



The Woodwork Institute's Certified Seismic Installation Program™ is meant to be a stand-alone quality control option that can be specified separately or in conjunction with our Certified Compliance or Monitored Compliance programs™.

Benefits

Design Professionals and Property Owners

- Specified use of the Woodwork Institute's seismic casework pre-approvals from the Department of Health Care Access and Information (HCAI), without any additional engineering costs and/or requirements.
- Assurance that proper backing was installed in the walls for compliant casework installation.
- Assurance that casework was installed in accordance with the Woodwork Institute's seismic casework pre-approvals within HCAI's compliance requirements.
- Certified acknowledgement that the project's seismic casework installation requirements have been met.

Installers

- A consistent cabinet installation methodology
- Ease of specification compliance
- Discounted pricing through Woodwork Institute Affiliate status

Applicability to HCAI

DSA Compliance

In accordance with the California Department of General Services (DGS), Division of State Architect (DSA), Interpretation of Regulation Manual (IR), Section A-5, titled "Acceptance of Products, Materials, and Evaluation Reports" (rev 10/05/12, 2013 CBC) – the Woodwork Institute's Department of Health Care Access and Information (HCAI) Pre-approval of Manufacturer's Certification (OPM), OPM-0092 meets the eligibility criteria when used in accordance with IR A-4.13 (Geologic Hazard Report Requirements, rev 12/19/13, 2013 CBC).

The Woodwork Institute HCAI pre-approvals are adequate for casework installation within the State of California at any height within the building where the S_{DS} is not greater than 2.0.

- Anchorage to concrete or concrete masonry unit (CMU) wall construction
- Anchorage to wood or metal stud wall construction with either continuous 3 x 6 or 16GA in wall blocking respectively.
- Casework construction of plywood, particleboard, MDF or Solid Phenolic Core (SPC) in compliance with the minimum requirements of the North American Architectural Woodwork Standards (NAAWS), including:
 - Wall cabinets up to 48" tall x 18" body depth x 48" wide
 - Tall storage cabinets up to 96" tall x 24" body depth x 48" wide
 - Base cabinets, up to 36" tall x 24" body depth x 48" wide, including peninsula and those with mechanical chase
 - Peninsula base cabinets up to 36" tall x 36" body depth x 48" wide
 - Mechanical chase base cabinets up to 42" tall x 36" body depth and 48" wide

Cost

<https://woodworkinstitute.com/services/fee-schedules/>

Requirements

Specification

Should a design professional wish to take advantage of the Woodwork Institute's Certified Seismic Installation Program™ (CSIP), project specifications shall require conformance to the North American Architectural Woodwork Standards (NAAWS) and contain the following wording:

Certified Seismic Installation Program:

- Before walls are closed up, provide a written Woodwork Institute Certified Seismic Installation Program™ report confirming that backing is provided in all locations required for casework installation or identifying those locations where backing is missing or improperly located.
- On completion of installation provide a Woodwork Institute Certified Seismic Installation Program™ Certificate, identifying the work covered and certifying that installation meets the requirements of the Woodwork Institute CSIP attachment details and schedules.
- All fees charged by the Woodwork Institute for their Certified Seismic Installation Program™ are the responsibility of the millwork installer and shall be included in their bid.

Woodwork Institute ▼ 1455 Response Road, Suite 110 ▼ Sacramento, California 95815
(916) 372-9943 ▼ www.woodworkinstitute.com ▼ info@woodinst.com

Casework Installer

The party responsible for installation of casework for any project requiring CSIP certification shall:

- Contact the Woodwork Institute and coordinate CSIP certification with them prior to submittal of shop drawings.
- Ensure that the casework shop drawings:
 - Are in compliance with the NAAWS's minimum requirements as established in Section 1
 - Include, in accordance with the minimum requirements Woodwork Institute's HCAI Pre-approvals:
 - Casework elevations showing the center-line height and horizontal locations of all required, continuous, internal wall blocking furnished by others,
 - A casework fastener schedule, clearly showing the type, size, location and maximum spacing.
- At wood or metal stud walls, prior to application of wall surfacing, Casework Installer shall examine, approve and acknowledge blocking compliance to Woodwork Institute's HCAI Pre-approval requirements, while providing documentation of such through:
- An inspection report showing rooms/walls inspected type of blocking (wood or metal), confirmation of compliance or statement of non-compliance, inspectors name, date and signature with:
 - Photo documentation (referenced by room/wall) of at least 25% of the walls inspected, and inspection report shall identify which walls include photo documentation.
- Contact Woodwork Institute and arrange for final inspection of the casework installation by a Woodwork Institute Architectural Services Representative, and if installation is found compliant, the Architectural Services Representative will authorize issuance of the CSIP Certificate.

Although it is not required, Woodwork Institute recommends that those fabricators with the appropriate equipment pre-bore their cabinet backs with the proper number, spacing and location of the installation fastener locations in accordance with Woodwork Institute's HCAI Pre-approvals to avoid field error.

Woodwork Institute Affiliate Requirements

In order to qualify for the Woodwork Institute Affiliate fee discount for CSIP certification, Woodwork Institute Affiliate shall hold a Woodwork Institute SCI Type License, which will be offered to existing Woodwork Institute Affiliate firms and new Woodwork Institute Affiliate applicants under normal application protocols.

CSIP is not applicable to the Institute's Woodwork Institute Affiliate Sub-Sub discount.

DISCLAIMER: The Woodwork Institute is an independent inspection service that determines whether work conforms to specific standards or requirements. The Institute does not certify or guarantee the safety or performance of any manufactured products, components, or installation thereof, or any standard or process related thereto, regardless of whether they comply with the North American Architectural Woodwork Standards, the Certified Seismic Installation Program™ approved HCAI drawings (OPM-0092) and/or contract documents under said Standard/Program. Additionally, the Institute does not guarantee or certify the services, fitness for purpose, advice, materials or products provided by any third party, including contractors, architects, designers and engineers.

For more information, call your Woodwork Institute Architectural Services Representative or our office at (916) 372-9943

Drawings

OPM 0092

- DC-01
- DC-02
- DC-03
- SC-01
- SC-02
- SC-03
- WC-01
- WC-02
- WC-03
- BC-01
- BC-02
- PC-01
- PC-02

**WOODWORK INSTITUTE
CASEWORK SUPPORTS & ATTACHMENTS
HCAI Pre-Approval of
Manufacturer's Certification (OPM)
OPM-0092**

SUPPORTS & ATTACHMENTS DESIGNED FOR:
 2019 CALIFORNIA BUILDING CODE (CBC)
 ASCE 7-16

IMPORTANCE FACTOR:

$I_p=1.5$

DESIGN S.R.A., SHORT PERIOD:

$S_{ds}=2.00$

COMP. AMP. FACTOR:

$ap=1.0$ (ASCE 7-16)

COMP. RESPONSE MOD. FACTOR:

$R_p=2.5$ TABLE 13.5.1)

OVERSTRENGTH FACTOR:

$Q_o=2.0$ (REQ'D FOR ANCHORAGE TO CONCRETE & CMU)

THE SUPPORT AND ATTACHMENT DETAILS MAY BE USED FOR ANY LOCATION
 IN THE STATE OF CALIFORNIA WHERE S_{ds} IS NOT GREATER THAN 2.00
 AND AT ANY HEIGHT IN THE BUILDING WHERE $z/h \leq 1.0$.

