

**I GENERAL**

- THE WORK INCLUDES THE OVERHEAD STRUCTURAL FRAMING TO SUPPORT AN X-RAY UNIT AND THE STRUCTURAL ATTACHMENT OF GUARDRAIL SYSTEM SURROUNDING THE PIT IN THE BIPLANE ROOM (GW11).
- MATERIALS AND WORKMANSHIP TO CONFORM WITH THE 2015 EDITION OF THE INTERNATIONAL BUILDING CODE AND THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.
- DRAWINGS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION. WHERE CONDITIONS ARE NOT SPECIFICALLY INDICATED BUT ARE OF SIMILAR CHARACTER TO DETAILS SHOWN, USE SIMILAR DETAILS OF CONSTRUCTION, SUBJECT TO REVIEW BY THE VA RESIDENT ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE WORK OF ALL TRADES AND FOR CHECKING DIMENSIONS. NOTIFY THE VA RESIDENT ENGINEER OF ANY DISCREPANCIES AND RESOLVE BEFORE PROCEEDING WITH THE WORK.
- INFORMATION SHOWN ON THE DRAWINGS RELATED TO EXISTING CONDITIONS REPRESENTS THE PRESENT KNOWLEDGE, BUT WITHOUT GUARANTEE OF ACCURACY. REPORT CONDITIONS THAT CONFLICT WITH THE CONTRACT DOCUMENTS TO THE VA RESIDENT ENGINEER. DO NOT DEVIATE FROM THE CONTRACT DOCUMENTS WITHOUT WRITTEN DIRECTION FROM THE VA RESIDENT ENGINEER.
- THE OVERHEAD CEILING SPACE CONTAINS MULTIPLE EXISTING OBSTRUCTIONS. THE CONTRACTOR IS RESPONSIBLE FOR MAKING A PRE-BID SURVEY TO BECOME FAMILIARIZED WITH EXISTING CONDITIONS. INSTALLING SUPPORTS AROUND EXISTING OBSTRUCTIONS SHALL BE DONE AT NO ADDITIONAL COST TO THE GOVERNMENT.
- DO NOT SCALE THE DRAWINGS.
- PROVIDE MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES INCLUDE, BUT MAY NOT BE LIMITED TO, BRACING AND SHORING FOR LOADS DURING CONSTRUCTION. RETAIN A REGISTERED CIVIL ENGINEER WHO IS PROPERLY QUALIFIED TO DESIGN BRACING, SHORING, ETC. VISITS TO THE SITE BY THE STRUCTURAL ENGINEER WILL NOT INCLUDE OBSERVATION OF THE ABOVE NOTED ITEMS.

