



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION

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

OFFICE USE ONLY

APPLICATION #: OPM-0458

OSHPD Preapproval of Manufacturer's Certification (OPM)

Type: [] New [X] Renewal/Update

Manufacturer Information

Manufacturer: STERIS Corporation

Manufacturer's Technical Representative: Zachary Miday

Mailing Address: 5900 Heisley Road, Mentor, OH 44060

Telephone: (440) 392-7688 Email: Zachary_Miday@steris.com

Product Information

Product Name: 26 X 26 STEAM STERILIZER

Product Type: Steam Sterilizer (Process Type)

Product Model Number: AMSCO 400, AMSCO 430 LS, Century, Evolution & Evolution L

General Description: Steam sterilizers are designed for fast, efficient sterilization of heat and moisture material Stable material in life science and healthcare applications, floor Mounted Sterilizer.

Applicant Information

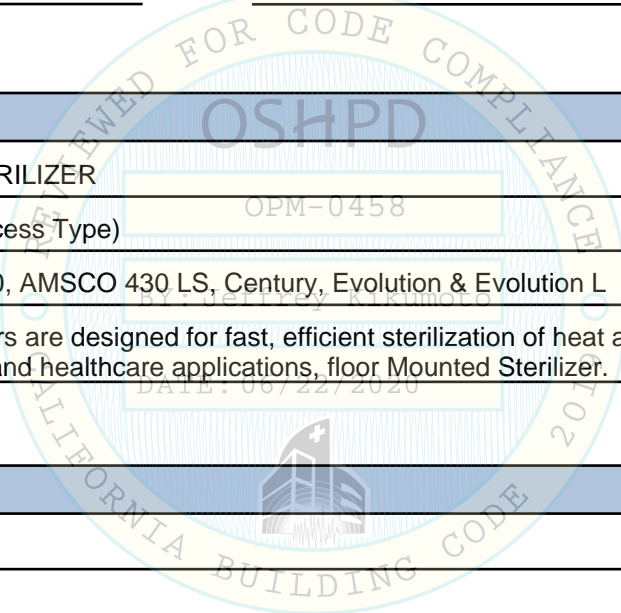
Applicant Company Name:

Contact Person: James L Yan

Mailing Address: 16551 4S Ranch Pkwy, San Diego, CA 92127

Telephone: (858) 876-8695 Email: jyan@engineeringonegroup.com

Title: Structural Engineer



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

STATE OF CALIFORNIA- HEALTH AND HUMAN SERVICES AGENCY





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

Registered Design Professional Preparing Engineering Recommendations

Company Name: ENGINEERING ONE GROUP, INC.
Name: James Yan California License Number: S5914
Mailing Address: 16551 4S Ranch Pkwy, San Diego, CA 92127
Telephone: (626) 226-8695 Email: james.linjun.yan@gmail.com

OSHDP Special Seismic Certification Preapproval (OSP)

Special Seismic Certification is preapproved under OSP OSP Number: _____

Certification Method

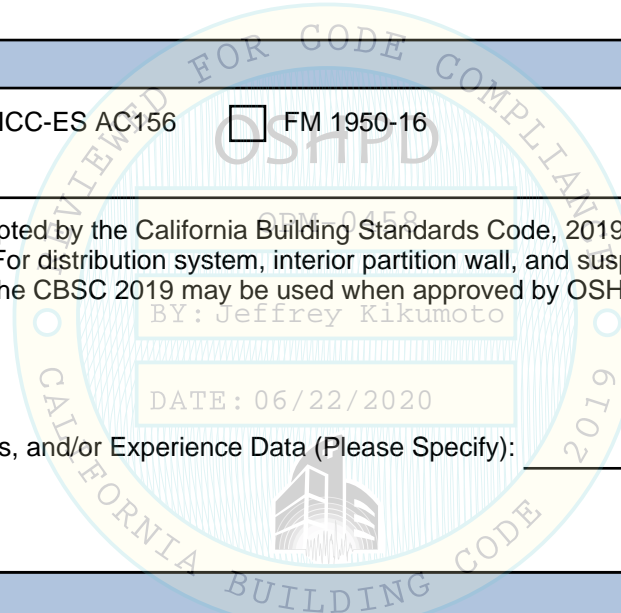
Testing in accordance with: ICC-ES AC156 FM 1950-16
 Other(s) (Please Specify): _____

*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 OSHDP prior to testing.

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

OSHDP Approval

Date: 6/22/2020
Name: Jeffrey Kikumoto Title: Senior Structural Engineer
Condition of Approval (if applicable): _____





ENGINEERING ONE GROUP, INC.
 Phone: 858.876.8695
 info@engineeringonegroup.com
 www.engineeringonegroup.com

STERIS CORPORATION

CENTURY/AMSCO 400/430
 LS/EVOLUTION/EVOLUTION L STEAM
 STERILIZER

SHEET 1
 OF 13 SHEETS

Job No.: EOG200001
 Date: 05/04/2020
 Drawn by: JY

Office of Statewide Health Planning and Development
 OSHPD Preapproval of Manufacturer's Certification

OPM-0458-19

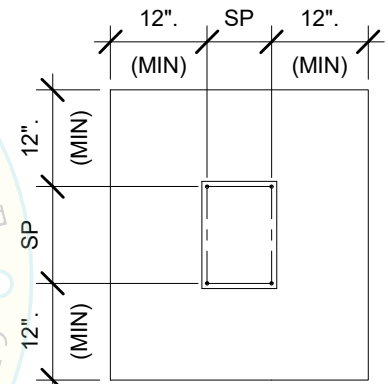
THIS PRE-APPROVAL CONFORMS TO THE 2019 CALIFORNIA BUILDING CODE

Equipment Manufacturer: Steris Corporation

Equipment Type: Century/Amsco 400/430 LS/Evolution/Evolution L Sterilizer Line No.1-6

GENERAL NOTES

1. THIS OSHPD 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. THIS PRE-APPROVAL COVERS ONLY THE SUPPORTS & ATTACHMENTS OF THE EQUIPMENT TO THE STRUCTURE.
3. POST-INSTALLED ANCHORS:
 - a. ATTACHMENT IS TO BE MADE WITH THE ANCHORS LISTED BELOW AND INSTALLED AS DESCRIBED IN THE CORRESPONDING ICC REPORT: BY: Jeffrey Kikumoto
 - b. THIS PRE-APPROVAL REQUIRES CONCRETE SLAB EDGE DISTANCE TO BE 12" MIN.
 - c. AVOID DAMAGING (E) STEEL REINFG IN CONCRETE SLAB WHEN INSTALLING CONCRETE EXPANSIVE ANCHORS.
 - d. PROVIDE FULL THREAD ENGAGEMENT OF NUT & WASHER.



SP= ANCHOR SPACING
TYPICAL CONCRETE EDGE DETAIL

Anchor Diameter	Concrete Type	Min. f'c (psi)	Anchor Type	ICC Report No.	Min. Embed. (hef)	Min. Spacing	Min. Edge Dist.	Min. Conc. Thickness	Installation Torque	Test Loads
5/8"	N.W.	3000	Hiliti Kwik Bolt TZ CS	ESR-1917	4"	6"	18"	6"	60Ft-Lb	Installation Torque 60 Ft-Lb
5/8"	N.W.	3000	Hiliti Kwik Bolt TZ SS 304	ESR-1917	3 1/8"	6"	18"	5"	60Ft-Lb	Installation Torque 60 Ft-Lb
1/2"	N.W. OR SAND L.W.	3000	Hiliti Kwik Bolt TZ SS 304	ESR-1917	2"	6"	18"	4"	40Ft-Lb	Installation Torque 40 Ft-Lb

4. TESTING OF POST-INSTALLED ANCHORS PER 2019 CBC, 1910A.5 : TESTING SHALL BE DONE IN THE PRESENCE OF THE SPECIAL INSPECTOR AND A REPORT OF THE TEST RESULTS SHALL BE SUBMITTED TO OSHPD.
 - a. AFTER A MINIMUM OF 24 HOURS HAVE ELAPSED SINCE INSTALLATION, 50 PERCENT OR ALTERNATE BOLTS IN A GROUP, INCLUDING AT LEAST ONE-HALF THE ANCHORS IN EACH GROUP, SHALL BE TESTED BY TORQUE WRENCH METHOD.
 - b. ACCEPTANCE CRITERIA FOR TORQUE WRENCH METHOD: ANCHORS TESTED WITH A CALIBRATED TORQUE WRENCH MUST ATTAIN THE SPECIFIED TORQUE WITHIN ½ TURN OF THE NUT.
 - c. IF ANY ANCHOR FAILS, TEST ALL ANCHORS.