SEISMIC FORCES:

FOR FASTENERS USED IN FRAMED WALLS OR CMU WALLS

FORCES SHOWN ON THESE DRAWINGS ARE AT ASD LEVEL

CALCULATED THUS: $F_{ph}=1.00(W_p)$ (ASD) $F_{pv}=0.28(W_p)$ (ASD)

FOR FASTENERS USED IN CONCRETE WALLS

FORCES SHOWN ON THESE DRAWINGS ARE AT SD LEVEL

CALCULATED THUS: $F_p=1.44(W_p)$ $E_v=0.40(W_p)$

THIS PRE-APPROVAL ENCOMPASSES
 THE FOLLOWING:

DESIGN CRITERIA: DC-01, DC-02 & DC-03

STORAGE CABINET: SC-01, SC-02 & SC-03

WALL CABINET: WC-01, WC-02 & WC-03

BASE CABINET: BC-01, BC-02

PENINSULA CABINET: PC-01, PC-02

THIS PRE-APPROVAL COVERS ONLY
 THE SUPPORTS & ATTACHMENTS OF
 THE UNIT TO THE STRUCTURE.
 THE SUPPORTS AND ATTACHMENTS SHALL
 BE SUPPLIED & INSTALLED BY THE CONTRACTOR.



SCALE: NONE	DATE: 5/2/2022	DESIGN CRITERIA	Drawing No.
LTK ASSOCIATES Incorporated	Structural Engineers 745 Distel Drive Los Altos, CA 94022 (650) 967-8465 FAX (650) 967-5148	1455 Response Road, Suite 110 Sacramento, CA 95815 (916) 372-9943 woodworkinstitute.com	OPM-0092 DC-01 1 of 13

GENERAL NOTES:

- 1) THIS HCAI PREAPPROVAL OF MANUFACTURER'S CERTIFICATION (OPM) IS BASED ON THE CBC 2019. THE DEMAND (DESIGN FORCES) FOR USE WITH THIS OPM MUST BE BASED ON THE CBC 2019.
- 2) STRUCTURAL ENGINEER OF RECORD IS RESPONSIBLE FOR:
 - a) THE DESIGN OF THE STRUCTURE (FLOOR, WALL, BACKING) TO SUPPORT THE FORCES DUE TO THIS EQUIPMENT LOADING. IN NO CASE SHALL WALL FRAMING BE DESIGNED FOR LESS THAN THE CODE REQUIRED MINIMUM DESIGN LOADS.
 - b) VERIFY THAT THE ANCHORS ARE AN ADEQUATE DISTANCE FROM ANY OPENINGS.
 - c) VERIFY THAT ALL NEW OR EXISTING ANCHORS ARE ADEQUATE DISTANCE FROM THE ANCHORS SHOWN IN THIS PRE-APPROVAL. SEOR SHALL VERIFY THERE IS NO ADVERSE INTERACTION WHERE OTHER ANCHORS ARE WITHIN 18" OR 6HEF FROM THIS UNIT'S ANCHORS.

STANDARD WOODWORK CASEWORK:

MATERIAL USED IN THE CONSTRUCTION OF THE POINT OF ATTACHMENT TO THE STRUCTURE (i.e., NAILER) SHALL BE OF THE FOLLOWING:
 PLYWOOD (STRUCT 1),
 MDF (GRADE 150) OR,
 DOUGLAS FIR LARCH WITH A SPECIFIC GRAVITY OF 0.50 OR BETTER.
 MINIMUM THICKNESS OF $\frac{3}{4}$ " FOR THE PART THROUGH WHICH ATTACHMENT IS TO BE MADE.
 HOLES IN CABINET FOR EXPANSION ANCHORS SHALL BE BOLT DIAMETER + 1/16".
 TOE KICK ANGLE: 16 GA., 50 ksi, SHEET METAL

LOADING:

MAXIMUM CONTENT LOAD: 33 PCF

WALL BACKING:

WALL BACKING MAY BE EITHER,
 3x6 FLAT DOUGLAS FIR (No. 2)
 (at wood framed walls) or
 16GA., 50 KSI SHEET METAL BACKING
 (at metal stud framed walls)
 ALL BACKING AND WALL FRAMING TO BE DESIGNED BY SEOR.

FASTENERS AT WOOD FRAMED WALLS:

SCREW FASTENERS SHALL BE:
 SIMPSON STRONG DRIVE SDWH19400DB
 TIMBER-HEX SCREWS,
 WITH MIN. 2" PENETRATION
 INTO WOOD BACKING.

FASTENERS AT METAL FRAMED WALLS:

SCREW FASTENERS SHALL BE:
 SHEET METAL SCREWS (SMS)
 WITH HEX WASHER HEAD
 (TAPPING SCREW FASTNR'S SHALL HAVE DATA IN ACCORDANCE w/ ICC-ES AC118).
 SMS SHALL HAVE MIN. 3 THREADS EXTEND BEYOND SHEET METAL BACK'G.

BY: Jeffrey Kikumoto

DATE: 05/04/2022



SCALE: NONE	DATE: 5/2/2022	DESIGN CRITERIA	Drawing No.
LTK ASSOCIATES Incorporated	Structural Engineers 745 Distel Drive Los Altos, CA 94022 (650) 967-8465 FAX (650) 967-5148	WOODWORK INSTITUTE	OPM-0092 DC-02 2 of 13

EXPANSION ANCHORS IN CONCRETE:
 FOR USE IN CONCRETE WALL OR FLOOR:
 HILTI KWIK BOLT TZ2, ICC ESR-4266

3/8"Ø ANCHORS
 W/ hef=2" EMBEDMENT
 INSTALLATION TORQUE: 30 ft-lb

1/2" Ø ANCHORS
 W/ hef=2" EMBEDMENT
 INSTALLATION TORQUE: 50 ft-lb

WALLS
 $f'c=3000\text{psi}$, NWC
 MIN. WALL THICKNESS: 6"
 MIN. EDGE DISTANCE: 6"

FLOORS
 $f'c=3000\text{psi}$, LTWT OR NWC
 MIN. THICKNESS:
 SLAB ON METAL DECK: 3 1/4"
 SLAB ON GRADE: 4"
 MIN. EDGE DISTANCE 6"
 METAL DECK: MIN. 20 GA., 50 ksi

EXPANSION ANCHORS IN CMU WALLS:
 UNCRACKED CMU WALL: (ALL CELLS GROUTED SOLID)
 HILTI KWIK BOLT-TZ2 (ICC ESR-4561)
 3/8"Ø ANCHORS
 w/ hef=2 1/2" EMBEDMENT
 4" MIN. EDGE DIST.
 INSTALLATION TORQUE: 15 ft-lb

NOTE: Expansion anchors designed to ICC-ES AC01 are limited to allowable stress design ONLY in accordance with AC01 1.2. Hence, strength design values are not acceptable. Allowable stress values can be shown provided, SEOR will verify that:
 a. masonry is not cracked as defined in ICC-ES AC01 Section 2.3; the SEOR shall provide calculations to show that the masonry wall would not crack under the design earthquake loads under all service conditions; the wall has to remain elastic.
 b. masonry is fully grouted in accordance w/ ESR-4561 Section 3.2;
 c. conditions of use requirements in accordance w/ ESR-4561 Section 5.0 is satisfied.

