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

OFFICE USE ONLY

APPLICATION #: OPM-0524

HCAI Preapproval of Manufacturer's Certification (OPM)

Type: [X] New [ ] Renewal/Update

Manufacturer Information

Manufacturer: TCI, LLC

Manufacturer's Technical Representative: James Pomes

Mailing Address: W132 N10611 Grant Drive, Germantown, WI 53022

Telephone: (414) 357-2774 Email: jpomes@transcoil.com

Product Information

Product Name: HSD Harmonic Shield Passive Harmonic Filter

Product Type: Enclosed Passive Harmonic Electrical Filter

Product Model Number: HSD passive harmonic filters with part numbers ending in S.

General Description: Floor supported cabinets enclosing a passive harmonic filter.

Applicant Information

Applicant Company Name: TCI, LLC

Contact Person: Jesse Schubert

Mailing Address: W132 N10611 Grant Drive, Germantown, WI 53022

Telephone: (414) 357-2786 Email: jschubert@transcoil.com

Title: Sr. Mechanical Designer

Registered Design Professonal Preparing Engineering Recommendations

Company Name: MRH STRUCTURAL ENGINEERS

Name: Mohammad Hariri California License Number: S3545

Mailing Address: 3400 Irvine Ave, Suite 101, Newport Beach, CA 92660

Telephone: (714) 633-6302 Email: MRH@MRHSE.com

HCAI Special Seismic Certification Preapproval (OSP)

☐ Special Seismic Certification is preapproved under OSP OSP Number:

Certification Method

Testing in accordance with: ☐ ICC-ES AC156 ☐ FM 1950-16

☒ Other(s) (Please Specify): Specify): By Analysis

*Use of criteria other than those adopted by the California Building Standards Code, 2019 (CBSC 2019) 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 2019 may be used when approved by HCAI prior to testing.

☒ Analysis

☐ Experience Data

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

HCAI Approval

Date: 9/15/2022

Name: Haeseong Lim Title: Senior Structural Engineer

Condition of Approval (if applicable):

MRH Structural Engineers

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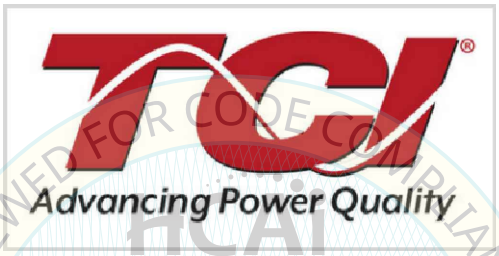

HSD, HarmonicShield Drive-Applied Harmonic Filter

OPM-0524

Seismic Supports & Attachments

CALIFORNIA BUILDING CODE 2019 (CBC 2019)

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Group "A"

Group "B"

M.R.H. STRUCTURAL ENGINEERS, INC.
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Structural Engineer: Mohammad Hariri
California SE No. S3545

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M.R.H. STRUCTURAL ENGINEERS, INC.
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MRH
Structural Engineer: Mohammad Hariri
California SE No. S3545

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Appendix A - Referenced Seismic Outline Drawings

M.R.H. STRUCTURAL ENGINEERS, INC.
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SECTION 0

GENERAL INFORMATION

M.R.H. STRUCTURAL ENGINEERS, INC.
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California SE No. S3545

GENERAL INFORMATION

0.1 GENERAL NOTES

1. This HCAI Preapproval of Manufacturer's Certification (OPM) is based on the CBC 2019. The demand (design forces) for use with this OPM shall be based on the CBC 2019.

2. The substrates included in this pre-approval are as follows:

   a. Concrete Slab on Grade
   b. Elevated Concrete Slab
   c. Concrete Over Metal Deck

3. This pre-approval is for the seismic supports & attachments of the unit to the structure. It does not address other loads.

4. The ranges of components sizes and material included in the pre-approval are per construction drawings that are listed in table 0.6-1 of Section 0.6.

5. Seismic forces are determined per Chapter 13 of ASCE 7-16.

6. All anchor forces shown in this HCAI OPM are due to application of factored vertical and lateral loads per ASCE 7-16 and shall be used for strength design.

7. Bolts installed through concrete metal deck shall be per ASTM 36, with Fy=36ksi or ASTM F1554 Grade 36 with Fy=36 ksi.

8. Anchor bolts shall be Stainless Steel HILTI KWIK Bolt TZ2 - SS 316 by HILTI, INC (ICC ESR-4266)

0.2 RESPONSIBILITIES OF SEOR OF THE BUILDING

1. Structural Engineer of Record shall verify adequacy of the new or existing structure to support the harmonic shield units.

2. Structural Engineer of Record shall provide and/or design additional members to resist the reactions, T_U and V_U at the anchor locations.

3. Structural Engineer of Record shall provide design for supporting structure to resist in-plane and out-of-plane anchor forces in any directions in addition to other code required loads and forces.

4. Structural Engineer of Record shall verify that the combination of S_{DS} & $^{7}/_{h}$ result in seismic forces (E_h , E_v) that are not greater than the values indicated in Section 5.0.

GENERAL INFORMATION (CONT.)

0.3 BUILDING CODES, STANDARDS, & GUIDELINES

This pre-approval conforms to the following:

a. **2019 California Building Code (CBC 2019)**

b. **American Society of Civil Engineers (ASCE 7-16)**

c. **American Concrete Institute (ACI 318-14)**

0.4 SEISMIC BRACING DESIGN PARAMETERS.

a. $S_{DS} = 2.5$ At or Below Grade

$S_{DS} = 2.0$ At Elevated Floor

b. $a_P = 2.5$

c. $R_P = 6.0$

d. $z/h = 0.0$ At or Below Grade

$z/h \leq 1.0$ At Elevated Floor

e. $I_P = 1.5$

f. $\Omega_o = 2.0$ Over-Strength Factor for the Anchor to Concrete

0.5 TOTAL SEISMIC ANCHOR DESIGN FORCES

At or Below Grade

a. **Total Seismic Horizontal Force:** $E_h = 1.13\ W_p$ **(LRFD)**

b. **Total Seismic Vertical Force:** $E_v = 0.5\ W_p$ **(LRFD)**

At Elevated Floor

a. **Total Seismic Horizontal Force:** $E_h = 1.50\ W_p$ **(LRFD)**

b. **Total Seismic Vertical Force:** $E_v = 0.4\ W_p$ **(LRFD)**

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GENERAL INFORMATION

GENERAL INFORMATION (CONT.)

0.6 COMPONENT CATALOG NUMBER REFERENCE:

Table 0.6-1 - Component part number reference:

Group	Catalog Number [1,2,3,4,5]	Weight (lbs.)	Mounting Flange (in.)		Mounting Flange Hole Locations (in.)		Mounting Flange Hole Size (in.)	Drawings (See Appendix "A")
			FWD[6]	FTH[7]	ED_X[8]	ED_Y[9]	FHD[10]	
A	HSD0003AWX123S	69	1.55	0.075	0.77	2.6	0.406	107886
	HSD0005AWX123S	69	1.55	0.075	0.77	2.6	0.406	107886
	HSD0008AWX123S	88	1.55	0.075	0.77	2.6	0.406	107886
	HSD0010AWX123S	88	1.55	0.075	0.77	2.6	0.406	107886
	HSD0015AWX123S	97	1.55	0.075	0.77	2.6	0.406	107887
	HSD0020AWX123S	102	1.55	0.075	0.77	2.6	0.406	107887
	HSD0025AWX123S	105	1.55	0.075	0.77	2.6	0.406	107887
	HSD0030AWX123S	116	1.55	0.075	0.77	2.6	0.406	107888
	HSD0040AWX123S	161	1.55	0.075	0.77	2.6	0.406	107888
	HSD0050AWX123S	161	1.55	0.075	0.77	2.6	0.406	107888
B	HSD0025AWX123S	105	1.55	0.135	0.77	3.4	0.406	107889
	HSD0030AWX123S	116	1.55	0.135	0.77	3.4	0.406	107889
	HSD0040AWX123S	161	1.55	0.135	0.77	3.4	0.406	107889
	HSD0050AWX123S	161	1.55	0.135	0.77	3.4	0.406	107889
	HSD0060AWX123S	207	1.55	0.135	0.77	3.4	0.406	107889
	HSD0075AWX123S	208	1.55	0.135	0.77	3.4	0.406	107890
	HSD0100AWX123S	262	1.55	0.135	0.77	3.4	0.406	107891
C	HSD0125AWX123S	336	2.25	0.135	1.00	3.4	0.531	107892
	HSD0150AWX123S	385	2.25	0.135	1.00	3.4	0.531	107892
D	HSD0200AWX123S	561	2.25	0.135	1.00	3.1	0.531	107893
	HSD0250AWX123S	563	2.25	0.135	1.00	3.1	0.531	107893
E	HSD0300AWX123S	858	2.25	0.179	1.125	1.7	0.656	107894
	HSD0350AWX123S	901	2.25	0.179	1.125	1.7	0.656	107894
	HSD0400AWX123S	1073	2.25	0.179	1.125	1.7	0.656	107894
	HSD0450AWX123S	1243	2.25	0.179	1.125	1.7	0.656	107894
	HSD0500AWX123S	1254	2.25	0.179	1.125	1.7	0.656	107894
	HSD0600AWX123S	1342	2.25	0.179	1.125	1.7	0.656	107894

Footnotes:

1. Position "A" Voltage, can be one of the following: A= 480V, B=240V, C=600V, D=208V, E=380V, H=440, J=415V, K=220V or L=400V
2. Position "X" Enclosure top, can one of the following: 1=Type 1 or 3=Type 3R.
3. Position "1" Contactor, can be one of the following: 0= no contactor, or 1= with contactor.
4. Position "2" Power lugs, can be one of the following: 0= no lugs, or 1= with lugs.
5. Position "3" Communication protocol, can be one of the following: 0=None, 1=Modbus RTU, 2=EtherNet/IP, 3=Current Sense Relay Control, 4=BACnet/IP or 5=Modbus TCP
6. Mounting Flange Width.
7. Mounting Flange Thickness.
8. Edge Distance in the X Direction.
9. Edge Distance in the Y Direction.
10. Edge Distance in the Z Direction.

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SECTION 1

STRUCTURAL ATTACHMENTS

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STRUCTURAL ATTACHEMENT

POST-INSTALLED ANCHOR TESTING

1. All post-installed anchors shall be installed per their corresponding ICC research report.
2. All post-installed anchors shall be tested.
3. Test loads:
   a. Load testing shall be performed after a minimum 24 hours elapsed since installation.
   b. 100% of the all anchors shall be tested.

   Required test loads shall be per the following Anchor Bolt Test Load Table:

Table 1-1 - Anchor Bolt Test Load Table		
Anchor Bolt (Stainless Steel)	Anchor Dia. (in.)	Installed Torque (ft.-lbs.)
KWIK BOLT TZ2 - SS 316	3/8"	30
KWIK BOLT TZ2 - SS 316	1/2"	40
KWIK BOLT TZ2 - SS 316	5/8"	60

4. Test acceptance criteria: acceptance criteria for post-installed anchors shall be based on ICC-ESR using criteria adopted in the 2019 CBC. Field test shall satisfy following minimum requirements.

   Torque wrench method:

   Anchors tested with a calibrated torque wrench must attain the specified torque within 1/2 turn of the nut.

   Exceptions:

   a. Wedge or sleeve type:
      one quarter (1/4) turn of the nut for 3/8" sleeve anchor only.

5. The tension testing of the post-installed anchors shall be done in the presence of the project inspector and a report of the test results shall be submitted to the inspector of record, owner and the architect or engineer in responsible charge of project per CAC 7-149.

BOLTS THROUGH CONCRETE METAL DECK REQUIREMENTS

1. Continuous inspection shall be provided for all bolts installed through concrete metal deck.
2. Bolts shall be TORQUED by 3/4 turn of the nuts after the snug tight (the snug-tight condition is defined as the tightness required to bring the connected piles into firm contact) condition is achieved, unless otherwise noted.
3. Through bolt holes shall be 1/16" larger than bolt size (Hole size = Bolt Size + 1/16") for concrete.
4. Through-Bolts in concrete shall receive special inspection and testing (through bolts with steel to steel connection in tension do not require tension testing) in accordance with requirements for post-installed anchors.

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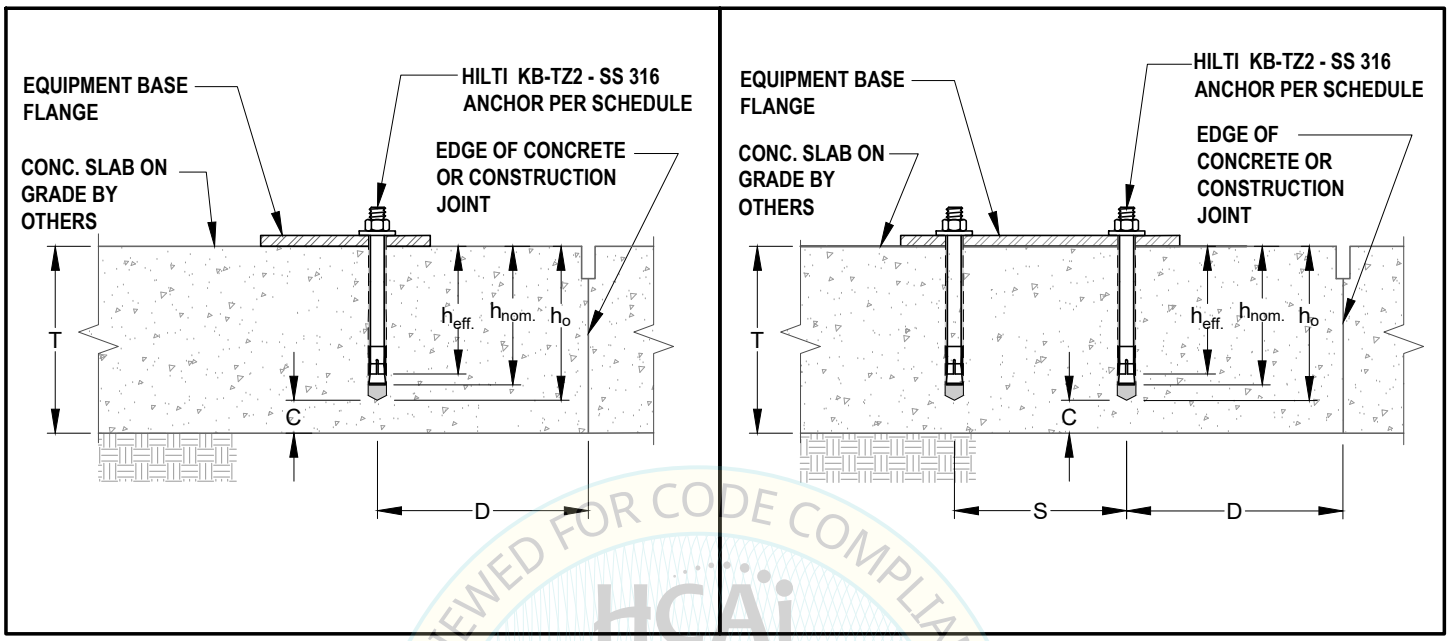
HILTI KB-TZ2 - SS 316 WEDGE IN 3,000 PSI NORMAL WEIGHT CONCRETE SLAB (AT GRADE)



ANCHOR TYPE (STAINLESS STEEL)	ANCHOR DIA. (in)	'h_{eff}' MIN. EFFECTIVE EMBED.	'h_{nom}' NOMINAL EMBED.	'h_o' HOLE DEPTH	'C' MIN. COVER	'D' MIN. EDGE DISTANCE	'S' MIN. SPACING BETWEEN ANCHORS	'T' MIN. CONCRETE SLAB THK.	ICC APPROVAL
KWIK BOLT TZ2 - SS 316	3/8	2.5"	3"	3.25"	2"	12"	10"	5.5"	ESR-4266
KWIK BOLT TZ2 - SS 316	1/2	3.25"	3.75"	4.25"	2"	12"	10"	6.5"	ESR-4266
KWIK BOLT TZ2 - SS 316	5/8	4"	4.50"	4.75"	2"	12"	10"	7"	ESR-4266

NOTES:

1. **KWIK BOLT TZ2 - SS 316 ANCHOR BOLTS SHALL BE INSTALLED IN STONE AGGREGATE CONCRETE HAVING A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI AT THE TIME OF INSTALLATION FOR ANCHORS IN CRACKED CONCRETE .**
2. **TORQUE TEST SHALL BE PERFORM FOR 100% THE EXPANSION TYPE ANCHORS AFTER A MINIMUM 24 HOURS HAVE ELAPSED SINCE INSTALLATION.**
3. **WHEN INSTALLING ANCHORS IN CONCRETE, LOCATE REINFORCING STEEL AND AVOID CUTTING OR DAMAGING REINFORCING STEEL.**
4. **WHEN INSTALLING ANCHORS IN PRESTRESSED CONCRETE, LOCATE PRESTRESSING STEEL AND AVOID DAMAGING PRESTRESSING STEEL.**
5. **FULL ENGAGEMENT OF NUTS AND WASHERS SHALL BE PROVIDED.**
6. **ANCHOR BOLTS, NUTS AND WASHERS SHALL NOT BE USED OR EXPOSED TO CORROSIVE ENVIRONMENTS AND CONDITIONS.**

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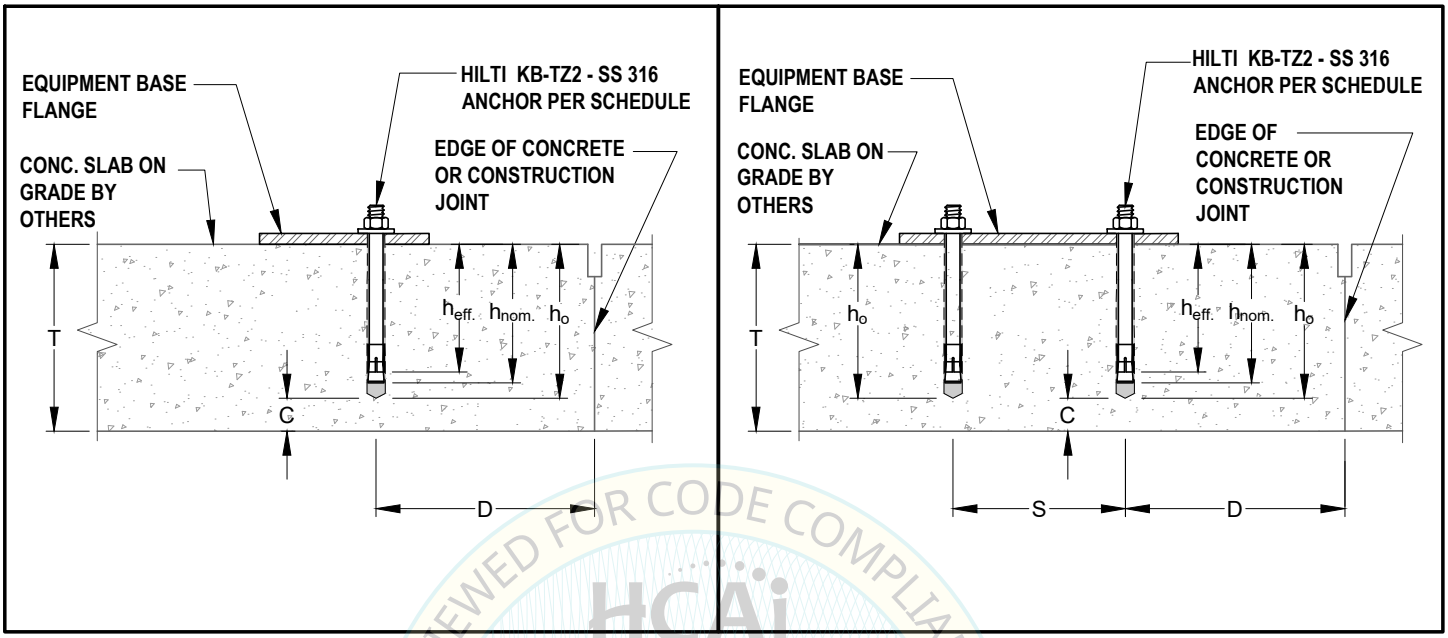
HILTI KB-TZ2 - SS 316 WEDGE IN 3,000 PSI NORMAL WEIGHT CONCRETE (AT ELEVATED FLOOR)



ANCHOR TYPE (STAINLESS STEEL)	ANCHOR DIA. (in)	$'h_{eff}'$ MIN. EFFECTIVE EMBED.	$'h_{nom}'$ NOMINAL EMBED.	$'h_o'$ HOLE DEPTH	'C' MIN. COVER	'D' MIN. EDGE DISTANCE	'S' MIN. SPACING BETWEEN ANCHORS	'T' MIN. CONCRETE SLAB THK.	ICC APPROVAL
KWIK BOLT TZ2 - SS 316	3/8	2.5"	3"	3.25"	1.75"	12"	10"	5"	ESR-4266
KWIK BOLT TZ2 - SS 316	1/2	3.25"	3.75"	4.25"	1.75"	12"	10"	6"	ESR-4266
KWIK BOLT TZ2 - SS 316	5/8	4"	4.5"	4.75"	1.75"	12"	10"	6.5"	ESR-4266

NOTES:

1. KWIK BOLT TZ2 - SS 316 ANCHOR BOLTS SHALL BE INSTALLED IN STONE AGGREGATE CONCRETE HAVING A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI AT THE TIME OF INSTALLATION FOR ANCHORS IN CRACKED CONCRETE .
2. TORQUE TEST SHALL BE PERFORM FOR 100% THE EXPANSION TYPE ANCHORS AFTER A MINIMUM 24 HOURS HAVE ELAPSED SINCE INSTALLATION.
3. WHEN INSTALLING ANCHORS IN CONCRETE, LOCATE REINFORCING STEEL AND AVOID CUTTING OR DAMAGING REINFORCING STEEL.
4. WHEN INSTALLING ANCHORS IN PRESTRESSED CONCRETE, LOCATE PRESTRESSING STEEL AND AVOID DAMAGING PRESTRESSING STEEL.
5. FULL ENGAGEMENT OF NUTS AND WASHERS SHALL BE PROVIDED.
6. ANCHOR BOLTS, NUTS AND WASHERS SHALL NOT BE USED OR EXPOSED TO CORROSIVE ENVIRONMENTS AND CONDITIONS.

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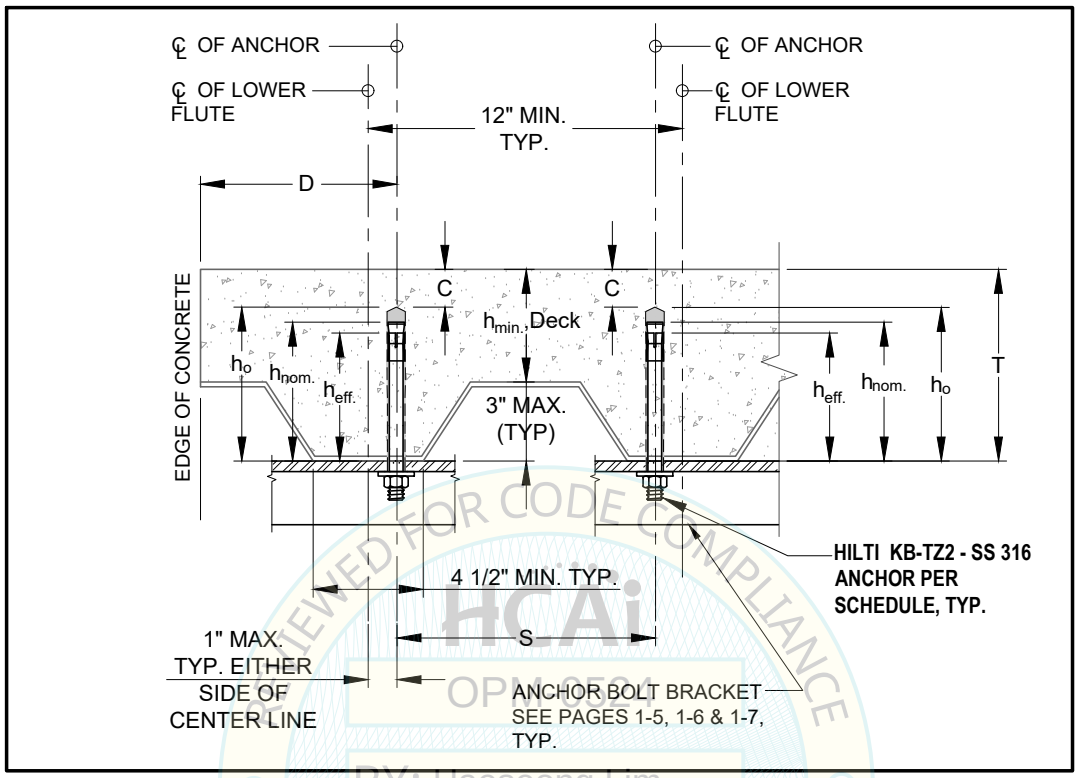
ATTACHMENT TO 3,000 PSI (MIN.) NORMAL OR SAND LIGHTWEIGHT CONCRETE OVER METAL DECK



ANCHOR TYPE (STAINLESS STEEL)	ANCHOR DIA. (in)	'h_{eff}' MIN. EFFECTIVE EMBED.	'h_{nom}' NOMINAL EMBED.	'h_o' HOLE DEPTH	'C' MIN. COVER	'D' MIN. EDGE DISTANCE	'S' MIN. SPACING BETWEEN ANCHORS	'$h_{min.}$, Deck' MIN. CONCRETE THK. OVER UPPER FLUTE	'T' MIN. CONCRETE SLAB THK.	ICC APPROVAL
KWIK BOLT TZ2 - SS 316	1/2"	3.25"	3.75"	4.25"	1.25"	12"	10"	3 1/4"	5.5"	ESR-4266

NOTES:

1. **KWIK BOLT TZ2 - SS 316 ANCHOR BOLTS SHALL BE INSTALLED IN STONE AGGREGATE CONCRETE HAVING A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI AT THE TIME OF INSTALLATION FOR ANCHORS IN CRACKED CONCRETE .**
2. **TORQUE TEST SHALL BE PERFORM FOR 100% THE EXPANSION TYPE ANCHORS AFTER A MINIMUM 24 HOURS HAVE ELAPSED SINCE INSTALLATION.**
3. **WHEN INSTALLING ANCHORS IN CONCRETE, LOCATE REINFORCING STEEL AND AVOID CUTTING OR DAMAGING REINFORCING STEEL.**
4. **WHEN INSTALLING ANCHORS IN PRESTRESSED CONCRETE, LOCATE PRESTRESSING STEEL AND AVOID DAMAGING PRESTRESSING STEEL.**
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6. **ANCHOR BOLTS, NUTS AND WASHERS SHALL NOT BE USED OR EXPOSED TO CORROSIVE ENVIRONMENTS AND CONDITIONS.**

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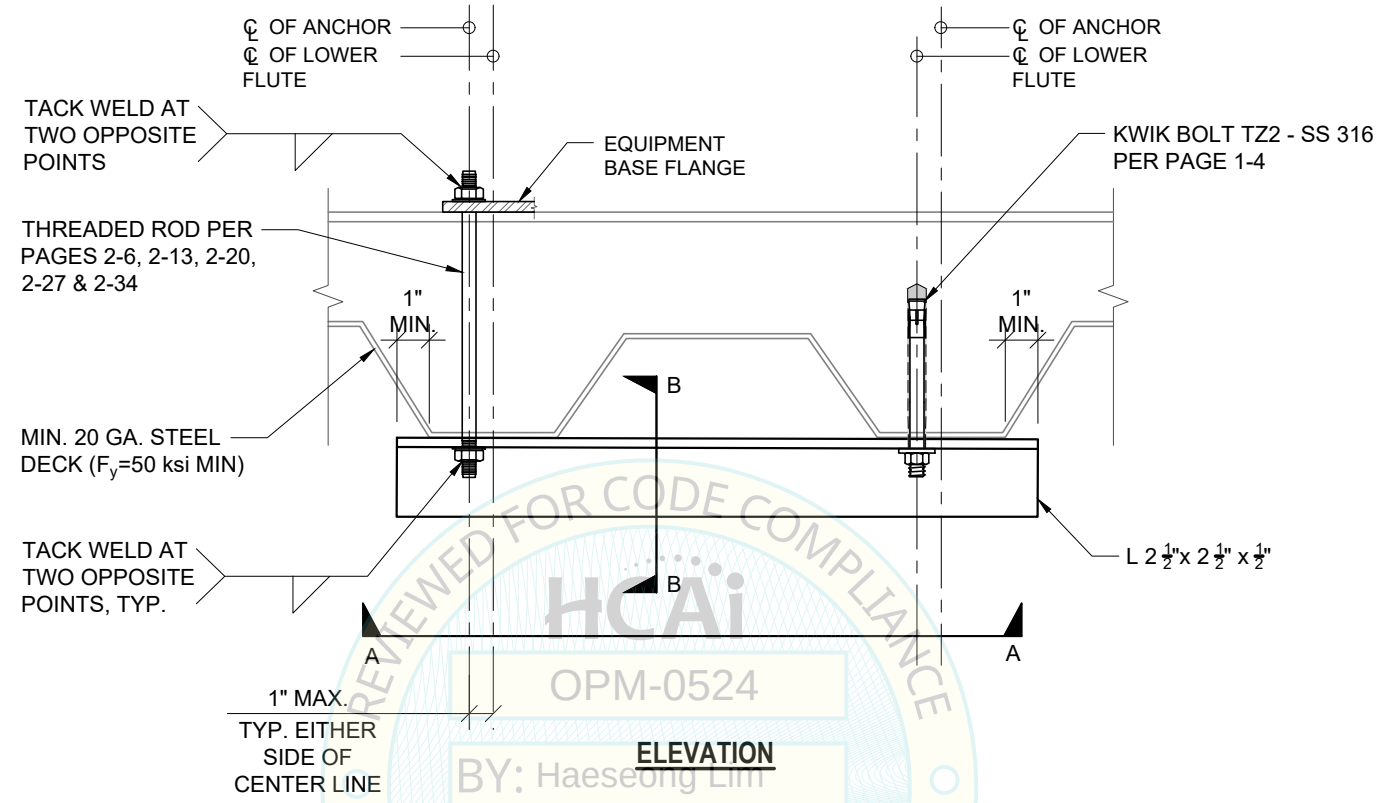
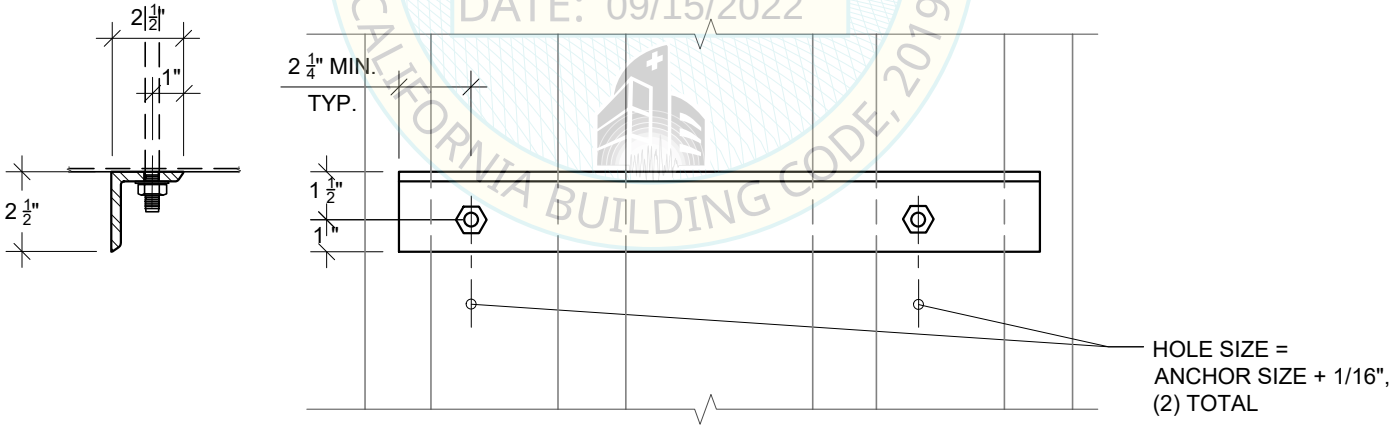
SEISMIC SUPPORTS AND ATTACHMENTS AND BRACKET DETAIL (CONDITION 1)



ELEVATION



SECTION B-B **SECTION A-A**

BRACKET DETAIL (CONDITION 1)

