



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION

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

OFFICE USE ONLY
APPLICATION #: OPM-0461-13

OSHPD Preapproval of Manufacturer's Certification (OPM)

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

Manufacturer Information

Manufacturer: Steris

Manufacturer's Technical Representative: Carlos Guzman

Mailing Address: Steris Mexico, Ave. Avante No. 790, Parque Ind Guadalupe, Guadalupe, NL MX 67190

Telephone: 52 81 8008 8300 Email: Carlos_Guzman@steris.com

Product Information

Product Name: VPRO 60 and VHP 60 LS Sterilizers

Product Type: Other Equipment and Electrical Component

Product Model Number: VPRO 60, VHP 60 LS

General Description: Cart mounted, low temperature medical device sterilizer.

Applicant Information

Applicant Company Name: ISAT Seismic Bracing

Contact Person: William V Joerger

Mailing Address: 1020 Crews Road, Suite Q, Matthews NC 28105

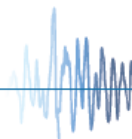
Telephone: 510-714-0216 Email: wvjoerger@isatsb.com

I hereby agree to reimburse the Office of Statewide Health Planning and Development review fees in accordance with the California Administrative Code, 2016.

Signature of Applicant: [Signature] Date: 30 April 2018

Title: Principal Structural Engineer Company Name: ISAT Seismic Bracing

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





**OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION**

Registered Design Professional Preparing Engineering Recommendations

Company Name: ISAT Seismic Bracing

Name: William V Joerger California License Number: SE4545

Mailing Address: 1020 Crews Road, Suite Q, Matthews NC 28105

Telephone: 510-714-0216 Email: wvjoerger@isatsb.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 1950-16
- Other* (Please Specify): _____

*Use of criteria other than those adopted by the California Building Standards Code, 2016 (CBSC 2016) 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 2016 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): Manufacturer's certified drawings

OFFICE USE ONLY – OSHPD APPROVAL VALID FOR CBC 2016 & ALL PRE-2016 CODE BASED PROJECTS

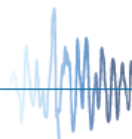
Signature: Sonia Eliseo Date: 5/24/2019

Print Name: Sonia Eliseo

Title: SE

Condition of Approval (if applicable): _____

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TOTAL SUPPORT

Innovation • Engineering • BIM • Fabrication

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Submittal Documents

OSHPD OPM-0461-13

INSTALLATION DRAWINGS

VPRO 60 AND VHP LS 60 STERILIZERS

STERIS

ISAT
1020 Crews Road Suite Q
Matthews, N.C. 28105
704-841-4080



WVJ May 19

FILE NO.: CLT-0917-113

"Empowered by Experience"

REV 3

OSHPD OPM-0461-13 DWG - i

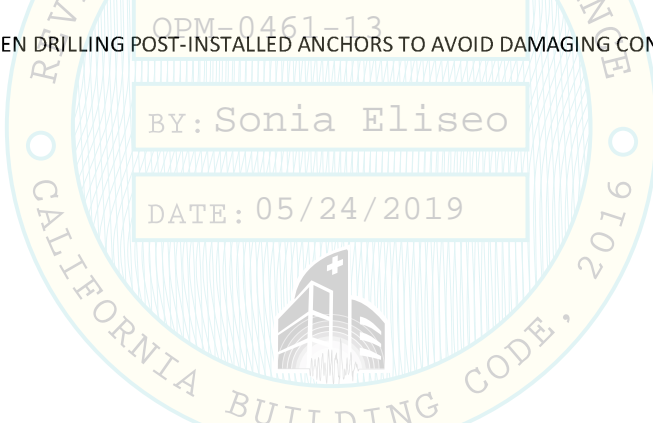
OSHPD OPM-0461-13

MANUFACTURE: STERIS



EQUIPMENT TYPE: STERILIZER

GENERAL NOTES:

