

1
OPTIONAL MOUNT
w/o ITEM #26

AT LOUVER HEAD 7
TYP. AT SILL 9
TYP. HEAD 1/8 / 1/2
TYP. SILL 1/8 / 1/4
AT LOUVER HEAD 7
TYP. SILL 1/8 / 3/4

BUILDING CONDITION
NOT BY GREENHECK

GREENHECK
P.O. BOX 410 SCHOFIELD,
WISCONSIN 54476-0410



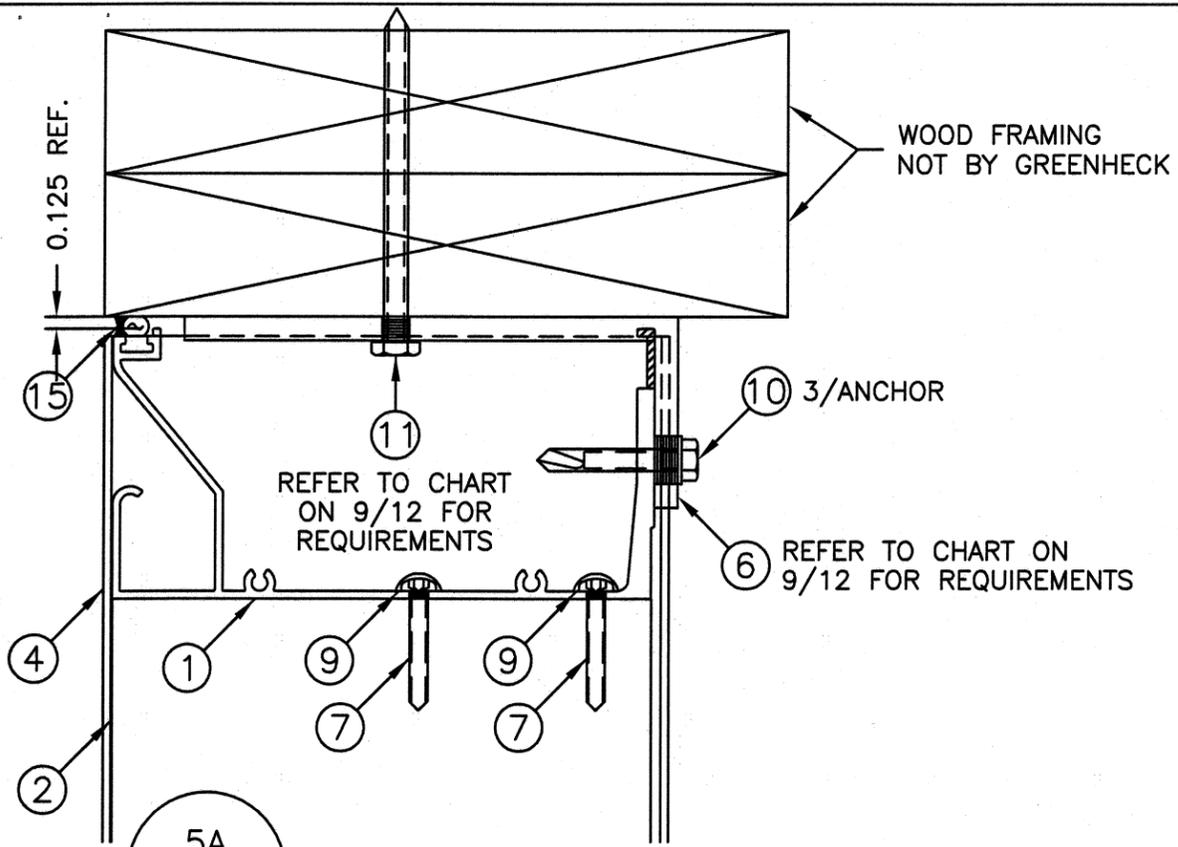
TITLE
EVH-602D LOUVER W/
VCD-40 DAMPER
JAMB AND ALTERNATE
ANCHORAGE DETAILS



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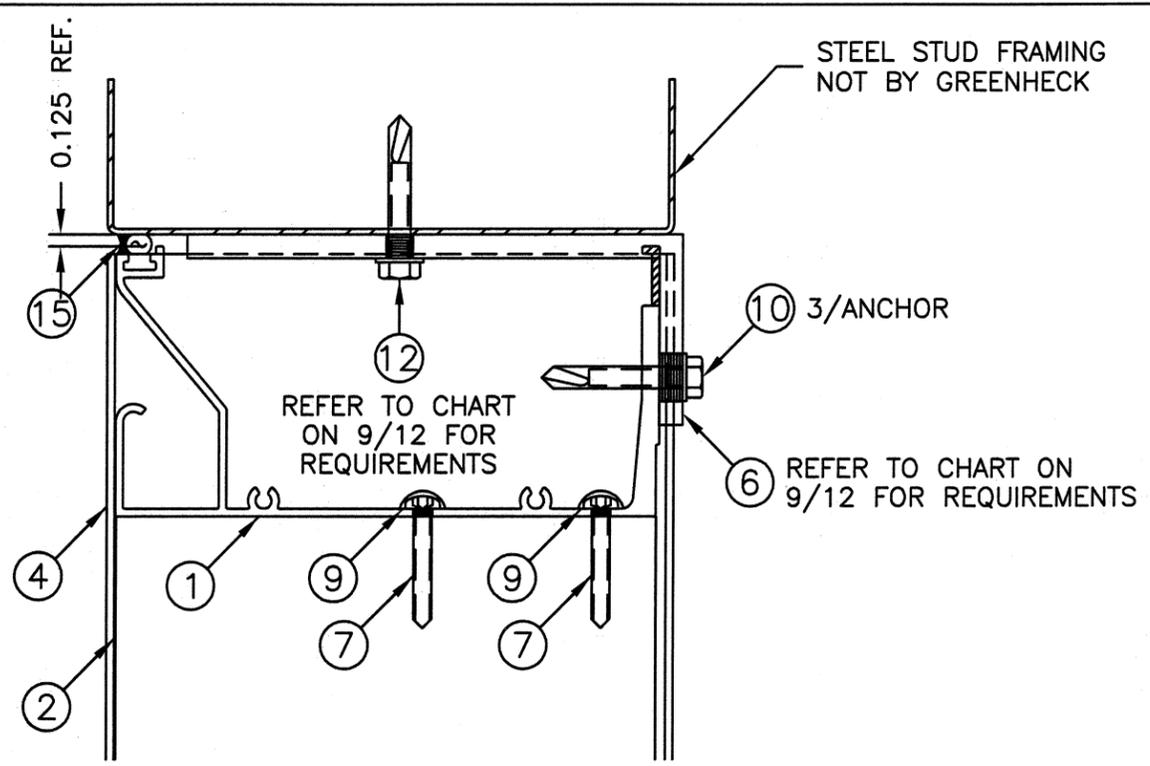
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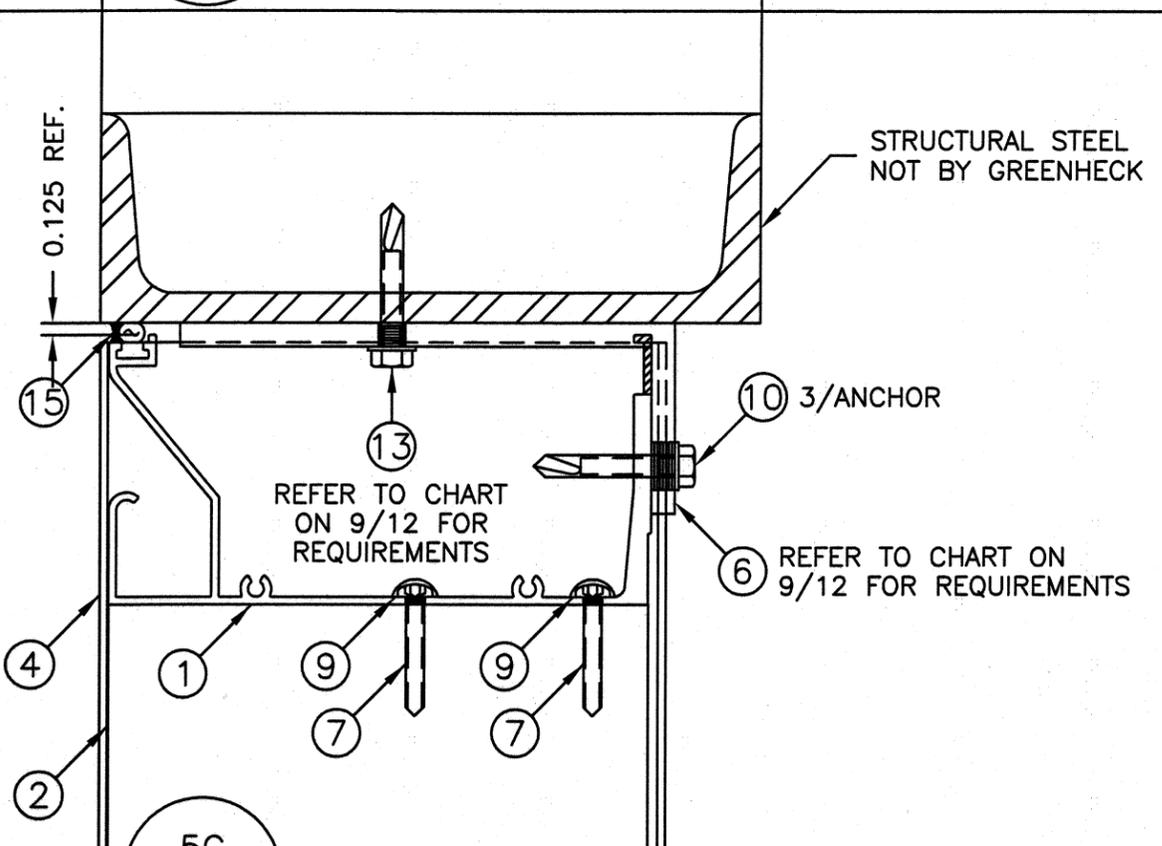
5A
6/12

