ESD-635PD

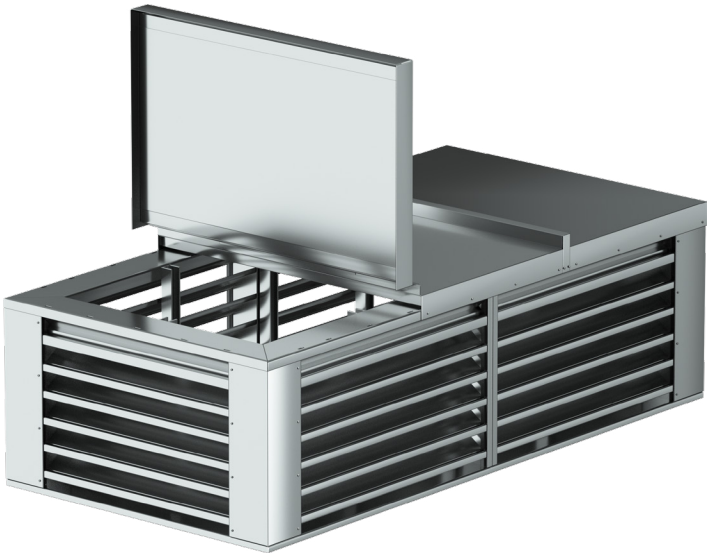
Miami-Dade and Florida Product Approved

Extruded Aluminum, Drainable Blade Louvered Penthouse

Florida Product Approval No.: FL11350.2
Miami-Dade, FL NOA No.: 23.0425.01, EXP. 7/19/2028

Standard Construction

Frame	Heavy gauge extruded 6063-T5 aluminum, 6 in. (152 mm) x 0.081 in. (2 mm) nominal wall thickness
Blades	Drainable style blade, heavy gauge extruded 6063-T5 aluminum, 0.081 in. (2 mm) nominal wall thickness, positioned on approximately 4 in. (102 mm) centers
Construction	Welded
Finish	Mill
Minimum Throat Size	12 in. W x 12 in. L (305 mm W x 305 mm L)
Maximum Throat Size	84 in. W x 108 in. L (2134 mm W x 2743 mm L)
Minimum Louver Height	12 in. (305 mm)
Maximum Louver Height	84 in. (2134 mm)
Wind Load	+/- 115 PSF (5.5 kPa)



Application and Design

ESD-635PD is a gravity intake or exhaust louvered penthouse. Model ESD-635PD incorporates high performance horizontal drainable style blades. Meets the performance requirements established by the Florida Building Code and Miami-Dade County. Tested in accordance with and passes TAS 201 (Large Missile Impact), TAS 202 (Uniform Static Air Pressure) and TAS 203 (Cyclic Wind-Loading). This system should be installed in a location where the enclosed area/room inside the penthouse is designed to drain water penetrating into the area/room, and the area/room will house water resistant/proof equipment, components and/or supplies. Roof curbs specifically designed for model ESD-635PD may be supplied by Greenheck as an option. Qualified for installation onto concrete/masonry, steel stud, structural steel or wood substrate. Model ESD-635PD may also be supplied as an equipment enclosure without hood members.

Options and Accessories

- Bird Screen
- Dampers
  - Maximum throat width or length not to exceed 77 in. (1955mm) with optional damper(s)
- Filter Rack/Filter
- Hood Insulation - only available if mill finish
- Insect Screen
- Roof Curb - flat or pitched
- Security Bars
- Variety of Architectural Finishes

Document Links

- ESD-635PD Specification
- Louver Finishes & Colors
- Louver Product Selection Guide
- Louver Products Catalog
- Louver Warranty Statement

Product Details

Miami-Dade County, FL Notice of Acceptance

PERFORMANCE DATA

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Performance data shown herein is a result of in-house airflow resistance testing procedures in an AMCA Accredited Laboratory. The static pressure drops shown at given throat velocities include the pressure drop through the throat of the product as well as through the louvers themselves. The recommended height shown herein allows for equal to or greater than effective louver free area to that of the penthouse inside throat area. Increasing the product height will have minimal affect on the static pressure drop. The static pressure drops shown do not include the effects of bird screen, insect screen or any other appurtenance.

			Intake CFM CMS			**Exhaust CFM** CMS			
			Pressure Drop in. wg kPa			**Pressure Drop in. wg** kPa			
			0.078 0.019	**0.117** 0.029	**0.312** 0.078	**0.034** 0.008	**0.078** 0.019	**0.138** 0.034	**0.215** 0.054
			Intake Throat Velocities			**Exhaust Throat Velocities**			
Throat W x L in. mm	**Recommended Louver Height in.** mm	**Louver Throat Area sq. ft.** sq. m	**400 fpm** 0.189 mps	**600 fpm** 0.283 mps	**800 fpm** 0.378 mps	**400 fpm** 0.189 mps	**600 fpm** 0.283 mps	**800 fpm** 0.378 mps	**1000 fpm** 0.472 mps
12 x 12	**12**	**0.8**	**320**	**480**	**640**	**320**	**480**	**640**	**800**
305 x 305	305	0.07	0.15	0.23	0.30	0.15	0.23	0.30	0.38
12 x 24	**16**	**1.8**	**720**	**1,080**	**1,440**	**720**	**1,080**	**1,440**	**1,800**
305 x 610	406	0.17	0.34	0.51	0.68	0.34	0.51	0.68	0.85
24 x 24	**16**	**3.7**	**1,480**	**2,220**	**2,960**	**1,480**	**2,220**	**2,960**	**3,700**
610 x 610	**406**	**0.34**	**0.70**	**1.05**	**1.40**	**0.70**	**1.05**	**1.40**	**1.75**
24 x 48	**20**	**7.5**	**3,000**	**4,500**	**6,000**	**3,000**	**4,500**	**6,000**	**7,500**
610 x 1219	508	0.70	1.42	2.12	2.83	1.42	2.12	2.83	3.54
36 x 36	**20**	**8.5**	**3,400**	**5,100**	**6,800**	**3,400**	**5,100**	**6,800**	**8,500**
914 x 914	508	0.79	1.60	2.41	3.21	1.60	2.41	3.21	4.01
36 x 72	**24**	**17.3**	**6,920**	**10,380**	**13,840**	**6,920**	**10,380**	**13,840**	**17,300**
914 x 1829	610	1.61	3.27	4.90	6.53	3.27	4.90	6.53	8.16
48 x 48	**24**	**15.3**	**6,120**	**9,180**	**12,240**	**6,120**	**9,180**	**12,240**	**15,300**
1219 x 1219	610	1.42	2.89	4.33	5.78	2.89	4.33	5.78	7.22
48 x 96	**32**	**31.0**	**12,400**	**18,600**	**24,800**	**12,400**	**18,600**	**24,800**	**31,000**
1219 x 2438	813	2.88	5.85	8.78	11.70	5.85	8.78	11.70	14.63
60 x 60	**28**	**24.2**	**9,680**	**14,520**	**19,360**	**9,680**	**14,520**	**19,360**	**24,200**
1524 x 1524	711	2.25	4.57	6.85	9.14	4.57	6.85	9.14	11.42
60 x 108	**36**	**43.8**	**17,520**	**26,280**	**35,040**	**17,520**	**26,280**	**35,040**	**43,800**
1524 x 2743	914	4.07	8.27	12.40	16.54	8.27	12.40	16.54	20.67
72 x 72	**32**	**35.0**	**14,000**	**21,000**	**28,000**	**14,000**	**21,000**	**28,000**	**35,000**
1829 x 1829	813	3.25	6.61	9.91	13.21	6.61	9.91	13.21	16.52
72 x 96	**40**	**46.8**	**18,720**	**28,080**	**37,440**	**18,720**	**28,080**	**37,440**	**46,800**
1829 x 2438	1016	4.35	8.83	13.25	17.67	8.83	13.25	17.67	22.09
84 x 84	**40**	**47.8**	**19,120**	**28,680**	**38,240**	**19,120**	**28,680**	**38,240**	**47,800**
2134 x 2134	1016	4.44	9.02	13.54	18.05	9.02	13.54	18.05	22.56
84 x 96	**40**	**54.8**	**21,920**	**32,880**	**43,840**	**21,920**	**32,880**	**43,840**	**54,800**
2134 x 2438	1016	5.09	10.35	15.52	20.69	10.35	15.52	20.69	25.86
84 x 108	**44**	**61.7**	**24,680**	**37,020**	**49,360**	**24,680**	**37,020**	**49,360**	**61,700**
2134 x 2743	1118	5.73	11.65	17.47	23.30	11.65	17.47	23.30	29.12