**II MECHANICAL ANCHORS**

- EXPANSION OR WEDGE ANCHORS INTO CONCRETE: ANCHORS MUST HAVE PASSED THE SIMULATED SEISMIC TEST OF ACI 308.2 FOR INSTALLATION INTO CRACKED CONCRETE. ANCHORS MUST HAVE A CURRENT ICC OR IAPMO EVALUATION REPORT. INSTALL ANCHORS IN ACCORDANCE WITH ICC REPORT. X-RAY OR FERROSCAN CONCRETE TO LOCATE REINFORCING PRIOR TO DRILLING ANY HOLES.
- PROVIDE STAINLESS STEEL FASTENERS FOR EXTERIOR USE OR WHEN EXPOSED TO WEATHER. PROVIDE ELECTRO-PLATED CARBON STEEL ANCHORS AT OTHER LOCATIONS, UNLESS OTHERWISE NOTED.
- IF REINFORCEMENT IS ENCOUNTERED DURING DRILLING, ABANDON AND SHIFT THE HOLE LOCATION TO AVOID THE REINFORCEMENT. PROVIDE A MINIMUM OF 2 ANCHOR DIAMETERS OR 1 INCH, WHICHEVER IS GREATER, OF SOUND CONCRETE BETWEEN THE ANCHOR AND THE ABANDONED HOLE. FILL THE ABANDONED HOLE WITH NON-SHRINK GROUT. IF THE ANCHOR OR DOWEL MAY NOT BE SHIFTED AS NOTED ABOVE, THE ENGINEER WILL DETERMINE A NEW LOCATION.
- LOCATE REINFORCEMENT AND CONFIRM FINAL ANCHOR LOCATIONS PRIOR TO FABRICATING PLATES, MEMBERS, OR OTHER STEEL ASSEMBLIES ATTACHED WITH MECHANICAL ANCHORS. ANCHORS WILL BE PROOF-TESTED BY OWNER'S TESTING AND INSPECTION AGENCY.
- IF ANY ANCHOR FAILS TESTING, REPLACE ANCHOR AND TEST ADDITIONAL ANCHORS OF THE SAME CATEGORY NOT PREVIOUSLY TESTED UNTIL TWENTY (20) CONSECUTIVE PASS, THEN RESUME INITIAL TESTING FREQUENCY.
- APPLY TEST LOAD BY ANY METHOD THAT WILL EFFECTIVELY MEASURE THE TENSION ON THE ANCHOR SUCH AS DIRECT PULL WITH A HYDRAULIC JACK, TORQUE WRENCH, OR CALIBRATED SPRING LOADING DEVICES, ETC.
- TEST ANCHORS NO SOONER THAN 24 HOURS AFTER INSTALLATION.
- REACTION LOADS FROM TEST FIXTURES MAY BE APPLIED CLOSE TO THE ANCHOR BEING TESTED. PROVIDED THE ANCHOR IS NOT RESTRAINED FROM WITHDRAWING BY A BASEPLATE OR OTHER FIXTURE. IF RESTRAINT IS FOUND, LOOSEN AND SHIM OR REMOVE THE FIXTURE PRIOR TO TESTING.
- TEST 50% OF EXPANSION OR WEDGE ANCHORS PER ONE OF THE FOLLOWING METHODS:
  - HYDRAULIC RAM METHOD: APPLY PROOF TEST LOAD WITHOUT REMOVING THE NUT. IF IT IS NOT POSSIBLE TO TEST WITH THE NUT INSTALLED, REPLACE THE NUT WITH A THREADED COUPLER TO THE SAME TORQUE MEASURED WITH A TORQUE WRENCH, AND THEN APPLY THE LOAD. ANCHOR IS ACCEPTABLE IF NO MOVEMENT IS OBSERVED AT THE TEST LOAD. MOVEMENT MAY BE DETERMINED WHEN THE WASHER UNDER THE NUT BECOMES LOOSE.
  - TORQUE WRENCH METHOD: TEST ANCHORS TO THE TORQUE LOAD INDICATED IN THE TABLE BELOW, WITHIN ONE-HALF TURN OF THE NUT.
- TEST ANCHORS TO THE FOLLOWING PROOF LOADS:

ANCHOR DIA. (IN.)	MIN. EMBEDMENT	TENSION LOAD (LBS)	TORQUE LOAD (FT-LBS)
3/8"	3 1/4"	2100	25
1/2"	3 1/4"	4500	40
5/8"	4"	6100	60
3/4"	4 3/4"	7800	110