INSTALLATION INTO WOOD FRAMED OPENING



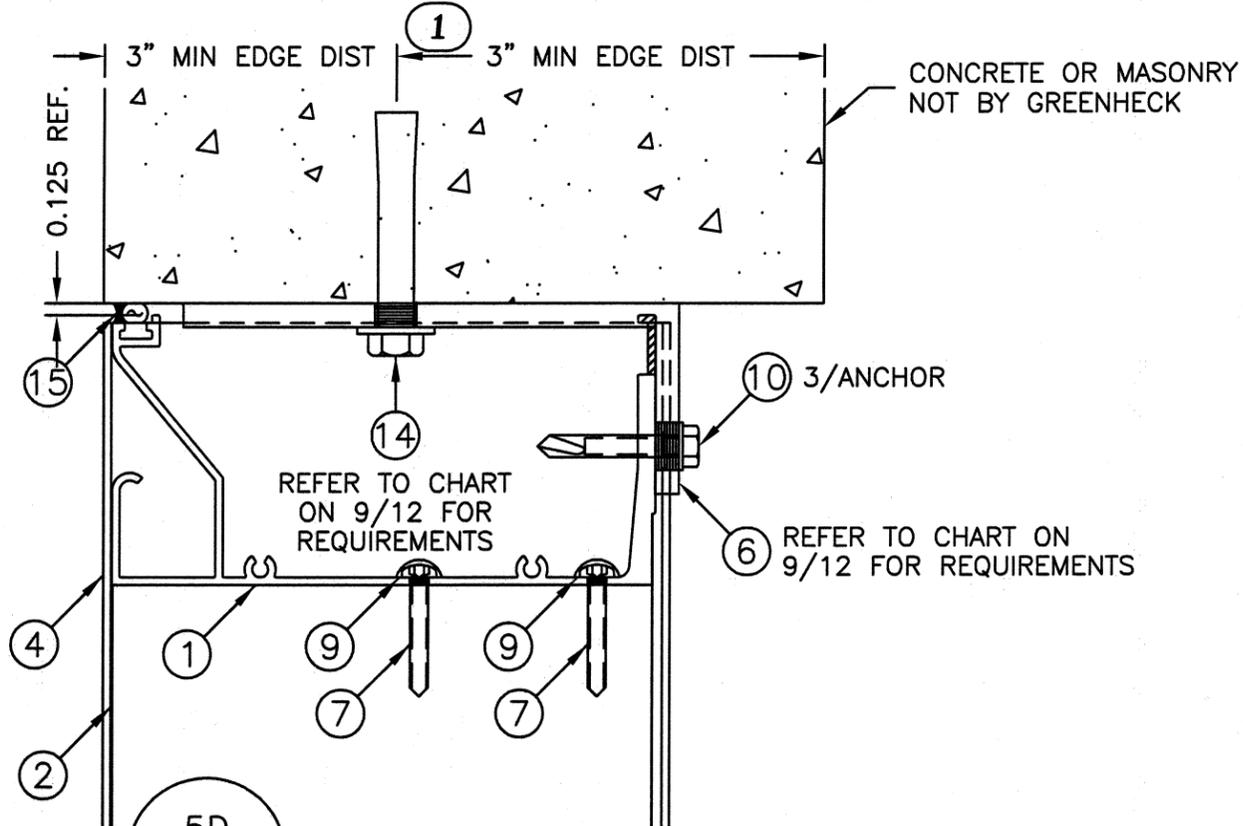
5B
6/12

INSTALLATION INTO STEEL STUD FRAMED OPENING



5C
6/12

INSTALLATION INTO STRUCTURAL STEEL OPENING

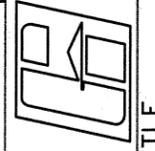


5D
6/12

INSTALLATION INTO CONCRETE/MASONRY OPENING

REVISION	BY	DATE	SYM
	CWC	10/19/2006	1
ADD DIMENSION			
DRAWN BY		DATE	
BRINKMAN		6/19/2006	
SCALE			
1/2			
SHEET NO.		6 OF 12	
CAD DRAWING NO.		MD-101	

