



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION

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

OFFICE USE ONLY
APPLICATION #: OPM-0377

OSHPD Preapproval of Manufacturer's Certification OPM)

Type: [] New [X] Renewal/Update

Manufacturer Information

Manufacturer: 2 WAY INDUSTRIES LTD
Manufacturer's Technical Representative: BRYCE HODGSON
Mailing Address: 23 PATIKI RD., AVONDAE, AUCKLAND, NA 1026
Telephone: (649) 828-0045 Email: INFO@2WAY.CO.NZ

Product Information

Product Name: BRACELOK RETRO
Product Type: Partition Wall and Ceiling Bracing
Product Model Number: SPT 10-R
General Description: Rigid brace system designed to be used with steel stud and track partition wall systems

Applicant Information

Applicant Company Name: BRACELOK IP :TD DATE: 04/09/2020
Contact Person: BRYCE HODGSON
Mailing Address: P.O. BOX 31270,MILFORD,, AUCKLAND, CA 0620
Telephone: (642) 111-1610 Email: SCOTT.SIMPSON@BRACELOK.COM
Title: Chief Technical Officer

Registered Design Professional Preparing Engineering Recommendations

Company Name: DEGENKOLB ENGINEERS
Name: Alvaro Celestino California License Number: S5580
Mailing Address: 225 Broadway Suite 1325, San Diego, CA 92101
Telephone: (213) 309-2044 Email: acelestino@degenkolb.com

OSHPD Special Seismic Certification Preapproval (OSP)

[] Special Seismic Certification is preapproved under OSP OSP Number:



**OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
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Certification Method

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

Other(s) (Please Specify): AISI S100-16 Section K

*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): _____

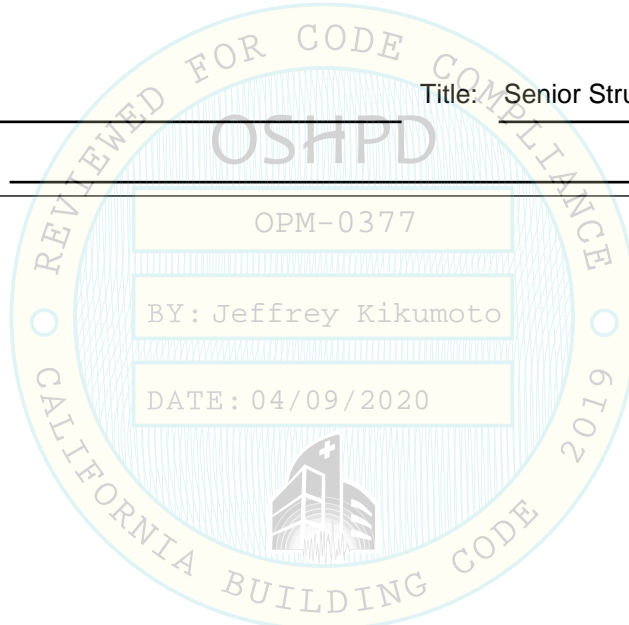
OSHPD Approval

Date: 4/9/2020

Name: Jeffrey Kikumoto

Title: Senior Structural Engineer

Condition of Approval (if applicable): _____



GENERAL NOTES

I. GENERAL

- THIS OSHPD PRE-APPROVAL OF MANUFACTURE'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.
- THIS PRE-APPROVAL IS VALID FOR THE SYSTEM DESCRIBED IN THESE DRAWINGS THROUGHOUT THE STATE OF CALIFORNIA, AND IS VALID FOR INTERIOR WALLS INSTALLED AT ANY HEIGHT WITHIN THE BUILDING. SEE S_{DS} LIMITATIONS ON SHEET S3

II. RESPONSIBILITIES OF THE STRUCTURAL ENGINEER OF RECORD

- VERIFY MATERIALS AND WORKMANSHIP TO CONFORM WITH THE 2019 EDITION OF THE CALIFORNIA BUILDING CODE AND THE REQUIREMENTS OF THIS PRE-APPROVAL DOCUMENT.
- VERIFY THE ADEQUACY OF THE EXISTING FRAMING TO SUPPORT THE LOADS INDICATED ON THIS SHEET, IN ADDITION TO ALL OTHER LOADS.
- VERIFY ANCHORS ARE AT ADEQUATE DISTANCES FROM OPENINGS AND EDGES OF SLABS AS NOTED IN THE GENERAL NOTES SECTION IV.
- VERIFY ANCHORS ARE AT ADEQUATE DISTANCES FROM NEW OR EXISTING ANCHORS AS NOTED IN THE GENERAL NOTES SECTION IV.
- DESIGN ANY SUPPLEMENTARY MEMBER AND THEIR ATTACHMENTS OTHER THAN THOSE DETAILED WITHIN THIS PRE-APPROVAL.
- VERIFY THAT THE INSTALLATION IS IN CONFORMANCE WITH THE 2019 CBC AND WITH THE DETAILS SHOWN IN THIS PRE-APPROVAL.
- VERIFY THAT THE SITE SEISMIC PARAMETERS DON'T EXCEED WHAT IS PERMITTED UNDER THIS OPM

II. COLD-FORMED METAL FRAMING

- STUDS: ASTM C955 AND ASTM A1003, "C" SHAPED WITH LIPPED FLANGES AND PUNCHED WEB. PROVIDE G60 COATING MINIMUM.
 - 43 MIL (18 GAGE) AND LIGHTER: GRADE 33 TYPE H
 - 54 MIL (16 GAGE) AND HEAVIER: GRADE 50 TYPE H
- TRACK: ASTM C955 AND ASTM A1003, "U" SHAPED WITH UN-PUNCHED WEB. PROVIDE G60 COATING MINIMUM.
 - MATCH DEPTH, THICKNESS AND GRADE OF STUDS.
- FRAMING DESIGNATIONS ON PLANS ARE BASED ON THE STEEL STUD MANUFACTURER'S ASSOCIATION (SSMA) PRODUCT TECHNICAL GUIDE (ICC-ESR-3064P).
- INSTALL STUDS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND ASTM C1007.
- SHEET METAL SCREWS: SELF-DRILLING, SELF-TAPPING, HDG PER ASTM A153. PAN OR HEX WASHER HEAD AS REQUIRED BY FINISH.
 - PRODUCTS: ITW-BUILDEX TEKS SELECT (ICC-ESR-3223), GRABBER DRIVALL (ICC-ESR-1271)
- MINIMUM SCREW SPACING AND EDGE DISTANCE TO BE 3/4".
- POWDER ACTUATED FASTENERS: HILTI LOW-VELOCITY FASTENERS (ICC-ESR-2269).

BASE MATERIAL	FASTENERS	MINIMUM EMBEDMENT PER MANUF	MINIMUM EDGE DISTANCE	MINIMUM SPACING
STEEL	HILTI X-U	1"	1/2"	
CONCRETE	HILTI X-P	1"	3"	5 1/2"

- PAF SHALL NOT BE USED IN PRE-STRESSED CONCRETE UNLESS NON-DESTRUCTIVE TESTING METHODS ARE USED TO LOCATE STRAND AND REINFORCEMENT PRIOR TO FASTENER INSTALLATION.
- TENSION TESTING IS NOT REQUIRED FOR POWDER ACTUATED FASTENERS USED TO ATTACH TRACKS OF INTERIOR NON-SHEAR WALL PARTITIONS FOR SHEAR ONLY, WHERE THERE ARE AT LEAST THREE FASTENERS PER SEGMENT OF TRACK.

IV. MECHANICAL ANCHORS

- EXPANSION OR WEDGE ANCHORS INTO CONCRETE: HILTI KB-TZ (ICC ESR-1917), SIMPSON STRONG-BOLT 2 (ICC-ESR-3037) OR DEWALT POWER-STUD+ SD2 (ICC-ESR-2502).
- SCREW ANCHORS, HILTI HUS-EZ (ICC-ESR-3027), SIMPSON STRONG-TIE TITEN-HD (ICC-ESR-2713), OR DEWALT SCREW-BOLT + (ICC-ESR-3889)
- INSTALL ANCHORS IN ACCORDANCE WITH LATEST ICC-ESR REPORT AND MANUFACTURER INSTRUCTIONS.
- 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 LARGER, OF SOUND CONCRETE BETWEEN THE DOWEL AND THE ABANDONED HOLE. FILL THE ABANDONED HOLE WITH NON-SHRINK GROUT APPROVED BY THE STRUCTURAL ENGINEER OF RECORD. NOTIFY THE STRUCTURAL ENGINEER OF RECORD IF ANY REINFORCING IS DAMAGED.
- ANCHORS WILL BE PROOF-TESTED BY OWNER'S TESTING AND INSPECTION AGENCY. WITH A REPORT OF THE TEST RESULTS SUBMITTED TO OSHPD.
- 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.
- TEST ANCHORS NO SOONER THAN 24 HOURS AFTER INSTALLATION.
- TEST WEDGE ANCHORS PER THE FOLLOWING METHOD:
 - TORQUE WRENCH METHOD: TEST ANCHORS TO THE TORQUE LOAD INDICATED IN THE TABLE BELOW WITHIN THE FOLLOWING LIMITS:
 - ONE-HALF TURN OF THE NUT.

WEDGE	
ANCHOR DIA. (IN)	TORQUE LOAD (FT-LBS)
3/8	25

- TENSION TEST SCREW ANCHORS PER THE FOLLOWING METHOD:
 - HYDRAULIC RAM METHOD: THE ANCHOR SHALL MAINTAIN THE TEST LOAD (AS DEFINED BELOW) FOR A MINIMUM OF 15 SECONDS AND SHALL HAVE NO OBSERVABLE MOVEMENT AT THE APPLICABLE TEST LOAD. IN THE CASE WHERE OTHER THAN BOND IS BEING TESTED, THE TESTING DEVICE SHALL NOT RESTRICT THE CONCRETE SHEAR CONE TYPE FAILURE MECHANISM FROM OCCURRING

SCREW	
ANCHOR DIA. (IN)	TENSION LOAD (LBS)
3/8	566

- FOR POST INSTALLED ANCHORS USED FOR NONSTRUCTURAL APPLICATIONS, 50 PERCENT OR ALTERNATE BOLTS IN A GROUP, INCLUDING AT LEAST ONE-HALF THE ANCHORS IN EACH GROUP, SHALL BE TESTED.

WHERE POST-INSTALLED ANCHORS ARE USED FOR SILL PLATE BOLTING APPLICATIONS, 10 PERCENT OF THE ANCHORS SHALL BE TESTED.

- MINIMUM EDGE DISTANCE:
 - 3/8" EXPANSION ANCHOR = 6"
 - 3/8" SCREW ANCHOR = 3 3/4"
- MINIMUM SPACING (FROM NEW OR EXISTING ADJACENT ANCHORS):
 - 3/8" EXPANSION ANCHOR = 6"
 - 3/8" SCREW ANCHOR = 3"

VI. STRUCTURAL TESTS, INSPECTIONS, AND OBSERVATIONS

- AN INDEPENDENT APPROVED TESTING AGENCY AND SPECIAL INSPECTORS, CONFORMING TO 2019 CBC SECTION 1703A, WILL BE RETAINED BY THE OWNER TO PERFORM THE FOLLOWING TESTS AND INSPECTIONS. PROVIDE ACCESS AND FURNISH SAMPLES TO THE AGENCY AS REQUIRED.
- THE FOLLOWING ITEMS REQUIRE TESTS AND INSPECTIONS IN ACCORDANCE WITH THE REQUIREMENTS OF THE CHAPTER "STRUCTURAL TESTS AND INSPECTIONS" OF THE CODE.
- MECHANICAL ANCHORS:
 - VERIFY TYPE OF ANCHOR, ANCHOR DIMENSIONS, CONCRETE TYPE AND COMPRESSIVE STRENGTH, PREDRILLED HOLE DIMENSIONS, ANCHOR SPACING, EDGE DISTANCE, SLAB THICKNESS AND ANCHOR EMBEDMENT.
 - PROOF-TEST AS INDICATED IN THE MECHANICAL ANCHORS SECTION OF THESE GENERAL NOTES.

VII. DESIGN CRITERIA

- APPLICABLE CODE: 2019 CALIFORNIA BUILDING CODE.
- SEISMIC DESIGN:
SEISMIC FORCE $F (LRFD) = \frac{0.4 * S_{DS} * a_p (1 + 2 * Z/h) W_p}{(R_p / I_p)}$

WHERE:
 S_{DS} = 195% G MAX ACCEL. (SEE S3)
 I_p = 1.5
 Z/h = 1.0 FOR ANY FLOOR
 R_p = 2.5
 a_p = 1.0
 Ω = 2.0

VIII. HOW TO USE THIS PRE-APPROVAL

- REVIEW AND UNDERSTAND ALL GENERAL NOTES AND FIGURES BEFORE PROCEEDING.
- FOR THE SELECTED INTERIOR WALL CONDITION AND SEISMICITY (S_{DS}) DETERMINE THE TOP TRACK CONDITION, BRACE AND WALL STUD SECTIONS, AND BRACELOK SPACING FROM THE TABLES ON S3.
- BASED ON THE STRUCTURE TYPE, SELECT A BRACE CONNECTION AND WALL BASE CONNECTION FROM THE TABLE ON S4.
- DETERMINE THE IMPACT ON THE EXISTING STRUCTURE FROM THE BRACELOK FROM THE TABLE ON S3, AND VERIFY THE ADEQUACY OF THE EXISTING STRUCTURE WITH THE STRUCTURAL ENGINEER OF RECORD FOR THE BUILDING.

SHEET LIST

S1 GENERAL NOTES	S9 BRACELOK PARTS
S2 BRACING LAYOUT PLANS	S10 OPD-0001-13 DETAILS (ST2.00, ST2.02)
S3 WALL SECTION & SCHEDULES	S11 OPD-0001-13 DETAILS (ST2.03, ST2.04)
S4 TOP & BOTTOM CONNECTIONS	S12 OPD-0001-13 DETAILS (ST4.00, ST4.01)
S5 BRACELOK CONNECTIONS	S13 OPD-0001-13 DETAILS (ST6.08, ST6.09)
S6 BRACE CONNECTIONS	S14 OPD-0001-13 DETAILS (ST1.00, ST5.00)
S7 BRACE CONNECTIONS	S15 OPD-0001-13 DETAILS (ST5.01, ST5.02)
S8 BRACELOK PARTS	

