



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION

APPLICATION FOR OSHPD PREAPPROVAL OF MANUFACTURER'S CERTIFICATION (OPM)

OFFICE USE ONLY
APPLICATION #: OPM-0205-13

OSHPD Preapproval of Manufacturer's Certification (OPM)

Type: [X] New [] Renewal [X] Update to Pre-CBC 2013 OPA Number: OPA-0535

Manufacturer Information

Manufacturer: NuAire, Inc.
Manufacturer's Technical Representative: William Peters
Mailing Address: 2100 Fernbrook Lane, Plymouth, MN 55447
Telephone: 763-553-1270 Email: bpeters@nuaire.com

Product Information

Product Name: Laminar Airflow Cabinets
Product Type: Horizontal
Product Model Number: Model numbers - See Sheet 2 of 7
General Description: Horizontal airflow cabinet providing product protection from particulate contaminants used in life sciences, pharmaceutical, pharmacy and other industries.

Applicant Information

Applicant Company Name: LTK Associates, Inc.
Contact Person: Ray Uribes
Mailing Address: 745 Distel Drive, Los Altos, CA 94022
Telephone: 650-967-8465 Email: ltk@ltkse.com

I hereby agree to reimburse the Office of Statewide Health Planning and Development review fees in accordance with the California Administrative Code, 2013.

Signature of Applicant: [Signature] Date: March 30, 2015
Title: President Company Name: LTK Associates, Inc.

"Access to Safe, Quality Healthcare Environments that Meet California's Diverse and Dvnamic Needs"





OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT FACILITIES DEVELOPMENT DIVISION

Registered Design Professional Preparing Engineering Recommendations

Company Name: LTK Associates, Inc.

Name: Ray Uribes California License Number: S2479

Mailing Address: 745 Distel Drive, Los Altos, CA 94022

Telephone: 650-967-8465 Email: ltk@ltkse.com

OSHPD Special Seismic Certification Preapproval (OSP)

Special Seismic Certification is preapproved under OSP-
(Separate application for OSP is required)

Special Seismic Certification is not preapproved

Certification Method(s)

Testing in accordance with: ICC-ES AC156 FM 1950-10

Other* (Please Specify): _____

*Use of criteria other than those adopted by the California Building Standards Code, 2013 (CBSC 2013) for component supports and attachments are not permitted. For distribution system, interior partition wall, and suspended ceiling seismic bracings, test criteria other than those adopted in the CBSC 2013 may be used when approved by OSHPD prior to testing.

Analysis

Experience Data

Combination of Testing, Analysis, and/or Experience Data (Please Specify): _____

List of Attachments Supporting the Manufacturer's Certification

Test Report Drawings Calculations Manufacturer's Catalog

Other(s) (Please Specify): _____

OFFICE USE ONLY – OSHPD APPROVAL VALID FOR CBC 2013 ONLY

Signature:  Date: 03-03-2016

Print Name: Jeffrey Kikumoto

Title: SSE

Condition of Approval (if applicable): _____

"Access to Safe, Quality Healthcare Environments that Meet California's Diverse and Dynamic Needs"

STATE OF CALIFORNIA – HEALTH AND HUMAN SERVICES AGENCY
OSH-FD-700 (REV 10/22/14)



OSHPD

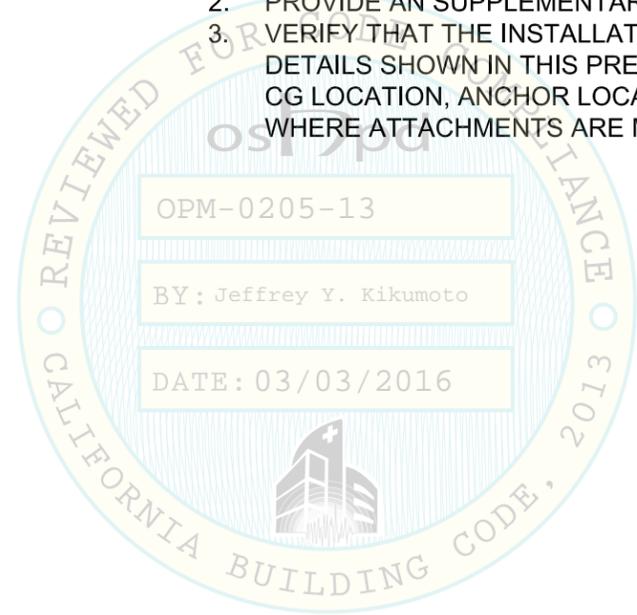
REV	ECO	DESCRIPTION	DATE	DRFT	CHKD
A	12543	RELEASED TO PRODUCTION	9/8/15	LS	BP

PRE-APPROVAL NOTES:

1. THIS OSHPD PREAPPROVAL OF MANUFACTURER'S CERTIFICATION (OPM) IS BASED ON CBC 2013. THE DEMAND (DESIGN FORCES) FOR USE WITH THIS OPM SHALL BE BASED ON THE CBC 2013.
2. FORCES PER ASCE 7-10 SECTION 13.3.1, EQUATIONS 13.3-1, 13.3-2 AND 13.3-3, WHERE: $S_{DS} = 2.0$, $a_p = 1.0$, AND $R_p = 2.5$. (FORCE LEVEL FOR Eh & Ev IS ASD) HORIZONTAL FORCE (Eh) = $1.00W_p$, VERTICAL FORCE (Ev) = $0.28W_p$.
3. THE DETAILS IN THIS PRE-APPROVAL ARE APPLICABLE TO ANY LOCATION IN THE STATE OF CALIFORNIA WHERE S_{DS} IS NOT GREATER THAN 2.0. THE DETAILS WERE DEVELOPED USING $h=z$ AND MAY BE USED AT ANY HEIGHT IN THE BUILDING WHERE $z/h \leq 1.0$.
4. DESIGN FORCES SHOWN ON THE DRAWINGS ARE BASED ON WORKING STRESS LOADS AND MAY BE USED FOR ALLOWABLE STRESS DESIGN.
5. THIS PRE-APPROVAL COVERS ONLY THE ATTACHMENT OF THE UNIT TO THE STRUCTURE. IT DOES NOT CONSTITUTE SEISMIC CERTIFICATION OF THE EQUIPMENT.

RESPONSIBILITIES OF THE STRUCTURAL ENGINEER OF RECORD:

1. VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE WEIGHT AND FORCES SHOWN IN THIS PRE-APPROVAL IN ADDITION TO ALL OTHER WEIGHTS AND FORCES THAT ARE IMPOSED ON IT.
2. PROVIDE AN SUPPLEMENTARY STRUCTURE REQUIRED FOR STRENGTH AND STABILITY.
3. VERIFY THAT THE INSTALLATION IS IN CONFORMANCE WITH THE 2013 CBC AND WITH THE NOTES AND DETAILS SHOWN IN THIS PRE-APPROVAL. VERIFY THAT THE EQUIPMENT'S ACTUAL WEIGHT, CG LOCATION, ANCHOR LOCATIONS, ANCHOR DETAILS AND THE MATERIAL AND GAGE OF THE UNIT WHERE ATTACHMENTS ARE MADE CONFORM WITH THE INFORMATION SHOWN IN THIS PRE-APPROVAL.