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WISCONSIN 54476-0410



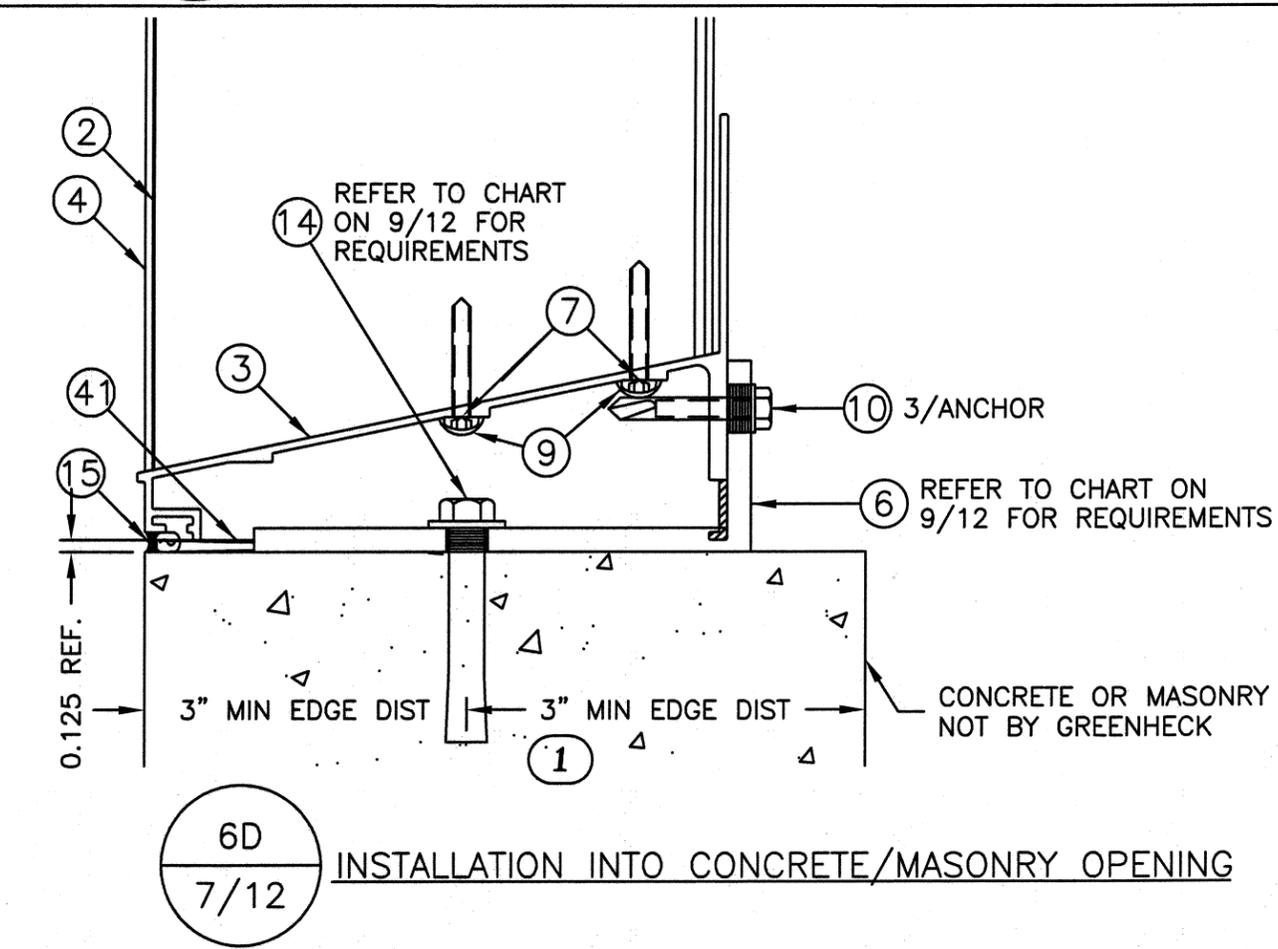
