



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

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

| | |
|------------------------|--------------------|
| OFFICE USE ONLY | |
| APPLICATION #: | OPM-0105-13 |

OSHPD Preapproval of Manufacturer's Certification (OPM)

Type: New Renewal Update to Pre-CBC 2013 OPA Number: OPA-2095-07

Manufacturer Information

Manufacturer: Ortho Clinical Diagnostics Part of the Johnson & Johnson Family of Companies

Manufacturer's Technical Representative: Frank Koetter

Mailing Address: 100 Indigo Creek Drive, MC00891, Rochester, NY 14626-5101

Telephone: 1-585-453-4003 Email: FKoetter@its.jnj.com

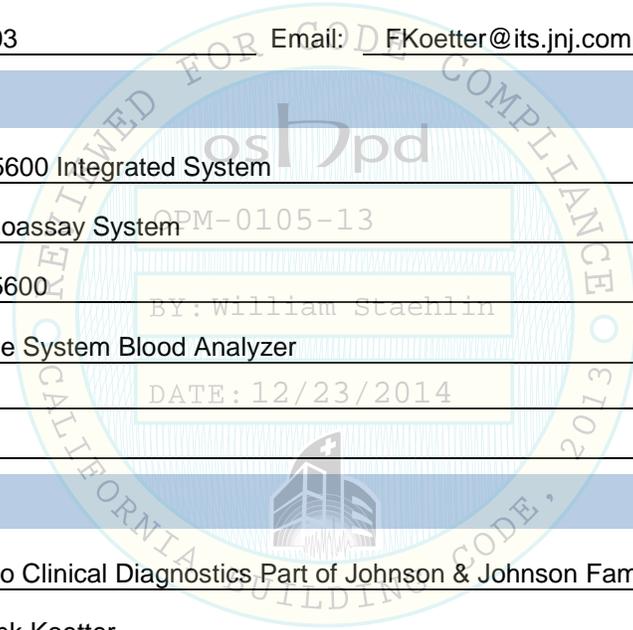
Product Information

Product Name: Vitros 5600 Integrated System

Product Type: Immunoassay System

Product Model Number: Vitros 5600

General Description: Immune System Blood Analyzer



Applicant Information

Applicant Company Name: Ortho Clinical Diagnostics Part of Johnson & Johnson Family of Companies

Contact Person: Frank Koetter

Mailing Address: 100 Indigo Creek Drive, MC00891, Rochester, NY 14626-5101

Telephone: 1-585-453-4003 Email: FKoetter@its.jnj.com

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

Signature of Applicant:  Date: 5/5/14

Title: Group Director, Systems Development & LCM Company Name: Ortho Clinical Diagnostics

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

STATE OF CALIFORNIA – HEALTH AND HUMAN SERVICES AGENCY
OSH-FD-700 (REV 3/13/14)





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

Registered Design Professional Preparing Engineering Recommendations

Company Name: CYS Structural Engineers, Inc.

Name: Dieter T. Siebald California License Number: S.E. #4346

Mailing Address: 2495 Natomas Park Drive, Suite 650, Sacramento, CA 95833

Telephone: 916-920-2020 Email: dieters@cyseng.com

OSHPD Special Seismic Certification Preapproval (OSP)

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

Special Seismic Certification is not preapproved

Certification Method(s)

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

Other* (Please Specify): _____

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

Analysis

Experience Data

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

List of Attachments Supporting the Manufacturer's Certification

Test Report Drawings Calculations Manufacturer's Catalog

Other(s) (Please Specify): _____

OFFICE USE ONLY – OSHPD APPROVAL VALID FOR CBC 2013 ONLY

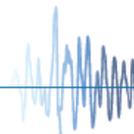
Signature: *William Staehlin* Date: 12/23/2014

Print Name: William Staehlin

Title: SSE

Condition of Approval (if applicable): _____

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



OPM-0105-13
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- NOTES:**
1. THESE DRAWINGS ARE PREPARED FOR ORTHO CLINICAL DIAGNOSTICS, ROCHESTER, NEW YORK.
 2. THE CONTRACTOR AND INSPECTOR OF RECORD SHALL OBTAIN A COPY OF THIS PRE-APPROVAL FROM THE OSHPD PRE-APPROVAL PROGRAMS WEBSITE.
 3. THIS PRE-APPROVAL COVERS THE SUPPORTS AND ATTACHMENTS OF THE COMPONENT (EQUIPMENT) TO THE SUPPORTING STRUCTURE. THE UNIT AND ATTACHMENT HARDWARE ARE SUPPLIED BY ORTHO CLINICAL DIAGNOSTICS. THROUGH BOLTS, UNDER FLOOR HARDWARE AND ATTACHMENTS AT SOFFIT UNDER METAL DECK AND EXPANSION BOLTS SHOWN ON PAGES 13 THRU 18 SHALL BE SUPPLIED AND INSTALLED BY THE CONTRACTOR.



SHEET TITLE: TABLE OF CONTENTS



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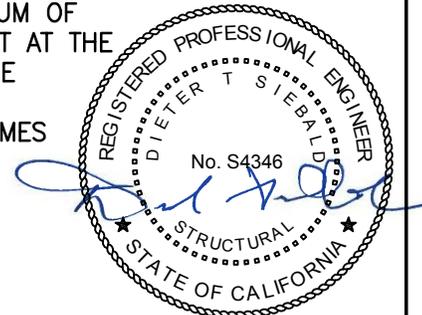
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GENERAL NOTES:

1. THIS OSHPD PRE-APPROVAL OF MANUFACTURER'S CERTIFICATION (OPM) IS BASED ON THE CBC 2013. THE DEMAND (DESIGN FORCES) FOR USE WITH THIS OPM SHALL BE BASED ON THE CBC 2013.
2. IT IS THE RESPONSIBILITY OF THE STRUCTURAL ENGINEER OF RECORD FOR A SITE SPECIFIC PROJECT TO VERIFY:
 - A. THE ADEQUACY OF THE NEW OR EXISTING STRUCTURE TO RESIST THE FORCES AND WEIGHT SPECIFIED FOR EACH EQUIPMENT IN ADDITION TO ALL OTHER LOADS. PROVIDE AND DESIGN SUPPLEMENTARY MEMBERS AS REQUIRED.
 - B. THAT THE FLOOR ANCHORS ARE LOCATED AT AN ADEQUATE DISTANCE FROM ANY SLAB EDGES OR OPENINGS.
 - C. THAT THE FLOOR ANCHORS ARE LOCATED AT AN ADEQUATE DISTANCE FROM ANY NEW OR EXISTING ANCHORS. THE SPACING SHOWN IN THE TEST LOADS TABLE ON PAGE 3 IS THE REQUIRED MINIMUM SPACING OF THE 1/2" & 5/8" DIAMETER ANCHOR BOLTS. THE REQUIRED SPACING FROM ANCHORS OF OTHER DIAMETERS AND EMBEDMENTS MAY VARY AND SHALL BE EVALUATED BY THE SEOR.
 - D. THAT THE INSTALLATION IS IN CONFORMANCE WITH THE CBC 2013 AND WITH THE DETAILS SHOWN IN THIS PRE-APPROVAL.
 - E. THAT THE ACTUAL EQUIPMENT'S WEIGHT, CENTER OF GRAVITY (CG) LOCATION, ANCHOR LOCATIONS, ANCHOR DETAILS, AND THE MATERIAL AND GAGE OF THE EQUIPMENT WHERE ATTACHMENTS ARE MADE, AGREE WITH THE INFORMATION SHOWN ON THE PRE-APPROVAL DOCUMENTS.
 - F. THAT THE PROJECT SPECIFIC VALUES OF S_{DS} & z/h RESULT IN SEISMIC FORCES (E_h , E_v) THAT DO NOT EXCEED THE VALUES IN THE DETAILS.
- 3A. EXPANSION ANCHORS INSTALLED IN NORMAL WEIGHT OR SAND-LIGHTWEIGHT CONCRETE SHALL BE CARBON STEEL HILTI KB-TZ EXPANSION ANCHORS COMPLYING WITH ESR-1917 REISSUED MAY 1, 2013.
- B. INSTALLATION: INSTALL THE EXPANSION ANCHORS IN ACCORDANCE WITH THE REQUIREMENTS GIVEN IN THE ICC EVALUATION REPORT FOR THE SPECIFIC ANCHOR AND THE PARAMETERS GIVEN IN THE TABLE ON PAGE 3.
- C. JOB TESTING: FOR VERIFYING SATISFACTORY INSTALLATION WORKMANSHIP, PERFORM JOB SITE TESTING IN ACCORDANCE WITH THE TENSION LOAD TABLE PROVIDED IN THIS DOCUMENT. TEST 50% OF THE INSTALLED ANCHORS. THE TEST LOAD MAY BE APPLIED BY ANY METHOD THAT WILL EFFECTIVELY MEASURE THE TENSION IN THE ANCHOR SUCH AS DIRECT PULL WITH A HYDRAULIC JACK OR CALIBRATED SPRING LOADING DEVICES OR CALIBRATED TORQUE WRENCH METHOD. ALL TESTS SHALL BE CONDUCTED IN THE PRESENCE OF THE INSPECTOR OF RECORD. REPORT OF TEST RESULTS SHALL BE SUBMITTED TO OSHPD. IF ANY ANCHOR FAILS THE TEST, TEST ALL ANCHORS. THE TEST SHALL BE PERFORMED 24 HOURS OR MORE AFTER INSTALLATION. TESTING MAY BE DONE PRIOR TO EQUIPMENT INSTALLATION. ALSO REFER TO CBC 1913A.7 "FIELD TESTS FOR POST-INSTALLED ANCHORS IN CONCRETE".
- D. FAILURE/ACCEPTANCE CRITERIA: THE FOLLOWING CRITERIA APPLY FOR THE ACCEPTANCE OF INSTALLED ANCHORS:
 - HYDRAULIC RAM METHOD: APPLY AND HOLD TEST LOAD FOR A MINIMUM OF 15 SECONDS. THE ANCHOR SHOULD HAVE NO OBSERVABLE MOVEMENT AT THE APPLICABLE TEST LOAD WHERE WASHERS ARE USED. FOR WEDGE TYPE ANCHORS, SUCH AS HILTI KB-TZ, A PRACTICAL WAY TO DETERMINE OBSERVABLE MOVEMENT IS THAT THE WASHER UNDER THE NUT BECOMES LOOSE.
 - TORQUE WRENCH METHOD: THE APPLICABLE TEST TORQUE MUST BE REACHED WITHIN THE FOLLOWING LIMITS: WEDGE TYPE: ONE-HALF (1/2) TURN OF THE NUT.