DETAILS

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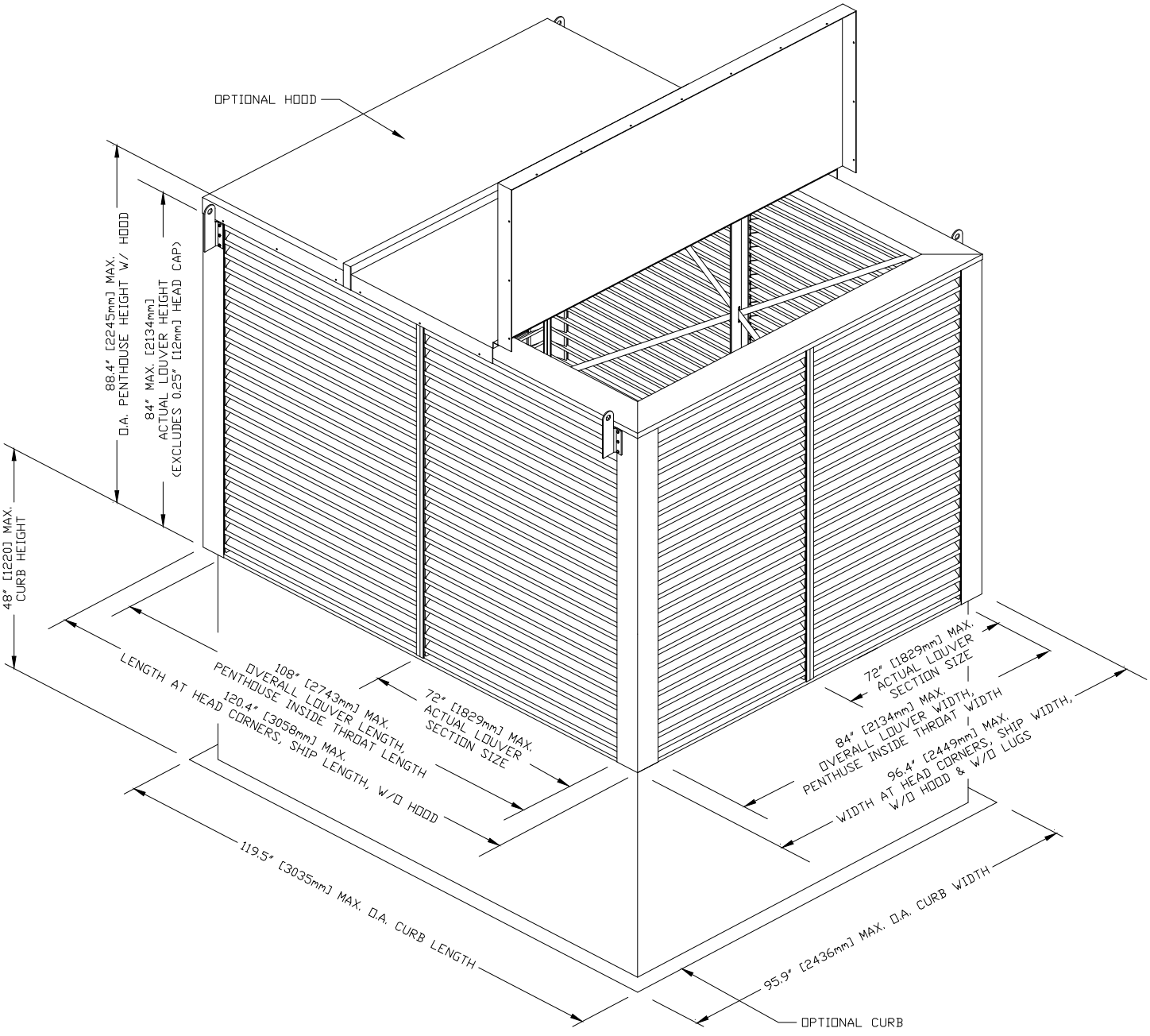
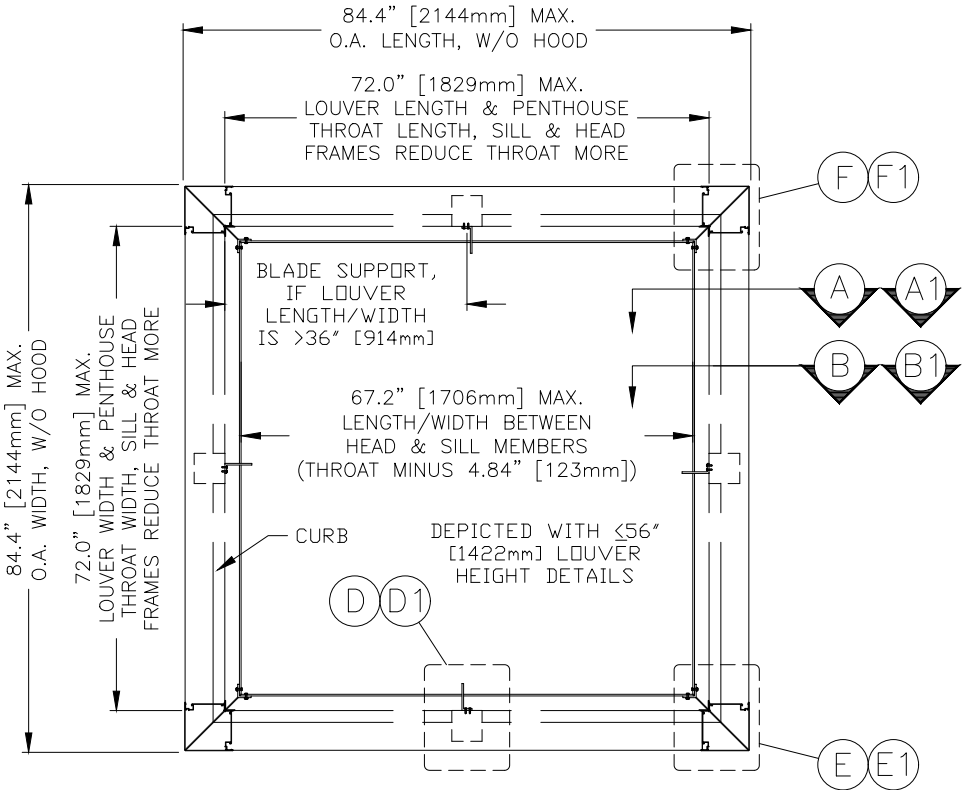
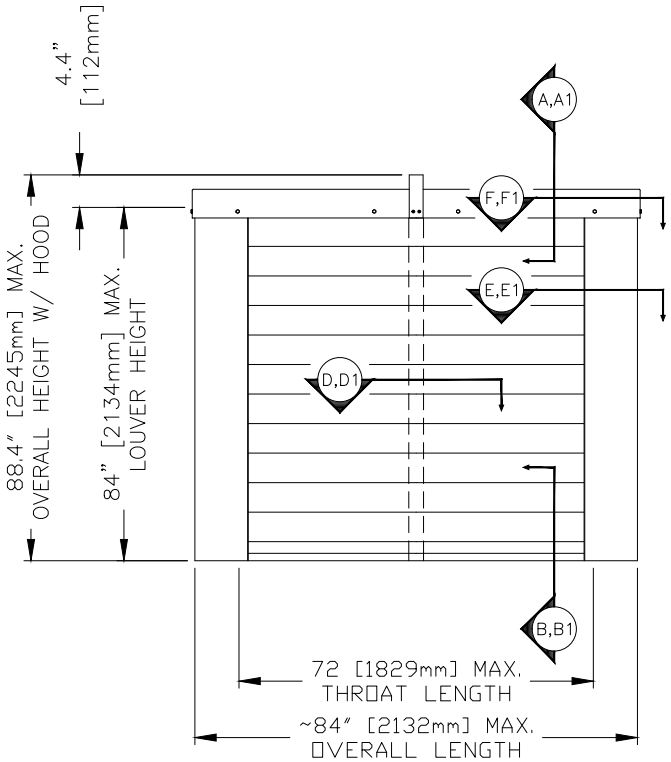
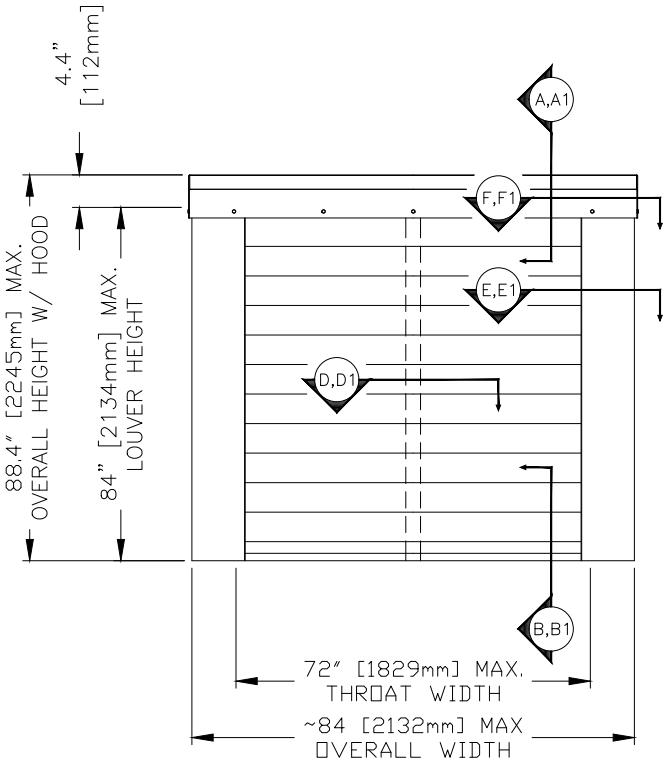