1. THIS OSHPD PREAPPROVAL OF MANUFACTURER'S CERTIFICATION (OPM) IS BASED ON THE CBC 2016. THE DEMAND (DESIGN FORCES) FOR USE WITH THIS OPM SHALL BE BASED ON THE CBC 2016.
2. SEISMIC CRITERIA USED: $S_{DS} = 1.60$. $I_p = 1.5$ $a_p = 1.0$ $R_p = 1.5$ (OTHER EQUIPMENT). FOR $z/h = 0$ $F_pH = 0.72$ AND FOR $z/h \leq 1.0$ $F_pH = 1.92$ AND $F_pV = 0.32$.
3. SUPPORT AND ATTACHMENT FORCES ARE DETERMINED USING ASCE 7-10 CHAPTER 13 "SEISMIC DESIGN REQUIREMENTS FOR NONSTRUCTURAL COMPONENTS". AN OVERSTRENGTH FACTOR $\Omega_0 = 1.5$ IS USED FOR CONCRETE MATERIALS PER ASCE 7-10 SUPPLEMENT 1 TABLE 13.6-1. LOADS SHOWN ARE STRENGTH DESIGN LOADS PER ASCE 7-10 SECTION 12.4.3.2.
4. THIS PREAPPROVAL COVERS ONLY THE SUPPORTS AND ATTACHMENTS OF THE EQUIPMENT TO THE STRUCTURE.
5. STEEL MATERIALS: BRACKET ASTM A656 GRADE 80 BY MANUFACTURER ($F_y = 80$ KSI), ALL THREAD ROD ASTM F593 CW1 304 STAINLESS STEEL FOR BOLTS AT ELEVATED FLOORS, PLATE AND ANGLE ASTM A36 ($F_u = 58$ KSI) HOT DIPPED GALVANIZED.
6. CONCRETE SLABS:
 - a. FOR ELEVATED SOLID CONCRETE SLABS: 6" THICKNESS OF NORMAL WEIGHT CONCRETE WITH 3000 PSI MINIMUM STRENGTH.
 - b. METAL DECK: 3" DEEP COMPOSITE STEEL DECK, 20 GAGE MINIMUM, 4 1/2 INCH MINIMUM BOTTOM FLUTE WIDTH AND MINIMUM FLUTE SPACING OF 12", WITH 3 1/4 INCH SAND LIGHT WEIGHT CONCRETE CONCRETE COVER AT 3000 PSI MINIMUM
 - c. FOR SLAB ON GRADE: 6" THICKNESS NORMAL WEIGHT CONCRETE AT 3000 PSI MINIMUM STRENGTH.
7. POST-INSTALLED CONCRETE ANCHORS: HILTI HILTI KWIK BOLT TZ (ESR-1917) STAINLESS STEEL 1/2" DIAMETER x 4" MIN. HOLE DEPTH FOR 3 1/4" EFFECTIVE EMBEDMENT . FOR ANCHORS INTO THE SOFFIT OF THE METAL DECK USE HILTI KWIK BOLT TZ (ESR-1917) CARBON STEEL 1/2" DIAMETER x 4" MIN. HOLE DEPTH FOR 3 1/4" EFFECTIVE EMBEDMENT WITH 1" MAXIMUM OFFSET FROM THE CENTER OF THE METAL DECK FLUTE. INSTALLATION TORQUE = 40 FOOT-LBS. BOTH ARE SUPPLIED BY INSTALLATION CONTRACTOR.
8. EXERCISE DUE CARE WHEN DRILLING POST-INSTALLED ANCHORS TO AVOID DAMAGING CONCRETE REINFORCEMENT OR TENDONS.



OPM-0461-13 STERIS VPRO 60 AND VHP LS 60 STERILIZERS GENERAL NOTES

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 <i>WVJ 05/19</i>	DRAWN BY: WVJ DATE: 12/12/17	
	REVISED BY: WVJ DATE: 05/02/19 REV NO: 3	
	<table border="1"> <tr> <td>SCALE N.T.S.</td> <td>PAGE GEN NOTES</td> </tr> </table>	SCALE N.T.S.
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OSHPD OPM-0461-13

MANUFACTURE: STERIS

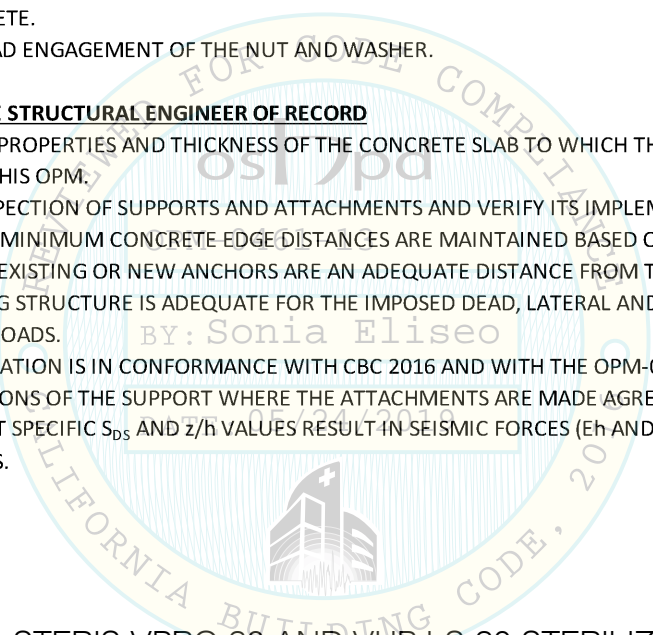
EQUIPMENT TYPE: STERILIZER

ATTACHMENT NOTES:


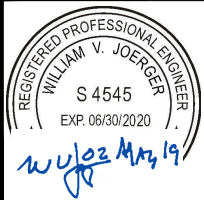
1. THIS OSHPD PREAPPROVAL OF MANUFACTURER'S CERTIFICATION (OPM) IS BASED ON THE CBC 2016. THE DEMAND (DESIGN FORCES) FOR USE WITH THIS OPM SHALL BE BASED ON THE CBC 2016.
2. PERIODIC SPECIAL INSPECTION PER CBC 2016 SECTION 1705A AND TABLE 1705A.3 INCLUDING VERIFICATION OF ANCHOR TYPE, ANCHOR DIMENSIONS, CONCRETE TYPE, CONCRETE COMPRESSIVE STRENGTH, ANCHOR SPACING, EDGE DISTANCES, CONCRETE MEMBER THICKNESS, HOLE DIMENSIONS, ANCHOR EMBEDMENT AND ADHERENCE TO THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS. IN ADDITION, FOLLOW THE PROVISIONS OF THE 2016 CALIFORNIA BUILDING CODE SECTION 1910A.5.5 FOR TORQUE CONTROLLED ANCHORS. TESTING BY THE CALIBRATED WRENCH METHOD WHERE SPECIFIED TORQUE SHALL BE OBTAINED WITHIN 1/2 TURN OF THE NUT. TEST 50% OF THE ANCHORS FOR EACH PIECE OF EQUIPMENT. IF ANY ANCHOR FAILS TEST ALL ANCHORS. REPORT OF TEST RESULTS ARE TO BE SUBMITTED TO THE ENFORCEMENT AGENCY. THE SEOR SHALL PROVIDE REMEDIAL ANCHORAGE DETAILS IN THE EVENT THAT AN ANCHOR FAILS TO MEET THE TEST REQUIREMENTS. FOR THROUGH BOLTS MARK THE NUT LOCATION AT SNUG TIGHT CONDITION. INSPECTOR IS TO VERIFY 3/4 TURN.
3. STRENGTH DESIGN WAS USED FOR ANCHOR FORCE CALCULATIONS INCLUDING Ω_0 PER ACI 318-14 WHERE REQUIRED FOR ATTACHMENT TO CONCRETE.
4. PROVIDE FOR FULL THREAD ENGAGEMENT OF THE NUT AND WASHER.