SHEET TITLE: GENERAL NOTES



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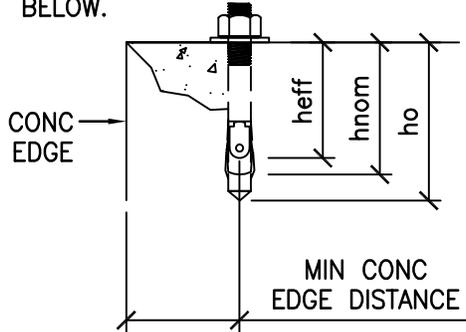
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GENERAL NOTES CONTINUED:

3E. TEST VALUES: APPLY TEST LOADS TO ANCHORS WITHOUT REMOVING THE NUT IF POSSIBLE, SEE TABLE BELOW.



| ANCHOR DIA (INCH) da | INSTALLATION EMBED (INCH) hnom | EFFECTIVE EMBED (INCH) hef | HOLE DEPTH (INCH) ho | MIN CONC THICKNESS (INCH) h _{min} | MIN CONC EDGE DISTANCE (INCH) | MIN AB SPACING (INCH) | TEST LOAD | | CONDITION OF ANCHORAGE |
|-------------------------|-----------------------------------|-------------------------------|-------------------------|---|-------------------------------|-----------------------|--------------------|-----------------|------------------------|
| | | | | | | | TENSION LOAD (LBS) | TORQUE (FT-LBS) | |
| 5/8 | 4 7/16 | 4 | 4 3/4 | 6 | 16 | 3 | 4400 | 60 | CASE 2 |
| 1/2 | 3 5/8 | 3 1/4 | 4 | 6 | 30 | 3 | 3015 | 40 | CASE 3 |

4. BOLTS THROUGH CONCRETE ON METAL DECK:

- A. BOLTS SHALL BE TORQUED BY 3/4 TURN OF THE NUTS AFTER SNUG TIGHT (THE SNUG TIGHT CONDITION IS DEFINED AS THE TIGHTNESS REQUIRED TO BRING THE CONNECTED PLIES INTO FIRM CONTACT) CONDITION IS ACHIEVED, UNLESS NOTED OTHERWISE.
- B. THROUGH BOLT HOLES SHALL BE 1/16" LARGER THAN BOLT SIZE (HOLE SIZE = BOLT SIZE + 1/16")
- C. THROUGH BOLTS IN CONCRETE SHALL RECEIVE SPECIAL INSPECTION & TESTING (THROUGH BOLTS WITH STEEL TO STEEL CONNECTION IN TENSION DO NOT REQUIRE TESTING) IN ACCORDANCE WITH REQUIREMENTS FOR POST-INSTALLED ANCHORS.

5. SCREW ANCHORS TO BOTTOM OF CONCRETE FILL OVER METAL DECK:

- A. HILTI KH-EZ (ICC ESR-3027) TENSION TEST LOAD FOR CASE 1.

| ANCHOR DIA (INCH) da | INSTALLATION EMBED (INCH) hnom | EFFECTIVE EMBED (INCH) hef | HOLE DEPTH (INCH) ho | MIN CONC THICKNESS (INCH) h _{min} | MIN CONC EDGE DISTANCE (INCH) | MIN AB SPACING (INCH) | TENSION TEST LOAD (LBS) |
|-------------------------|-----------------------------------|-------------------------------|-------------------------|---|-------------------------------|-----------------------|-------------------------|
| 1/4 | 1 5/8 | 1.18 | 2 | 3/4 | 1 1/4* | 10* | 400 |

* SEE PAGE 14 OF 18 IN THIS OPM.

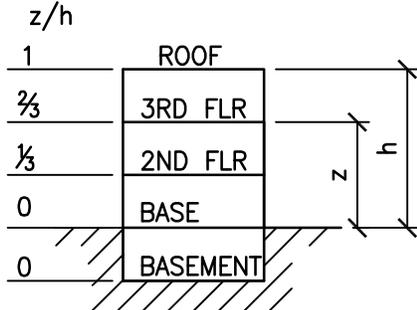


SHEET TITLE: GENERAL NOTES (CONTINUED)

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|  <p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p> | <p>TEL (916) 920-2020 www.cyseng.com</p> | <p>Job No: 13072.01 Date: 12/19/2014 Page: 3 of 18</p> |
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GENERAL NOTES CONTINUED:

6. THREE (3) CASES OF ANCHORAGE ARE SPECIFIED AND PRESENTED IN THIS PRE-APPROVAL:



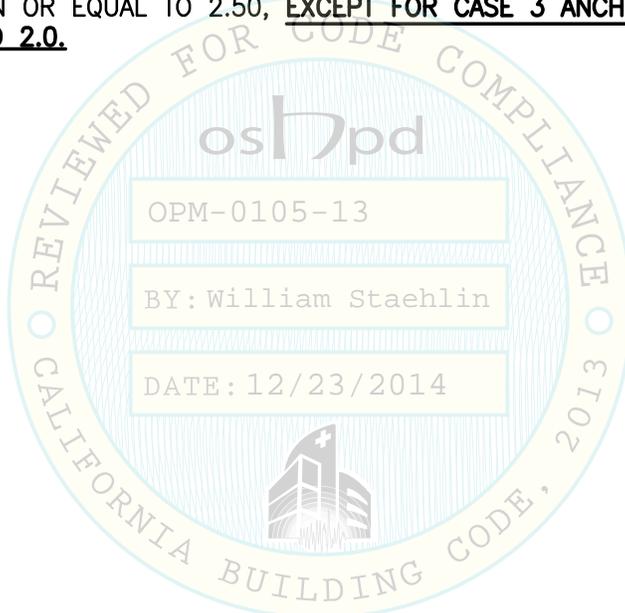
BUILDING ELEVATION

CASE 1: ANCHORAGE DETAILS LOCATED AT UPPER FLOORS ABOVE THE BASE OF A BUILDING ($z/h \leq 1.0$), IT IS ASSUMED THAT THE FLOORS ARE BUILT OF A MINIMUM 3/4" SAND-LIGHTWEIGHT CONCRETE TOPPING OVER METAL DECK ($f'c = 3000$ PSI, MINIMUM).

CASE 2: ANCHORAGE DETAILS LOCATED AT OR BELOW THE BASE OF A BUILDING ($z/h = 0$). THE FLOORS ARE ASSUMED TO BE BUILT OF A MINIMUM 6" NORMAL-WEIGHT CONCRETE SLAB ($f'c = 4000$ PSI, MINIMUM).

CASE 3: ANCHORAGE DETAILS LOCATED AT OR BELOW THE BASE OF THE BUILDING ($z/h = 0$). THE FLOORS ARE ASSUMED TO BE BUILT OF A MINIMUM 6" NORMAL-WEIGHT CONCRETE SLAB ($f'c = 3000$ PSI, MINIMUM). **FOR THIS CASE THE MAXIMUM S_{DS} IS LIMITED TO 2.0.**

7. THIS PRE-APPROVAL MAY BE USED AT ANY GEOGRAPHICAL LOCATION IN THE STATE OF CALIFORNIA. WHERE S_{DS} IS LESS THAN OR EQUAL TO 2.50, **EXCEPT FOR CASE 3 ANCHORAGE WHERE S_{DS} MUST BE LESS THAN OR EQUAL TO 2.0.**



SHEET TITLE: DESIGN CRITERIA



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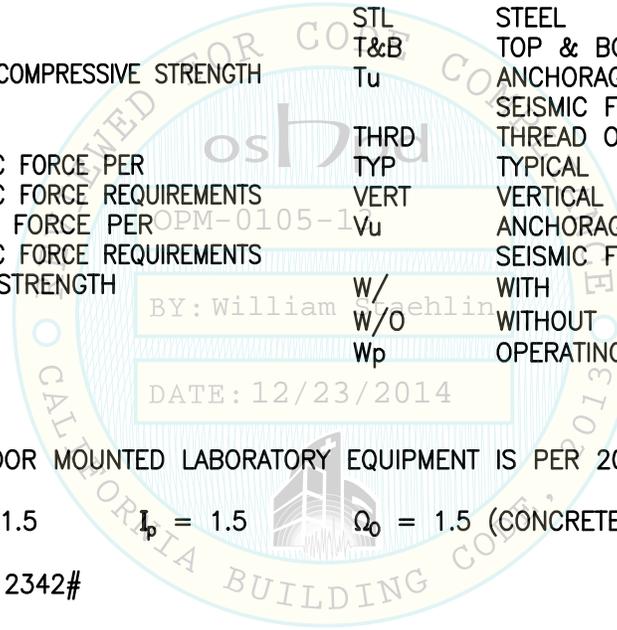
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EQUIPMENT ATTACHMENT