**III STRUCTURAL TESTS, INSPECTIONS, AND OBSERVATIONS**

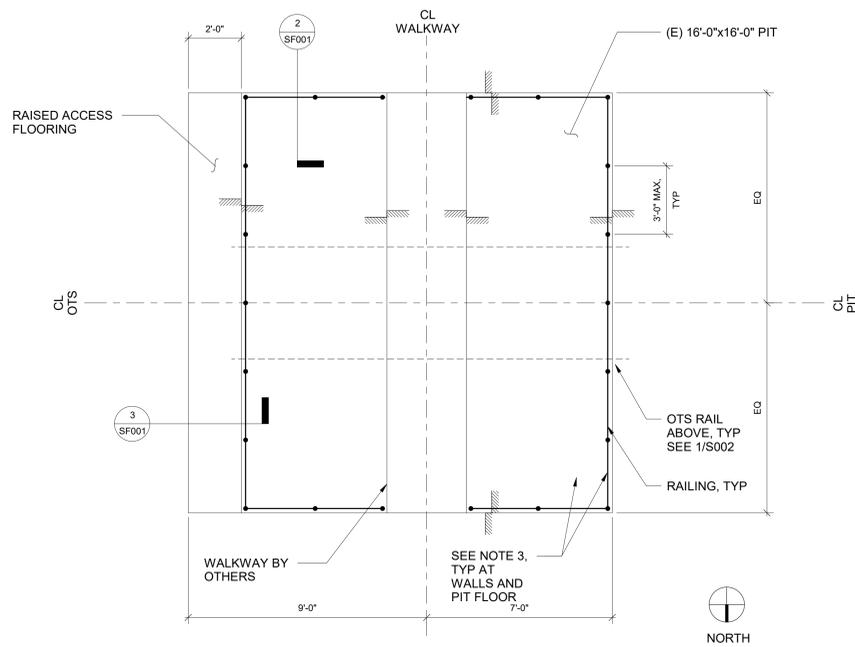
- AN INDEPENDENT TESTING AGENCY AND SPECIAL INSPECTORS WILL BE RETAINED BY THE OWNER TO PERFORM TESTS AND INSPECTIONS IN ACCORDANCE WITH THE APPROVED TESTING. INSPECTION AND OBSERVATION PROGRAM. PROVIDE ACCESS AND FURNISH SAMPLES TO THE AGENCY AS REQUIRED BY THE CONTRACT DOCUMENTS.
- IF INITIAL TESTS OR INSPECTIONS MAKE BY THE OWNER'S TESTING AGENCY REVEAL THAT ANY PORTION OF THE WORK DOES NOT COMPLY WITH THE CONTRACT DOCUMENTS, ADDITIONAL TEST, INSPECTIONS, AND NECESSARY REPAIRS WILL BE MADE AT THE CONTRACTOR'S EXPENSE.
- THE FOLLOWING ITEMS REQUIRE TESTS & INSPECTIONS IN ACCORDANCE WITH THE REQUIREMENTS OF THE CHAPTER "STRUCTURAL TESTS & INSPECTIONS" OF THE 2015 INTERNATIONAL BUILDING CODE. ADDITIONAL ITEMS AND REQUIREMENTS FOR TESTS & INSPECTIONS ARE IDENTIFIED IN THE SPECIFICATIONS.
  - POST-INSTALLED ANCHORS

**IV SUBMITTALS**

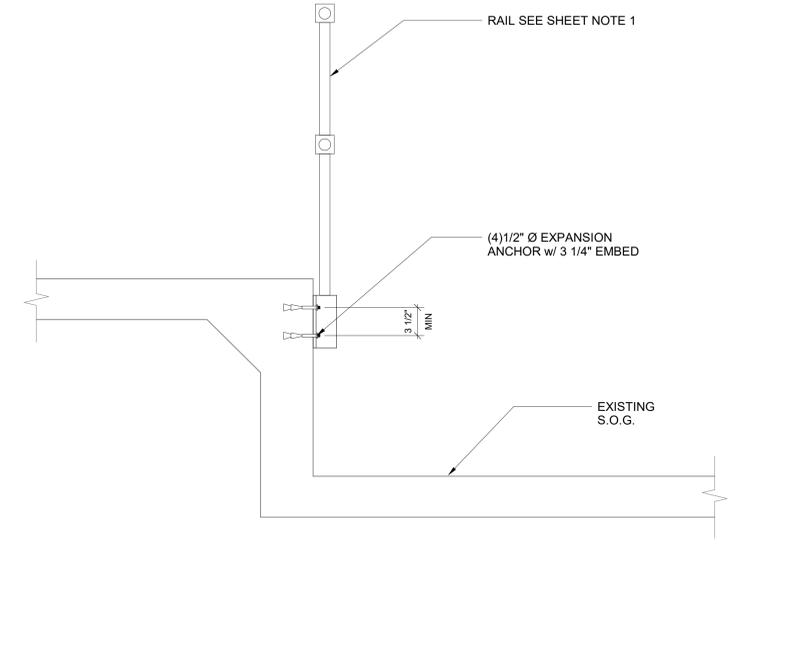
- SUBMIT REQUIRED SUBMITTALS TO OWNER FOR REVIEW.
  - MECHANICAL ANCHORS:
    - PRODUCT DATA FOR EACH TYPE OF ANCHOR USED.
  - METAL STRUT:
    - ASSEMBLY DRAWINGS NECESSARY TO INSTALL THE STRUT SYSTEM IN COMPLIANCE WITH THE CONTRACT DRAWINGS.
    - PRODUCT DATA FOR STRUT SYSTEM USED.