EXPANSION ANCHOR TESTING IN CONCRETE:
 PER CBC SECTION 1910A.5

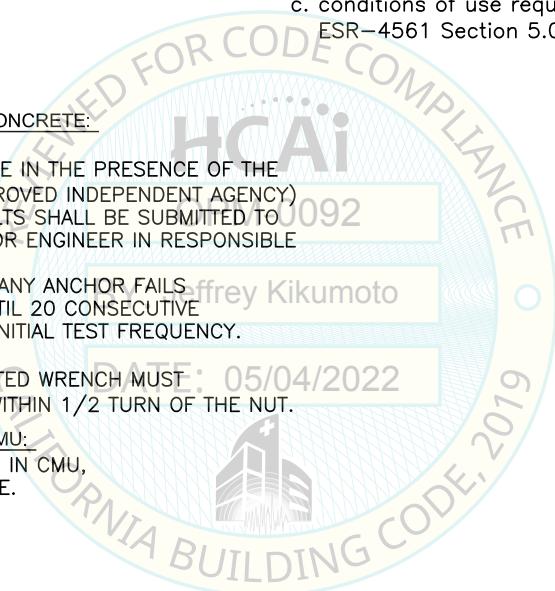
–TORQUE TESTING SHALL BE DONE IN THE PRESENCE OF THE SPECIAL INSPECTOR (FROM APPROVED INDEPENDENT AGENCY) & A REPORT OF THE TEST RESULTS SHALL BE SUBMITTED TO THE IOR, OWNER, & ARCHITECT OR ENGINEER IN RESPONSIBLE CHARGE.

–TEST 50% OF THE ANCHORS, IF ANY ANCHOR FAILS TESTING, TEST ALL ANCHORS UNTIL 20 CONSECUTIVE ANCHORS PASS, THEN RESUME INITIAL TEST FREQUENCY.

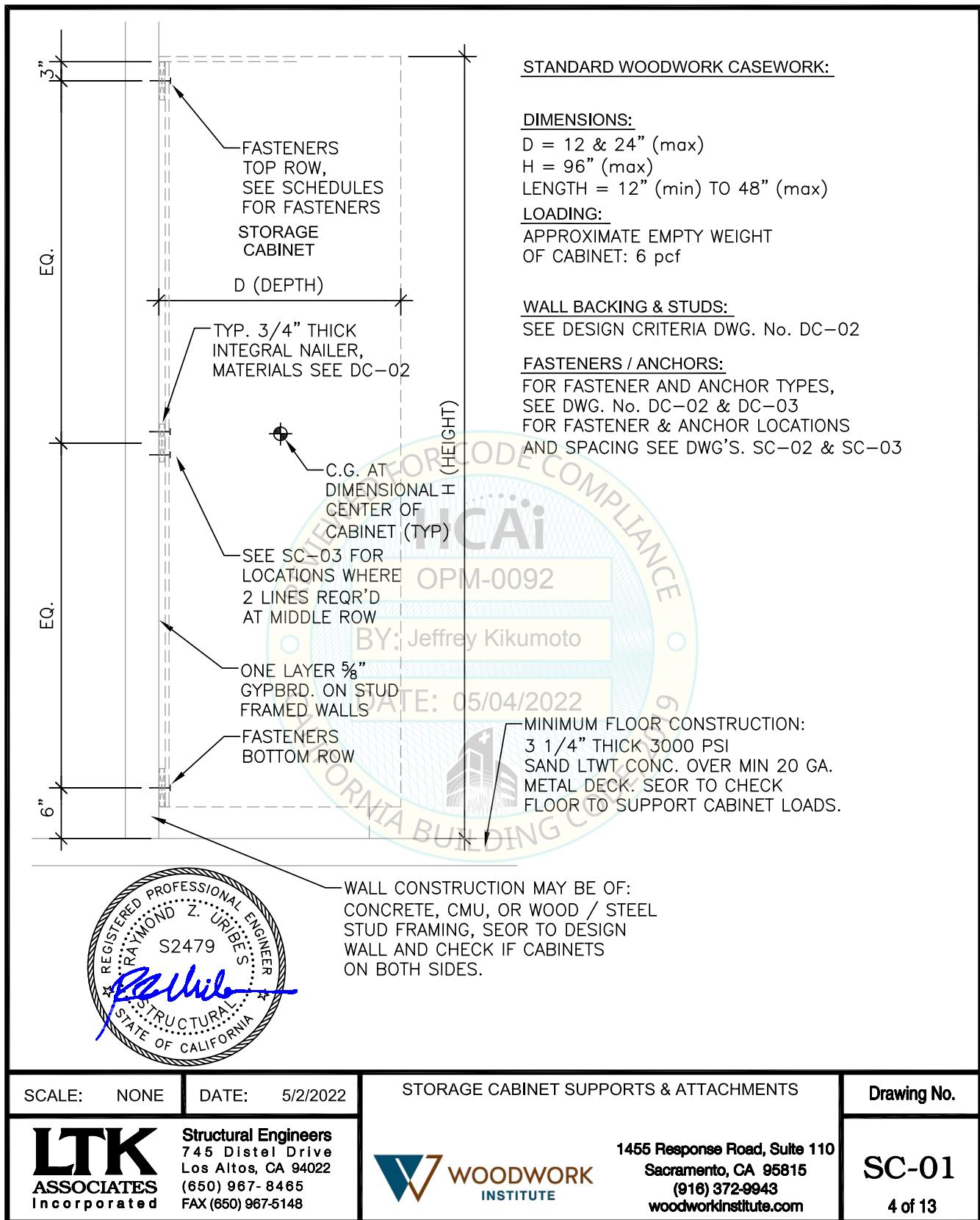
–TEST ACCEPTANCE CRITERIA,
 ANCHORS TESTED w/ A CALIBRATED WRENCH MUST ATTAIN THE SPECIFIED TORQUE WITHIN 1/2 TURN OF THE NUT.