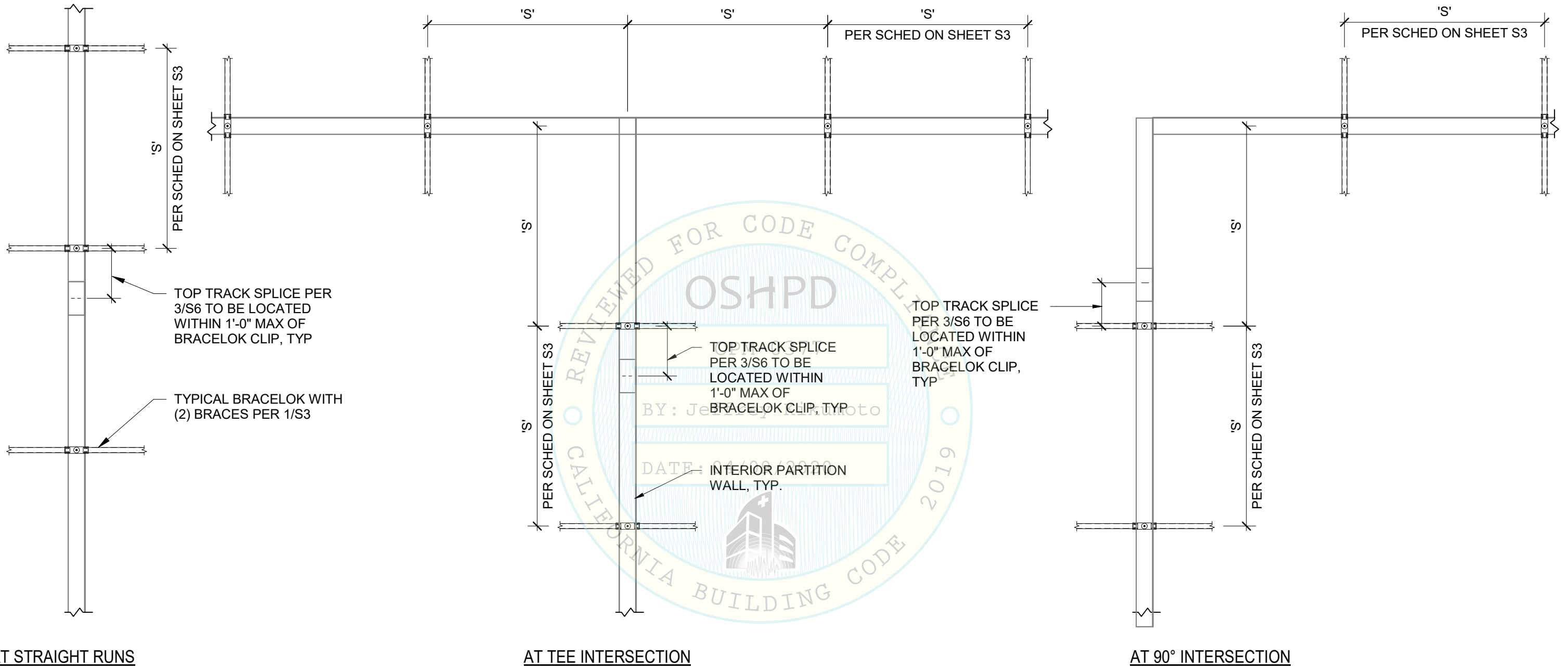


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 San Diego, CA 92101
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 www.degenkolb.com

BRACELOK™ RETRO CONNECTOR,
 MODEL NO. SPT-10-R
 Title
 GENERAL NOTES

Drawn: JEB Job number: B8769007.01
 Design: PGM Rev:
 Check: AC Scale: NTS
 Date: 07/10/19

Sheet
S1
 OF Sheets



AT STRAIGHT RUNS

AT TEE INTERSECTION

AT 90° INTERSECTION

1 BRACE LAYOUT PLANS
1/2" = 1'-0"

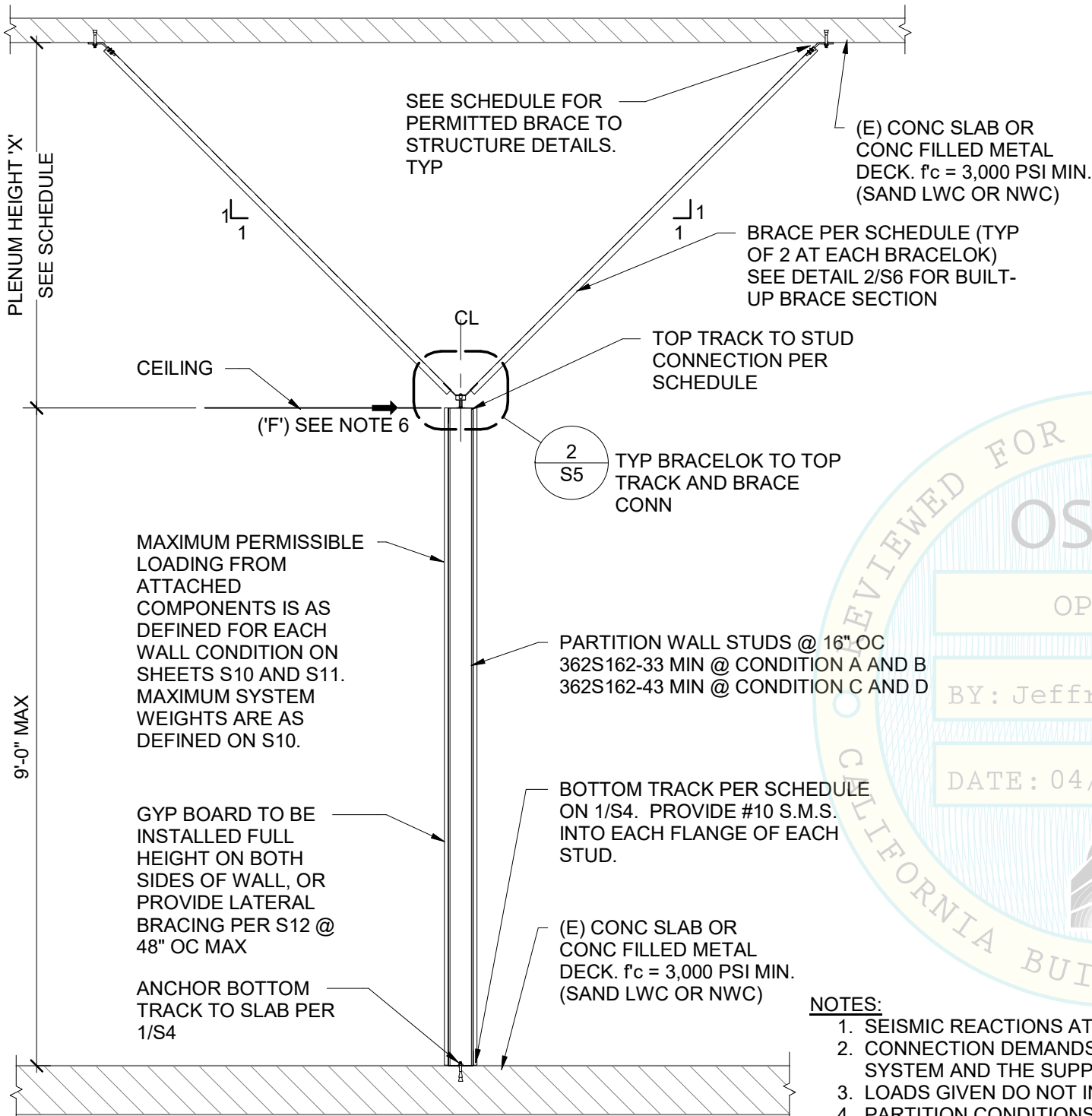


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BRACELOK™ RETRO CONNECTOR,
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Title
BRACING LAYOUT PLANS

Drawn:	JEB	Job number:	B8769007.01
Design:	PGM	Rev:	
Check:	AC	Scale:	1/2" = 1'-0"
Date:	07/10/19		

Sheet
S2
OF Sheets



1 TYPICAL WALL SECTION AND SCHEDULES
1/2" = 1'-0"

CONDITION A FOR 9 FT MAX INTERIOR WALL (SEE NOTE 4)							
Sds	TOP TRACK TO STUD CONN DETAIL	BRACELOK SPACING, 'S'	MAX ASD TOP TRACK REACTION (PLF)	ASD HORIZ LOAD AT BRACE (LB) ('F')	PLENUM HEIGHT	BRACE SIZE	BRACE TO STRUCTURE CONN DETAIL
0.25-0.99	2/S4 OR 3/S4	8'-0"	17	136	'X' < 5'-0"	250S162-33	1/S6, 1/S7, 2/S7, 1/S13
					5'-0" < 'X' < 7'-3"	362S162-33	
1.00-1.25	2/S4 OR 3/S4	8'-0"	22	176	'X' < 5'-0"	250S162-33	1/S6, 1/S7, 2/S7, 1/S13
					5'-0" < 'X' < 7'-3"	362S162-33	
1.26-1.45	2/S4 OR 3/S4	8'-0"	26	208	'X' < 5'-0"	250S162-33	1/S6, 1/S7, 2/S7, 1/S13
					5'-0" < 'X' < 7'-3"	362S162-33	
1.46-1.95	2/S4 OR 3/S4	8'-0"	34	272	'X' < 5'-0"	250S162-33	1/S6, 1/S7, 2/S7, 1/S13
					5'-0" < 'X' < 7'-3"	362S162-33	

CONDITION B FOR 9 FT MAX INTERIOR WALL (SEE NOTE 4)							
Sds	TOP TRACK TO STUD CONN DETAIL	BRACELOK SPACING, 'S'	MAX ASD TOP TRACK REACTION (PLF)	ASD HORIZ LOAD AT BRACE (LB) ('F')	PLENUM HEIGHT	BRACE SIZE	BRACE TO STRUCTURE CONN DETAIL
0.25-0.99	2/S4 OR 3/S4	8'-0"	29	232	'X' < 5'-0"	250S162-33	1/S6, 1/S7, 2/S7, 1/S13
					5'-0" < 'X' < 7'-3"	362S162-33	
1.00-1.25	2/S4 OR 3/S4	8'-0"	36	288	'X' < 5'-0"	250S162-33	1/S6, 1/S7, 2/S7, 1/S13
					5'-0" < 'X' < 7'-3"	362S162-33	
1.26-1.45	2/S4 OR 3/S4	7'-3"	42	305	'X' < 5'-0"	250S162-33	1/S6, 1/S7, 2/S7, 1/S13
					5'-0" < 'X' < 7'-3"	362S162-33	
1.46-1.95	2/S4 OR 3/S4	5'-6"	56	308	'X' < 5'-0"	250S162-33	1/S6, 1/S7, 2/S7, 1/S13
					5'-0" < 'X' < 7'-3"	362S162-33	
1.26-1.45	3/S4	8'-0"	42	336	'X' < 5'-0"	250S162-33	1/S7, 2/S7, 2/S13
					5'-0" < 'X' < 7'-3"	362S162-33	
1.46-1.95	3/S4	8'-0"	56	448	'X' < 5'-0"	250S162-33	1/S7, 2/S7, 2/S13
					5'-0" < 'X' < 7'-3"	362S162-33	

CONDITION C AND D FOR 9 FT MAX INTERIOR WALL (SEE NOTE 4)							
Sds	TOP TRACK TO STUD CONN DETAIL	BRACELOK SPACING	MAX ASD TOP TRACK REACTION (PLF)	ASD HORIZ LOAD AT BRACE (LB) ('F')	PLENUM HEIGHT	BRACE SIZE	BRACE TO STRUCTURE CONN DETAIL
0.25-0.99	3/S4	8'-0"	77	616	'X' < 5'-0"	362S162-33	1/S7, 2/S7, 2/S13
					5'-0" < 'X' < 8'-6"	(2)-362S162-33	

- NOTES:**
1. SEISMIC REACTIONS AT THE TOP AND BOTTOM CONNECTION ARE FOR A WALL HEIGHT OF 9'-0".
 2. CONNECTION DEMANDS ARE PROVIDED TO ALLOW RDP IN RESPONSIBLE CHARGE TO VERIFY NON PRE-APPROVED COMPONENTS OF THE FRAMING SYSTEM AND THE SUPPORTING STRUCTURE.
 3. LOADS GIVEN DO NOT INCLUDE OVER-STRENGTH FACTOR (OMEGA). FOR CONCRETE ATTACHMENTS SEE ASCE 7-16 TABLE 13.5-1.
 4. PARTITION CONDITIONS A, B, C, AND D ARE AS DEFINED ON SHEET S10 AND S11.
 5. FOR WALL TYPES THAT DO NOT MEET THE CRITERIA OF CONDITIONS A, B, C, OR D AS DEFINED ON SHEETS S10 AND S11; RDP IN RESPONSIBLE CHARGE TO PROVIDE JUSTIFICATION THAT THE TOP TRACK DEMAND IS LOWER THAN THOSE IN THE TABLE ABOVE.
 6. 'F' REFERS TO THE FORCE BEING RESISTED BY EACH BRACELOK RETRO CONNECTOR. DEMANDS CALCULATED IN ACCORDANCE WITH ASCE 7-16.
 7. NOTES & DETAIL CALLOUTS IN SPECIFIC DETAILS TAKE PRECEDENCE OVER THE "OPD" DETAILS.

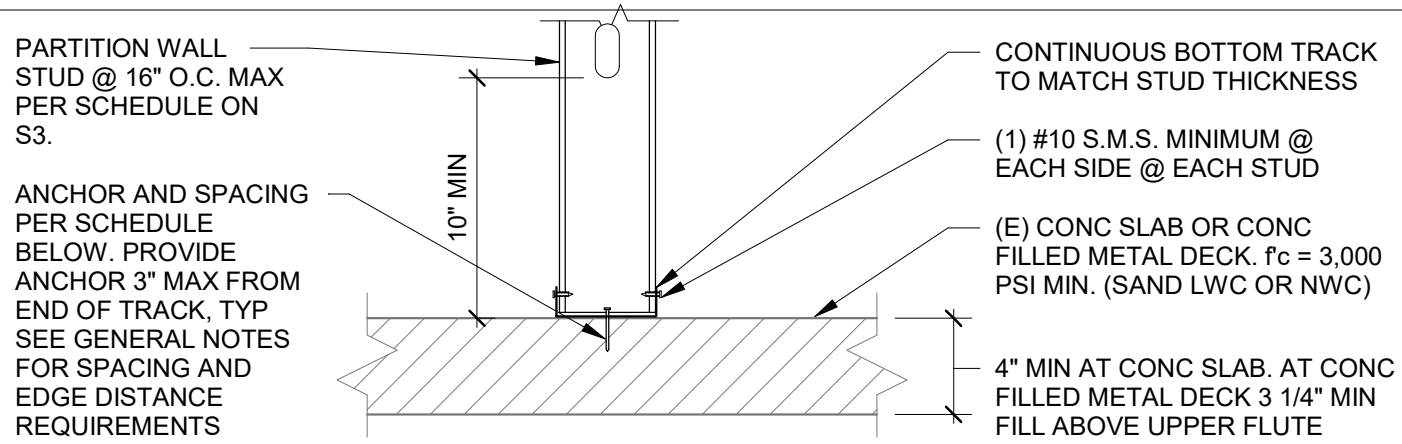


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BRACELOK™ RETRO CONNECTOR,
MODEL NO. SPT-10-R
Title
WALL SECTION & SCHEDULES

Drawn: JEB Job number: B8769007.01
Design: PGM Rev:
Check: AC Scale: 1/2" = 1'-0"
Date: 07/10/19

Sheet
S3
OF Sheets



MAXIMUM FASTENER SPACING AT BOTTOM CONNECTION (INCHES) CONDITION A				
Sds	BOTTOM REACTION (PLF)	0.145\"/>		
0.25-0.99	17	32	32	32
1.00-1.25	22	24	32	32
1.26-1.45	26	16	32	32
1.46-1.95	34	16	32	32

CONDITION A FOR 9 FT INTERIOR WALL

MAXIMUM FASTENER SPACING AT BOTTOM CONNECTION (INCHES) CONDITON B				
Sds	BOTTOM REACTION (PLF)	0.145\"/>		
0.25-0.99	25	16	32	32
1.00-1.25	32	16	32	32
1.26-1.45	37	8	32	32
1.46-1.95	50	8	32	32