84.4" [2144mm] MAX.
O.A. LENGTH, W/O HOOD
72.0" [1829mm] MAX.
LOUVER LENGTH & PENTHOUSE
THROAT LENGTH, SILL & HEAD
FRAMES REDUCE THROAT MORE
F
F1
BLADE SUPPORT,
IF LOUVER
LENGTH/WIDTH
IS >36" [914mm]
A
A1
B
B1
84.4" [2144mm] MAX.
O.A. WIDTH, W/O HOOD
72.0" [1829mm] MAX.
LOUVER WIDTH & PENTHOUSE
THROAT WIDTH, SILL & HEAD
FRAMES REDUCE THROAT MORE
67.2" [1706mm] MAX.
LENGTH/WIDTH BETWEEN
HEAD & SILL MEMBERS
(THROAT MINUS 4.84" [123mm])
CURB
DEPICTED WITH ≤56"
[1422mm] LOUVER
HEIGHT DETAILS
D
D1
E
E1


4.4"
[112mm]
A,A1
F,F1
E,E1
D,D1
B,B1
88.4" [2245mm] MAX.
OVERALL HEIGHT W/ HOOD
84" [2134mm] MAX.
LOUVER HEIGHT
72 [1829mm] MAX.
THROAT LENGTH
~84" [2132mm] MAX.
OVERALL LENGTH


4.4"
[112mm]
A,A1
F,F1
E,E1
D,D1
B,B1
88.4" [2245mm] MAX.
OVERALL HEIGHT W/ HOOD
84" [2134mm] MAX.
LOUVER HEIGHT
72" [1829mm] MAX.
THROAT WIDTH
~84 [2132mm] MAX
OVERALL WIDTH