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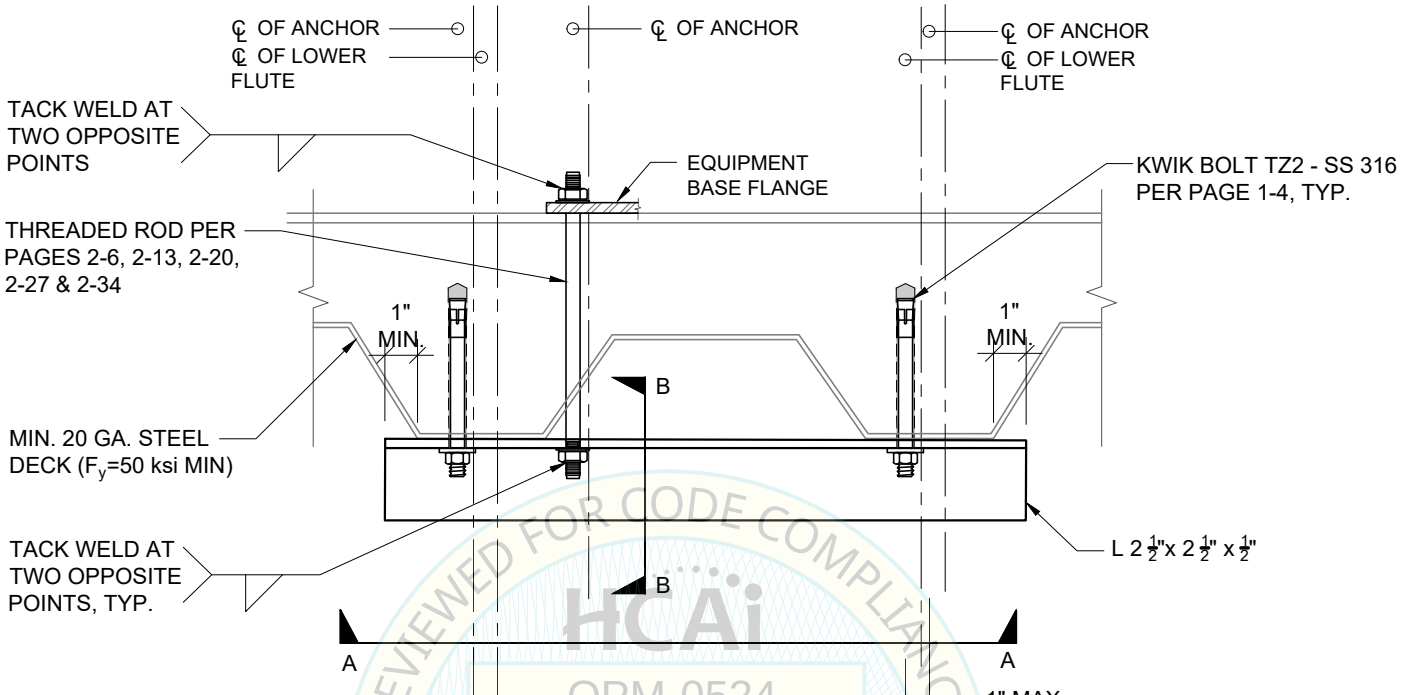
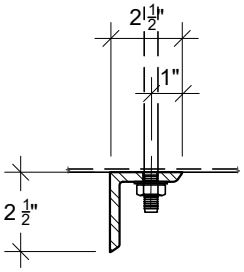
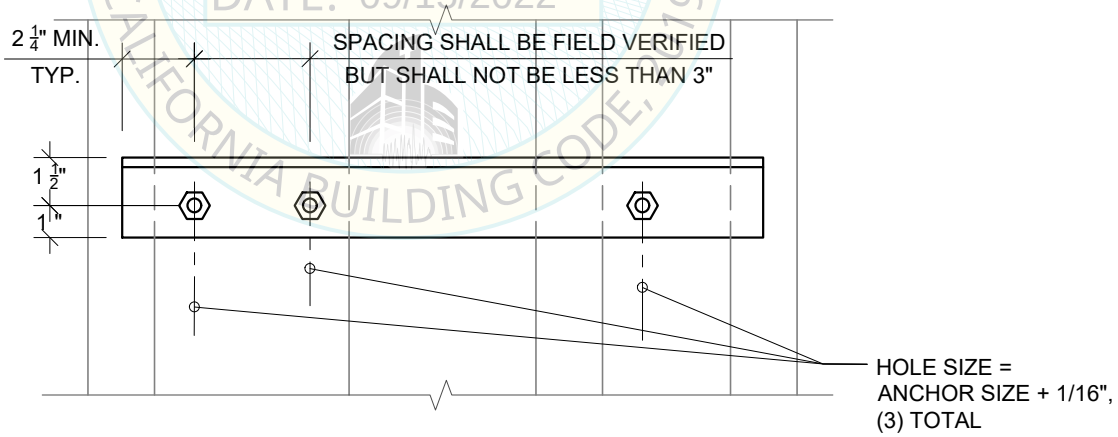
SEISMIC SUPPORTS AND ATTACHMENTS AND BRACKET DETAIL (CONDITION 2)



ELEVATION



SECTION B-B



SECTION A-A

BRACKET DETAIL (CONDITION 2)

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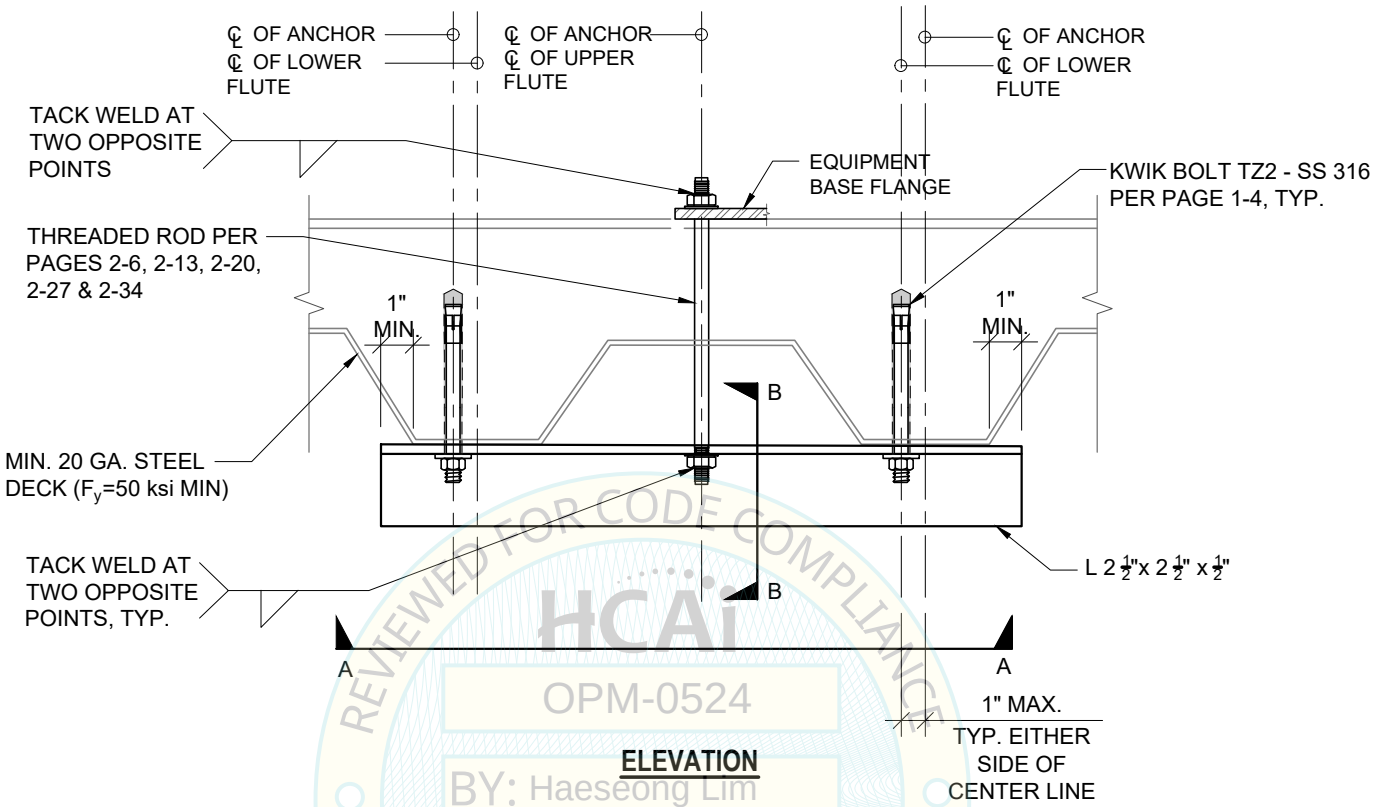
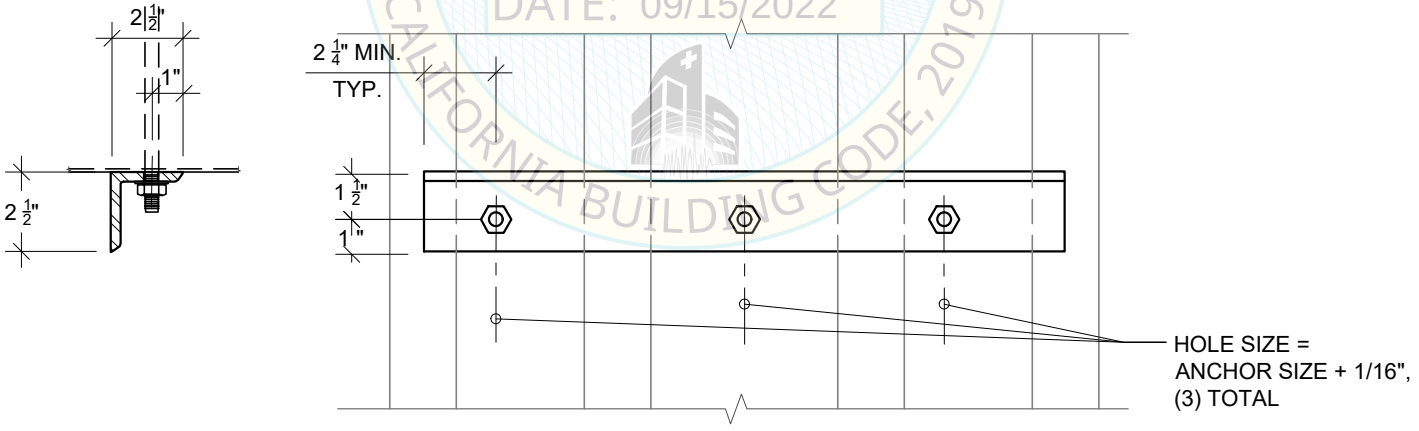
SEISMIC SUPPORTS AND ATTACHMENTS AND BRACKET DETAIL (CONDITION 3)



ELEVATION



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SECTION A-A

BRACKET DETAIL (CONDITION 3)

M.R.H. STRUCTURAL ENGINEERS, INC.
3400 IRVINE AVE. , STE. 101
NEWPORT BEACH, CA 92660
TEL: (949) 690-2751 EMAIL: MRH@MRHSE.COM

Structural Engineer: Mohammad Hariri
California SE No. S3545

PAGE: 1-7

DATE: August 17, 2022

SECTION 2

COMPONENT SPECIFIC STRUCTURAL ATTACHMENTS

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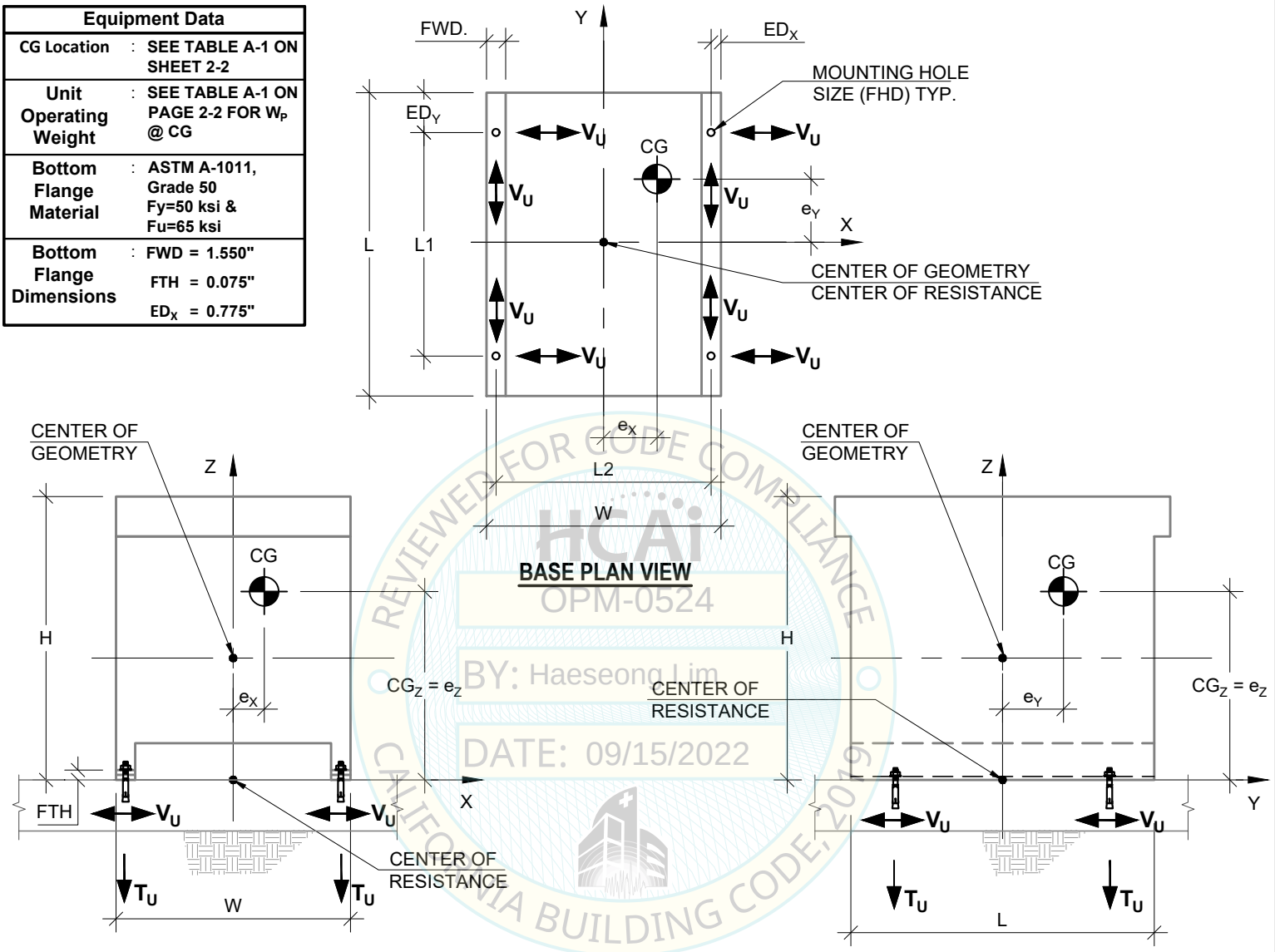
Structural Engineer: Mohammad Hariri
California SE No. S3545

PAGE: 2-0

DATE: August 17, 2022

HSD VIEWS - GROUP "A" (AT GRADE)

Equipment Data		
CG Location	:	SEE TABLE A-1 ON SHEET 2-2
Unit Operating Weight	:	SEE TABLE A-1 ON PAGE 2-2 FOR W_P @ CG
Bottom Flange Material	:	ASTM A-1011, Grade 50 Fy=50 ksi & Fu=65 ksi
Bottom Flange Dimensions	:	FWD = 1.550" FTH = 0.075" ED_X = 0.775"



NOTES:

1. T_U = TENSION FORCE FOR EACH FASTENER, PER GROUP "A" TABLE A-1 ON PAGE 2-2.
2. V_U = SHEAR FORCE FOR EACH FASTENER, PER GROUP "A" TABLE A-1 ON PAGE 2-2.
3. CENTER OF GRAVITY (C.G.) WEIGHT IS A MAXIMUM. THIS PRE-APPROVAL ENCOMPASSES ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.
4. STRUCTURAL ENGINEER OF RECORD FOR THE BUILDING SHALL PROVIDE SUPPORT STRUCTURE DESIGNED TO SUPPORT WEIGHTS AND FORCES SHOWN, IN ADDITION TO ALL LOADS. SEE SECTION 0.2 FOR LIST OF STRUCTURAL ENGINEER OF RECORD'S RESPONSIBILITIES.
5. SEE NOTES AND DETAILS ON PAGES 0-5, 1-1 AND 1-2 FOR EXPANSION ANCHOR BOLTS AT GRADE.
6. EQUIPMENT MANUFACTURER MUST DESIGN UNIT TO MAKE C.G. EQUAL TO OR LESS THAN THE C.G. HEIGHT DIMENSION SHOWN IN TABLE A-1.
7. EQUIPMENT MANUFACTURER MUST DESIGN UNIT WITHIN MAXIMUM DIMENSIONS.
8. ALL HOLES THRU STEEL FOR BOLTS SHALL BE STANDARD HOLE PER AISC, 15 ED TABLE J3.3 (MAXIMUM HOLE DIAMETER TO BE 1/16" OVER BOLT.
9. SEE TABLE 0.6-1 IN SECTION 0.6 FOR MOUNTING FLANGE WIDTH (FWD) AND MOUNTING FLANGE THICKNESS (FTH).
10. SEE TABLE 0.6-1 IN SECTION 0.6 FOR MOUNTING FLANGE HOLE LOCATIONS (ED_X & ED_Y) AND SIZE (FHD).

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PAGE: 2-1

DATE: August 17, 2022

HSD INFORMATION - GROUP "A" (AT GRADE)

Table A-1 - Group "A" (1)

Catalog Number(2)	Weight (lbs.) [W_p]	Equipment Dimensions (in)			Distance between End Anchors along Y-axis (in).	Distance between End Anchors along X-axis (in.)	CG Height (in.)	Eccentricities (in.)			Expansion (3) Anchor Bolts No. & Size	T_U(3) LRFD (lbs.)	V_U(4) LRFD (lbs.)
		L	W	H	L1	L2	CG_Z	e_X	e_Y	e_Z			
HSD0003AWX123S	69	15.3	15.2	25.6	10	13.6	12.6	0.40	0.55	12.60	(4) 3/8"	159	58
HSD0005AWX123S	69	15.3	15.2	25.6	10	13.6	12.6	0.40	0.65	12.60	(4) 3/8"	159	59
HSD0008AWX123S	88	15.3	15.2	25.6	10	13.6	13.9	0.30	0.45	13.90	(4) 3/8"	224	73
HSD0010AWX123S	88	15.3	15.2	25.6	10	13.6	13.9	0.30	0.45	13.90	(4) 3/8"	224	73
HSD0015AWX123S	97	15.3	15.2	25.6	10	13.6	14.0	0.10	0.25	14.00	(4) 3/8"	248	79
HSD0020AWX123S	102	15.3	15.2	25.6	10	13.6	14.0	0.00	0.25	14.00	(4) 3/8"	261	82
HSD0025AWX123S	105	15.3	15.2	25.6	10	13.6	13.8	0.20	0.15	13.80	(4) 3/8"	265	85
HSD0030AWX123S	116	15.3	15.2	25.6	10	13.6	13.4	0.10	0.15	13.40	(4) 3/8"	283	94
HSD0040AWX123S	161	15.3	15.2	25.6	10	13.6	12.1	0.60	0.85	12.10	(4) 3/8"	357	140
HSD0050AWX123S	161	15.3	15.2	25.6	10	13.6	11.8	0.80	0.45	11.80	(4) 3/8"	347	139

FOOTNOTES:

1. SEE TABLE 0.6-1 ON SHEET 0-6 FOR INFORMATION NOT SHOWN.
2. SEE TABLE 0.6-1 ON SHEET 0-6 FOR COMPONENT PART NUMBER REFERENCES.
3. SEE NOTES AND DETAILS ON PAGES 0-5, 1-1 AND 1-2 FOR EXPANSION ANCHOR BOLTS AT GRADE.
4. T_U = TENSION FORCE INCLUDES OVER STRENGTH FACTOR Ω_0=2.0 FOR EACH FASTENER.
5. V_U = SHEAR FORCE INCLUDES OVER STRENGTH FACTOR Ω_0=2.0 FOR EACH FASTENER.

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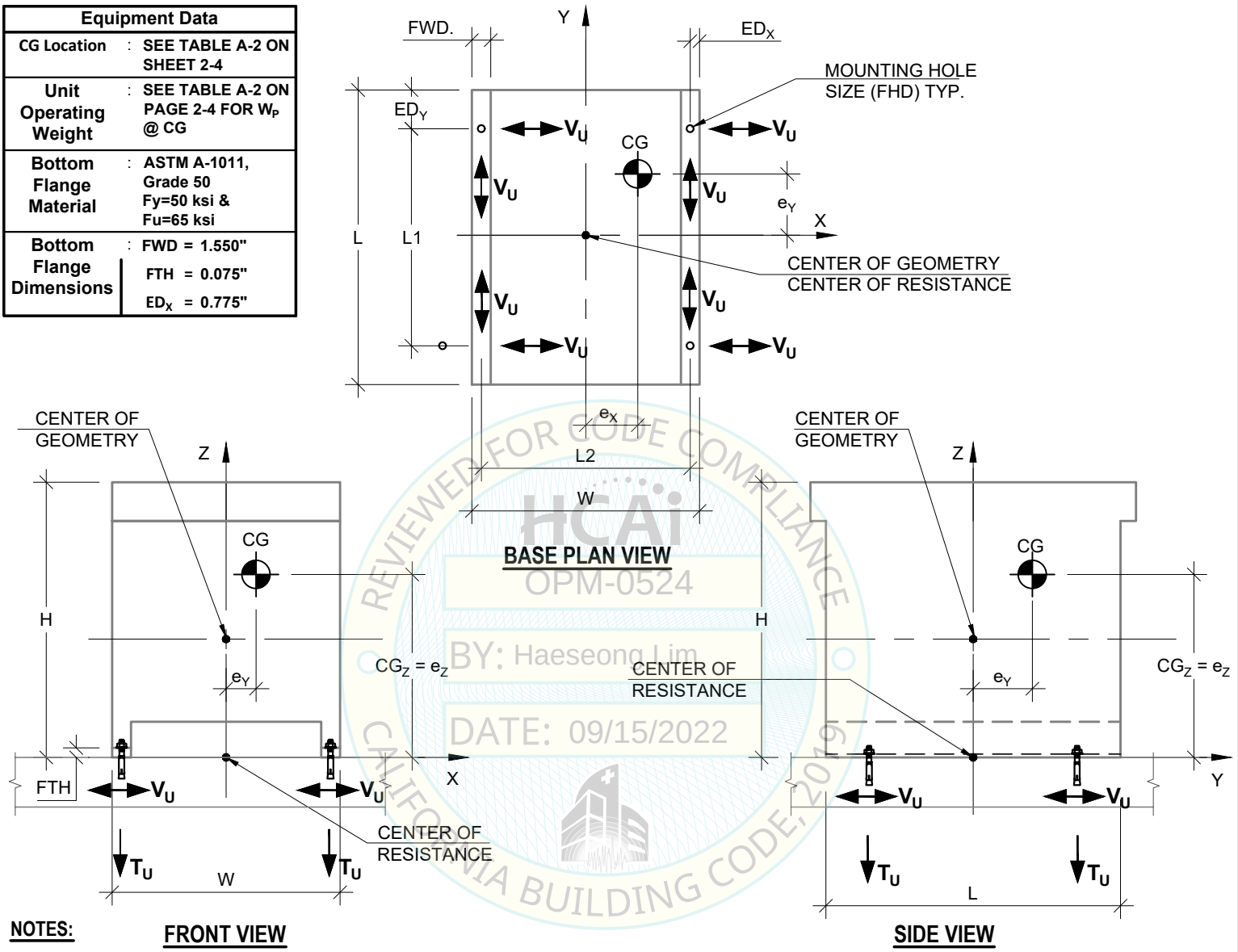
PAGE: 2-2

DATE: August 17, 2022

HSD VIEWS - GROUP "A" (AT ELEVATED FLOOR)
SOLID CONCRETE DECK

Equipment Data		
CG Location	:	SEE TABLE A-2 ON SHEET 2-4
Unit Operating Weight	:	SEE TABLE A-2 ON PAGE 2-4 FOR W_P @ CG
Bottom Flange Material	:	ASTM A-1011, Grade 50 Fy=50 ksi & Fu=65 ksi
Bottom Flange Dimensions	:	FWD = 1.550" FTH = 0.075" ED_X = 0.775"



NOTES:

1. T_U = TENSION FORCE FOR EACH FASTENER, PER GROUP "A" TABLE A-2 ON PAGE 2-4.
2. V_U = SHEAR FORCE FOR EACH FASTENER, PER GROUP "A" TABLE A-2 ON PAGE 2-4.
3. CENTER OF GRAVITY (C.G.) WEIGHT IS A MAXIMUM. THIS PRE-APPROVAL ENCOMPASSES ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.
4. STRUCTURAL ENGINEER OF RECORD FOR THE BUILDING SHALL PROVIDE SUPPORT STRUCTURE DESIGNED TO SUPPORT WEIGHTS AND FORCES SHOWN, IN ADDITION TO ALL LOADS. SEE SECTION 0.2 FOR LIST OF STRUCTURAL ENGINEER OF RECORD'S RESPONSIBILITIES.
5. SEE NOTES AND DETAILS ON PAGES 0-5, 1-1 AND 1-3 FOR EXPANSION ANCHOR BOLTS AT ELEVATED FLOORS.
6. EQUIPMENT MANUFACTURER MUST DESIGN UNIT TO MAKE C.G. EQUAL TO OR LESS THAN THE C.G. HEIGHT DIMENSION SHOWN IN TABLE A-2.
7. EQUIPMENT MANUFACTURER MUST DESIGN UNIT WITHIN MAXIMUM DIMENSIONS.
8. ALL HOLES THRU STEEL FOR BOLTS SHALL BE STANDARD HOLE PER AISC, 15 ED TABLE J3.3 (MAXIMUM HOLE DIAMETER TO BE 1/16" OVER BOLT.
9. SEE TABLE 0.6-1 IN SECTION 0.6 FOR MOUNTING FLANGE WIDTH (FWD) AND MOUNTING FLANGE THICKNESS (FTH).
10. SEE TABLE 0.6-1 IN SECTION 0.6 FOR MOUNTING FLANGE HOLE LOCATIONS (ED_X & ED_Y) AND SIZE (FHD).

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PAGE: 2-3

DATE: August 17, 2022

HSD INFORMATION - GROUP "A" (AT ELEVATED FLOOR)
SOLID CONCRETE DECK

Table A-2 - Group "A" (1)

Catalog Number(2)	Weight (lbs.) [W_p]	Equipment Dimensions (in)			Distance between End Anchors along Y-axis (in).	Distance between End Anchors along X-axis (in.)	CG Height (in.)	Eccentricities (in.)			Expansion (3) Anchor Bolts No. & Size	T_U(4) LRFD (lbs.)	V_U(5) LRFD (lbs.)
		L	W	H	L1	L2	CG_Z	e_X	e_Y	e_Z			
HSD0003AWX123S	69	15.3	15.2	25.6	10	13.6	12.6	0.40	0.55	12.60	(4) 3/8"	213	78
HSD0005AWX123S	69	15.3	15.2	25.6	10	13.6	12.6	0.40	0.65	12.60	(4) 3/8"	213	78
HSD0008AWX123S	88	15.3	15.2	25.6	10	13.6	13.9	0.30	0.45	13.90	(4) 3/8"	300	98
HSD0010AWX123S	88	15.3	15.2	25.6	10	13.6	13.9	0.30	0.45	13.90	(4) 3/8"	300	98
HSD0015AWX123S	97	15.3	15.2	25.6	10	13.6	14.0	0.10	0.25	14.00	(4) 3/8"	332	105
HSD0020AWX123S	102	15.3	15.2	25.6	10	13.6	14.0	0.00	0.25	14.00	(4) 3/8"	349	110
HSD0025AWX123S	105	15.3	15.2	25.6	10	13.6	13.8	0.20	0.15	13.80	(4) 3/8"	354	114
HSD0030AWX123S	116	15.3	15.2	25.6	10	13.6	13.4	0.10	0.15	13.40	(4) 3/8"	379	125
HSD0040AWX123S	161	15.3	15.2	25.6	10	13.6	12.1	0.60	0.85	12.10	(4) 3/8"	478	187
HSD0050AWX123S	161	15.3	15.2	25.6	10	13.6	11.8	0.80	0.45	11.80	(4) 3/8"	464	185

FOOTNOTES:

1. SEE TABLE 0.6-1 ON SHEET 0-6 FOR INFORMATION NOT SHOWN.
2. SEE TABLE 0.6-1 ON SHEET 0-6 FOR COMPONENT PART NUMBER REFERENCES.
3. SEE NOTES AND DETAILS ON PAGES 0-5, 1-1 AND 1-3 FOR EXPANSION ANCHOR BOLTS AT ELEVATED FLOORS.
4. T_U = TENSION FORCE INCLUDES OVER STRENGTH FACTOR Ω_0=2.0 FOR EACH FASTENER.
5. V_U = SHEAR FORCE INCLUDES OVER STRENGTH FACTOR Ω_0=2.0 FOR EACH FASTENER.

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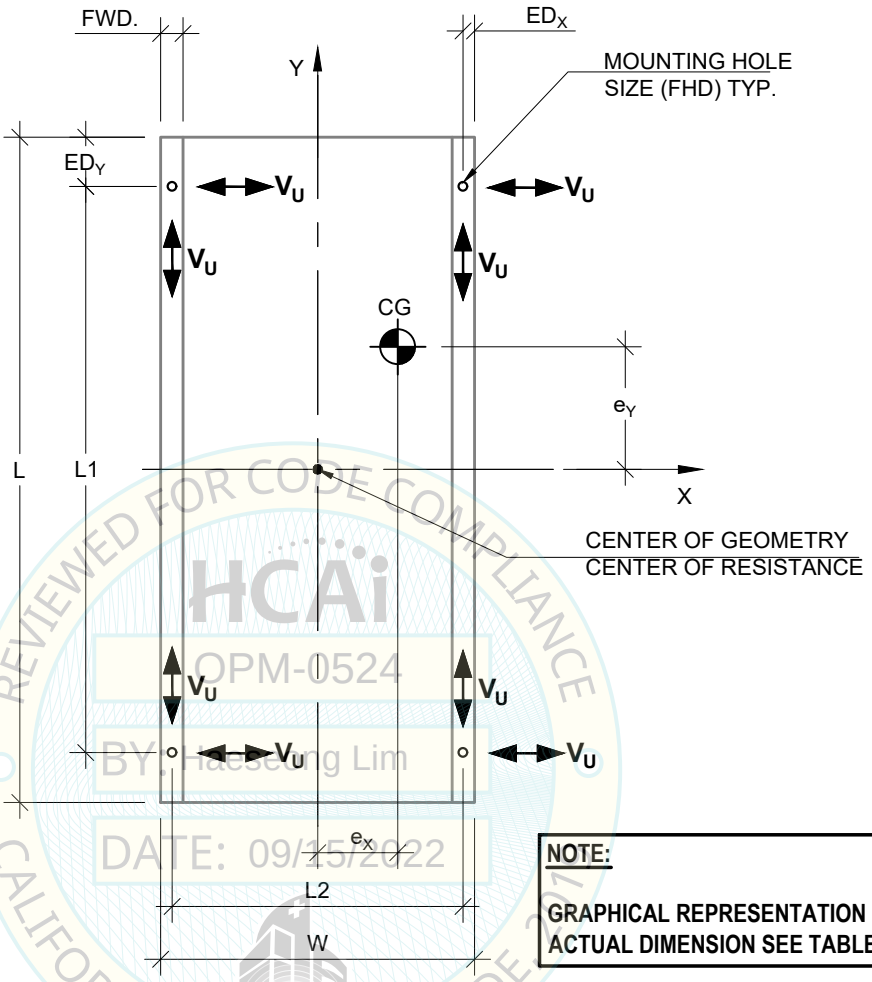
PAGE: 2-4

DATE: August 17, 2022

HSD PLAN VIEW - GROUP "A" (AT ELEVATED FLOOR)
CONCRETE FILLED METAL DECK

Equipment Data	
CG Location	: SEE TABLE A-3 ON SHEET 2-7
Unit Operating Weight	: SEE TABLE A-3 ON PAGE 2-7 FOR W_P @ CG
Bottom Flange Material	: ASTM A-1011, Grade 50 Fy=50 ksi & Fu=65 ksi
Bottom Flange Dimensions	: FWD = 1.550" FTH = 0.075" ED_X = 0.775"



BASE PLAN VIEW

NOTE:

GRAPHICAL REPRESENTATION ONLY. FOR ACTUAL DIMENSION SEE TABLE A-3, PAGE 2-7.

NOTES:

1. T_U = TENSION FORCE FOR EACH FASTENER, PER GROUP "A" TABLE A-3 ON PAGE 2-7.
2. V_U = SHEAR FORCE FOR EACH FASTENER, PER GROUP "A" TABLE A-3 ON PAGE 2-7.
3. CENTER OF GRAVITY (C.G.) WEIGHT IS A MAXIMUM. THIS PRE-APPROVAL ENCOMPASSES ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.
4. STRUCTURAL ENGINEER OF RECORD FOR THE BUILDING SHALL PROVIDE SUPPORT STRUCTURE DESIGNED TO SUPPORT WEIGHTS AND FORCES SHOWN, IN ADDITION TO ALL LOADS. SEE SECTION 0.2 FOR LIST OF STRUCTURAL ENGINEER OF RECORD'S RESPONSIBILITIES.
5. SEE NOTES AND DETAILS ON PAGES 0-5, 1-1 AND 1-4 THROUGH 1-7 FOR BOLTS THROUGH CONCRETE FILLED METAL DECK.
6. EQUIPMENT MANUFACTURER MUST DESIGN UNIT TO MAKE C.G. EQUAL TO OR LESS THAN THE C.G. HEIGHT DIMENSION SHOWN IN TABLE A-3.
7. EQUIPMENT MANUFACTURER MUST DESIGN UNIT WITHIN MAXIMUM DIMENSIONS.
8. ALL HOLES THRU STEEL FOR BOLTS SHALL BE STANDARD HOLE PER AISC, 15 ED TABLE J3.3 (MAXIMUM HOLE DIAMETER TO BE 1/16" OVER BOLT.
9. SEE TABLE 0.6-1 IN SECTION 0.6 FOR MOUNTING FLANGE WIDTH (FWD) AND MOUNTING FLANGE THICKNESS (FTH).
10. SEE TABLE 0.6-1 IN SECTION 0.6 FOR MOUNTING FLANGE HOLE LOCATIONS (ED_X & ED_Y) AND SIZE (FHD).