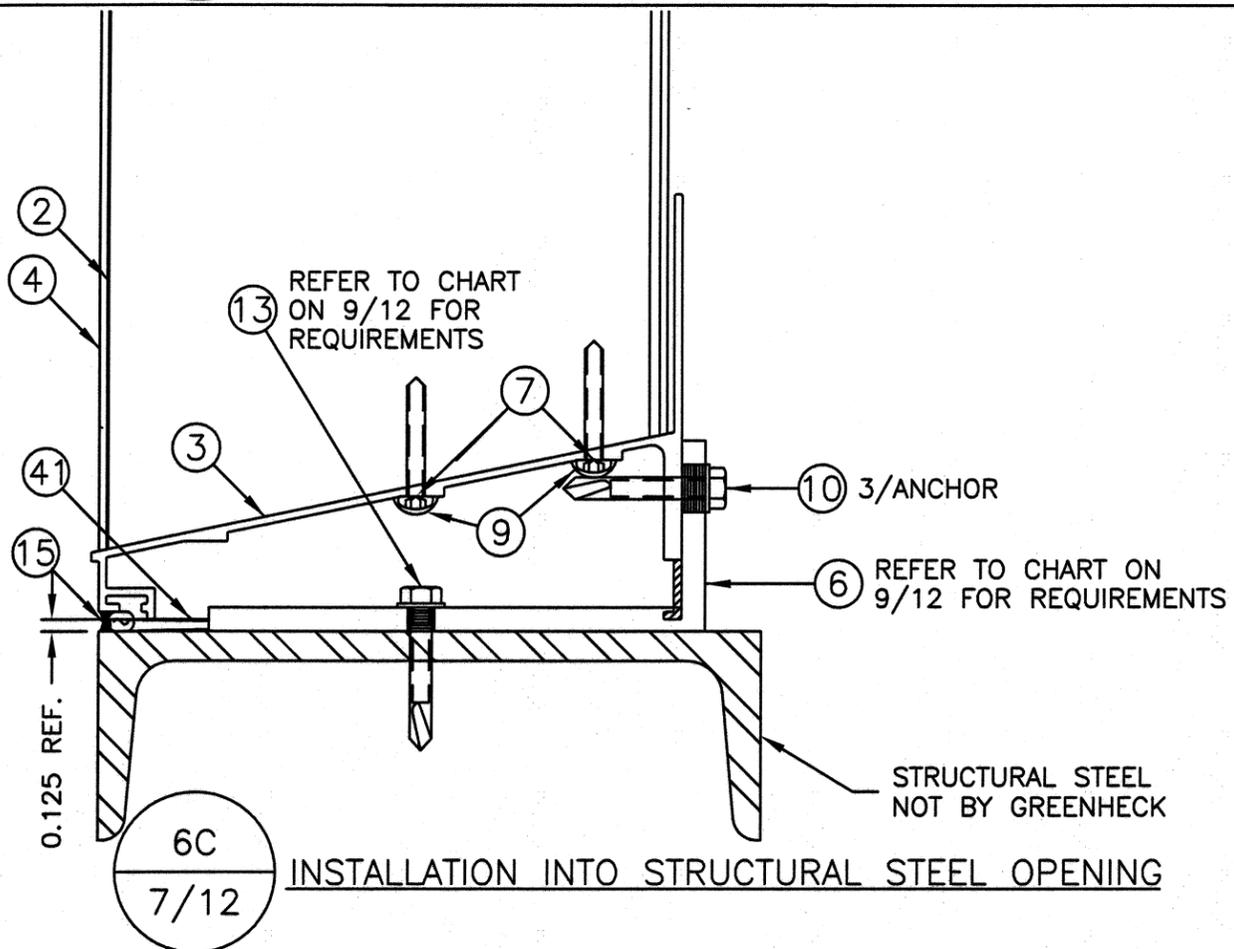
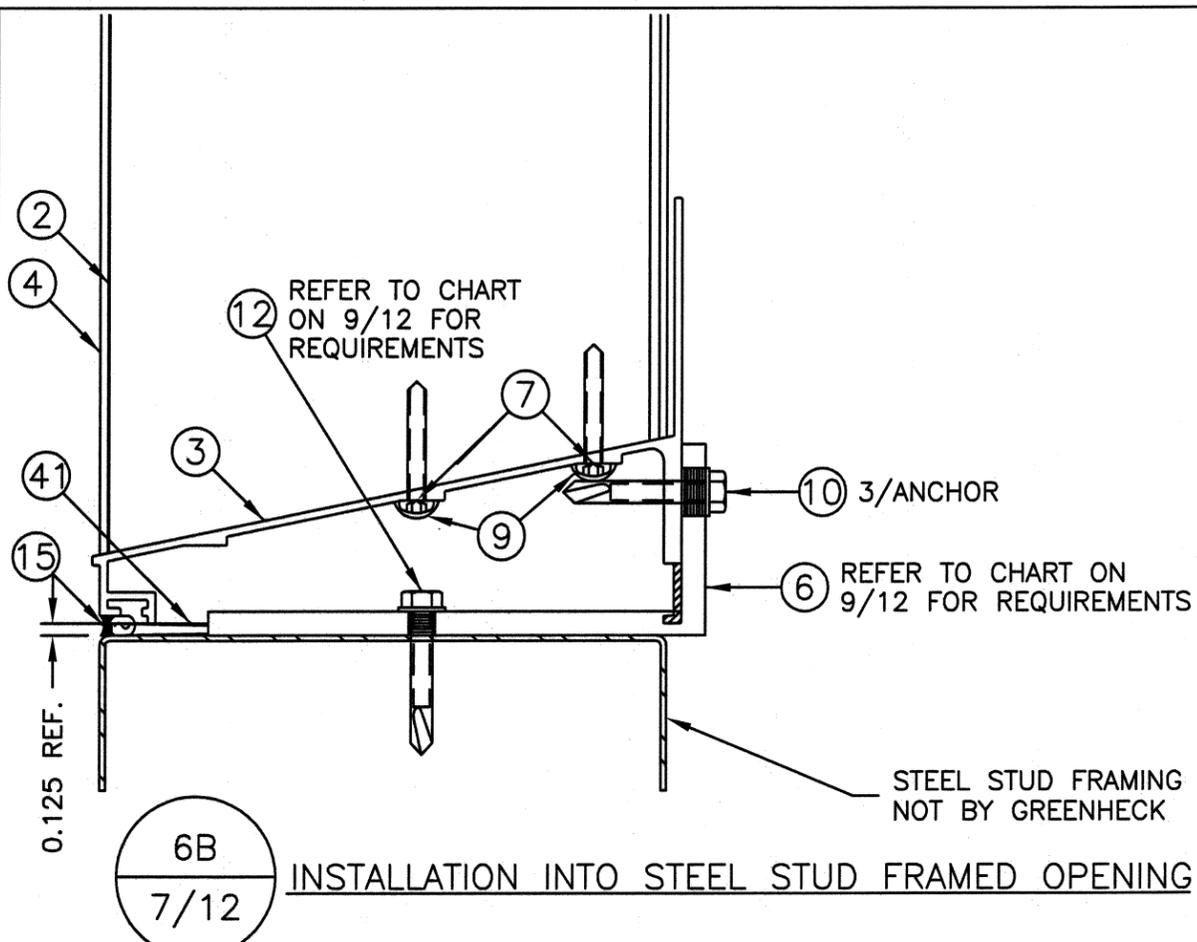
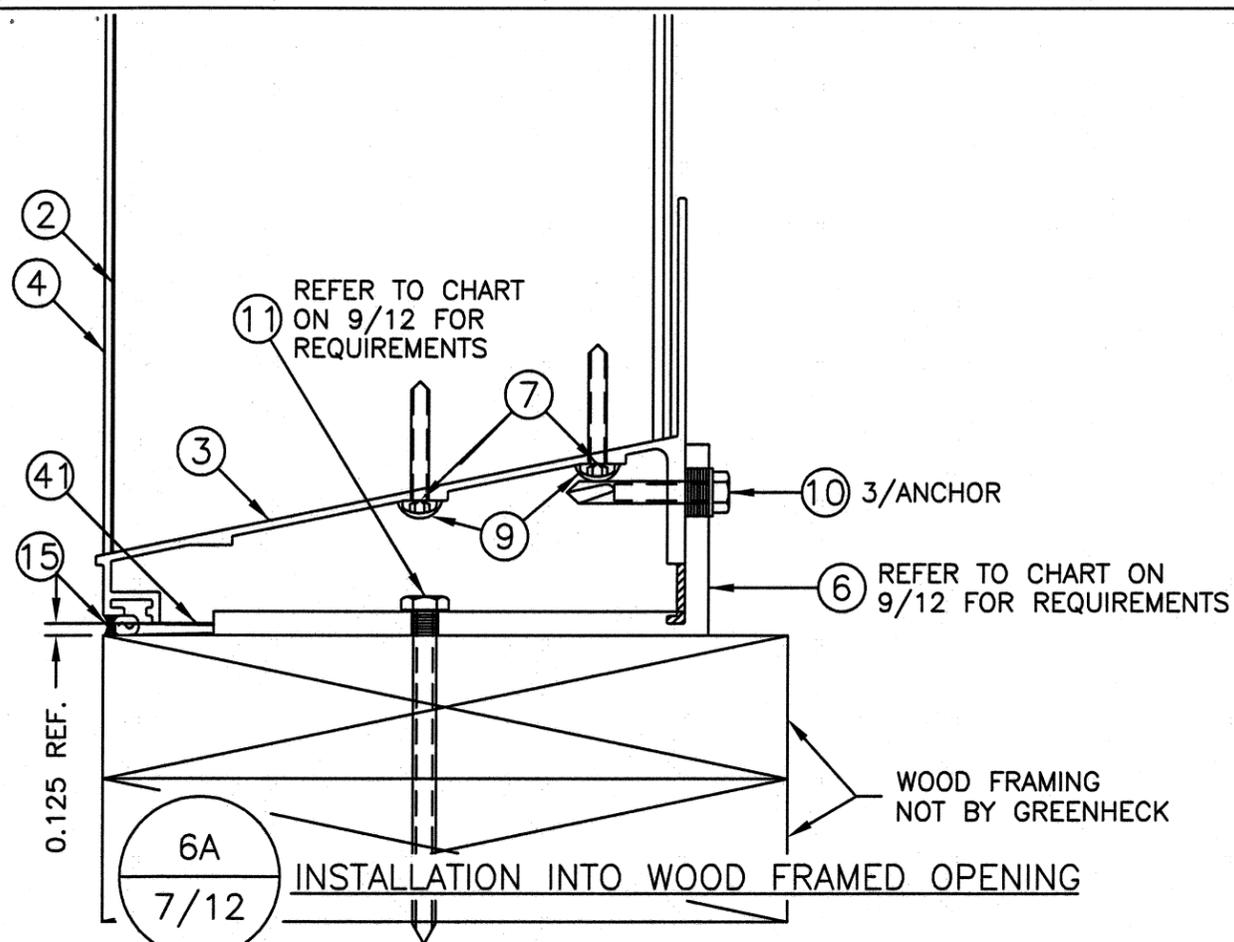
**EVB-602D LOUVER
HEAD DETAILS**



