WOODWORK INSTITUTE

Certified Seismic Installation Program
HCAI Compliant

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).

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

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.

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:	Ip=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:	Rp=2.5	TABLE 13.5.1)
OVERSTRENGTH FACTOR:	Ωo=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 <= 1.0.

SEISMIC FORCES:
FOR FASTENERS USED IN FRAMED WALLS OR CMU WALLS
FORCES SHOWN ON THESE DRAWINGS ARE AT ASD LEVEL
CALCULATED THUS: Fph=1.00(Wp) (ASD) Fpv=0.28(Wp) (ASD)
FOR FASTENERS USED IN CONCRETE WALLS
FORCES SHOWN ON THESE DRAWINGS ARE AT SD LEVEL
CALCULATED THUS: Fp=1.44(Wp) Ev=0.40(Wp)

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.

REGISTERED PROFESSIONAL ENGINEER
RAYMOND Z. URIBE'S
S2479
STRUCTURAL
STATE OF CALIFORNIA

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 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 DESINGED 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 CONSTTRUCTION 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 ¾" 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.

REGISTERED PROFESSIONAL ENGINEER
RAYMOND Z. URIBE'S
S2479
STRUCTURAL
STATE OF CALIFORNIA

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 1455 Response Road, Suite 110 Sacramento, CA 95815 (916) 372-9943 woodworkinstitute.com	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=3000psi, NWC
MIN. WALL THICKNESS: 6"
MIN. EDGE DISTANCE: 6"

FLOORS
f'c=3000psi, 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 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.

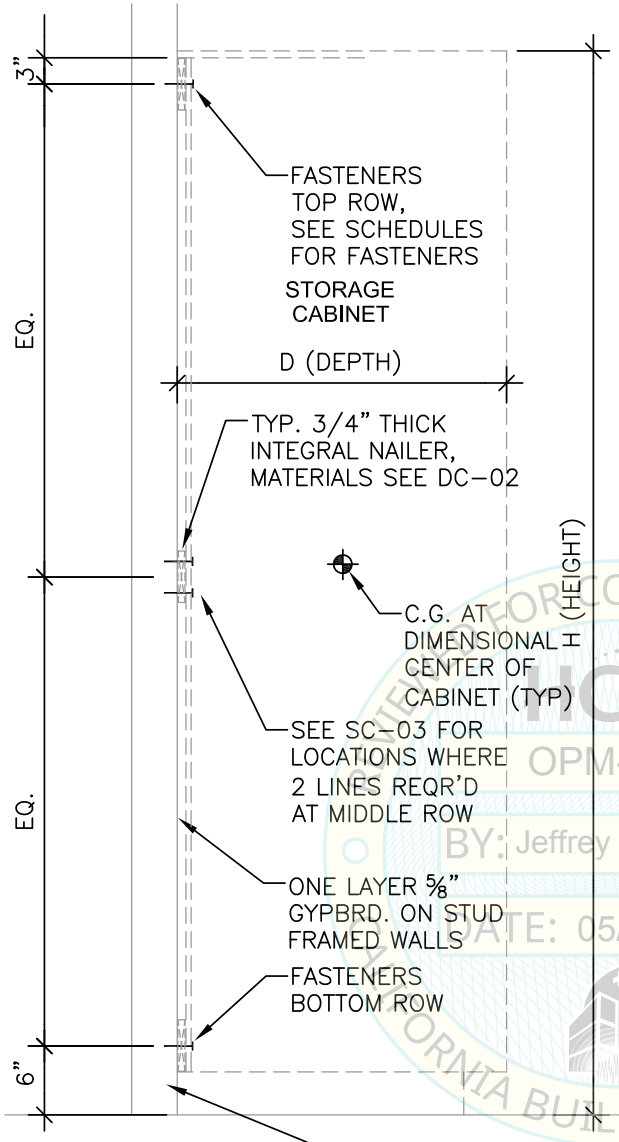
EXPANSION ANCHOR TESTING IN CMU:
TESTING OF EXPANSION ANCHORS IN CMU, SIMILAR TO CRITERIA NOTED ABOVE.

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.