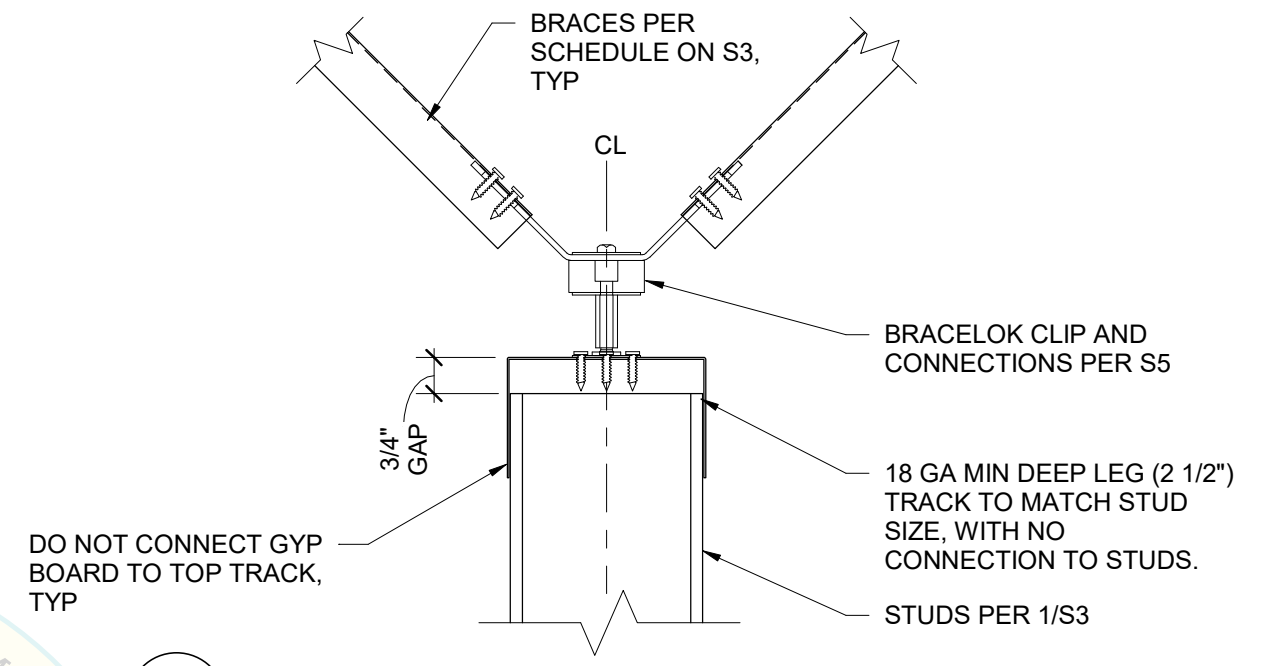
CONDITION B FOR 9 FT INTERIOR WALL

MAXIMUM FASTENER SPACING AT BOTTOM CONNECTION (INCHES) CONDITION C AND D				
Sds	BOTTOM REACTION (PLF)	0.145\"/>		
0.25-0.99	101	-	32	32

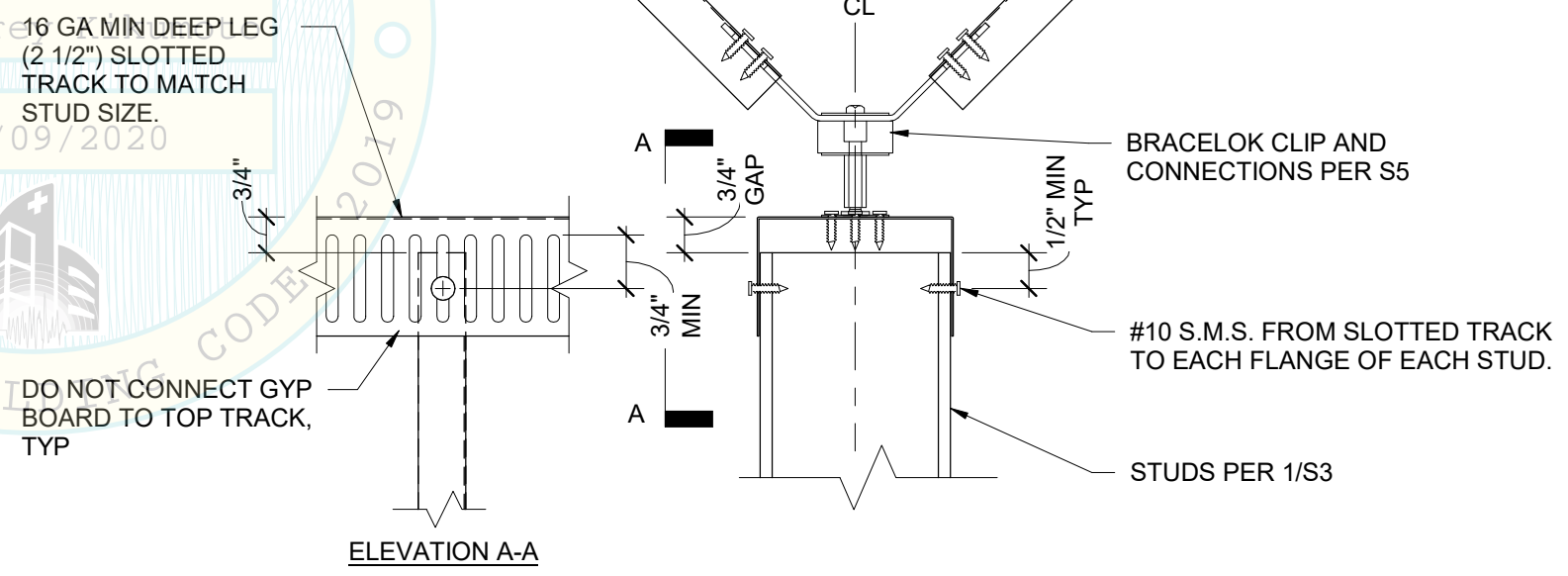
CONDITION C AND D FOR 9 FT INTERIOR WALL

NOTES:
 1. LOADS ABOVE DO NOT INCLUDE Ω_o FOR CONCRETE ATTACHMENT.

1 BOTTOM TRACK CONNECTION
 1 1/2" = 1'-0"



2 TOP TRACK DETAIL (NO CONNECTION)
 3" = 1'-0"



3 TOP TRACK CONNECTION (SLOTTED CONNECTION)
 3" = 1'-0"

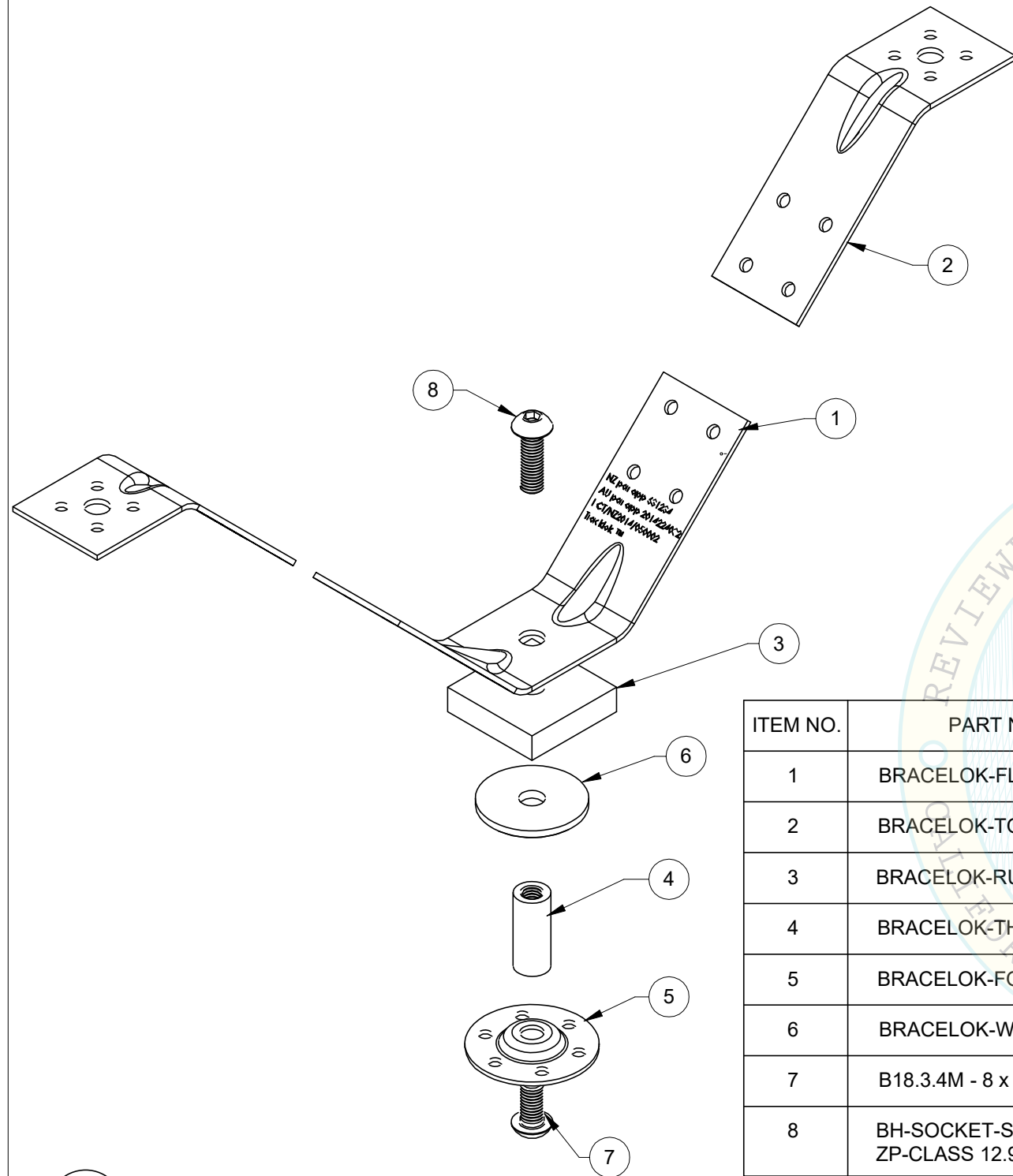


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BRACELOK™ RETRO CONNECTOR,
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 Title
 TOP & BOTTOM CONNECTIONS

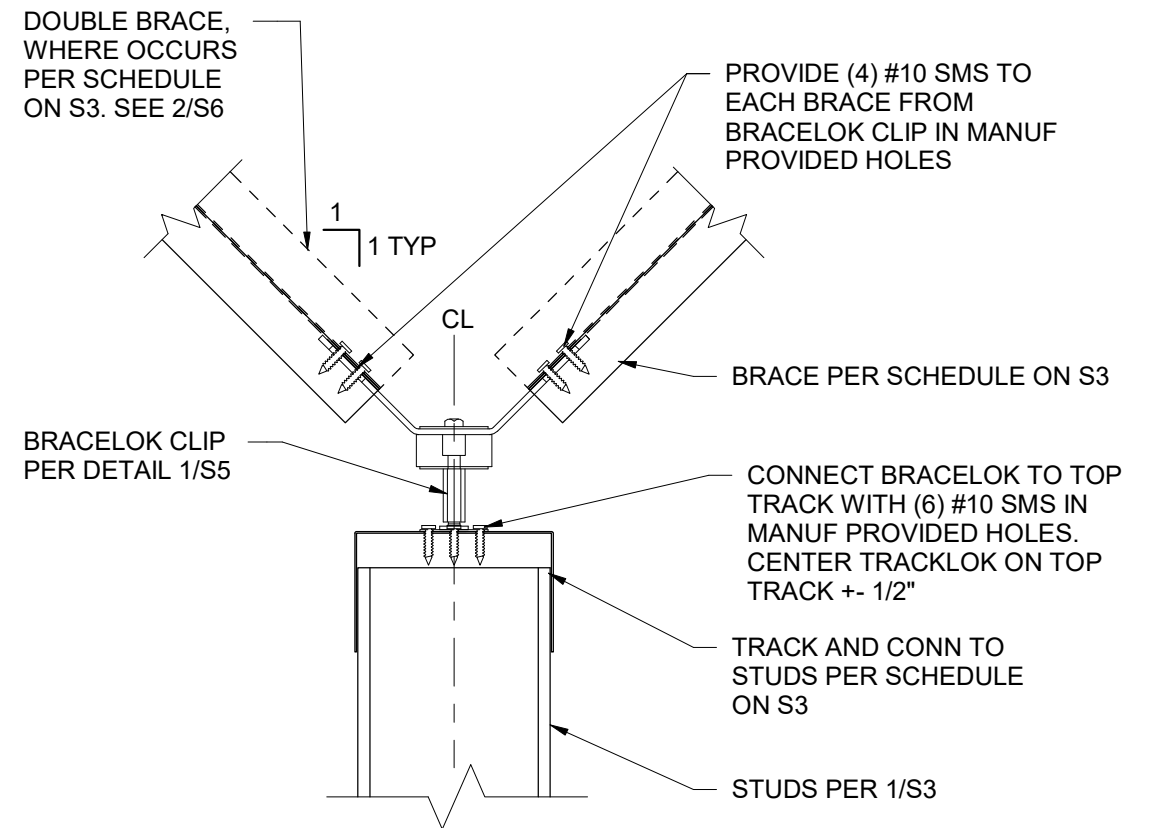
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Design:	PGM	Rev:	
Check:	AC	Scale:	As indicated
Date:	07/10/19		

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S4
 OF Sheets



ITEM NO.	PART NUMBER	RETRO/QTY.	DETAIL
1	BRACELOK-FLY-PLATE	1	1/S8
2	BRACELOK-TOP-CONNECTOR	2	2/S8
3	BRACELOK-RUBBER-DAMPNER	1	3/S9
4	BRACELOK-THREADED-SPACER	1	4/S9
5	BRACELOK-FOOT-RETRO	1	1/S9
6	BRACELOK-WASHER	1	2/S9
7	B18.3.4M - 8 x 1.25 x 16 SBHCS --S	1	-
8	BH-SOCKET-SCREW-M8X25-ZP-CLASS 12.9	1	-

1 BRACELOK CONNECTOR
NTS



2 BRACELOK CLIP CONNECTION
3" = 1'-0"

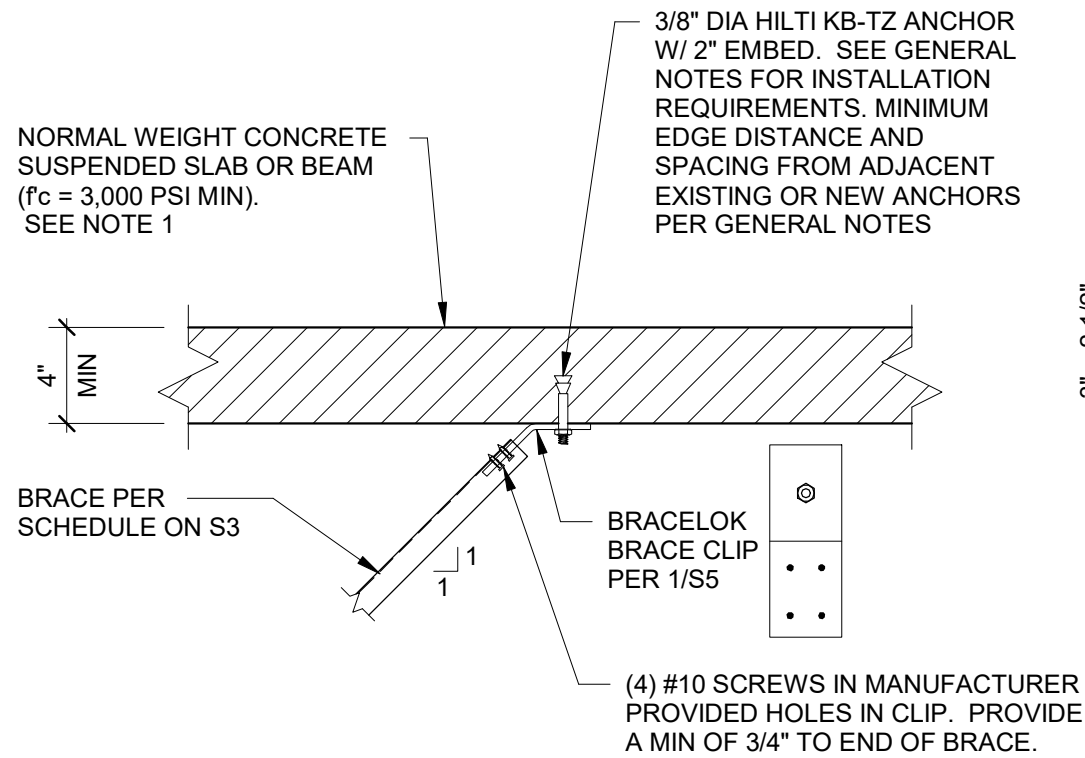


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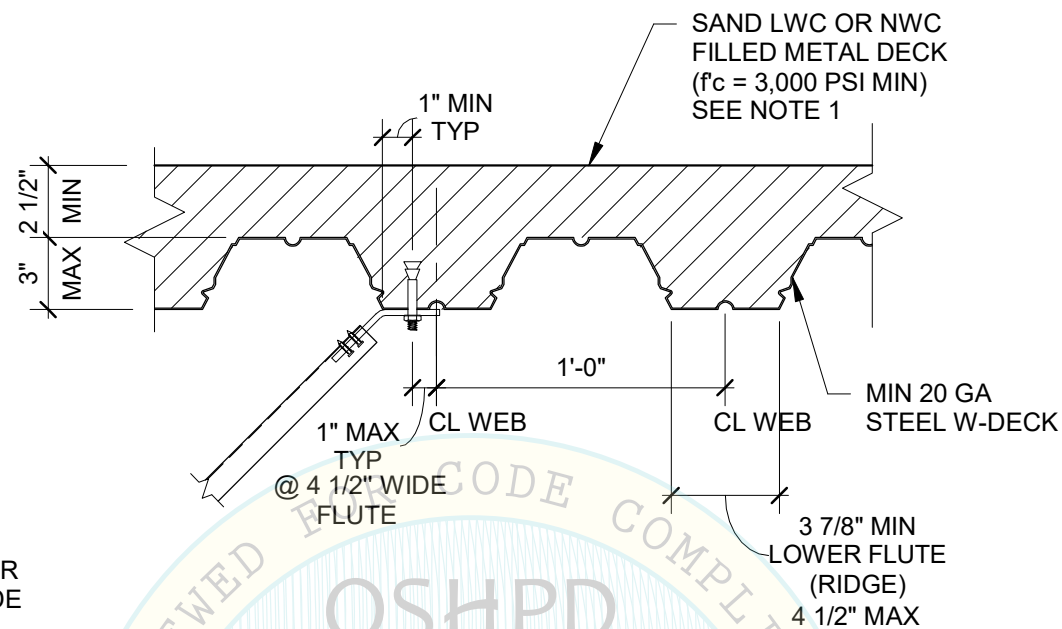
BRACELOK™ RETRO CONNECTOR,
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Title
BRACELOK CONNECTIONS