**V. METAL STRUT SYSTEM**

- METAL STRUT FRAMING COMPONENTS AND HARDWARE DESIGNATIONS SHOWN ON THE DRAWINGS ARE BASED ON UNISTRUT PART NUMBERS. ALTERNATE METAL STRUT FRAMING SYSTEMS WITH EQUIVALENT PROPERTIES MAY BE SUBMITTED FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.
- INSTALL METAL STRUT FRAMING SYSTEM IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
- USE 1/2" DIAMETER BOLTS WITH SPRING NUTS AT CONNECTIONS UNLESS OTHERWISE NOTED. TIGHTEN BOLTS TO A TORQUE OF 50 FOOT-POUNDS.
- METAL STRUT FRAMING FINISH: PRE-GALVANIZED (PG), G90 PER ASTM A653.
- STRUT TO BE SOLID (NO SLOTS) OR WITH HS HOLE PATTERN STYLE ONLY. SLOTTED, HALF SLOTTED, PUNCHED OR CHANNELS WITH KNOCKOUTS ARE NOT PERMITTED.
- ALL THROUGH BOLT CONNECTIONS AT STRUT FRAMING OR STRUCTURAL STEEL MEMBERS TO INCLUDE A NUT AND STANDARD WASHER ABOVE AND BELOW CONNECTED MEMBER, UNLESS OTHERWISE NOTED.