LTK
ASSOCIATES
Incorporated

Structural Engineers
745 Distel Drive
Los Altos, CA 94022
(650) 967-8465
FAX (650) 967-5148

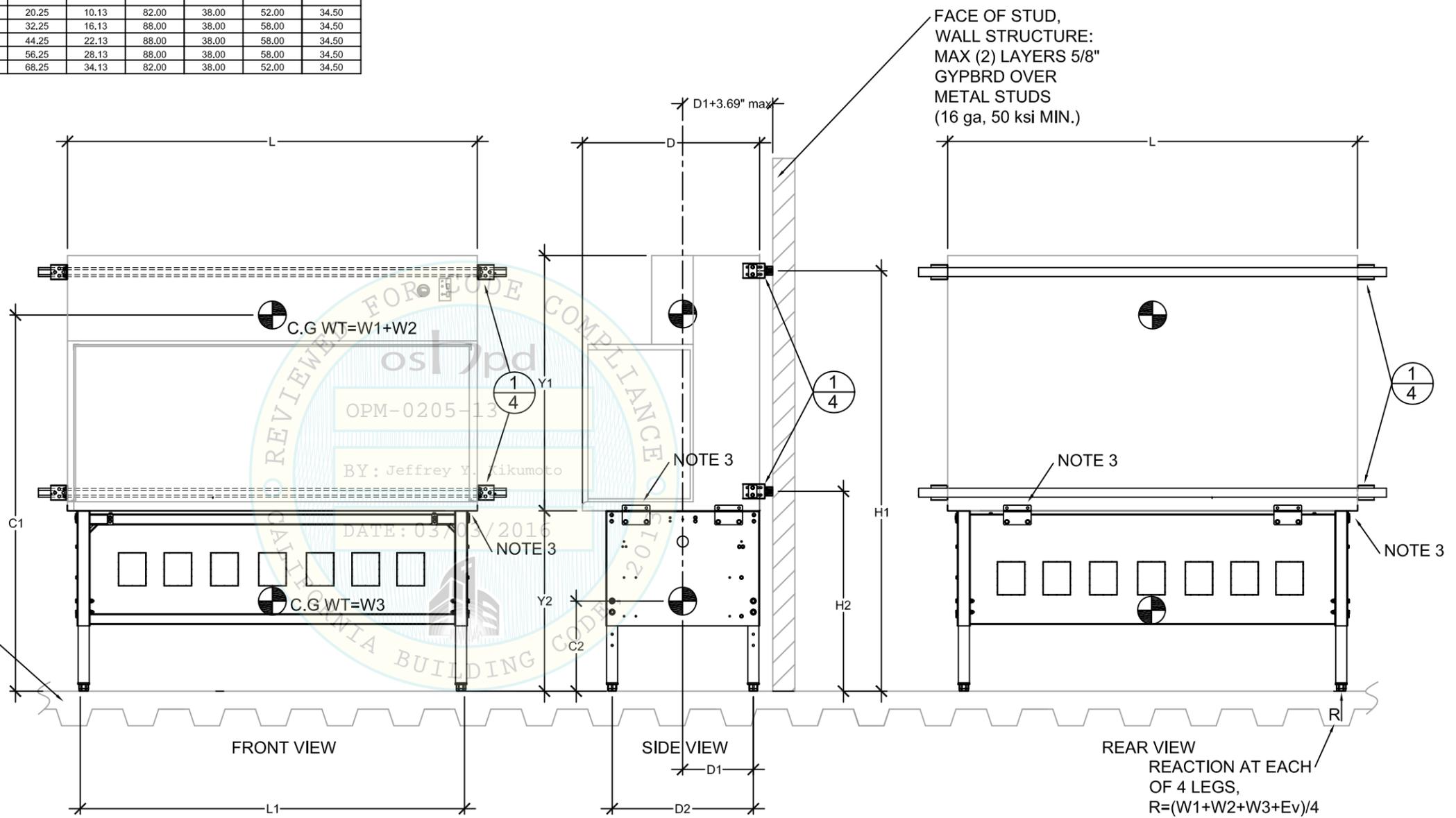
SUPPORTS & ATTACHMENTS DETAILS (WALL MOUNT) HORIZONTAL AIRFLOW STATION					
DFTM	LS	1/26/16	CHKD	BP	SHEET 1 OF 7
DRAWING NUMBER		BCD-17200			A

Horizontal Airflow Station Data			
Model no.	HOOD = W1 (lb)	CONTENT = W2 (lb)	STAND = W3 (lb)
NU-201-224/230	200	100	80
NU-201-324/330/336	310	100	82
NU-201-424/430/436	370	100	84
NU-201-524/530/536	420	100	86
NU-201-624/630	441	100	88

DIMENSIONS												
Model no.	C1	C2	D	D1	D2	L	L1	L2	H1	H2	Y1	Y2
NU-201-224/230	68.00	9.50	32.00	12.00	25.50	26.00	20.25	10.13	82.00	38.00	52.00	34.50
NU-201-324/330/336	69.00	9.50	32.00	12.00	25.50	38.00	32.25	16.13	88.00	38.00	58.00	34.50
NU-201-424/430/436	69.00	9.50	32.00	12.00	25.50	50.00	44.25	22.13	88.00	38.00	58.00	34.50
NU-201-524/530/536	69.00	9.50	32.00	12.00	25.50	62.00	56.25	28.13	88.00	38.00	58.00	34.50
NU-201-624/630	68.00	9.50	32.00	12.00	25.50	74.00	68.25	34.13	82.00	38.00	52.00	34.50

Cabinet Model no.	Basestand Part number
NU-201-224/230	NU-200-142
NU-201-324/330/336	NU-200-143
NU-201-424/430/436	NU-200-144
NU-201-524/530/536	NU-200-145
NU-201-624/630	NU-200-146

FLOOR STRUCTURE:
 AT ELEVATED SLAB:
 MIN. 2 1/2" THICK, 3000 PSI SAND LTWT
 CONCRETE
 OVER METAL DECK.
 AT SOG:
 MIN. 4" THICK, 3000 PSI, NW CONCRETE



- NOTES:
- SEE ALL NOTES SHEET 1 OF 7.
 - FOR ATTACHMENT DETAILS, SEE SHEET 4 OF 7.
 - FIELD ASSEMBLED CONNECTION OF CABINET TO SUPPORT TABLE CONTRACTOR TO INSTALL 14 ga 304 SST PLATES (Fy=30ksi min.) w/ WASHERS AND NUTS ON WELDED STUDS ALL PROVIDED BY THE EQUIPMENT MANUFACTURER. TYPICAL 2 PLACES ON EACH SIDE AND 2 PLACES ON REAR