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PAGE: 2-5

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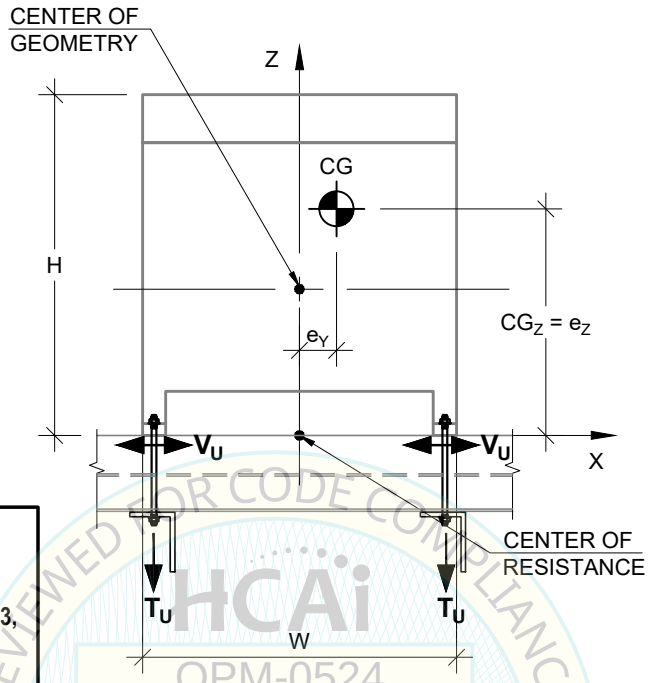
HSD VIEWS - GROUP "A" (AT ELEVATED FLOOR)
CONCRETE FILLED METAL DECK

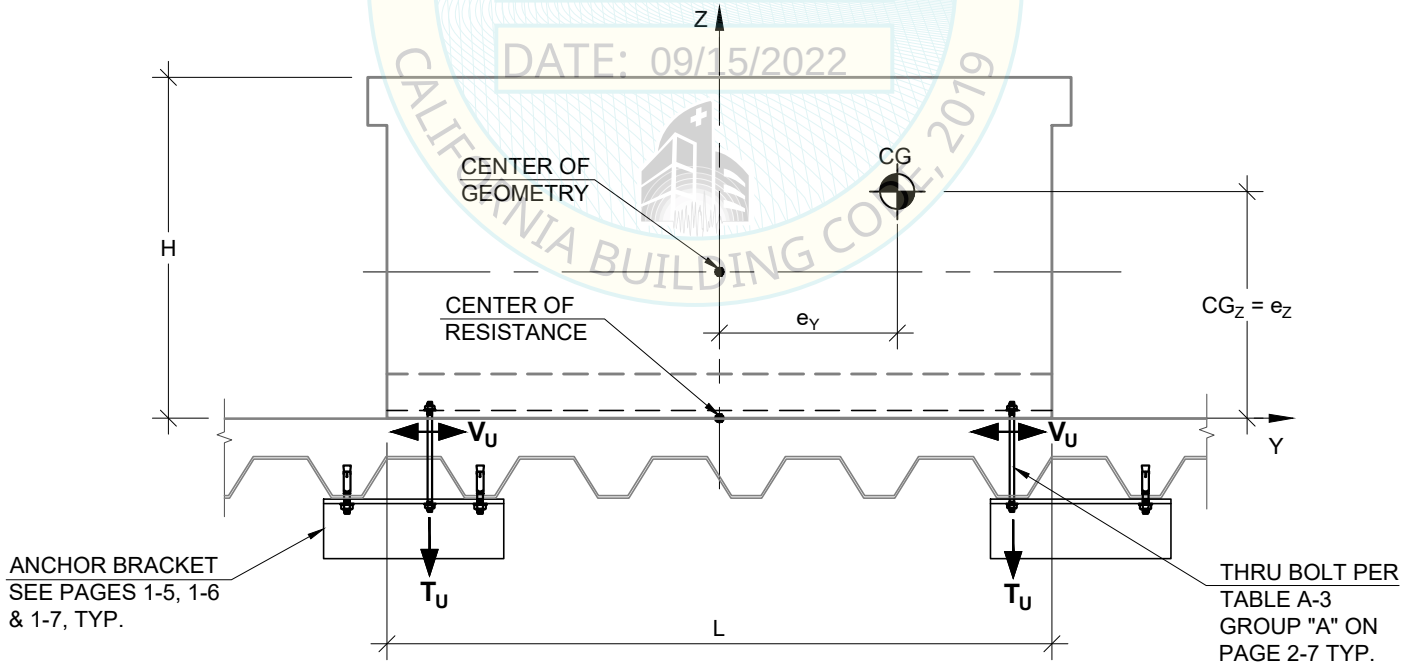
Equipment Data	
CG Location	: SEE TABLE A-3 ON SHEET 2-7
Unit Operating Weight	: SEE TABLE A-3 ON PAGE 2-7 FOR W_P @ CG
Bottom Flange Material	: ASTM A-1011, Grade 50 Fy=50 ksi & Fu=65 ksi
Bottom Flange Dimensions	: FWD = 1.550" FTH = 0.075" ED_X = 0.775"

NOTES:

1. GRAPHICAL REPRESENTATION ONLY. FOR ACTUAL DIMENSION SEE TABLE A-3, PAGE 2-7.
2. SEE PAGE 2-5 FOR NOTES AND INFORMATION NOT SHOWN



FRONT VIEW



SIDE VIEW

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PAGE: 2-6

DATE: August 17, 2022

HSD INFORMATION - GROUP "A" (AT ELEVATED FLOOR)
CONCRETE FILLED METAL DECK

Table A-3 - Group "A" (1)

Catalog Number(2)	Weight (lbs.) [W_p]	Equipment Dimensions (in)			Distance between End Anchors along Y-axis (in).	Distance between End Anchors along X-axis (in.)	CG Height (in.)	Eccentricities (in.)			Anchor (3) Bolts (Thru Bolt) No. & Size	T_U(4) LRFD (lbs.)	V_U(5) LRFD (lbs.)
		L	W	H	L1	L2	CG_Z	e_X	e_Y	e_Z			
HSD0003AWX123S	69	15.3	15.2	25.6	10	13.6	12.6	0.40	0.55	12.60	(4) 3/8"	213	78
HSD0005AWX123S	69	15.3	15.2	25.6	10	13.6	12.6	0.40	0.65	12.60	(4) 3/8"	213	78
HSD0008AWX123S	88	15.3	15.2	25.6	10	13.6	13.9	0.30	0.45	13.90	(4) 3/8"	300	98
HSD0010AWX123S	88	15.3	15.2	25.6	10	13.6	13.9	0.30	0.45	13.90	(4) 3/8"	300	98
HSD0015AWX123S	97	15.3	15.2	25.6	10	13.6	14.0	0.10	0.25	14.00	(4) 3/8"	332	105
HSD0020AWX123S	102	15.3	15.2	25.6	10	13.6	14.0	0.00	0.25	14.00	(4) 3/8"	349	110
HSD0025AWX123S	105	15.3	15.2	25.6	10	13.6	13.8	0.20	0.15	13.80	(4) 3/8"	354	114
HSD0030AWX123S	116	15.3	15.2	25.6	10	13.6	13.4	0.10	0.15	13.40	(4) 3/8"	379	125
HSD0040AWX123S	161	15.3	15.2	25.6	10	13.6	12.1	0.60	0.85	12.10	(4) 3/8"	478	187
HSD0050AWX123S	161	15.3	15.2	25.6	10	13.6	11.8	0.80	0.45	11.80	(4) 3/8"	464	185

FOOTNOTES:

1. SEE TABLE 0.6-1 ON SHEET 0-6 FOR INFORMATION NOT SHOWN.
2. SEE TABLE 0.6-1 ON SHEET 0-6 FOR COMPONENT PART NUMBER REFERENCES.
3. SEE NOTES AND DETAILS ON PAGES 0-5, 1-1 AND 1-4 THROUGH 1-7 FOR BOLTS THROUGH CONCRETE FILLED METAL DECK.
4. T_U = TENSION FORCE INCLUDES OVER STRENGTH FACTOR Ω_0=2.0 FOR EACH FASTENER.
5. V_U = SHEAR FORCE INCLUDES OVER STRENGTH FACTOR Ω_0=2.0 FOR EACH FASTENER.

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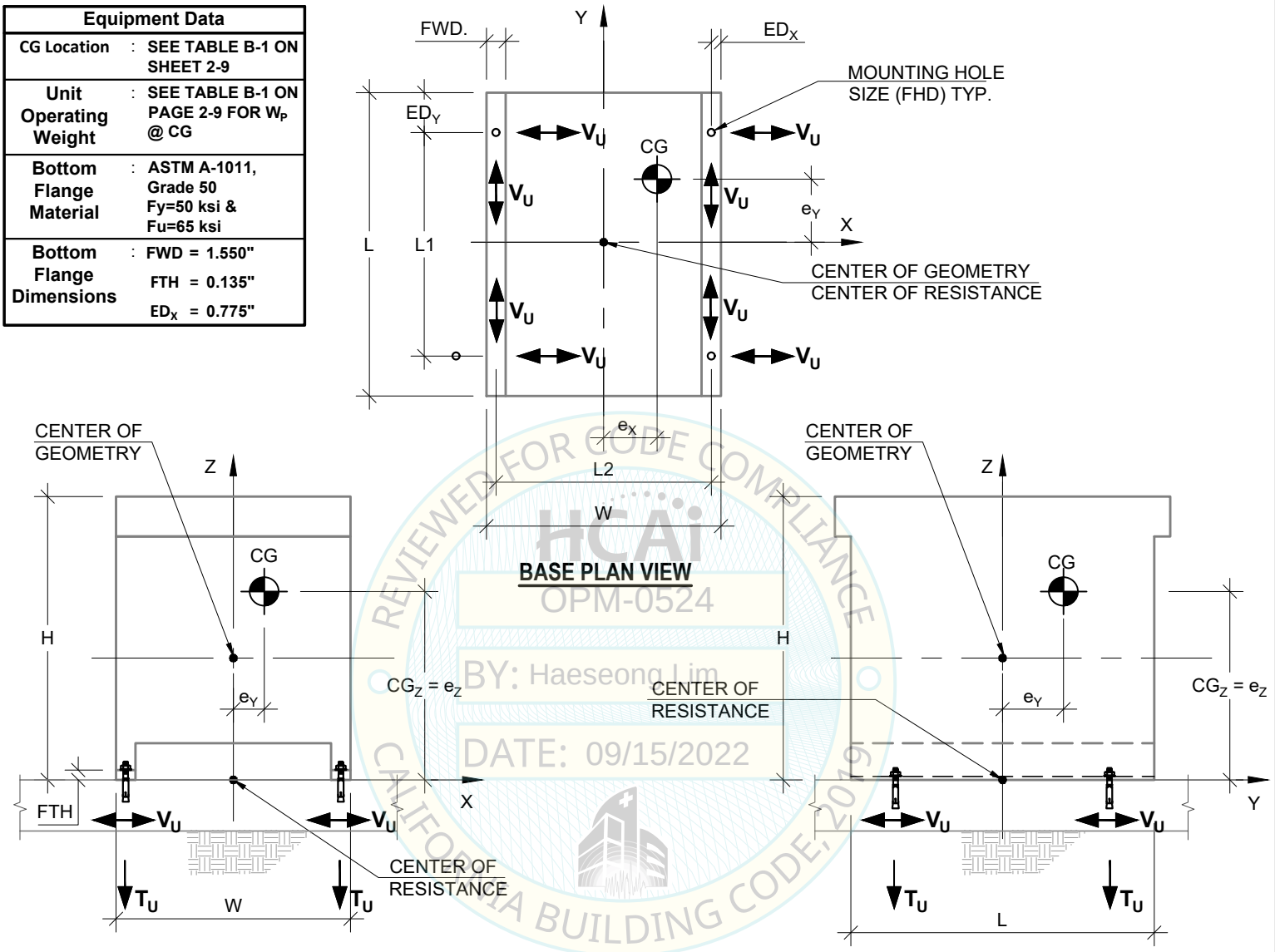
PAGE: 2-7

DATE: August 17, 2022

HSD VIEWS - GROUP "B" (AT GRADE)

Equipment Data		
CG Location	:	SEE TABLE B-1 ON SHEET 2-9
Unit Operating Weight	:	SEE TABLE B-1 ON PAGE 2-9 FOR W_P @ CG
Bottom Flange Material	:	ASTM A-1011, Grade 50 Fy=50 ksi & Fu=65 ksi
Bottom Flange Dimensions	:	FWD = 1.550" FTH = 0.135" ED_X = 0.775"



NOTES:

1. T_U = TENSION FORCE FOR EACH FASTENER, PER GROUP "B" TABLE B-1 ON PAGE 2-9.
2. V_U = SHEAR FORCE FOR EACH FASTENER, PER GROUP "B" TABLE B-1 ON PAGE 2-9.
3. CENTER OF GRAVITY (C.G.) WEIGHT IS A MAXIMUM. THIS PRE-APPROVAL ENCOMPASSES ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.
4. STRUCTURAL ENGINEER OF RECORD FOR THE BUILDING SHALL PROVIDE SUPPORT STRUCTURE DESIGNED TO SUPPORT WEIGHTS AND FORCES SHOWN, IN ADDITION TO ALL LOADS. SEE SECTION 0.2 FOR LIST OF STRUCTURAL ENGINEER OF RECORD'S RESPONSIBILITIES.
5. SEE NOTES AND DETAILS ON PAGES 0-5, 1-1 AND 1-2 FOR EXPANSION ANCHOR BOLTS AT GRADE.
6. EQUIPMENT MANUFACTURER MUST DESIGN UNIT TO MAKE C.G. EQUAL TO OR LESS THAN THE C.G. HEIGHT DIMENSION SHOWN IN TABLE B-1.
7. EQUIPMENT MANUFACTURER MUST DESIGN UNIT WITHIN MAXIMUM DIMENSIONS.
8. ALL HOLES THRU STEEL FOR BOLTS SHALL BE STANDARD HOLE PER AISC, 15 ED TABLE J3.3 (MAXIMUM HOLE DIAMETER TO BE 1/16" OVER BOLT.
9. SEE TABLE 0.6-1 IN SECTION 0.6 FOR MOUNTING FLANGE WIDTH (FWD) AND MOUNTING FLANGE THICKNESS (FTH).
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PAGE: 2-8

DATE: August 17, 2022

HSD INFORMATION - GROUP "B" (AT GRADE)

Table B-1 - Group "B" (1)

Catalog Number(2)	Weight (lbs.) [W_p]	Equipment Dimensions (in)			Distance between End Anchors along Y-axis (in).	Distance between End Anchors along X-axis (in.)	CG Height (in.)	Eccentricities (in.)			Expansion (3) Anchor Bolts No. & Size	T_U(4) LRFD (lbs.)	V_U(5) LRFD (lbs.)
		L	W	H	L1	L2	CG_Z	e_X	e_Y	e_Z			
HSD0025AWX123S	105	24.3	20.1	23.0	17.5	18.5	10.9	0.15	0.35	10.90	(4) 3/8"	149	85
HSD0030AWX123S	116	24.3	20.1	23.0	17.5	18.5	11.1	0.05	0.15	11.10	(4) 3/8"	167	93
HSD0040AWX123S	161	24.3	20.1	23.0	17.5	18.5	10.5	0.75	0.95	10.50	(4) 3/8"	226	137
HSD0050AWX123S	161	24.3	20.1	23.0	17.5	18.5	10.3	1.05	0.05	10.30	(4) 3/8"	219	134
HSD0060AWX123S	207	24.3	20.1	23.0	17.5	18.5	11.7	1.35	0.15	11.70	(4) 3/8"	328	175
HSD0075AWX123S	208	24.3	20.1	23.0	17.5	18.5	11.7	0.95	0.95	11.70	(4) 3/8"	332	179
HSD0100AWX123S	262	24.3	20.1	23.0	17.5	18.5	11.7	0.95	0.45	11.70	(4) 3/8"	413	221

FOOTNOTES:

1. SEE TABLE 0.6-1 ON SHEET 0-6 FOR INFORMATION NOT SHOWN.
2. SEE TABLE 0.6-1 ON SHEET 0-6 FOR COMPONENT PART NUMBER REFERENCES.
3. SEE NOTES AND DETAILS ON PAGES 0-5, 1-1 AND 1-2 FOR EXPANSION ANCHOR BOLTS AT GRADE.
4. T_U = TENSION FORCE INCLUDES OVER STRENGTH FACTOR Ω_0=2.0 FOR EACH FASTENER.
5. V_U = SHEAR FORCE INCLUDES OVER STRENGTH FACTOR Ω_0=2.0 FOR EACH FASTENER.

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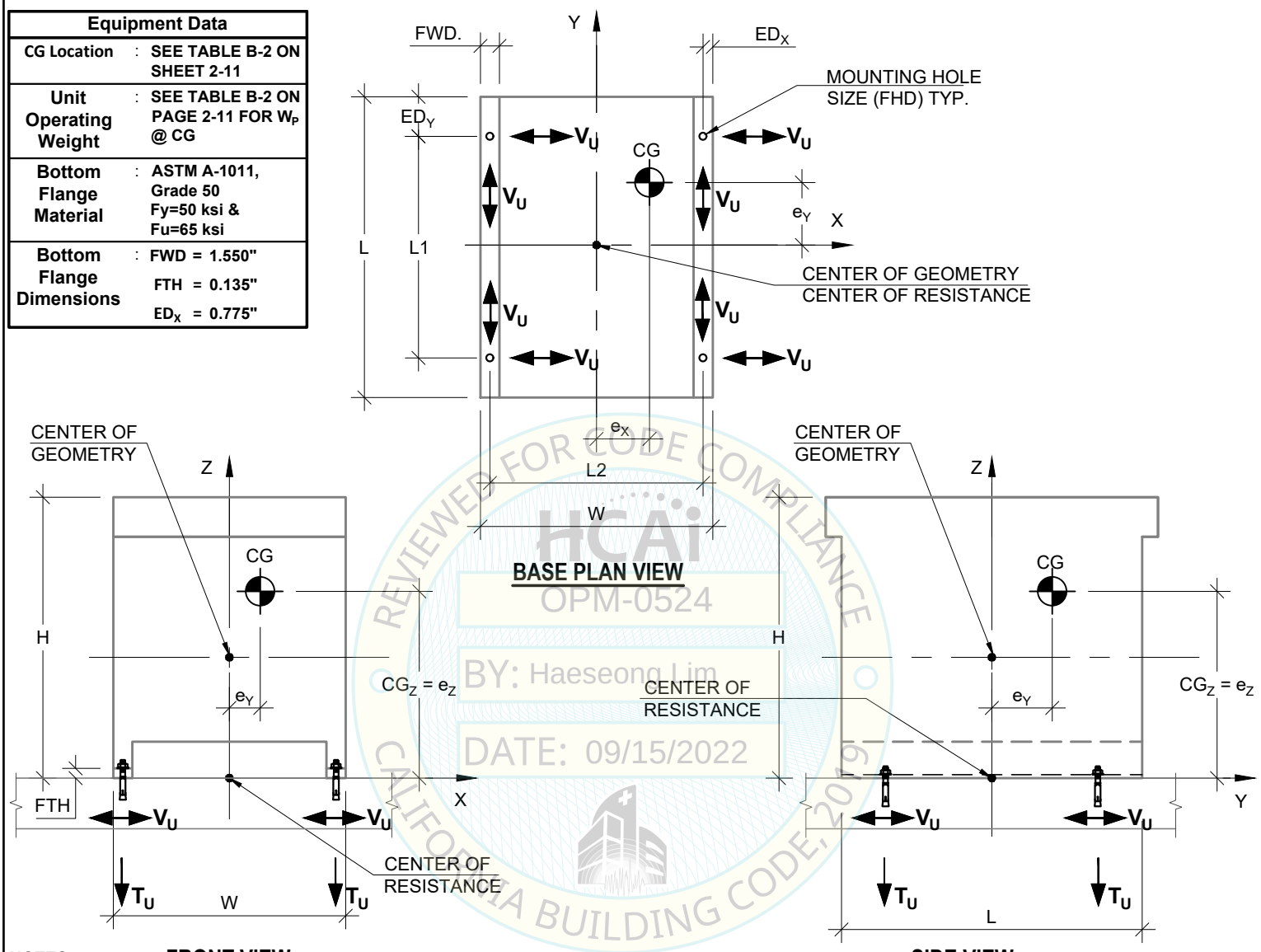
Structural Engineer: Mohammad Hariri
California SE No. S3545

PAGE: 2-9

DATE: August 17, 2022

HSD VIEWS - GROUP "B" (AT ELEVATED FLOOR)
SOLID CONCRETE DECK

Equipment Data		
CG Location	:	SEE TABLE B-2 ON SHEET 2-11
Unit Operating Weight	:	SEE TABLE B-2 ON PAGE 2-11 FOR W_P @ CG
Bottom Flange Material	:	ASTM A-1011, Grade 50 Fy=50 ksi & Fu=65 ksi
Bottom Flange Dimensions	:	FWD = 1.550" FTH = 0.135" ED_X = 0.775"



NOTES:

1. T_U = TENSION FORCE FOR EACH FASTENER, PER GROUP "B" TABLE B-2 ON PAGE 2-11.
2. V_U = SHEAR FORCE FOR EACH FASTENER, PER GROUP "B" TABLE B-2 ON PAGE 2-11.
3. CENTER OF GRAVITY (C.G.) WEIGHT IS A MAXIMUM. THIS PRE-APPROVAL ENCOMPASSES ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.
4. STRUCTURAL ENGINEER OF RECORD FOR THE BUILDING SHALL PROVIDE SUPPORT STRUCTURE DESIGNED TO SUPPORT WEIGHTS AND FORCES SHOWN, IN ADDITION TO ALL LOADS. SEE SECTION 0.2 FOR LIST OF STRUCTURAL ENGINEER OF RECORD'S RESPONSIBILITIES.
5. SEE NOTES AND DETAILS ON PAGES 0-5, 1-1 AND 1-3 FOR EXPANSION ANCHOR BOLTS AT ELEVATED FLOORS.
6. EQUIPMENT MANUFACTURER MUST DESIGN UNIT TO MAKE C.G. EQUAL TO OR LESS THAN THE C.G. HEIGHT DIMENSION SHOWN IN TABLE B-2.
7. EQUIPMENT MANUFACTURER MUST DESIGN UNIT WITHIN MAXIMUM DIMENSIONS.
8. ALL HOLES THRU STEEL FOR BOLTS SHALL BE STANDARD HOLE PER AISC, 15 ED TABLE J3.3 (MAXIMUM HOLE DIAMETER TO BE 1/16" OVER BOLT.
9. SEE TABLE 0.6-1 IN SECTION 0.6 FOR MOUNTING FLANGE WIDTH (FWD) AND MOUNTING FLANGE THICKNESS (FTH).
10. SEE TABLE 0.6-1 IN SECTION 0.6 FOR MOUNTING FLANGE HOLE LOCATIONS (ED_X & ED_Y) AND SIZE (FHD).

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Structural Engineer: Mohammad Hariri
California SE No. S3545

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HSD INFORMATION - GROUP "B" (AT ELEVATED FLOOR)
SOLID CONCRETE DECK

Table B-2 - Group "B" (1)

Catalog Number(2)	Weight (lbs.) [W_p]	Equipment Dimensions (in)			Distance between End Anchors along Y-axis (in).	Distance between End Anchors along X-axis (in.)	CG Height (in.)	Eccentricities (in.)			Anchor (3) Bolts (Thru Bolt) No. & Size	T_U(4) LRFD (lbs.)	V_U(5) LRFD (lbs.)
		L	W	H	L1	L2	CG_Z	e_X	e_Y	e_Z			
HSD0025AWX123S	105	24.3	20.1	23.0	17.5	18.5	10.9	0.15	0.35	10.90	(4) 3/8"	200	114
HSD0030AWX123S	116	24.3	20.1	23.0	17.5	18.5	11.1	0.05	0.15	11.10	(4) 3/8"	224	124
HSD0040AWX123S	161	24.3	20.1	23.0	17.5	18.5	10.5	0.75	0.95	10.50	(4) 3/8"	304	183
HSD0050AWX123S	161	24.3	20.1	23.0	17.5	18.5	10.3	1.05	0.05	10.30	(4) 3/8"	294	179
HSD0060AWX123S	207	24.3	20.1	23.0	17.5	18.5	11.7	1.35	0.15	11.70	(4) 3/8"	441	234
HSD0075AWX123S	208	24.3	20.1	23.0	17.5	18.5	11.7	0.95	0.95	11.70	(4) 3/8"	445	239
HSD0100AWX123S	262	24.3	20.1	23.0	17.5	18.5	11.7	0.95	0.45	11.70	(4) 3/8"	554	294

FOOTNOTES:

1. SEE TABLE 0.6-1 ON SHEET 0-6 FOR INFORMATION NOT SHOWN.
2. SEE TABLE 0.6-1 ON SHEET 0-6 FOR COMPONENT PART NUMBER REFERENCES.
3. SEE NOTES AND DETAILS ON PAGES 0-5, 1-1 AND 1-3 FOR EXPANSION ANCHOR BOLTS AT ELEVATED FLOORS.
4. T_U = TENSION FORCE INCLUDES OVER STRENGTH FACTOR Ω_0=2.0 FOR EACH FASTENER.
5. V_U = SHEAR FORCE INCLUDES OVER STRENGTH FACTOR Ω_0=2.0 FOR EACH FASTENER.

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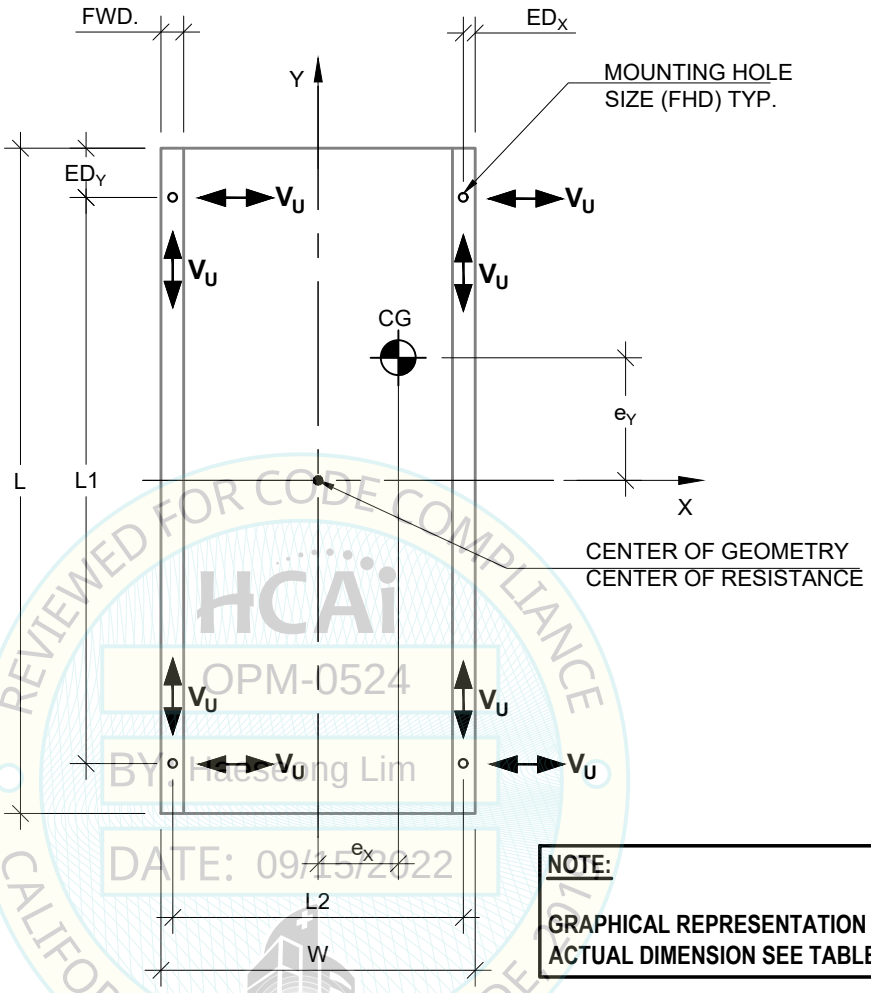
HSD PLAN VIEW - GROUP "B" (AT ELEVATED FLOOR)
CONCRETE FILLED METAL DECK

Equipment Data	
CG Location	: SEE TABLE B-3 ON SHEET 2-14
Unit Operating Weight	: SEE TABLE B-3 ON PAGE 2-14 FOR W_P @ CG
Bottom Flange Material	: ASTM A-1011, Grade 50 Fy=50 ksi & Fu=65 ksi
Bottom Flange Dimensions	: FWD = 1.550" FTH = 0.135" ED_X = 0.775"



BASE PLAN VIEW

NOTE:

GRAPHICAL REPRESENTATION ONLY. FOR ACTUAL DIMENSION SEE TABLE B-3, PAGE 2-14.

NOTES:

1. T_U = TENSION FORCE FOR EACH FASTENER, PER GROUP "B" TABLE B-3 ON PAGE 2-14.
2. V_U = SHEAR FORCE FOR EACH FASTENER, PER GROUP "B" TABLE B-3 ON PAGE 2-14.
3. CENTER OF GRAVITY (C.G.) WEIGHT IS A MAXIMUM. THIS PRE-APPROVAL ENCOMPASSES ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.
4. STRUCTURAL ENGINEER OF RECORD FOR THE BUILDING SHALL PROVIDE SUPPORT STRUCTURE DESIGNED TO SUPPORT WEIGHTS AND FORCES SHOWN, IN ADDITION TO ALL LOADS. SEE SECTION 0.2 FOR LIST OF STRUCTURAL ENGINEER OF RECORD'S RESPONSIBILITIES.
5. SEE NOTES AND DETAILS ON PAGES 0-5, 1-1 AND 1-4 THROUGH 1-7 FOR BOLTS THROUGH CONCRETE FILLED METAL DECK.
6. EQUIPMENT MANUFACTURER MUST DESIGN UNIT TO MAKE C.G. EQUAL TO OR LESS THAN THE C.G. HEIGHT DIMENSION SHOWN IN TABLE B-3.
7. EQUIPMENT MANUFACTURER MUST DESIGN UNIT WITHIN MAXIMUM DIMENSIONS.
8. ALL HOLES THRU STEEL FOR BOLTS SHALL BE STANDARD HOLE PER AISC, 15 ED TABLE J3.3 (MAXIMUM HOLE DIAMETER TO BE 1/16" OVER BOLT.
9. SEE TABLE 0.6-1 IN SECTION 0.6 FOR MOUNTING FLANGE WIDTH (FWD) AND MOUNTING FLANGE THICKNESS (FTH).
10. SEE TABLE 0.6-1 IN SECTION 0.6 FOR MOUNTING FLANGE HOLE LOCATIONS (ED_X & ED_Y) AND SIZE (FHD).