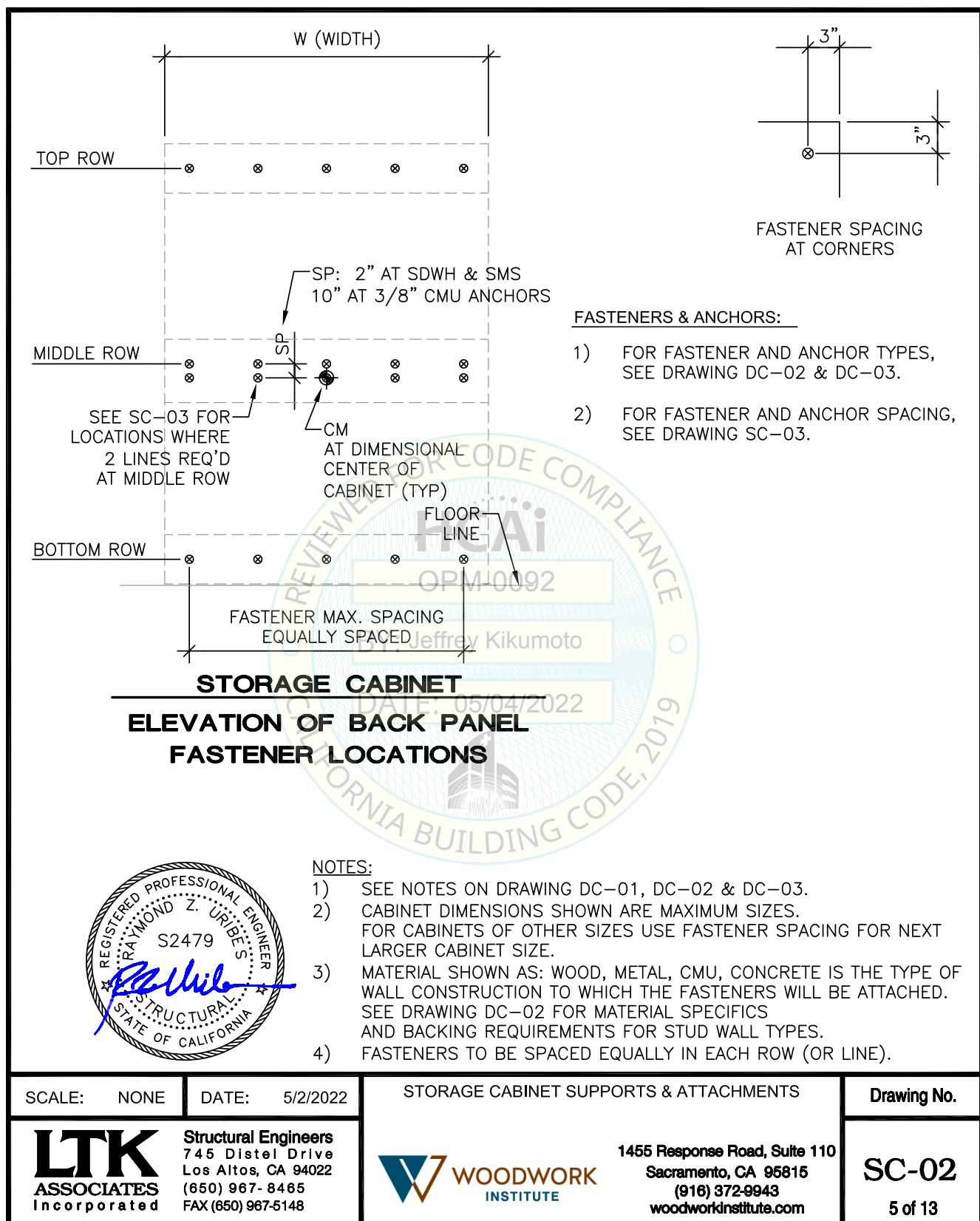
EXPANSION ANCHOR TESTING IN CMU:

TESTING OF EXPANSION ANCHORS IN CMU, SIMILAR TO CRITERIA NOTED ABOVE.



SCALE: NONE	DATE: 5/2/2022	DESIGN CRITERIA	Drawing No.
LTK ASSOCIATES Incorporated	Structural Engineers 745 Distel Drive Los Altos, CA 94022 (650) 967-8465 FAX (650) 967-5148	1455 Response Road, Suite 110 Sacramento, CA 95815 (916) 372-9943 woodworkinstitute.com	OPM-0092 DC-03 3 of 13





STANDARD WOODWORK CASEWORK
NOTES:

 SEE NOTES ON DWG.
 DC-01, DC-02 & DC-03

DIMENSIONS

D = 12" & 24" (max)

H = 96" (max)

LENGTH = 12" (min) to 48" (max)

LOADING:

 APPROXIMATE EMPTY WEIGHT
 OF CABINET: 6 pcf

WALL BACKING

SEE DESIGN CRITERIA DWG. No. DC-02

FASTENERS / ANCHORS:

 FOR FASTENER & ANCHOR TYPES,
 SEE DWG. No. DC-02 & DC-03 (UNO)
 FASTENER SPACING IN EACH ROW:

12" DEEP CABINET

 SCREWS TO WOOD BACKING:
 SIMPSON SDWH, 3" FROM EACH END,
 14" o.c. BETWEEN, 2 LINES AT MIDDLE
 T max. = 103 lbs, V max. = 89 lbs
 (Forces are ASD)

 SCREWS TO METAL BACKING:
 #14 SMS, 3" FROM EACH END,
 14" o.c. BETWEEN, 2 LINES AT MIDDLE
 T max. = 103 lbs, V max. = 89 lbs
 (Forces are ASD)

 ANCHORS TO CMU:
 3/8" HKB-TZ2, 2 1/2" EMBEDMENT
 3" FROM EACH END, 14" o.c. BETWEEN
 T max. = 382 lbs, V max. = 354 lbs
 (Forces are ASDxOmega)

 ANCHORS TO CONCRETE:
 3/8" HKB-TZ2, 2" EMBEDMENT
 3" FROM EACH END, 14" o.c. BETWEEN,
 T max. = 591 lbs, V max. = 510 lbs
 (Forces are SDxOmega)

24" DEEP CABINET

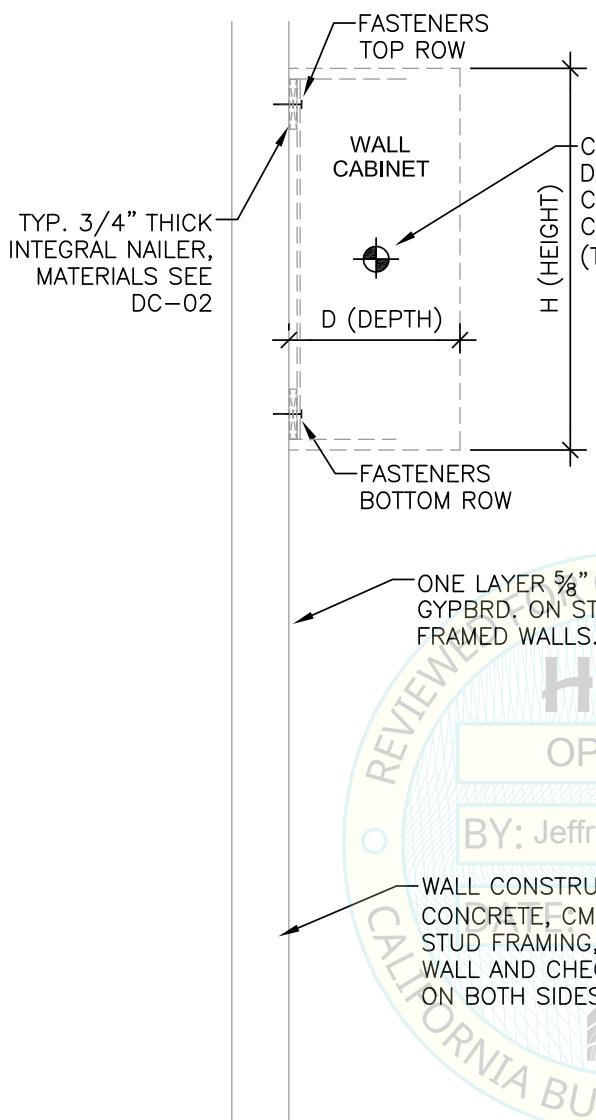
 SCREWS TO WOOD BACKING:
 SIMPSON SDWH, 3" FROM EACH END,
 14" o.c. BETWEEN, 2 LINES AT MIDDLE
 T max. = 211 lbs, V max. = 155 lbs
 (Forces are ASD)