RESPONSIBILITIES OF THE STRUCTURAL ENGINEER OF RECORD

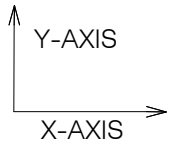
1. CONFIRM THE MATERIAL PROPERTIES AND THICKNESS OF THE CONCRETE SLAB TO WHICH THE EQUIPMENT IS ATTACHED MEETS THE REQUIREMENTS OF THIS OPM.
2. PROVIDE A PLAN FOR INSPECTION OF SUPPORTS AND ATTACHMENTS AND VERIFY ITS IMPLEMENTATION.
3. CONFIRM THE SPECIFIED MINIMUM CONCRETE EDGE DISTANCES ARE MAINTAINED BASED ON THE ACTUAL EQUIPMENT LOCATION. VERIFY THAT EXISTING OR NEW ANCHORS ARE AN ADEQUATE DISTANCE FROM THIS UNIT'S ATTACHMENT.
4. VERIFY THAT THE EXISTING STRUCTURE IS ADEQUATE FOR THE IMPOSED DEAD, LATERAL AND TENSION FORCES SHOWN IN ADDITION TO ALL OTHER LOADS.
5. VERIFY THAT THE INSTALLATION IS IN CONFORMANCE WITH CBC 2016 AND WITH THE OPM-0461-13 DETAILS INCLUDING MATERIALS AND DIMENSIONS OF THE SUPPORT WHERE THE ATTACHMENTS ARE MADE AGREE WITH THE INFORMATION SHOWN.
6. VERIFY THAT THE PROJECT SPECIFIC S_{DS} AND z/h VALUES RESULT IN SEISMIC FORCES (E_h AND E_v) DO NOT EXCEED THE VALUES SHOWN IN THESE DETAILS.



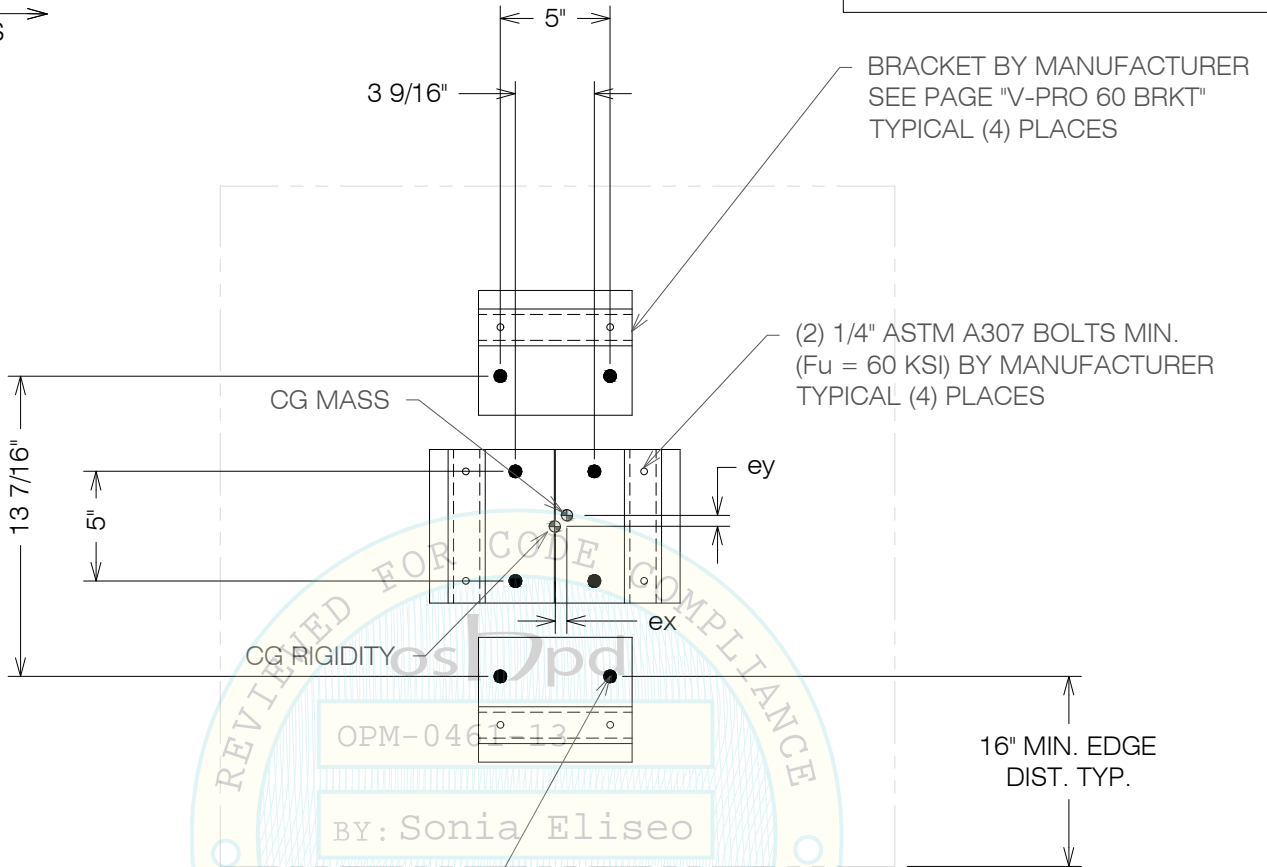
OPM-0461-13 STERIS VPRO 60 AND VHP LS 60 STERILIZERS ATTACHMENT NOTES