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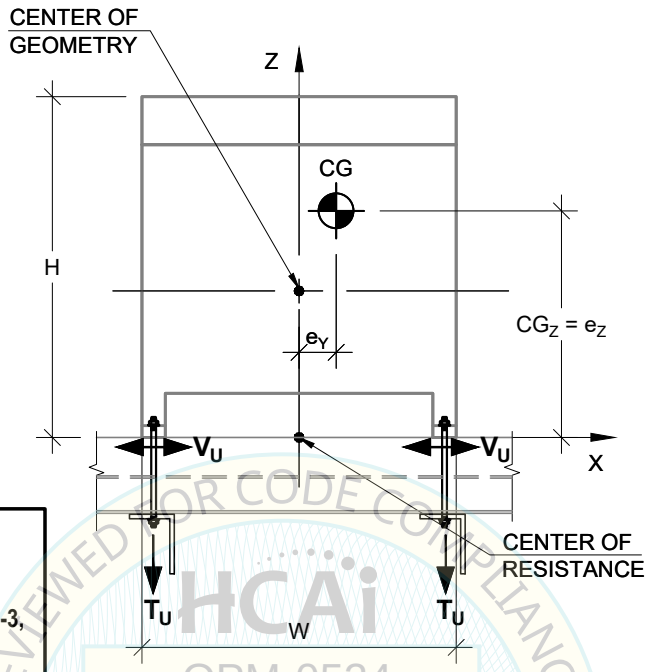
HSD VIEWS - GROUP "B" (AT ELEVATED FLOOR)
CONCRETE FILLED METAL DECK

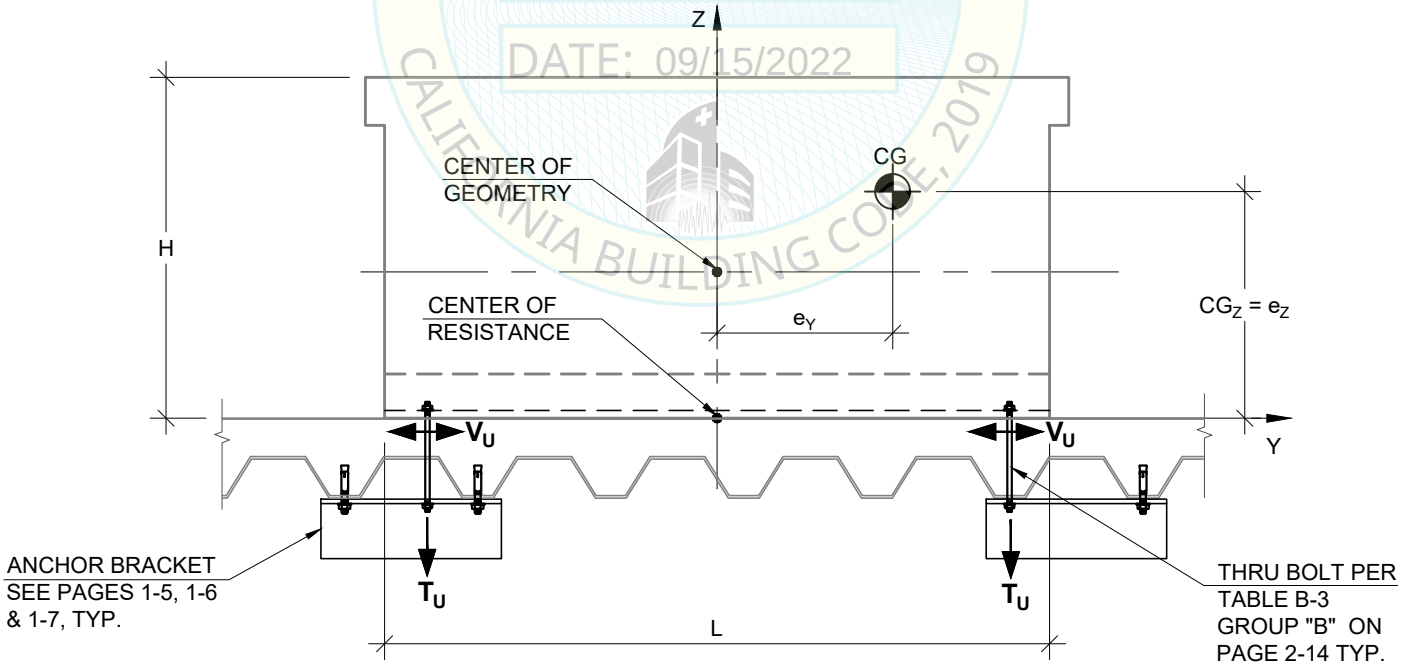
Equipment Data	
CG Location	: SEE TABLE B-3 ON SHEET 2-14
Unit Operating Weight	: SEE TABLE B-3 ON PAGE 2-14 FOR W_P @ CG
Bottom Flange Material	: ASTM A-1011, Grade 50 Fy=50 ksi & Fu=65 ksi
Bottom Flange Dimensions	: FWD = 1.550" FTH = 0.135" ED_X = 0.775"



FRONT VIEW

NOTES:

1. GRAPHICAL REPRESENTATION ONLY. FOR ACTUAL DIMENSION SEE TABLE B-3, PAGE 2-14.
2. SEE PAGE 2-12 FOR NOTES AND INFORMATION NOT SHOWN



SIDE VIEW

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HSD INFORMATION - GROUP "B" (AT ELEVATED FLOOR)
CONCRETE FILLED METAL DECK

Table B-3 - Group "B" (1)

Catalog Number(2)	Weight (lbs.) [W_p]	Equipment Dimensions (in)			Distance between End Anchors along Y-axis (in).	Distance between End Anchors along X-axis (in.)	CG Height (in.)	Eccentricities (in.)			Anchor (3) Bolts (Thru Bolt) No. & Size	T_U(4) LRFD (lbs.)	V_U(5) LRFD (lbs.)
		L	W	H	L1	L2	CG_Z	e_X	e_Y	e_Z			
HSD0025AWX123S	105	24.3	20.1	23.0	17.5	18.5	10.9	0.15	0.35	10.90	(4) 3/8"	200	114
HSD0030AWX123S	116	24.3	20.1	23.0	17.5	18.5	11.1	0.05	0.15	11.10	(4) 3/8"	224	124
HSD0040AWX123S	161	24.3	20.1	23.0	17.5	18.5	10.5	0.75	0.95	10.50	(4) 3/8"	304	183
HSD0050AWX123S	161	24.3	20.1	23.0	17.5	18.5	10.3	1.05	0.05	10.30	(4) 3/8"	294	179
HSD0060AWX123S	207	24.3	20.1	23.0	17.5	18.5	11.7	1.35	0.15	11.70	(4) 3/8"	441	234
HSD0075AWX123S	208	24.3	20.1	23.0	17.5	18.5	11.7	0.95	0.95	11.70	(4) 3/8"	445	239
HSD0100AWX123S	262	24.3	20.1	23.0	17.5	18.5	11.7	0.95	0.45	11.70	(4) 3/8"	554	294

FOOTNOTES:

1. SEE TABLE 0.6-1 ON SHEET 0-6 FOR INFORMATION NOT SHOWN.
2. SEE TABLE 0.6-1 ON SHEET 0-6 FOR COMPONENT PART NUMBER REFERENCES.
3. SEE NOTES AND DETAILS ON PAGES 0-5, 1-1 AND 1-4 THROUGH 1-7 FOR BOLTS THROUGH CONCRETE FILLED METAL DECK.
4. T_U = TENSION FORCE INCLUDES OVER STRENGTH FACTOR Ω_0=2.0 FOR EACH FASTENER.
5. V_U = SHEAR FORCE INCLUDES OVER STRENGTH FACTOR Ω_0=2.0 FOR EACH FASTENER.

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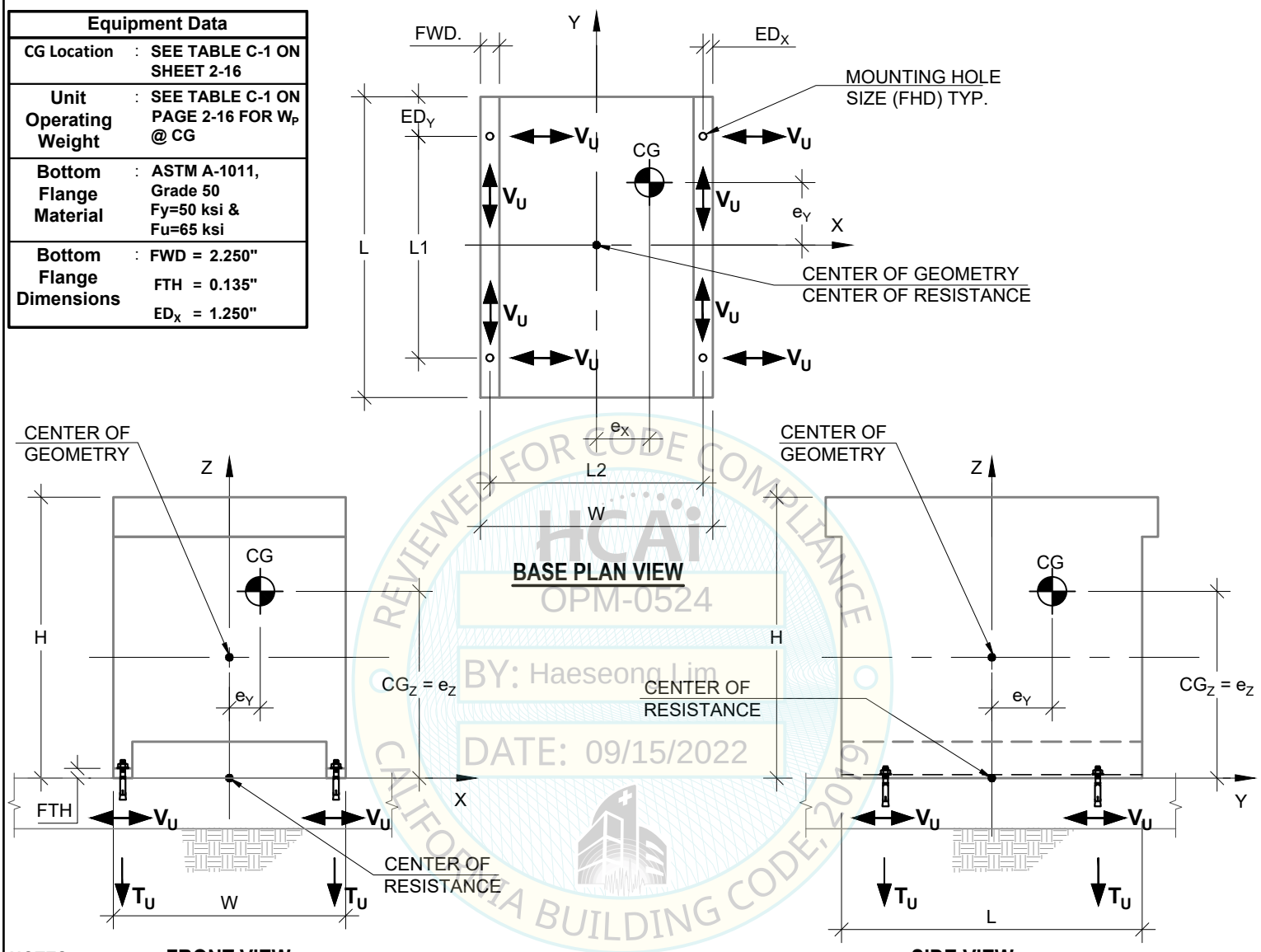
HSD VIEWS - GROUP "C" (AT GRADE)

Equipment Data		
CG Location	:	SEE TABLE C-1 ON SHEET 2-16
Unit Operating Weight	:	SEE TABLE C-1 ON PAGE 2-16 FOR W_P @ CG
Bottom Flange Material	:	ASTM A-1011, Grade 50 Fy=50 ksi & Fu=65 ksi
Bottom Flange Dimensions	:	FWD = 2.250" FTH = 0.135" ED_X = 1.250"



NOTES:

1. T_U = TENSION FORCE FOR EACH FASTENER, PER GROUP "C" TABLE C-1 ON PAGE 2-16.
2. V_U = SHEAR FORCE FOR EACH FASTENER, PER GROUP "C" TABLE C-1 ON PAGE 2-16.
3. CENTER OF GRAVITY (C.G.) WEIGHT IS A MAXIMUM. THIS PRE-APPROVAL ENCOMPASSES ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.
4. STRUCTURAL ENGINEER OF RECORD FOR THE BUILDING SHALL PROVIDE SUPPORT STRUCTURE DESIGNED TO SUPPORT WEIGHTS AND FORCES SHOWN, IN ADDITION TO ALL LOADS. SEE SECTION 0.2 FOR LIST OF STRUCTURAL ENGINEER OF RECORD'S RESPONSIBILITIES.
5. SEE NOTES AND DETAILS ON PAGES 0-5, 1-1 AND 1-2 FOR EXPANSION ANCHOR BOLTS AT GRADE.
6. EQUIPMENT MANUFACTURER MUST DESIGN UNIT TO MAKE C.G. EQUAL TO OR LESS THAN THE C.G. HEIGHT DIMENSION SHOWN IN TABLE C-1.
7. EQUIPMENT MANUFACTURER MUST DESIGN UNIT WITHIN MAXIMUM DIMENSIONS.
8. ALL HOLES THRU STEEL FOR BOLTS SHALL BE STANDARD HOLE PER AISC, 15 ED TABLE J3.3 (MAXIMUM HOLE DIAMETER TO BE 1/16" OVER BOLT.
9. SEE TABLE 0.6-1 IN SECTION 0.6 FOR MOUNTING FLANGE WIDTH (FWD) AND MOUNTING FLANGE THICKNESS (FTH).
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HSD INFORMATION - GROUP "C" (AT GRADE)

Table C-1 - Group "C" (1)

Catalog Number(2)	Weight (lbs.) [W_p]	Equipment Dimensions (in)			Distance between End Anchors along Y-axis (in).	Distance between End Anchors along X-axis (in.)	CG Height (in.)	Eccentricities (in.)			Expansion (3) Anchor Bolts No. & Size	T_U(4) LRFD (lbs.)	V_U(5) LRFD (lbs.)
		L	W	H	L1	L2	CG_Z	e_X	e_Y	e_Z			
HSD0125AWX123S	336	24.3	20.3	40.4	17.5	18.6	18.6	0.15	0.95	18.60	(4) 1/2"	864	280
HSD0150AWX123S	385	24.3	20.3	40.4	17.5	18.6	18.6	0.35	0.55	18.60	(4) 1/2"	985	318

FOOTNOTES:

1. SEE TABLE 0.6-1 ON SHEET 0-6 FOR INFORMATION NOT SHOWN.
2. SEE TABLE 0.6-1 ON SHEET 0-6 FOR COMPONENT PART NUMBER REFERENCES.
3. SEE NOTES AND DETAILS ON PAGES 0-5, 1-1 AND 1-2 FOR EXPANSION ANCHOR BOLTS AT GRADE.
4. T_U = TENSION FORCE INCLUDES OVER STRENGTH FACTOR Ω_0=2.0 FOR EACH FASTENER.
5. V_U = SHEAR FORCE INCLUDES OVER STRENGTH FACTOR Ω_0=2.0 FOR EACH FASTENER.

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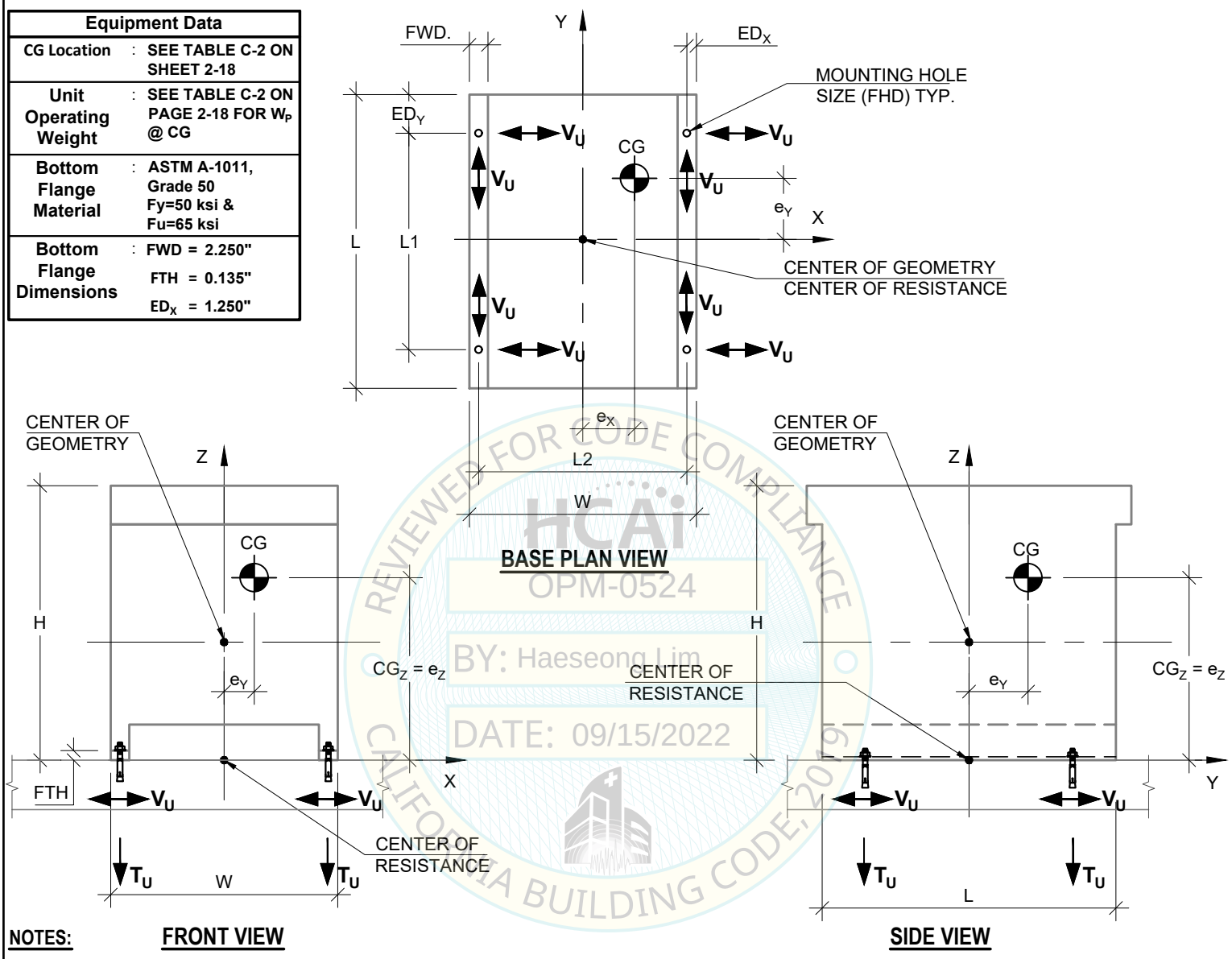
HSD VIEWS - GROUP "C" (AT ELEVATED FLOOR)
SOLID CONCRETE DECK

Equipment Data		
CG Location	:	SEE TABLE C-2 ON SHEET 2-18
Unit Operating Weight	:	SEE TABLE C-2 ON PAGE 2-18 FOR W_P @ CG
Bottom Flange Material	:	ASTM A-1011, Grade 50 Fy=50 ksi & Fu=65 ksi
Bottom Flange Dimensions	:	FWD = 2.250" FTH = 0.135" ED_X = 1.250"



NOTES:

1. T_U = TENSION FORCE FOR EACH FASTENER, PER GROUP "C" TABLE C-2 ON PAGE 2-18.
2. V_U = SHEAR FORCE FOR EACH FASTENER, PER GROUP "C" TABLE C-2 ON PAGE 2-18.
3. CENTER OF GRAVITY (C.G.) WEIGHT IS A MAXIMUM. THIS PRE-APPROVAL ENCOMPASSES ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.
4. STRUCTURAL ENGINEER OF RECORD FOR THE BUILDING SHALL PROVIDE SUPPORT STRUCTURE DESIGNED TO SUPPORT WEIGHTS AND FORCES SHOWN, IN ADDITION TO ALL LOADS. SEE SECTION 0.2 FOR LIST OF STRUCTURAL ENGINEER OF RECORD'S RESPONSIBILITIES.
5. SEE NOTES AND DETAILS ON PAGES 0-5, 1-1 AND 1-3 FOR EXPANSION ANCHOR BOLTS AT ELEVATED FLOORS.
6. EQUIPMENT MANUFACTURER MUST DESIGN UNIT TO MAKE C.G. EQUAL TO OR LESS THAN THE C.G. HEIGHT DIMENSION SHOWN IN TABLE C-2.
7. EQUIPMENT MANUFACTURER MUST DESIGN UNIT WITHIN MAXIMUM DIMENSIONS.
8. ALL HOLES THRU STEEL FOR BOLTS SHALL BE STANDARD HOLE PER AISC, 15 ED TABLE J3.3 (MAXIMUM HOLE DIAMETER TO BE 1/16" OVER BOLT.
9. SEE TABLE 0.6-1 IN SECTION 0.6 FOR MOUNTING FLANGE WIDTH (FWD) AND MOUNTING FLANGE THICKNESS (FTH).
10. SEE TABLE 0.6-1 IN SECTION 0.6 FOR MOUNTING FLANGE HOLE LOCATIONS (ED_X & ED_Y) AND SIZE (FHD).

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PAGE: 2-17

DATE: August 17, 2022

HSD INFORMATION - GROUP "C" (AT ELEVATED FLOOR)
SOLID CONCRETE DECK

Table C-2 - Group "C" (1)

Catalog Number(2)	Weight (lbs.) [W_p]	Equipment Dimensions (in)			Distance between End Anchors along Y-axis (in).	Distance between End Anchors along X-axis (in.)	CG Height (in.)	Eccentricities (in.)			Expansion (3) Anchor Bolts No. & Size	T_U(4) LRFD (lbs.)	V_U(5) LRFD (lbs.)
		L	W	H	L1	L2	CG_Z	e_X	e_Y	e_Z			
HSD0125AWX123S	336	24.3	20.3	40.4	17.5	18.6	18.6	0.15	0.95	18.60	(4) 1/2"	1157	373
HSD0150AWX123S	385	24.3	20.3	40.4	17.5	18.6	18.6	0.35	0.55	18.60	(4) 1/2"	1318	423

FOOTNOTES:

1. SEE TABLE 0.6-1 ON SHEET 0-6 FOR INFORMATION NOT SHOWN.
2. SEE TABLE 0.6-1 ON SHEET 0-6 FOR COMPONENT PART NUMBER REFERENCES.
3. SEE NOTES AND DETAILS ON PAGES 0-5, 1-1 AND 1-3 FOR EXPANSION ANCHOR BOLTS AT ELEVATED FLOORS.
4. T_U = TENSION FORCE INCLUDES OVER STRENGTH FACTOR Ω_0=2.0 FOR EACH FASTENER.
5. V_U = SHEAR FORCE INCLUDES OVER STRENGTH FACTOR Ω_0=2.0 FOR EACH FASTENER.

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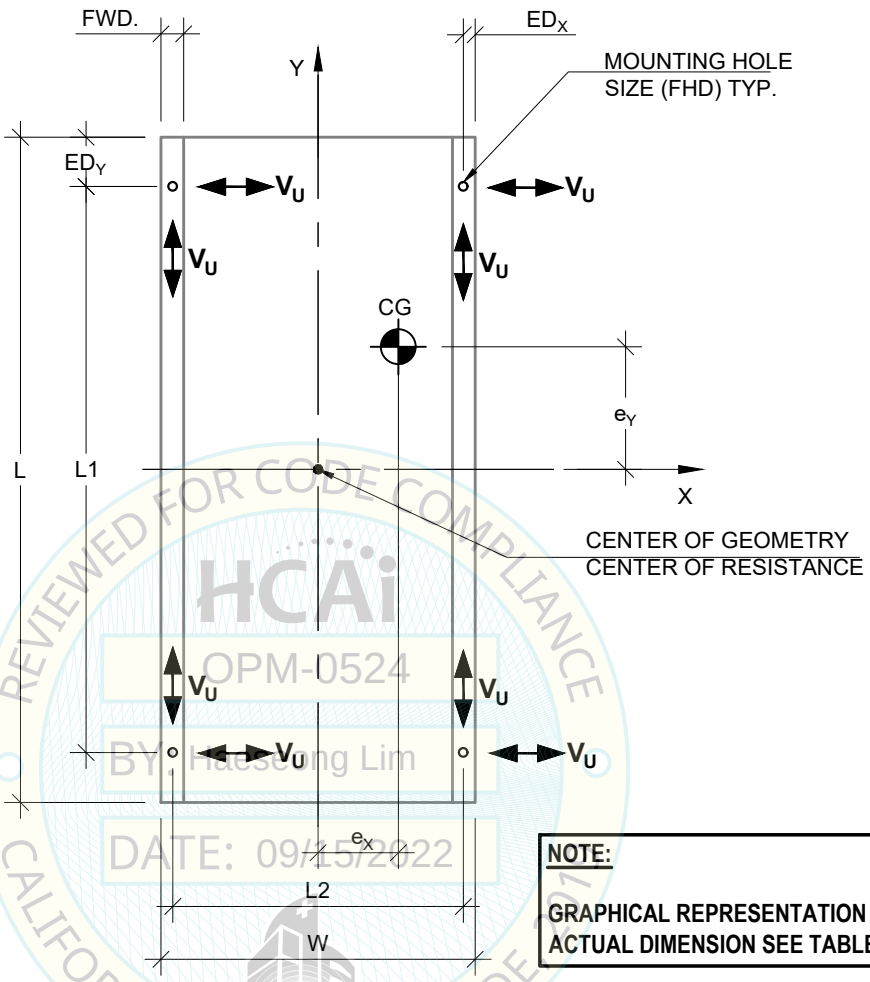
HSD PLAN VIEW - GROUP "C" (AT ELEVATED FLOOR)
CONCRETE FILLED METAL DECK

Equipment Data		
CG Location	:	SEE TABLE C-3 ON SHEET 2-21
Unit Operating Weight	:	SEE TABLE C-3 ON PAGE 2-21 FOR W_P @ CG
Bottom Flange Material	:	ASTM A-1011, Grade 50 Fy=50 ksi & Fu=65 ksi
Bottom Flange Dimensions	:	FWD = 2.250" FTH = 0.135" ED_X = 1.250"



BASE PLAN VIEW

NOTE:

GRAPHICAL REPRESENTATION ONLY. FOR ACTUAL DIMENSION SEE TABLE C-3, PAGE 2-21.

NOTES:

1. T_U = TENSION FORCE FOR EACH FASTENER, PER GROUP "C" TABLE C-3 ON PAGE 2-21.
2. V_U = SHEAR FORCE FOR EACH FASTENER, PER GROUP "C" TABLE C-3 ON PAGE 2-21.
3. CENTER OF GRAVITY (C.G.) WEIGHT IS A MAXIMUM. THIS PRE-APPROVAL ENCOMPASSES ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.
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5. SEE NOTES AND DETAILS ON PAGES 0-5, 1-1 AND 1-4 THROUGH 1-7 FOR BOLTS THROUGH CONCRETE FILLED METAL DECK.
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9. SEE TABLE 0.6-1 IN SECTION 0.6 FOR MOUNTING FLANGE WIDTH (FWD) AND MOUNTING FLANGE THICKNESS (FTH).
10. SEE TABLE 0.6-1 IN SECTION 0.6 FOR MOUNTING FLANGE HOLE LOCATIONS (ED_X & ED_Y) AND SIZE (FHD).

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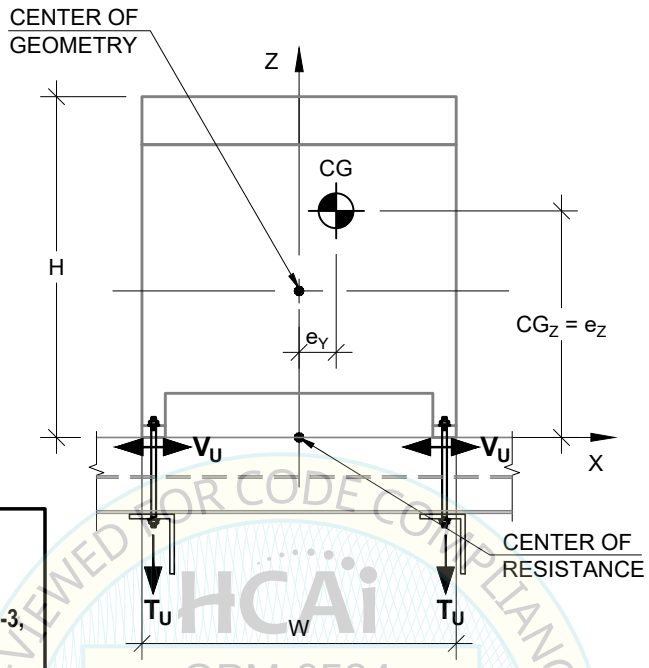
HSD VIEWS - GROUP "C" (AT ELEVATED FLOOR)
CONCRETE FILLED METAL DECK

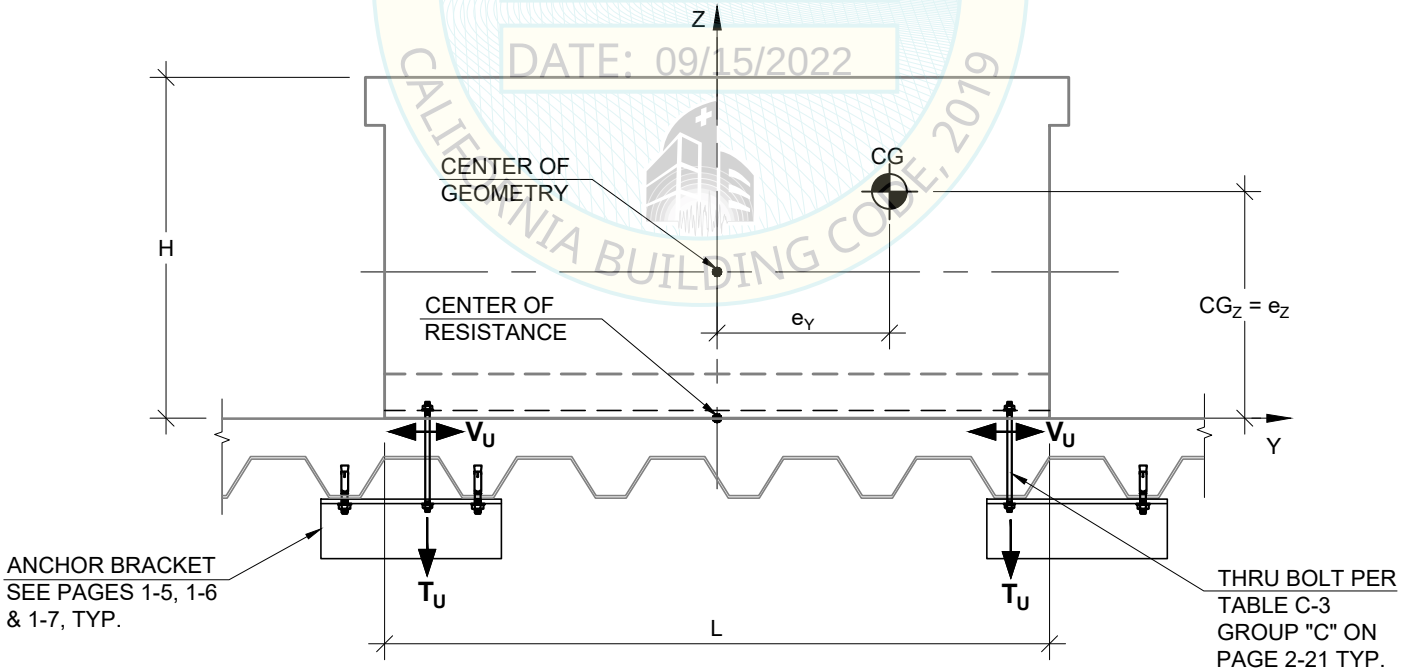
Equipment Data	
CG Location	: SEE TABLE C-3 ON SHEET 2-21
Unit Operating Weight	: SEE TABLE C-3 ON PAGE 2-21 FOR W_P @ CG
Bottom Flange Material	: ASTM A-1011, Grade 50 Fy=50 ksi & Fu=65 ksi
Bottom Flange Dimensions	: FWD = 2.250" FTH = 0.135" ED_X = 1.250"

NOTES:

1. GRAPHICAL REPRESENTATION ONLY. FOR ACTUAL DIMENSION SEE TABLE C-3, PAGE 2-21.
2. SEE PAGE 2-19 FOR NOTES AND INFORMATION NOT SHOWN



FRONT VIEW



SIDE VIEW

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Structural Engineer: Mohammad Hariri
California SE No. S3545

PAGE: 2-20

DATE: August 17, 2022

HSD INFORMATION - GROUP "C" (AT ELEVATED FLOOR)
CONCRETE FILLED METAL DECK

Table C-3 - Group "C" (1)

Catalog Number(2)	Weight (lbs.) [W_p]	Equipment Dimensions (in)			Distance between End Anchors along Y-axis (in).	Distance between End Anchors along X-axis (in.)	CG Height (in.)	Eccentricities (in.)			Anchor (3) Bolts (Thru Bolt) No. & Size	T_U(4) LRFD (lbs.)	V_U(5) LRFD (lbs.)
		L	W	H	L1	L2	CG_Z	e_X	e_Y	e_Z			
HSD0125AWX123S	336	24.3	20.3	40.4	17.5	18.6	18.6	0.15	0.95	18.60	(4) 1/2"	1157	373
HSD0150AWX123S	385	24.3	20.3	40.4	17.5	18.6	18.6	0.35	0.55	18.60	(4) 1/2"	1318	423

FOOTNOTES:

1. SEE TABLE 0.6-1 ON SHEET 0-6 FOR INFORMATION NOT SHOWN.
2. SEE TABLE 0.6-1 ON SHEET 0-6 FOR COMPONENT PART NUMBER REFERENCES.
3. SEE NOTES AND DETAILS ON PAGES 0-5, 1-1 AND 1-4 THROUGH 1-7 FOR BOLTS THROUGH CONCRETE FILLED METAL DECK.
4. T_U = TENSION FORCE INCLUDES OVER STRENGTH FACTOR Ω_0=2.0 FOR EACH FASTENER.
5. V_U = SHEAR FORCE INCLUDES OVER STRENGTH FACTOR Ω_0=2.0 FOR EACH FASTENER.