DETAILS
TWO SECTION-WITHOUT HOOD

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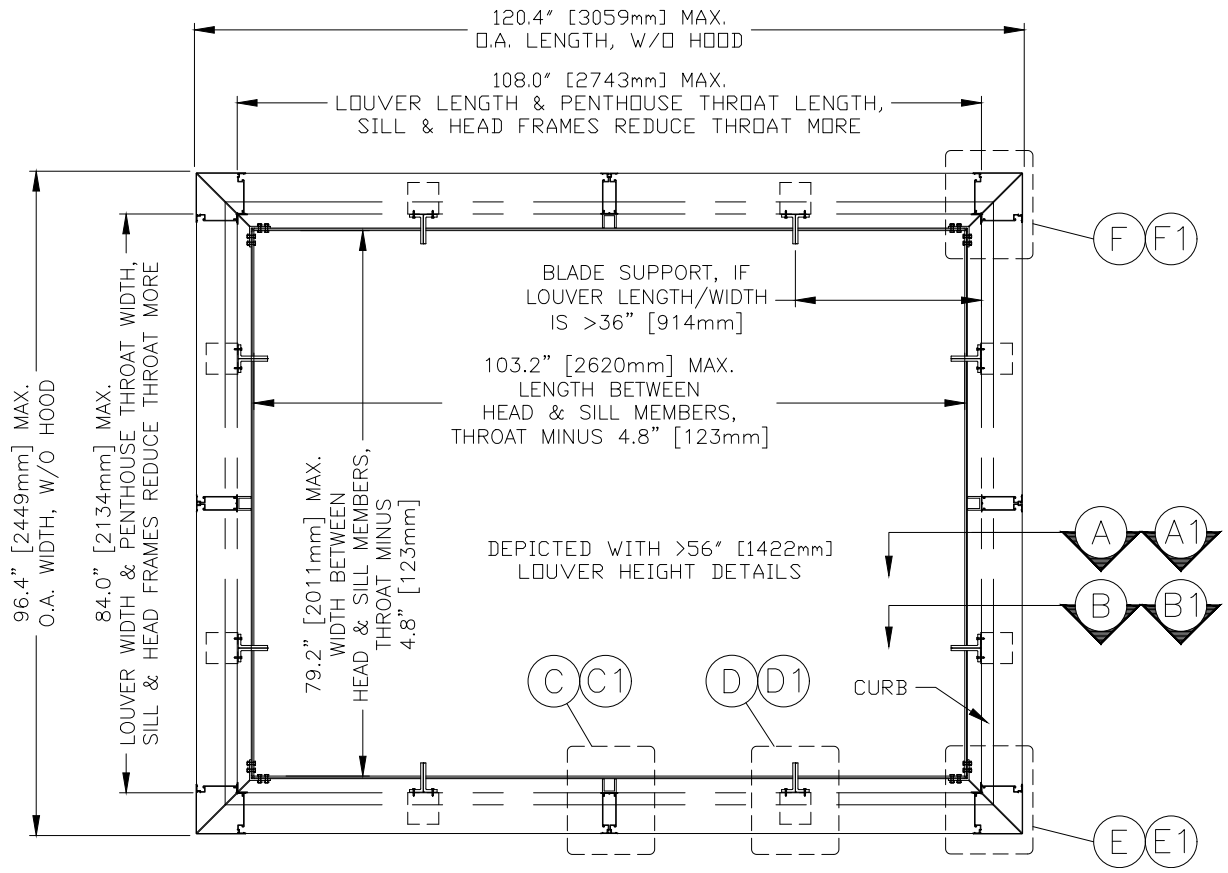