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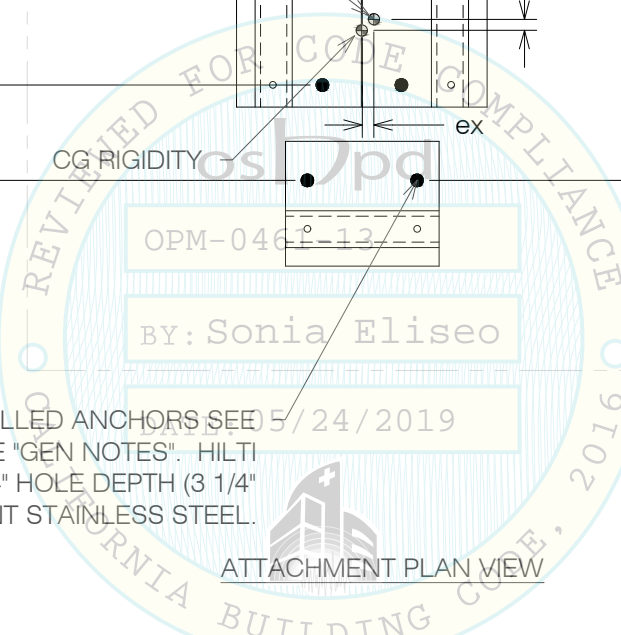
OSHPD OPM-0461-13 DWG - 2



SEE PAGE "MISC STEEL" FOR ANCHOR DIMENSIONS AND "FORCES" FOR ANCHOR FORCES


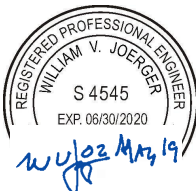


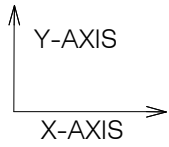
(2 x 4 = 8) POST-INSTALLED ANCHORS SEE GEN. NOTE 7 ON PAGE "GEN NOTES". HILTI KWIK BOLT TZ 1/2" DIA. x 4" HOLE DEPTH (3 1/4" EFFECTIVE EMBEDMENT STAINLESS STEEL.