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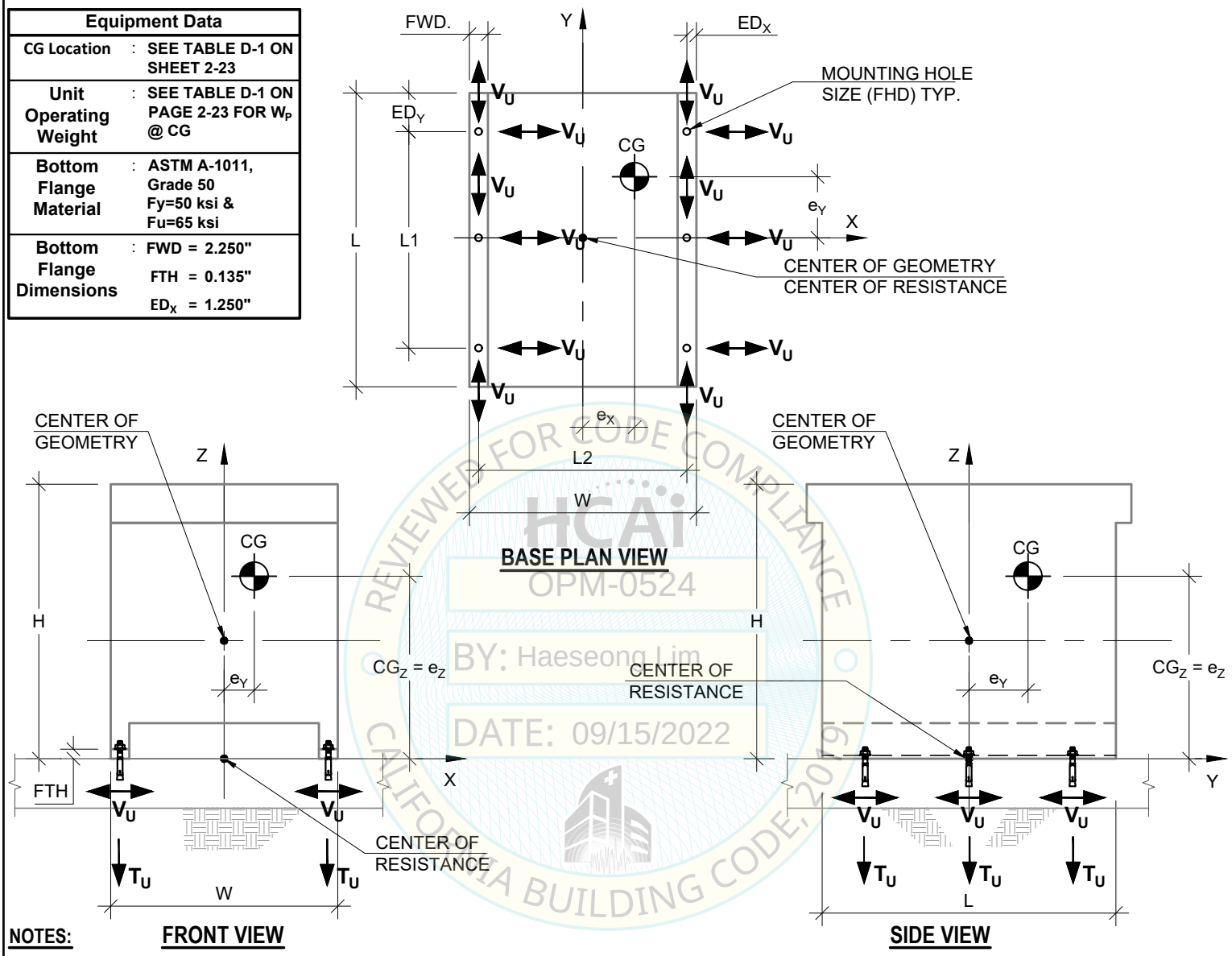
California SE No. S3545

HSD VIEWS - GROUP "D" (AT GRADE)

Equipment Data		
CG Location	:	SEE TABLE D-1 ON SHEET 2-23
Unit Operating Weight	:	SEE TABLE D-1 ON PAGE 2-23 FOR W_P @ CG
Bottom Flange Material	:	ASTM A-1011, Grade 50 Fy=50 ksi & Fu=65 ksi
Bottom Flange Dimensions	:	FWD = 2.250" FTH = 0.135" ED_X = 1.250"



NOTES:

1. T_U = TENSION FORCE FOR EACH FASTENER, PER GROUP "D" TABLE D-1 ON PAGE 2-23.
2. V_U = SHEAR FORCE FOR EACH FASTENER, PER GROUP "D" TABLE D-1 ON PAGE 2-23.
3. CENTER OF GRAVITY (C.G.) WEIGHT IS A MAXIMUM. THIS PRE-APPROVAL ENCOMPASSES ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.
4. STRUCTURAL ENGINEER OF RECORD FOR THE BUILDING SHALL PROVIDE SUPPORT STRUCTURE DESIGNED TO SUPPORT WEIGHTS AND FORCES SHOWN, IN ADDITION TO ALL LOADS. SEE SECTION 0.2 FOR LIST OF STRUCTURAL ENGINEER OF RECORD'S RESPONSIBILITIES.
5. SEE NOTES AND DETAILS ON PAGES 0-5, 1-1 AND 1-2 FOR EXPANSION ANCHOR BOLTS AT GRADE.
6. EQUIPMENT MANUFACTURER MUST DESIGN UNIT TO MAKE C.G. EQUAL TO OR LESS THAN THE C.G. HEIGHT DIMENSION SHOWN IN TABLE D-1.
7. EQUIPMENT MANUFACTURER MUST DESIGN UNIT WITHIN MAXIMUM DIMENSIONS.
8. ALL HOLES THRU STEEL FOR BOLTS SHALL BE STANDARD HOLE PER AISC, 15 ED TABLE J3.3 (MAXIMUM HOLE DIAMETER TO BE 1/16" OVER BOLT.
9. SEE TABLE 0.6-1 IN SECTION 0.6 FOR MOUNTING FLANGE WIDTH (FWD) AND MOUNTING FLANGE THICKNESS (FTH).
10. SEE TABLE 0.6-1 IN SECTION 0.6 FOR MOUNTING FLANGE HOLE LOCATIONS (ED_X & ED_Y) AND SIZE (FHD).

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HSD INFORMATION - GROUP "D" (AT GRADE)

Table D-1 - Group "D" (1)

Catalog Number(2)	Weight (lbs.) [W_p]	Equipment Dimensions (in)			Distance between End Anchors along Y-axis (in).	Distance between End Anchors along X-axis (in.)	CG Height (in.)	Eccentricities (in.)			Expansion (3) Anchor Bolts No. & Size	T_U(4) LRFD (lbs.)	V_U(5) LRFD (lbs.)
		L	W	H	L1	L2	CG_Z	e_X	e_Y	e_Z			
HSD0200AWX123S	561	30.1	28.2	37.0	24	25.5	17.0	0.40	1.75	17.00	(6) 1/2"	688	321
HSD0250AWX123S	563	30.1	28.2	37.0	24	25.5	17.0	0.30	0.85	17.00	(6) 1/2"	684	311

FOOTNOTES:

1. SEE TABLE 0.6-1 ON SHEET 0-6 FOR INFORMATION NOT SHOWN.
2. SEE TABLE 0.6-1 ON SHEET 0-6 FOR COMPONENT PART NUMBER REFERENCES.
3. SEE NOTES AND DETAILS ON PAGES 0-5, 1-1 AND 1-2 FOR EXPANSION ANCHOR BOLTS AT GRADE.
4. T_U = TENSION FORCE INCLUDES OVER STRENGTH FACTOR Ω_0=2.0 FOR EACH FASTENER.
5. V_U = SHEAR FORCE INCLUDES OVER STRENGTH FACTOR Ω_0=2.0 FOR EACH FASTENER.

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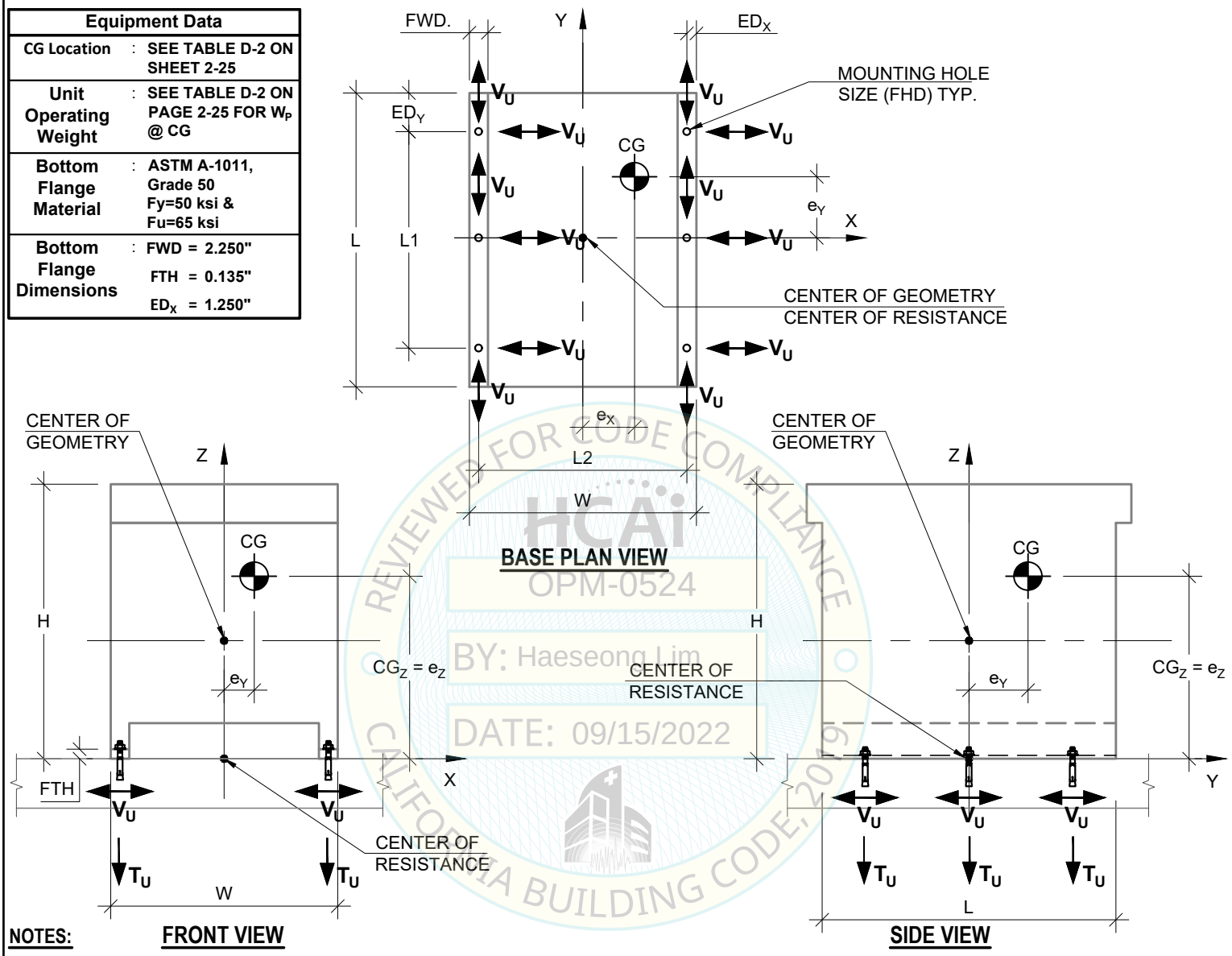
HSD VIEWS - GROUP "D" (AT ELEVATED FLOOR)
SOLID CONCRETE DECK

Equipment Data		
CG Location	:	SEE TABLE D-2 ON SHEET 2-25
Unit Operating Weight	:	SEE TABLE D-2 ON PAGE 2-25 FOR W_P @ CG
Bottom Flange Material	:	ASTM A-1011, Grade 50 Fy=50 ksi & Fu=65 ksi
Bottom Flange Dimensions	:	FWD = 2.250" FTH = 0.135" ED_X = 1.250"



NOTES:

1. T_U = TENSION FORCE FOR EACH FASTENER, PER GROUP "D" TABLE D-2 ON PAGE 2-25.
2. V_U = SHEAR FORCE FOR EACH FASTENER, PER GROUP "D" TABLE D-2 ON PAGE 2-25.
3. CENTER OF GRAVITY (C.G.) WEIGHT IS A MAXIMUM. THIS PRE-APPROVAL ENCOMPASSES ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.
4. STRUCTURAL ENGINEER OF RECORD FOR THE BUILDING SHALL PROVIDE SUPPORT STRUCTURE DESIGNED TO SUPPORT WEIGHTS AND FORCES SHOWN, IN ADDITION TO ALL LOADS. SEE SECTION 0.2 FOR LIST OF STRUCTURAL ENGINEER OF RECORD'S RESPONSIBILITIES.
5. SEE NOTES AND DETAILS ON PAGES 0-5, 1-1 AND 1-3 FOR EXPANSION ANCHOR BOLTS AT ELEVATED FLOORS.
6. EQUIPMENT MANUFACTURER MUST DESIGN UNIT TO MAKE C.G. EQUAL TO OR LESS THAN THE C.G. HEIGHT DIMENSION SHOWN IN TABLE D-2.
7. EQUIPMENT MANUFACTURER MUST DESIGN UNIT WITHIN MAXIMUM DIMENSIONS.
8. ALL HOLES THRU STEEL FOR BOLTS SHALL BE STANDARD HOLE PER AISC, 15 ED TABLE J3.3 (MAXIMUM HOLE DIAMETER TO BE 1/16" OVER BOLT.
9. SEE TABLE 0.6-1 IN SECTION 0.6 FOR MOUNTING FLANGE WIDTH (FWD) AND MOUNTING FLANGE THICKNESS (FTH).
10. SEE TABLE 0.6-1 IN SECTION 0.6 FOR MOUNTING FLANGE HOLE LOCATIONS (ED_X & ED_Y) AND SIZE (FHD).

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HSD INFORMATION - GROUP "D" (AT ELEVATED FLOOR)
SOLID CONCRETE DECK

Table D-2 - Group "D" (1)

Catalog Number(2)	Weight (lbs.) [W_p]	Equipment Dimensions (in)			Distance between End Anchors along Y-axis (in).	Distance between End Anchors along X-axis (in.)	CG Height (in.)	Eccentricities (in.)			Expansion (3) Anchor Bolts No. & Size	T_U(4) LRFD (lbs.)	V_U(5) LRFD (lbs.)
		L	W	H	L1	L2	CG_Z	e_X	e_Y	e_Z			
HSD0200AWX123S	561	30.1	28.2	37.0	24	25.5	17.0	0.40	1.75	17.00	(6) 1/2"	920	429
HSD0250AWX123S	563	30.1	28.2	37.0	24	25.5	17.0	0.30	0.85	17.00	(6) 1/2"	915	414

FOOTNOTES:

1. SEE TABLE 0.6-1 ON SHEET 0-6 FOR INFORMATION NOT SHOWN.
2. SEE TABLE 0.6-1 ON SHEET 0-6 FOR COMPONENT PART NUMBER REFERENCES.
3. SEE NOTES AND DETAILS ON PAGES 0-5, 1-1 AND 1-3 FOR EXPANSION ANCHOR BOLTS AT ELEVATED FLOORS.
4. T_U = TENSION FORCE INCLUDES OVER STRENGTH FACTOR Ω_0=2.0 FOR EACH FASTENER.
5. V_U = SHEAR FORCE INCLUDES OVER STRENGTH FACTOR Ω_0=2.0 FOR EACH FASTENER.

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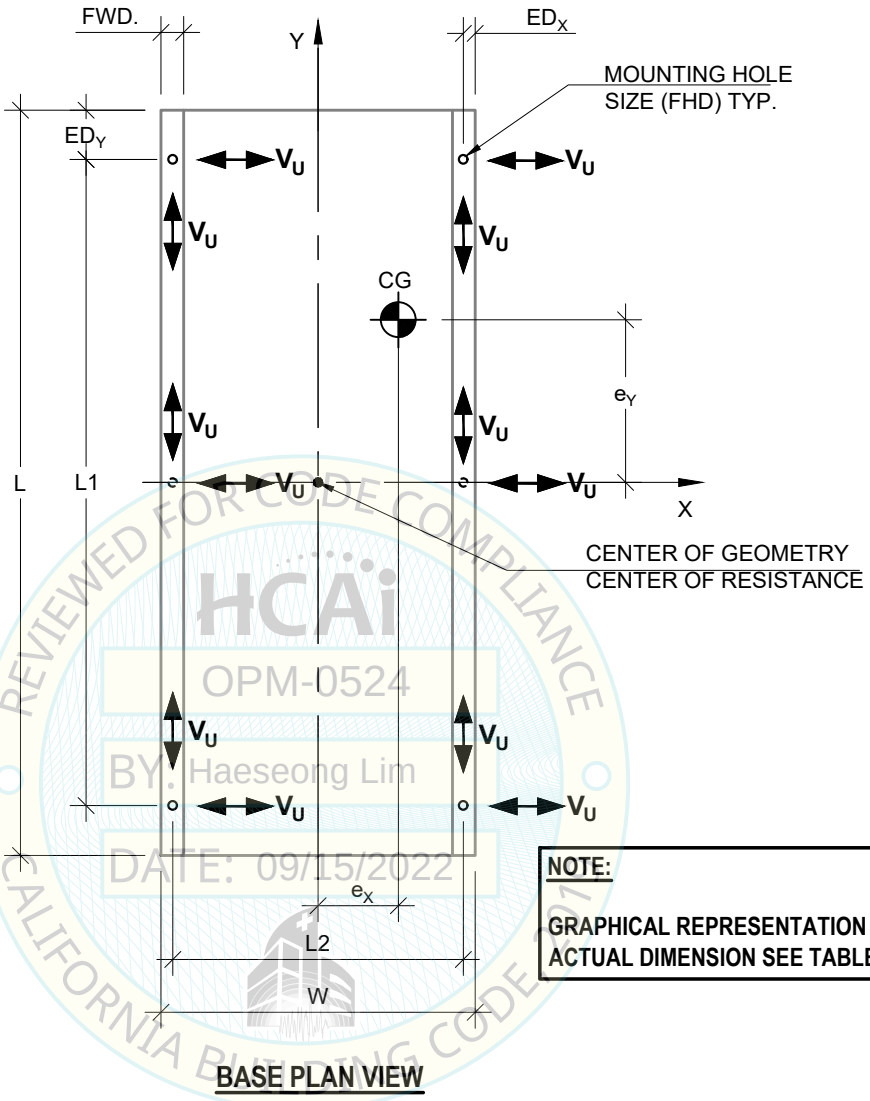
HSD PLAN VIEW - GROUP "D" (AT ELEVATED FLOOR)
CONCRETE FILLED METAL DECK

Equipment Data	
CG Location	: SEE TABLE D-3 ON SHEET 2-28
Unit Operating Weight	: SEE TABLE D-3 ON PAGE 2-28 FOR W_P @ CG
Bottom Flange Material	: ASTM A-1011, Grade 50 Fy=50 ksi & Fu=65 ksi
Bottom Flange Dimensions	: FWD = 2.250" FTH = 0.135" ED_X = 1.250"



BASE PLAN VIEW

NOTE:

GRAPHICAL REPRESENTATION ONLY. FOR ACTUAL DIMENSION SEE TABLE D-3, PAGE 2-28.

NOTES:

1. T_U = TENSION FORCE FOR EACH FASTENER, PER GROUP "D" TABLE D-3 ON PAGE 2-28.
2. V_U = SHEAR FORCE FOR EACH FASTENER, PER GROUP "D" TABLE D-3 ON PAGE 2-28.
3. CENTER OF GRAVITY (C.G.) WEIGHT IS A MAXIMUM. THIS PRE-APPROVAL ENCOMPASSES ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.
4. STRUCTURAL ENGINEER OF RECORD FOR THE BUILDING SHALL PROVIDE SUPPORT STRUCTURE DESIGNED TO SUPPORT WEIGHTS AND FORCES SHOWN, IN ADDITION TO ALL LOADS. SEE SECTION 0.2 FOR LIST OF STRUCTURAL ENGINEER OF RECORD'S RESPONSIBILITIES.
5. SEE NOTES AND DETAILS ON PAGES 0-5, 1-1 AND 1-4 THROUGH 1-7 FOR BOLTS THROUGH CONCRETE FILLED METAL DECK.
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10. SEE TABLE 0.6-1 IN SECTION 0.6 FOR MOUNTING FLANGE HOLE LOCATIONS (ED_X & ED_Y) AND SIZE (FHD).

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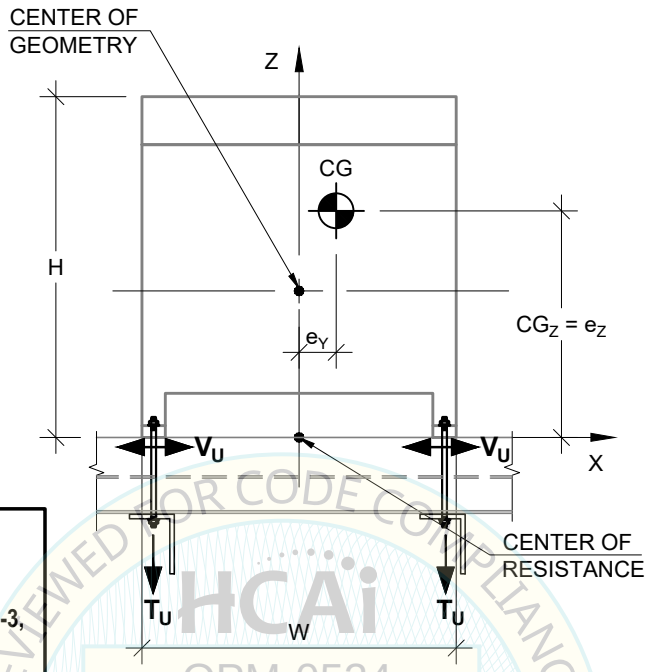
HSD VIEWS - GROUP "D" (AT ELEVATED FLOOR)
CONCRETE FILLED METAL DECK

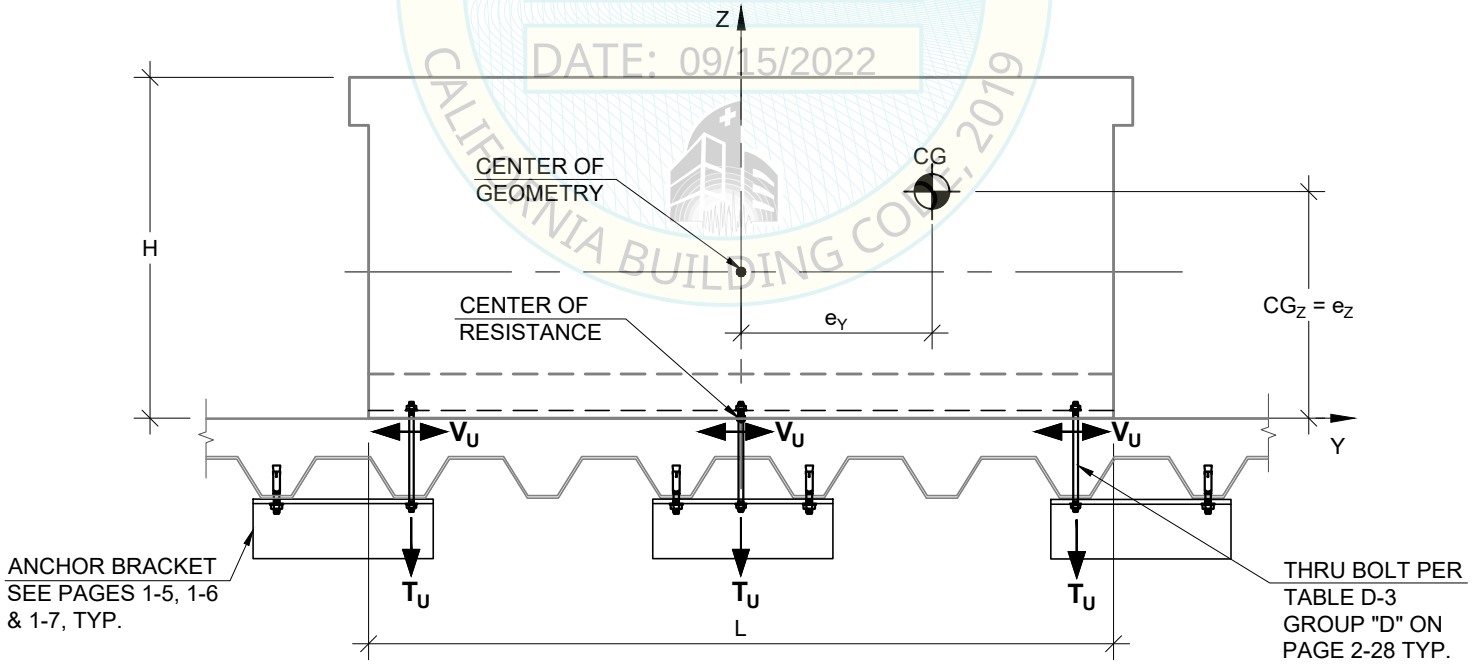
Equipment Data		
CG Location	:	SEE TABLE D-3 ON SHEET 2-28
Unit Operating Weight	:	SEE TABLE D-3 ON PAGE 2-28 FOR W_P @ CG
Bottom Flange Material	:	ASTM A-1011, Grade 50 Fy=50 ksi & Fu=65 ksi
Bottom Flange Dimensions	:	FWD = 2.250" FTH = 0.135" ED_X = 1.250"

NOTES:

1. GRAPHICAL REPRESENTATION ONLY. FOR ACTUAL DIMENSION SEE TABLE D-3, PAGE 2-28.
2. SEE PAGE 2-26 FOR NOTES AND INFORMATION NOT SHOWN



FRONT VIEW



SIDE VIEW

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HSD INFORMATION - GROUP "D" (AT ELEVATED FLOOR)
CONCRETE FILLED METAL DECK

Table D-3 - Group "D" (1)

Catalog Number(2)	Weight (lbs.) [W_p]	Equipment Dimensions (in)			Distance between End Anchors along Y-axis (in).	Distance between End Anchors along X-axis (in.)	CG Height (in.)	Eccentricities (in.)			Anchor (3) Bolts (Thru Bolt) No. & Size	T_U(4) LRFD (lbs.)	V_U(5) LRFD (lbs.)
		L	W	H	L1	L2	CG_Z	e_X	e_Y	e_Z			
HSD0200AWX123S	561	30.1	28.2	37.0	24	25.5	17.0	0.40	1.75	17.00	(6) 1/2"	920	429
HSD0250AWX123S	563	30.1	28.2	37.0	24	25.5	17.0	0.30	0.85	17.00	(6) 1/2"	915	414

FOOTNOTES:

1. SEE TABLE 0.6-1 ON SHEET 0-6 FOR INFORMATION NOT SHOWN.
2. SEE TABLE 0.6-1 ON SHEET 0-6 FOR COMPONENT PART NUMBER REFERENCES.
3. SEE NOTES AND DETAILS ON PAGES 0-5, 1-1 AND 1-4 THROUGH 1-7 FOR BOLTS THROUGH CONCRETE FILLED METAL DECK.
4. T_U = TENSION FORCE INCLUDES OVER STRENGTH FACTOR Ω_0=2.0 FOR EACH FASTENER.
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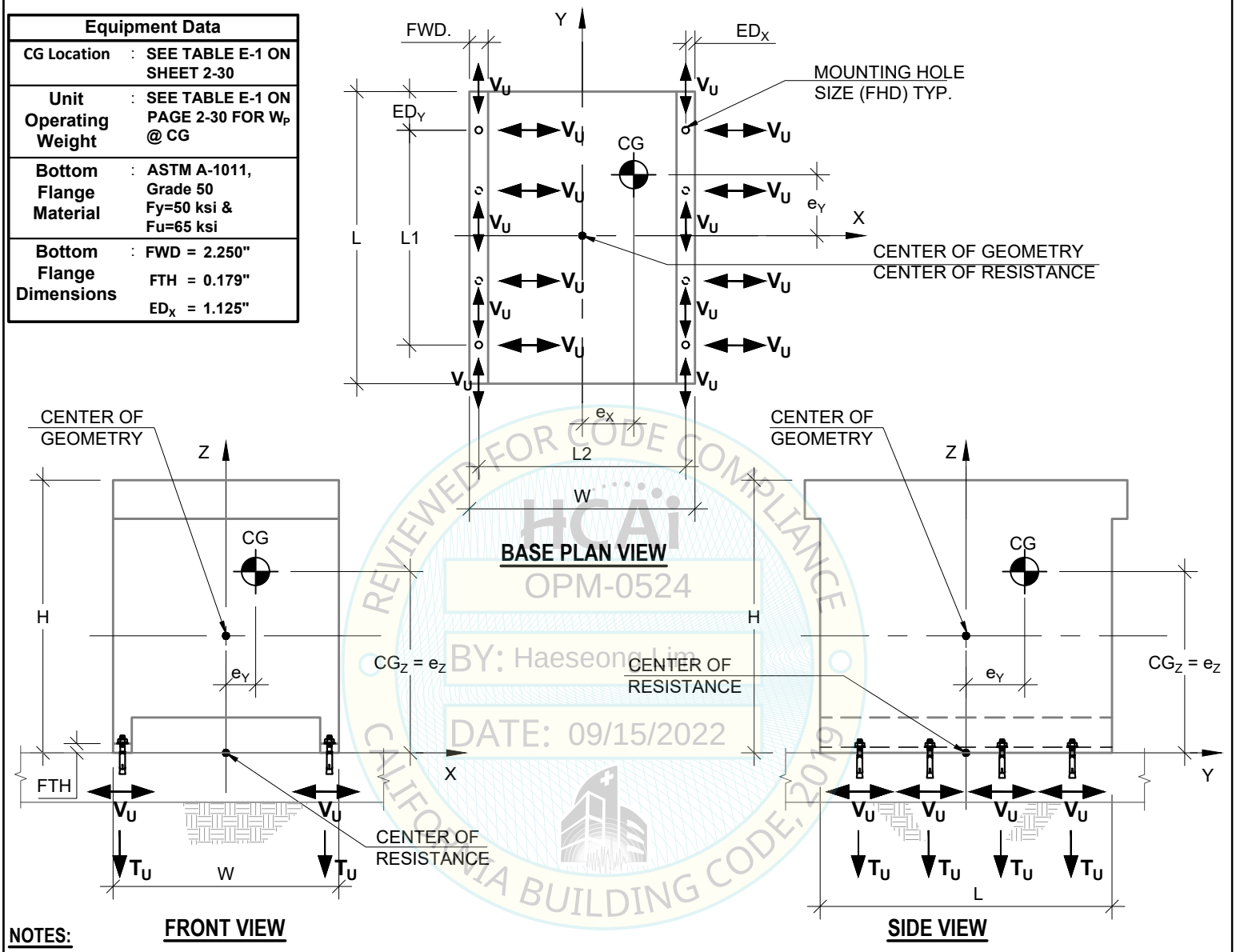
HSD VIEWS - GROUP "E" (AT GRADE)

Equipment Data		
CG Location	:	SEE TABLE E-1 ON SHEET 2-30
Unit Operating Weight	:	SEE TABLE E-1 ON PAGE 2-30 FOR W_P @ CG
Bottom Flange Material	:	ASTM A-1011, Grade 50 Fy=50 ksi & Fu=65 ksi
Bottom Flange Dimensions	:	FWD = 2.250" FTH = 0.179" ED_X = 1.125"



NOTES:

1. T_U = TENSION FORCE FOR EACH FASTENER, PER GROUP "E" TABLE E-1 ON PAGE 2-30.
2. V_U = SHEAR FORCE FOR EACH FASTENER, PER GROUP "E" TABLE E-1 ON PAGE 2-30.
3. CENTER OF GRAVITY (C.G.) WEIGHT IS A MAXIMUM. THIS PRE-APPROVAL ENCOMPASSES ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.
4. STRUCTURAL ENGINEER OF RECORD FOR THE BUILDING SHALL PROVIDE SUPPORT STRUCTURE DESIGNED TO SUPPORT WEIGHTS AND FORCES SHOWN, IN ADDITION TO ALL LOADS. SEE SECTION 0.2 FOR LIST OF STRUCTURAL ENGINEER OF RECORD'S RESPONSIBILITIES.
5. SEE NOTES AND DETAILS ON PAGES 0-5, 1-1 AND 1-2 FOR EXPANSION ANCHOR BOLTS AT GRADE.
6. EQUIPMENT MANUFACTURER MUST DESIGN UNIT TO MAKE C.G. EQUAL TO OR LESS THAN THE C.G. HEIGHT DIMENSION SHOWN IN TABLE E-1.
7. EQUIPMENT MANUFACTURER MUST DESIGN UNIT WITHIN MAXIMUM DIMENSIONS.
8. ALL HOLES THRU STEEL FOR BOLTS SHALL BE STANDARD HOLE PER AISC, 15 ED TABLE J3.3 (MAXIMUM HOLE DIAMETER TO BE 1/16" OVER BOLT.
9. SEE TABLE 0.6-1 IN SECTION 0.6 FOR MOUNTING FLANGE WIDTH (FWD) AND MOUNTING FLANGE THICKNESS (FTH).
10. SEE TABLE 0.6-1 IN SECTION 0.6 FOR MOUNTING FLANGE HOLE LOCATIONS (ED_X & ED_Y) AND SIZE (FHD).