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ABBREVIATIONS:

| | | | |
|---------|--|---------|--|
| AB | ANCHOR BOLTS | IN (") | INCH |
| ABV | ABOVE | KSI | KIPS PER SQUARE INCH |
| ADJ | ADJACENT | LRFD | LOAD AND RESISTANCE FACTOR DESIGN |
| ASTM | AMERICAN SOCIETY FOR TESTING & MATERIALS | LWC | LIGHT WEIGHT CONCRETE |
| BLW | BELOW | MAX | MAXIMUM |
| BOTT | BOTTOM | MFR | MANUFACTURER |
| CBC | CALIFORNIA BUILDING CODE | MIN | MINIMUM |
| CG | CENTER OF GRAVITY | MTL | METAL |
| ☐ | CENTERLINE | NO. (#) | NUMBER OR POUNDS |
| COORD | COORDINATE | NWC | NORMAL WEIGHT CONCRETE |
| CONC | CONCRETE | OSHPD | OFFICE OF STATEWIDE HEALTH PLANNING & DEVELOPMENT |
| DBL | DOUBLE | PG(S) | PAGE(S) |
| DIA (φ) | DIAMETER | ☐ | PLATE |
| (E) | EXISTING CONDITION | PSI | POUNDS PER SQUARE INCH |
| EA | EACH | SEOR | STRUCTURAL ENGINEER OF RECORD |
| ELEV | ELEVATION | STL | STEEL |
| EMBED | EMBEDMENT | T&B | TOP & BOTTOM |
| EQUIP | EQUIPMENT | Tu | ANCHORAGE TENSION REACTION DUE TO SEISMIC FORCE AT LRFD |
| f'c | MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF CONCRETE | THRD | THREAD OR THREADED |
| FLR | FLOOR | TYP | TYPICAL |
| Fp | HORIZONTAL SEISMIC FORCE PER ASCE 7-10 SEISMIC FORCE REQUIREMENTS | VERT | VERTICAL |
| Fv | VERTICAL SEISMIC FORCE PER ASCE 7-10 SEISMIC FORCE REQUIREMENTS | Vu | ANCHORAGE SHEAR REACTION DUE TO SEISMIC FORCE AT LRFD |
| Fy | SPECIFIED YIELD STRENGTH OF STEEL, KSI | W/ | WITH |
| GA | GAUGE | W/O | WITHOUT |
| | | Wp | OPERATING WEIGHT |



DESIGN CRITERIA

ANCHORAGE DESIGN FOR FLOOR MOUNTED LABORATORY EQUIPMENT IS PER 2013 CBC AT LRFD LEVEL FORCES

$$q_p = 1.0 \quad R_p = 1.5 \quad I_p = 1.5 \quad \Omega_0 = 1.5 \text{ (CONCRETE ANCHORS)}$$

$$\text{VITROS 5600: } W_p = 2342\#$$

FOR CASE 1 – UPPER FLOORS ABOVE THE BASE, $z/h \leq 1.0$

$$S_{ps} = 2.50 \quad F_p = 1.80 W_p \quad F_v = 0.50 W_p$$

FOR CASE 2 – SLAB AT OR BELOW BASE, $z/h = 0$

$$S_{ps} = 2.50 \quad F_p = 1.125 W_p \quad F_v = 0.50 W_p$$

FOR CASE 3 – SLAB AT OR BELOW BASE, $z/h = 0$

$$S_{ps} = 2.0 \quad F_p = 0.90 W_p \quad F_v = 0.40 W_p$$



SHEET TITLE: ABBREVIATIONS



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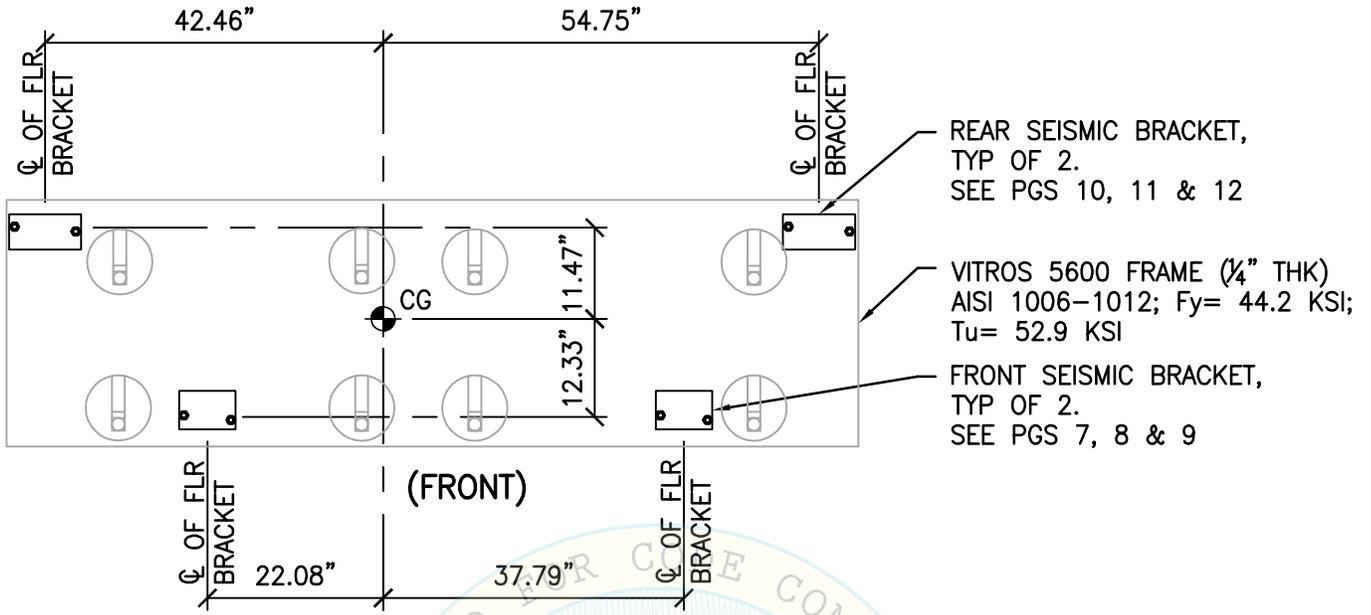
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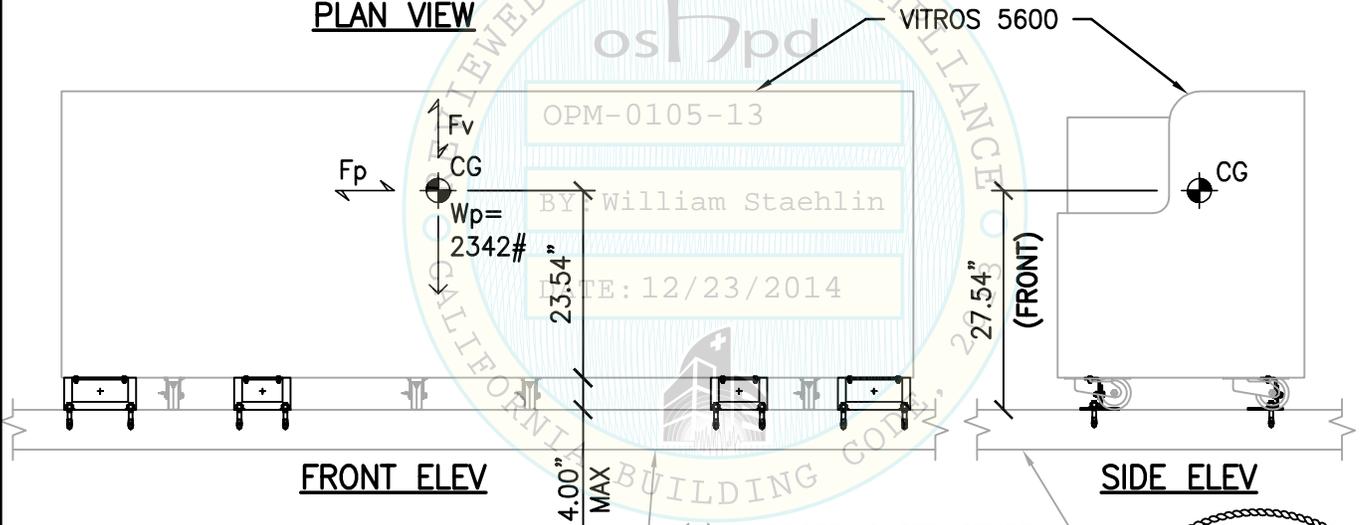
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PLAN VIEW



(E) SUPPORTING STRUCTURE.
SEE PGS 13, 14, 17 OR 18
AS APPLICABLE



SHEET TITLE: PLAN & ELEVATION



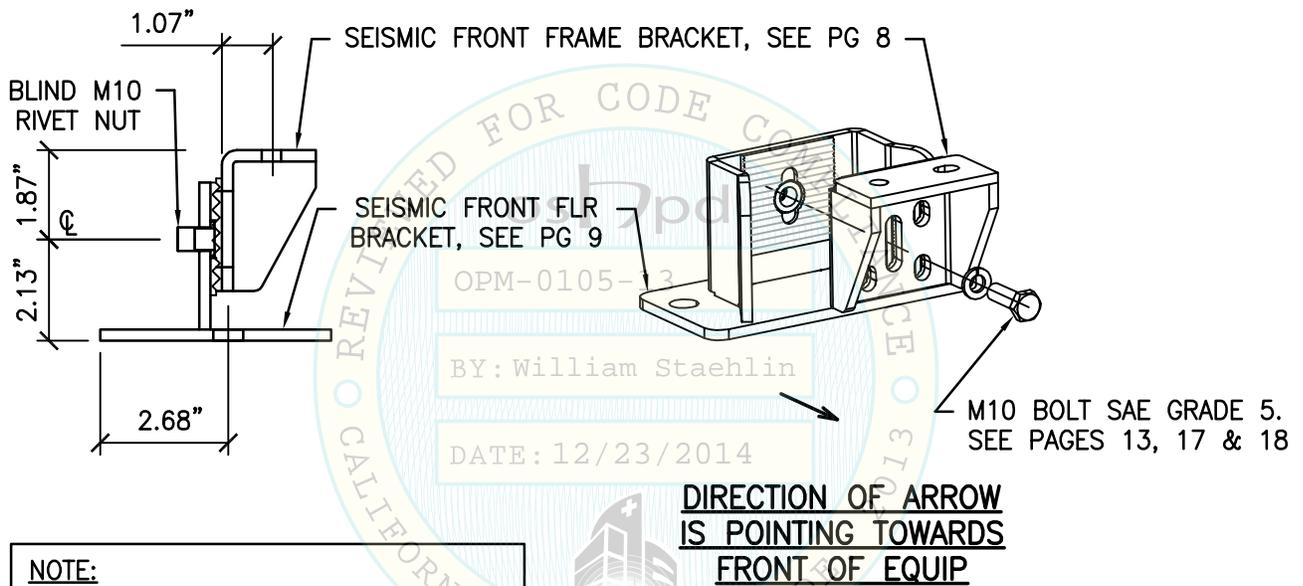
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NOTE:
BRACKET MATERIAL IS AISI 1006/1012
LOW CARBON STEEL (Fy = 44 KSI).