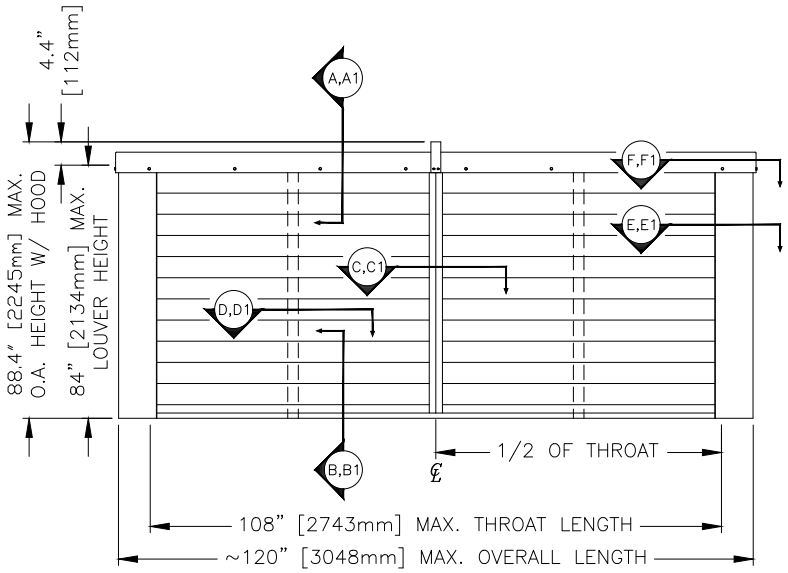

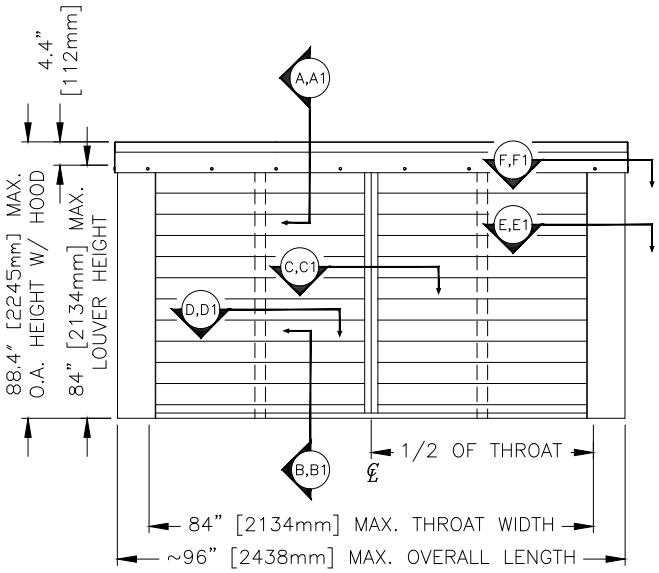

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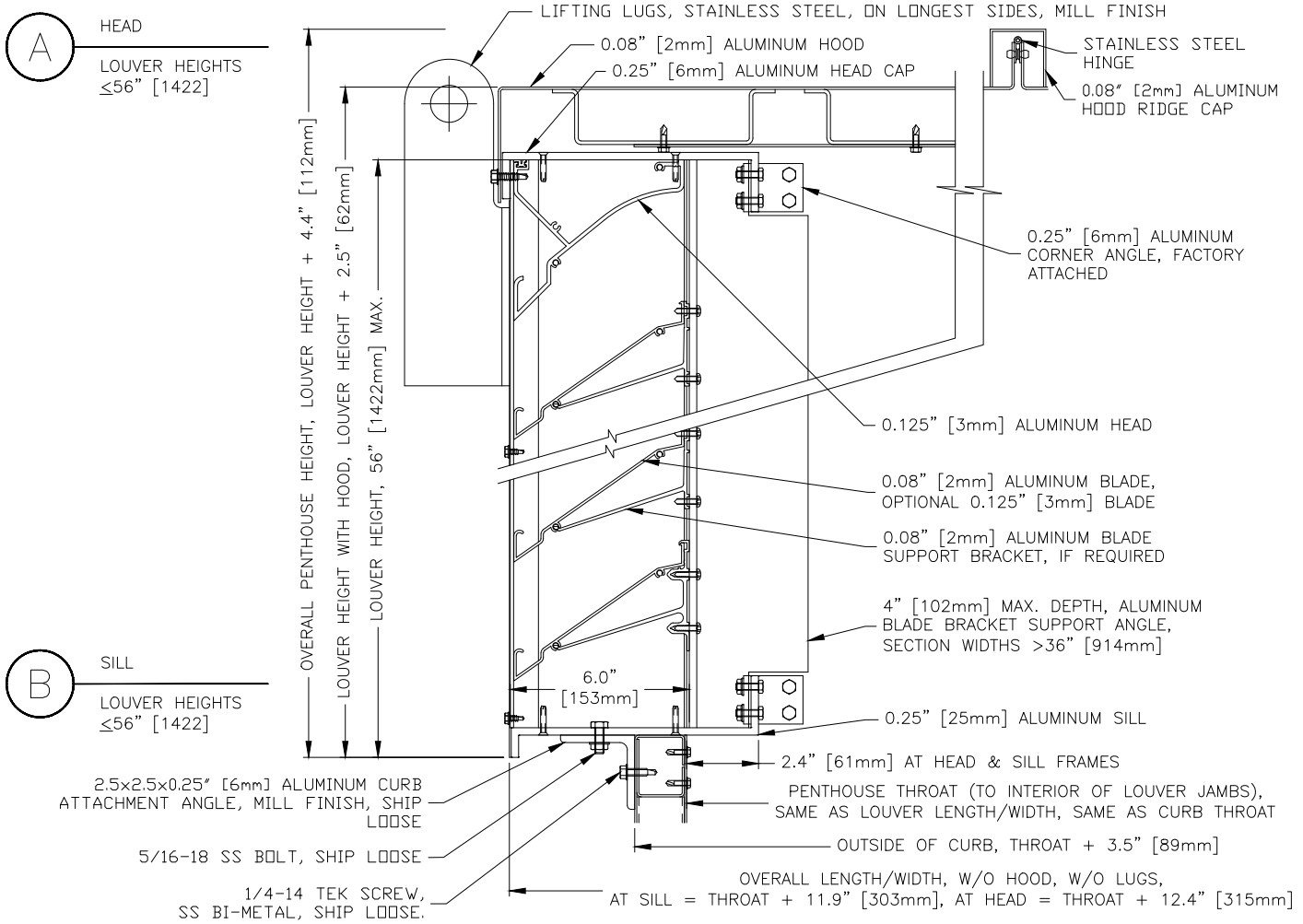
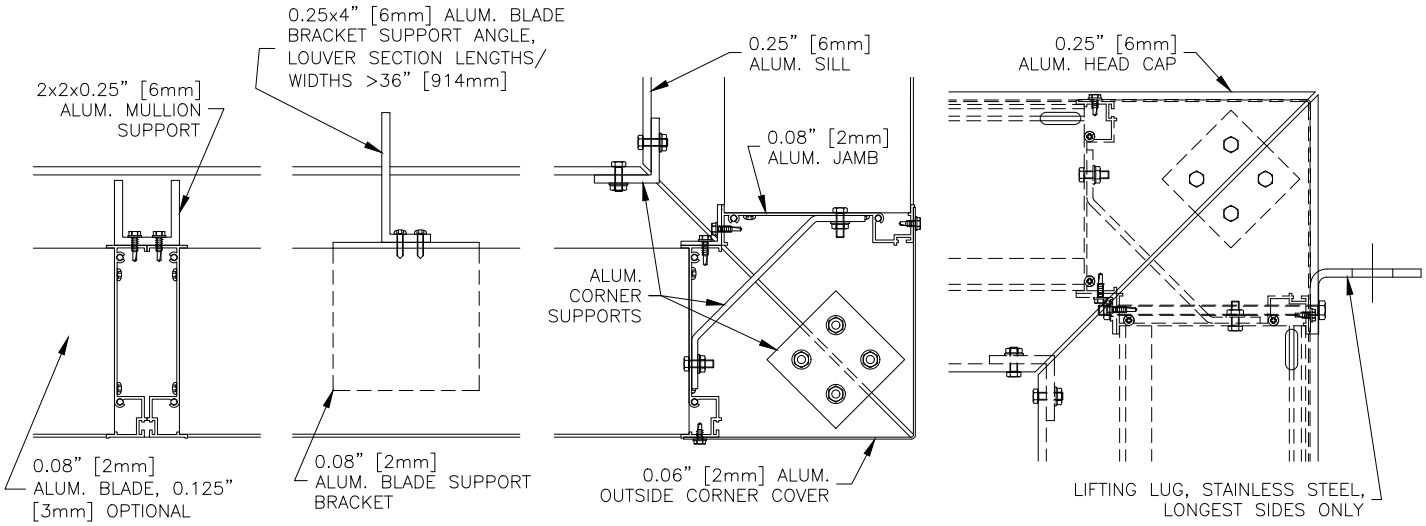
LESS THAN OR EQUAL TO 56 IN. (1142 MM) HEIGHT





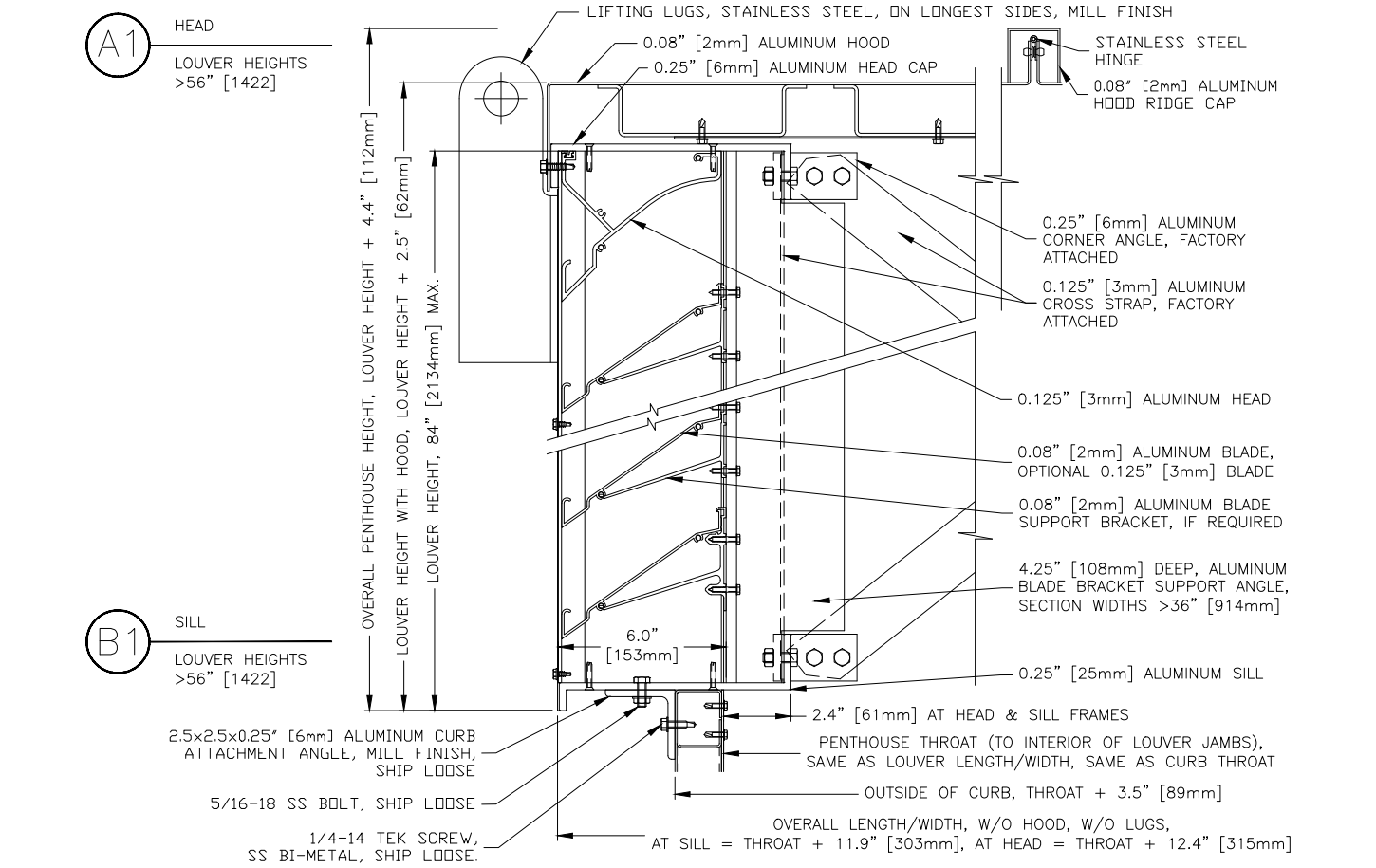
C MULLION
LOUVER HEIGHTS ≤56" [1422mm]