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HSD INFORMATION - GROUP "E" (AT GRADE)

Table E-1 - Group "E" (1)

Catalog Number(2)	Weight (lbs.) [W_p]	Equipment Dimensions (in)			Distance between End Anchors along Y-axis (in).	Distance between End Anchors along X-axis (in.)	CG Height (in.)	Eccentricities (in.)			Expansion (3) Anchor Bolts No. & Size	T_U(4) LRFD (lbs.)	V_U(5) LRFD (lbs.)
		L	W	H	L1	L2	CG_Z	e_X	e_Y	e_Z			
HSD0300AWX123S	858	36.2	36.0	60.2	33.0	33.5	23.7	2.30	2.20	23.70	(8) 5/8"	949	389
HSD0350AWX123S	901	36.2	36.0	60.2	33.0	33.5	22.9	2.80	1.70	22.90	(8) 5/8"	961	408
HSD0400AWX123S	1073	36.2	36.0	60.2	33.0	33.5	22.8	0.00	2.50	22.80	(8) 5/8"	1125	459
HSD0450AWX123S	1243	36.2	36.0	60.2	33.0	33.5	22.5	0.30	2.60	22.50	(8) 5/8"	1289	538
HSD0500AWX123S	1254	36.2	36.0	60.2	33.0	33.5	22.5	0.40	2.60	22.50	(8) 5/8"	1301	544
HSD0600AWX123S	1342	36.2	36.0	60.2	33.0	33.5	23.7	0.50	2.10	23.70	(8) 5/8"	1458	575

FOOTNOTES:

1. SEE TABLE 0.6-1 ON SHEET 0-6 FOR INFORMATION NOT SHOWN.
2. SEE TABLE 0.6-1 ON SHEET 0-6 FOR COMPONENT PART NUMBER REFERENCES.
3. SEE NOTES AND DETAILS ON PAGES 0-5, 1-1 AND 1-2 FOR EXPANSION ANCHOR BOLTS AT GRADE.
4. T_U = TENSION FORCE INCLUDES OVER STRENGTH FACTOR Ω_0=2.0 FOR EACH FASTENER.
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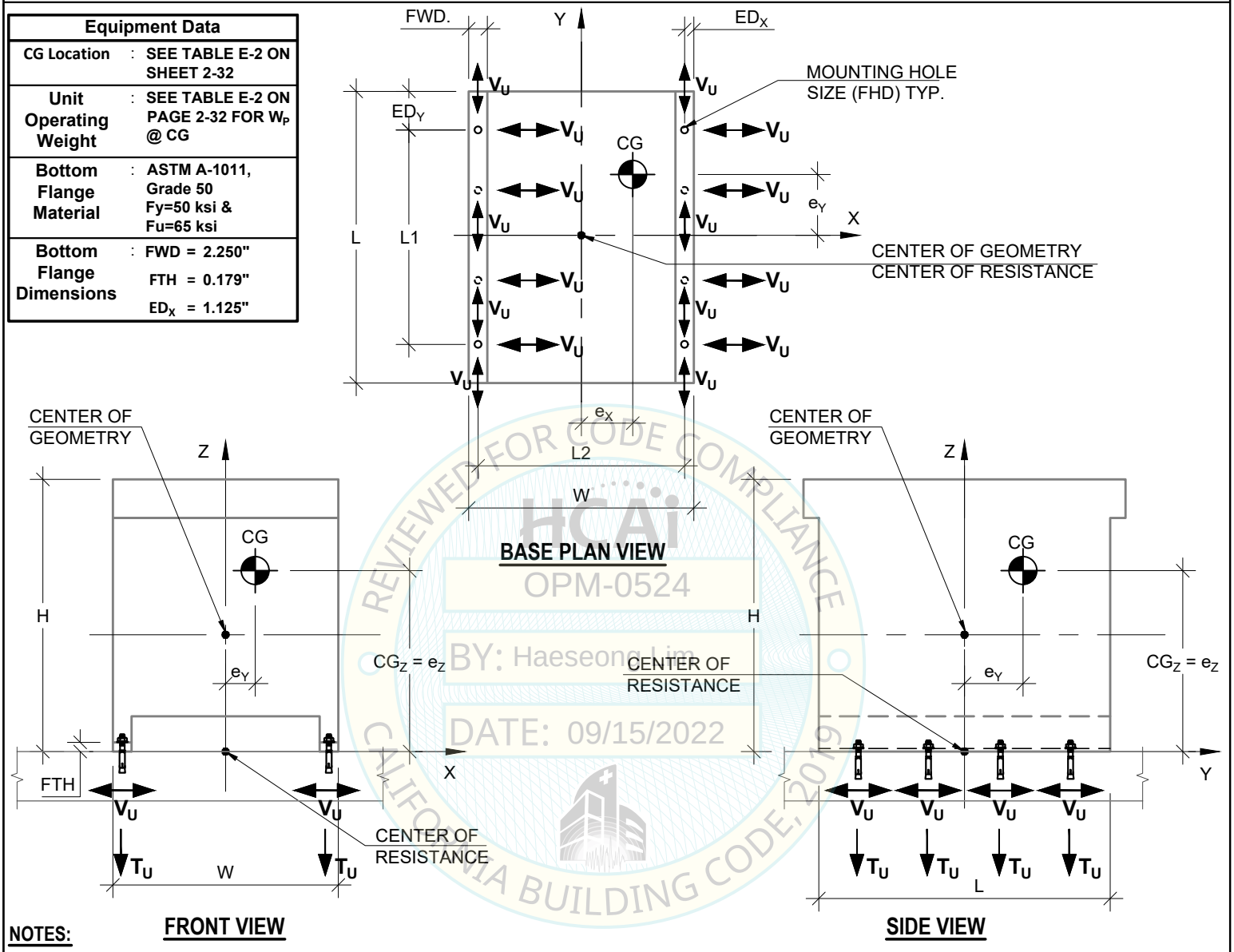
HSD VIEWS - GROUP "E" (AT ELEVATED FLOOR)
SOLID CONCRETE DECK

Equipment Data		
CG Location	:	SEE TABLE E-2 ON SHEET 2-32
Unit Operating Weight	:	SEE TABLE E-2 ON PAGE 2-32 FOR W_P @ CG
Bottom Flange Material	:	ASTM A-1011, Grade 50 Fy=50 ksi & Fu=65 ksi
Bottom Flange Dimensions	:	FWD = 2.250" FTH = 0.179" ED_X = 1.125"



NOTES:

1. T_U = TENSION FORCE FOR EACH FASTENER, PER GROUP "E" TABLE E-2 ON PAGE 2-32.
2. V_U = SHEAR FORCE FOR EACH FASTENER, PER GROUP "E" TABLE E-2 ON PAGE 2-32.
3. CENTER OF GRAVITY (C.G.) WEIGHT IS A MAXIMUM. THIS PRE-APPROVAL ENCOMPASSES ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.
4. STRUCTURAL ENGINEER OF RECORD FOR THE BUILDING SHALL PROVIDE SUPPORT STRUCTURE DESIGNED TO SUPPORT WEIGHTS AND FORCES SHOWN, IN ADDITION TO ALL LOADS. SEE SECTION 0.2 FOR LIST OF STRUCTURAL ENGINEER OF RECORD'S RESPONSIBILITIES.
5. SEE NOTES AND DETAILS ON PAGES 0-5, 1-1 AND 1-3 FOR EXPANSION ANCHOR BOLTS AT ELEVATED FLOORS.
6. EQUIPMENT MANUFACTURER MUST DESIGN UNIT TO MAKE C.G. EQUAL TO OR LESS THAN THE C.G. HEIGHT DIMENSION SHOWN IN TABLE E-2.
7. EQUIPMENT MANUFACTURER MUST DESIGN UNIT WITHIN MAXIMUM DIMENSIONS.
8. ALL HOLES THRU STEEL FOR BOLTS SHALL BE STANDARD HOLE PER AISC, 15 ED TABLE J3.3 (MAXIMUM HOLE DIAMETER TO BE 1/16" OVER BOLT.
9. SEE TABLE 0.6-1 IN SECTION 0.6 FOR MOUNTING FLANGE WIDTH (FWD) AND MOUNTING FLANGE THICKNESS (FTH).
10. SEE TABLE 0.6-1 IN SECTION 0.6 FOR MOUNTING FLANGE HOLE LOCATIONS (ED_X & ED_Y) AND SIZE (FHD).

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HSD INFORMATION - GROUP "E" (AT ELEVATED FLOOR)
SOLID CONCRETE DECK

Table E-2 - Group "E" (1)

Catalog Number(2)	Weight (lbs.) [W_p]	Equipment Dimensions (in)			Distance between End Anchors along Y-axis (in).	Distance between End Anchors along X-axis (in.)	CG Height (in.)	Eccentricities (in.)			Expansion (3) Anchor Bolts No. & Size	T_U (4) LRFD (lbs.)	V_U (5) LRFD (lbs.)
		L	W	H	L1	L2	CG_Z	e_X	e_Y	e_Z			
HSD0300AWX123S	858	36.2	36.0	60.2	33.0	33.5	23.7	2.30	2.20	23.70	(8) 5/8"	1267	518
HSD0350AWX123S	901	36.2	36.0	60.2	33.0	33.5	22.9	2.80	1.70	22.90	(8) 5/8"	1285	545
HSD0400AWX123S	1073	36.2	36.0	60.2	33.0	33.5	22.8	0.00	2.50	22.80	(8) 5/8"	1504	612
HSD0450AWX123S	1243	36.2	36.0	60.2	33.0	33.5	22.5	0.30	2.60	22.50	(8) 5/8"	1723	717
HSD0500AWX123S	1254	36.2	36.0	60.2	33.0	33.5	22.5	0.40	2.60	22.50	(8) 5/8"	1739	726
HSD0600AWX123S	1342	36.2	36.0	60.2	33.0	33.5	23.7	0.50	2.10	23.70	(8) 5/8"	1949	767

FOOTNOTES:

1. SEE TABLE 0.6-1 ON SHEET 0-6 FOR INFORMATION NOT SHOWN.
2. SEE TABLE 0.6-1 ON SHEET 0-6 FOR COMPONENT PART NUMBER REFERENCES.
3. SEE NOTES AND DETAILS ON PAGES 0-5, 1-1 AND 1-3 FOR EXPANSION ANCHOR BOLTS AT ELEVATED FLOORS.
4. T_U = TENSION FORCE INCLUDES OVER STRENGTH FACTOR Ω_0=2.0 FOR EACH FASTENER.
5. V_U = SHEAR FORCE INCLUDES OVER STRENGTH FACTOR Ω_0=2.0 FOR EACH FASTENER.

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California SE No. S3545

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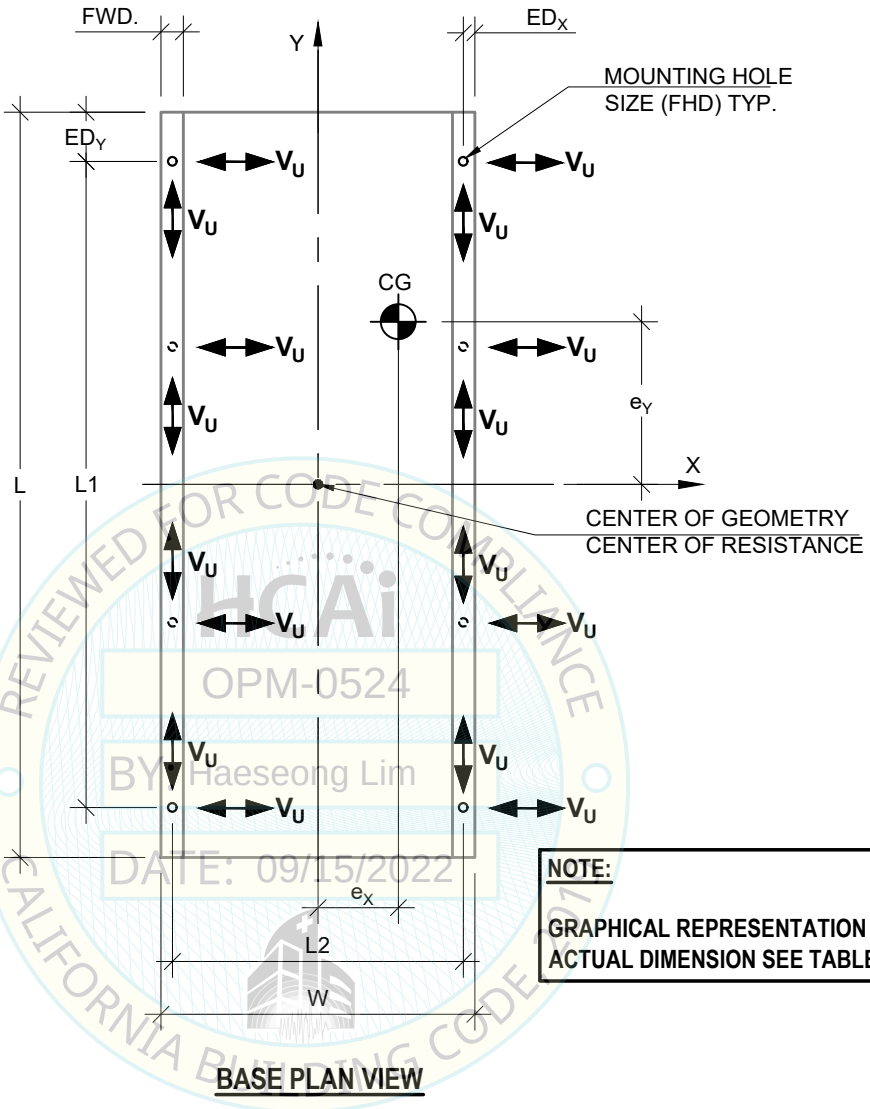
HSD PLAN VIEW - GROUP "E" (AT ELEVATED FLOOR)
CONCRETE FILLED METAL DECK

Equipment Data	
CG Location	: SEE TABLE E-3 ON SHEET 2-35
Unit Operating Weight	: SEE TABLE E-3 ON PAGE 2-35 FOR W_P @ CG
Bottom Flange Material	: ASTM A-1011, Grade 50 Fy=50 ksi & Fu=65 ksi
Bottom Flange Dimensions	: FWD = 2.250" FTH = 0.179" ED_X = 1.125"



BASE PLAN VIEW

NOTE:

GRAPHICAL REPRESENTATION ONLY. FOR ACTUAL DIMENSION SEE TABLE E-3, PAGE 2-35.

NOTES:

1. T_U = TENSION FORCE FOR EACH FASTENER, PER GROUP "E" TABLE E-3 ON PAGE 2-35.
2. V_U = SHEAR FORCE FOR EACH FASTENER, PER GROUP "E" TABLE E-3 ON PAGE 2-35.
3. CENTER OF GRAVITY (C.G.) WEIGHT IS A MAXIMUM. THIS PRE-APPROVAL ENCOMPASSES ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.
4. STRUCTURAL ENGINEER OF RECORD FOR THE BUILDING SHALL PROVIDE SUPPORT STRUCTURE DESIGNED TO SUPPORT WEIGHTS AND FORCES SHOWN, IN ADDITION TO ALL LOADS. SEE SECTION 0.2 FOR LIST OF STRUCTURAL ENGINEER OF RECORD'S RESPONSIBILITIES.
5. SEE NOTES AND DETAILS ON PAGES 0-5, 1-1 AND 1-4 THROUGH 1-7 FOR BOLTS THROUGH CONCRETE FILLED METAL DECK.
6. EQUIPMENT MANUFACTURER MUST DESIGN UNIT TO MAKE C.G. EQUAL TO OR LESS THAN THE C.G. HEIGHT DIMENSION SHOWN IN TABLE E-3.
7. EQUIPMENT MANUFACTURER MUST DESIGN UNIT WITHIN MAXIMUM DIMENSIONS.
8. ALL HOLES THRU STEEL FOR BOLTS SHALL BE STANDARD HOLE PER AISC, 15 ED TABLE J3.3 (MAXIMUM HOLE DIAMETER TO BE 1/16" OVER BOLT.
9. SEE TABLE 0.6-1 IN SECTION 0.6 FOR MOUNTING FLANGE WIDTH (FWD) AND MOUNTING FLANGE THICKNESS (FTH).
10. SEE TABLE 0.6-1 IN SECTION 0.6 FOR MOUNTING FLANGE HOLE LOCATIONS (ED_X & ED_Y) AND SIZE (FHD).

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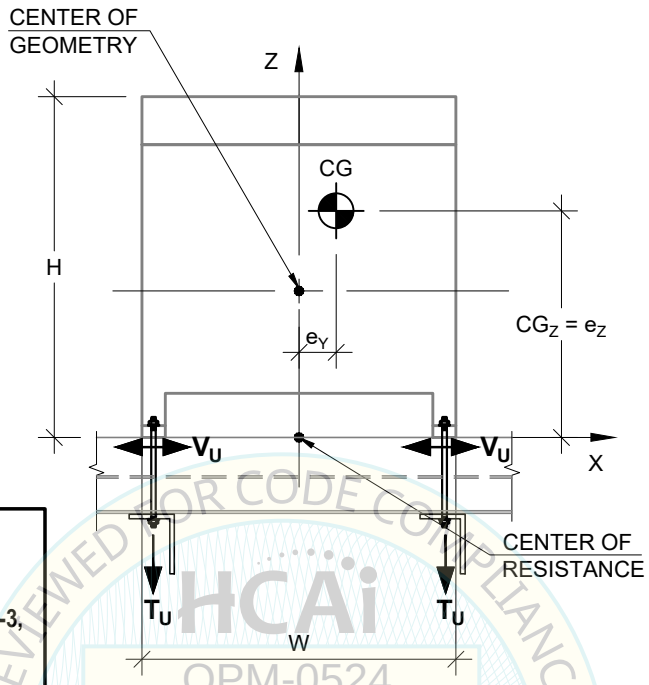
HSD VIEWS - GROUP "E" (AT ELEVATED FLOOR)
CONCRETE FILLED METAL DECK

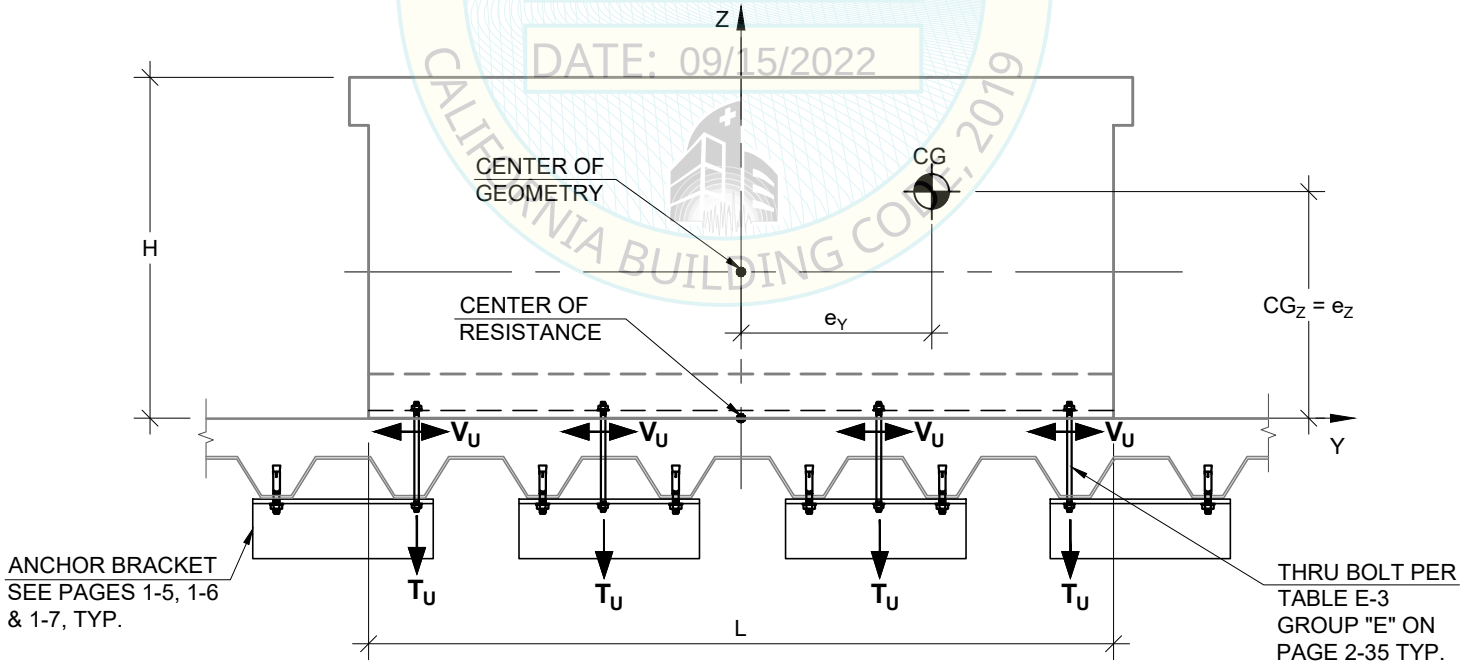
Equipment Data	
CG Location	: SEE TABLE E-3 ON SHEET 2-35
Unit Operating Weight	: SEE TABLE E-3 ON PAGE 2-35 FOR W_P @ CG
Bottom Flange Material	: ASTM A-1011, Grade 50 Fy=50 ksi & Fu=65 ksi
Bottom Flange Dimensions	: FWD = 2.250" FTH = 0.179" ED_X = 1.125"



FRONT VIEW

NOTES:

1. GRAPHICAL REPRESENTATION ONLY. FOR ACTUAL DIMENSION SEE TABLE E-3, PAGE 2-35.
2. SEE PAGE 2-33 FOR NOTES AND INFORMATION NOT SHOWN



SIDE VIEW

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DATE: August 17, 2022

HSD INFORMATION - GROUP "E" (AT ELEVATED FLOOR)
CONCRETE FILLED METAL DECK

Table E-3 - Group "E" (1)

Catalog Number(2)	Weight (lbs.) [W_p]	Equipment Dimensions (in)			Distance between End Anchors along Y-axis (in).	Distance between End Anchors along X-axis (in.)	CG Height (in.)	Eccentricities (in.)			Anchor (3) Bolts (Thru Bolt) No. & Size	T_U(4) LRFD (lbs.)	V_U(5) LRFD (lbs.)
		L	W	H	L1	L2	CG_Z	e_X	e_Y	e_Z			
HSD0300AWX123S	858	36.2	36.0	60.2	33.0	33.5	23.7	2.30	2.20	23.70	(8) 5/8"	1267	518
HSD0350AWX123S	901	36.2	36.0	60.2	33.0	33.5	22.9	2.80	1.70	22.90	(8) 5/8"	1285	545
HSD0400AWX123S	1073	36.2	36.0	60.2	33.0	33.5	22.8	0.00	2.50	22.80	(8) 5/8"	1504	612
HSD0450AWX123S	1243	36.2	36.0	60.2	33.0	33.5	22.5	0.30	2.60	22.50	(8) 5/8"	1723	717
HSD0500AWX123S	1254	36.2	36.0	60.2	33.0	33.5	22.5	0.40	2.60	22.50	(8) 5/8"	1739	726
HSD0600AWX123S	1342	36.2	36.0	60.2	33.0	33.5	23.7	0.50	2.10	23.70	(8) 5/8"	1949	767

FOOTNOTES:

1. SEE TABLE 0.6-1 ON SHEET 0-6 FOR INFORMATION NOT SHOWN.
2. SEE TABLE 0.6-1 ON SHEET 0-6 FOR COMPONENT PART NUMBER REFERENCES.
3. SEE NOTES AND DETAILS ON PAGES 0-5, 1-1 AND 1-4 THROUGH 1-7 FOR BOLTS THROUGH CONCRETE FILLED METAL DECK.
4. T_U = TENSION FORCE INCLUDES OVER STRENGTH FACTOR Ω_0=2.0 FOR EACH FASTENER.
5. V_U = SHEAR FORCE INCLUDES OVER STRENGTH FACTOR Ω_0=2.0 FOR EACH FASTENER.

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APPENDIX A

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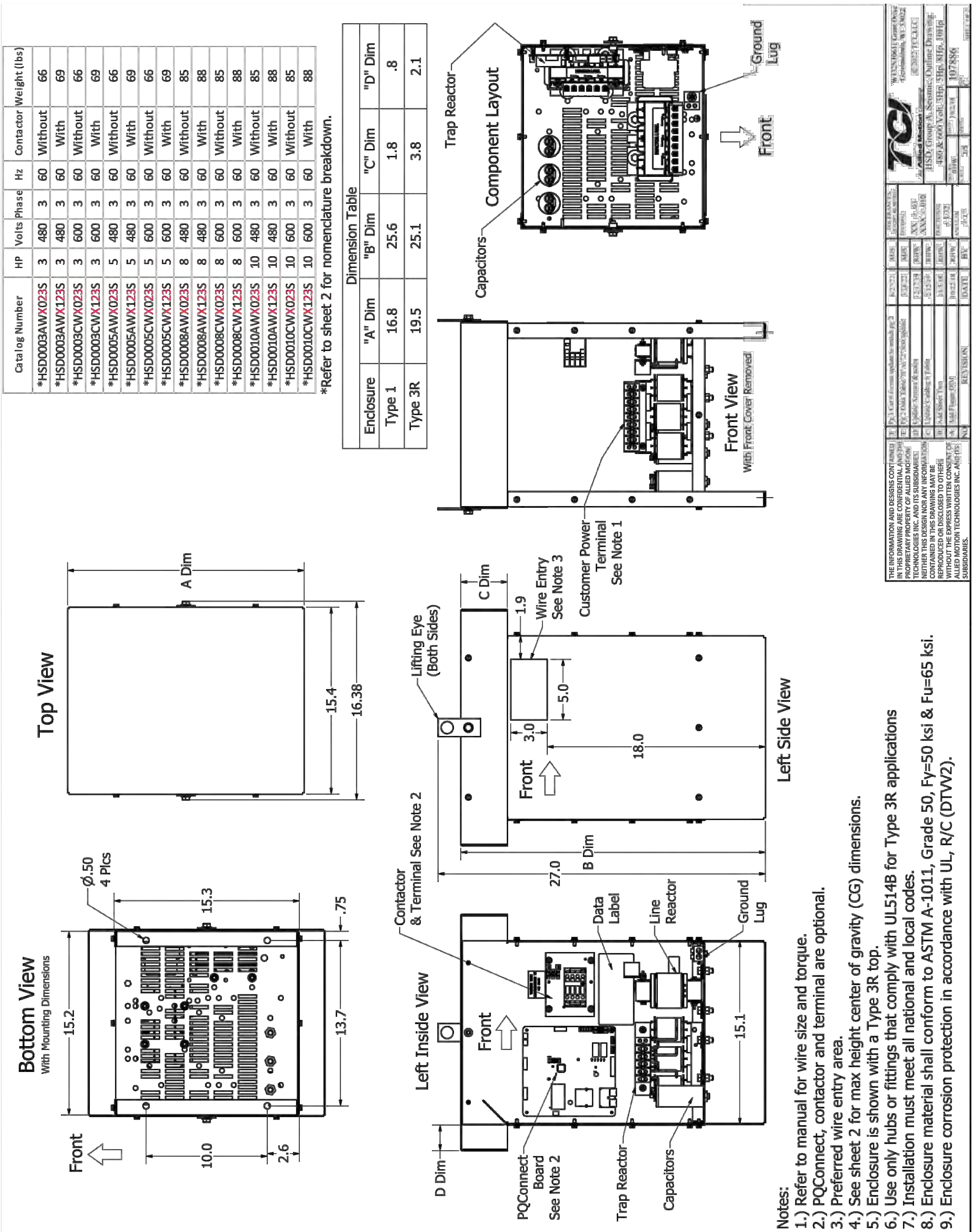
DATE: August 17, 2022

FOR REFERENCE ONLY

HarmonicShield Filter (HSD / 3-600HP / 3ph / 480/600 Volts) By TCI. LLC



Catalog Number	HP	Volts	Phase	Hz	Contactor	Weight (lbs)
*HSD0003AWX023S	3	480	3	60	Without	66
*HSD0003AWX123S	3	480	3	60	With	69
*HSD0003CWX023S	3	600	3	60	Without	66
*HSD0003CWX123S	3	600	3	60	With	69
*HSD0005AWX023S	5	480	3	60	Without	66
*HSD0005AWX123S	5	480	3	60	With	69
*HSD0005CWX023S	5	600	3	60	Without	66
*HSD0005CWX123S	5	600	3	60	With	69
*HSD0008AWX023S	8	480	3	60	Without	85
*HSD0008AWX123S	8	480	3	60	With	88
*HSD0008CWX023S	8	600	3	60	Without	85
*HSD0008CWX123S	8	600	3	60	With	88
*HSD0010AWX023S	10	480	3	60	Without	85
*HSD0010AWX123S	10	480	3	60	With	88
*HSD0010CWX023S	10	600	3	60	Without	85
*HSD0010CWX123S	10	600	3	60	With	88

*Refer to sheet 2 for nomenclature breakdown.

Dimension Table

Enclosure	"A" Dim	"B" Dim	"C" Dim	"D" Dim
Type 1	16.8	25.6	1.8	.8
Type 3R	19.5	25.1	3.8	2.1

Notes:
1.) Refer to manual for wire size and torque.
2.) PQConnect, contactor and terminal are optional.
3.) Preferred wire entry area.
4.) See sheet 2 for max height center of gravity (CG) dimensions.
5.) Enclosure is shown with a Type 3R top.
6.) Use only hubs or fittings that comply with UL514B for Type 3R applications
7.) Installation must meet all national and local codes.
8.) Enclosure material shall conform to ASTM A-1011, Grade 50, Fy=50 ksi & Fu=65 ksi.
9.) Enclosure corrosion protection in accordance with UL, R/C (DTVV2).

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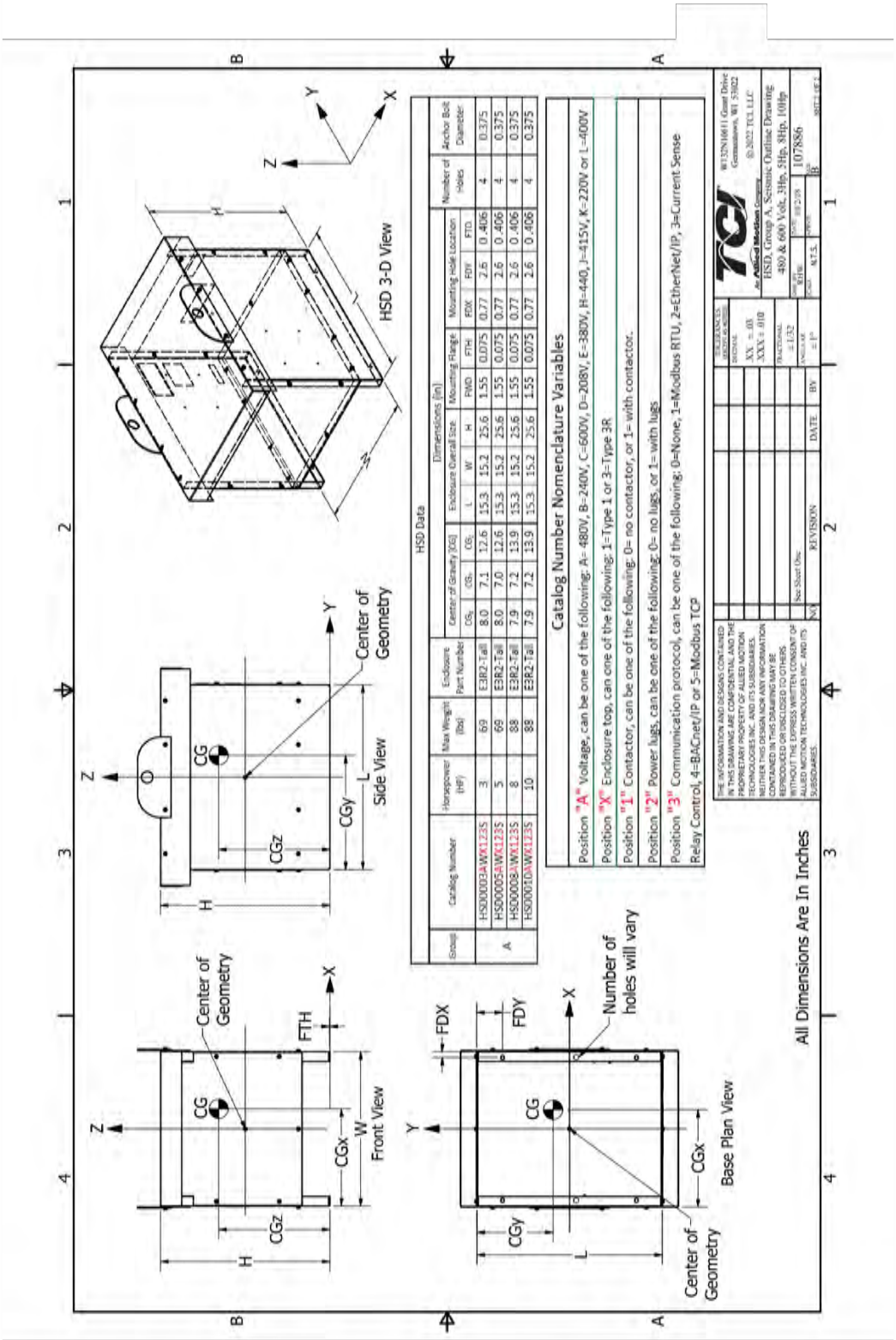
HarmonicShield Filter (HSD / 3-600HP / 3ph / 480/600 Volts) By TCI. LLC



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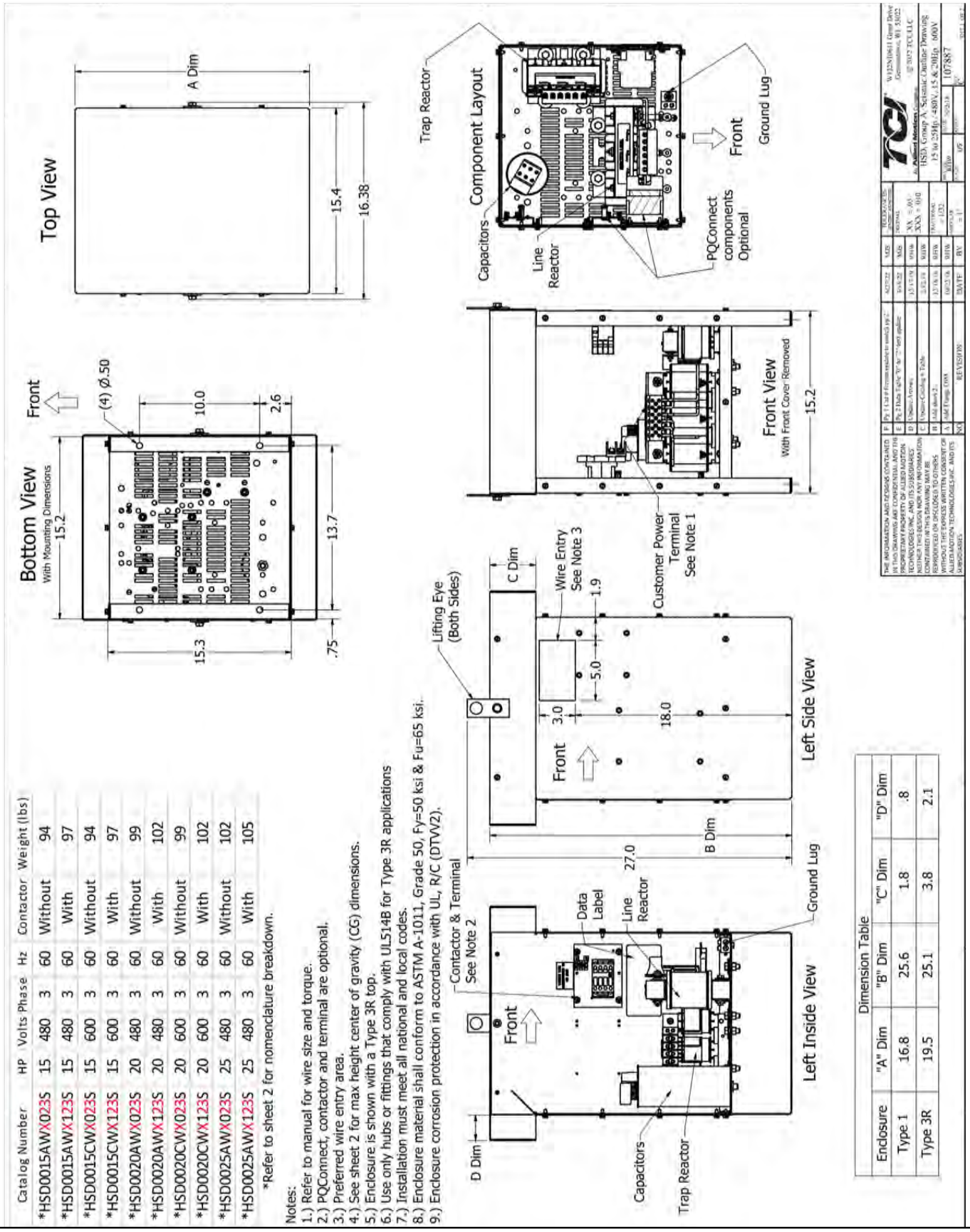
HarmonicShield Filter (HSD / 3-600HP / 3ph / 480/600 Volts) By TCI. LLC



Catalog Number	HP	Volts	Phase	Hz	Contactor	Weight (lbs)
*HSD0015AWX023S	15	480	3	60	Without	94
*HSD0015AWX123S	15	480	3	60	With	97
*HSD0015CWX023S	15	600	3	60	Without	94
*HSD0015CWX123S	15	600	3	60	With	97
*HSD0020AWX023S	20	480	3	60	Without	99
*HSD0020AWX123S	20	480	3	60	With	102
*HSD0020CWX023S	20	600	3	60	Without	99
*HSD0020CWX123S	20	600	3	60	With	102
*HSD0025AWX023S	25	480	3	60	Without	102
*HSD0025AWX123S	25	480	3	60	With	105

*Refer to sheet 2 for nomenclature breakdown.