HORIZONTAL AIRFLOW BENCH MODEL NU-201-630
 SHOWN HERE W/
 BASESTAND MODEL NU-200-146



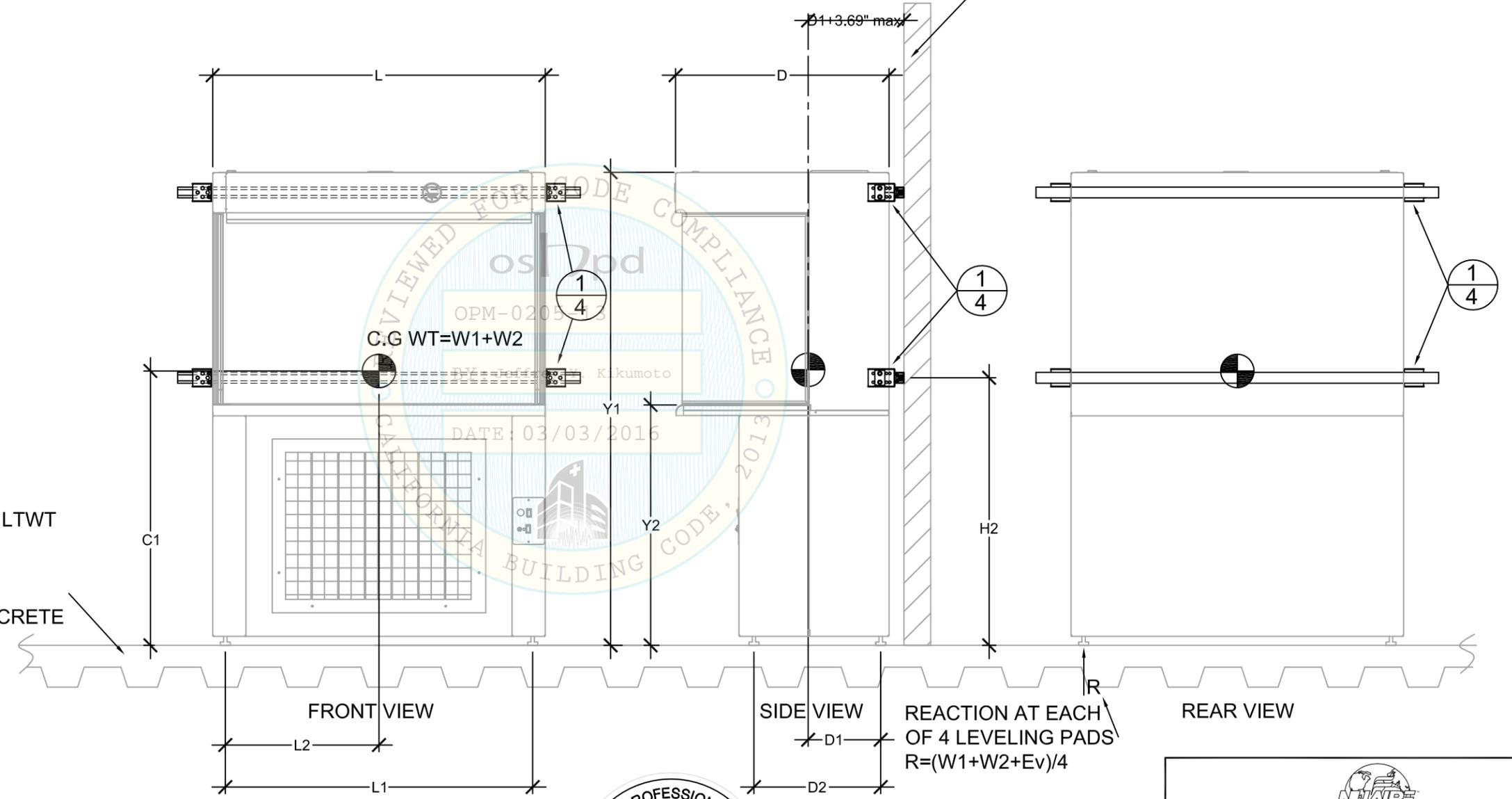
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 FAX (650) 967-5148

SUPPORTS & ATTACHMENTS DETAILS (WALL MOUNT) HORIZONTAL AIRFLOW BENCH STATION					
DFTM	LS	3/2/16	CHKD	BP	SHEET 2 OF 7
DRAWING NUMBER		BCD-17200		A	

Console Horizontal Cabinet Data		
Model no.	CAB = W1 (lb)	CONTENT = W2 (lb)
NU-301-336	270	100
NU-301-436	420	100
NU-301-536	540	100
NU-301-636	630	100

DIMENSIONS											
Model no.	C1	D	D1	D2	L	L1	L2	H1	H2	Y1	Y2
NU-301-336	39.00	32.00	10.00	19.75	38.00	34.00	17.00	74.00	38.00	78.50	36.00
NU-301-436	39.00	32.00	10.00	19.75	50.00	46.00	23.00	74.00	38.00	78.50	36.00
NU-301-536	39.00	32.00	10.00	19.75	62.00	58.00	29.00	74.00	38.00	78.50	36.00
NU-301-636	39.00	32.00	10.00	19.75	74.00	70.00	35.00	74.00	38.00	78.50	36.00

FACE OF STUD,
WALL STRUCTURE:
MAX (2) LAYERS 5/8"
GYPBRD OVER
METAL STUDS
(16 ga, 50 ksi MIN.)



FLOOR STRUCTURE:
AT ELEVATED SLAB:
MIN. 2 1/2" THICK, 3000 PSI SAND LTWT
CONCRETE
OVER METAL DECK.
AT SOG:
MIN. 4" THICK, 3000 PSI, NW CONCRETE

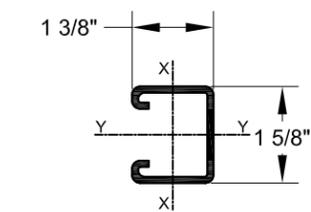
REACTION AT EACH
OF 4 LEVELING PADS
 $R=(W1+W2+Ev)/4$

- NOTES:
- SEE ALL NOTES SHEET 1 OF 7.
 - FOR ATTACHMENT DETAILS, SEE SHEET 4 OF 7.