1 WALKWAY PIT PLAN  
3/8" = 1'-0"

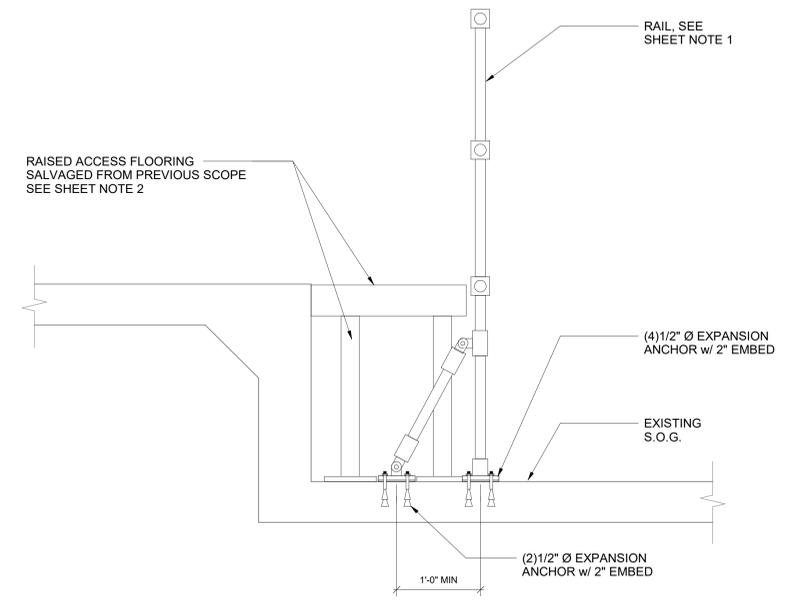


2 SECTION AT PIT  
1" = 1'-0"

**SHEET NOTES:**

- RAILINGS:
  - PROVIDE RAILINGS CAPABLE OF WITHSTANDING 200# IN ANY DIRECTION AT AN POINT.
  - PROVIDE MODULAR ALUMINUM RAILINGS.
  - VERIFY LAYOUT WITH VA AND PROVIDE ALL REQUIRED FITTINGS
- ACCESS FLOORING:
  - CONTRACTOR TO VERIFY WITH VA USE OF STOCKPILED ACCESS FLOORING MATERIALS.
  - IF STOCKPILED ACCESS FLOORING MATERIALS ARE NOT USED, THE CONTRACTOR TO PROVIDE ACCESS FLOORING PER THE FOLLOWING:
    - ACCESS FLOORING TO MEET PERFORMANCE CRITERIA PER CISCA A/F.
    - PROVIDE PEDESTAL ASSEMBLY CAPABLE OF WITHSTANDING 5,000# AXIAL LOAD AND 1,000#-IN OVERTURNING MOMENT.
    - PROVIDE PANELS CAPABLE OF WITHSTANDING CONCENTRATED LOAD OF 1,000# AND IMPACT LOAD OF 150# DROPPED FROM 36IN.
  - CONTRACTOR TO INSTALL ACCESS FLOORING IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- SEAL ALL EXPOSED CONCRETE SURFACES WITH TWO-COMPONENT WATER-BASED EPOXY COATING. PREPARE SUBSTRATE AND APPLY EPOXY PER MANUFACTURER'S INSTRUCTIONS. EPOXY COATING TO BE INSTALLED PRIOR THE INSTALLATION OF ANCHORS OR ACCESS FLOORING. EPOXY TO CONTAIN LESS THAN 50g/L VOCs AND THE FOLLOWING TEST VALUES:

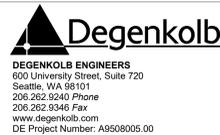
PROPERTY	TEST	RESULT
ABRASION RESISTANCE	ASTM D4060, CS17 WHEEL, 1000 CYCLES, 1 KG LOAD	150mg LOSS
ADHESION	ASTM D4541	550psi CONCRETE
SLIP RESISTANCE	ASTM C1028	PASSES



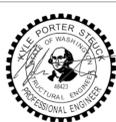
3 SECTION AT PIT  
1" = 1'-0"