Notes:
1.) Refer to manual for wire size and torque.
2.) PQConnect, contactor and terminal are optional.
3.) Preferred wire entry area.
4.) See sheet 2 for max height center of gravity (CG) dimensions.
5.) Enclosure is shown with a Type 3R top.
6.) Use only hubs or fittings that comply with UL514B for Type 3R applications
7.) Installation must meet all national and local codes.
8.) Enclosure material shall conform to ASTM A-1011, Grade 50, Fy=50 ksi & Fu=65 ksi.
9.) Enclosure corrosion protection in accordance with UL, R/C (DTVV2).

Dimension Table				
Enclosure	"A" Dim	"B" Dim	"C" Dim	"D" Dim
Type 1	16.8	25.6	1.8	.8
Type 3R	19.5	25.1	3.8	2.1

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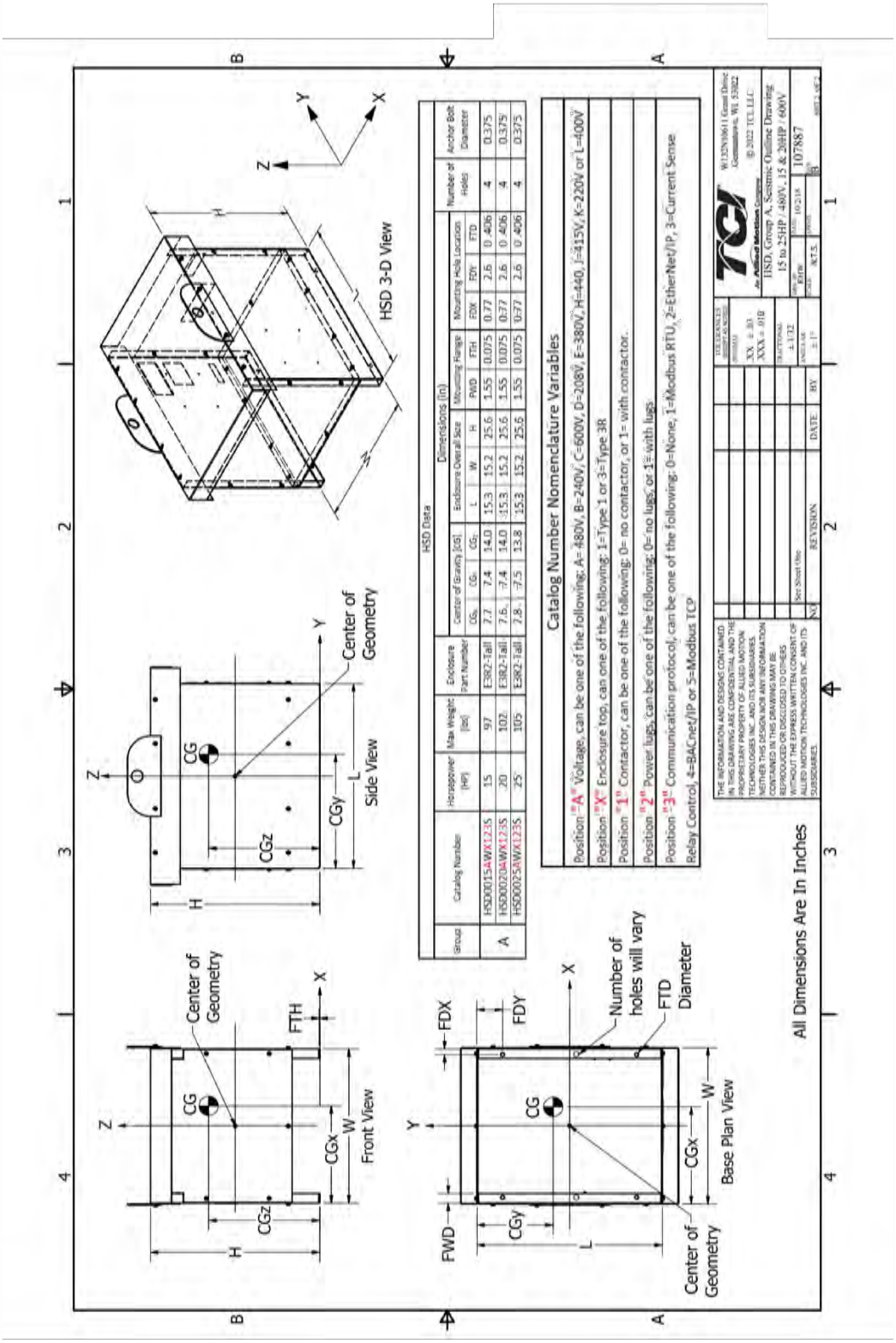
HarmonicShield Filter (HSD / 3-600HP / 3ph / 480/600 Volts) By TCI. LLC



Group	Catalog Number	Horsepower (HP)	Max Weight (lbs)	Enclosure Part Number	Center of Gravity (CG)			Enclosure Overall Size			Mounting Flange		Mounting Hole Location		Number of Holes	Anchor Bolt Diameter
					CGx	CGy	CGz	L	W	H	FWD	FTH	FDX	FDY	FTD	
A	HSD0015A*WX123S	15	97	E3R2-Tall	7.7	7.4	14.0	15.3	15.2	25.6	1.55	0.075	0.77	2.6	0.406	4	0.375
	HSD0020A*WX123S	20	102	E3R2-Tall	7.6	7.4	14.0	15.3	15.2	25.6	1.55	0.075	0.77	2.6	0.406	4	0.375
	HSD0025A*WX123S	25	105	E3R2-Tall	7.8	7.5	13.8	15.3	15.2	25.6	1.55	0.075	0.77	2.6	0.406	4	0.375

Catalog Number Nomenclature Variables

Position "A" Voltage, can be one of the following: A= 480V, B=240V, C=600V, D=208V, E=380V, H=440, J=415V, K=220V or L=400V

Position "X" Enclosure top, can one of the following: 1=Type 1 or 3=Type 3R

Position "1" Contactor, can be one of the following: 0= no contactor, or 1= with contactor.

Position "2" Power lugs, can be one of the following: 0= no lugs, or 1= with lugs

Position "3" Communication protocol, can be one of the following: 0=None, 1=Modbus RTU, 2=EtherNet/IP, 3=Current Sense

Relay Control, 4=BACnet/IP or 5=Modbus TCP

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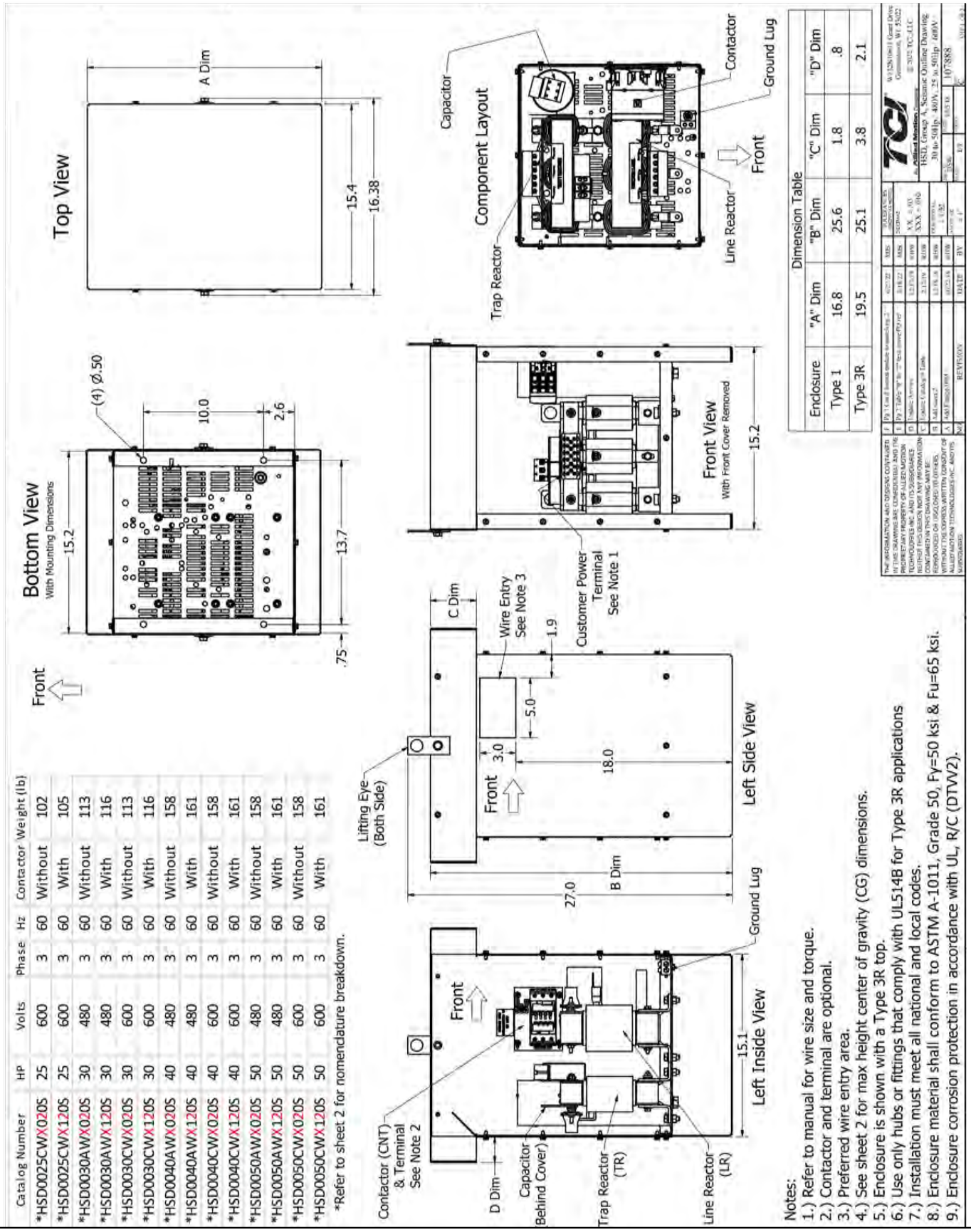
HarmonicShield Filter (HSD / 3-600HP / 3ph / 480/600 Volts) By TCI. LLC



Enclosure	"A" Dim	"B" Dim	"C" Dim	"D" Dim
Type 1	16.8	25.6	1.8	.8
Type 3R	19.5	25.1	3.8	2.1

Catalog Number	HP	Volts	Phase	Hz	Contactor	Weight (lb)
*HSD0025CWX020S	25	600	3	60	Without	102
*HSD0025CWX120S	25	600	3	60	With	105
*HSD0030AWX020S	30	480	3	60	Without	113
*HSD0030AWX120S	30	480	3	60	With	116
*HSD0030CWX020S	30	600	3	60	Without	113
*HSD0030CWX120S	30	600	3	60	With	116
*HSD0040AWX020S	40	480	3	60	Without	158
*HSD0040AWX120S	40	480	3	60	With	161
*HSD0040CWX020S	40	600	3	60	Without	158
*HSD0040CWX120S	40	600	3	60	With	161
*HSD0050AWX020S	50	480	3	60	Without	158
*HSD0050AWX120S	50	480	3	60	With	161
*HSD0050CWX020S	50	600	3	60	Without	158
*HSD0050CWX120S	50	600	3	60	With	161

*Refer to sheet 2 for nomendature breakdown.

Notes:
1.) Refer to manual for wire size and torque.
2.) Contactor and terminal are optional.
3.) Preferred wire entry area.
4.) See sheet 2 for max height center of gravity (CG) dimensions.
5.) Enclosure is shown with a Type 3R top.
6.) Use only hubs or fittings that comply with UL514B for Type 3R applications
7.) Installation must meet all national and local codes.
8.) Enclosure material shall conform to ASTM A-1011, Grade 50, Fy=50 ksi & Fu=65 ksi.
9.) Enclosure corrosion protection in accordance with UL, R/C (DTVV2).

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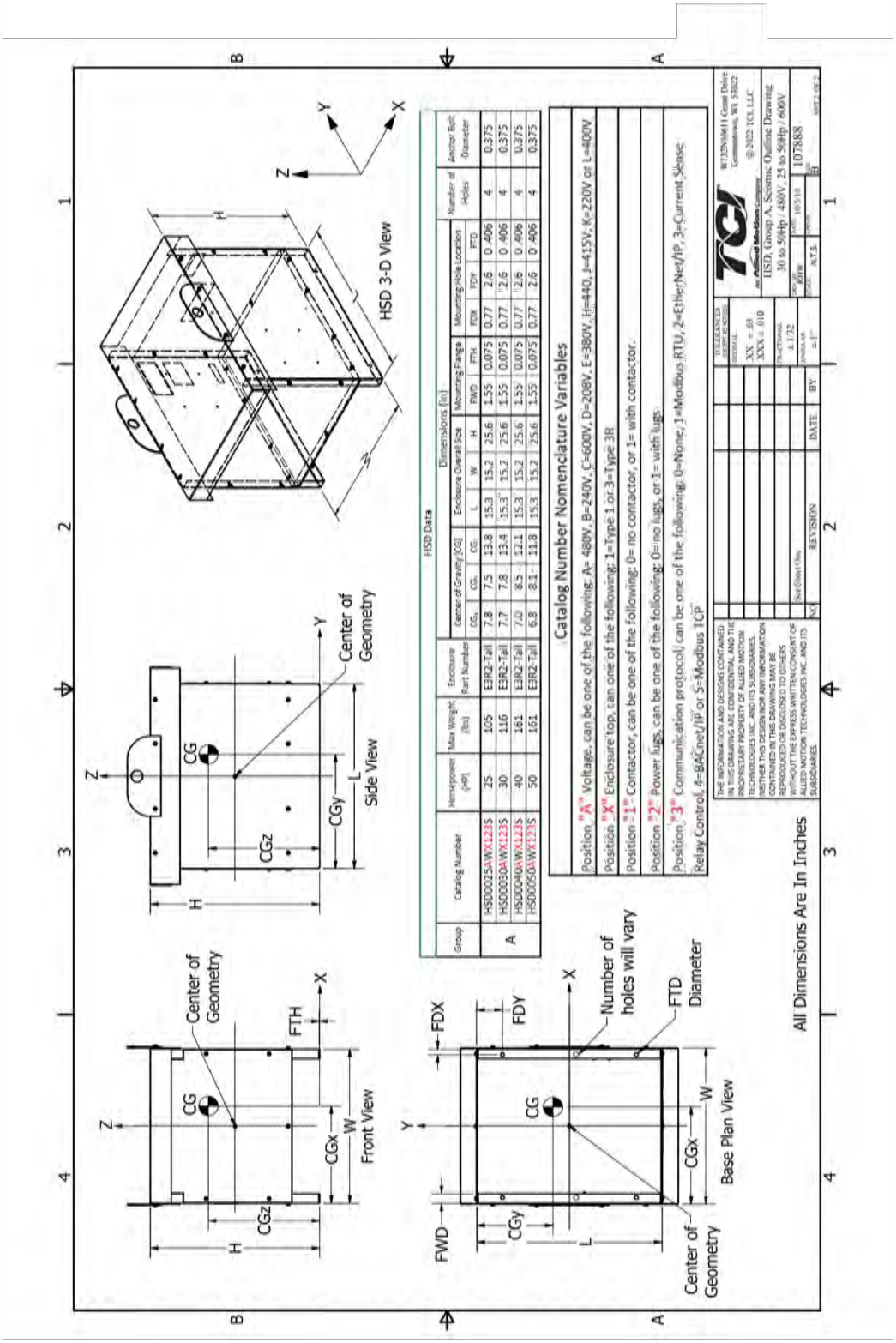
HarmonicShield Filter (HSD / 3-600HP / 3ph / 480/600 Volts) By TCI. LLC



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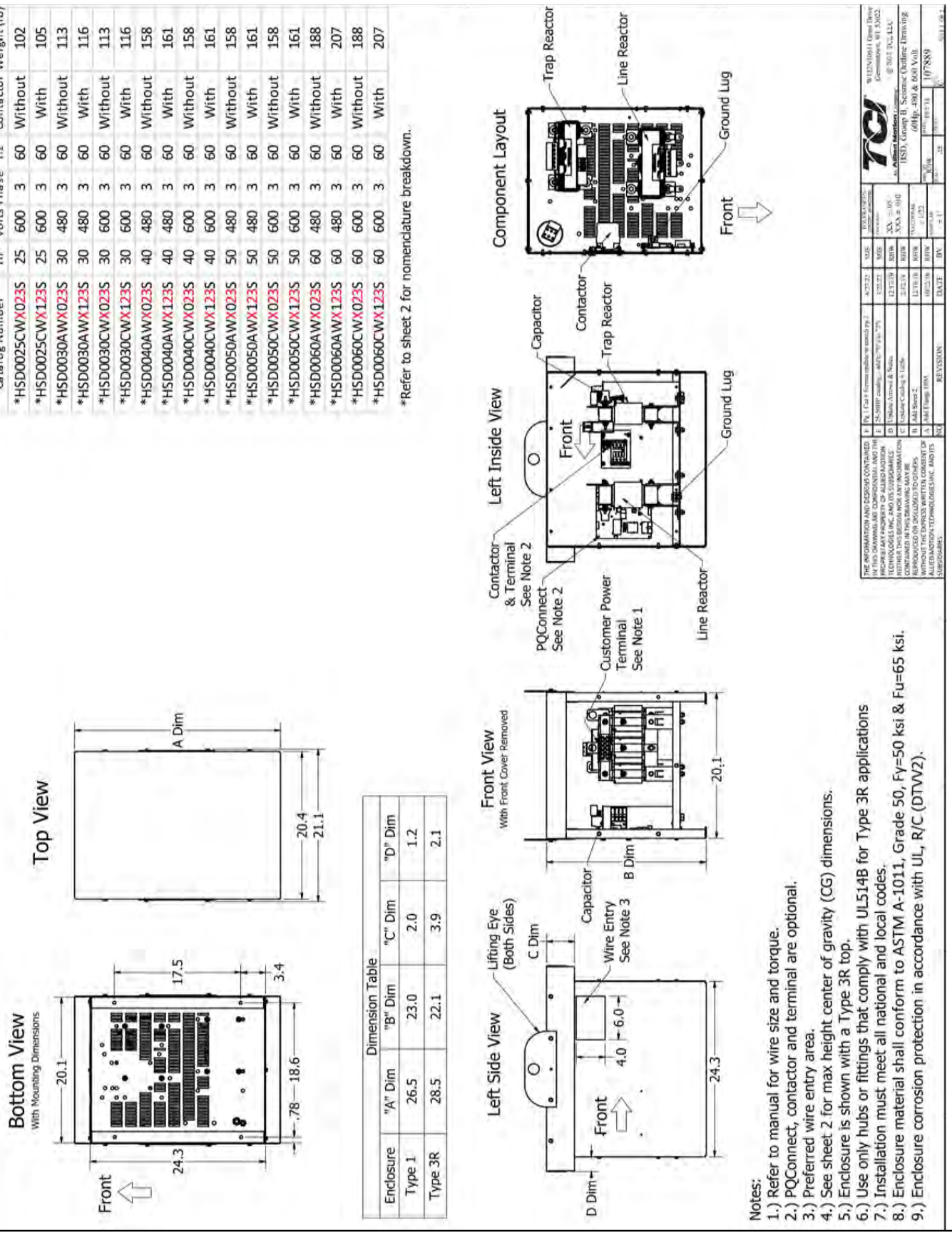
HarmonicShield Filter (HSD / 3-600HP / 3ph / 480/600 Volts) By TCI. LLC

Catalog Number	HP	Volts	Phase	Hz	Contactor	Weight (lb)
*HSD0025CWX023S	25	600	3	60	Without	102
*HSD0025CWX123S	25	600	3	60	With	105
*HSD0030AWX023S	30	480	3	60	Without	113
*HSD0030AWX123S	30	480	3	60	With	116
*HSD0030CWX023S	30	600	3	60	Without	113
*HSD0030CWX123S	30	600	3	60	With	116
*HSD0040AWX023S	40	480	3	60	Without	158
*HSD0040AWX123S	40	480	3	60	With	161
*HSD0040CWX023S	40	600	3	60	Without	158
*HSD0040CWX123S	40	600	3	60	With	161
*HSD0050AWX023S	50	480	3	60	Without	158
*HSD0050AWX123S	50	480	3	60	With	161
*HSD0050CWX023S	50	600	3	60	Without	158
*HSD0050CWX123S	50	600	3	60	With	161
*HSD0060AWX023S	60	480	3	60	Without	188
*HSD0060AWX123S	60	480	3	60	With	207
*HSD0060CWX023S	60	600	3	60	Without	188
*HSD0060CWX123S	60	600	3	60	With	207

*Refer to sheet 2 for nomenclature breakdown.



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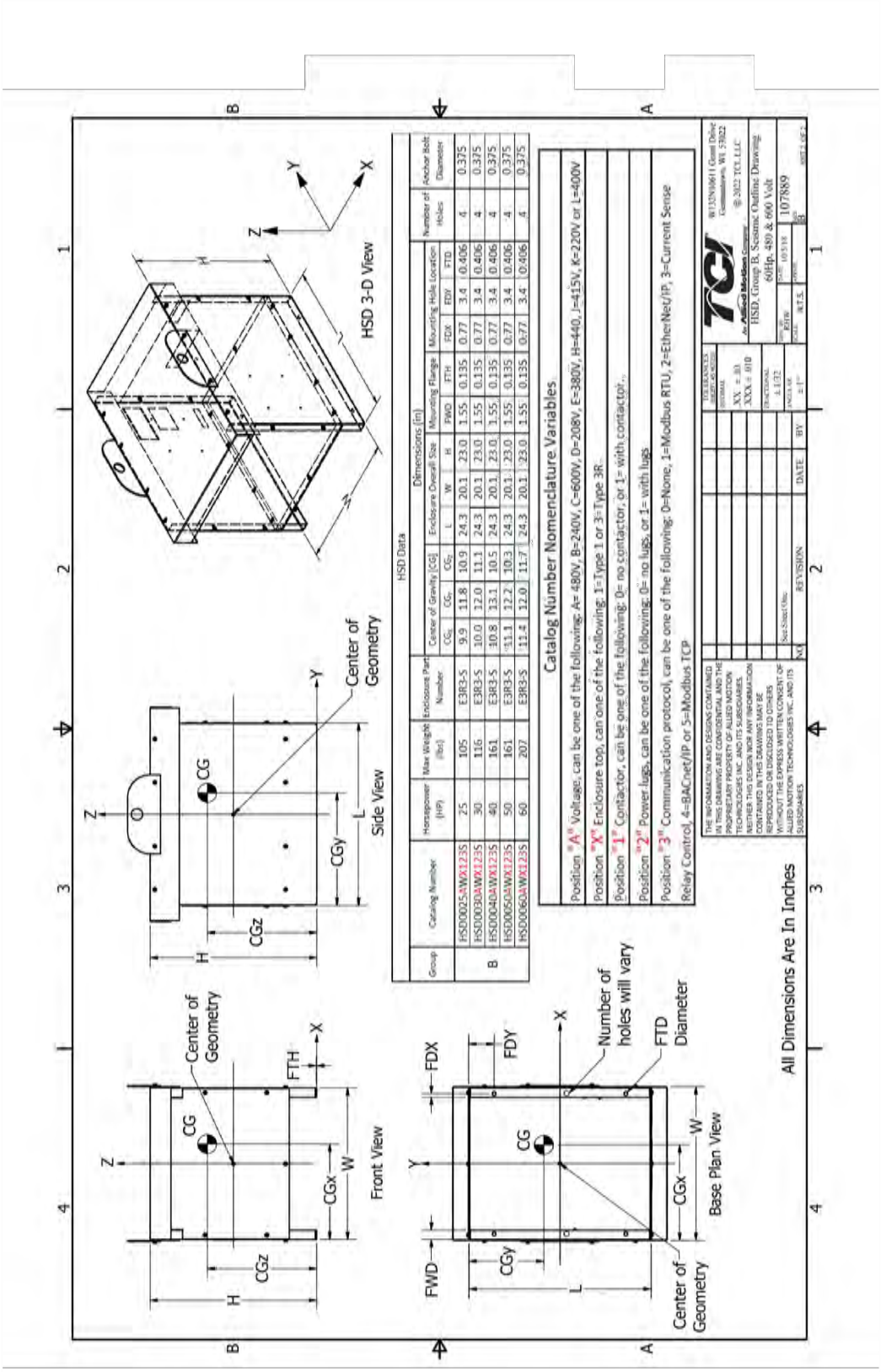
HarmonicShield Filter (HSD / 3-600HP / 3ph / 480/600 Volts) By TCI. LLC



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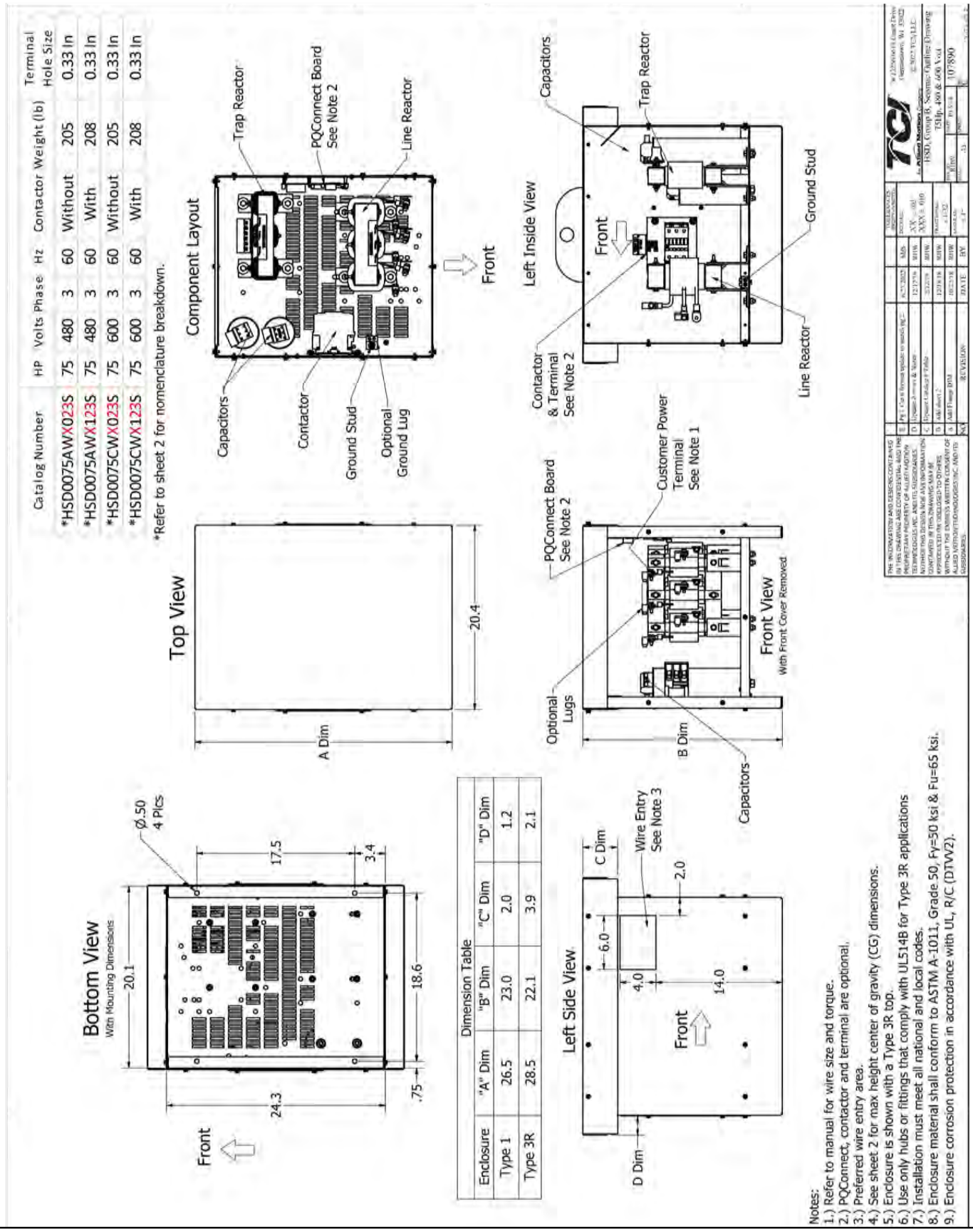
DATE: August 17, 2022

HarmonicShield Filter (HSD / 3-600HP / 3ph / 480/600 Volts) By TCI. LLC

Catalog Number	HP	Volts	Phase	Hz	Contactor	Weight (lb)	Terminal Hole Size
*HSD0075AWX023S	75	480	3	60	Without	205	0.33 In
*HSD0075AWX123S	75	480	3	60	With	208	0.33 In
*HSD0075CWX023S	75	600	3	60	Without	205	0.33 In
*HSD0075CWX123S	75	600	3	60	With	208	0.33 In

*Refer to sheet 2 for nomenclature breakdown.



Enclosure	"A" Dim	"B" Dim	"C" Dim	"D" Dim
Type 1	26.5	23.0	2.0	1.2
Type 3R	28.5	22.1	3.9	2.1

Dimension Table

Notes:
1.) Refer to manual for wire size and torque.
2.) PQConnect, contactor and terminal are optional.
3.) Preferred wire entry area.
4.) See sheet 2 for max height center of gravity (CG) dimensions.
5.) Enclosure is shown with a Type 3R top.
6.) Use only hubs or fittings that comply with UL514B for Type 3R applications
7.) Installation must meet all national and local codes.
8.) Enclosure material shall conform to ASTM A-1011, Grade 50, Fy=50 ksi & Fu=65 ksi.
9.) Enclosure corrosion protection in accordance with UL, R/C (DTVV2).