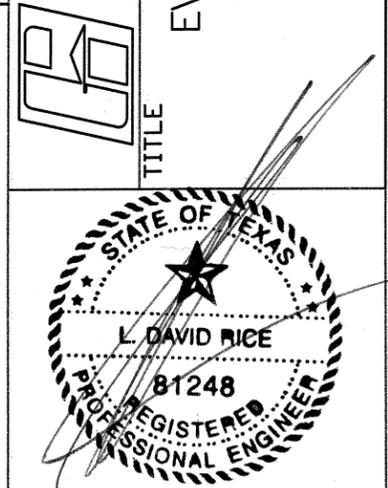
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REVISION	BY	DATE	SYM
	CWC	10/19/2006	1
ADD DIMENSION	DRAWN BY	DATE	
	BRINKMAN	6/19/2006	
GREENHECK		SCALE	SHEET NO.
P.O. BOX 410 SCHOFIELD, WISCONSIN 54476-0410		1/2	7 OF 12
TITLE		CAD DRAWING NO.	
EVH-602D LOUVER SILL DETAILS		MD-101	

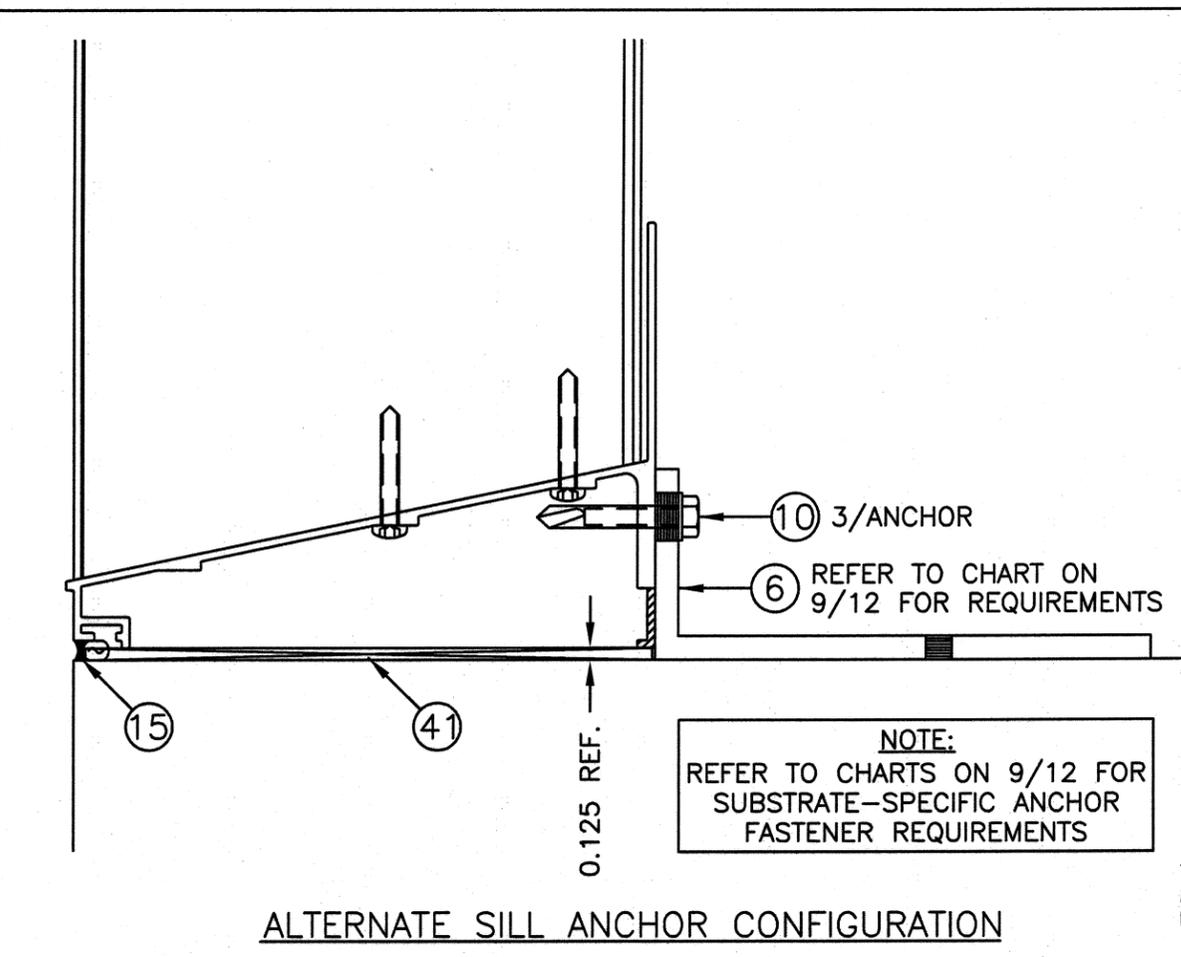
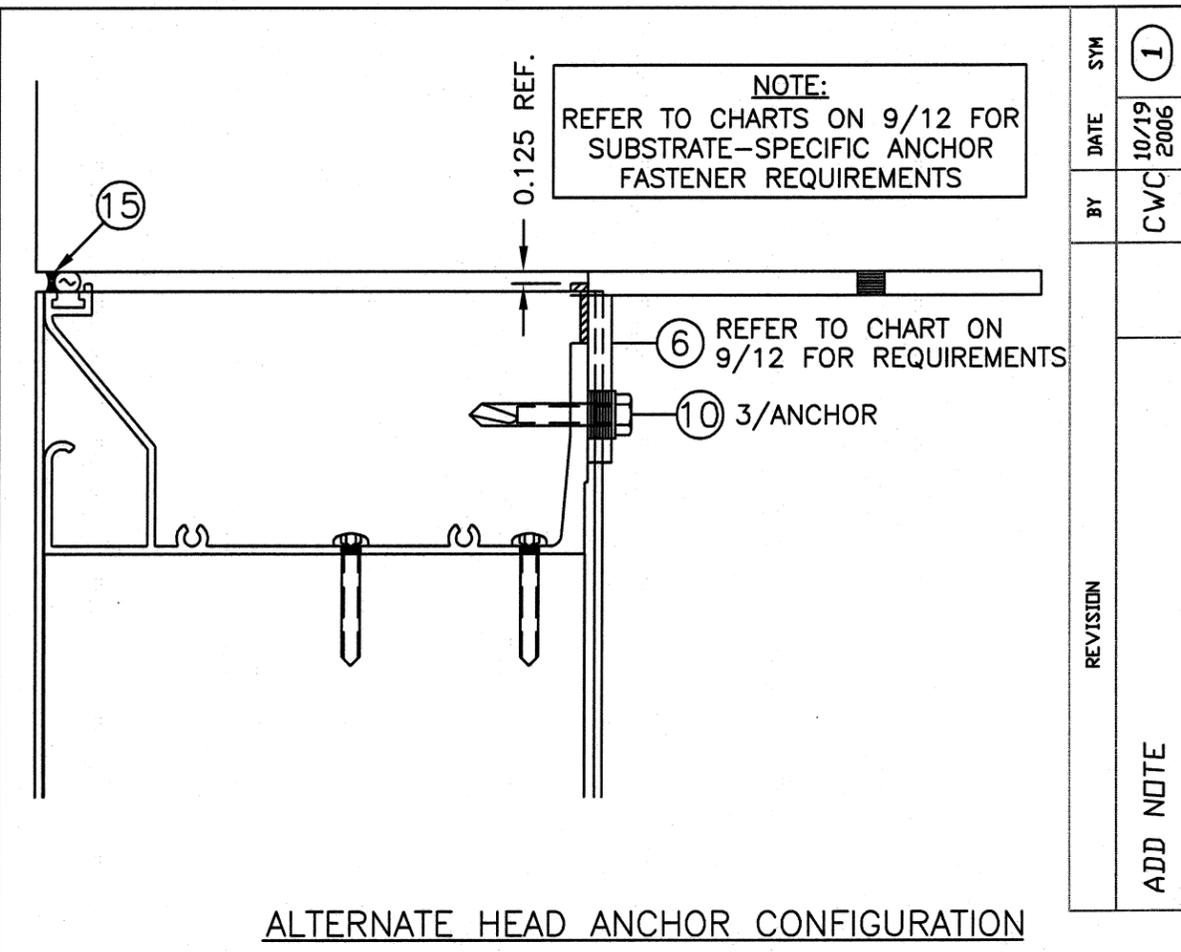
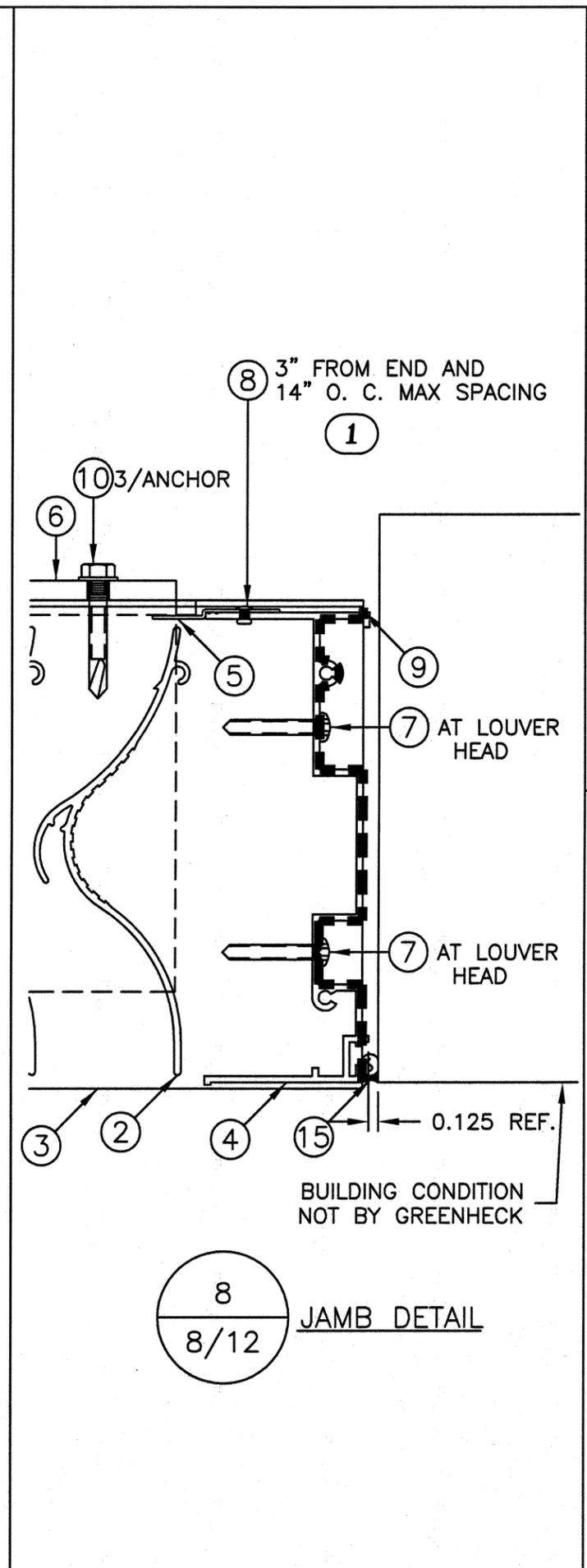
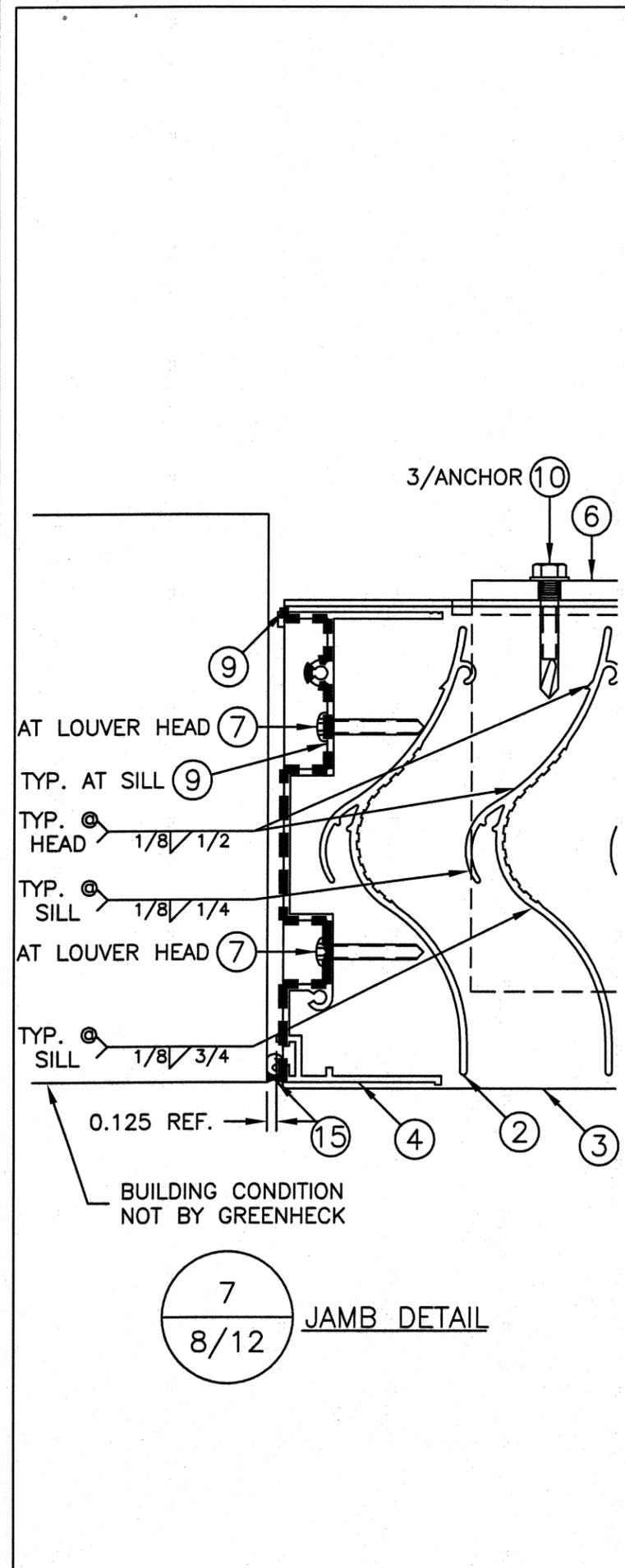