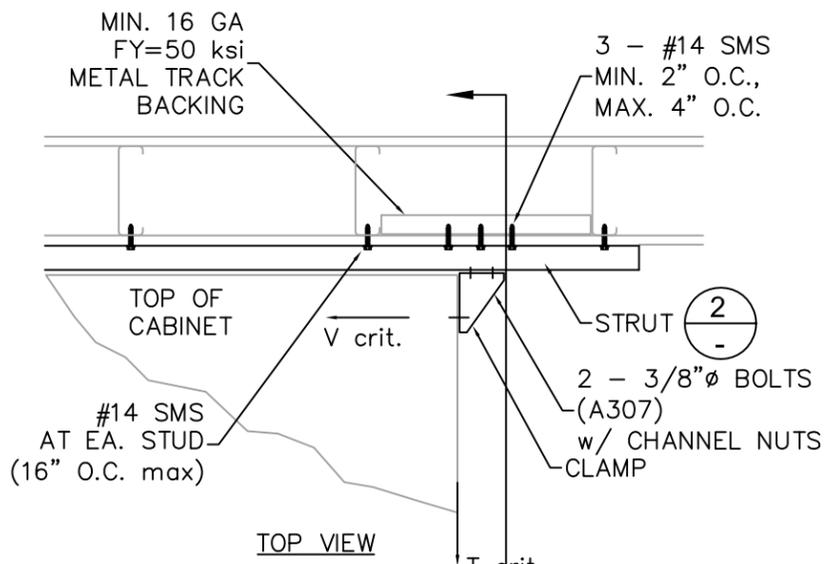
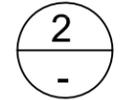


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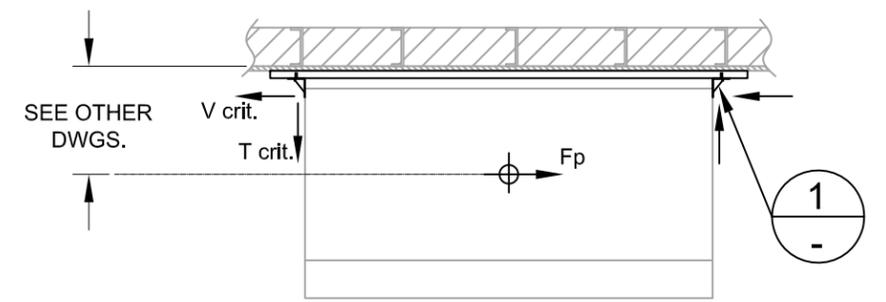
SUPPORTS & ATTACHMENTS DETAILS WALL ANCHOR HORIZONTAL AIRFLOW CONSOLE STATION					
DFTM	LS	3/2/16	CHKD	BP	SHEET 3 OF 7
DRAWING NUMBER		BCD-17200		A	



12ga STRUT (ASTM A1033 SS GRADE 33)
SOLID (NO HOLES)
MIN. STRUT CHANNEL PROPERTIES:
Wt. = 1.7 lb/ft A = 0.50 sq. in.
Sxx = 0.156 Syy = 0.255
rx = 0.493 ry = 0.643
Ixx = 0.122 Iyy = 0.207



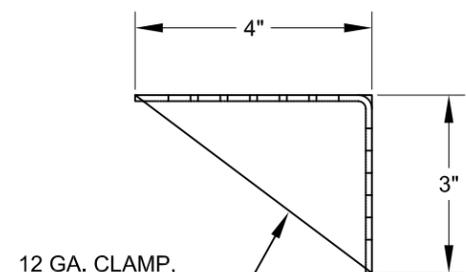
TOP VIEW



TOP PLAN

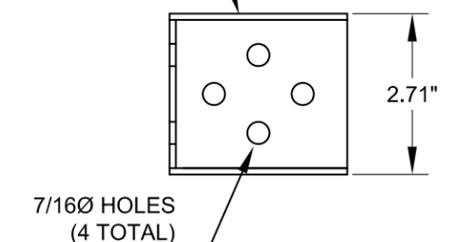
NOTES

- SEE ALL NOTES SHEET 1 OF 7.
- MAXIMUM CRITICAL DESIGN FORCES AT EACH CLAMP:
T crit. = 187 lbs., V crit. = 183 lbs.
ALL FORCES ARE ASD LEVEL.
- SMS SHALL BE TEKS SCREWS (ICC-ES ESR-1976)



12 GA. CLAMP, A304 SS NUAIRE PART #A-425-1996

12 GA. CLAMP TOP VIEW



7/16" Ø HOLES (4 TOTAL)

12 GA. CLAMP END VIEW

12 GA. CLAMP, ASTM A240 TYPE A304 SST
Fy=30 ksi MIN.
NUAIRE PART #A-425-1996
(SIDE VIEW SHOWN HERE)

3/8" Ø HOLES @ 3/4" O.C.

CABINET, 18 GA.

12 GA. x 2 1/4" x 1 1/2" A304 SST PLATE WASHER w/ 5/16" Ø HOLES NUAIRE PART #A-425-5016

1/4"-20 THREADED STUDS CAPACITOR DISCHARGE (CD) SHOP WELDED TO 18 GA. 304 SST (Fy=30ksi min.) CABINET SIDE, WASHERS AND NUT PROVIDED BY EQUIPMENT MANUFACTURER, INSTALLED BY CONTRACTOR