ENGINEERING ONE GROUP, INC.
 Phone: 858.876.8695
 info@engineeringonegroup.com
 www.engineeringonegroup.com

STERIS CORPORATION

CENTURY/AMSCO 400/430
 LS/EVOLUTION/EVOLUTION L STEAM
 STERILIZER

SHEET 2
 OF 13 SHEETS

Job No.: EOG200001
 Date: 05/04/2020
 Drawn by: JY

GENERAL NOTES (CONTINUED)

- FORCES PER ASCE 7-16 SECTION 13.3.1, EQUATIONS 13.3-1, 13.3-2 & 13.3-3, WHERE
 $S_{DS} = 2.12$
 $a_p = 1.0$
 $I_p = 1.5$
 $R_p = 1.5$
 $\Omega_0 = 1.5$
 $z/h = 0.0$ AT CONCRETE SLAB ON GRADE & $z/h \leq 1.0$ AT CONCRETE SLAB ON METAL DECK
- ALL ANCHOR FORCES SHOWN ON THE DRAWINGS ARE FACTORED LOADS THAT SHALL BE USED FOR STRENGTH DESIGN.

RESPONSIBILITIES OF THE STRUCTURAL ENGINEER OF RECORD OF THE BUILDING

- VERIFY THAT PROJECT SPECIFIC VALUES OF S_{DS} & z/h RESULT IN SEISMIC FORCES (E_h , E_v) THAT DO NOT EXCEED THE VALUES ON THE DETAILS.
- VERIFY THAT THE CONCRETE SLAB TO WHICH THE EQUIPMENT IS ANCHORED MEETS THE REQUIREMENTS OF THE APPLICABLE ICC ESR.
- VERIFY THAT THE ANCHORS ARE AN ADEQUATE DISTANCE FROM ANY SLAB EDGES OR OPENINGS (SEE TYPICAL DETAIL ON SHEET 1).
- VERIFY THAT ALL NEW OR EXISTING ANCHORS ARE AN ADEQUATE DISTANCE FROM THE ANCHORS SHOWN IN THIS PRE-APPROVAL. SEOR SHALL VERIFY THAT THERE IS NO ADVERSE INTERACTION WHERE OTHER ANCHORS ARE WITHIN 18" OR $6h_{ef}$ FROM THIS UNIT'S ANCHORS.
- PROVIDE SUPPORTING STRUCTURE TO SUPPORT WEIGHTS AND FORCES SHOWN, IN ADDITION TO ALL OTHER LOADS. VERIFY THE ADEQUACY OF THE STRUCTURES (SUCH AS WALLS AND FLOORS) WHICH SUPPORT THE EQUIPMENT FOR THE LOADS IMPOSED ON THEM BY THE EQUIPMENT IN ADDITION TO ALL OTHER LOADS.
- VERIFY THAT THE INSTALLATION IS IN CONFORMANCE WITH THE 2019 CBC AND WITH THE DETAILS SHOWN IN THIS PRE-APPROVAL. VERIFY THAT THE ACTUAL EQUIPMENT'S WEIGHT, CG LOCATION, ANCHOR LOCATIONS, ANCHOR DETAILS, AND THE MATERIAL AND GAGE OF THE UNIT WHERE ATTACHMENTS ARE MADE AGREE WITH THE INFORMATION SHOWN ON THE PRE-APPROVAL DOCUMENTS.





ENGINEERING ONE GROUP, INC.
 Phone: 858.876.8695
 info@engineeringonegroup.com
 www.engineeringonegroup.com

STERIS CORPORATION

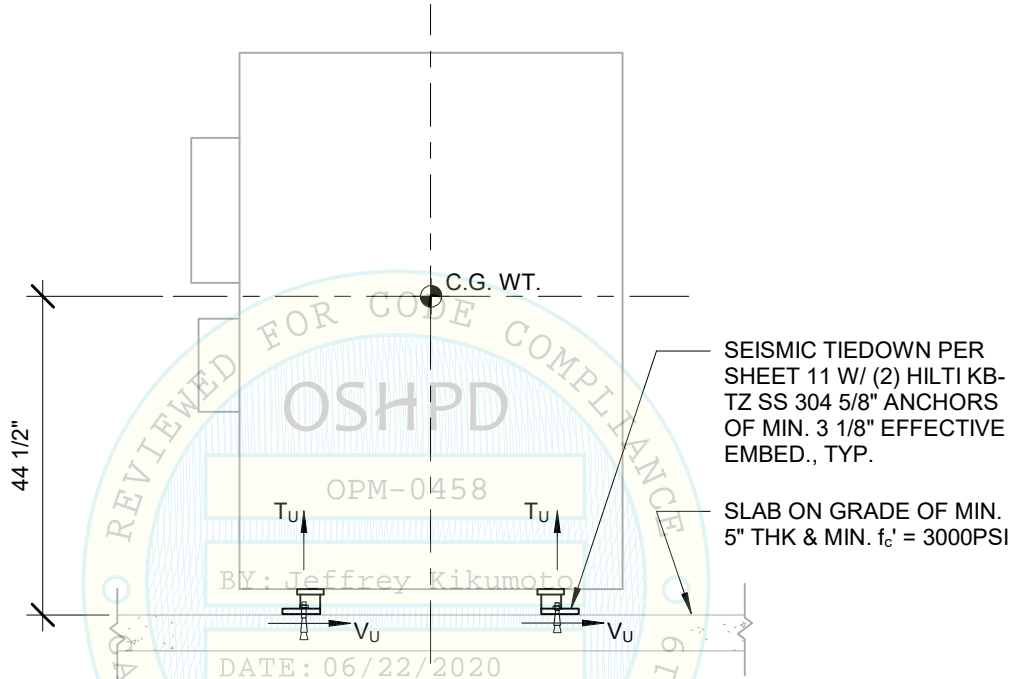
CENTURY/AMSCO 400/430
 LS/EVOLUTION/EVOLUTION L STEAM
 STERILIZER

SHEET 3
 OF 13 SHEETS

Job No.: EOG200001
 Date: 05/04/2020
 Drawn by: JY

SEISMIC SUPPORTS & ATTACHMENTS

SLAB ON GRADE



SEISMIC TIEDOWN PER SHEET 11 W/ (2) HILTI KB-TZ SS 304 5/8" ANCHORS OF MIN. 3 1/8" EFFECTIVE EMBED., TYP.

SLAB ON GRADE OF MIN. 5" THK & MIN. $f'_c = 3000$ PSI

CENTURY/AMSCO 400/430 LS FRONT VIEW
 SEE SHEET 4 FOR TOTAL FORCES AT EACH BOLT GROUP

NOTE:

- FORCES ARE DETERMINED PER 2019 CALIFORNIA BUILDING CODE AND ASCE 7-16. STRENGTH DESIGN IS USED.