Drawn: JEB Job number: B8769007.01
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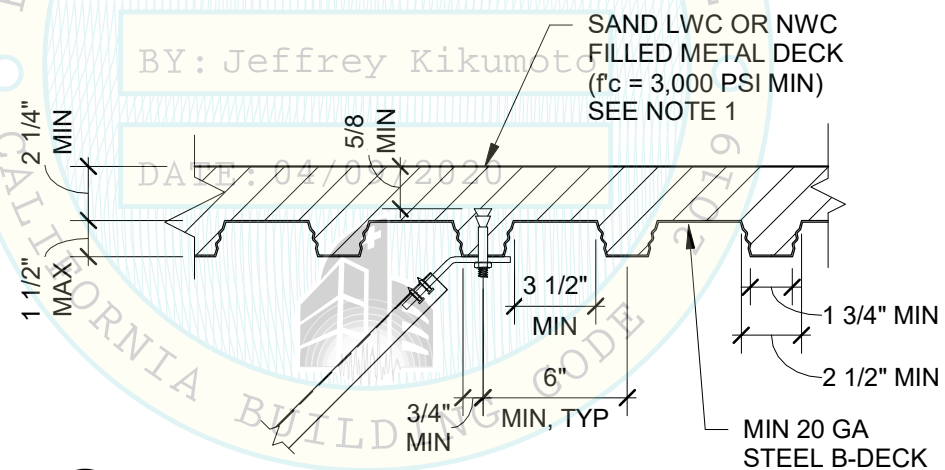
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S5
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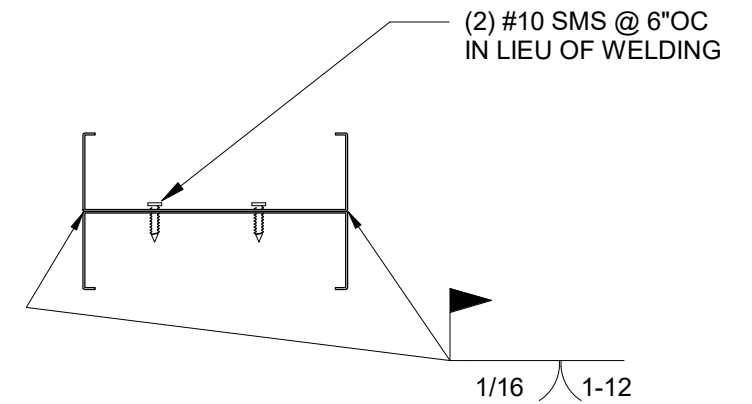
A @ CONCRETE SLAB



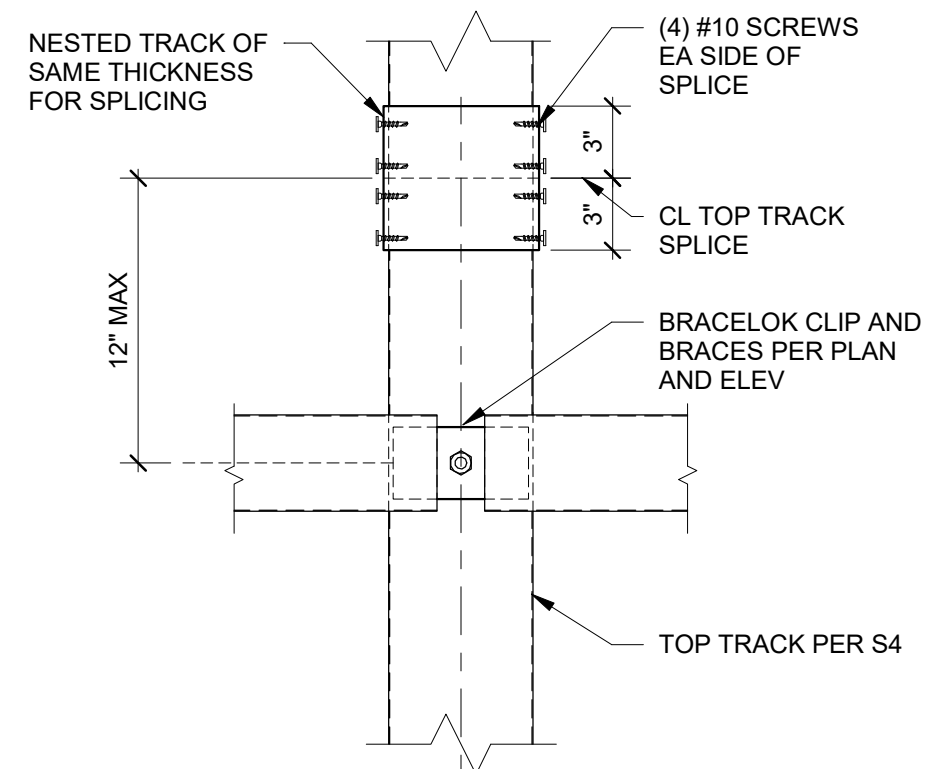
B @ CONC FILLED METAL DECK - W DECK



C @ CONC FILLED METAL DECK - B DECK



2 BACK-TO-BACK BRACE SECTION
3" = 1'-0"



3 TOP TRACK SPLICE DETAIL
1 1/2" = 1'-0"

NOTES:
1. DETAIL MAY ONLY BE USED WHERE INDICATED ON THE SCHEDULE ON SHEET S3.

1 BRACE TO SLAB CONNECTION
1 1/2" = 1'-0"

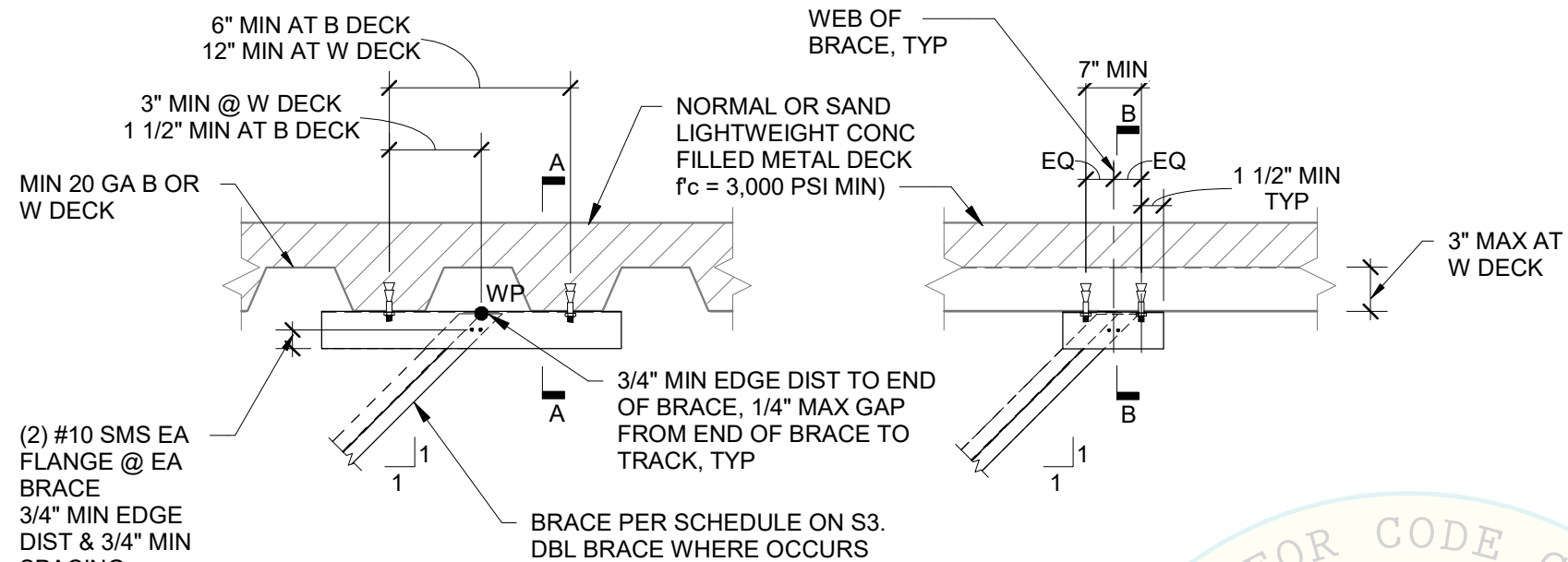


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BRACELOK™ RETRO CONNECTOR,
MODEL NO. SPT-10-R
Title
BRACE CONNECTIONS

Drawn:	JEB	Job number:	B8769007.01
Design:	PGM	Rev:	
Check:	AC	Scale:	As indicated
Date:	07/10/19		

Sheet
S6
OF Sheets



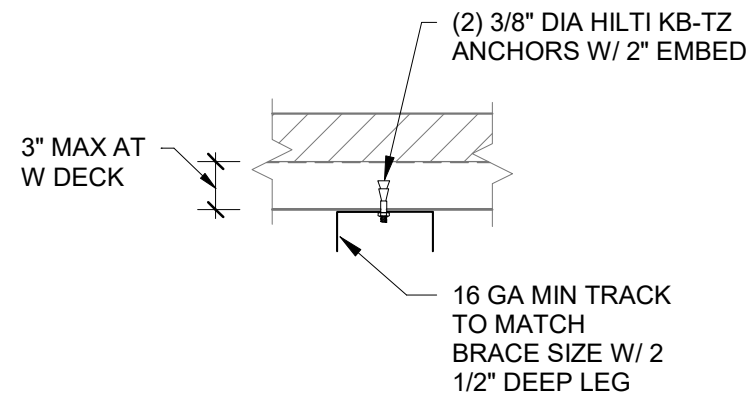
BRACE PERPENDICULAR TO FLUTE OF DECK

(2) #10 SMS EA FLANGE @ EA BRACE
3/4" MIN EDGE DIST & 3/4" MIN SPACING BETWEEN SCREWS, TYP

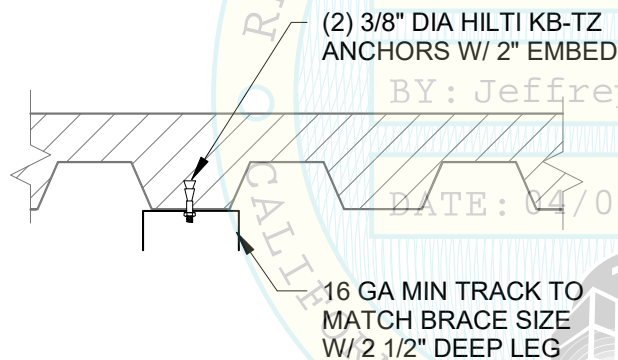
NORMAL OR SAND LIGHTWEIGHT CONC FILLED METAL DECK
 $f_c = 3,000$ PSI MIN)

BRACE PER SCHEDULE ON S3. DBL BRACE WHERE OCCURS

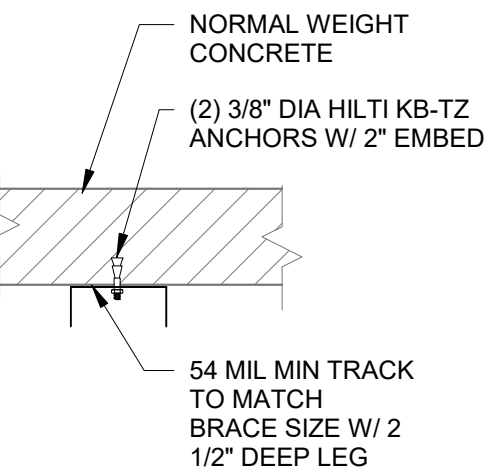
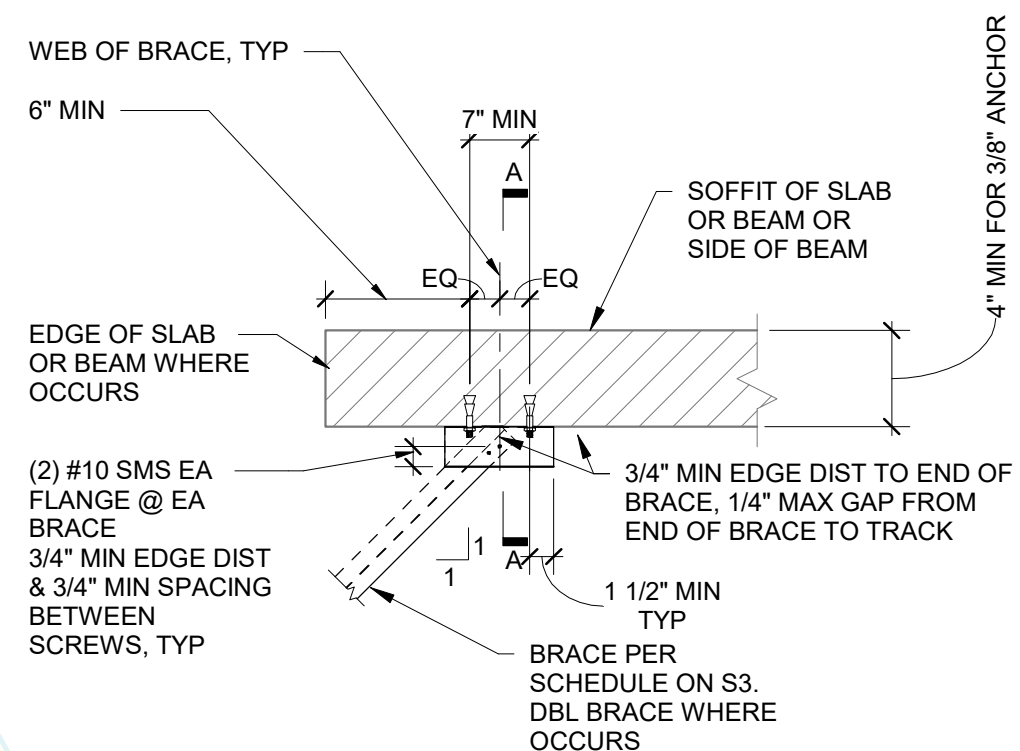
BRACE PARALLEL TO FLUTE OF DECK