2 - 3/8" Ø A307 BOLTS & B-LINE/TOLCO CHANNEL NUTS (N200) @ 1-1/2" O.C. (TORQUE TO 19 ft-lbs) AT EACH CLAMP

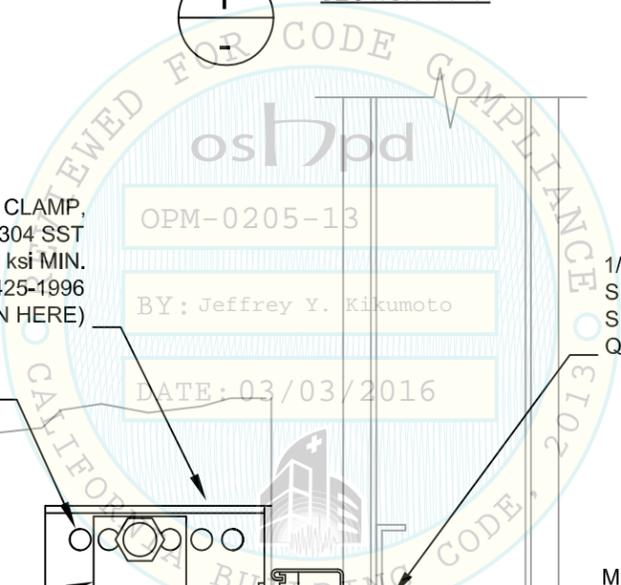
MAX 2 LAYERS (5/8") GYPSUM BOARD

1/4" -14 X 1-1/2 SMS SELF DRILLING SCREWS, SEE DETAIL ABOVE FOR QUANTITY AND SPACING

MIN. 16 GA. (50 KSI) BACKING OR METAL STUDS BY SEOR

HORIZONTAL STRUT (SEE DETAIL 2) ONE LENGTH TO EXTEND PAST UNIT MIN. 6" EITHER SIDE

SECTION A-A



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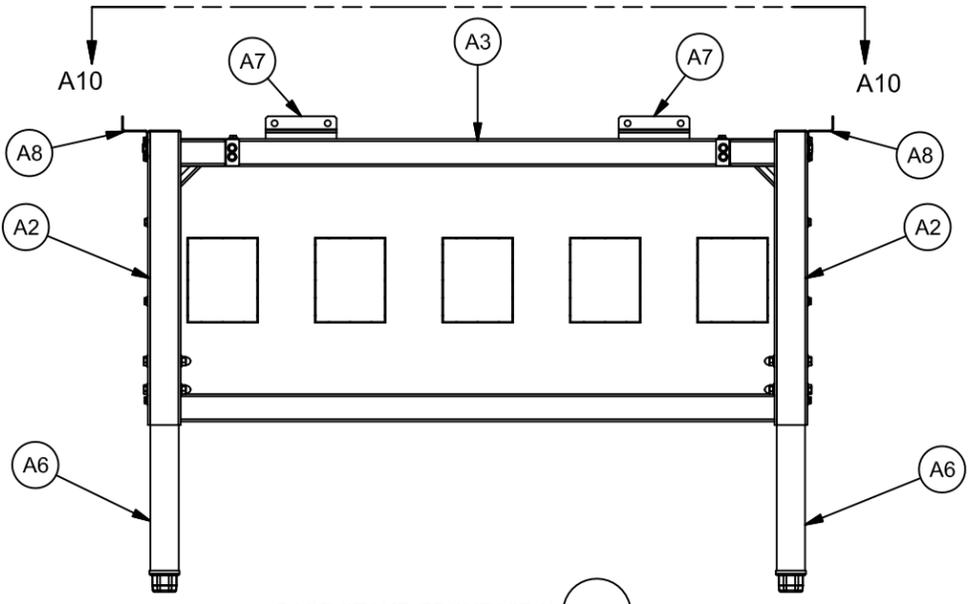
 SUPPORTS & ATTACHMENTS DETAILS (WALL MOUNT) HORIZONTAL AIRFLOW BENCH STATION					
DFTM	LS	3/2/16	CHKD	BP	SHEET 4 OF 7
DRAWING NUMBER		BCD-17200		A	

VIEW A3	
CABINET SIZE	DIM "A"
2 FT.	22 1/4 [565]
3 FT.	34 1/4 [870]
4 FT.	46 1/4 [1175]
5 FT.	58 1/4 [1480]
6 FT.	70 1/4 [1784]

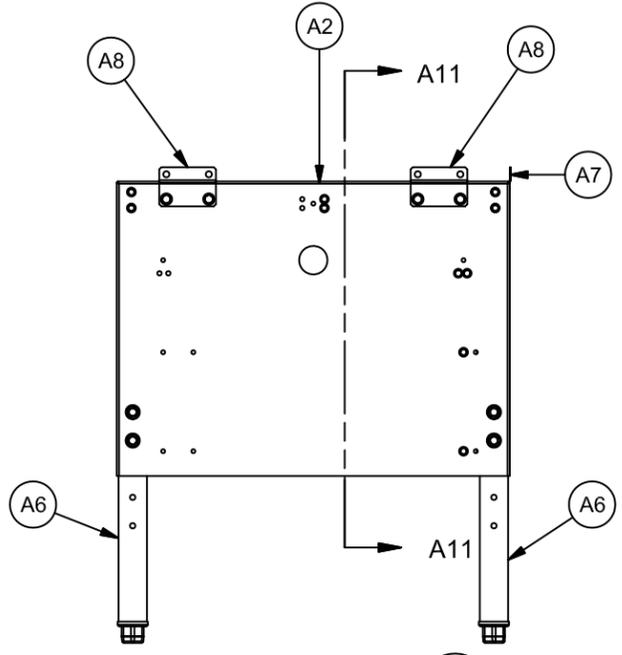
Cabinet Model no.	Basestand Part number
NU-201-224/230 (2ft)	NU-200-142
NU-201-324/330/336 (3ft)	NU-200-143
NU-201-424/430/436 (4ft)	NU-200-144
NU-201-524/530/536 (5ft)	NU-200-145
NU-201-624/630 (6ft)	NU-200-146

REFERENCE ONLY

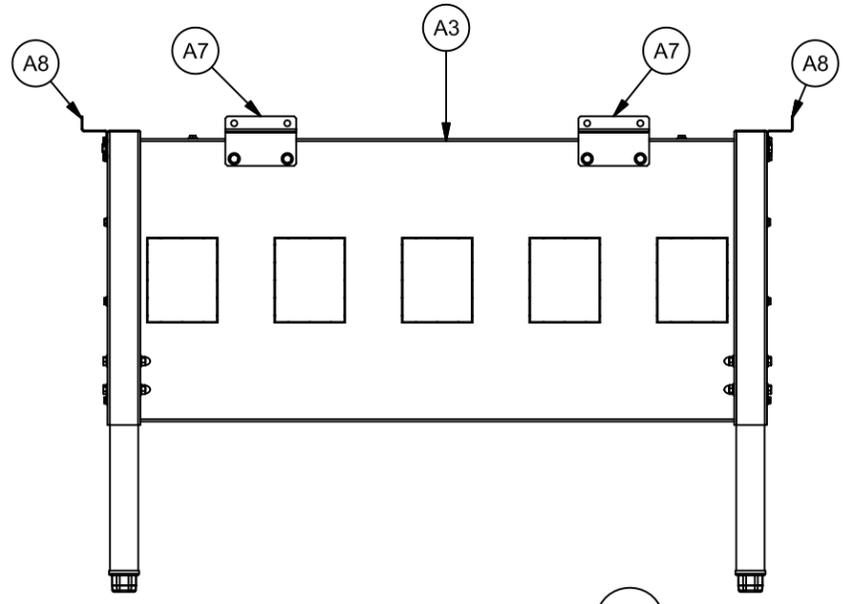
REV	ECO	DESCRIPTION	DATE	DRFT	CHKD



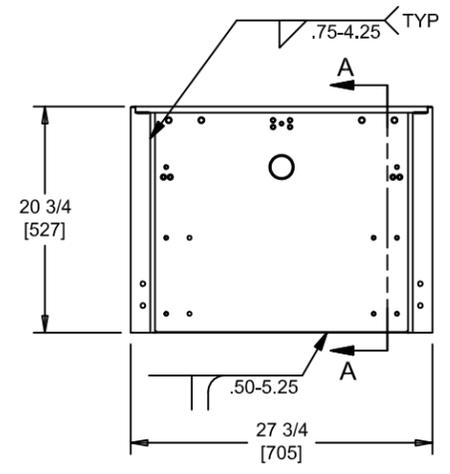
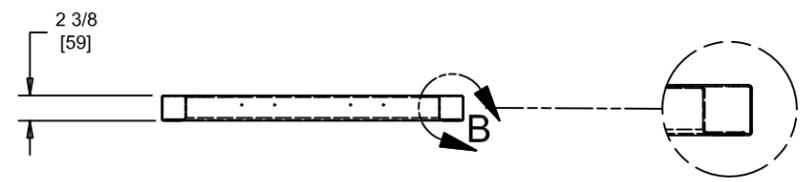
BASE STAND FRONT VIEW A1