HORIZONTAL FORCE (E_h) = $0.954 W_p$ ($S_{Ds} = 2.12$, $a_p = 1.0$, $I_p = 1.5$, $R_p = 1.5$, $z/h = 0.0$)
 VERTICAL FORCE (E_v) = $0.424 W_p$

- CENTER OF GRAVITY (C.G.) WEIGHT IS A MAXIMUM. THIS PRE-APPROVAL ENCOMPASSES ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.
- STRUCTURAL ENGINEER OF RECORD SHALL PROVIDE SUPPORT STRUCTURE TO SUPPORT WEIGHTS AND FORCES SHOWN.





ENGINEERING ONE GROUP, INC.
 Phone: 858.876.8695
 info@engineeringonegroup.com
 www.engineeringonegroup.com

STERIS CORPORATION

CENTURY/AMSCO 400/430
 LS/EVOLUTION/EVOLUTION L STEAM
 STERILIZER

SHEET 4
 OF 13 SHEETS

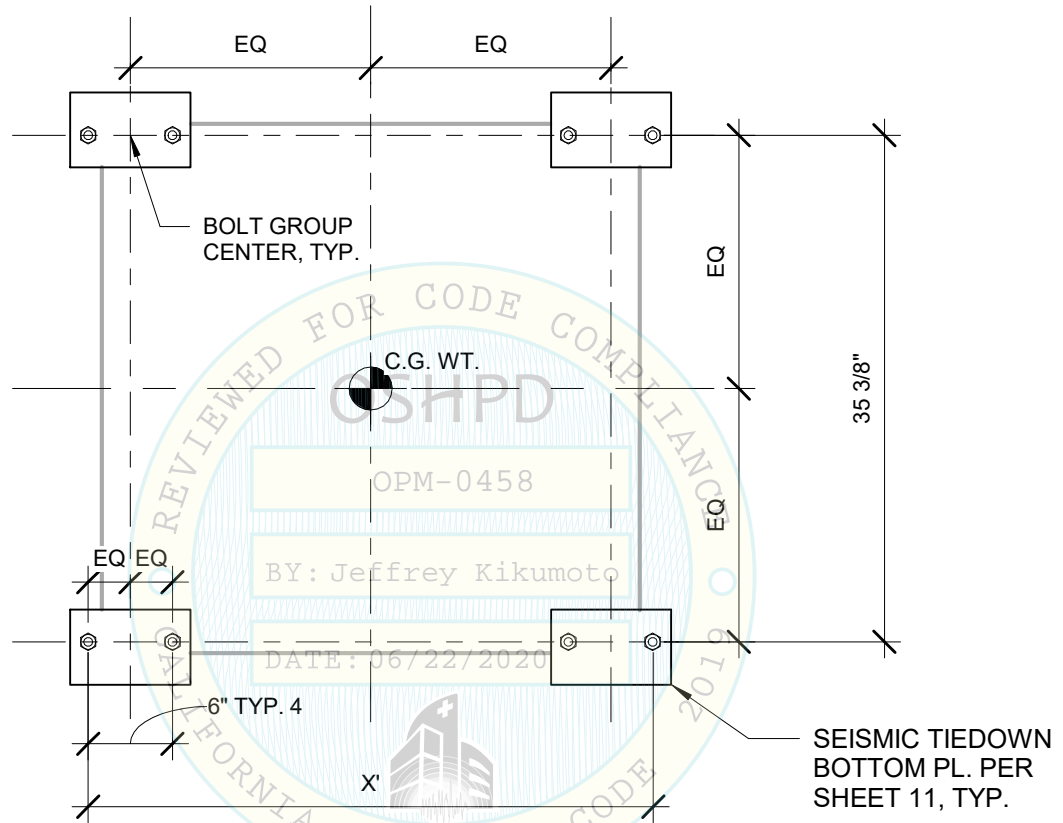
Job No.: EOG200001

Date: 05/04/2020

Drawn by: JY

SEISMIC SUPPORTS & ATTACHMENTS

SLAB ON GRADE



CENTURY/AMSCO 400/430 LS PLAN VIEW

LINE NO.	MODEL	LOADED WEIGHT (LBS)	DIM. X' (IN.)	V _u (LBS)	T _u (LBS)
1	CENTURY/ AMSCO 400/430 LS 39" S.D. / D.D. / CAB.	3173	39 7/16	1476	3228
2	CENTURY/ AMSCO 400/430 LS 49" S.D. / D.D. / CAB.	3413	49 7/16	1587	3305
3	CENTURY/ AMSCO 400/430 LS 61" S.D. / D.D. / CAB.	3651	61 7/16	1698	3397

NOTE:

1. THE SHOWN ANCHOR FORCE CALCULATION INCLUDES OVERSTRENGTH FACTOR $\Omega_0 = 1.5$.
2. THE SHOWN ANCHOR FORCES IN TABLE ARE THE TOTAL FORCES OF EACH BOLT GROUP.





ENGINEERING ONE GROUP, INC.
 Phone: 858.876.8695
 info@engineeringonegroup.com
 www.engineeringonegroup.com

STERIS CORPORATION

CENTURY/AMSCO 400/430
 LS/EVOLUTION/EVOLUTION L STEAM
 STERILIZER

SHEET 5
 OF 13 SHEETS

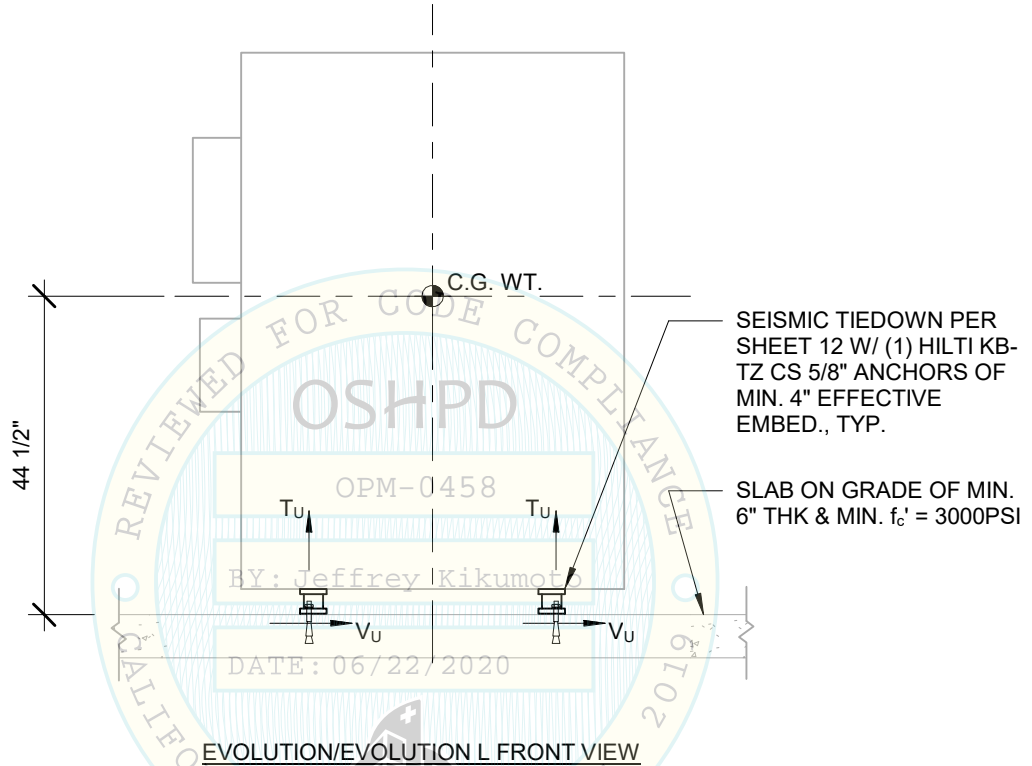
Job No.: EOG200001

Date: 05/04/2020

Drawn by: JY

SEISMIC SUPPORTS & ATTACHMENTS

SLAB ON GRADE



EVOLUTION/EVOLUTION L FRONT VIEW

SEE SHEET 6 FOR BOLT FORCES

NOTE:

- FORCES ARE DETERMINED PER 2019 CALIFORNIA BUILDING CODE AND ASCE 7-16. STRENGTH DESIGN IS USED.