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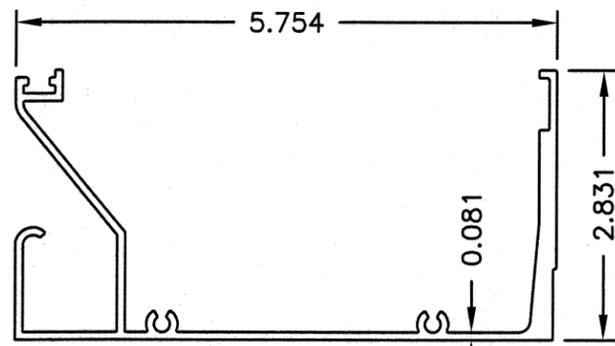


BY	DATE	SYM	DRAWN BY BRINKMAN	DATE 6/19/2006	SHEET NO. 8 OF 12	CAD DRAWING NO. MD-101
CWC	10/19/2006	1				
ADD NOTE	GREENHECK P.O. BOX 410 SCHOFIELD, WISCONSIN 54476-0410					
TITLE EVH-602D LOUVER JAMB AND ALTERNATE ANCHORAGE DETAILS						
MAY 09 2013						
RICE ENGINEERING 105 School Creek Trail Luxemburg, WI 54217 Phone: 920.845.1042 Fax: 920.845.1048 www.rice-inc.com						
Texas Firm No: F-2183 L. David Rice Registration No: 81248						

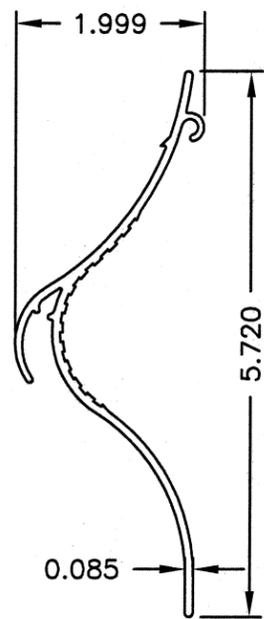
ANCHOR FASTENER REQUIREMENTS (BY OTHERS)					
NOM. LOUVER WIDTH	ANCHOR QTY.	ANCHOR LENGTH	SUBSTRATE	ITEM #	QTY./ANCHOR
12" THRU 14"	1	6.75"	WOOD	11	3
			STEEL STUD	12	3
			STRUCTURAL STEEL	13	2
			CONCRETE/MASONRY	14	3
>14" THRU 18"	1	9.00"	WOOD	11	4
			STEEL STUD	12	4
			STRUCTURAL STEEL	13	2
			CONCRETE/MASONRY	14	4
>18" THRU 24"	1	12"	WOOD	11	5
			STEEL STUD	12	5
			STRUCTURAL STEEL	13	3
			CONCRETE/MASONRY	14	5
>24" THRU 28"	2	6.75"	WOOD	11	3
			STEEL STUD	12	3
			STRUCTURAL STEEL	13	2
			CONCRETE/MASONRY	14	3
>28" THRU 36"	2	9.00"	WOOD	11	4
			STEEL STUD	12	4
			STRUCTURAL STEEL	13	2
			CONCRETE/MASONRY	14	4
>36" THRU 48.25"	2	12"	WOOD	11	5
			STEEL STUD	12	5
			STRUCTURAL STEEL	13	3
			CONCRETE/MASONRY	14	5

ANCHOR FASTENER REQUIREMENTS (BY OTHERS)				
ITEM #	MATERIAL	MIN. EMBED	MIN. EDGE DIST.	MIN. SPACING
11	1/4 DIA. WOOD SCREW	3"	1"	1"
12	1/4-14 ASTM A325 SELF-DRILLING SCREW		3/8"	3/4"
13	1/4-20 HILTI DRIL-FLEX		3/8"	3/4"
14	3/8 DIA. POWERS SS POWER BOLT	2"	3"	2 1/2"

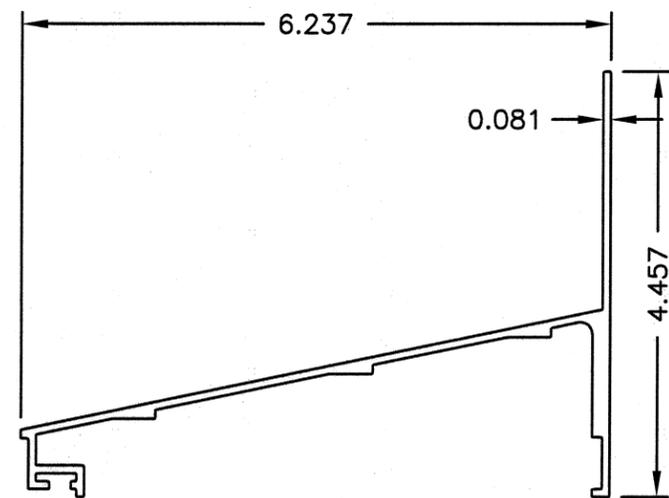
REVISION	BY	DATE	SYM
		10/19/2006	(1)
REVISE QUANTITY AND DIMENSION	CWC	DATE	
		6/19/2006	
DRAWN BY	BRINKMAN	SCALE	
SHEET NO.	9 OF 12		
	CAD DRAWING NO.		MD-101
<p>GREENHECK P.O. BOX 410 SCHOFIELD, WISCONSIN 54476-0410</p>			
<p>EVH-602D LOUVER W/ VCD-40 DAMPER AND EVH-602D LOUVER ANCHOR REQUIREMENTS</p>			
			
MAY 09 2013			
<p>RICE ENGINEERING 105 School Creek Trail Luxemburg, WI 54217 Phone: 920.845.1042 Fax: 920.845.1048 www.rice-inc.com</p>			
<p>Texas Firm No: F-2183 L. David Rice Registration No: 81248</p>			