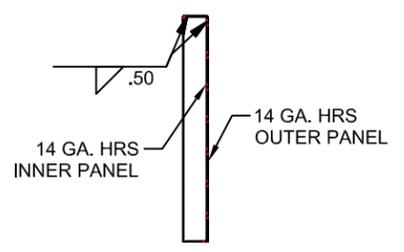
BASE STAND SIDE VIEW A1



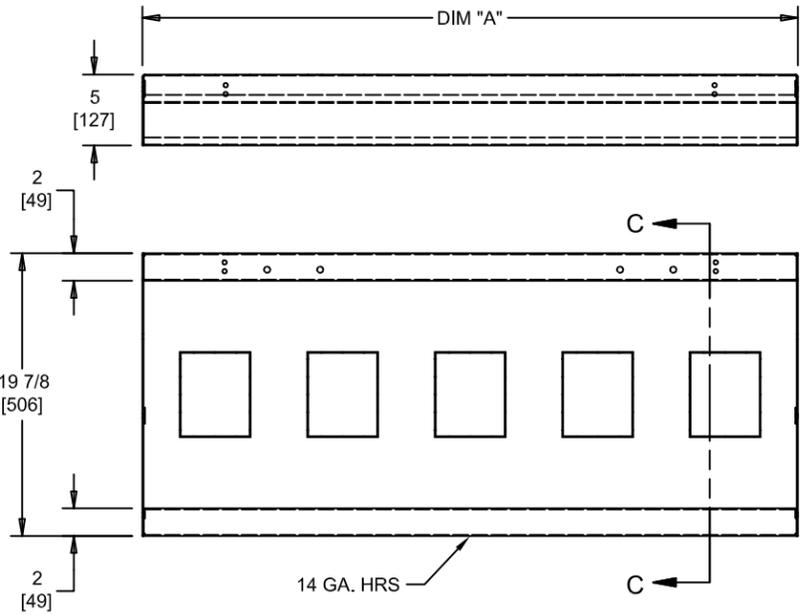
BASE STAND REAR VIEW A1



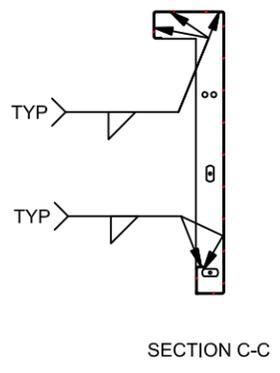
BASE STAND END PLATE A2



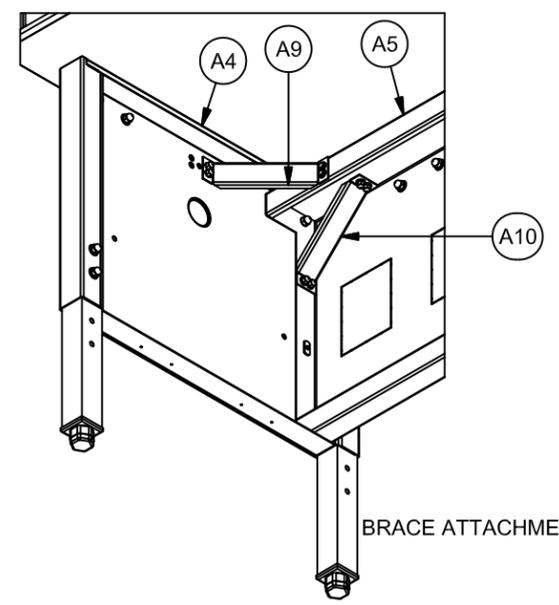
SECTION A-A SCALE 0.06 : 1



BASE STAND CROSS PANEL A3



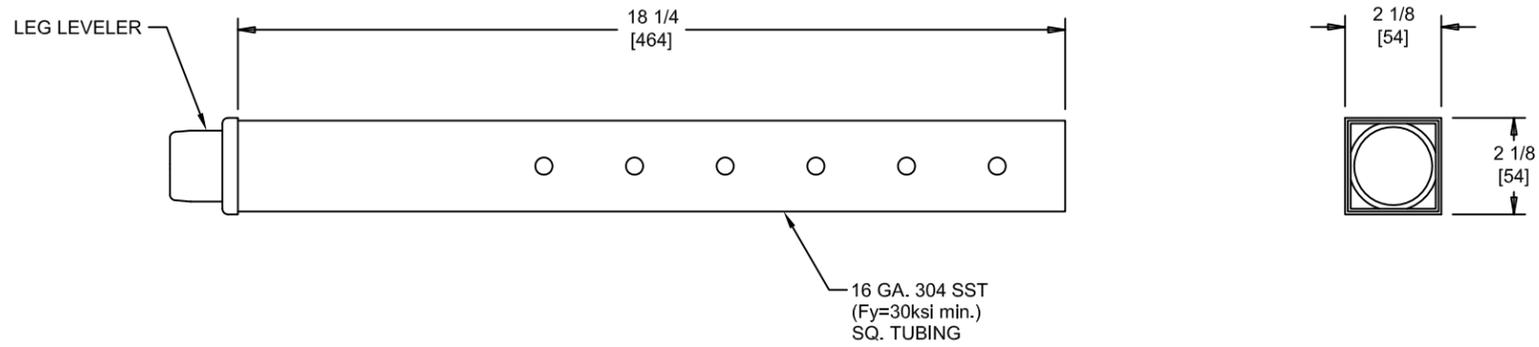
SECTION C-C



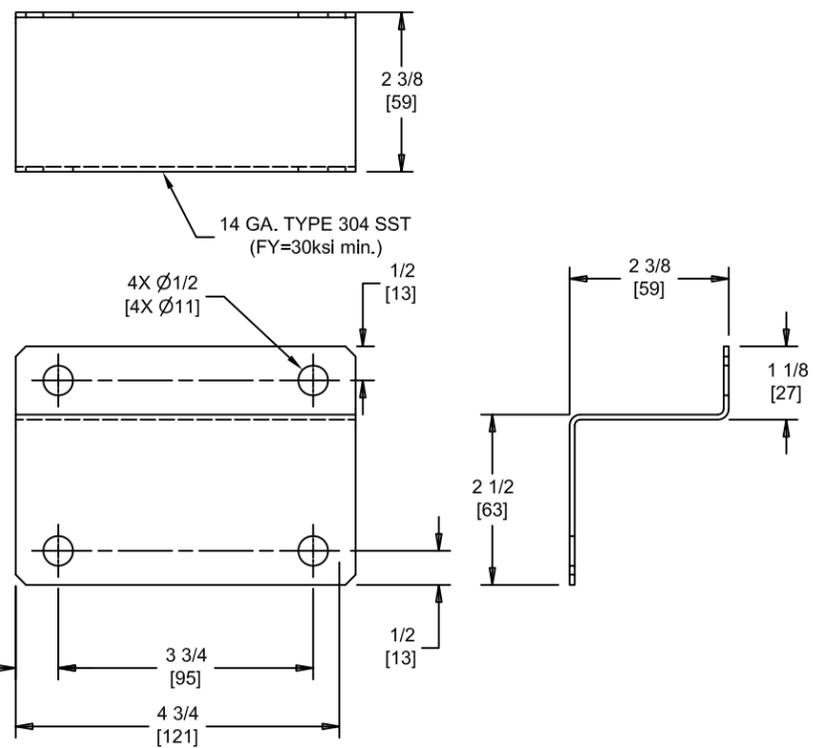
BRACE ATTACHMENT VIEW A4

NOTE:
1. THIS DRAWING IS INFORMATIONAL USE ONLY. ALL BASE STAND COMPONENTS, CONNECTION HARDWARE AND WELDS ARE PROVIDED BY MANUFACTURER.
03/03/2016