HORIZONTAL FORCE (E_h) = $0.954 W_p$ ($S_{Ds} = 2.12$, $a_p = 1.0$, $I_p = 1.5$, $R_p = 1.5$, $z/h = 0.0$)
 VERTICAL FORCE (E_v) = $0.424 W_p$

- CENTER OF GRAVITY (C.G.) WEIGHT IS A MAXIMUM. THIS PRE-APPROVAL ENCOMPASSES ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.
- STRUCTURAL ENGINEER OF RECORD SHALL PROVIDE SUPPORT STRUCTURE TO SUPPORT WEIGHTS AND FORCES SHOWN.





ENGINEERING ONE GROUP, INC.
 Phone: 858.876.8695
 info@engineeringonegroup.com
 www.engineeringonegroup.com

STERIS CORPORATION

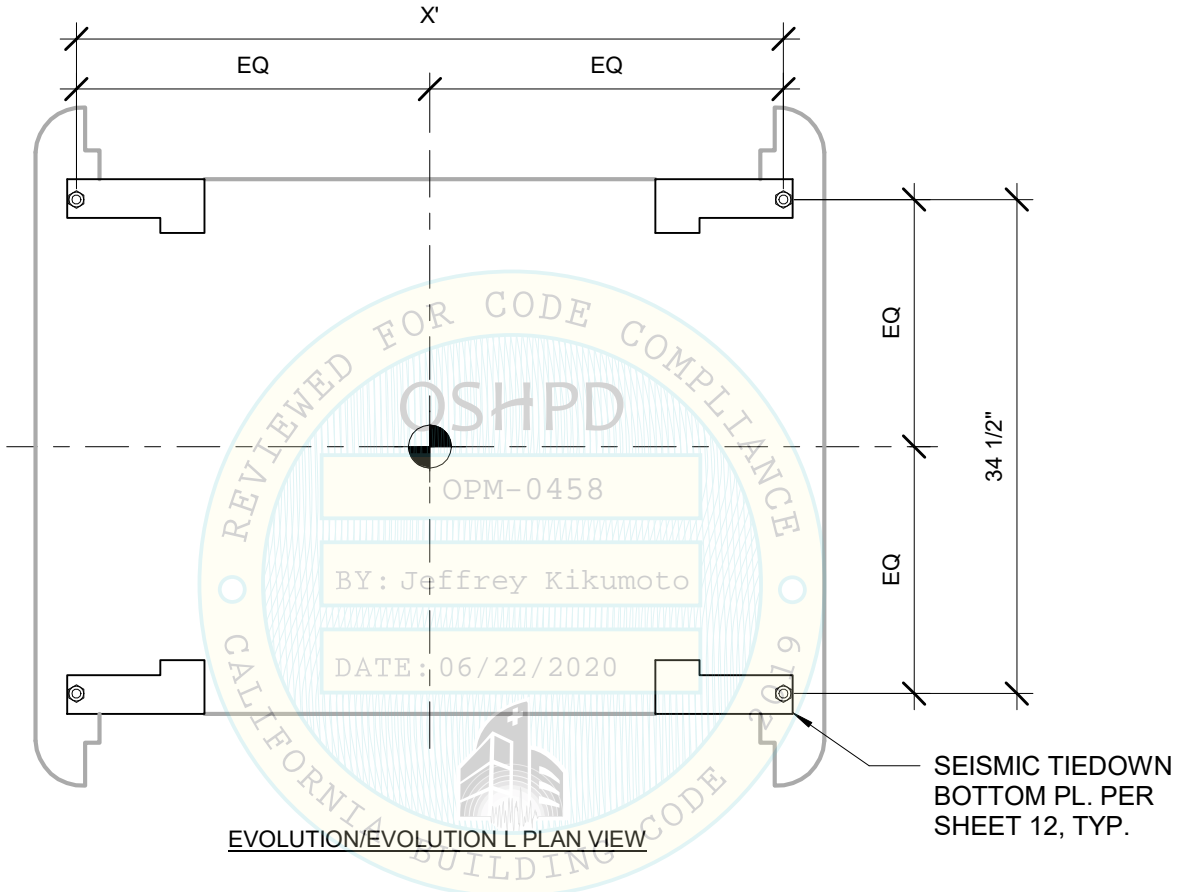
CENTURY/AMSCO 400/430
 LS/EVOLUTION/EVOLUTION L STEAM
 STERILIZER

SHEET 6
 OF 13 SHEETS

Job No.: EOG200001
 Date: 05/04/2020
 Drawn by: JY

SEISMIC SUPPORTS & ATTACHMENTS

SLAB ON GRADE



EVOLUTION/EVOLUTION L PLAN VIEW

LINE NO.	MODEL	LOADED WEIGHT (LBS)	DIM. X' (IN.)	V _u (LBS)	T _u (LBS)
4	EVOLUTION/ EVOLUTION L 39" S.D. / D.D. / CAB.	2756	49 3/16	1282	2734
5	EVOLUTION/ EVOLUTION L 49" S.D. / D.D. / CAB.	3200	59 3/16	1488	3070
6	EVOLUTION/ EVOLUTION L 61" S.D. / D.D. / CAB.	3500	71 3/16	1628	3262

NOTE:

1. THE SHOWN ANCHOR FORCE CALCULATION INCLUDES OVERSTRENGTH FACTOR $\Omega_0 = 1.5$.





ENGINEERING ONE GROUP, INC.
 Phone: 858.876.8695
 info@engineeringonegroup.com
 www.engineeringonegroup.com