REGISTERED PROFESSIONAL ENGINEER
RAYMOND Z. URIBE'S
S2479
STRUCTURAL
STATE OF CALIFORNIA

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 1455 Response Road, Suite 110 Sacramento, CA 95815 (916) 372-9943 woodworkinstitute.com	OPM-0092 DC-03 3 of 13



STANDARD WOODWORK CASEWORK:

DIMENSIONS:
D = 12 & 24" (max)
H = 96" (max)
LENGTH = 12" (min) TO 48" (max)

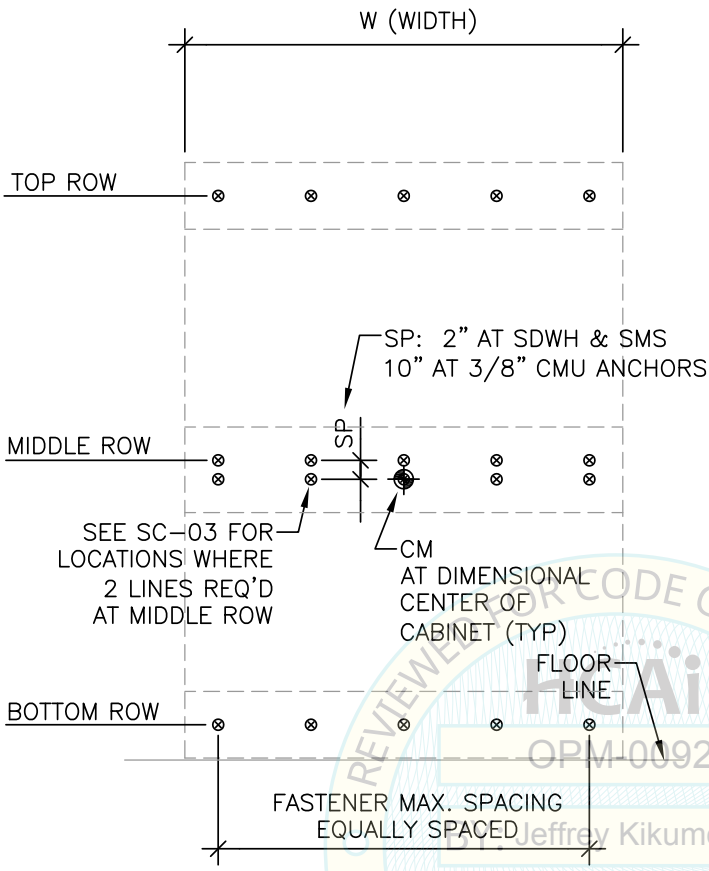
LOADING:
APPROXIMATE EMPTY WEIGHT OF CABINET: 6 pcf

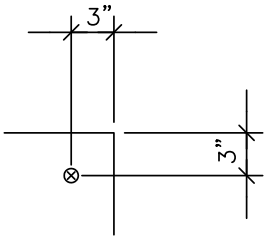
WALL BACKING & STUDS:
SEE DESIGN CRITERIA DWG. No. DC-02

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

REGISTERED PROFESSIONAL ENGINEER
RAYMOND Z. URIBE'S
S2479
STRUCTURAL
STATE OF CALIFORNIA

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		WOODWORK INSTITUTE 1455 Response Road, Suite 110 Sacramento, CA 95815 (916) 372-9943 woodworkinstitute.com	SC-01 4 of 13





FASTENER SPACING
AT CORNERS

FASTENERS & ANCHORS:

1) FOR FASTENER AND ANCHOR TYPES, SEE DRAWING DC-02 & DC-03.

2) FOR FASTENER AND ANCHOR SPACING, SEE DRAWING SC-03.