4 SHEET NOTES

**CONSULTANTS:**

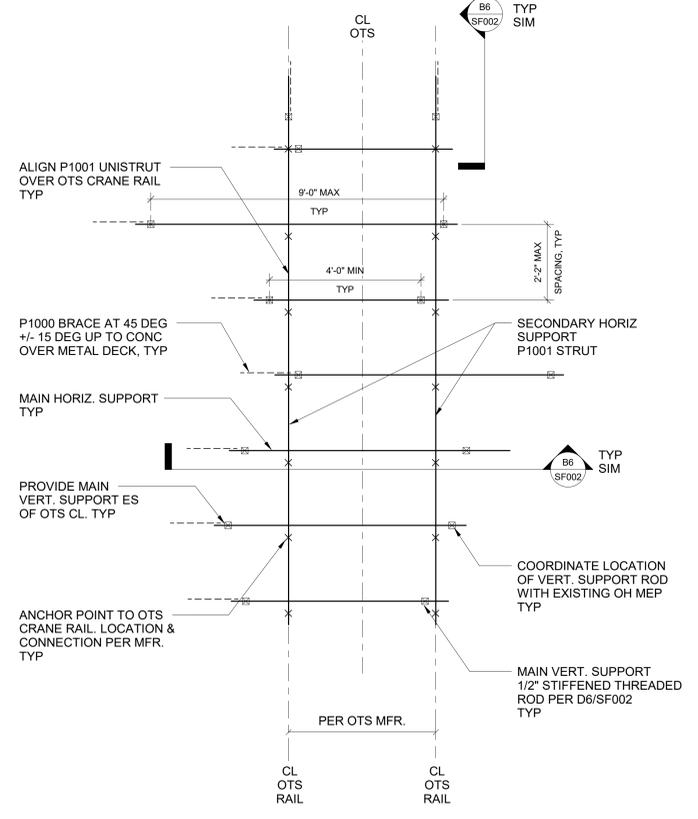


**ARCHITECT**



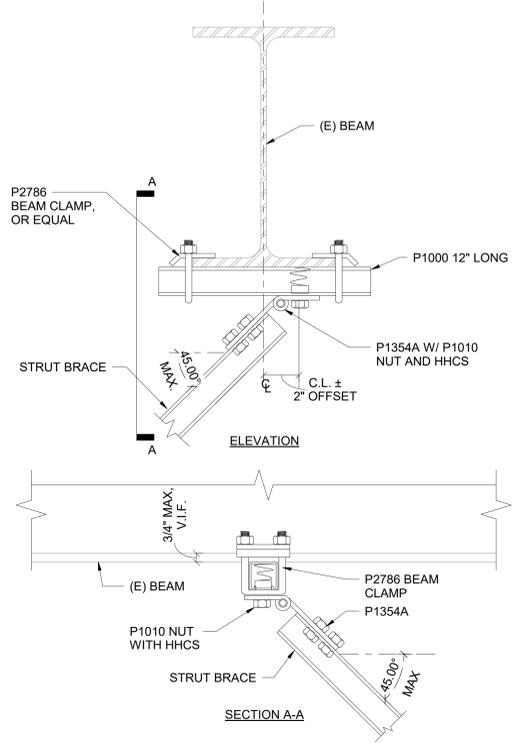
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Drawing Scale As Noted		Location 1660 South Columbian Way, Seattle, WA 98105		Building Number B101 Mental Health Services	
Approved: Project Director		Date AUGUST 1, 2018	Checked KPS	Drawn QL	Drawing Number SF001
Office of Construction and Facilities Management Department of Veterans Affairs					

three inches = one foot  
 one and one half inches = one foot  
 one inch = one foot  
 three quarter inch = one foot  
 one half inch = one foot  
 three eighth inch = one foot  
 one quarter inch = one foot  
 one eighth inch = one foot