STERIS CORPORATION

CENTURY/AMSCO 400/430
 LS/EVOLUTION/EVOLUTION L STEAM
 STERILIZER

SHEET 7
 OF 13 SHEETS

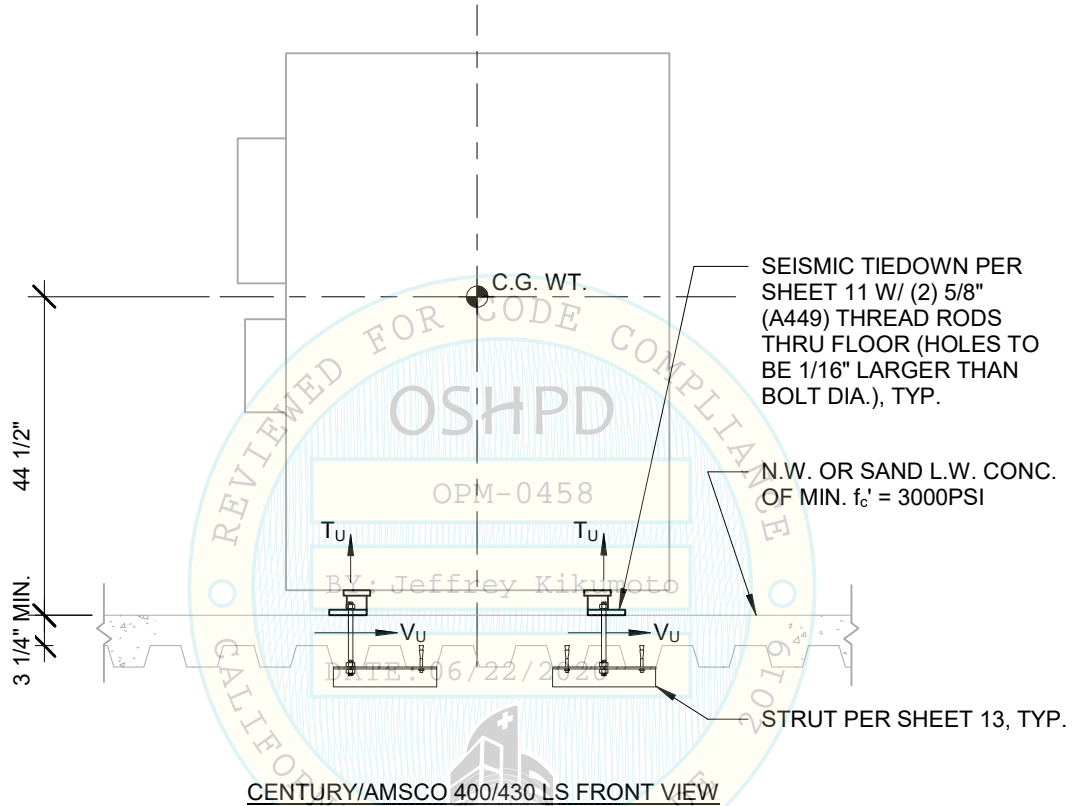
Job No.: EOG200001

Date: 05/04/2020

Drawn by: JY

SEISMIC SUPPORTS & ATTACHMENTS

CONCRETE SLAB ON METAL DECK



CENTURY/AMSCO 400/430 LS FRONT VIEW

SEE SHEET 8 FOR TOTAL FORCES AT EACH BOLT GROUP

NOTE:

- FORCES ARE DETERMINED PER 2019 CALIFORNIA BUILDING CODE AND ASCE 7-16. STRENGTH DESIGN IS USED.
 HORIZONTAL FORCE (E_h) = $2.544 W_p$ ($S_{DS} = 2.12$, $a_p = 1.0$, $I_p = 1.5$, $R_p = 1.5$, $z/h \leq 1.0$)
 VERTICAL FORCE (E_v) = $0.424 W_p$
- CENTER OF GRAVITY (C.G.) WEIGHT IS A MAXIMUM. THIS PRE-APPROVAL ENCOMPASSES ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.
- STRUCTURAL ENGINEER OF RECORD SHALL PROVIDE SUPPORT STRUCTURE TO SUPPORT WEIGHTS AND FORCES SHOWN.
- AT CONDITIONS WHERE NUT CANNOT BE PROVIDED AT TOP SIDE OF STRUT, PROVIDE TAPPED HOLE THROUGH STRUT FLANGE.





ENGINEERING ONE GROUP, INC.
 Phone: 858.876.8695
 info@engineeringonegroup.com
 www.engineeringonegroup.com

STERIS CORPORATION

CENTURY/AMSCO 400/430
 LS/EVOLUTION/EVOLUTION L STEAM
 STERILIZER

SHEET 8
 OF 13 SHEETS

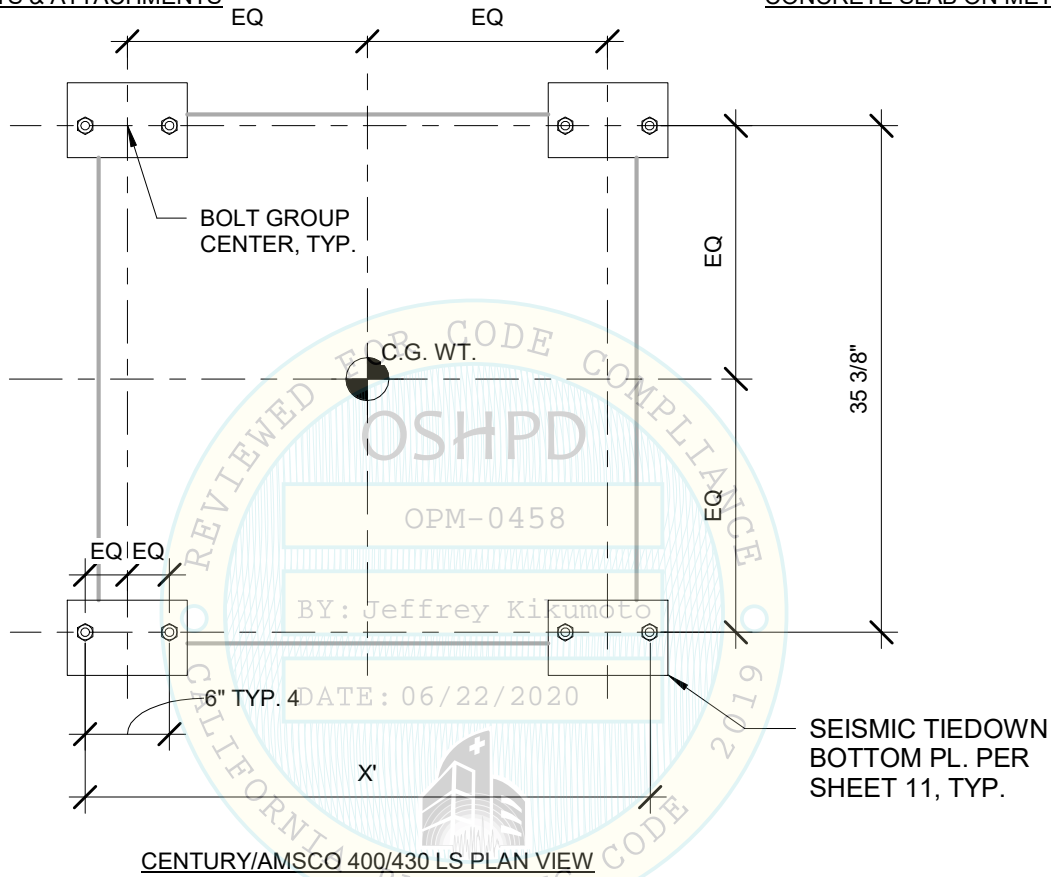
Job No.: EOG200001

Date: 05/04/2020

Drawn by: JY

SEISMIC SUPPORTS & ATTACHMENTS

CONCRETE SLAB ON METAL DECK



CENTURY/AMSCO 400/430 LS PLAN VIEW

LINE NO.	MODEL	LOADED WEIGHT (LBS)	DIM. X' (IN.)	V _u (LBS)	T _u (LBS)
1	CENTURY/ AMSCO 400/430 LS 39" S.D. / D.D. / CAB.	3173	39 7/16	2623	6047
2	CENTURY/ AMSCO 400/430 LS 49" S.D. / D.D. / CAB.	3413	49 7/16	2822	6207
3	CENTURY/ AMSCO 400/430 LS 61" S.D. / D.D. / CAB.	3651	61 7/16	3019	6395

NOTE:

1. THE SHOWN ANCHOR FORCE CALCULATION DOES NOT INCLUDE OVERSTRENGTH FACTOR $\Omega_0 = 1.5$.
2. THE SHOWN ANCHOR FORCES IN TABLE ARE THE TOTAL FORCES OF EACH BOLT GROUP.