 SCREWS TO METAL BACKING:
 #14 SMS, 3" FROM EACH END,
 5.25" o.c. BETWEEN, 2 LINES AT MIDDLE
 T max. = 185 lbs, V max. = 69 lbs
 (Forces are ASD)

 ANCHORS TO CMU:
 3/8" HKB-TZ2, 2 1/2" EMBEDMENT
 3" FROM EACH END, 14" o.c. BETWEEN,
 2 LINES REQ'D AT MIDDLE ROW
 T max. = 408 lbs, V max. = 309 lbs
 (Forces are ASDxOmega)

 ANCHORS TO CONCRETE:
 3/8" HKB-TZ2, 2" EMBEDMENT
 3" FROM EACH END, 14" o.c. BETWEEN,
 T max. = 1175 lbs, V max. = 890 lbs
 (Forces are SDxOmega)


SCALE: NONE	DATE: 5/2/2022	STORAGE CABINET SUPPORTS & ATTACHMENTS	Drawing No.
LTK ASSOCIATES Incorporated	Structural Engineers 745 Distel Drive Los Altos, CA 94022 (650) 967-8465 FAX (650) 967-5148	1455 Response Road, Suite 110 Sacramento, CA 95815 (916) 372-9943 woodworkinstitute.com	SC-03 6 of 13



TYP. 3/4" THICK INTEGRAL NAILER, MATERIALS SEE DC-02

FASTENERS TOP ROW

WALL CABINET

C.G. AT DIMENSIONAL CENTER OF CABINET (TYP)

H (HEIGHT)

D (DEPTH)

FASTENERS BOTTOM ROW

ONE LAYER 5/8" GYPBRD. ON STUD FRAMED WALLS.

STANDARD WOODWORK CASEWORK:

DIMENSIONS:
D = 14" & 18" MAX.
H = 48" (max)
LENGTH = 12" (min.) TO 48" (max.)

LOADING:
APPROXIMATE EMPTY WEIGHT OF CABINET: 6 pcf

WALL BACKING & STUDS:
SEE DESIGN CRITERIA DWG. No. DC-02

FASTENERS / ANCHORS:
FOR FASTENER & ANCHOR TYPES, SEE DWG. No. DC-02 & DC-03.
FOR FASTENER & ANCHOR LOCATIONS AND SPACING SEE DWG'S. WC-02 & WC-03.

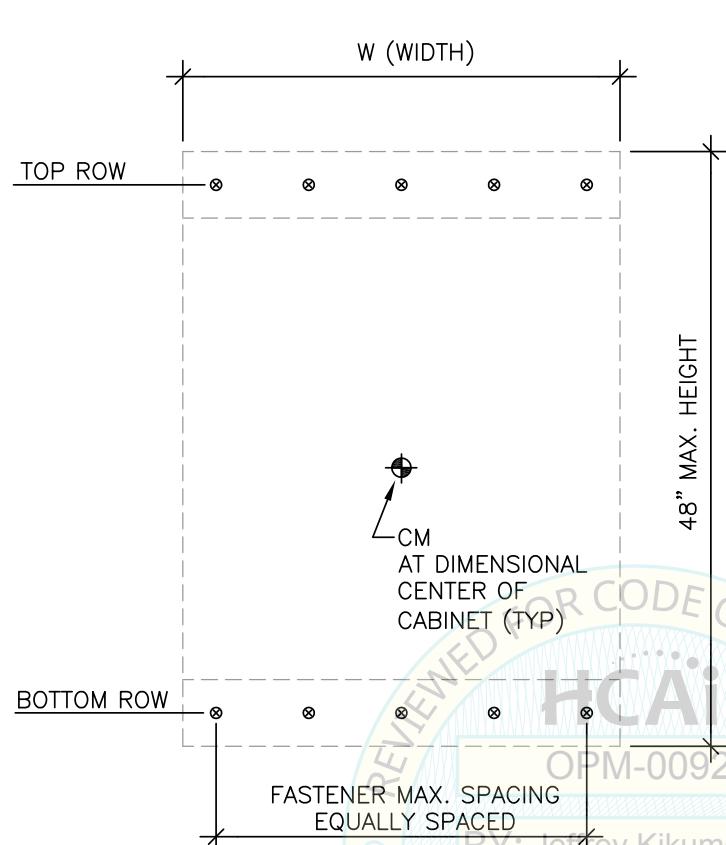
CODE COMPLIANCE
HCAi
OPM-0092
BY: Jeffrey Kikumoto

REVIEWED BY: 

WALL CONSTRUCTION MAY BE OF: CONCRETE, CMU, OR WOOD / STEEL STUD FRAMING, SEOR TO DESIGN WALL AND CHECK IF CABINETS ON BOTH SIDES.

MINIMUM FLOOR CONSTRUCTION: 3 1/4" THICK, 3000 PSI SAND LTWT CONC. OVER MIN. 20 GA. METAL DECK. SEOR TO CHECK FLOOR TO SUPPORT CABINET LOADS.

SCALE: NONE	DATE: 5/2/2022	WALL CABINET SUPPORTS & ATTACHMENTS
LTK ASSOCIATES Incorporated		Drawing No.
Structural Engineers 745 Distel Drive Los Altos, CA 94022 (650) 967-8465 FAX (650) 967-5148		1455 Response Road, Suite 110 Sacramento, CA 95815 (916) 372-9943 woodworkinstitute.com
		WC-01
		7 of 13

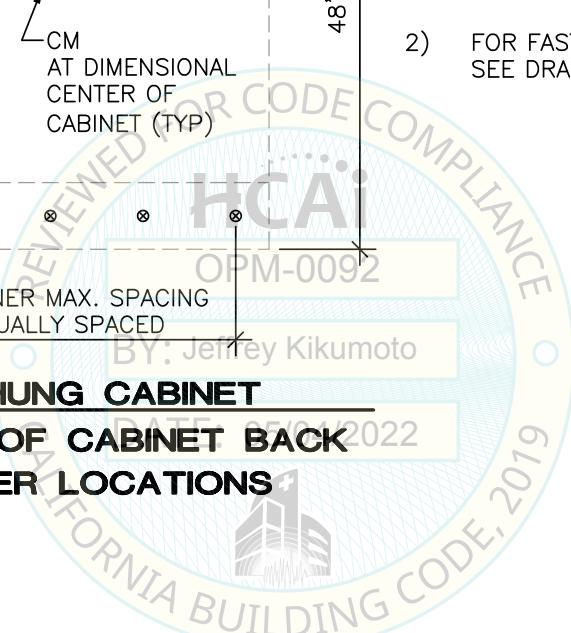


WALL HUNG CABINET
ELEVATION OF CABINET BACK
FASTENER LOCATIONS

NOTES:

- 1) SEE NOTES ON DRAWING DC-01, DC-02 & DC-03.
- 2) CABINET DIMENSIONS SHOWN ARE MAXIMUM SIZES.
FOR CABINETS OF OTHER SIZES USE FASTENER SPACING FOR NEXT LARGER CABINET SIZE.
- 3) MATERIAL SHOWN AS: WOOD, METAL, CMU, CONCRETE IS THE TYPE OF WALL CONSTRUCTION TO WHICH THE FASTENERS WILL BE ATTACHED.
SEE DRAWING DC-02 FOR MATERIAL SPECIFICS AND BACKING REQUIREMENTS FOR STUD WALL TYPES.
- 4) FASTENERS TO BE SPACED EQUALLY IN EACH ROW (OR LINE).

SCALE: NONE	DATE: 5/2/2022	WALL CABINET SUPPORTS & ATTACHMENTS
LTK ASSOCIATES Incorporated		Drawing No.
Structural Engineers 745 Distel Drive Los Altos, CA 94022 (650) 967- 8465 FAX (650) 967-5148		1455 Response Road, Suite 110 Sacramento, CA 95815 (916) 372-9943 woodworkinstitute.com



OPM-0092

BY: Jeffrey Kikumoto

DATE: 05/01/2022

CALIFORNIA BUILDING CODE, 2019

STANDARD WOODWORK CASEWORK
NOTES:

SEE NOTES ON DWG.
DC-01, DC-02 & DC-03

DIMENSIONS

D = 14" & 18" (max)
H = 48" (max)
LENGTH = 12" (min) to 48" (max)

LOADING:

APPROXIMATE EMPTY WEIGHT
OF CABINET: 6 pcf

WALL BACKING

SEE DESIGN CRITERIA DWG. No. DC-02

FASTENERS / ANCHORS:

FOR FASTENER & ANCHOR TYPES,
SEE DWG. No. DC-02 & DC-03 (UNO)
FASTENER SPACING IN EACH ROW:

14" DEEP CABINET

SCREWS TO WOOD BACKING:
SIMPSON SDWH, 3" FROM EACH END,
8.4" o.c. BETWEEN
T max. = 104 lbs, V max. = 144 lbs
(Forces are ASD)

SCREWS TO METAL BACKING:
#14 SMS, 3" FROM EACH END,
8.4" o.c. BETWEEN
T max. = 104 lbs, V max. = 144 lbs
(Forces are ASD)

ANCHORS TO CMU:

3/8" HKB-TZ2, 2 1/2" EMBEDMENT
3" FROM EACH END, 14" o.c. BETWEEN
T max. = 341 lbs, V max. = 423 lbs
(Forces are ASDxOmega)

ANCHORS TO CONCRETE:

3/8" HKB-TZ2, 2" EMBEDMENT
3" FROM EACH END, 14" o.c. BETWEEN,
T max. = 611 lbs, V max. = 493 lbs
(Forces are SDxOmega)

18" DEEP CABINET

SCREWS TO WOOD BACKING:
SIMPSON SDWH, 3" FROM EACH END,
8.4" o.c. BETWEEN
T max. = 104 lbs, V max. = 144 lbs
(Forces are ASD)

SCREWS TO METAL BACKING:
#14 SMS, 3" FROM EACH END,
8.4" o.c. BETWEEN
T max. = 104 lbs, V max. = 144 lbs
(Forces are ASD)

ANCHORS TO CMU:

3/8" HKB-TZ2, 2 1/2" EMBEDMENT
3" FROM EACH END, 10.5" o.c. BETWEEN
T max. = 341 lbs, V max. = 423 lbs
(Forces are ASDxOmega)

ANCHORS TO CONCRETE:

3/8" HKB-TZ2, 2" EMBEDMENT
3" FROM EACH END, 10.5" o.c. BETWEEN,
T max. = 611 lbs, V max. = 493 lbs
(Forces are SDxOmega)



SCALE: NONE	DATE: 5/2/2022
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WALL CABINET SUPPORTS & ATTACHMENTS

Drawing No.



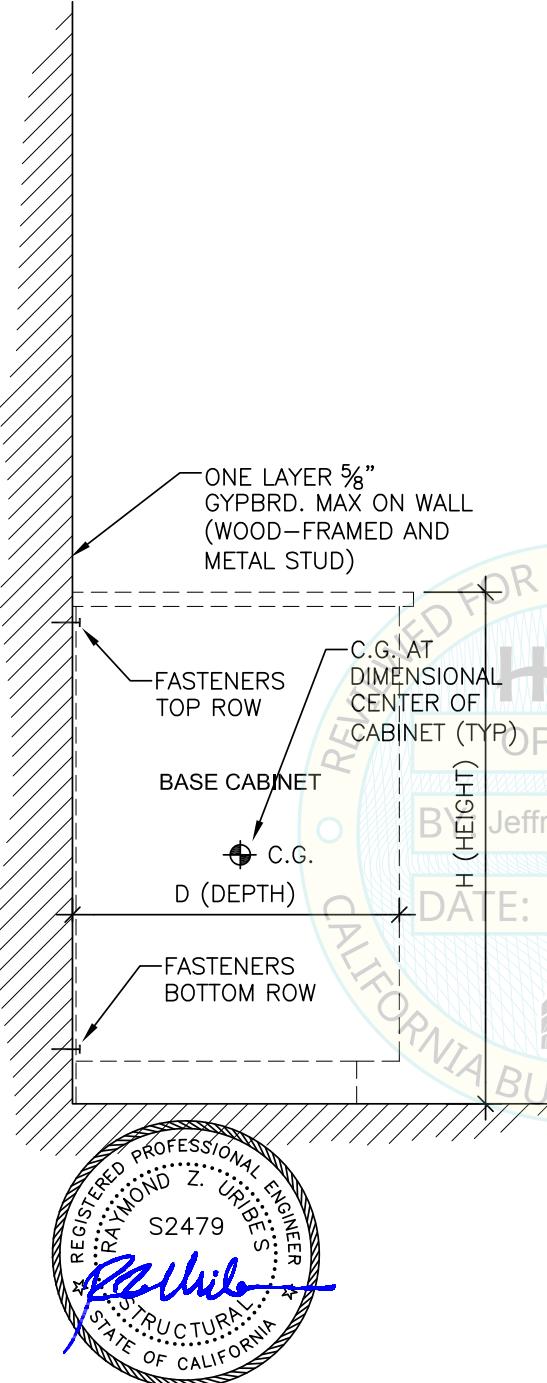
Structural Engineers
745 Distel Drive
Los Altos, CA 94022
(650) 967-8465
FAX (650) 967-5148