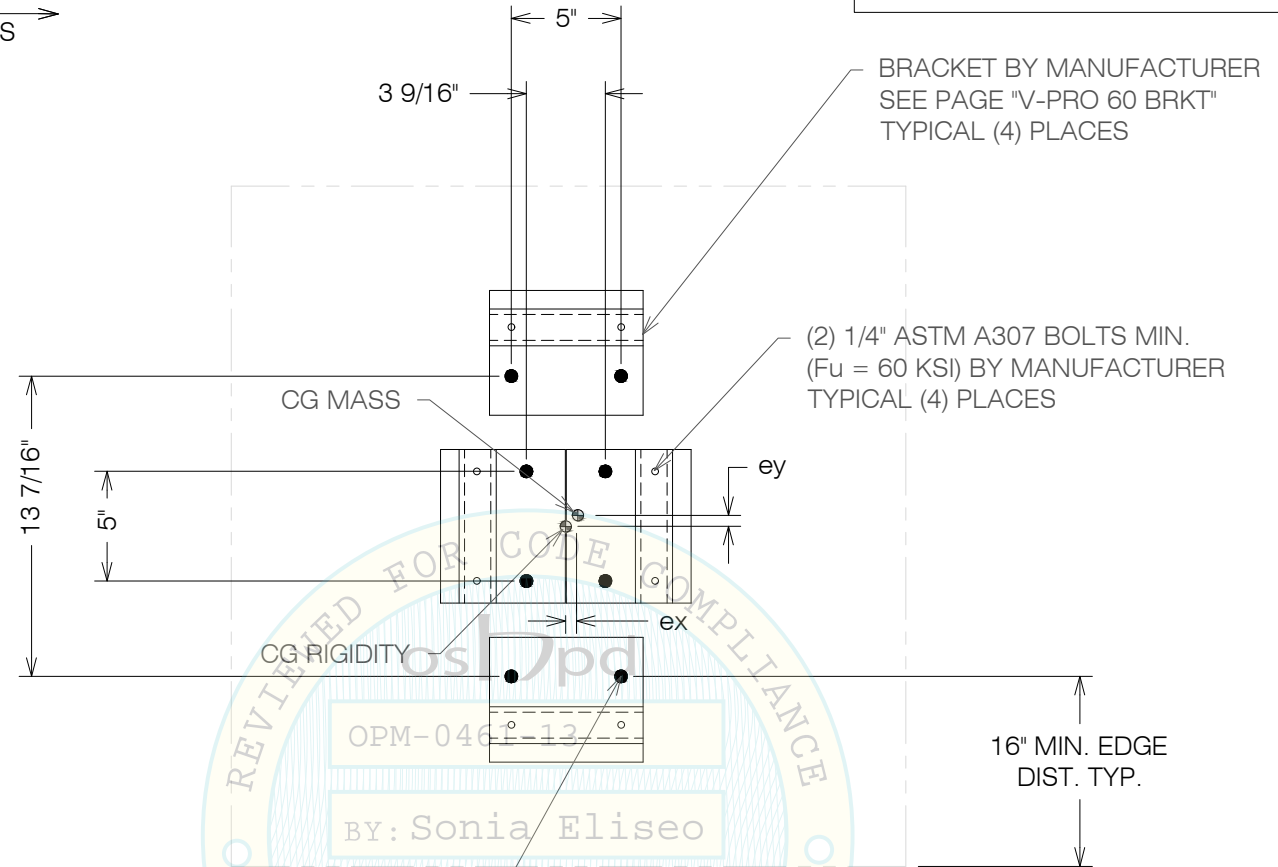
ATTACHMENT PLAN VIEW

OPM-0461-13 STERIS VPRO 60 AND VHP LS 60 STERILIZERS AT GRADE

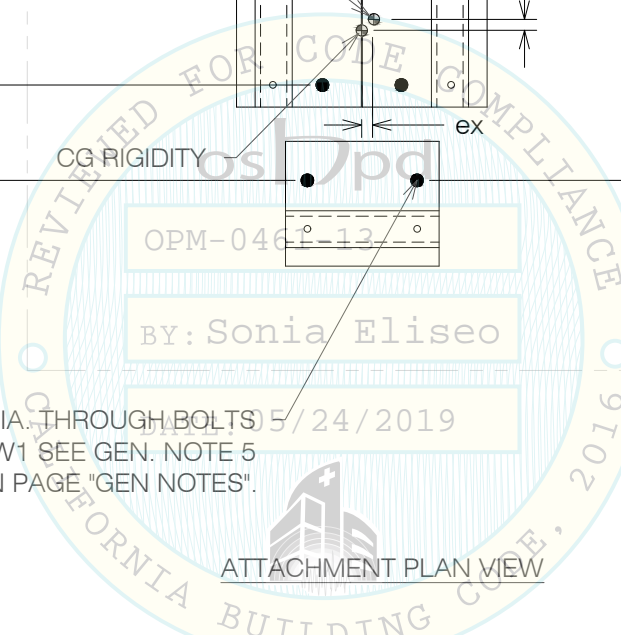
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SEE PAGE "DIMENSIONS" FOR ECCENTRICITIES AND "FORCES" FOR ANCHOR FORCES


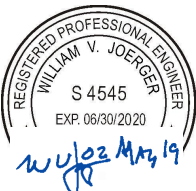


(2 x 4 = 8) 1/2" DIA. THROUGH BOLTS
 ASTM F593 CW1 SEE GEN. NOTE 5
 ON PAGE "GEN NOTES".