SECTION A-A



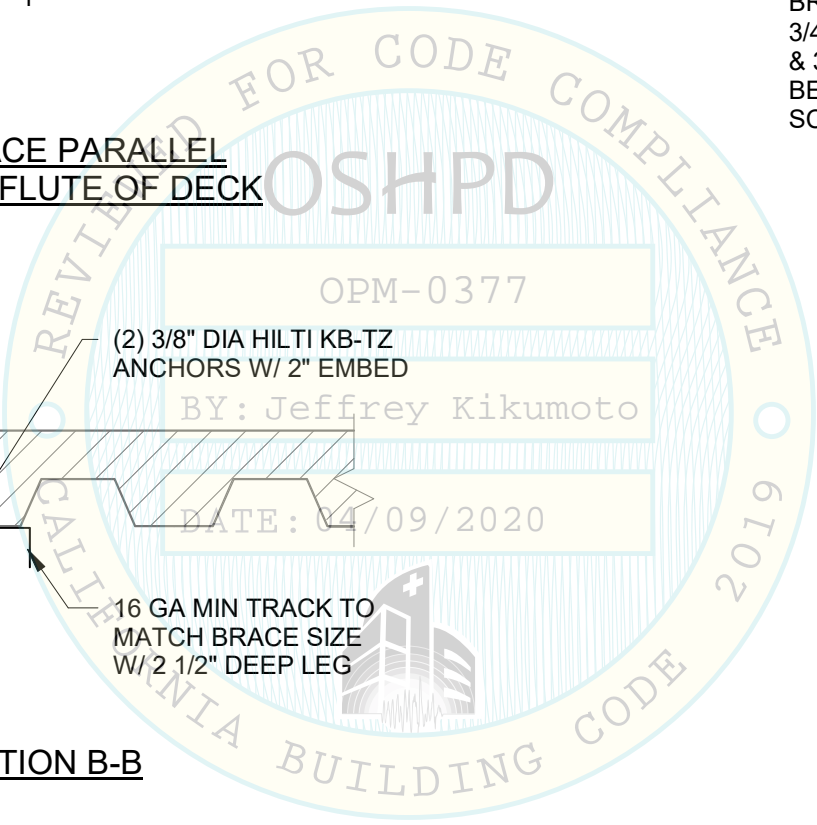
SECTION B-B



SECTION A-A

NOTES:

- SEE DETAIL 1/S6 FOR THE METAL DECK AND ANCHOR LOCATION REQUIREMENTS FOR THE USE OF THE KB-TZ ANCHORS INTO THE SOFFIT OF THE CONCRETE FILLED METAL DECK.



1 BRACE TO CONCRETE FILLED METAL DECK CONNECTION

1" = 1'-0"

2 BRACE TO CONCRETE SLAB OR BEAM SOFFIT CONNECTION

1" = 1'-0"



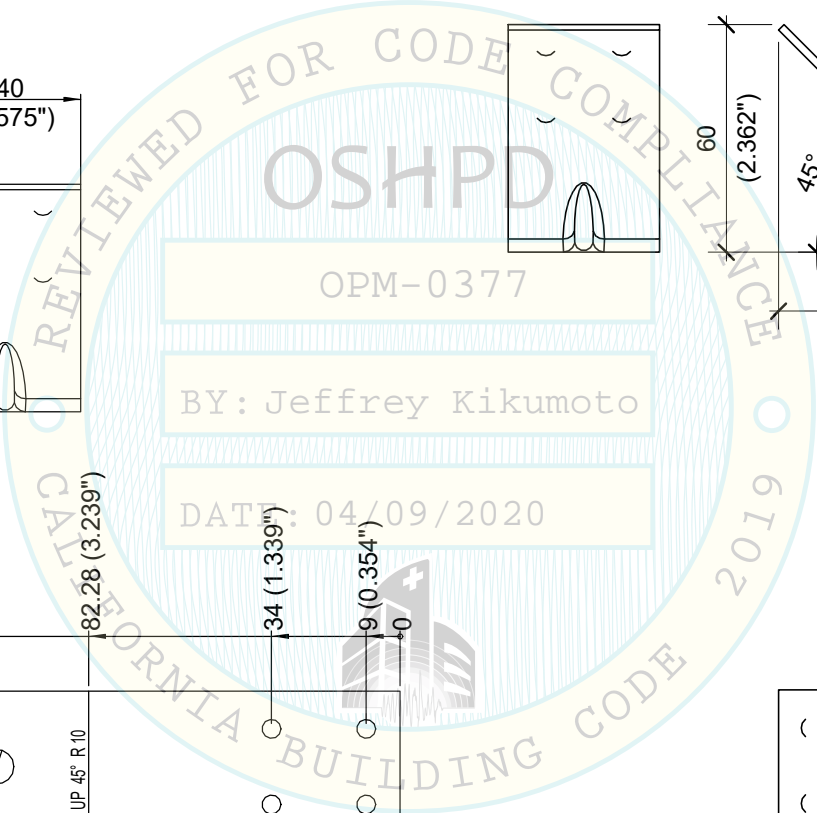
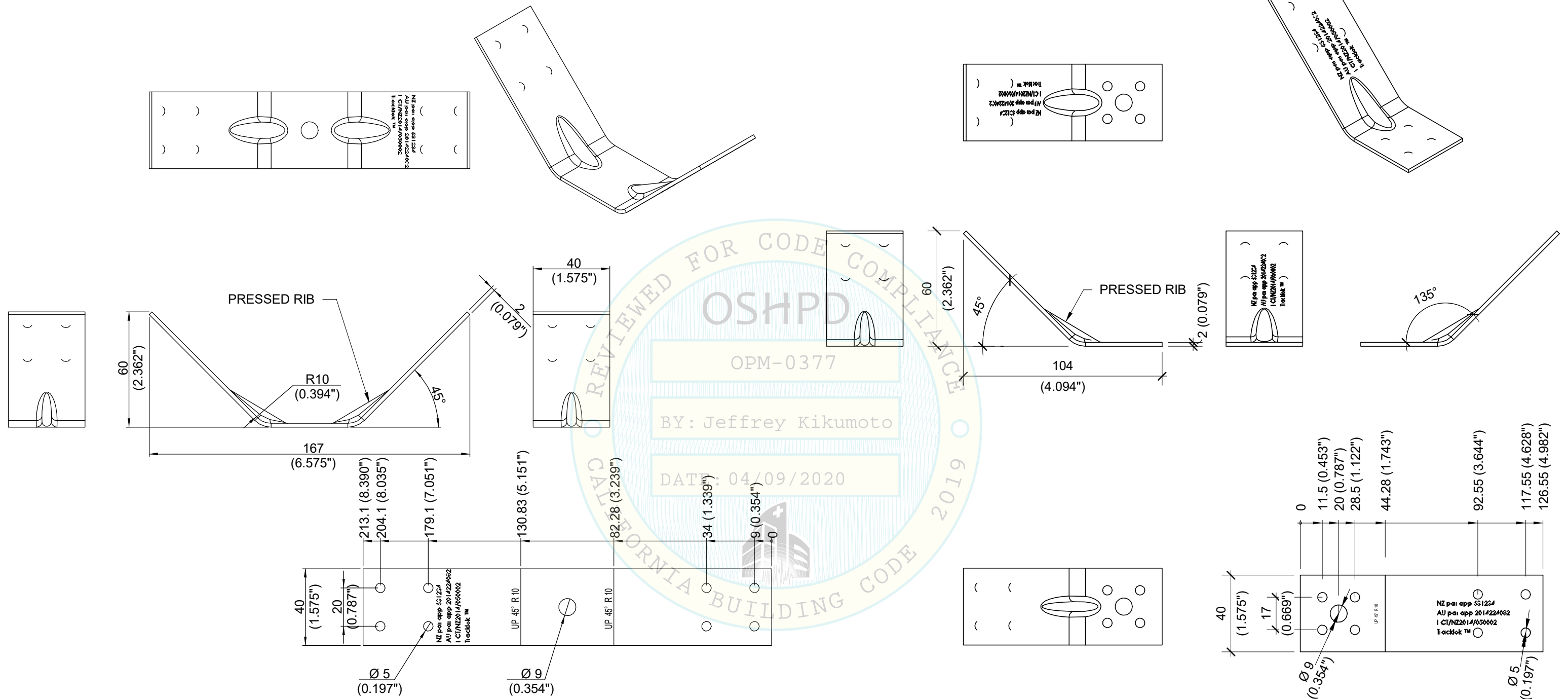
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MODEL NO. SPT-10-R
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BRACE CONNECTIONS

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Check:	AC	Scale:	1" = 1'-0"
Date:	07/10/19		

Sheet
S7
OF Sheets

NOTE:
ALL DIMENSIONS IN THIS SHEET ARE IN mm. IMPERIAL UNITS IN PARENTHESIS (INCHES).



1 BRACELOK FLY PLATE
NTS

2 BRACELOK TOP CONNECTOR
NTS

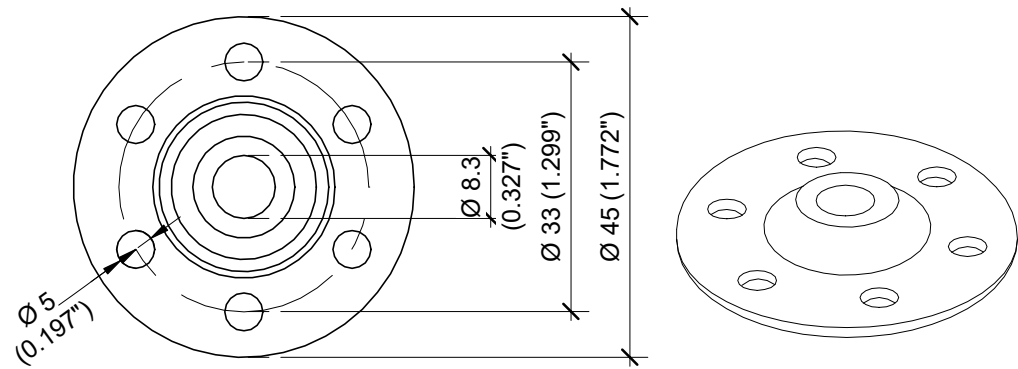


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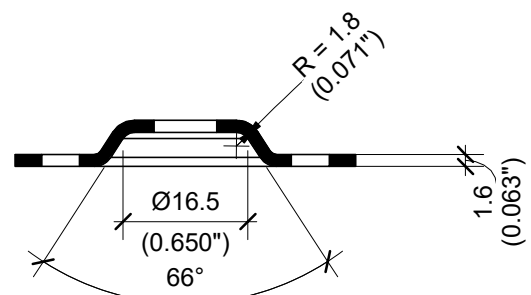
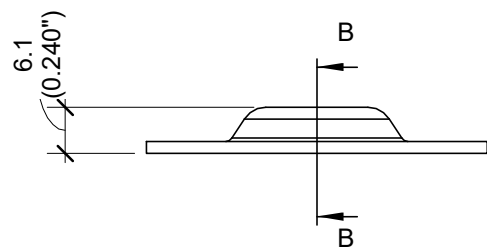
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MODEL NO. SPT-10-R
Title
BRACELOK PARTS

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Design:	Designer	Rev:	
Check:	Checker	Scale:	NTS
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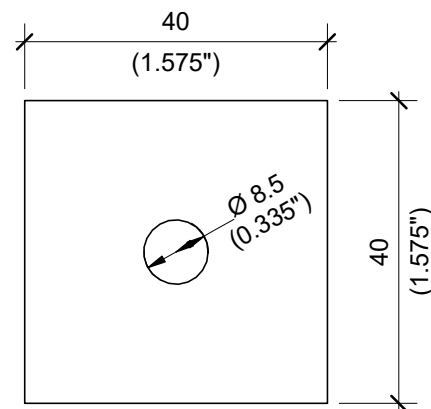
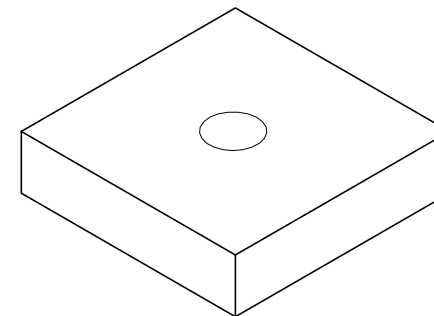
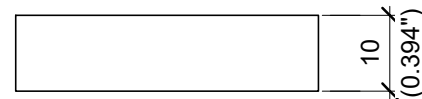
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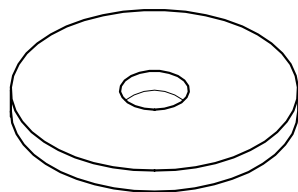
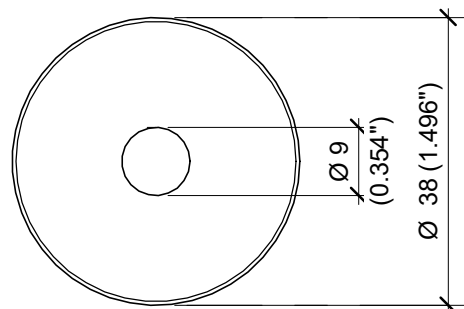


SECTION B-B

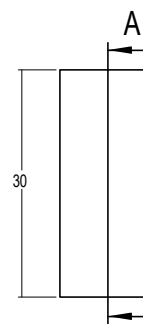
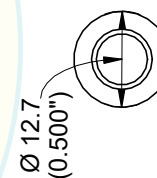
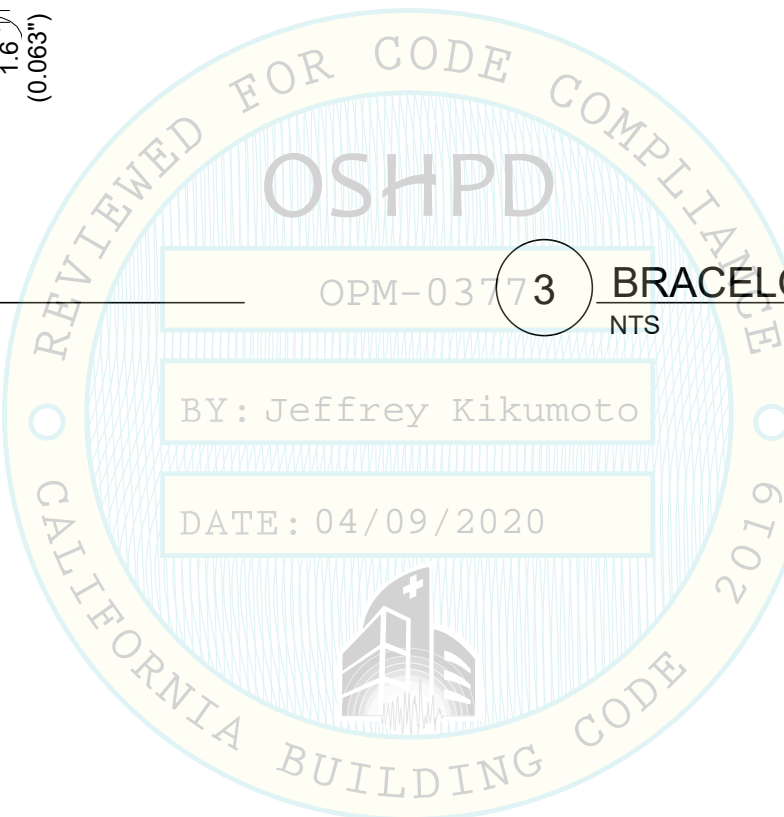


1 BRACELOK FOOT RETRO
NTS

3 BRACELOK RUBBER DAMPNER
NTS

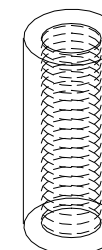
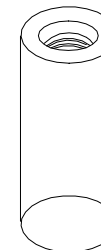