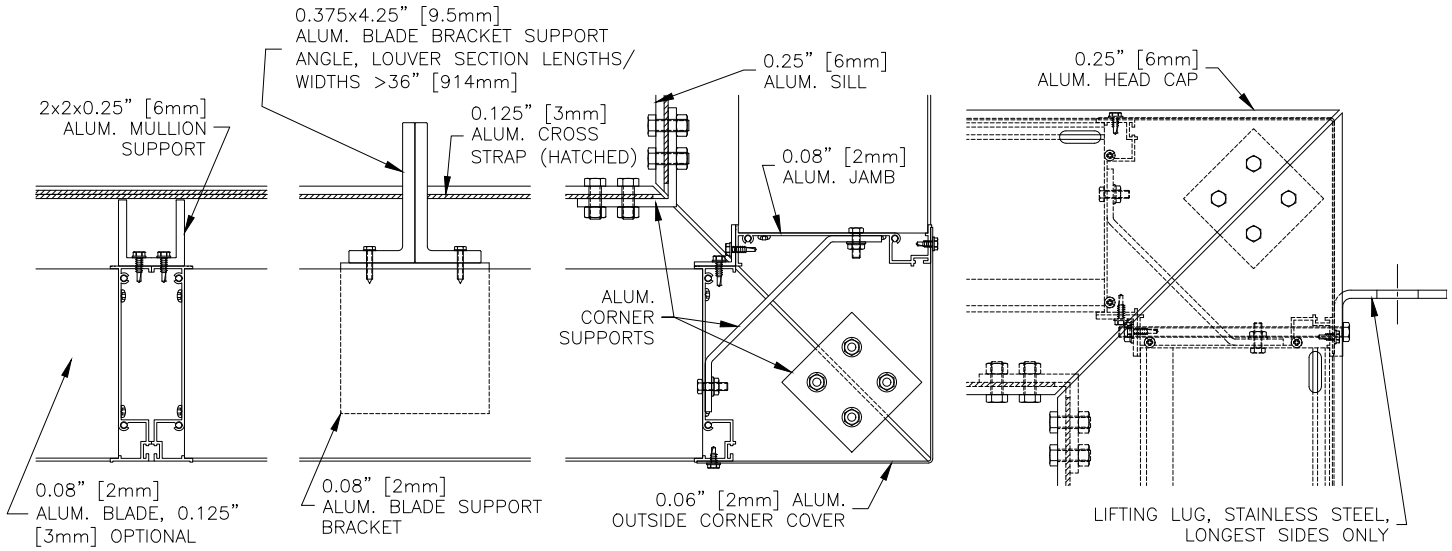
D BLADE SUPPORT
LOUVER HEIGHTS ≤56" [1422mm]

E SILL CORNER
LOUVER HEIGHTS ≤56" [1422mm]

F HEAD CORNER
LOUVER HEIGHTS ≤56" [1422mm]

GREATER THAN 56 IN. (1142 MM) HEIGHT





CURB DETAILS

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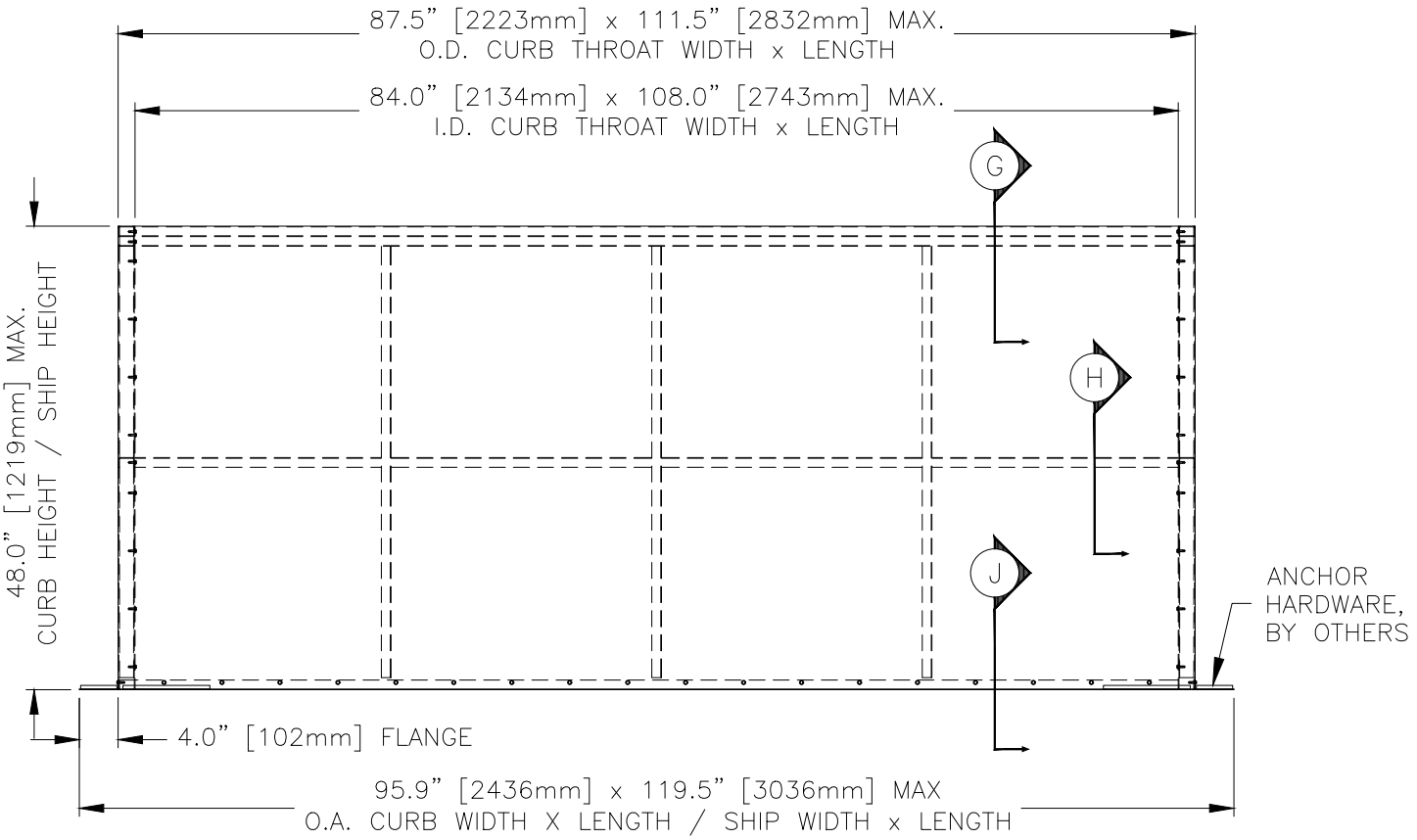