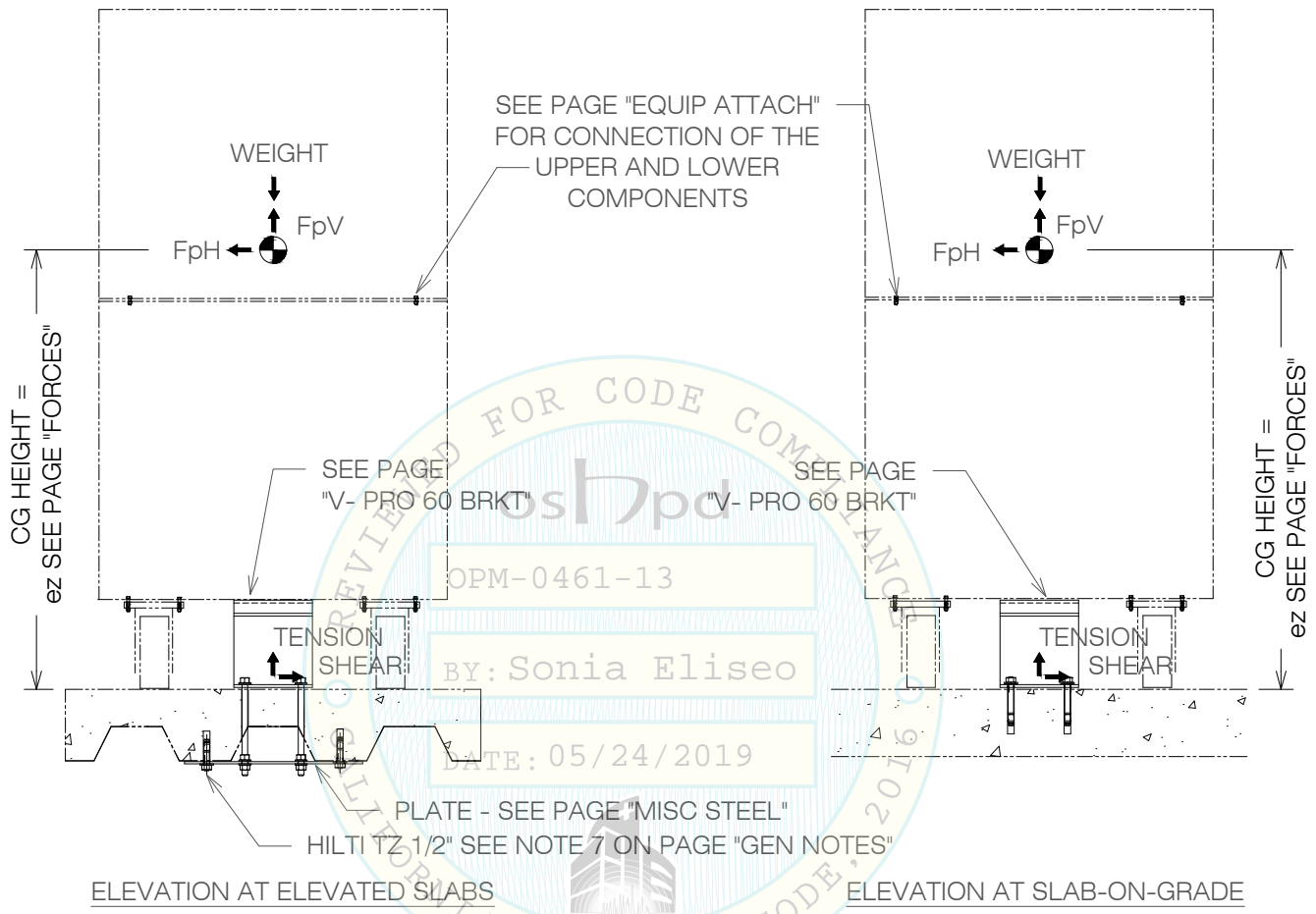


ATTACHMENT PLAN VIEW


OPM-0461-13 STERIS VPRO 60 AND VHP LS 60 STERILIZERS AT ELEVATED SLABS

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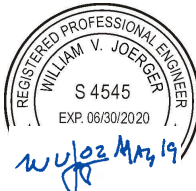
OSHPD OPM-0461-13 DWG - 4



OPM-0461-13 STERIS VPRO 60 AND VHP LS 60 STERILIZERS
EQUIPMENT ELEVATIONS

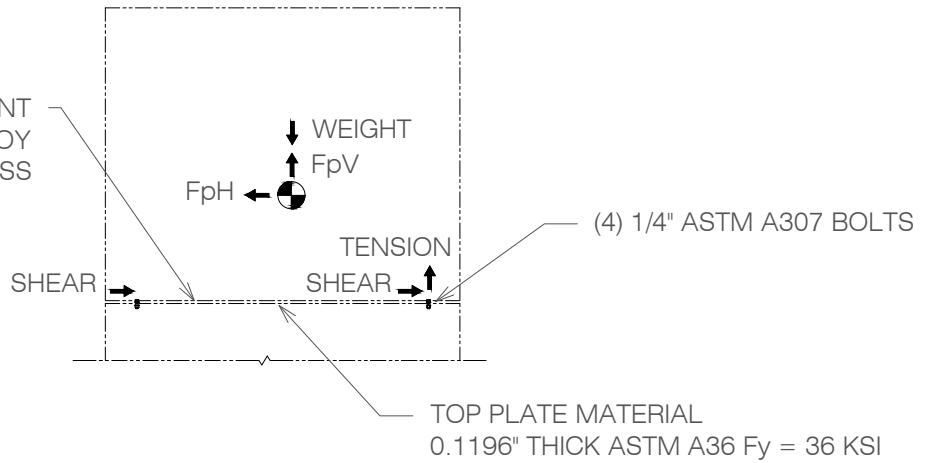


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UPPER COMPONENT
PC/ABS ALLOY
0.135" THICKNESS



UPPER EQUIPMENT COMPONENT ATTACHMENT

1/4" DIA. SCREW W/ SERRATIONS
(WHIZ LOCK ASTM A307) WITH
FLANGE WHIZ-LOCK NUT
(2 PER BRACKET - 8 TOTAL)

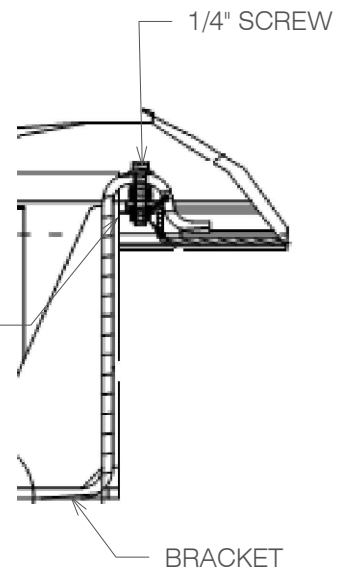
SEE PAGE "V-PRO 60
BRKT" (4) REQUIRED

OPM-0461-13

BY Sonia Eliseo

DATE: 05/24/2019

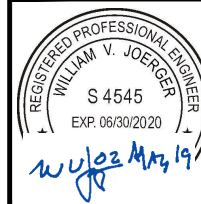
LOWER EQUIPMENT COMPONENT ATTACHMENT



OPM-0461-13 STERIS VPRO 60 AND VHP LS 60 STERILIZERS
LOWER EQUIPMENT ATTACHMENT AND UPPER EQUIPMENT ATTACHMENT



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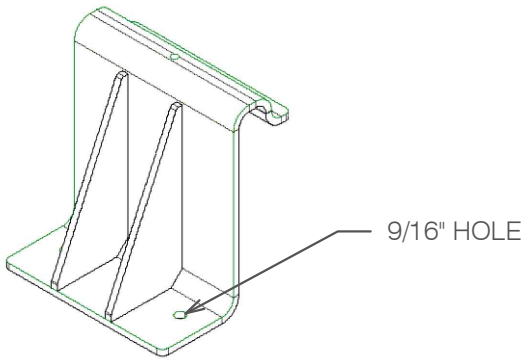