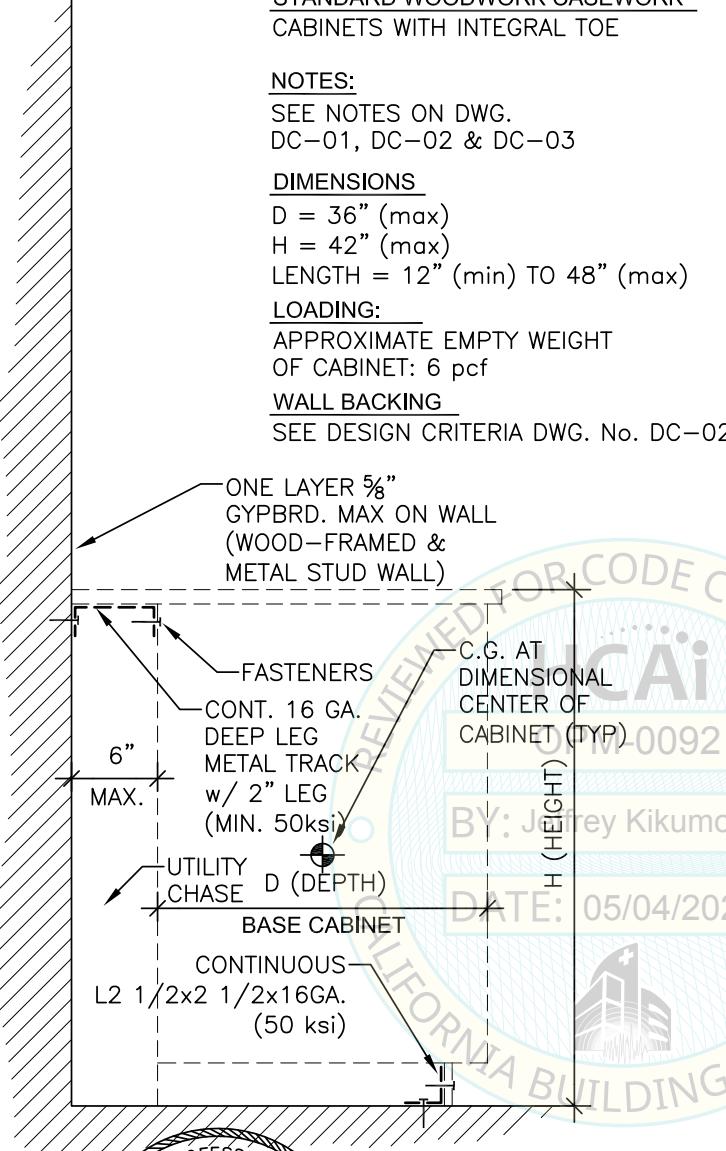


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WC-03

9 of 13

		<u>STANDARD WOODWORK CASEWORK</u> <u>NOTES:</u> SEE NOTES ON DWG. DC-01, DC-02 & DC-03 <u>DIMENSIONS</u> D = 24" (max) H = 36" (max) LENGTH = 12" (min) to 48" (max) <u>LOADING:</u> APPROXIMATE EMPTY WEIGHT OF CABINET: 6 pcf <u>WALL BACKING</u> SEE DESIGN CRITERIA DWG. No. DC-02 <u>FASTENERS / ANCHORS:</u> FOR FASTENER & ANCHOR TYPES, SEE DWG. No. DC-02 & DC-03 (UNO) FASTENER SPACING IN EACH ROW: SCREWS TO WOOD BACKING: SIMPSON SDWH, 3" FROM EACH END, 12" o.c. BETWEEN T max. = 153 lbs, V max. = 94 lbs (Forces are ASD) SCREWS TO METAL BACKING: #14 SMS, 3" FROM EACH END, 12" o.c. BETWEEN T max. = 153 lbs, V max. = 94 lbs (Forces are ASD) ANCHORS TO CMU: 3/8" HKB-TZ2, 3" FROM EACH END, 14" o.c. BETWEEN, 2 1/2" EMBEDMENT T max. = 387 lbs, V max. = 312 lbs (Forces are ASDxOmega) ANCHORS TO CONCRETE: 3/8" HKB-TZ2, 3" FROM EACH END, 21" o.c. BETWEEN, 2" EMBEDMENT T max. = 557 lbs, V max. = 449 lbs (Forces are SDxOmega)	
SCALE: NONE	DATE: 5/2/2022	BASE CABINET SUPPORTS & ATTACHMENTS	Drawing No.
 LTK ASSOCIATES Incorporated	Structural Engineers 745 Distel Drive Los Altos, CA 94022 (650) 967- 8465 FAX (650) 967-5148	 WOODWORK INSTITUTE	1455 Response Road, Suite 110 Sacramento, CA 95815 (916) 372-9943 woodworkinstitute.com
BC-01 10 of 13			

<p><u>STANDARD WOODWORK CASEWORK</u> CABINETS WITH INTEGRAL TOE</p> <p><u>NOTES:</u> SEE NOTES ON DWG. DC-01, DC-02 & DC-03</p> <p><u>DIMENSIONS</u> D = 36" (max) H = 42" (max) LENGTH = 12" (min) TO 48" (max)</p> <p><u>LOADING:</u> APPROXIMATE EMPTY WEIGHT OF CABINET: 6 pcf</p> <p><u>WALL BACKING</u> SEE DESIGN CRITERIA DWG. No. DC-02</p> 		<p><u>FASTENERS / ANCHORS:</u> FOR FASTENER & ANCHOR TYPES SEE DWG. No. DC-02 & DC-03 (UNO) FASTENER SPACING IN EACH ROW:</p> <p><u>SCREWS AT CABINET TO METAL TRACK:</u> #14 SMS, 3" FROM EACH END, 8.4" o.c. BETWEEN T max. = 114 lbs, V max. = 114 lbs (Forces are ASD)</p> <p><u>CABINET TO WALL FASTENERS:</u> SCREWS TO WOOD BACKING: SIMPSON SDWH, 3" FROM EACH END, 8.4" o.c. BETWEEN T max. = 141 lbs, V max. = 114 lbs (Forces are ASD)</p> <p><u>SCREWS TO METAL BACKING:</u> #14 SMS, 3" FROM EACH END, 7" o.c. BETWEEN T max. = 125 lbs, V max. = 98 lbs (Forces are ASD)</p> <p><u>ANCHORS TO CMU:</u> 3/8" HKB-TZ2, 3" FROM EACH END, 14" o.c. BETWEEN, 2 1/2" EMBEDMENT T max. = 396 lbs, V max. = 341 lbs (Forces are ASDxOmega)</p> <p><u>ANCHORS TO CONCRETE:</u> 3/8" HKB-TZ2, 3" FROM EACH END, 21" o.c. BETWEEN, 2" EMBEDMENT T max. = 734 lbs, V max. = 655 lbs (Forces are SDxOmega)</p> <p><u>FLOOR ANCHORS:</u> AT TOE KICK TO 16 GA. L #12 SMS, 3" FROM EACH END, 12" o.c. BETWEEN T max. = 171 lbs, V max. = 171 lbs (Forces are ASD, not concurrent)</p> <p>AT 16 GA. L TO FLOOR 1/2" HKB-TZ2, 3" FROM EACH END 21" o.c. BETWEEN, 2" EMBEDMENT V max. = 655 lbs/anchor (SD)(Omega)</p>
SCALE: NONE	DATE: 5/2/2022	Drawing No. BC-02 11 of 13

LTK ASSOCIATES Incorporated	Structural Engineers 745 Distel Drive Los Altos, CA 94022 (650) 967-8465 FAX (650) 967-5148	BASE CABINET w/ CHASE SUPPORTS & ATTACHMENTS  WOODWORK INSTITUTE 1455 Response Road, Suite 110 Sacramento, CA 95815 (916) 372-9943 woodworkinstitute.com
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STANDARD WOODWORK CASEWORK
 CABINETS SHALL HAVE INTEGRAL TOE.