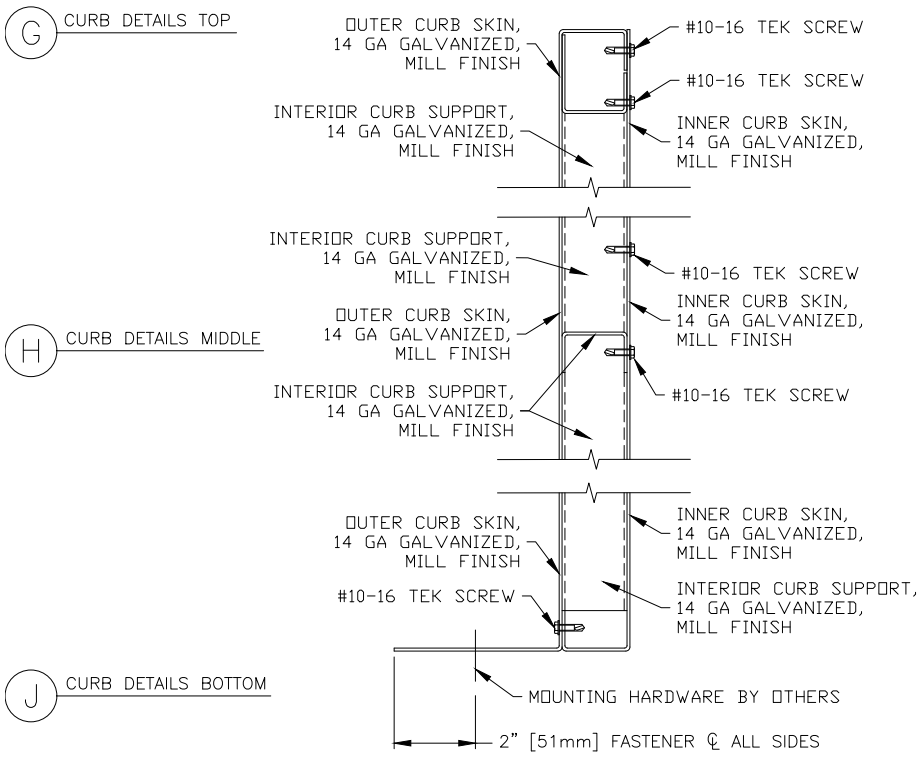

ROOF OPENING DETAILS

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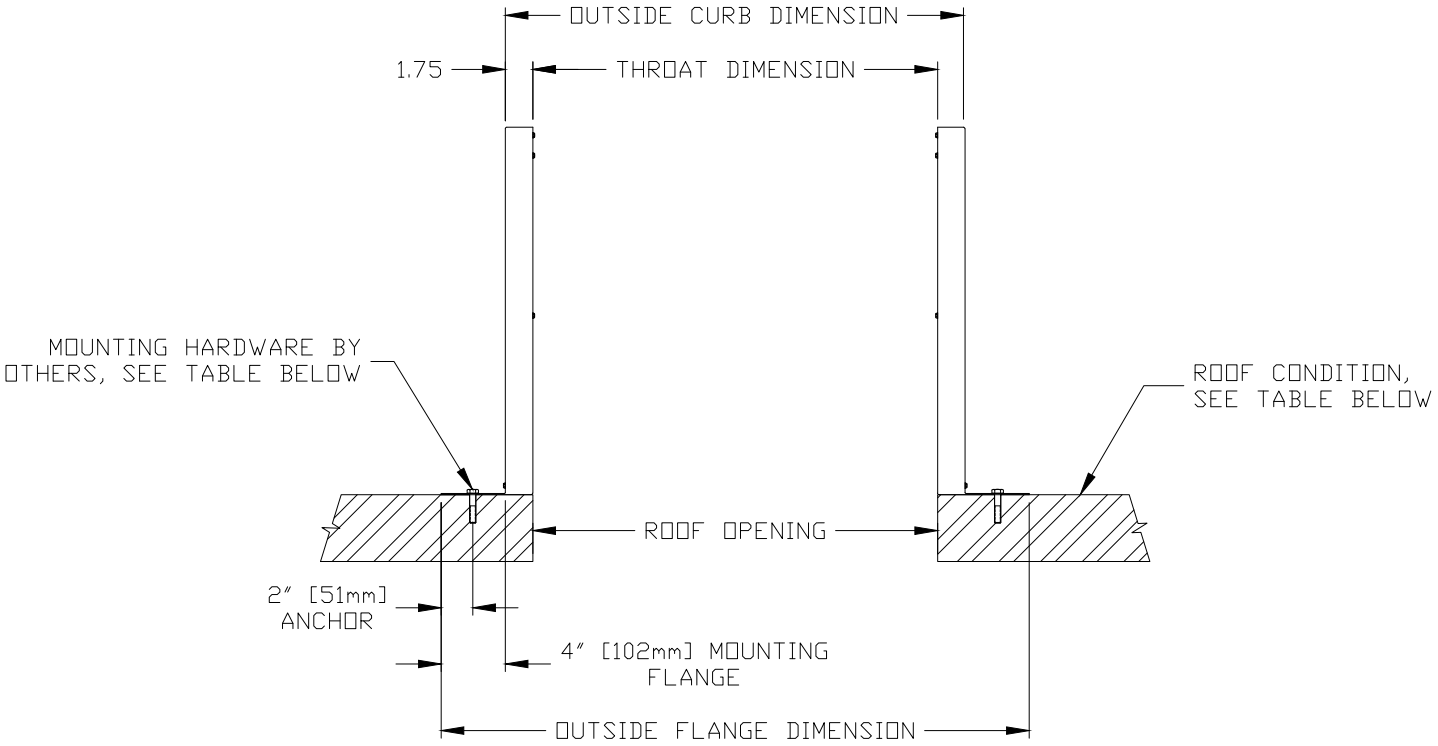