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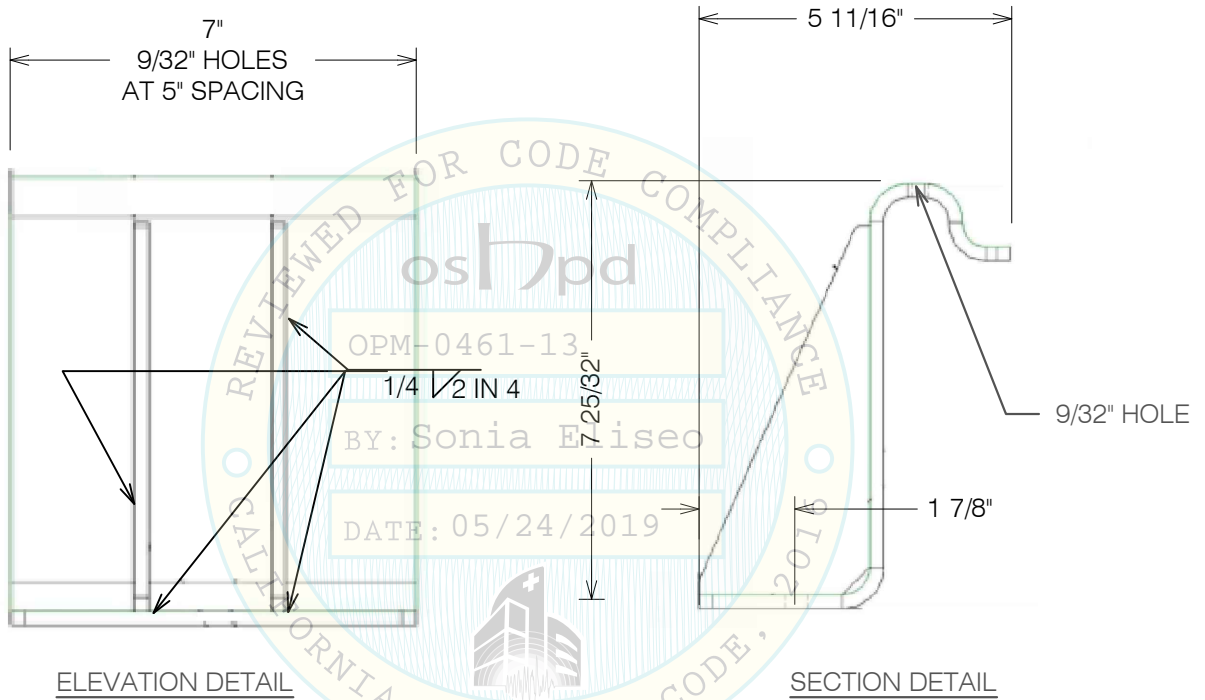
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ALL MATERIAL THIS PAGE IS 1/4"
 ASTM A656 GRADE 80
 BY MANUFACTURER



ISOMETRIC DETAIL

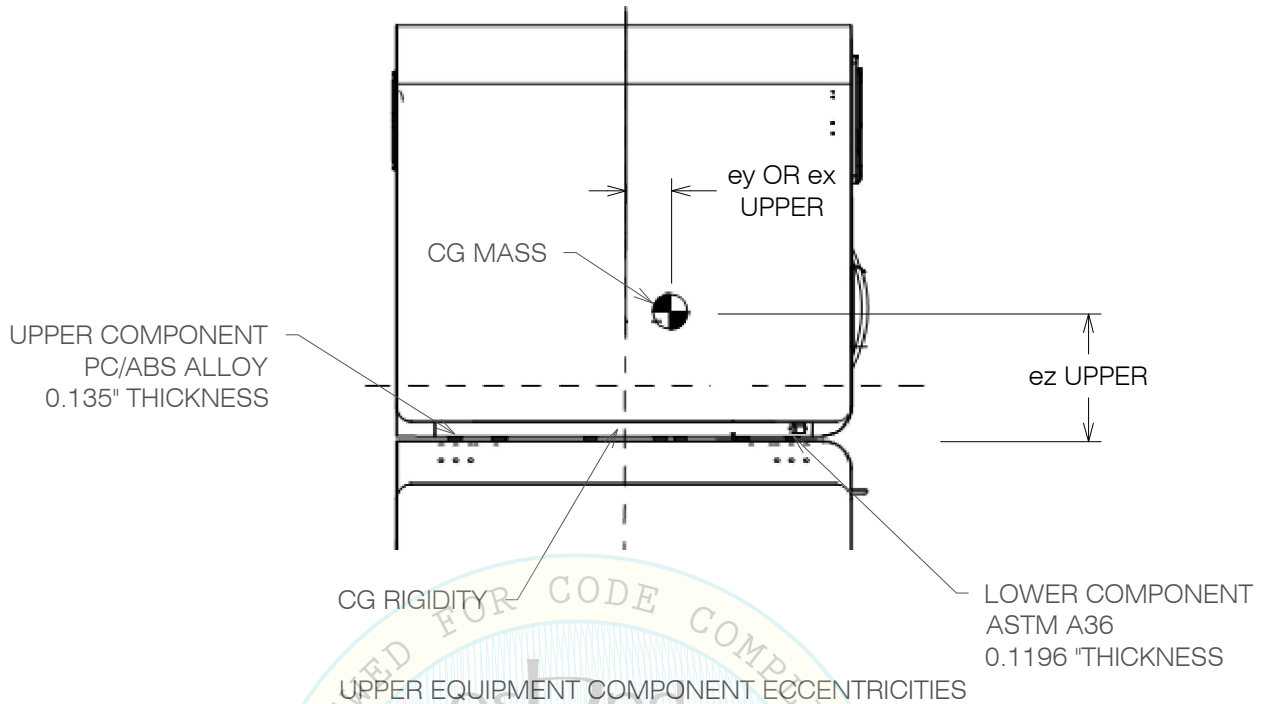


OPM-0461-13 STERIS VPRO 60 AND VHP LS 60 STERILIZERS BRACKET

ISAT
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Equipment Data		Equipment Eccentricities			Seismic Design Forces at Grade		Seismic Design Forces at Elevated	
Model Series	Weight (lbs.)	ex (in)	ey (in)	ez (in)	Vu (lbs.)	Tu (lbs.)	Vu (lbs.)	Tu (lbs.)
V-PRO 60	512	0.70	2.00	43.91	292 *	1647 *	780 *	2,923
UPPER	248	8.82	3.32	17.69	Use Elev. Forces	Use Elev. Forces	371	423