ENGINEERING ONE GROUP, INC.
 Phone: 858.876.8695
 info@engineeringonegroup.com
 www.engineeringonegroup.com

STERIS CORPORATION

CENTURY/AMSCO 400/430
 LS/EVOLUTION/EVOLUTION L STEAM
 STERILIZER

SHEET 9
 OF 13 SHEETS

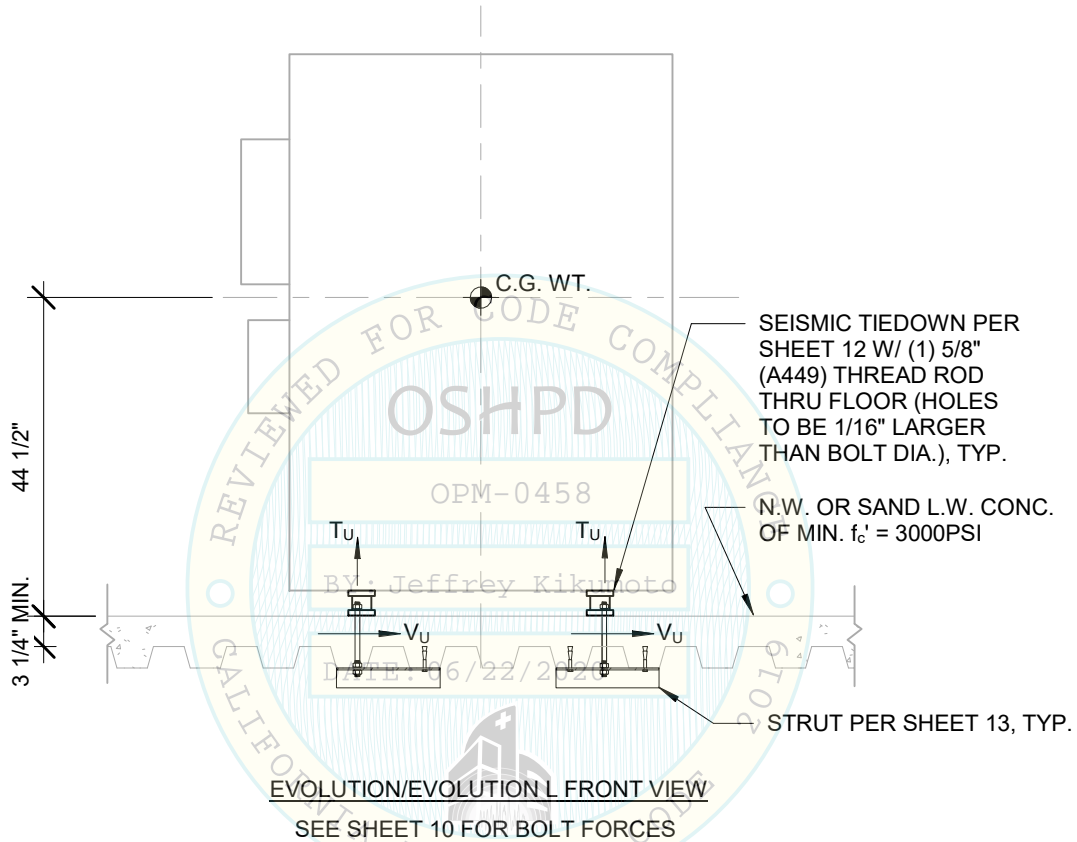
Job No.: EOG200001

Date: 05/04/2020

Drawn by: JY

SEISMIC SUPPORTS & ATTACHMENTS

CONCRETE SLAB ON METAL DECK



NOTE:

- FORCES ARE DETERMINED PER 2019 CALIFORNIA BUILDING CODE AND ASCE 7-16. STRENGTH DESIGN IS USED.
 HORIZONTAL FORCE (E_h) = $2.544 W_p$ ($S_{DS} = 2.12$, $a_p = 1.0$, $I_p = 1.5$, $R_p = 1.5$, $z/h \leq 1.0$)
 VERTICAL FORCE (E_v) = $0.424 W_p$
- CENTER OF GRAVITY (C.G.) WEIGHT IS A MAXIMUM. THIS PRE-APPROVAL ENCOMPASSES ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.
- STRUCTURAL ENGINEER OF RECORD SHALL PROVIDE SUPPORT STRUCTURE TO SUPPORT WEIGHTS AND FORCES SHOWN.
- AT CONDITIONS WHERE NUT CANNOT BE PROVIDED AT TOP SIDE OF STRUT, PROVIDE TAPPED HOLE THROUGH STRUT FLANGE.





ENGINEERING ONE GROUP, INC.
 Phone: 858.876.8695
 info@engineeringonegroup.com
 www.engineeringonegroup.com

STERIS CORPORATION

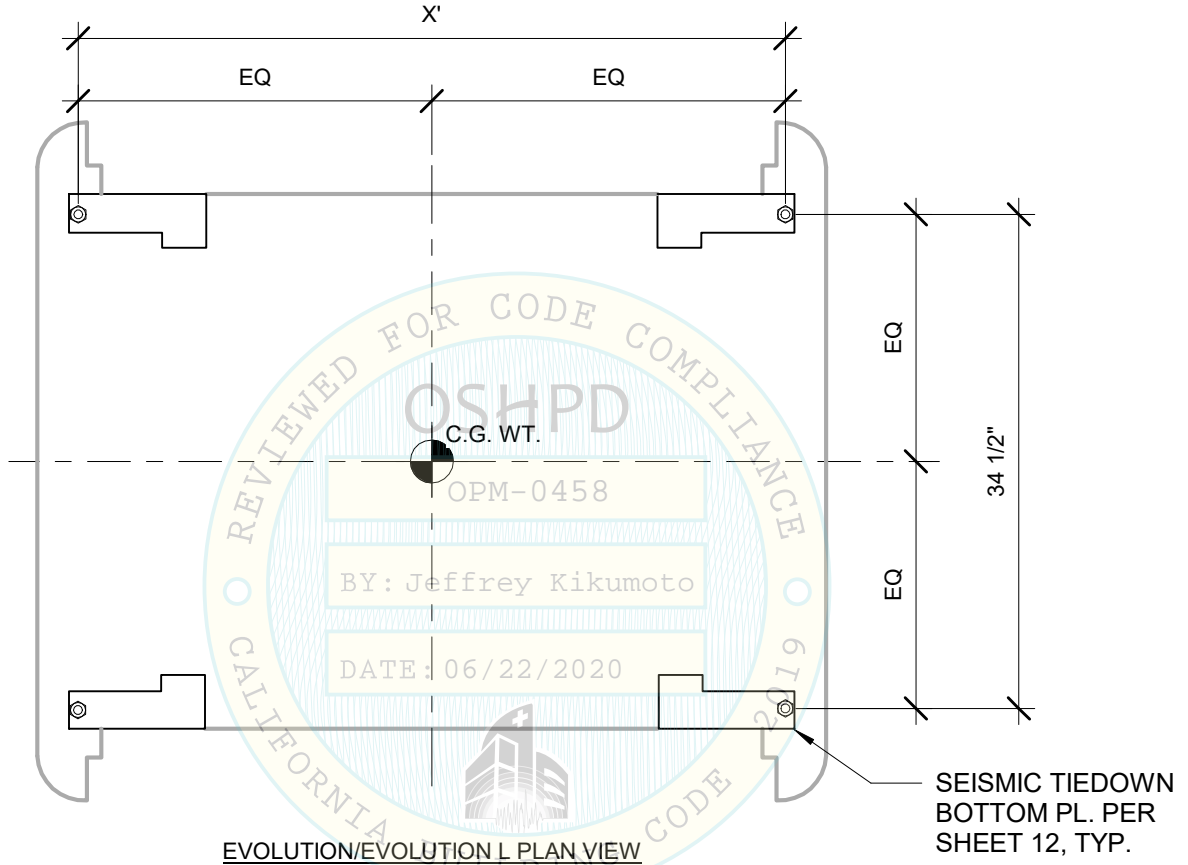
CENTURY/AMSCO 400/430
 LS/EVOLUTION/EVOLUTION L STEAM
 STERILIZER