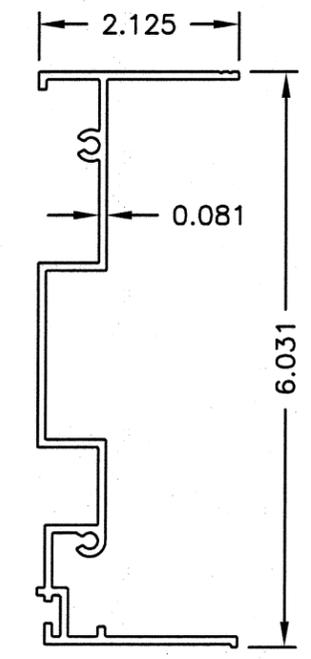
1 LOUVER HEAD
6063-T5 ALUMINUM



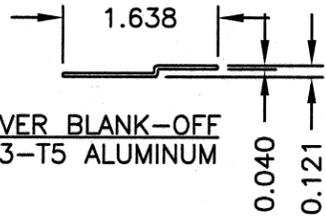
2 LOUVER BLADE
6063-T5 ALUMINUM



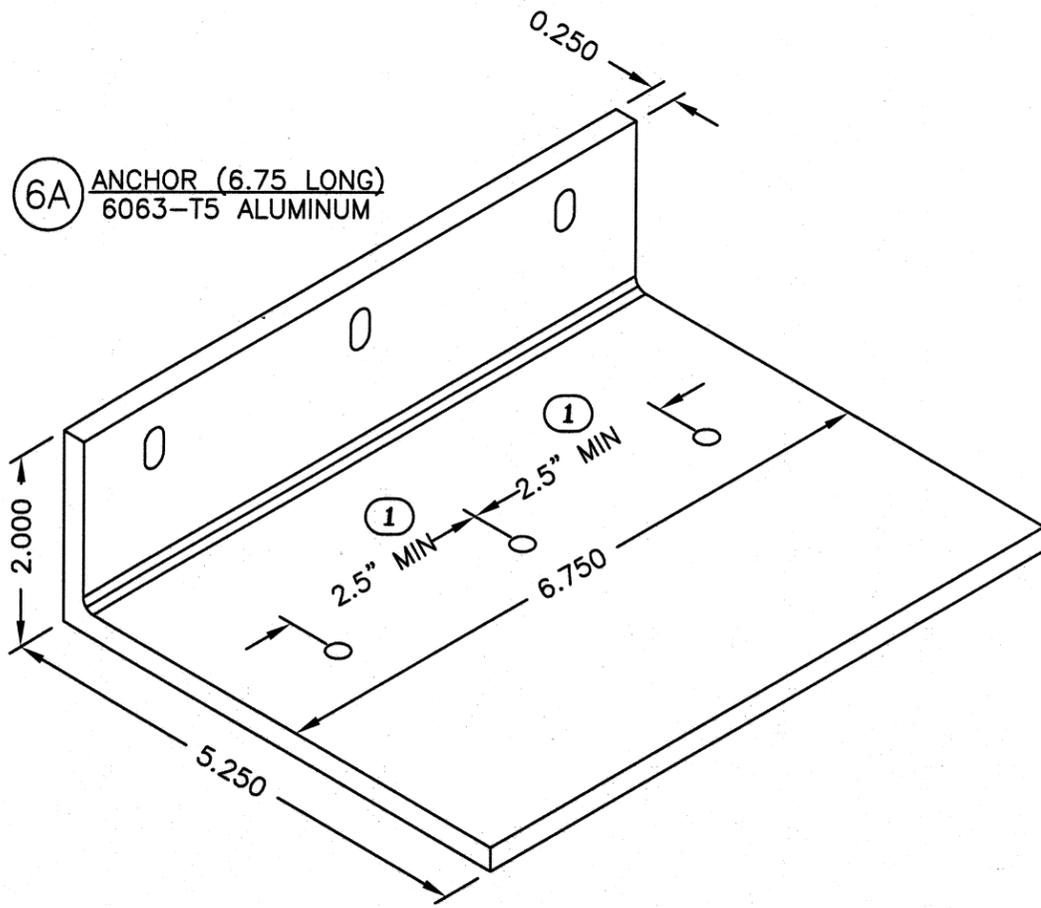
3 LOUVER SILL
6063-T5 ALUMINUM



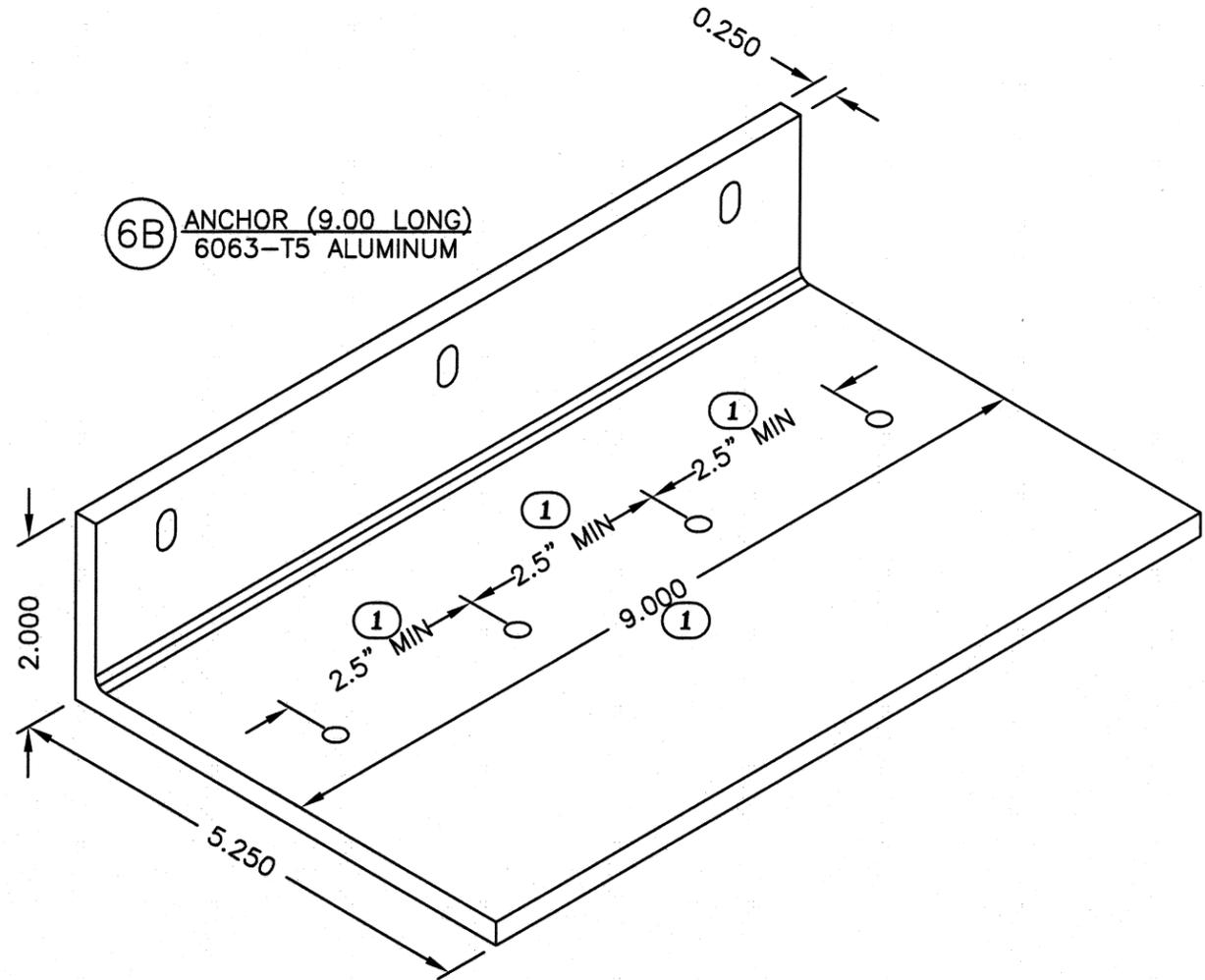
4 LOUVER JAMB
6063-T5 ALUMINUM



5 LOUVER BLANK-OFF
6063-T5 ALUMINUM

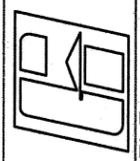


6A ANCHOR (6.75 LONG)
6063-T5 ALUMINUM



6B ANCHOR (9.00 LONG)
6063-T5 ALUMINUM

REVISION	ADD MIN DIM AND REVISE LENGTH	BY	DATE	SYM
		CWC	10/19/2006	1
DRAWN BY		DATE		
BRINKMAN		6/19/2006		
SCALE		SHEET NO.		
1/2		10 OF 12		
P.D. BOX 410 SCHOFIELD, WISCONSIN 54476-0410		CAD DRAWING NO.		
EVH-602D LOUVER W/ VCD-40 DAMPER AND EVH-602D LOUVER PART PROFILES		MD-101		