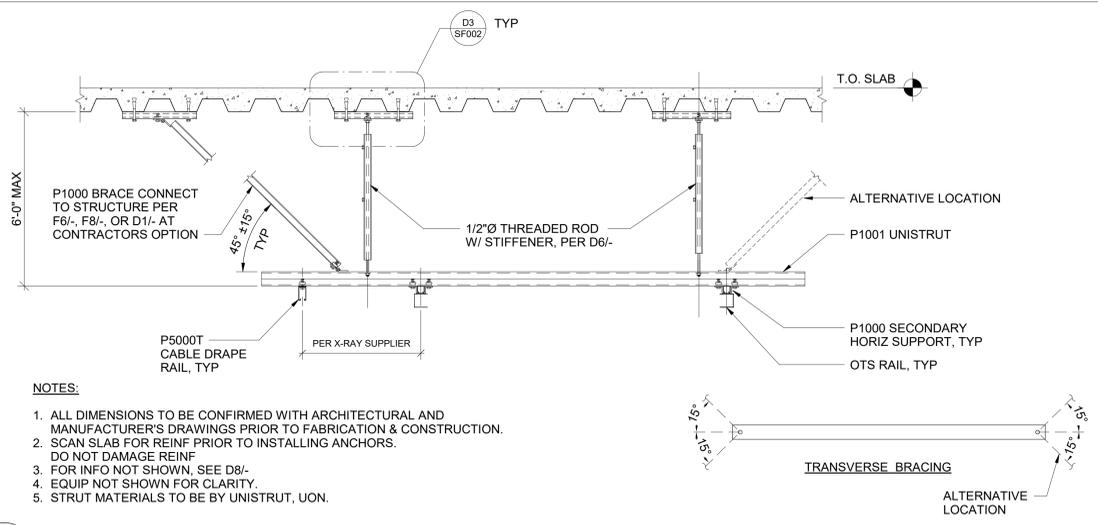


NOTE:  
 CONTRACTOR IS RESPONSIBLE FOR COORDINATING SPECIFIC LOCATIONS OF VERTICAL SUPPORTS AND BRACING TO AVOID EXISTING OBSTRUCTIONS IN ABOVE-CEILING SPACE. VERIFY LOCATIONS PRIOR TO FABRICATION OF SUPPORTS.

**1 OTS SUPPORT ELEVATION**  
 1/2" = 1'-0"

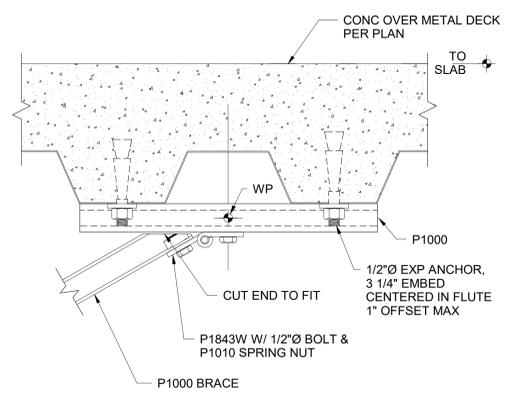


**D1 STRUT TO WF CONNECTION**  
 3" = 1'-0"

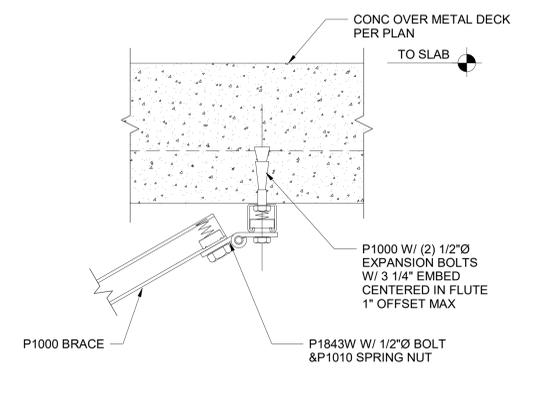


NOTES:  
 1. ALL DIMENSIONS TO BE CONFIRMED WITH ARCHITECTURAL AND MANUFACTURER'S DRAWINGS PRIOR TO FABRICATION & CONSTRUCTION.  
 2. SCAN SLAB FOR REINF PRIOR TO INSTALLING ANCHORS. DO NOT DAMAGE REINF.  
 3. FOR INFO NOT SHOWN, SEE D8/- EQUIP NOT SHOWN FOR CLARITY.  
 4. EQUIP NOT SHOWN FOR CLARITY.  
 5. STRUT MATERIALS TO BE BY UNISTRUT, UON.

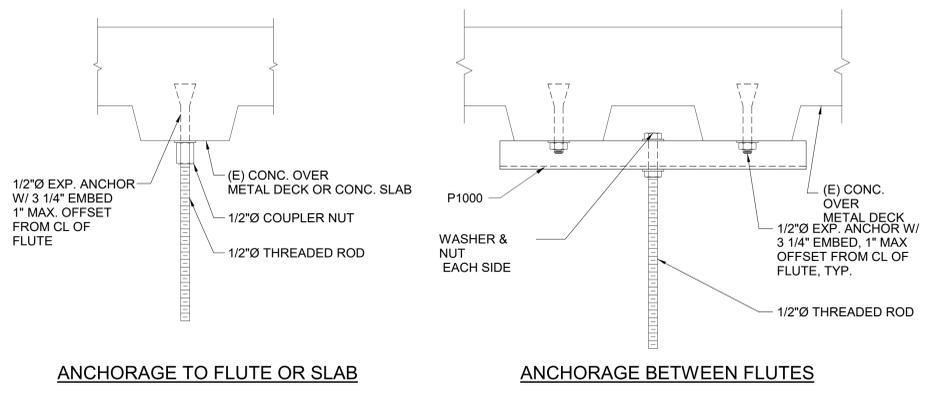
**B6 OTS SUPPORT ELEVATION**  
 3/4" = 1'-0"