SHEET 10
 OF 13 SHEETS

Job No.: EOG200001
 Date: 05/04/2020
 Drawn by: JY

SEISMIC SUPPORTS & ATTACHMENTS

CONCRETE SLAB ON METAL DECK

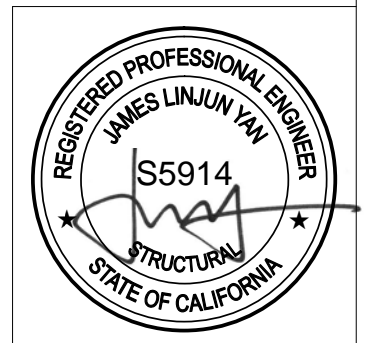


EVOLUTION/EVOLUTION L PLAN VIEW

LINE NO.	MODEL	LOADED WEIGHT (LBS)	DIM. X' (IN.)	V _u (LBS)	T _u (LBS)
4	EVOLUTION/EVOLUTION L 39" S.D. / D.D. / CAB.	2756	49 3/16	2279	5129
5	EVOLUTION/EVOLUTION L 49" S.D. / D.D. / CAB.	3200	59 3/16	2646	5768
6	EVOLUTION/EVOLUTION L 61" S.D. / D.D. / CAB.	3500	71 3/16	2894	6140

NOTE:

1. THE SHOWN ANCHOR FORCE CALCULATION DOES NOT INCLUDE OVERSTRENGTH FACTOR $\Omega_0 = 1.5$.





ENGINEERING ONE GROUP, INC.
 Phone: 858.876.8695
 info@engineeringonegroup.com
 www.engineeringonegroup.com

STERIS CORPORATION

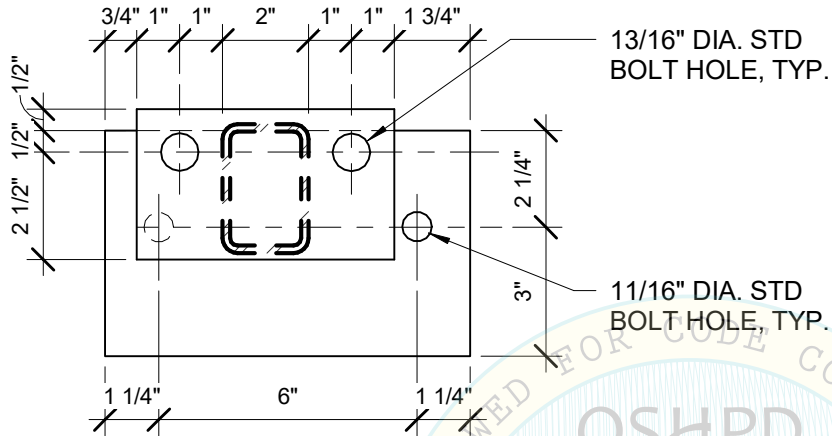
CENTURY/AMSCO 400/430
 LS/EVOLUTION/EVOLUTION L STEAM
 STERILIZER

SHEET 11
 OF 13 SHEETS

Job No.: EOG200001

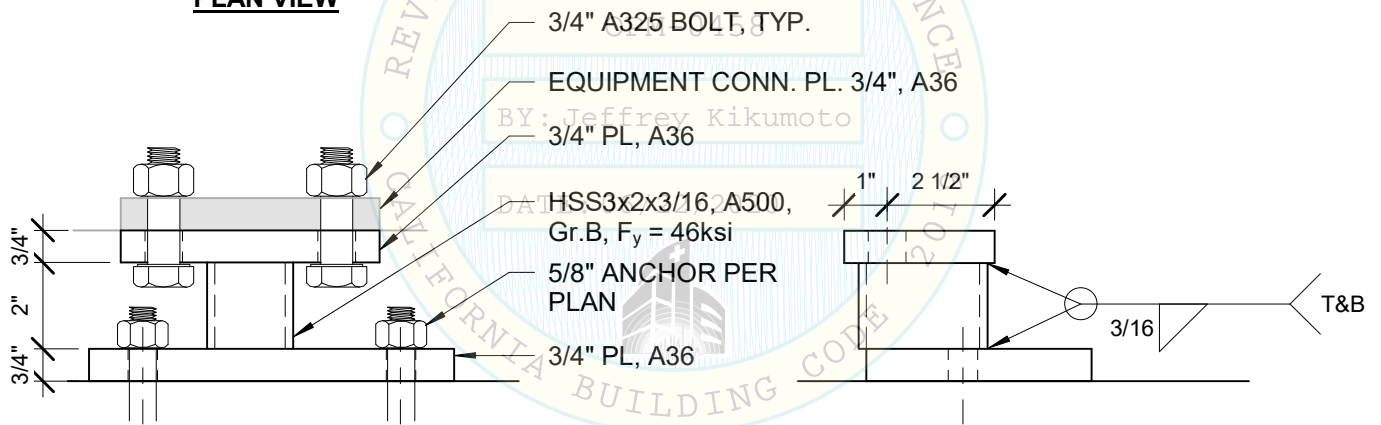
Date: 05/04/2020

Drawn by: JY



PLAN VIEW

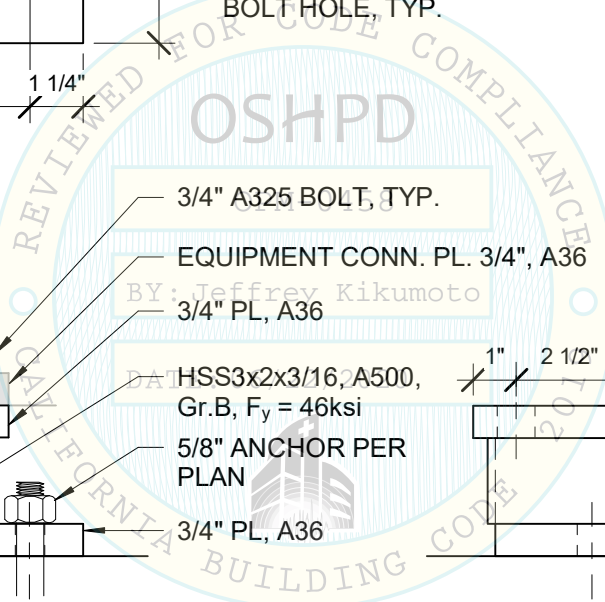
NOTE:
 BOLTS & EQUIPMENT CONN. PL
 NOT SHOWN IN PLAN & FRONT
 VIEWS FOR CLARITY.



SIDE VIEW

FRONT VIEW

SEISMIC TIEDOWN TYP A





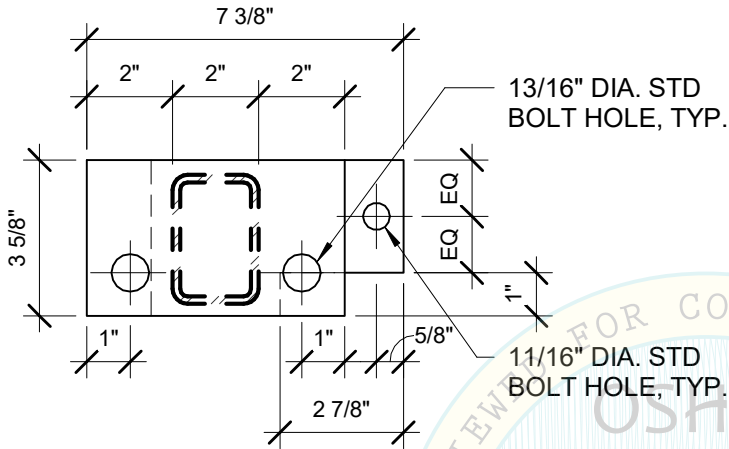
ENGINEERING ONE GROUP, INC.
 Phone: 858.876.8695
 info@engineeringonegroup.com
 www.engineeringonegroup.com