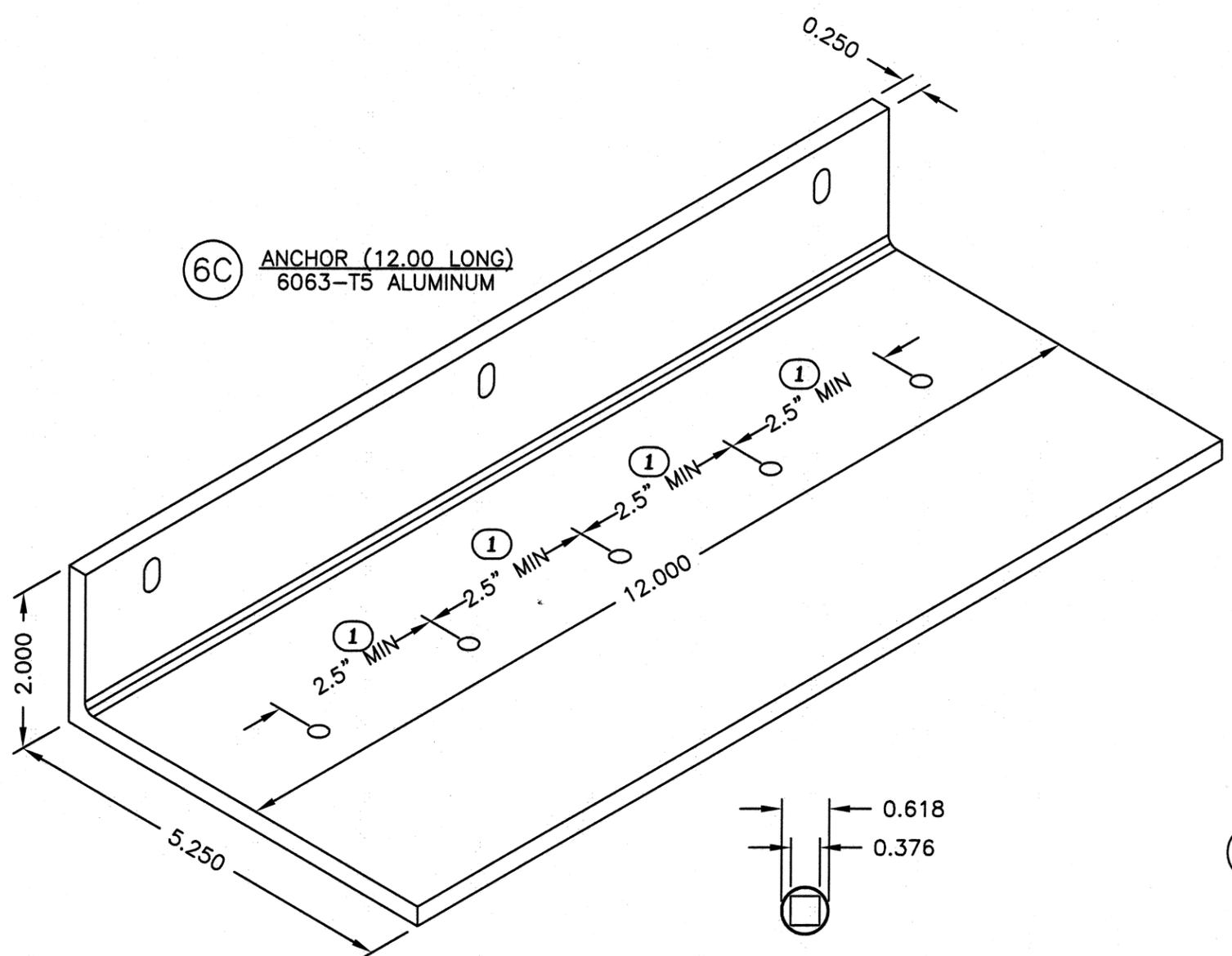
GREENHECK
P.O. BOX 410 SCHOFIELD,
WISCONSIN 54476-0410



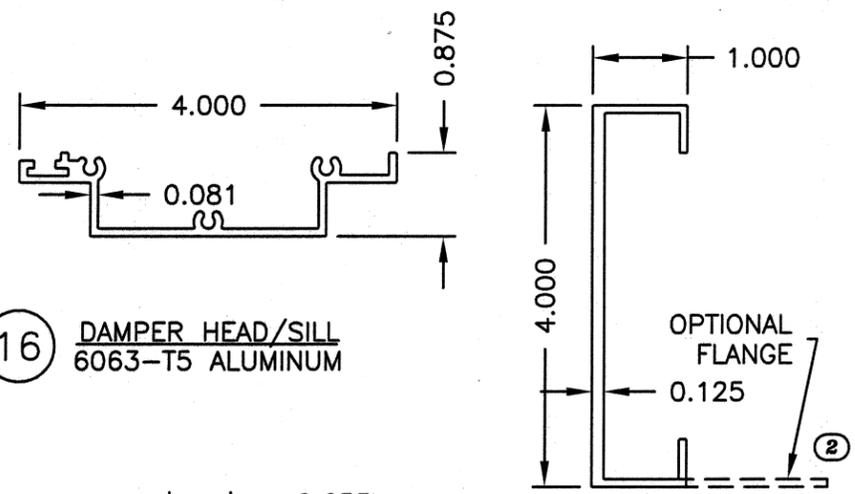
MAY 09 2013

RICE
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Texas Firm No: F-2183
L. David Rice
Registration No: 81248

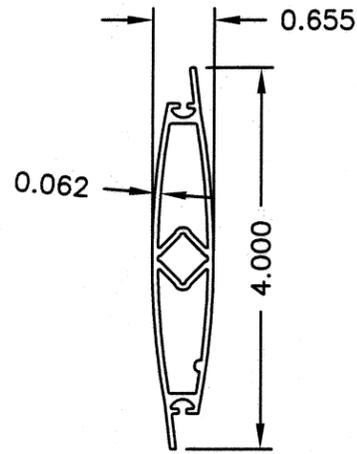


6C ANCHOR (12.00 LONG)
6063-T5 ALUMINUM

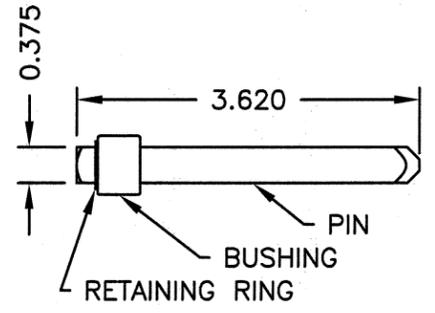


16 DAMPER HEAD/SILL
6063-T5 ALUMINUM

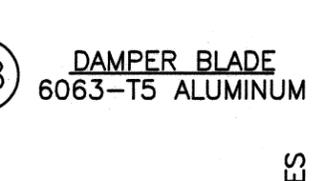
42 OPTIONAL FLANGE
6063-T5 ALUMINUM



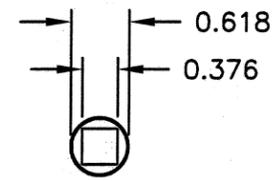
17 DAMPER JAMB
6063-T5 ALUMINUM



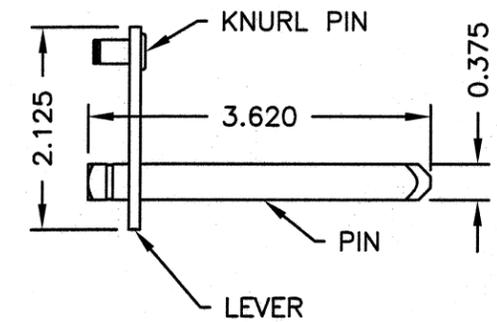
19 NON-DRIVE DAMPER AXLE ASSY.
MATERIAL VARIES



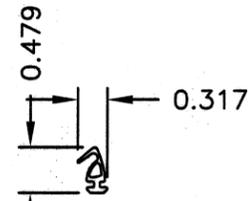
18 DAMPER BLADE
6063-T5 ALUMINUM



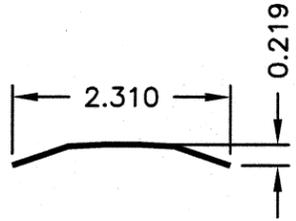
21 DAMPER AXLE BUSHING (.445" LG.)
MATERIAL VARIES



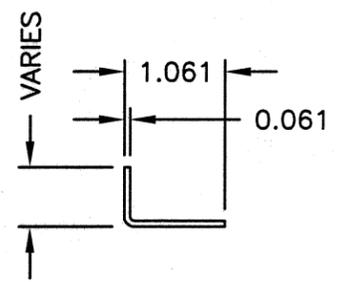
20 DRIVE-SIDE DAMPER AXLE ASSY.
MATERIAL VARIES



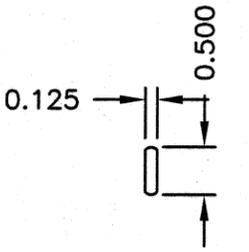
22 DAMPER BLADE SEAL
MATERIAL VARIES



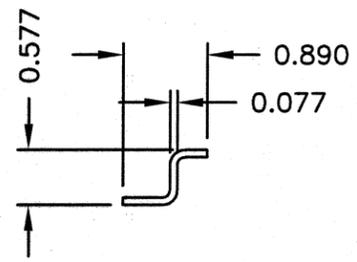
23 DAMPER JAMB SEAL
.007" SS



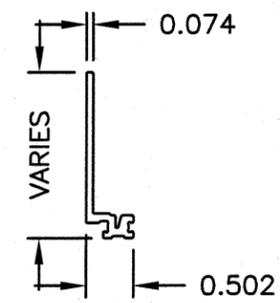
24 DAMPER TOP/BOTTOM CLOSURE
ALUMINUM



25 DAMPER LINKAGE BAR
MATERIAL VARIES



26 FORMED "Z" CLIP
ALUMINUM



42 OPTIONAL FLANGE
6063-T5 ALUMINUM

REVISION	BY	DATE	SYM
ADD MIN DIM	CWC	10/19/2006	1
ADD FLANGE OPTION	CWC	7/14/2011	2

DRAWN BY BRINKMAN	DATE 6/19/2006
SCALE 1/2	REVISION DATE
SHEET NO. 11 OF 12	
CAD DRAWING NO. MD-101	

GREENHECK
P.O. BOX 410 SCHOFIELD,
WISCONSIN 54476-0410

**EVH-602D LOUVER W/
VCD-40 DAMPER
AND EVH-602D LOUVER
PART PROFILES**



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