SHEET TITLE: FRONT BRACKET ASSEMBLY DETAIL



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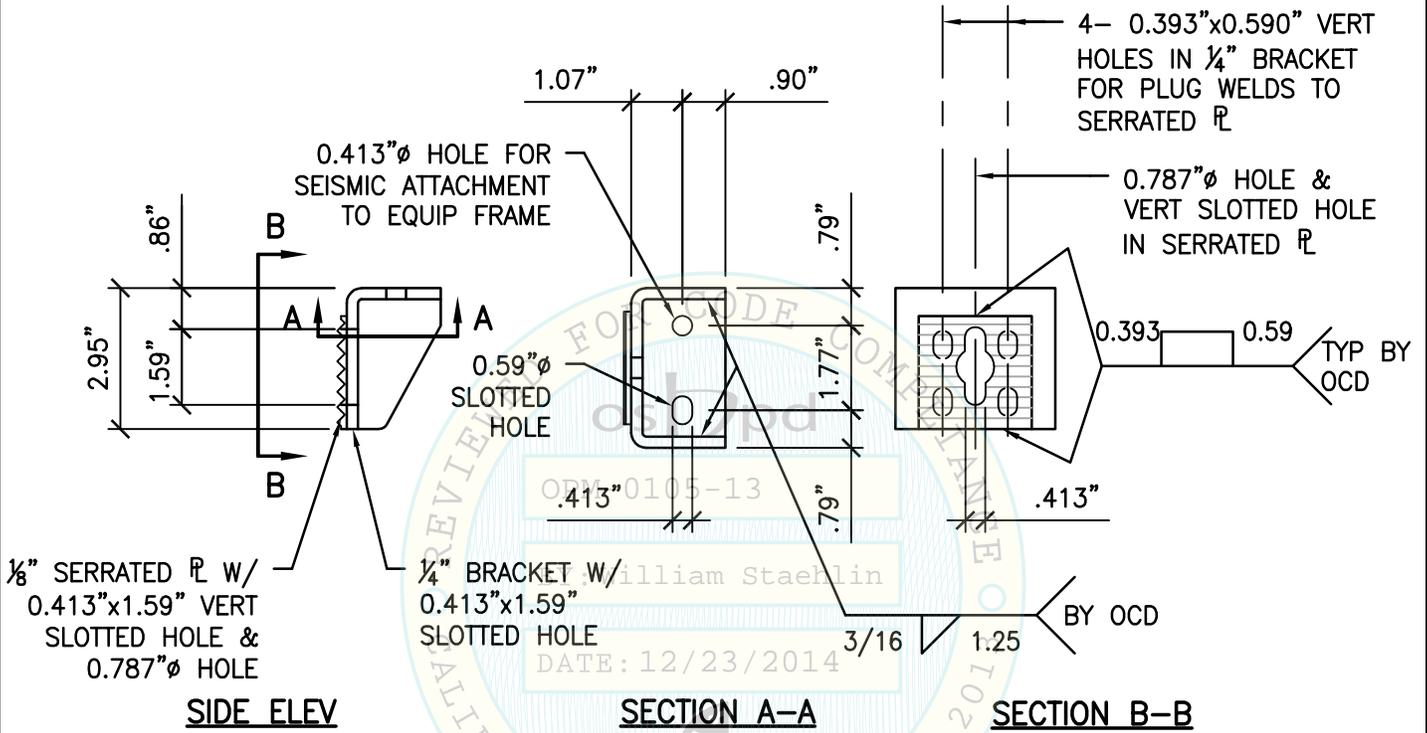
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SHEET TITLE: FRONT FRAME BRACKET DETAIL



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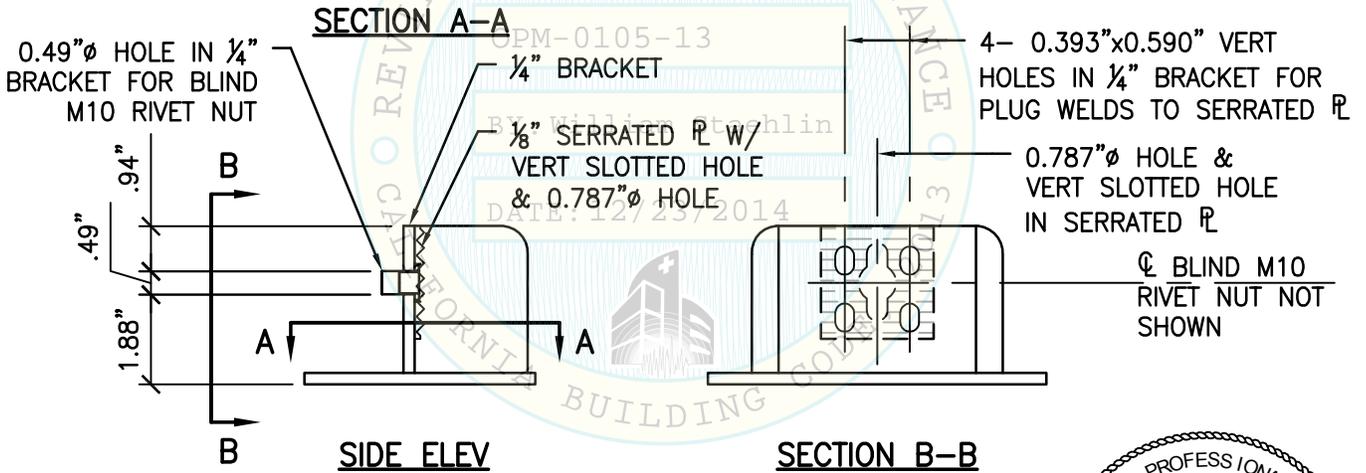
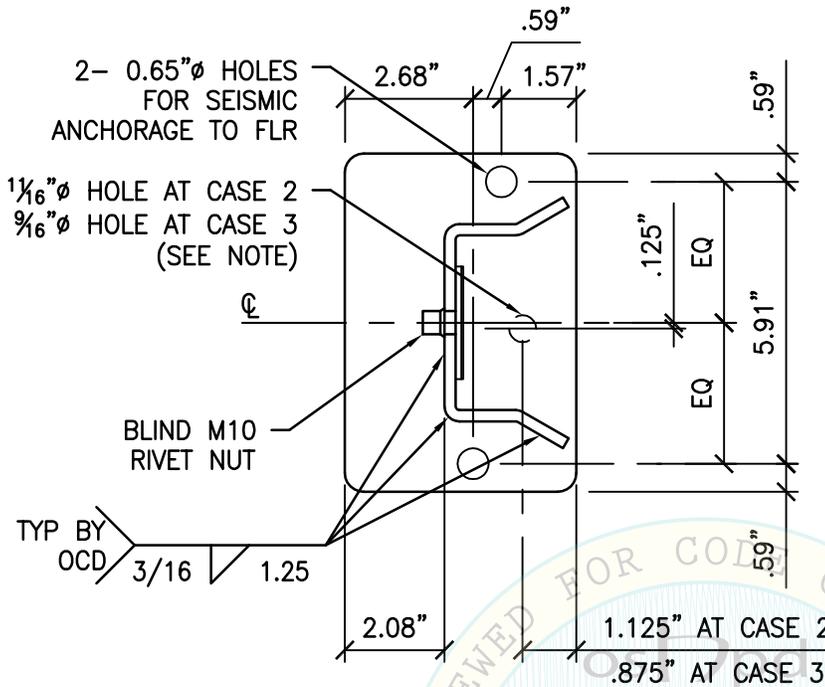
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VITROS 5600 INTEGRATED SYSTEM
EQUIPMENT ATTACHMENT

Ortho Clinical Diagnostics

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NOTE:
FOR CASE 2 & CASE 3, ADDITIONAL ANCHORAGE HOLE MUST BE DRILLED THRU BRACKET BY THE CONTRACTOR TO ACCOMMODATE AN ADDITIONAL ANCHOR. CONTRACTOR IS RESPONSIBLE FOR REPLACING BRACKET IF IT IS DAMAGED DURING DRILLING.



SHEET TITLE: FRONT FLOOR BRACKET DETAIL



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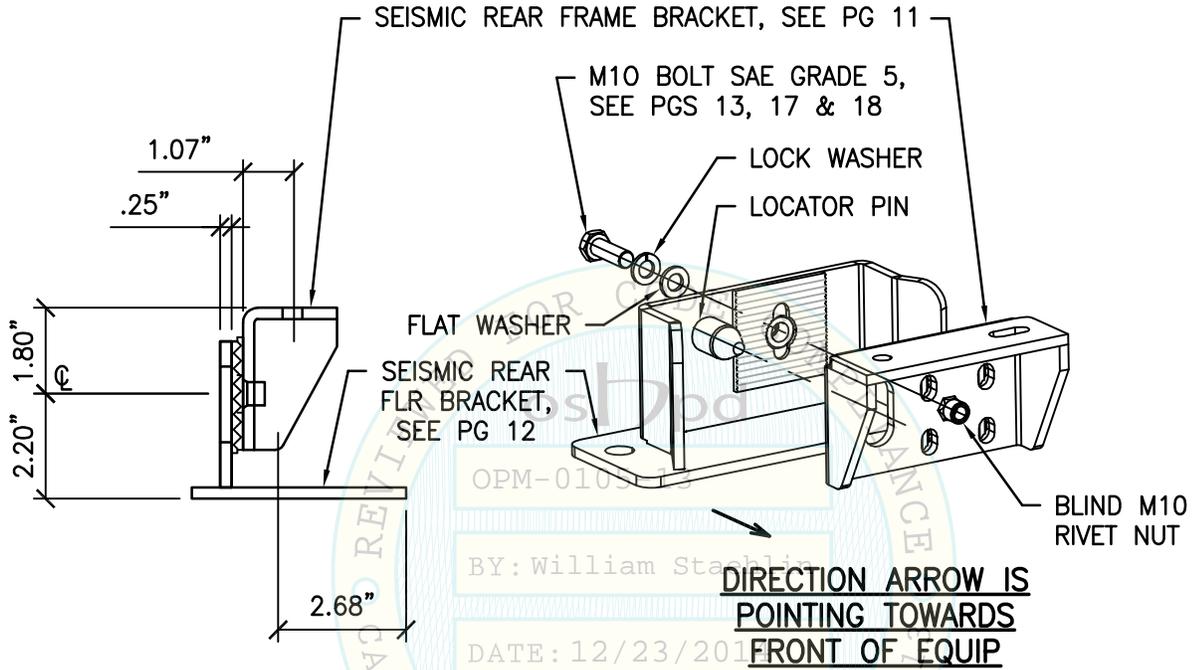
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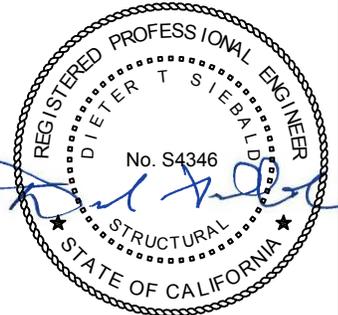
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NOTE:
ONLY ONE REAR BRACKET
ASSEMBLY HAS A LOCATOR PIN.