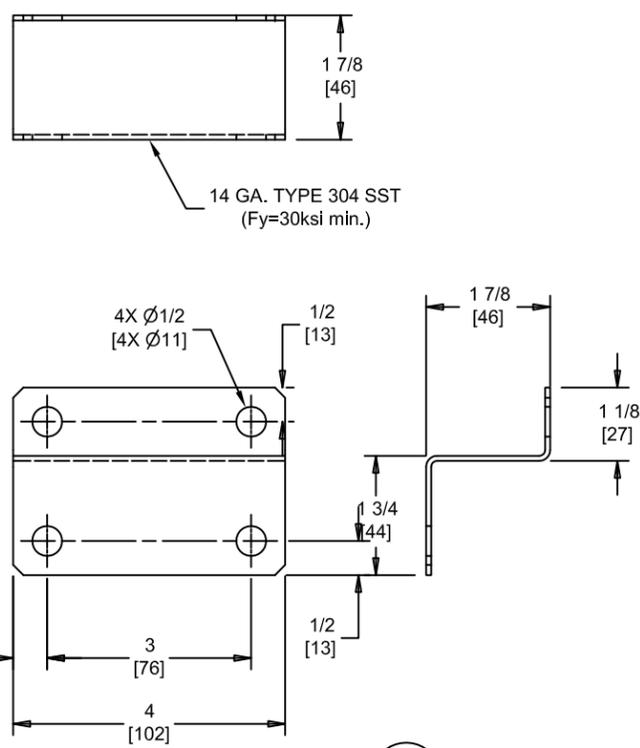
HORIZONTAL AIRFLOW BENCH STATION (WALL MOUNT) TELESCOPING BASE SEISMIC DETAIL					
DFTM	LS	1/26/16	CHKD	BP	SHEET 5 OF 7
DRAWING NUMBER		BCD-17200		Page 3 of 3	
					A



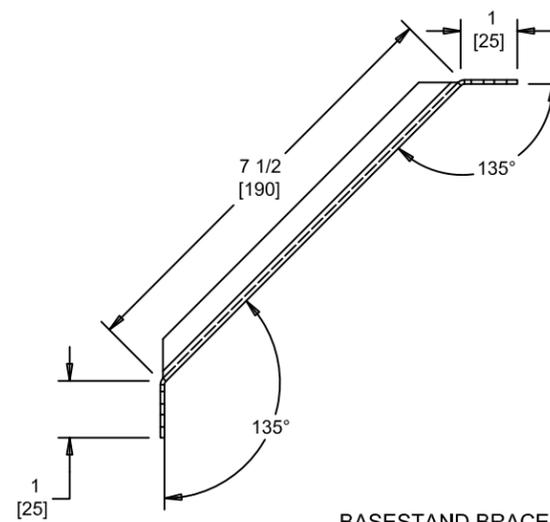
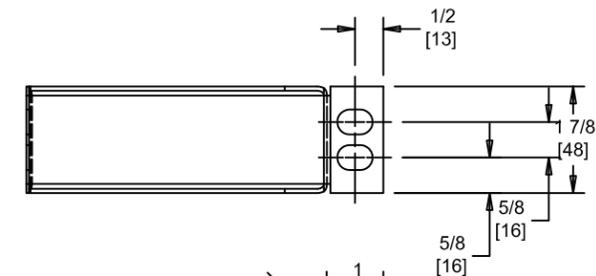
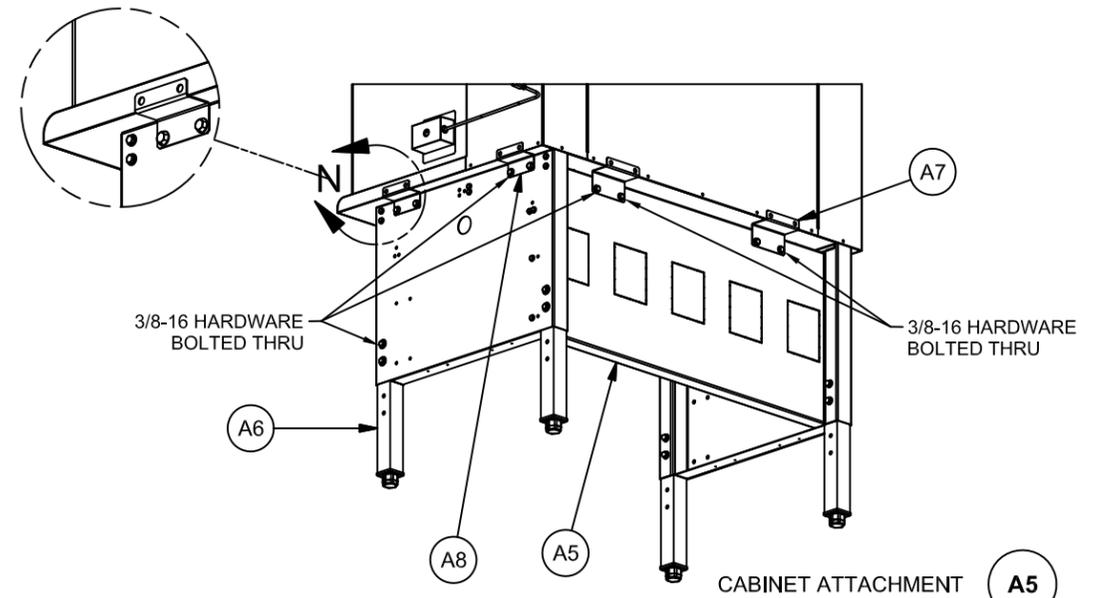
LEG EXTENSION DETAIL "A" **A6**