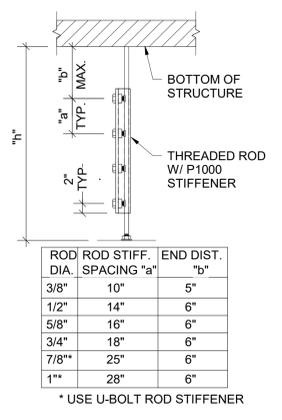
**F6 BRACE CONN PERPENDICULAR TO SLAB**  
 3" = 1'-0"



**F8 BRACE CONN PARALLEL TO SLAB**  
 3" = 1'-0"



**D3 THREADED ROD CONNECTION**  
 3" = 1'-0"

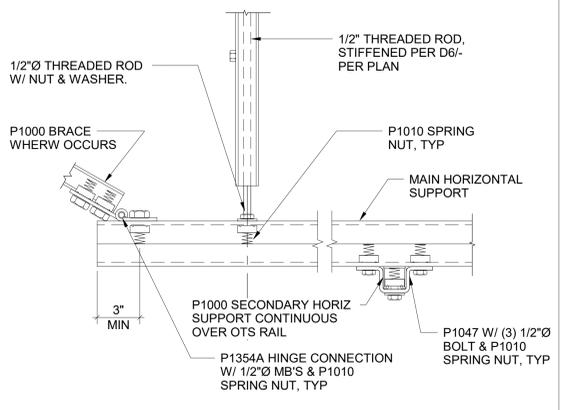


ROD DIA.	ROD STIFF. SPACING "a"	END DIST. "b"
3/8"	10"	5"
1/2"	14"	6"
5/8"	16"	6"
3/4"	18"	6"
7/8"	25"	6"
1"	28"	6"

\* USE U-BOLT ROD STIFFENER

**D6 STIFFENER ROD**  
 1 1/2" = 1'-0"

NOTES:  
 1. IF LENGTH "h" IS LESS THAN ROD STIFFENER SPACING "a", NO STIFFENER OR ROD BRACES ARE REQUIRED. A MINIMUM OF 2 ROD BRACES ARE REQUIRED WHEN "h" EXCEEDS "a" WITH THE SPACING PER THE TABLE.  
 2. ANY EXISTING STIFFENERS SHALL BE CHECKED TO VERIFY THAT CLIPS ARE SPACED SUCH THAT THEY MEET THESE REQUIREMENTS. CLIPS SHALL BE ADJUSTED TO MEET THESE REQUIREMENTS IF DEFICIENT.  
 3. SPLICE P1001 ROD STIFFENER WITH P1066, EACH SIDE, WHERE REQ'D.  
 4. ROD STIFFENERS ARE NOT REQ'D THROUGH, OR ABOVE, HVAC DUCTS, WHERE OCCURS



**D8 OTS SUPPORT CONNECTIONS**  
 NTS

<b>CONSULTANTS:</b>  <b>DEGENKOLB ENGINEERS</b> 630 University Street, Suite 720 Seattle, WA 98101 206.262.9240 Phone 206.262.9346 Fax www.degenkolb.com DE Project Number: A9508005.00		<b>ARCHITECT</b> 		Drawing Title OH SUPPORT DETAILS		Project Title GW11 FLUOROSCOPY SUPPORTS VAPSHCS Seattle Division BUILDING 101 MENTAL HEALTH AND RESEARCH BUILDING		Project Number Building Number B101 Mental Health Services		Office of Construction and Facilities Management 
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