2 BRACELOK WASHER
NTS



A SECTION A-A

THREADED
M8x1.25 .5
CHAMFER EACH
END



4 BRACELOK THREADED SPACER
NTS



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PLOT DATE: Mar 27, 2013

TYPICAL PARTITION WALL CONDITIONS

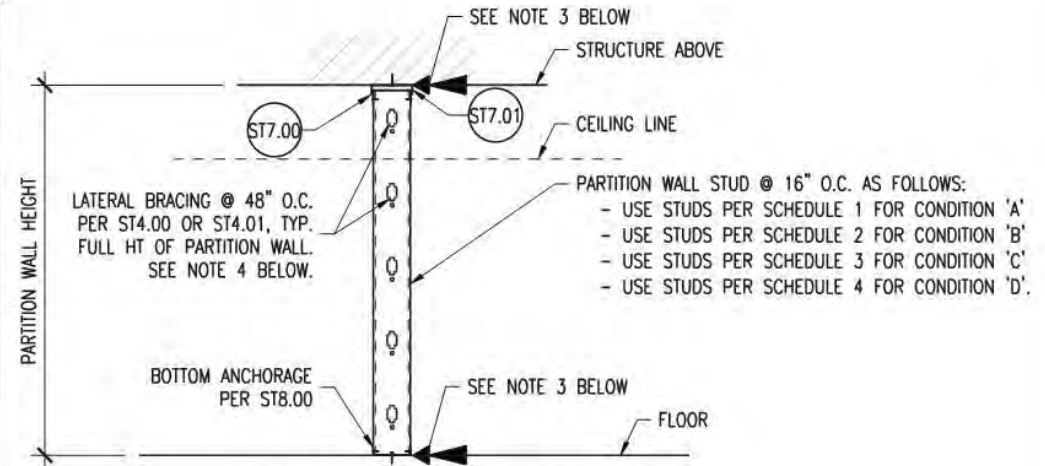
- CONDITION 'A' - PARTITION WALL WITHOUT ATTACHMENTS. SEE DETAIL ST2.02
- CONDITION 'B' - PARTITION WALL SUPPORTING CABINETS OR EQUIPMENT ON ONE SIDE OR BOTH SIDES OF THE WALL DISTRIBUTING UP TO 50 LB TOTAL VERTICAL LOAD PER STUD (37 PLF). REFER TO GENERAL NOTE 7C ON ST0.01. CENTER OF GRAVITY LESS THAN 6" FROM THE FACE OF THE STUD. SEE DETAIL ST2.03.
- CONDITION 'C' - PARTITION WALL SUPPORTING OVERHEAD AND/OR BASE CABINETS OR EQUIPMENT ON ONE SIDE OR BOTH SIDES OF THE WALL, DISTRIBUTING UP TO 152 LB TOTAL VERTICAL LOAD PER STUD (114 PLF). REFER TO GENERAL NOTE 7C ON ST0.01. CENTER OF GRAVITY WITHIN 6" OF FACE OF THE STUD. SEE DETAIL ST2.04.
- CONDITION 'D' - PARTITION WALL SUPPORTING FULL HEIGHT CABINETS OR EQUIPMENT ON ONE SIDE OR BOTH SIDES OF THE WALL, DISTRIBUTING UP TO 380 LB TOTAL VERTICAL LOAD PER STUD (285 PLF). REFER TO GENERAL NOTE 7C ON ST0.01. CENTER OF GRAVITY WITHIN 6" OF FACE OF THE STUD. SEE DETAIL ST2.04.



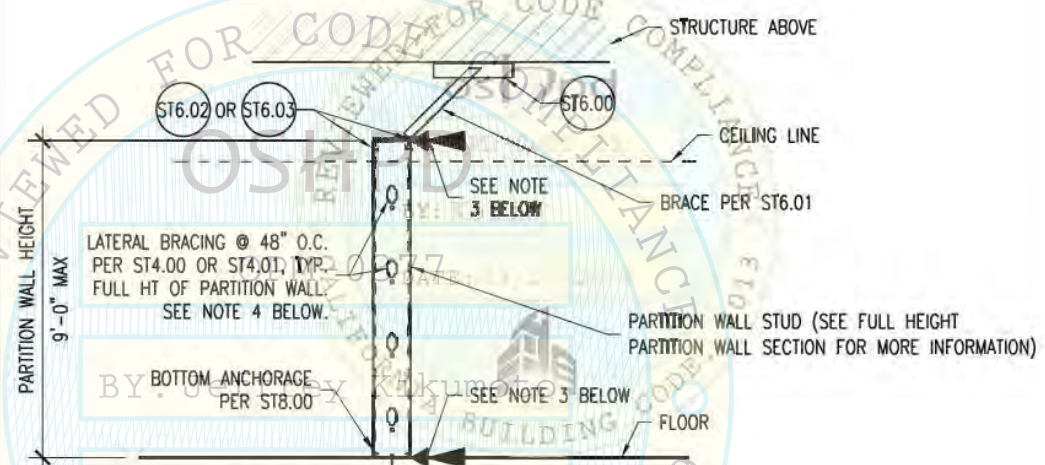
SECTION TITLE: STANDARD PARTITION WALL DETAILS		
SHEET TITLE: TYPICAL PARTITION WALL CONDITIONS	OPD NO.:	ST2.00

1 TYPICAL PARTITION WALL CONDITIONS

PLOT DATE: Mar 27, 2013



A FULL HEIGHT PARTITION WALL



B PARTIAL HEIGHT PARTITION WALL

- NOTES:
- PARTITION WALL SCHEDULES PER ST2.01.
 - SEE ST2.00 FOR DEFINITION OF PARTITION WALL CONDITIONS.
 - SEE ST6.11 FOR TOP & BOTTOM CONNECTION DEMANDS.
 - LATERAL BRACING IS NOT REQUIRED WHERE GYP BOARD IS INSTALLED ON BOTH SIDES OF PARTITION WALL.

SECTION TITLE: STANDARD PARTITION WALL DETAILS		
SHEET TITLE: TYPICAL PARTITION WALL SECTIONS	OPD NO.:	ST2.02

2 TYPICAL PARTITION WALL SECTIONS

SHEET NOTES:

- THIS OPM IS BASED ON THE FOLLOWING SYSTEM WEIGHTS:
 - PARTITION WALLS=7.5 psf [INCLUDES METAL STUDS, (2) LAYERS OF GYPBD, (2) LAYERS ON (1) SIDE OR (1) LAYER ON BOTH SIDES, & 1 psf FOR INSULATION & FINISHES]
 - CABINETS=38 pcf (INCLUDES CONTENTS AT 33 pcf PER 2019 CBC TABLE 1607A.1 & CABINET SELF WT OF 5 pcf)
 - EQUIPMENT=38 pcf (EQUIPMENT LOAD IS ASSUMED TO BE THE SAME AS CABINET LOAD)
- NOTES & DETAIL CALLOUTS IN SPECIFIC DETAILS TAKE PRECEDENCE OVER THE "OPD" DETAILS CALLED OUT ON THIS SHEET.
- SEE SCHEDULE ON SHEET S3 FOR APPLICABLE STUD AND BRACE SIZE INFORMATION.



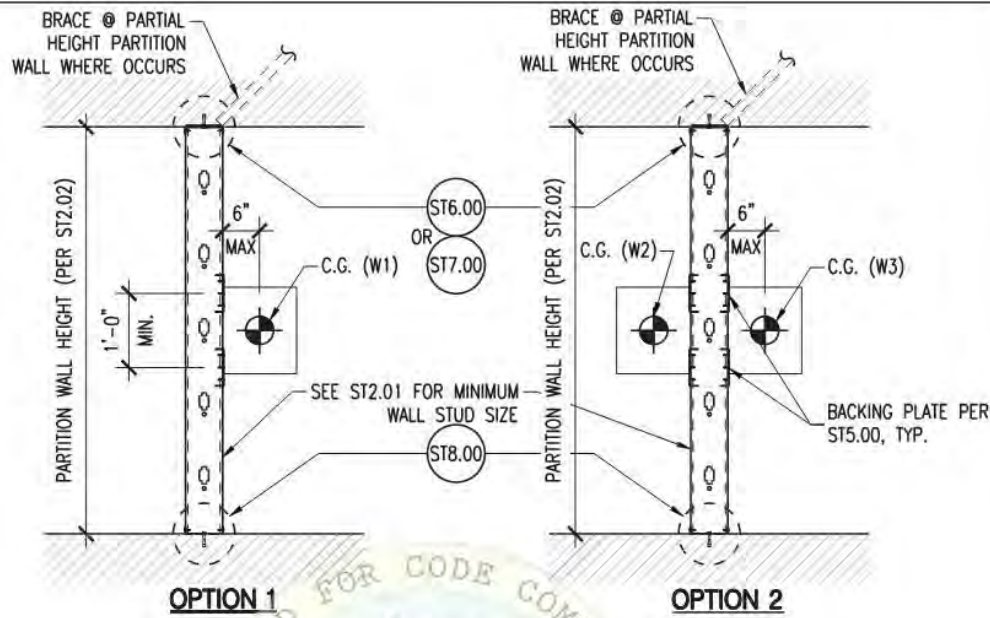
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PLOT DATE: Mar 27, 2013



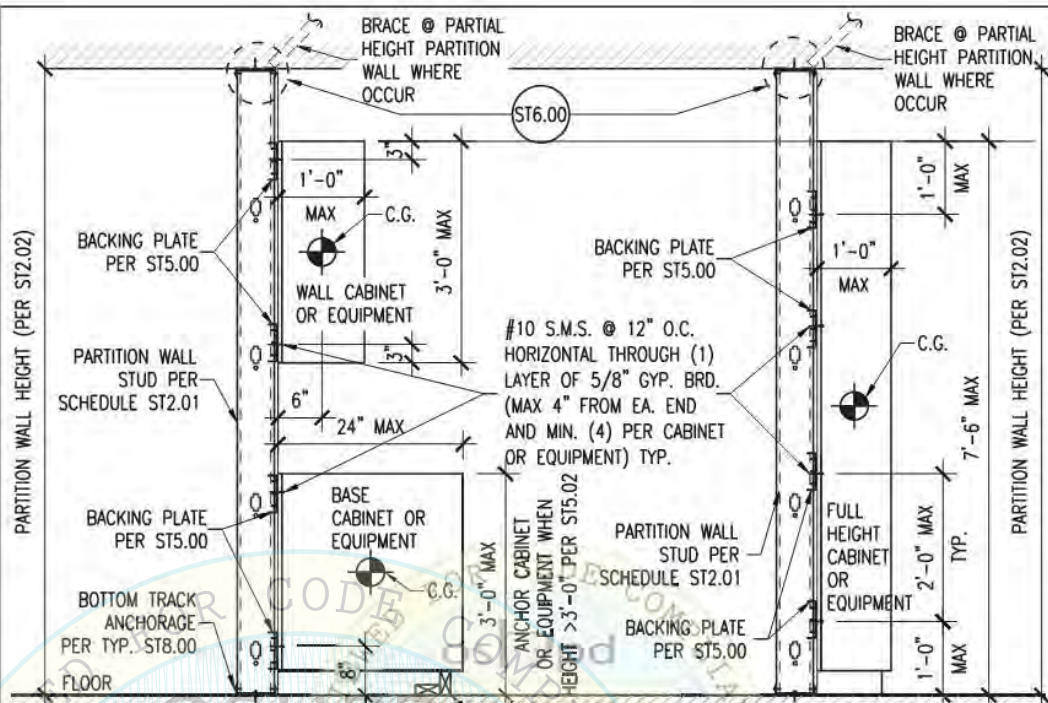
OPTION 1
OPTION 2
A PARTITION WALL CONDITION 'B'

- NOTES:**
- THIS DETAIL APPLIES TO PARTITION WALLS SUPPORTING CABINETS OR EQUIPMENT THAT CONFORM TO THE REQUIREMENTS OF CONDITION 'B' PER ST2.00.
 - WHERE CABINETS OR EQUIPMENT OCCUR ON BOTH SIDES OF THE PARTITION WALL, EITHER OF THE FOLLOWING OPTIONS MAY BE USED:
 - DECREASE SPACING OF WALL STUDS, BOTTOM TRACK ANCHORAGE AND TOP TRACK ANCHORAGE BY 50% FROM THAT SHOWN ON ST2.02, ST6.00, ST7.00 & ST8.00 (I.E. PROVIDE TWICE THE QUANTITY OF WALL STUDS AND TOP AND BOTTOM TRACK ANCHORAGE).
 - LIMIT THE COMBINED WEIGHT OF CABINETS OR EQUIPMENT ON OPPOSITE SIDES OF WALL AS SHOWN IN OPTION 2.
FOR EXAMPLE:
W1 = 50 LB/ STUD MAX
W2 + W3 = 50 LB/ STUD MAX
 - SEE ST2.01 FOR MINIMUM PARTITION WALL STUD SIZE.
 - FOR TYPICAL PARTITION WALL SECTIONS SEE ST2.02.

SECTION TITLE: STANDARD PARTITION WALL DETAILS		OPD NO.:
SHEET TITLE: CABINET OR EQUIPMENT ANCHORAGE TO PARTITION WALL, CONDITION 'B'		ST2.03

1 CONDITION 'B' PARTITION WALL

PLOT DATE: Mar 27, 2013



B CONDITION 'C' OVERHEAD AND / OR BASE CABINETS OR EQUIPMENT
C CONDITION 'D' FULL HEIGHT CABINETS OR EQUIPMENT

- NOTES:**
- THIS DETAIL APPLIES TO PARTITION WALLS SUPPORTING CABINETS OR EQUIPMENT THAT CONFORM TO THE REQUIREMENTS OF CONDITION 'C' OR 'D' PER ST2.00.
 - THIS DETAIL APPLIES TO PARTITION WALLS SUPPORTING OVERHEAD AND/OR BASE CABINET OR EQUIPMENT ON ONE SIDE OF THE WALL. WHERE CABINETS OR EQUIPMENT OCCUR ON BOTH SIDES OF THE WALL, THE FOLLOWING OPTION MAY BE USED:
 - DECREASE SPACING OF WALL STUDS, BOTTOM TRACK ANCHORAGE AND TOP TRACK ANCHORAGE BY 50% FROM THAT SHOWN ON ST2.02, ST6.00, ST7.00 & ST8.00. (I.E. PROVIDE TWICE THE QUANTITY OF WALL STUDS AND TOP AND BOTTOM TRACK ANCHORAGE).
 - SEE ST2.01 FOR MINIMUM WALL STUD SIZE.
 - FOR TYPICAL PARTITION SECTIONS SEE ST2.02.

SECTION TITLE: STANDARD PARTITION WALL DETAILS		OPD NO.:
SHEET TITLE: CABINET OR EQUIPMENT ANCHORAGE TO PARTITION WALL, CONDITIONS 'C' & 'D'		ST2.04

2 CONDITION 'C' & 'D' PARTITION WALL

SHEET NOTES:

- NOTES & DETAIL CALLOUTS IN SPECIFIC DETAILS TAKE PRECEDENCE OVER THE "OPD" DETAILS CALLED OUT ON THIS SHEET.
- SEE GENERAL NOTES FOR EXPANSION ANCHOR, SCREW ANCHOR, SHEET METAL SCREW, AND PAF REQUIREMENTS.
- SEE SCHEDULE ON SHEET S3 FOR APPLICABLE STUD AND BRACE SIZE INFORMATION.