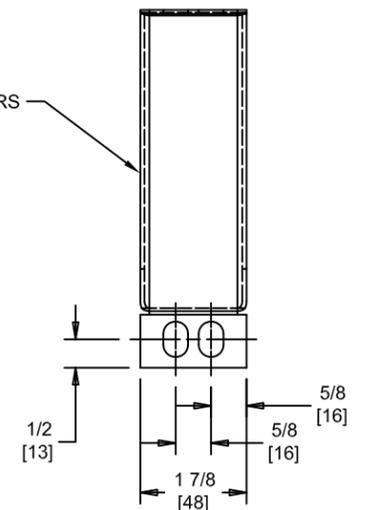
REAR SEISMIC ANGLE **A7**



SIDE SEISMIC ANGLE **A8**

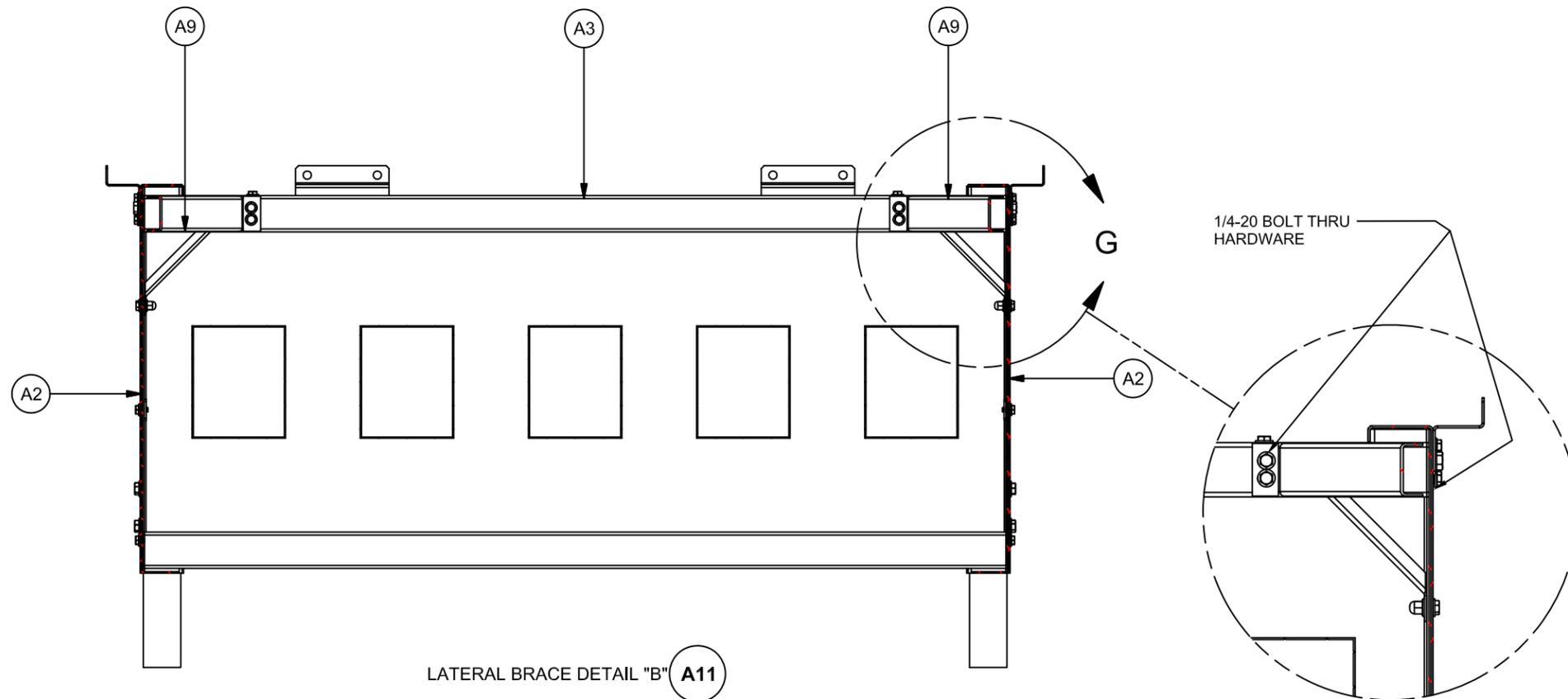
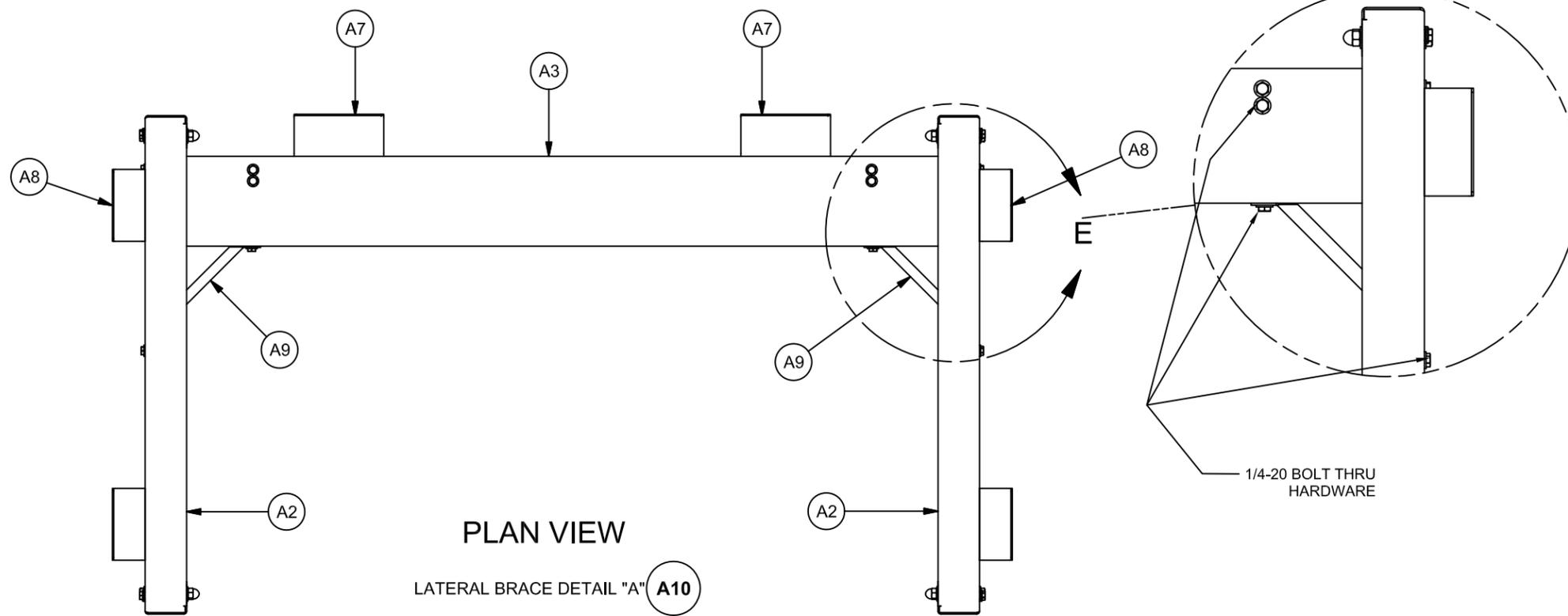


BASESTAND BRACE **A9**



HORIZONTAL AIRFLOW BENCH STATION (WALL MOUNT) TELESCOPING BASE SEISMIC DETAIL					
DFTM	LS	3/2/16	CHKD	BP	SHEET 6 OF 7
DRAWING NUMBER		BCD-17200		A	

REFERENCE ONLY



HORIZONTAL AIRFLOW BENCH STATION (WALL MOUNT) TELESCOPING BASE SEISMIC DETAIL					
DFTM	LS	1/26/16	CHKD	BP	SHEET 7 OF 7
DRAWING NUMBER		BCD-17200			A