DIMENSIONS

D (max) = 36"
 H (max) = 36"
 LENGTH = 12" (min) TO 48" (max)

LOADING:

APPROXIMATE EMPTY WEIGHT
 OF CABINET: 6 pcf

FLOOR SUPPORT

CONT. 2 1/2" x 2 1/2" x 16 GA.
 BENT SHEET METAL ANGLE (FY=50KSI)

FASTENERS:

AT CABINET BASE TO FLOOR SUPPORT USE:
 #12 SHEET METAL SCREWS,
 S1 = 3" MAX., S2 = 9" o.c. MAX.
 T = 100 lbs, V = 147 lbs
 (Forces are ASD, not concurrent)

FLOOR ANCHORS

AT FLOOR SUPPORT TO CONCRETE SLAB
 USE: 1/2"Ø HILTI KWIK BOLT-TZ2
 w/ 2" EMBEDMENT,
 S1 = 2" MAX., S3 = 9" MAX., S4 = 9" MAX.
 Tu = 856 lbs, Vu = 526 lbs
 (Forces are SDxOmega)

SEE EXPANSION ANCHOR NOTES DWG. DC-03

C.G. AT
 DIMENSIONAL
 CENTER OF
 CABINET (TYP)

MIN. 3 1/4" CONCRETE SLAB:
 3000 PSI NORMAL WEIGHT OR
 SAND LIGHTWEIGHT CONC.
 (SLAB MAY BE SLAB OVER
 METAL DECK AS SHOWN OR
 OTHER SOLID SLAB SUCH AS
 MIN. 4" SLAB ON GRADE)



BASE CABINET

BY: Jeffrey Kikumoto

DATE: 05/04/2022

TYPICAL
 TOE KICK
 ANCHORAGE

1 3/4" MIN AT 24" DEPTH
 2 1/2" MIN AT 36" DEPTH

7 1/2" MIN.
 (TYP)

STEEL DECK: 20ga MIN.

S4,TYP, BETWEEN

S3, TYP. EA. END

S1, TYP. EA. END

MIN.
 SLAB
 THICKNESS

S2, TYP.
 BETWEEN
 S1, TYP.
 EA. END

NOTES:
 SEE NOTES ON DWG.
 DC-01, DC-02
 & DC-03

SCALE: NONE	DATE: 5/2/2022	PENINSULA CASEWORK SUPPORTS & ATTACHMENTS	Drawing No.
LTK ASSOCIATES Incorporated	Structural Engineers 745 Distel Drive Los Altos, CA 94022 (650) 967-8465 FAX (650) 967-5148	1455 Response Road, Suite 110 Sacramento, CA 95815 (916) 372-9943 woodworkinstitute.com	PC-01 12 of 13

STANDARD WOODWORK CASEWORK
CABINETS SHALL HAVE INTEGRAL TOE.

DIMENSIONS

D (max) = 36"

H (max) = 36"

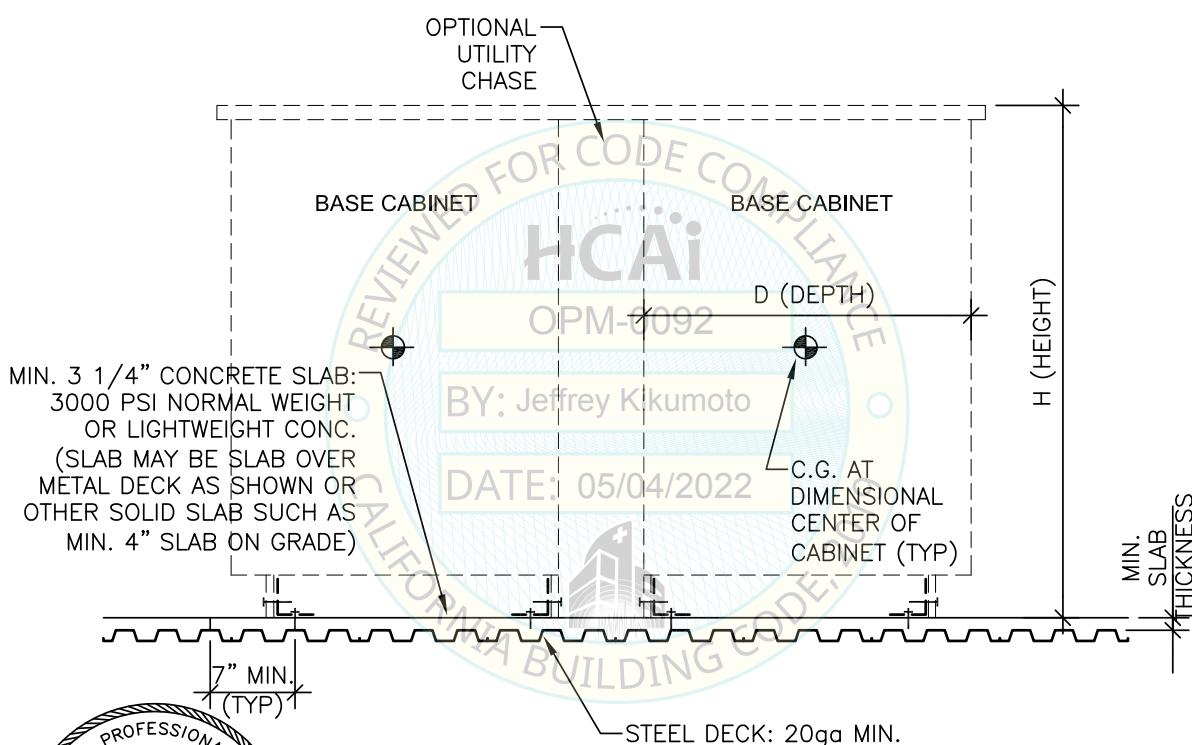
LENGTH = 12" (min) TO 48" (max)

LOADING:

APPROXIMATE EMPTY WEIGHT
OF CABINET: 6 pcf

FLOOR SUPPORTS & ATTACHMENTS:

TYPICAL DETAILS, SEE PC-01



NOTES:
SEE NOTES ON DWG.
DC-01, DC-02
& DC-03

SCALE: NONE DATE: 5/2/2022

PENINSULA CASEWORK SUPPORTS & ATTACHMENTS

Drawing No.



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PC-02

13 of 13