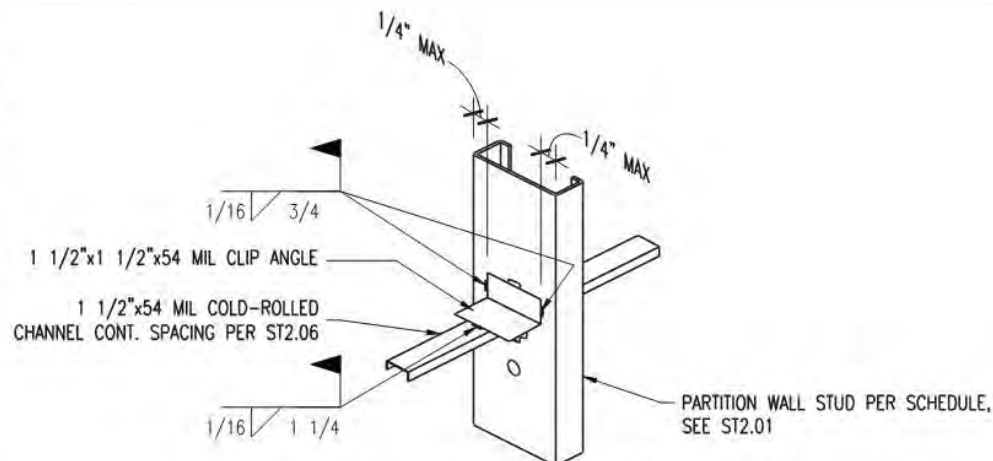
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OPD-0001-13 DETAILS (ST2.03, ST2.04)

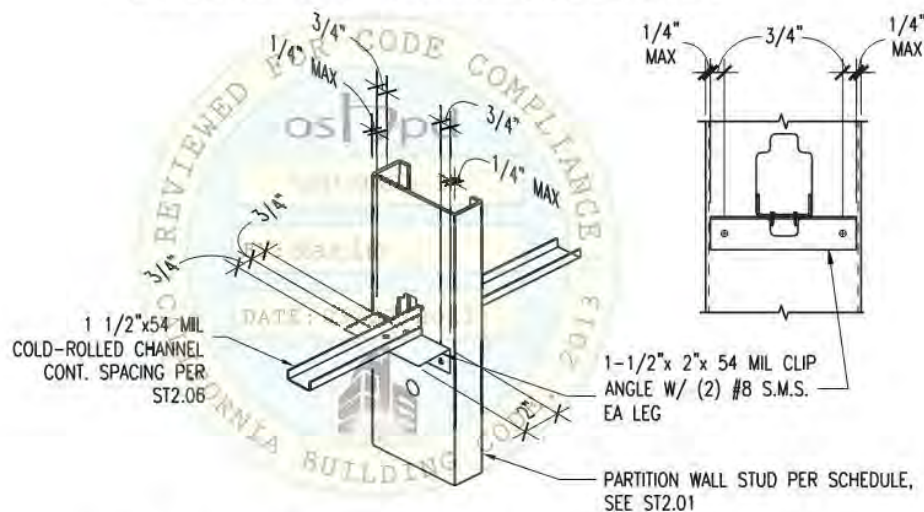
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Date:	07/10/19		

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METAL STUD LATERAL BRACING TYPE 1 - OPTION 1

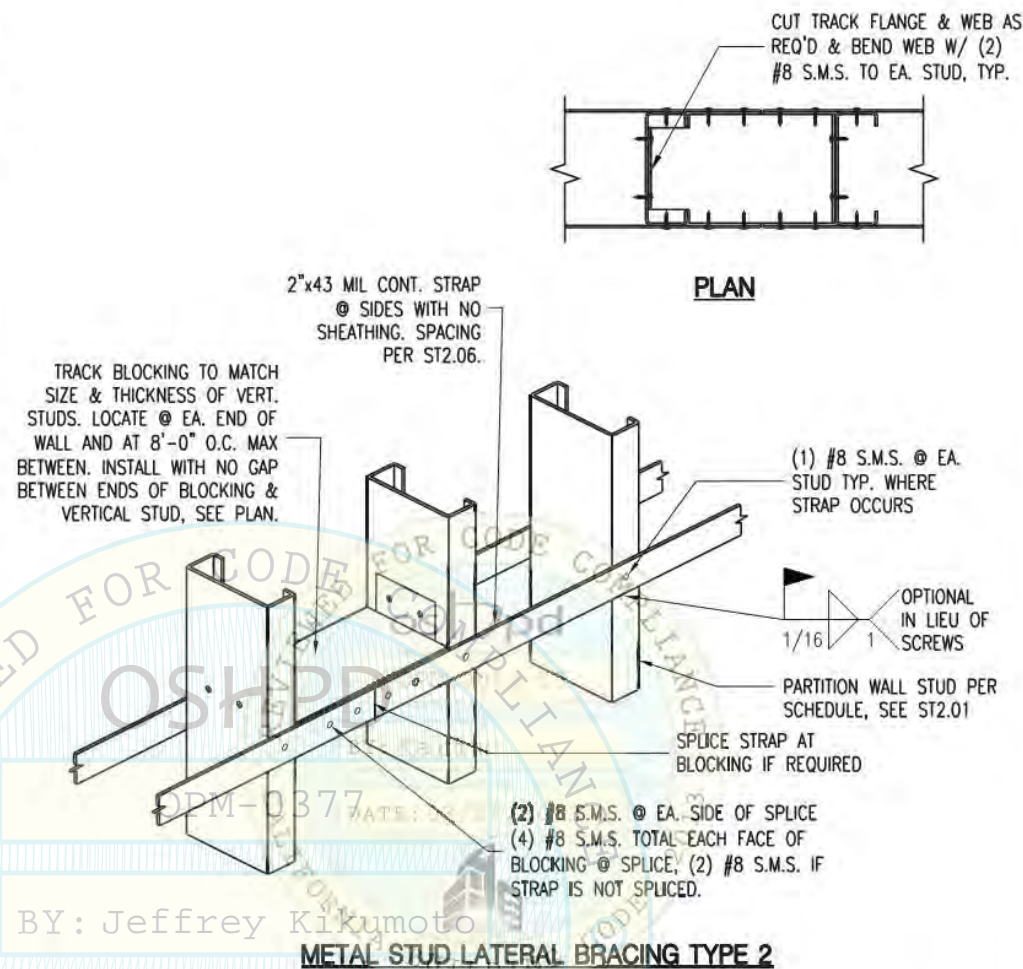


METAL STUD LATERAL BRACING TYPE 1 - OPTION 2

- NOTES:**
- LATERAL BRACING IS NOT REQUIRED WHERE GYP. BOARD IS INSTALLED ON BOTH SIDES OF PARTITION WALL.
 - NOTCHING OR CUTTING OF COLD-ROLLED CHANNEL IS NOT PERMITTED FOR ANY CONDITION.

SECTION TITLE: STANDARD PARTITION WALL DETAILS		
SHEET TITLE: METAL STUD LATERAL BRACING TYPE 1	OPD NO.:	ST4.00

PLOT DATE: Mar 27, 2013



METAL STUD LATERAL BRACING TYPE 2

- NOTES:**
- LATERAL BRACING IS NOT REQUIRED WHERE GYP. BOARD IS INSTALLED ON BOTH SIDES OF PARTITION WALL.
 - NOTCHING OF BLOCKING OR STRAP IS NOT PERMITTED FOR ANY CONDITION.

SECTION TITLE: STANDARD PARTITION WALL DETAILS		
SHEET TITLE: METAL STUD LATERAL BRACING TYPE 2	OPD NO.:	ST4.01

SHEET NOTES:

- NOTES & DETAIL CALLOUTS IN SPECIFIC DETAILS TAKE PRECEDENCE OVER THE "OPD" DETAILS CALLED OUT ON THIS SHEET.
- SEE GENERAL NOTES FOR EXPANSION ANCHOR, SCREW ANCHOR, SHEET METAL SCREW, AND PAF REQUIREMENTS.
- SEE SCHEDULE ON SHEET S3 FOR APPLICABLE STUD AND BRACE SIZE INFORMATION.

1 METAL STUD LATERAL BRACING TYP 1

2 METAL STUD LATERAL BRACING TYP 2



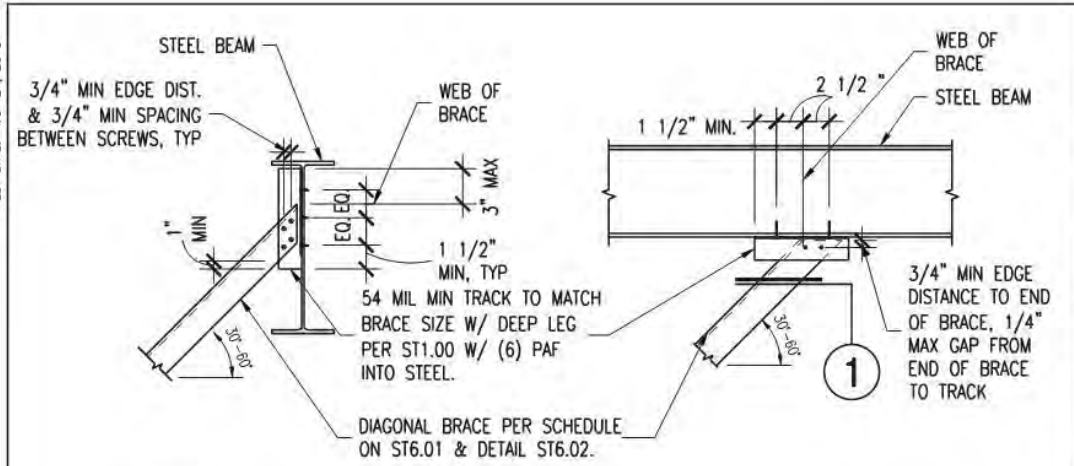
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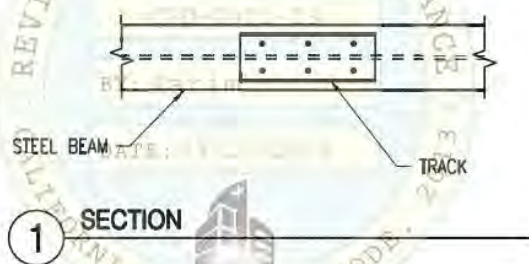
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Check:	AC	Scale:	
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A PERPENDICULAR TO STEEL BEAM
B BRACE PARALLEL TO STEEL BEAM



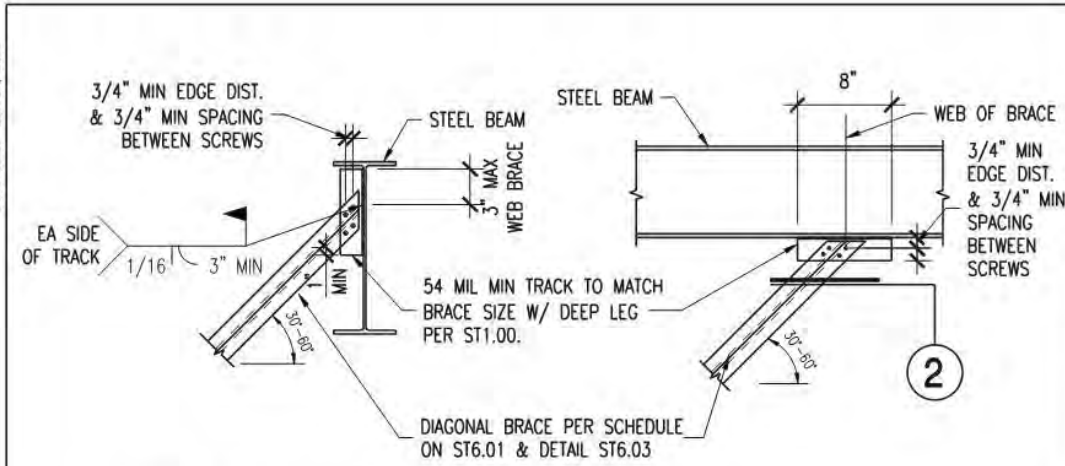
- NOTES:**
1. SEE TOP CONNECTION DEMAND SCHEDULE ON ST6.11.
 2. SEE ST1.05 FOR PAF REQUIREMENTS.
 3. THIS DETAIL IS APPLICABLE ONLY FOR PARTITION WALL CONDITIONS 'A' & 'B', ALL S₀₅ CATEGORIES.
 4. STEEL BEAM FLANGE & WEB MINIMUM THICKNESS = 3/16".
 5. RDP IN RESPONSIBLE CHARGE, IOR AND CONTRACTOR TO VERIFY THAT NO PDF IS INSTALLED IN THE PROTECTED ZONE OF ANY STEEL MEMBER, SEE ANSI/AISC 341-10.

SECTION TITLE: STANDARD PARTITION WALL DETAILS		OPD NO.:
SHEET TITLE: BRACE CONNECTION TO STEEL BEAM - PARTITION WALL CONDITIONS 'A' & 'B'		ST6.08

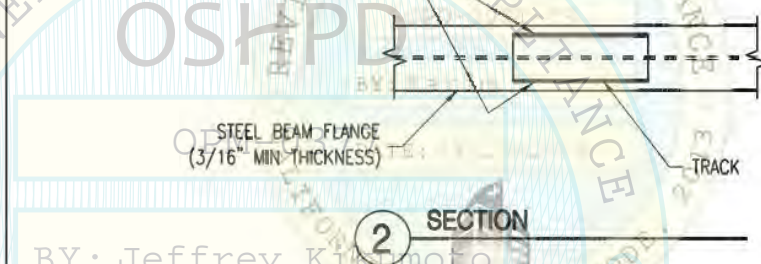
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1 BRACE CONNECTION TO STEEL BEAM -
PARTITION WALL CONDITIONS 'A' & 'B'

PLOT DATE: Mar 27, 2013



C BRACE PERPENDICULAR TO STEEL BEAM
D BRACE PARALLEL TO STEEL BEAM



- NOTES:**
1. SEE TOP CONNECTION DEMAND SCHEDULE ON ST6.11.
 2. THIS DETAIL IS APPLICABLE FOR PARTITION WALL CONDITIONS 'C' & 'D', ALL S₀₅ CATEGORIES, AS AN ALTERNATE TO ST6.08, THIS DETAIL CAN BE USED FOR ALL PARTITION WALL CONDITIONS.
 3. STEEL BEAM FLANGE & WEB MINIMUM THICKNESS = 3/16".
 4. RDP IN RESPONSIBLE CHARGE, IOR AND CONTRACTOR TO VERIFY THAT NO WELD IS INSTALLED IN THE PROTECTED ZONE OF ANY STEEL MEMBER, SEE ANSI/AISC 341-10.

SECTION TITLE: STANDARD PARTITION WALL DETAILS		OPD NO.:
SHEET TITLE: BRACE CONNECTION TO STEEL BEAM - PARTITION WALL CONDITIONS 'C' & 'D'		ST6.09

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2 BRACE CONNECTION TO STEEL BEAM -
PARTITION WALL CONDITIONS 'C' & 'D'

SHEET NOTES:

1. NOTES & DETAIL CALLOUTS IN SPECIFIC DETAILS TAKE PRECEDENCE OVER THE "OPD" DETAILS CALLED OUT ON THIS SHEET.
2. SEE GENERAL NOTES FOR EXPANSION ANCHOR, SCREW ANCHOR, SHEET METAL SCREW, AND PAF REQUIREMENTS.
3. SEE SCHEDULE ON SHEET S3 FOR APPLICABLE STUD AND BRACE SIZE INFORMATION.