NOTE:
BRACKET MATERIAL IS AISI 1006/1012
LOW CARBON STEEL (Fy = 44 KSI).



SHEET TITLE: REAR BRACKET ASSEMBLY DETAIL



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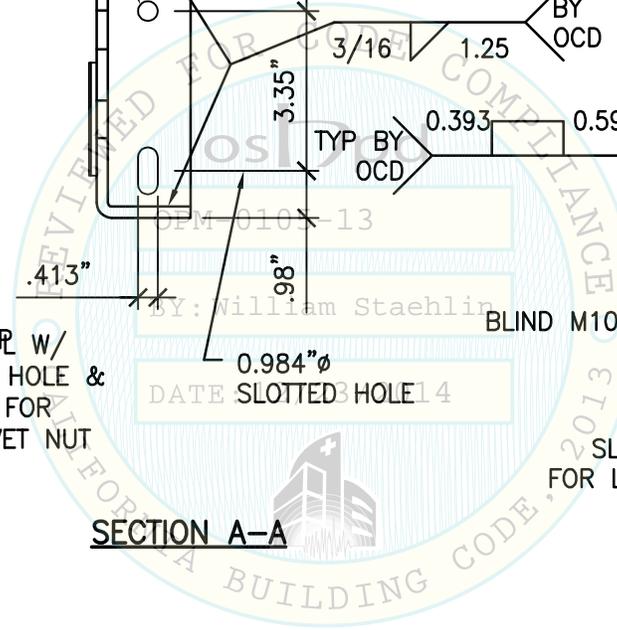
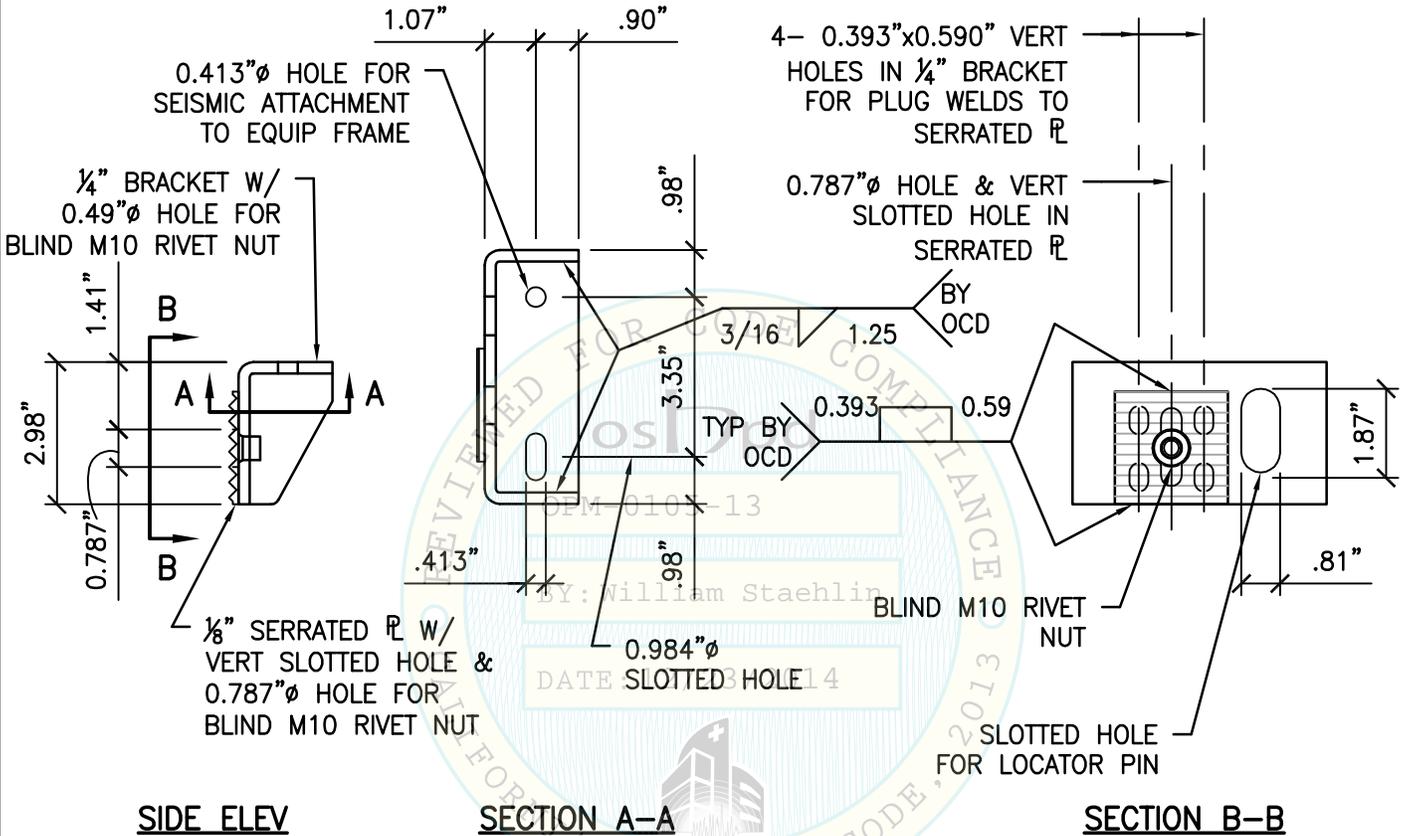
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SHEET TITLE: REAR FRAME BRACKET DETAIL



CYS STRUCTURAL ENGINEERS, INC.

2495 NATOMAS PARK DRIVE, SUITE 650
SACRAMENTO, CA 95833

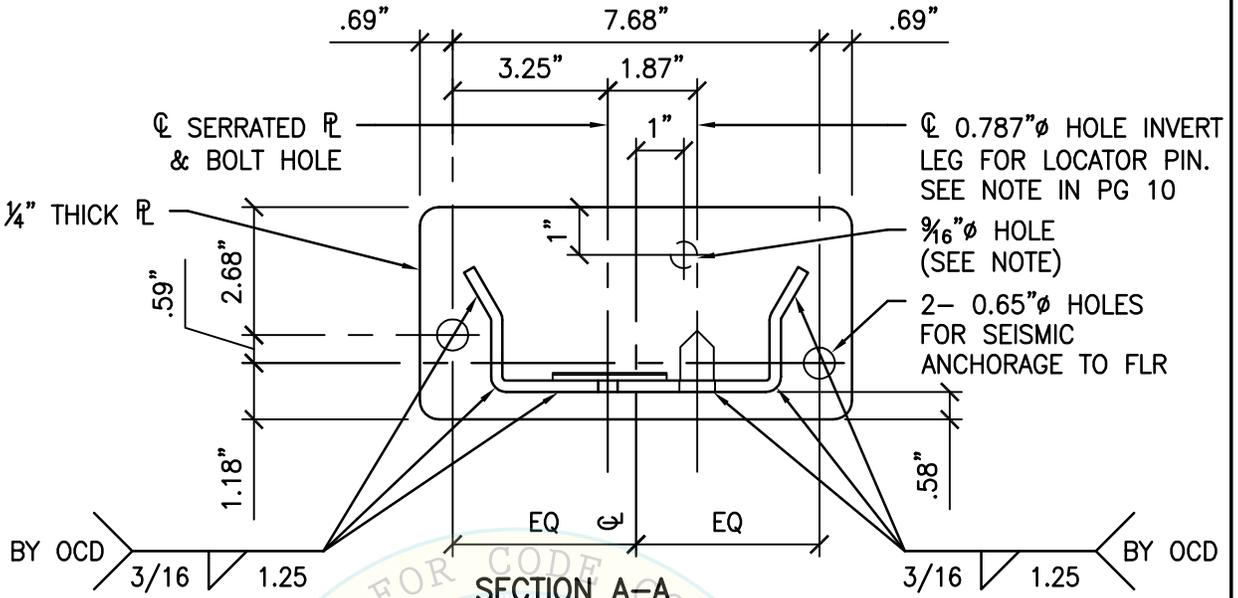
TEL (916) 920-2020
www.cyseng.com

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| Job No: | 13072.01 |
| Date: | 12/19/2014 |
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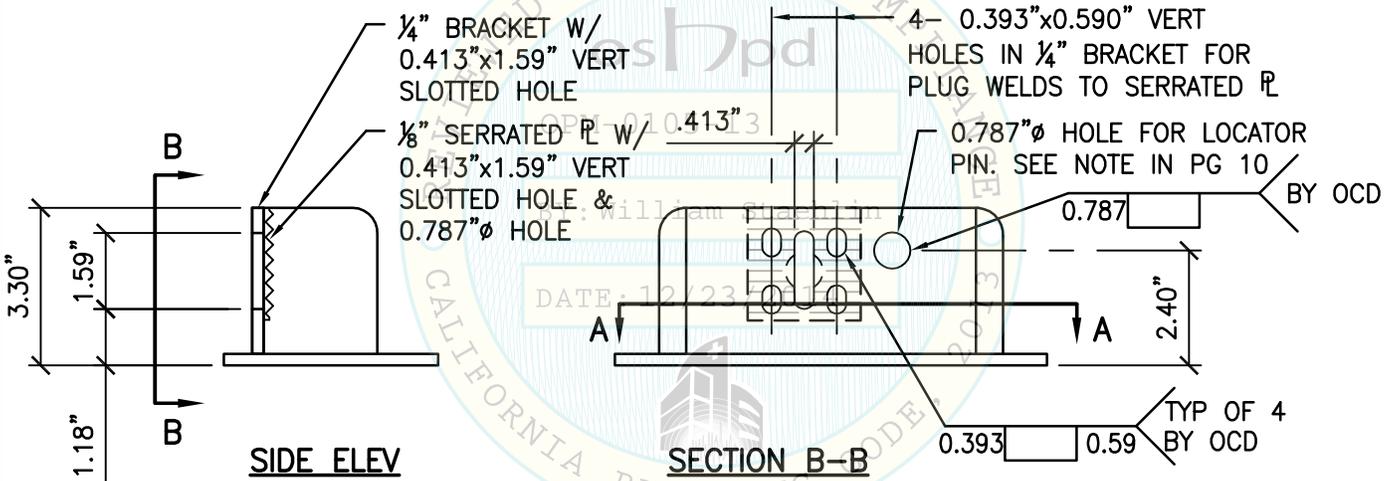
VITROS 5600 INTEGRATED SYSTEM
EQUIPMENT ATTACHMENT