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Structural Engineer: Mohammad Hariri
California SE No. S3545

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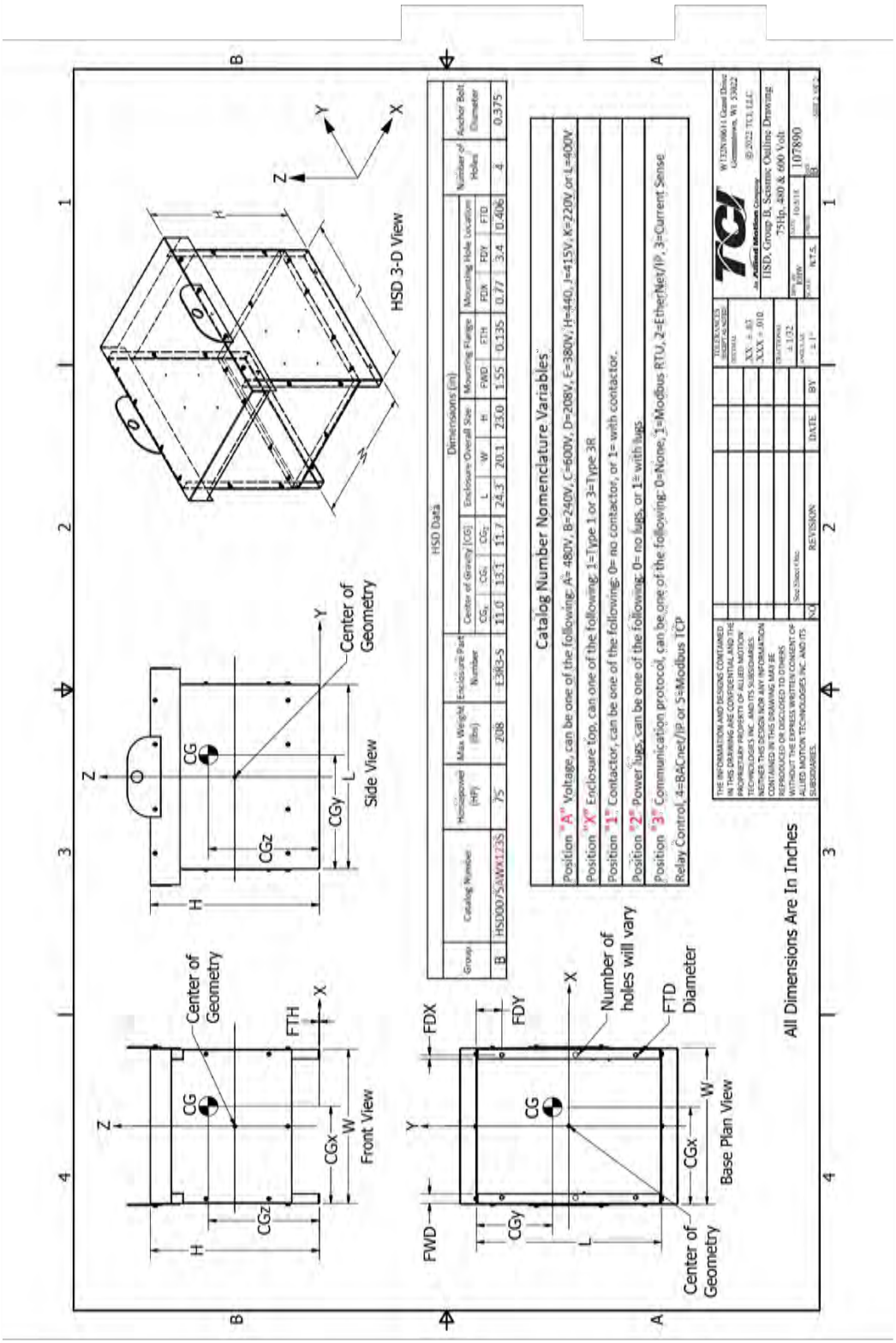
DATE: August 17, 2022

HarmonicShield Filter (HSD / 3-600HP / 3ph / 480/600 Volts) By TCI. LLC



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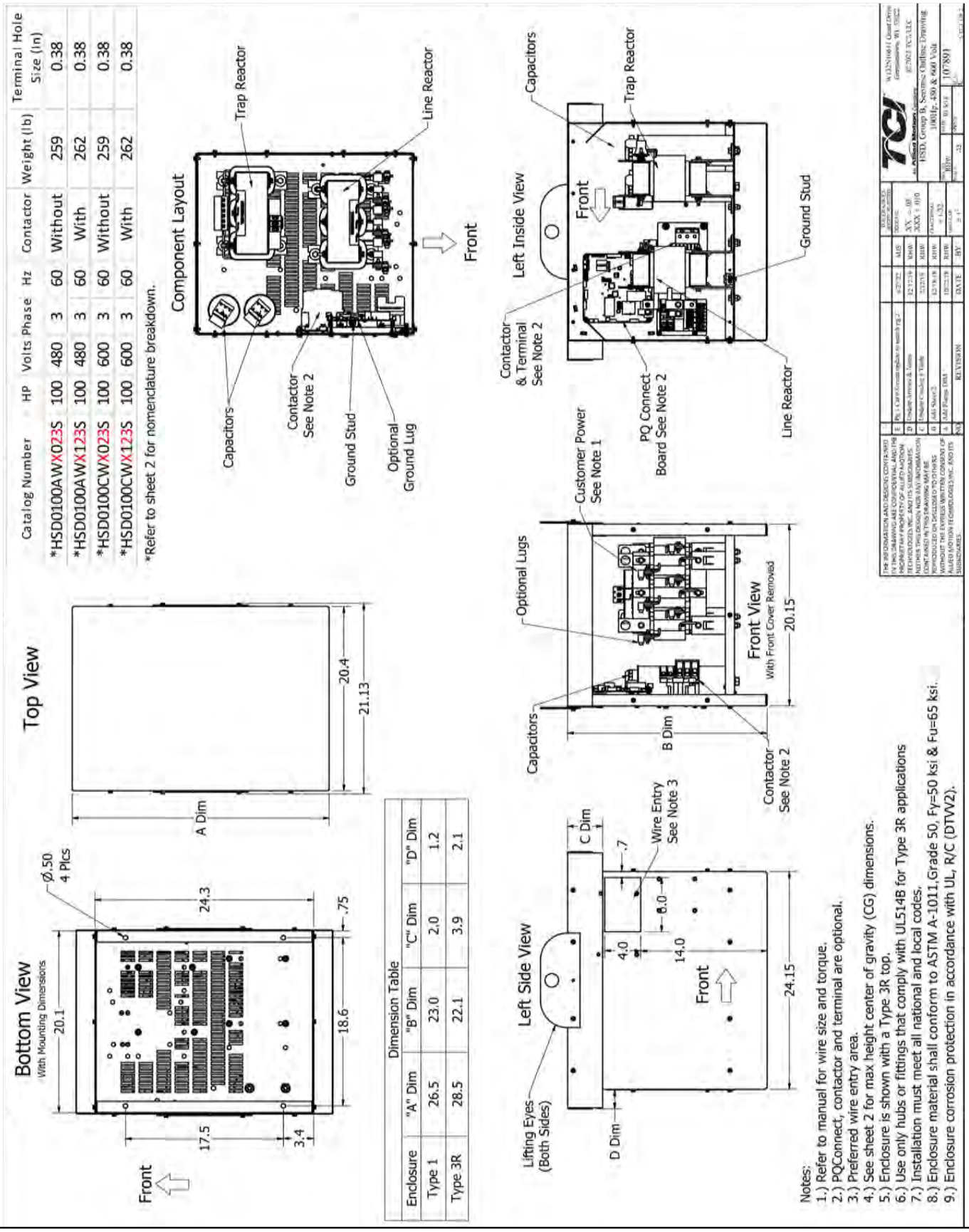
HarmonicShield Filter (HSD / 3-600HP / 3ph / 480/600 Volts) By TCI. LLC

Catalog Number	HP	Volts	Phase	Hz	Contactor	Weight (lb)	Terminal Hole Size (In)
*HSD0100AWX023S	100	480	3	60	Without	259	0.38
*HSD0100AWX123S	100	480	3	60	With	262	0.38
*HSD0100CWX023S	100	600	3	60	Without	259	0.38
*HSD0100CWX123S	100	600	3	60	With	262	0.38

*Refer to sheet 2 for nomenclature breakdown.



Dimension Table				
Enclosure	"A" Dim	"B" Dim	"C" Dim	"D" Dim
Type 1	26.5	23.0	2.0	1.2
Type 3R	28.5	22.1	3.9	2.1

Notes:
1.) Refer to manual for wire size and torque.
2.) PQConnect, contactor and terminal are optional.
3.) Preferred wire entry area.
4.) See sheet 2 for max height center of gravity (CG) dimensions.
5.) Enclosure is shown with a Type 3R top.
6.) Use only hubs or fittings that comply with UL514B for Type 3R applications
7.) Installation must meet all national and local codes.
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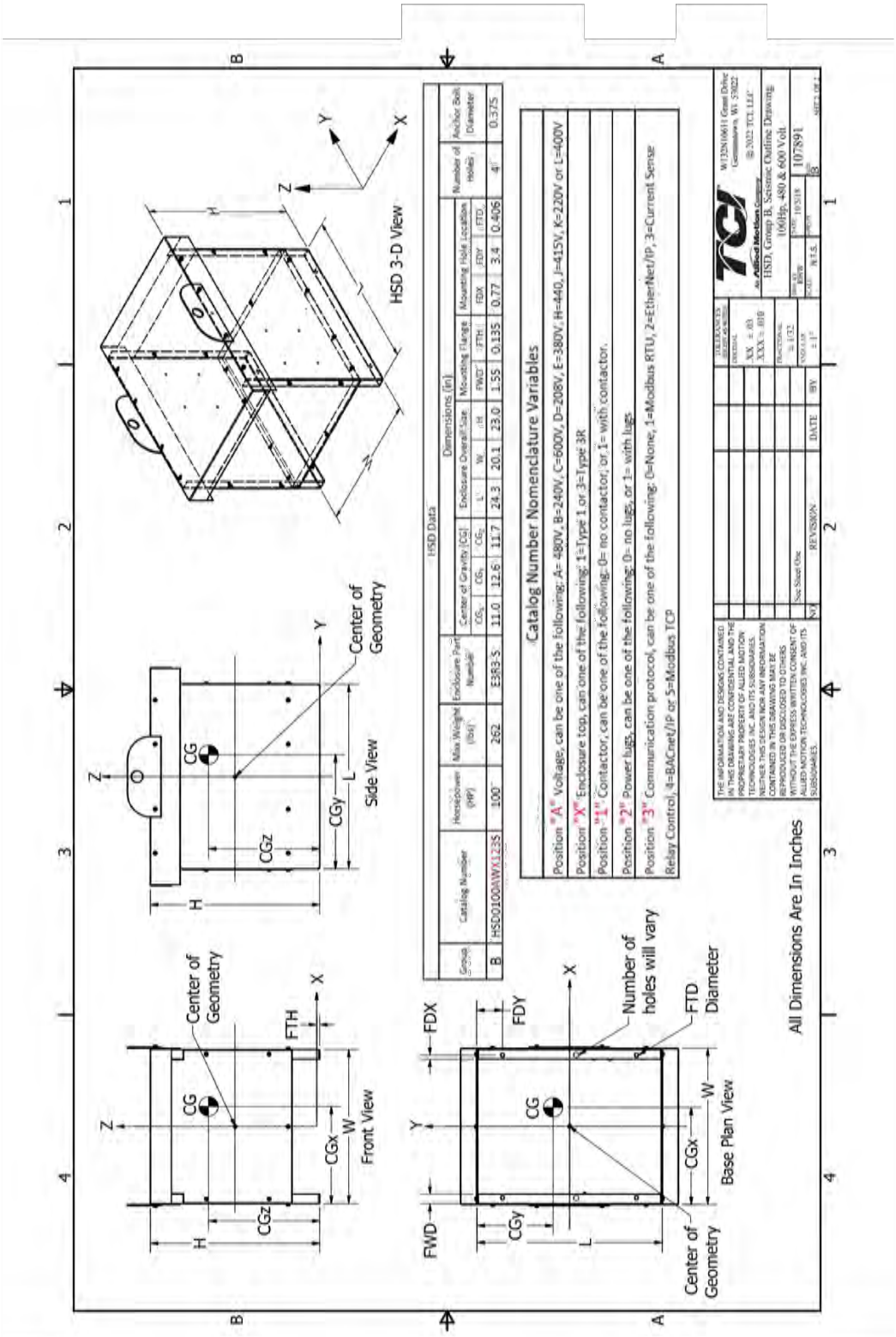
FOR REFERENCE ONLY

HarmonicShield Filter (HSD / 3-600HP / 3ph / 480/600 Volts) By TCI. LLC



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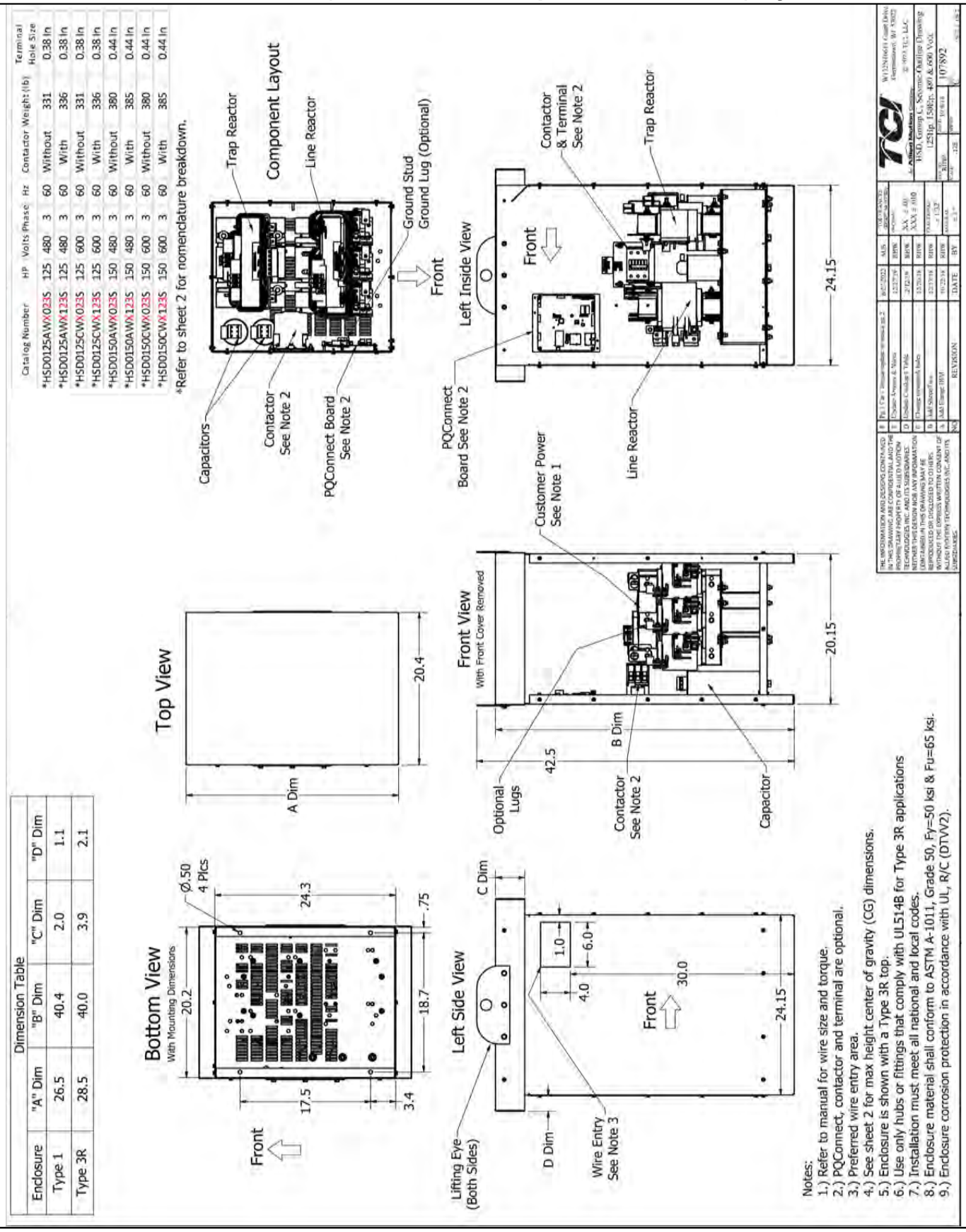
HarmonicShield Filter (HSD / 3-600HP / 3ph / 480/600 Volts) By TCI. LLC



Catalog Number	HP	Volts	Phase	Hz	Contactor	Weight (lb)	Terminal Hole Size
*HSD0125AWX023S	125	480	3	60	Without	331	0.38 In
*HSD0125AWX123S	125	480	3	60	With	336	0.38 In
*HSD0125CWX023S	125	600	3	60	Without	331	0.38 In
*HSD0125CWX123S	125	600	3	60	With	336	0.38 In
*HSD0150AWX023S	150	480	3	60	Without	380	0.44 In
*HSD0150AWX123S	150	480	3	60	With	385	0.44 In
*HSD0150CWX023S	150	600	3	60	Without	380	0.44 In
*HSD0150CWX123S	150	600	3	60	With	385	0.44 In

*Refer to sheet 2 for nomenclature breakdown.

Dimension Table				
Enclosure	"A" Dim	"B" Dim	"C" Dim	"D" Dim
Type 1	26.5	40.4	2.0	1.1
Type 3R	28.5	40.0	3.9	2.1

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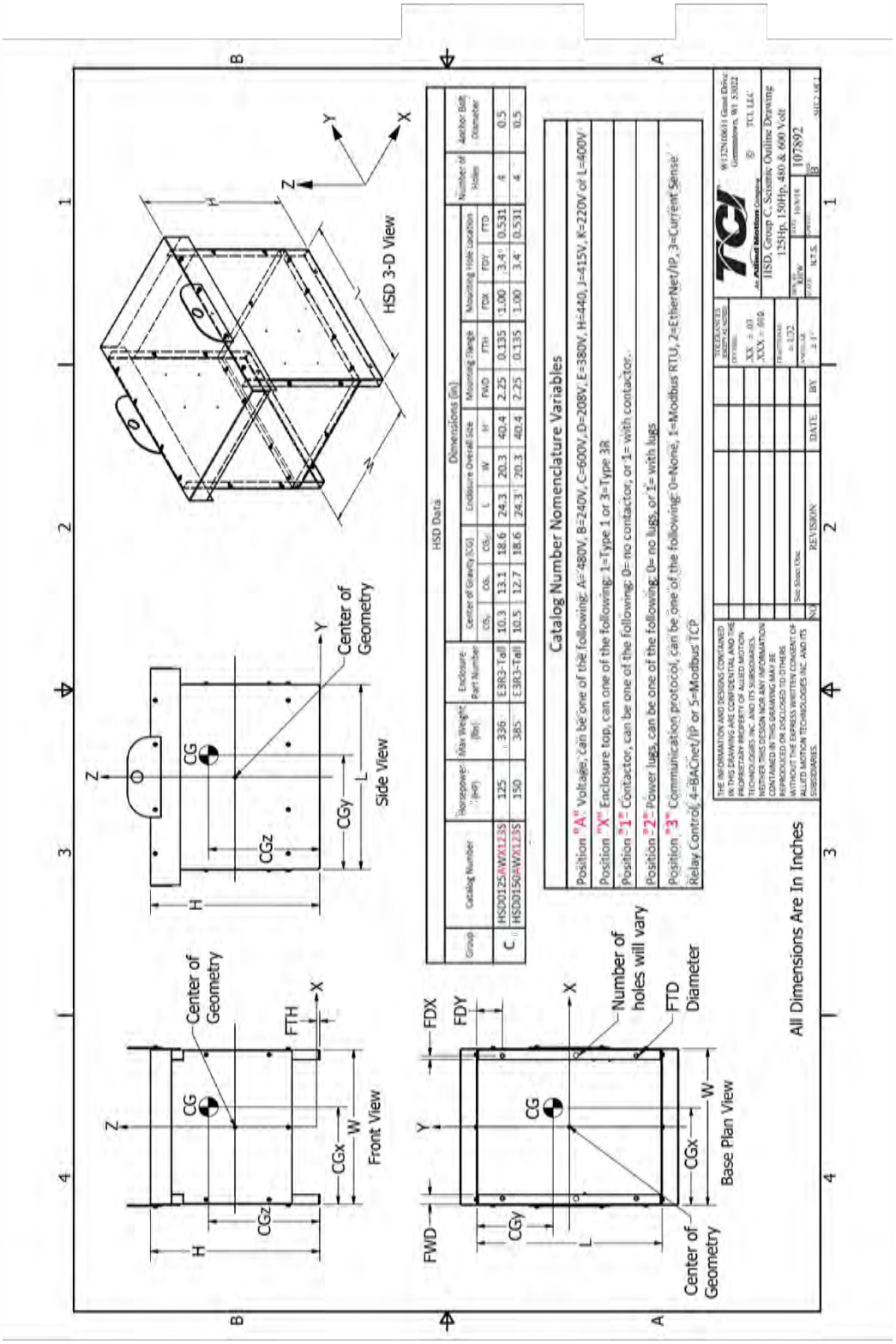

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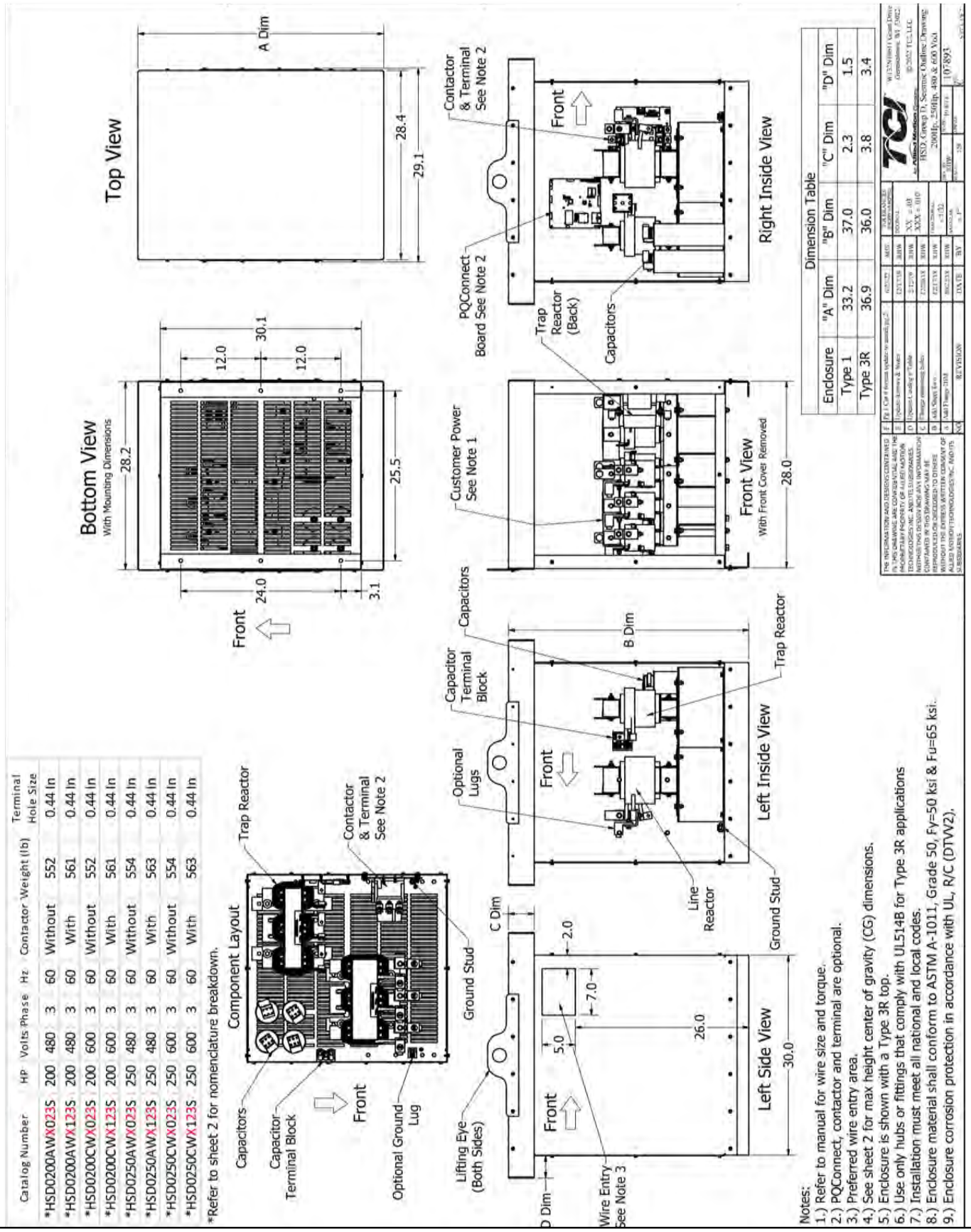
HarmonicShield Filter (HSD / 3-600HP / 3ph / 480/600 Volts) By TCI. LLC



Catalog Number	HP	Volts	Phase	Hz	Contactor	Weight (lb)	Terminal Hole Size
*HSD0200AWX023S	200	480	3	60	Without	552	0.44 In
*HSD0200AWX123S	200	480	3	60	With	561	0.44 In
*HSD0200CWX023S	200	600	3	60	Without	552	0.44 In
*HSD0200CWX123S	200	600	3	60	With	561	0.44 In
*HSD0250AWX023S	250	480	3	60	Without	554	0.44 In
*HSD0250AWX123S	250	480	3	60	With	563	0.44 In
*HSD0250CWX023S	250	600	3	60	Without	554	0.44 In
*HSD0250CWX123S	250	600	3	60	With	563	0.44 In

*Refer to sheet 2 for nomenclature breakdown.

Notes:
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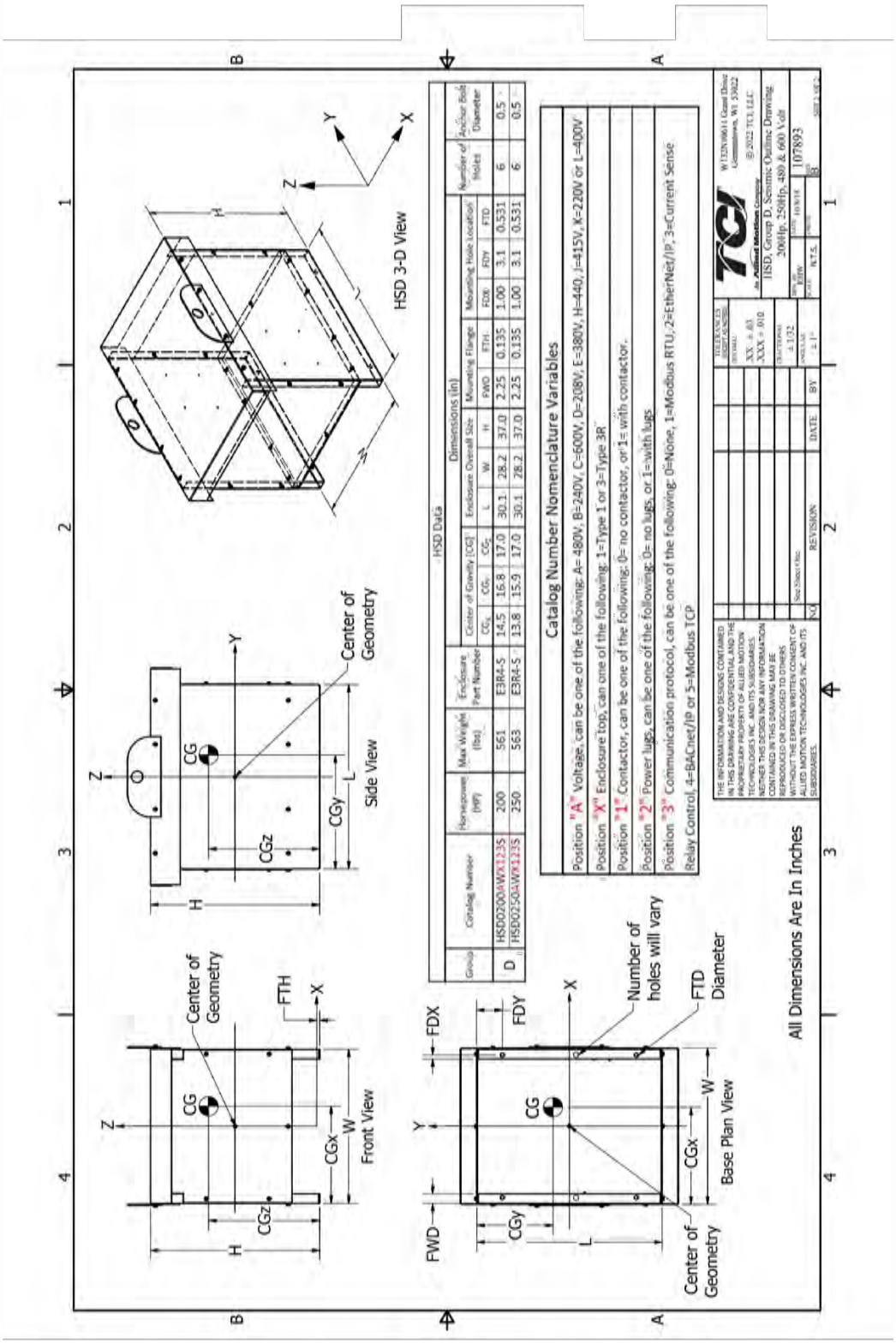

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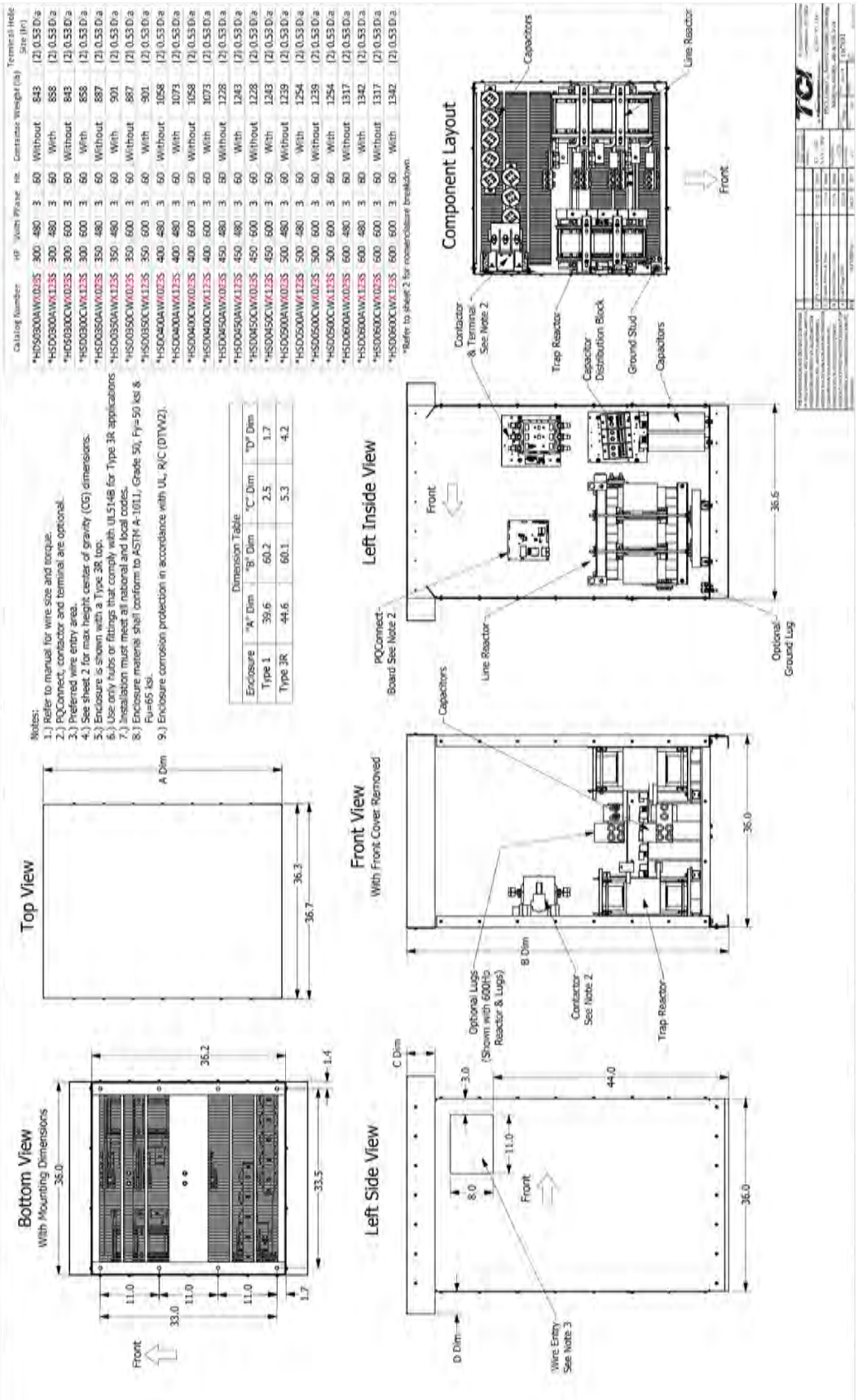

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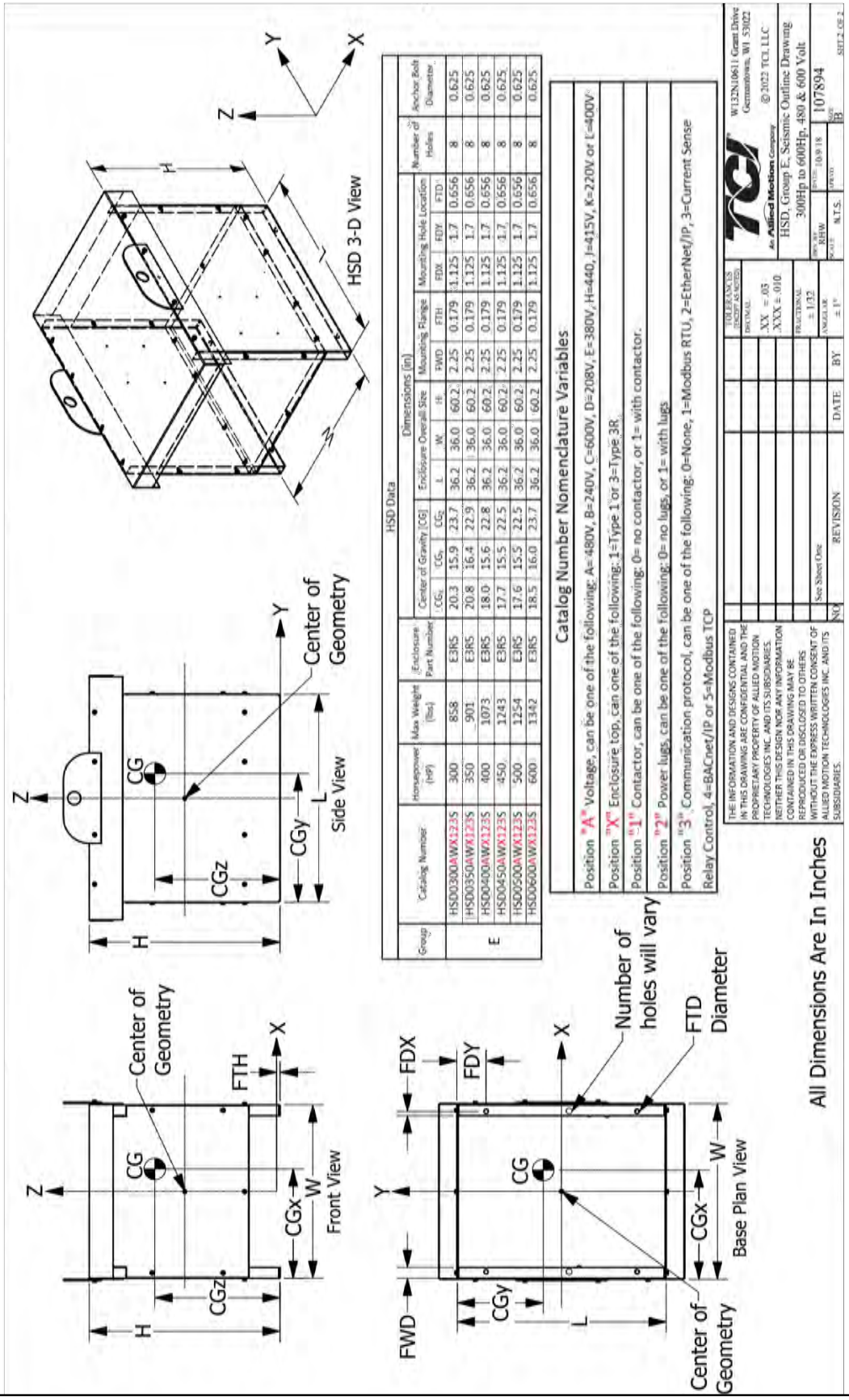

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