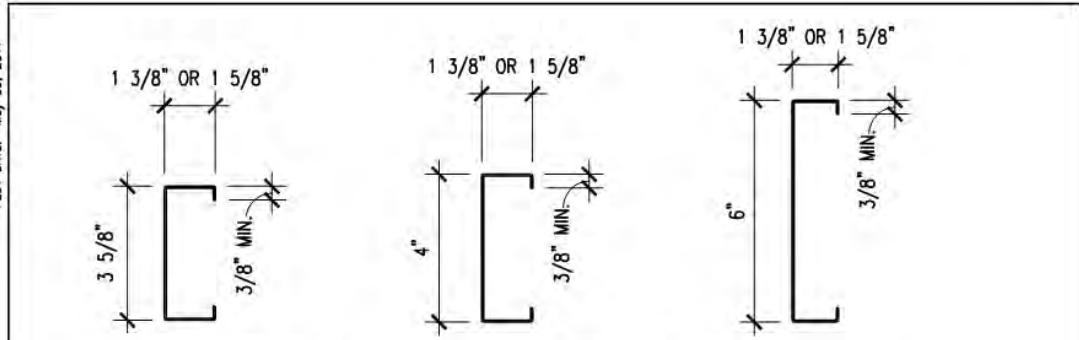
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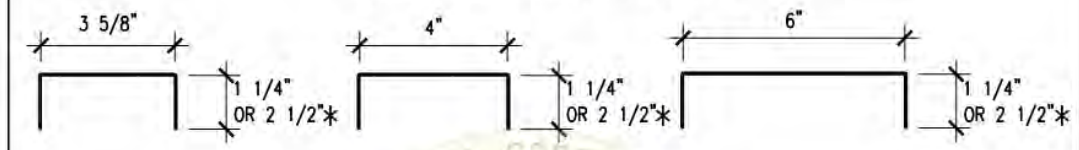
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STRUCTURAL STUD (S-SECTIONS)



STRUCTURAL TRACK (T-SECTIONS)

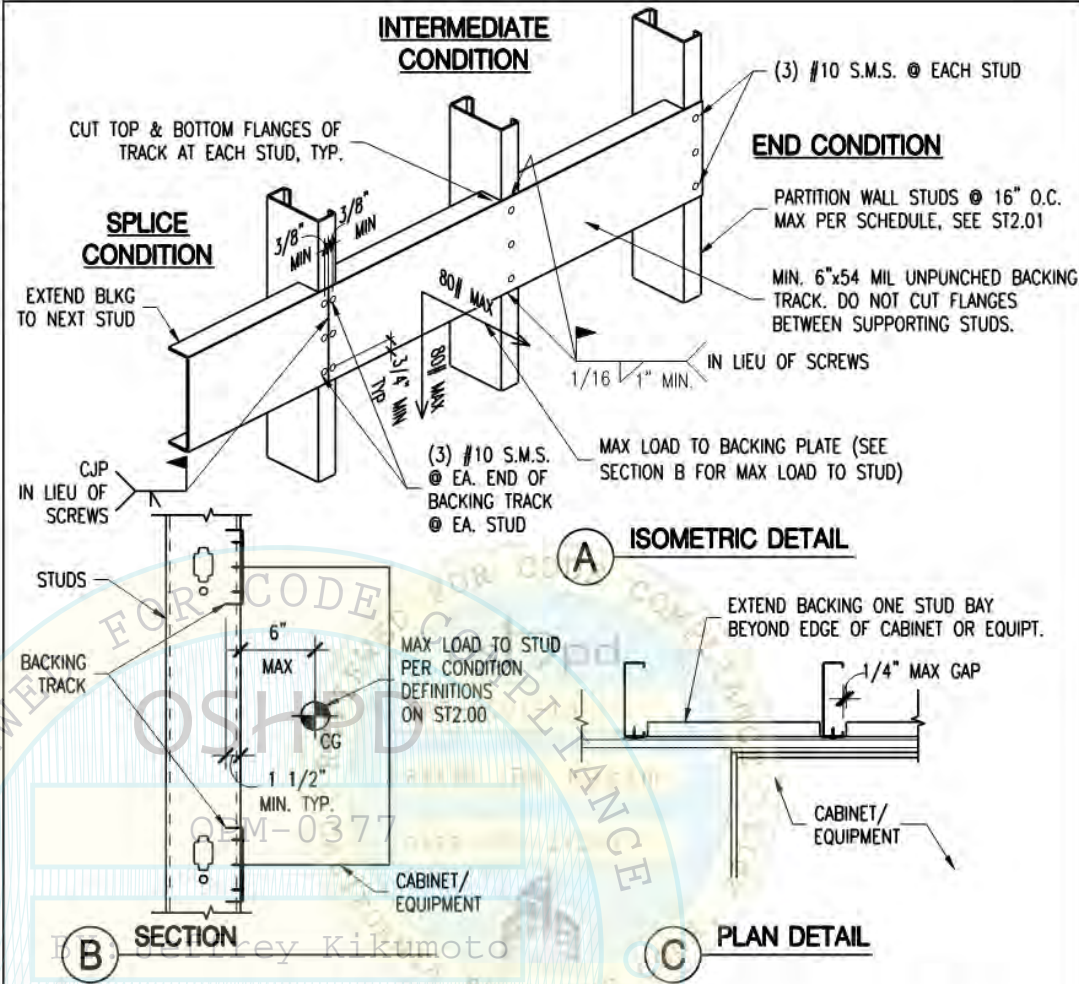
* - DEEP LEG TRACK (WHERE OCCURS AS NOTED IN DETAILS)

DESIGNATION THICKNESS (MILS)	REFERENCE ONLY GAUGE NO.
18	25
27	22
33	20
43	18
54	16
68	14
97	12
118	10

- NOTES:**
- SEE WALL STUD FRAMING SECTIONS FOR THICKNESS OF STUDS & TRACKS.
 - F_y = 50KSI FOR 54 MIL (16GA) & THICKER SECTIONS, AND F_y = 33KSI FOR SECTIONS UP TO & INCLUDING 43 MIL (18GA).
 - SIZES AND THICKNESS ARE CONSIDERED MINIMUMS.
 - STRUCTURAL STUDS MAY BE PUNCHED UNLESS NOTED OTHERWISE. STRUCTURAL TRACK SHALL BE UNPUNCHED UNLESS NOTED OTHERWISE.

SECTION TITLE: STANDARD PARTITION WALL DETAILS		OPD NO.:
SHEET TITLE: METAL STUD PROFILES		ST1.00

PLOT DATE: May 09, 2017



BACKING PLATE DETAIL TYPE 1

- NOTES:**
- BACKING, CONNECTION TO STUD, AND STUDS FOR CABINETS OR EQUIPMENT EXCEEDING THIS LIMIT SHALL BE DESIGNED AND DETAILED BY RDP IN RESPONSIBLE CHARGE.
 - ST5.01 MAY BE USED FOR ATTACHMENT OF CABINETS OR EQUIPMENT DISTRIBUTING LESS THAN 20# PER STUD (CENTER OF GRAVITY LESS THAN 6" FROM FACE OF STUD).
 - NOTCHING OR CUTTING OF BACKING PLATE IS NOT PERMITTED EXCEPT AS SHOWN.

SECTION TITLE: STANDARD PARTITION WALL DETAILS		OPD NO.:
SHEET TITLE: BACKING PLATE DETAIL TYPE 1		ST5.00

- SHEET NOTES:**
- NOTES & DETAIL CALLOUTS IN SPECIFIC DETAILS TAKE PRECEDENCE OVER THE "OPD" DETAILS CALLED OUT ON THIS SHEET.
 - SEE GENERAL NOTES FOR EXPANSION ANCHOR, SCREW ANCHOR, SHEET METAL SCREW, AND PAF REQUIREMENTS.
 - SEE SCHEDULE ON SHEET S3 FOR APPLICABLE STUD AND BRACE SIZE INFORMATION.



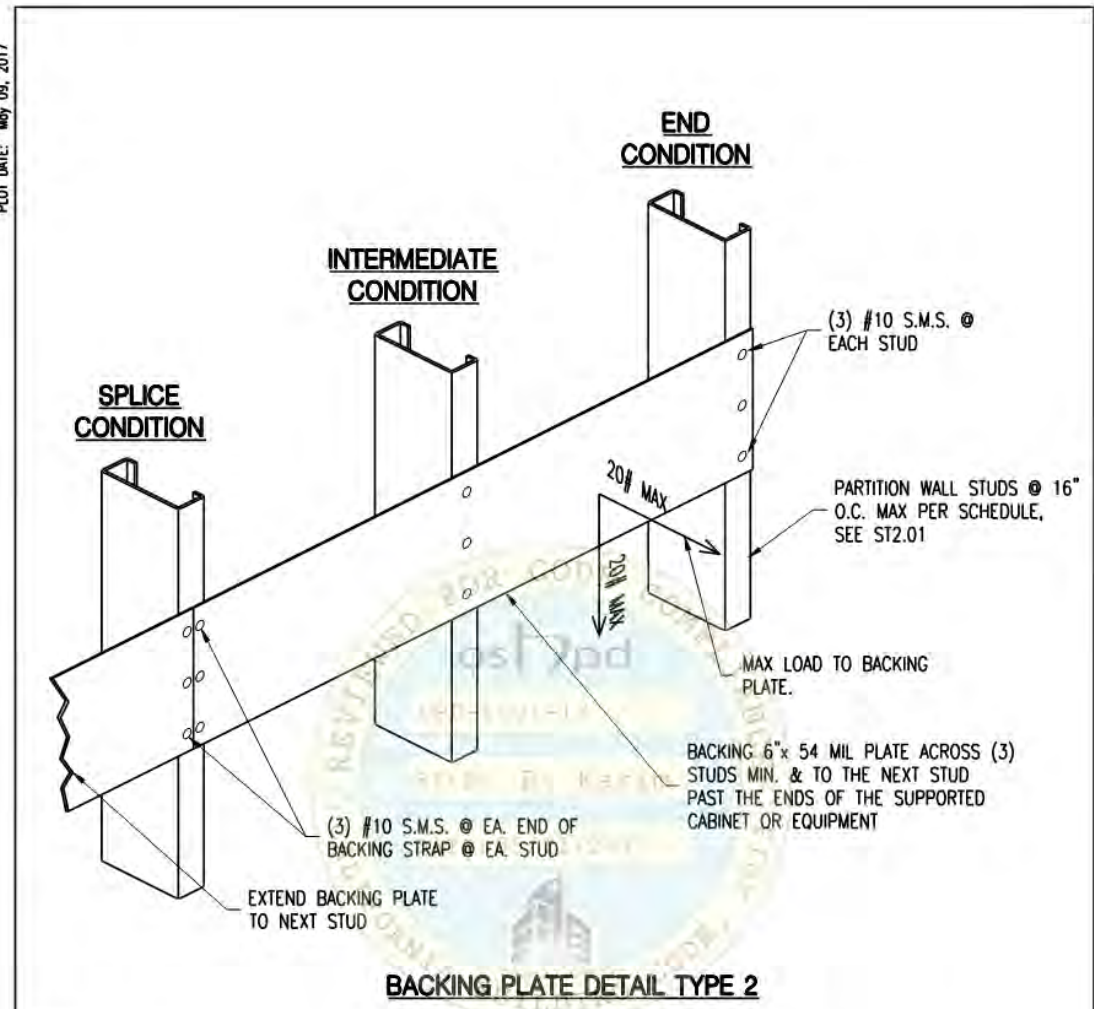
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 OPD-0001-13 DETAILS (ST1.00, ST5.00)

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 OF Sheets

PLOT DATE: May 09, 2017

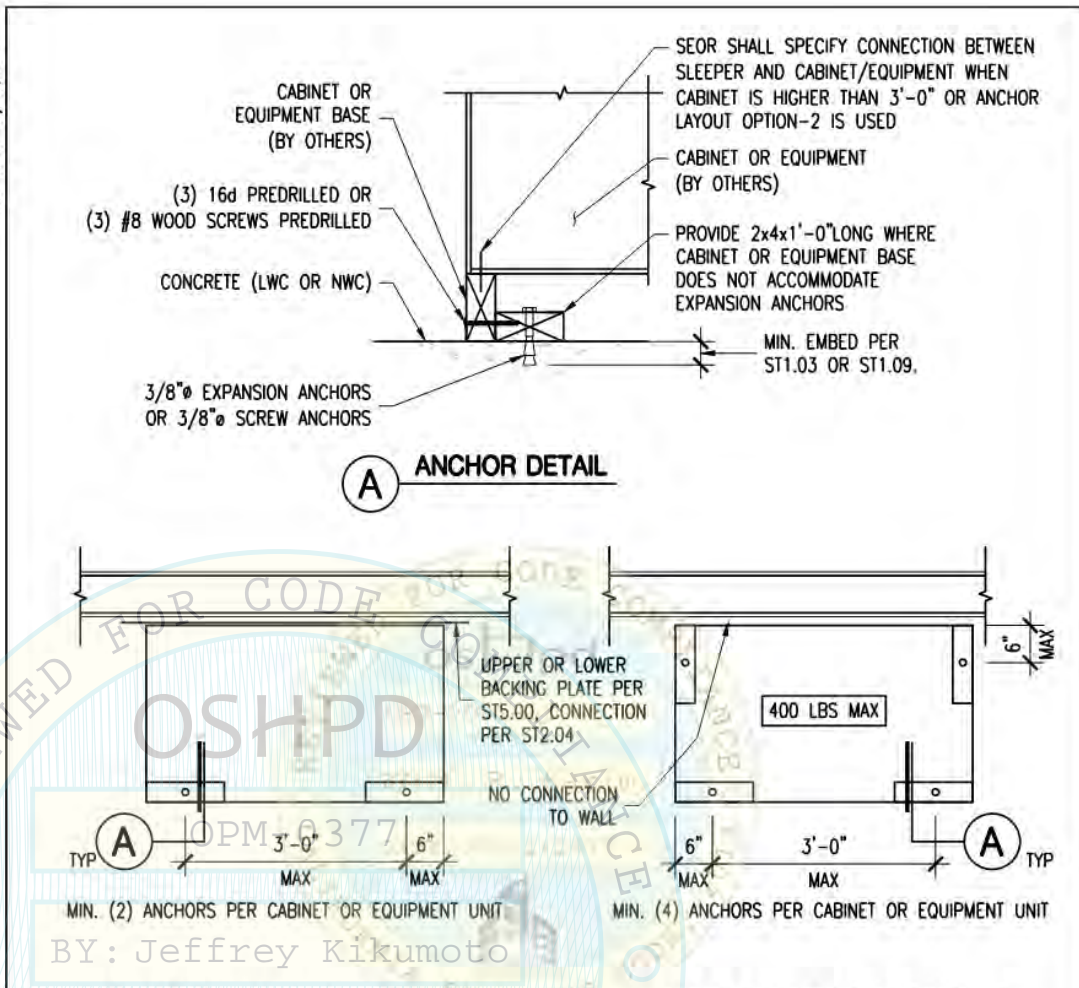


BACKING PLATE DETAIL TYPE 2

- NOTES:**
1. THIS DETAIL MAY BE USED FOR ATTACHMENT OF CABINETS OR EQUIPMENT DISTRIBUTING LESS THAN 20# PER STUD (CENTER OF GRAVITY LESS THAN 6" FROM FACE OF STUD).
 2. SEE ST5.00 FOR ALTERNATE WELDING OPTION.
 3. NOTCHING OR CUTTING OF BACKING PLATE IS NOT PERMITTED.

SECTION TITLE: STANDARD PARTITION WALL DETAILS		OPD NO.:
SHEET TITLE: BACKING PLATE DETAIL TYPE 2		ST5.01

PLOT DATE: May 09, 2017



1 ANCHOR LAYOUT OPTION -1

2 ANCHOR LAYOUT OPTION - 2

- NOTE:**
1. SEE ST1.03 & ST1.04 FOR EXPANSION ANCHOR REQUIREMENTS, AND SEE ST1.09 & ST1.10 FOR SCREW ANCHOR REQUIREMENTS.

SECTION TITLE: STANDARD PARTITION WALL DETAILS		OPD NO.:
SHEET TITLE: BASE CABINET OR EQUIPMENT ANCHORAGE		ST5.02

- SHEET NOTES:**
1. NOTES & DETAIL CALLOUTS IN SPECIFIC DETAILS TAKE PRECEDENCE OVER THE "OPD" DETAILS CALLED OUT ON THIS SHEET.
 2. SEE GENERAL NOTES FOR EXPANSION ANCHOR, SCREW ANCHOR, SHEET METAL SCREW, AND PAF REQUIREMENTS.
 3. SEE SCHEDULE ON SHEET S3 FOR APPLICABLE STUD AND BRACE SIZE INFORMATION.



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BRACELOK™ RETRO CONNECTOR,
 MODEL NO. SPT-10-R
 Title
 OPD-0001-13 DETAILS (ST5.01, ST5.02)

Drawn:	JEB	Job number:	B8769007.01
Design:	PGM	Rev:	
Check:	AC	Scale:	
Date:	07/10/19		

Sheet
S15
 OF Sheets