CURB ANCHOR INFORMATION		
SUBSTRATE, MINIMUMS	ANCHOR DESCRIPTION	NOTES
CONCRETE: 4" [102mm] THICK 3 KSI [20.6 MPA] NORMAL WEIGHT CRACKED	HILTI KWIK BOLT TZ2 EXPANSION ANCHOR, 300 SS, 6" [152mm] MAX CENTERS ALONG CURB FLANGE, Ø3/8" [10mm] ONLY X MIN LENGTH OF 3" [76mm]	MIN 2.5" NOM. EMBEDMENT, MIN 4.38" [111mm] TO CONCRETE EDGE/END, FULL BEARING REQUIRED UNDER CURB FLANGE, ALSO ACCEPTABLE IS 300 SS THRU-BOLT MIN 3/8-16 WITH MIN 2" [51mm] O.D. BY MIN 0.05" [1.3mm] THICK WASHER AT NUT
	HILTI KWIK BOLT TZ2 EXPANSION ANCHOR, 300 SS. 2 PER CORNER ANCHOR PLATE AT 6" [152mm] MAX CENTERS, Ø3/8" [10mm] ONLY X MIN LENGTH OF 3.5" [89mm]	
STEEL: 16 GA [1.6mm] FY 50 KSI [345 MPA] OR 1/8" [3mm] ASTM A3, FY 36 KSI [248 MPA]	ELCO BI-FLEX SELF-DRILLING SCREW, 3" [76mm] MAX CENTERS ALONG CURB FLANGE, MIN 1/4-(14 OR 20) X 1" MIN LENGTH	FULL THREAD ENGAGEMENT, MIN 0.5" [13mm] STEEL EDGE/END, 300 SS HEAD/SHANK WITH COATED STEEL DRILL POINT, FULL BEARING REQUIRED UNDER CURB FLANGE, ALSO ACCEPTABLE IS 300 SS THRU-BOLT MIN 1/4-20 WITH MIN 0.5" [13mm] O.D. BY MIN 0.04" [1mm] THICK WASHER AT NUT
	ELCO BI-FLEX SELF-DRILLING SCREW, 9 PER CORNER ANCHOR PLATE AT 0.75" [19mm] MAX CENTERS, MIN 1/4-(14 OR 20) X 1.5" MIN LENGTH	
WOOD: 3" [76mm] THICKNESS, S.G. 0.042	LAG BOLT, 300 SS, 3" [76mm] MAX CENTERS ALONG CURB FLANGE, MIN Ø1/2" X 3" MIN LENGTH	MIN 2" [51mm] THREAD ENGAGEMENT, MIN 2.9" [74mm] PENETRATION, MIN 1.5" [38mm] WOOD EDGE, MIN 2.63" [67mm] WOOD END, FULL BEARING REQUIRED UNDER CURB FLANGE, ALSO ACCEPTABLE IS 300 SS THRU-BOLT MIN 1/2-13 WITH MIN 2" [51mm] O.D. BY MIN 0.05" [1.3mm] THICK WASHER AT NUT
	LAG BOLT, 300 SS, 3 PER CORNER ANCHOR PLATE AT 3" [76mm] MAX CENTERS, MIN Ø1/2" X 3.5" MIN LENGTH	

OPTION DRAWINGS

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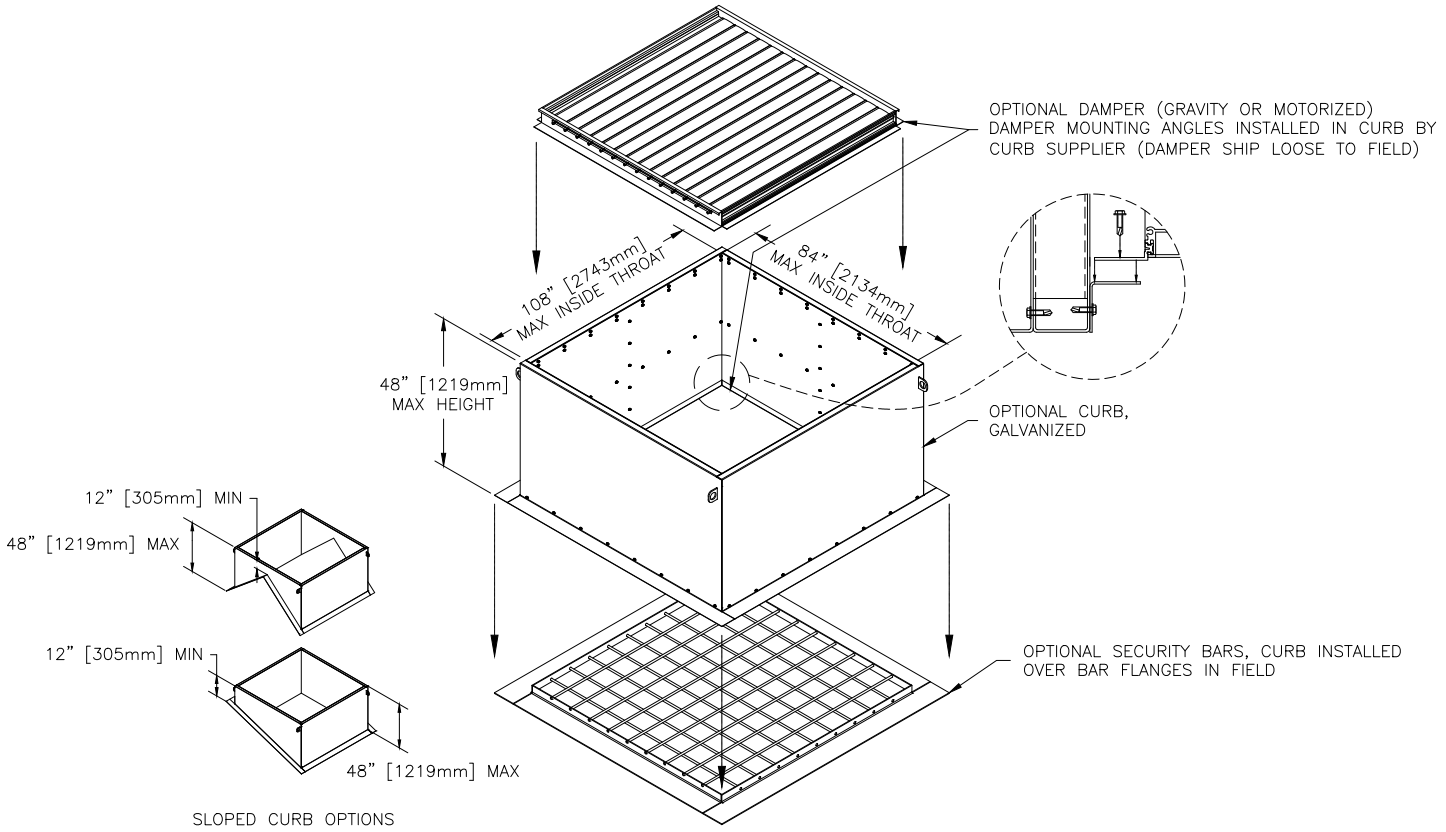

Weather Infiltration Disclosure

Louvered penthouses provide a level of defense against weather infiltration, however; louvered penthouses cannot be considered weather proof. Greenheck recommends provisions to manage weather infiltration be present beyond the louvered penthouse so as to mitigate weather passage and prevent water related damage to building conditions or equipment. Design of or materials as required to manage weather infiltration are not provided by Greenheck. Greenheck also recommends sound product application/engineering practice(s) be employed when applying louvered penthouses. Such practice(s) may include, but are not limited to, conservative throat and louver free area velocities. Greenheck shall not be held liable for water related damage to building conditions or equipment

GREENHECK

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