STERIS CORPORATION

CENTURY/AMSCO 400/430
 LS/EVOLUTION/EVOLUTION L STEAM
 STERILIZER

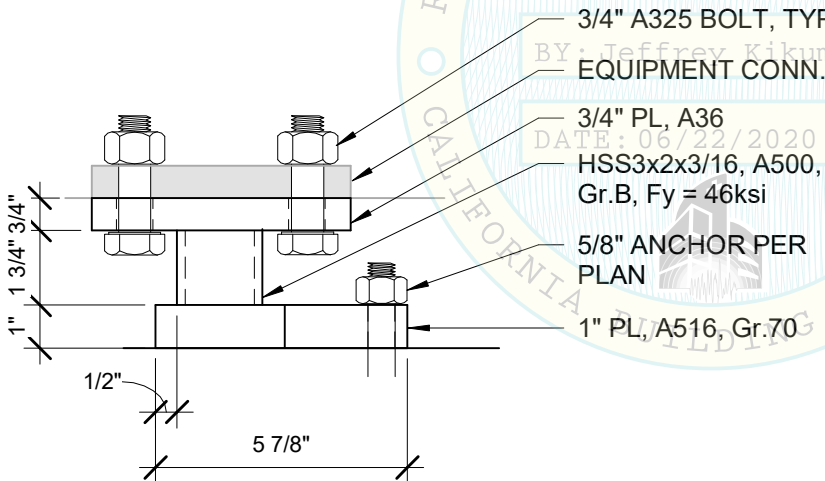
SHEET 12
 OF 13 SHEETS

Job No.: EOG200001
 Date: 05/04/2020
 Drawn by: JY

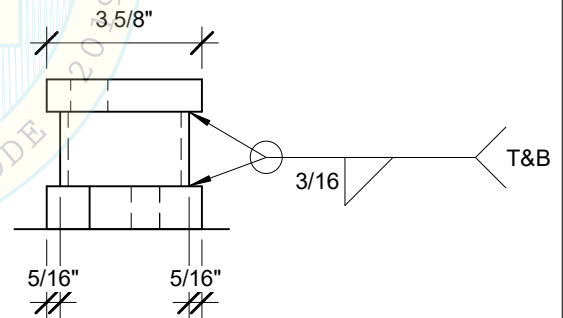


NOTE:
 BOLTS & EQUIPMENT CONN. PL
 NOT SHOWN IN PLAN & FRONT
 VIEWS FOR CLARITY.

PLAN VIEW

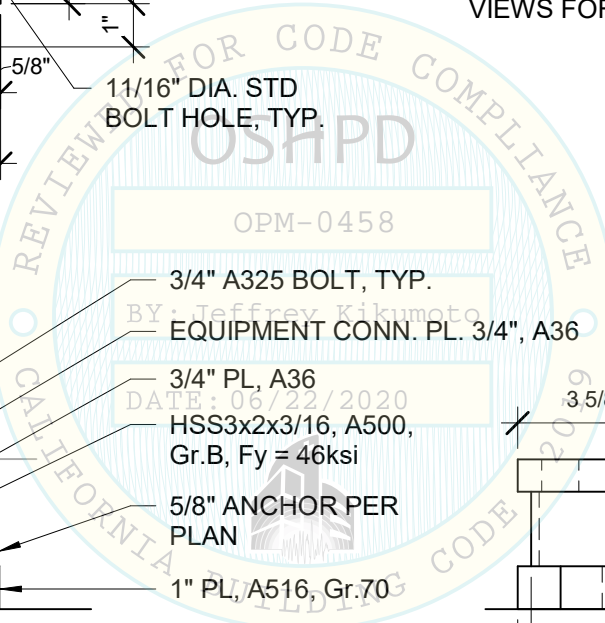


SIDE VIEW



FRONT VIEW

SEISMIC TIEDOWN TYP B





ENGINEERING ONE GROUP, INC.
 Phone: 858.876.8695
 info@engineeringonegroup.com
 www.engineeringonegroup.com

STERIS CORPORATION

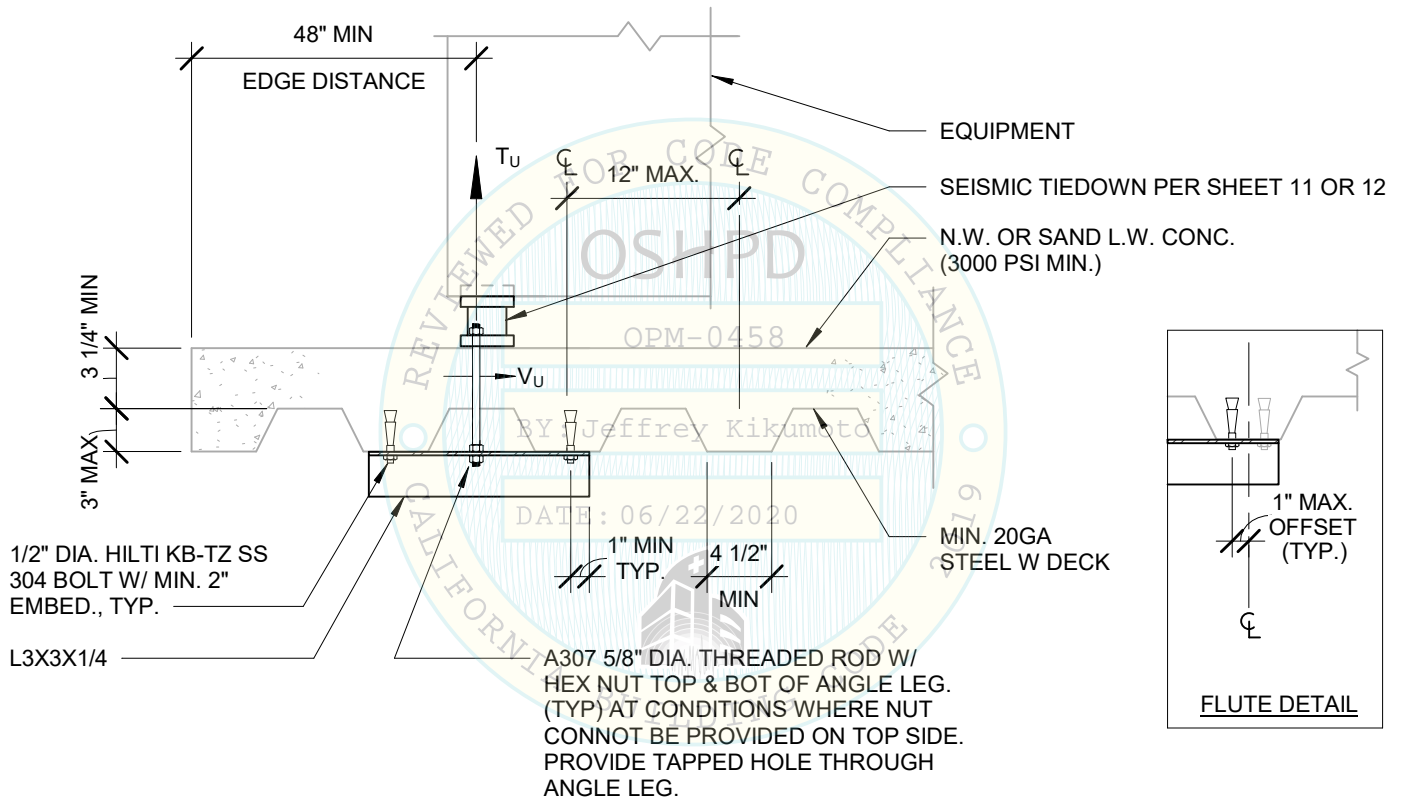
CENTURY/AMSCO 400/430
 LS/EVOLUTION/EVOLUTION L STEAM
 STERILIZER

SHEET 13
 OF 13 SHEETS

Job No.: EOG200001

Date: 05/04/2020

Drawn by: JY



MIN STEEL DECK REQUIREMENTS AND STRUT DETAIL