1. WEIGHTS AND MOMENTS ARE FACTORED LOADS USING STRENGTH DESIGN AND INCLUDE THE FOLLOWING FACTORS: DL = 0.9, FpH AT GRADE = 0.72, FpH ELEVATED = 1.92 AND FpV = 0.32.
2. FORCES ARE AT STRENGTH DESIGN LEVEL. FORCES ARE PER BOLT. WHERE ANCHORS ARE INSTALLED IN CONCRETE AN OVERSTRENGTH FACTOR $\Omega_0 = 1.5$ IS INCLUDED AS INDICATED BY AN * IN THE TABLE ABOVE. FOR TENSION FORCES IN STEEL ATTACHMENTS (CONNECTION OF THE UPPER COMPONENT TO THE LOWER COMPONENT AND THROUGH BOLTS AT THE ELEVATED FLOORS) AN OVERSTRENGTH FACTOR OF 1.0 IS USED.

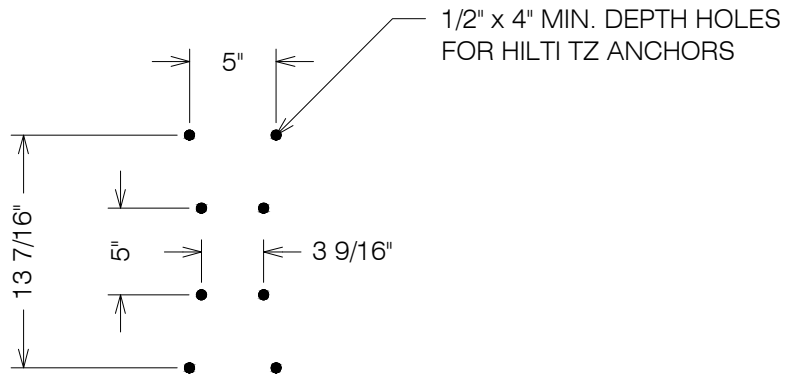
OPM-0461-13 STERIS VPRO 60 AND VHP LS 60 STERILIZERS
DIMENSIONS AND ANCHORAGE FORCES



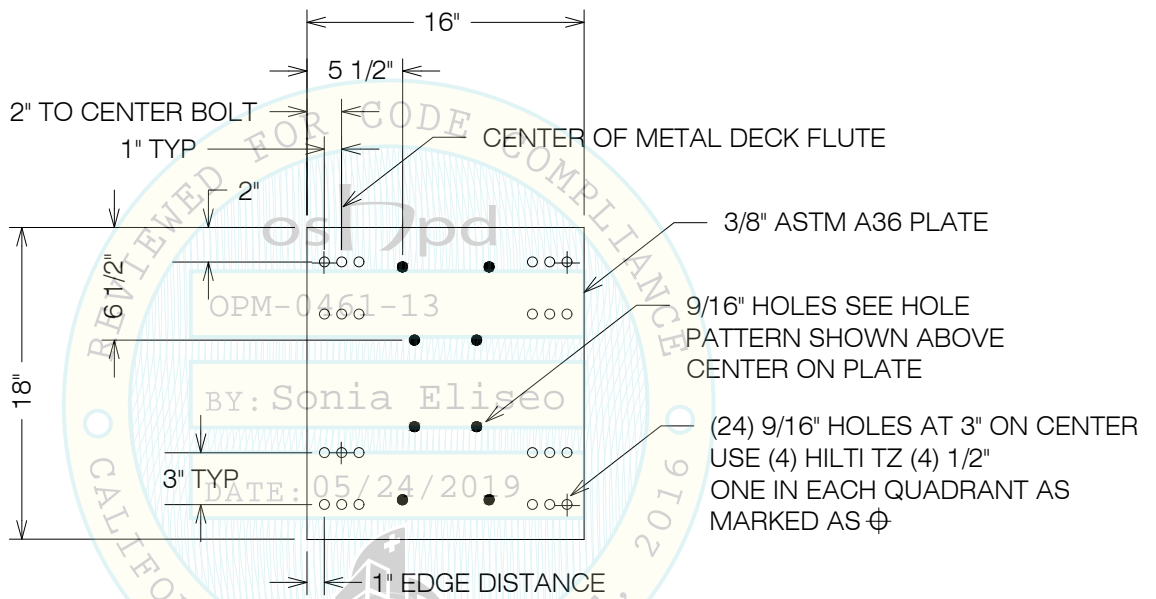
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OSHPD OPM-0461-13 DWG - 8




DETAIL FOR ANCHOR HOLE DIMENSIONS FOR PLATE DETAILED BELOW

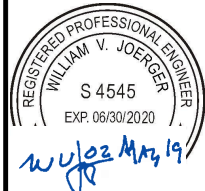


DETAIL FOR PLATE AT ELEVATED FLOORS

OPM-0461-13 STERIS VPRO 60 AND VHP LS 60 STERILIZERS MISCELLANEOUS STEEL



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REV NO: 3		
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