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SECTION A-A



SIDE ELEV

SECTION B-B



SHEET TITLE: REAR FLOOR BRACKET DETAIL



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VITROS 5600 INTEGRATED SYSTEM
EQUIPMENT ATTACHMENT

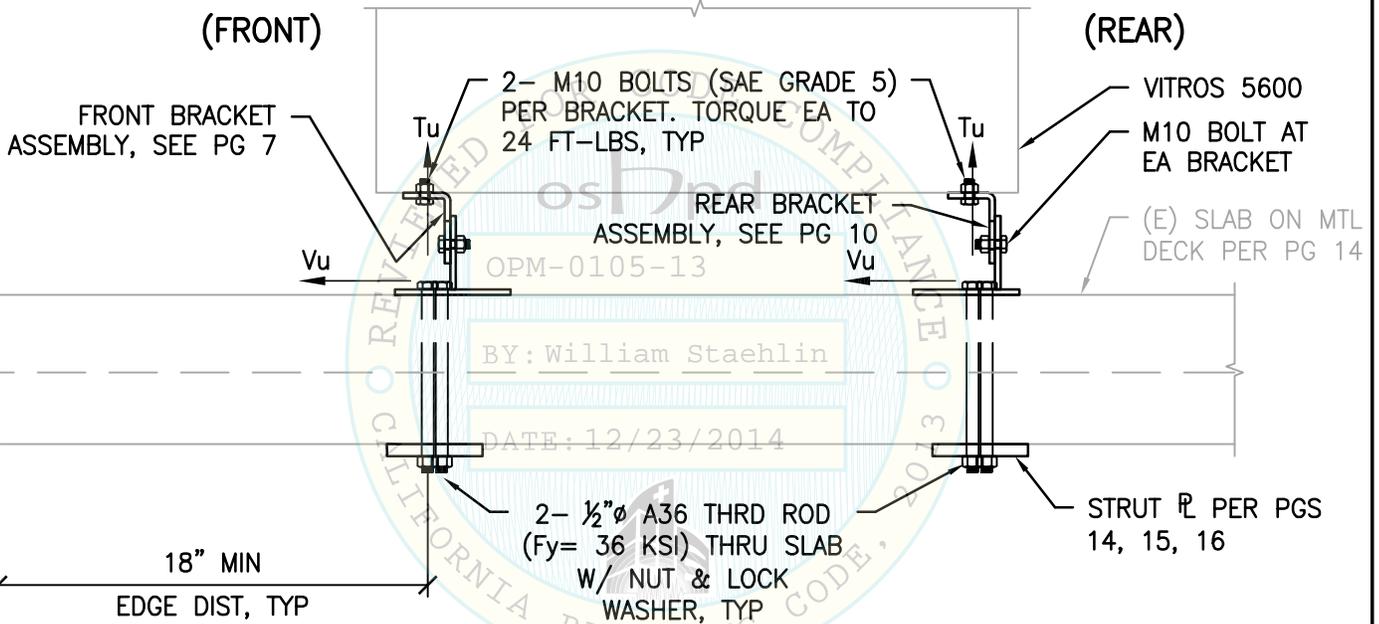
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MAX ANCHOR FORCES AT LRFD AT EACH ANCHOR BOLT

| | FRONT BRACKET | | REAR BRACKET | |
|--|---------------|-------|--------------|-------|
| | Tu | Vu | Tu | Vu |
| CASE 1 z/h ≤ 1.0 W/O Ω _o | 2184# | 602# | 3828# | 658# |
| CASE 1 z/h ≤ 1.0 W/ Ω _o | 2184# | 1505# | 3828# | 1645# |

(Ω_o = 1.5) OVERSTRENGTH FACTOR
MUST BE APPLIED TO SHEAR
FORCE ONLY



SHEET TITLE: ATTACHMENT DETAIL
TO CONCRETE FILL OVER METAL DECK

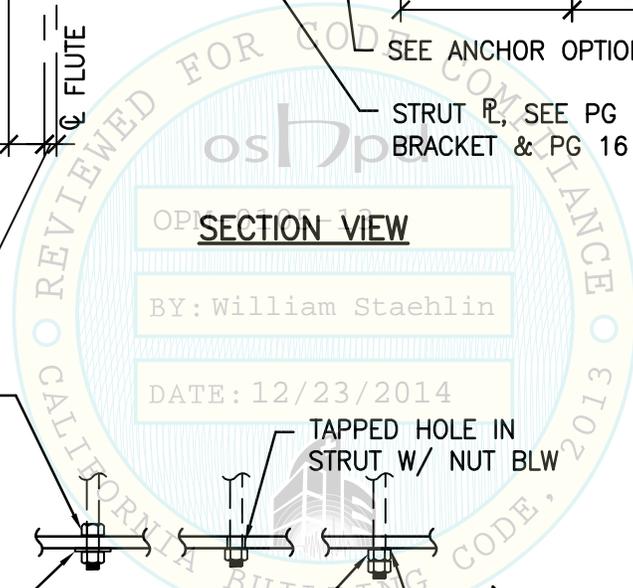
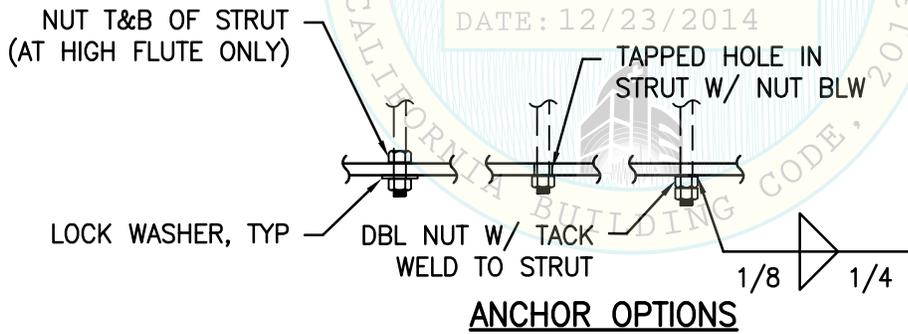
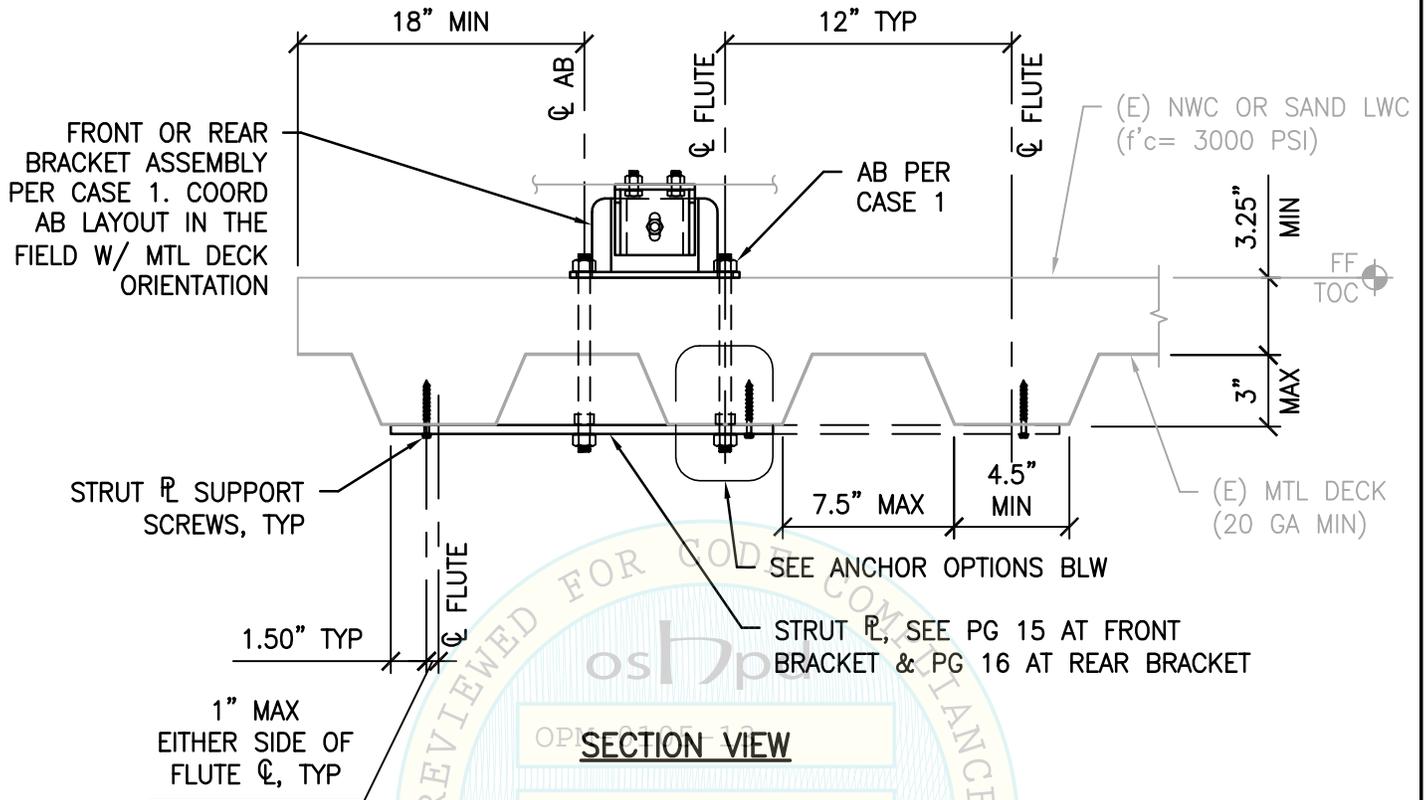
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|  <p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p> | <p>TEL (916) 920-2020 www.cyseng.com</p> | Job No: 13072.01 |
| | | Date: 12/19/2014 |
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VITROS 5600 INTEGRATED SYSTEM
EQUIPMENT ATTACHMENT

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SHEET TITLE: ATTACHMENT DETAIL
TO CONCRETE FILL OVER METAL DECK

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|  <p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p> | TEL (916) 920-2020 www.cyseng.com | Job No: 13072.01 Date: 12/19/2014 Page: 14 of 18 |
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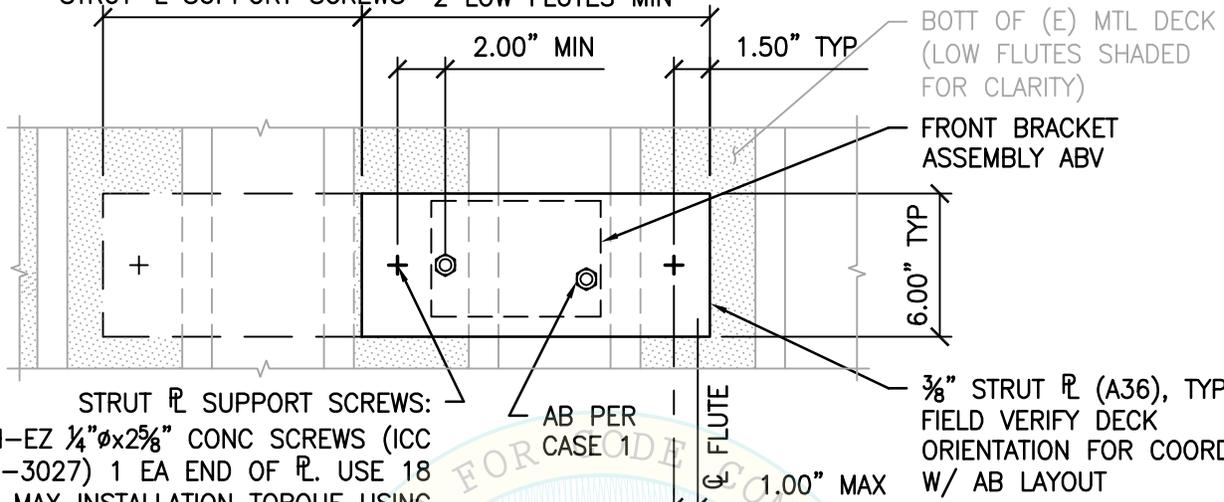
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VITROS 5600 INTEGRATED SYSTEM
EQUIPMENT ATTACHMENT

Ortho Clinical Diagnostics

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EXTEND STRUT LENGTH TO
NEXT ADJ LOW FLUTE IF AB'S
ARE LESS THAN 2" FROM
STRUT \bar{r} SUPPORT SCREWS
LENGTH SHALL
ENGAGE
2 LOW FLUTES MIN



BOTT OF (E) MTL DECK
(LOW FLUTES SHADED
FOR CLARITY)

FRONT BRACKET
ASSEMBLY ABV

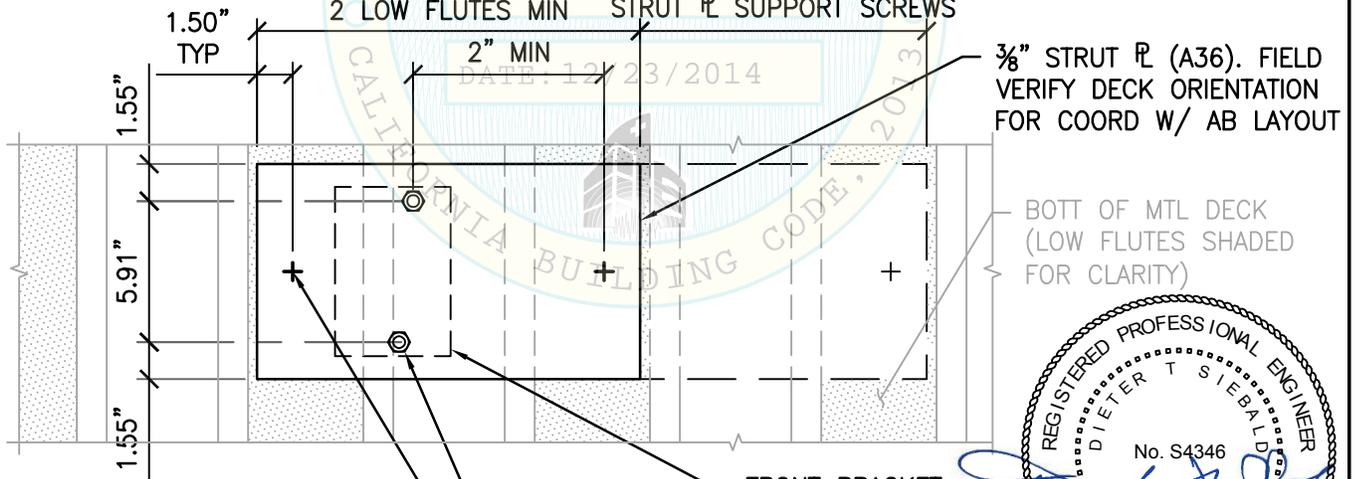
$\frac{3}{8}$ " STRUT \bar{r} (A36), TYP.
FIELD VERIFY DECK
ORIENTATION FOR COORD
W/ AB LAYOUT

STRUT \bar{r} SUPPORT SCREWS:
HILTI KH-EZ $\frac{1}{4}$ " ϕ x $2\frac{5}{8}$ " CONC SCREWS (ICC
ESR-3027) 1 EA END OF \bar{r} . USE 18
FT-LBS MAX INSTALLATION TORQUE USING
A CALIBRATED TORQUE WRENCH, TYP

PLAN VIEW

ANCHORS PERPENDICULAR TO FLUTES

EXTEND STRUT LENGTH TO
NEXT ADJ LOW FLUTE IF AB'S
LENGTH SHALL ENGAGE ARE LESS THAN 2" FROM
2 LOW FLUTES MIN STRUT \bar{r} SUPPORT SCREWS



$\frac{3}{8}$ " STRUT \bar{r} (A36). FIELD
VERIFY DECK ORIENTATION
FOR COORD W/ AB LAYOUT

BOTT OF MTL DECK
(LOW FLUTES SHADED
FOR CLARITY)

STRUT \bar{r} SUPPORT SCREWS:
HILTI KH-EZ $\frac{1}{4}$ " ϕ x $2\frac{5}{8}$ " CONC SCREWS
(ICC ESR-3027) 1 EA END OF \bar{r}

PLAN VIEW

ANCHORS PARALLEL TO FLUTES



SHEET TITLE: ATTACHMENT DETAIL
TO CONCRETE FILL OVER METAL DECK



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| Job No: | 13072.01 |
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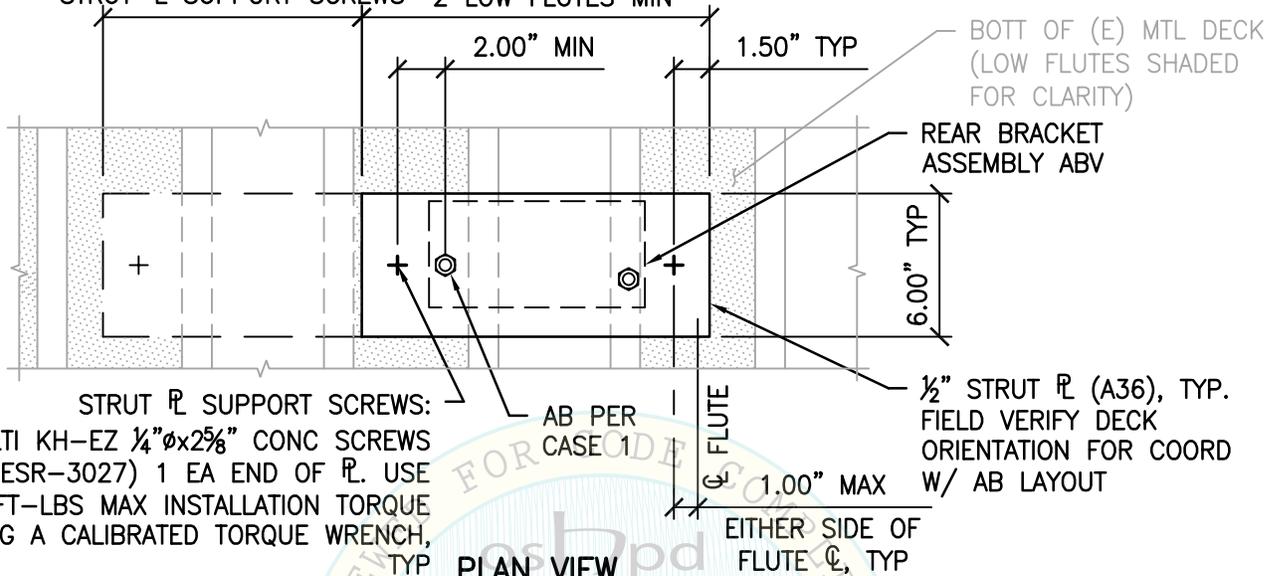
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VITROS 5600 INTEGRATED SYSTEM
EQUIPMENT ATTACHMENT

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EXTEND STRUT LENGTH TO
NEXT ADJ LOW FLUTE IF AB'S
ARE LESS THAN 2" FROM
STRUT \bar{r} SUPPORT SCREWS
LENGTH SHALL
ENGAGE
2 LOW FLUTES MIN

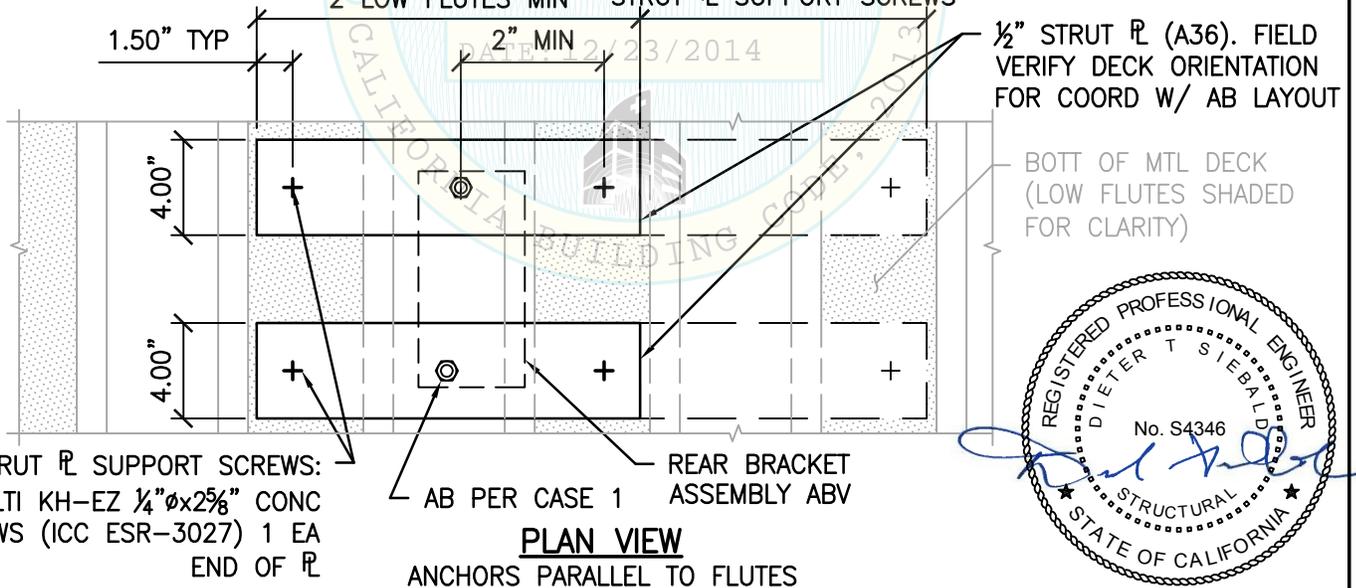


STRUT \bar{r} SUPPORT SCREWS:
HILTI KH-EZ $\frac{1}{4}$ " ϕ x $\frac{5}{8}$ " CONC SCREWS
(ICC ESR-3027) 1 EA END OF \bar{r} . USE
18 FT-LBS MAX INSTALLATION TORQUE
USING A CALIBRATED TORQUE WRENCH,
TYP

PLAN VIEW

ANCHORS PERPENDICULAR TO FLUTES

EXTEND STRUT LENGTH TO
NEXT ADJ LOW FLUTE IF AB'S
LENGTH SHALL ENGAGE ARE LESS THAN 2" FROM
2 LOW FLUTES MIN STRUT \bar{r} SUPPORT SCREWS



STRUT \bar{r} SUPPORT SCREWS:
HILTI KH-EZ $\frac{1}{4}$ " ϕ x $\frac{5}{8}$ " CONC
SCREWS (ICC ESR-3027) 1 EA
END OF \bar{r}

PLAN VIEW

ANCHORS PARALLEL TO FLUTES



SHEET TITLE: ATTACHMENT DETAIL
TO CONCRETE FILL OVER METAL DECK

| | | |
|--|--------------------------------------|--|
|  <p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p> | TEL (916) 920-2020 www.cyseng.com | Job No: 13072.01 Date: 12/19/2014 Page: 16 of 18 |
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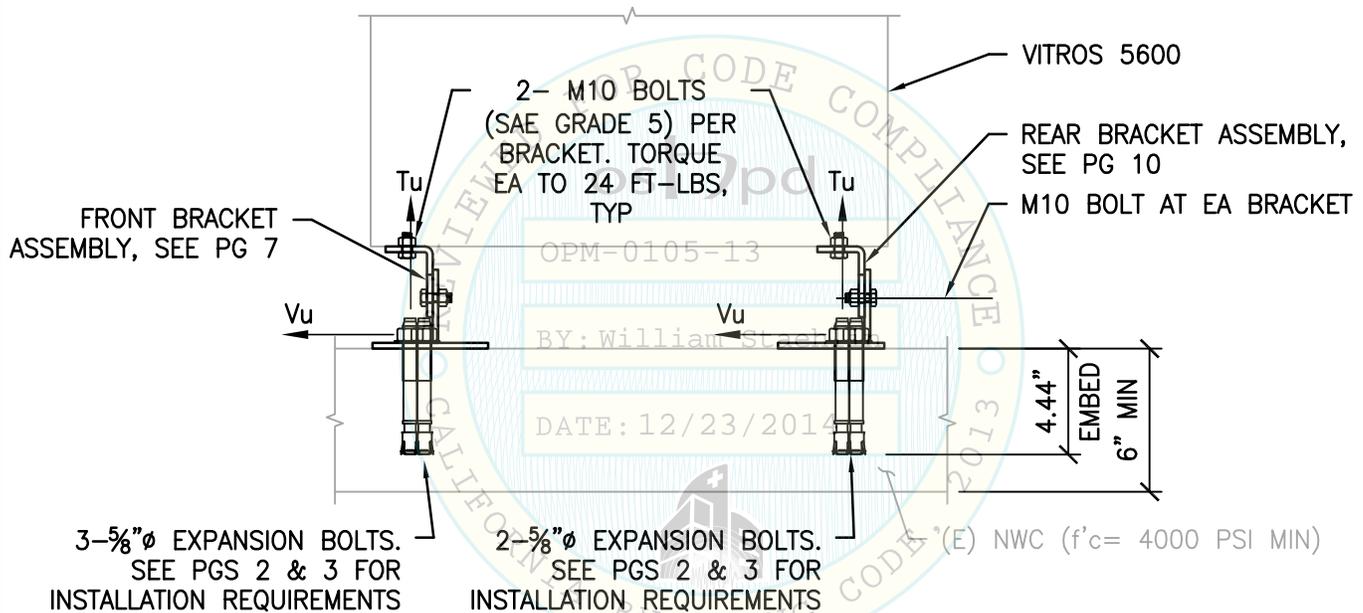
VITROS 5600 INTEGRATED SYSTEM
EQUIPMENT ATTACHMENT

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| MAX ANCHOR FORCES AT LRFD AT EACH ANCHOR BOLT | | | | |
|---|---------------|------|--------------|-------|
| CASE 2 z/h=0 | FRONT BRACKET | | REAR BRACKET | |
| | Tu | Vu | Tu | Vu |
| | 2380# | 639# | 2737# | 1027# |

INCLUDES OVERSTRENGTH FACTOR (Ω_o)



CASE 2



SHEET TITLE: ATTACHMENT DETAIL
TO CONCRETE SLAB



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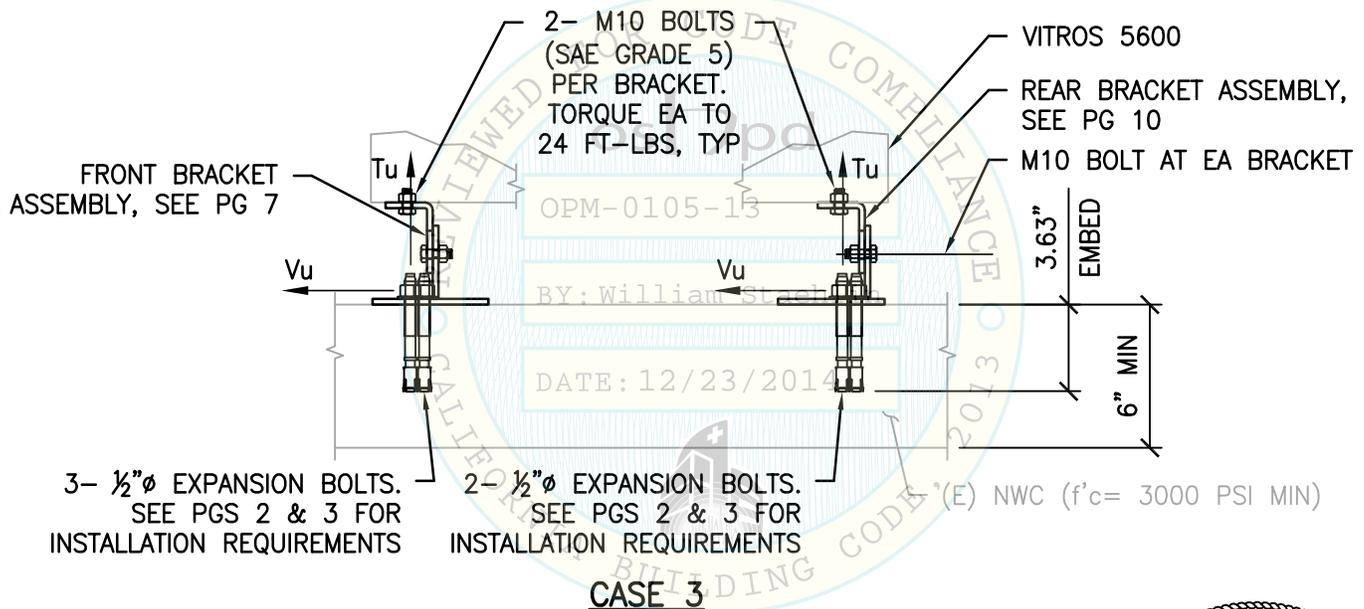
VITROS 5600 INTEGRATED SYSTEM
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| MAX ANCHOR FORCES AT LRFD AT EACH ANCHOR BOLT | | | | |
|---|---------------|------|--------------|------|
| CASE 3 z/h=0 | FRONT BRACKET | | REAR BRACKET | |
| | Tu | Vu | Tu | Vu |
| | 1836# | 509# | 2161# | 821# |

INCLUDES OVERSTRENGTH FACTOR (Ω_o)



NOTE:

THIS ANCHORAGE DETAIL CAN ONLY BE USED AT GEOGRAPHICAL LOCATIONS WHERE S_{ps} IS LESS THAN OR EQUAL TO 2.0.



SHEET TITLE: ATTACHMENT DETAIL
TO CONCRETE SLAB



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