STORAGE CABINET
ELEVATION OF BACK PANEL
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	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		WOODWORK INSTITUTE 1455 Response Road, Suite 110 Sacramento, CA 95815 (916) 372-9943 woodworkinstitute.com	SC-02 5 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)

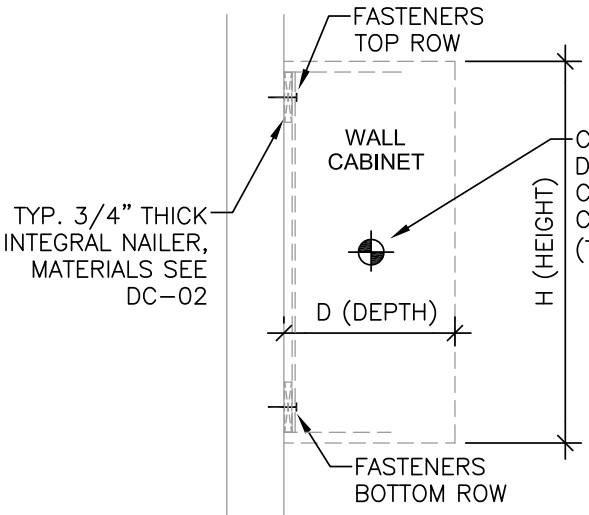
REGISTERED PROFESSIONAL ENGINEER
RAYMOND Z. URIBES
S2479
STRUCTURAL
STATE OF CALIFORNIA

SCALE: NONE	DATE: 5/2/2022	STORGE 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

SC-03
6 of 13



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.

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

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

REGISTERED PROFESSIONAL ENGINEER
RAYMOND Z. URIBE'S
S2479
STRUCTURAL
STATE OF CALIFORNIA

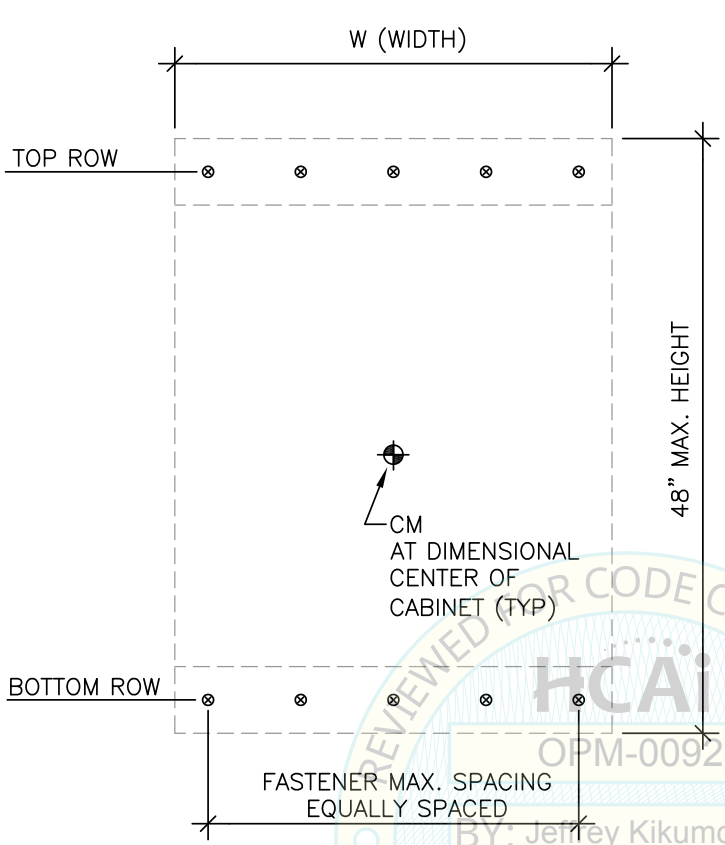
MINIMUM FLOOR CONSTRUCTION:
3 1/4" THICK, 3000 PSI
SAND LTWT CONC. OVER MIN. 20 GA.
METAL DECK. SEOR TO CHECK
FLOOR TO SUPPORT CABINET LOADS.

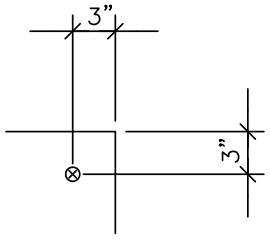
SCALE: NONE	DATE: 5/2/2022	WALL CABINET SUPPORTS & ATTACHMENTS	Drawing No.

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

WC-01
7 of 13





FASTENER SPACING
AT CORNERS

FASTENERS & ANCHORS:

1) FOR FASTENER AND ANCHOR TYPES, SEE DRAWING DC–02 & DC–03.

2) FOR FASTENER AND ANCHOR SPACING, SEE DRAWING WC–03.

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	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

WC-02
8 of 13

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)

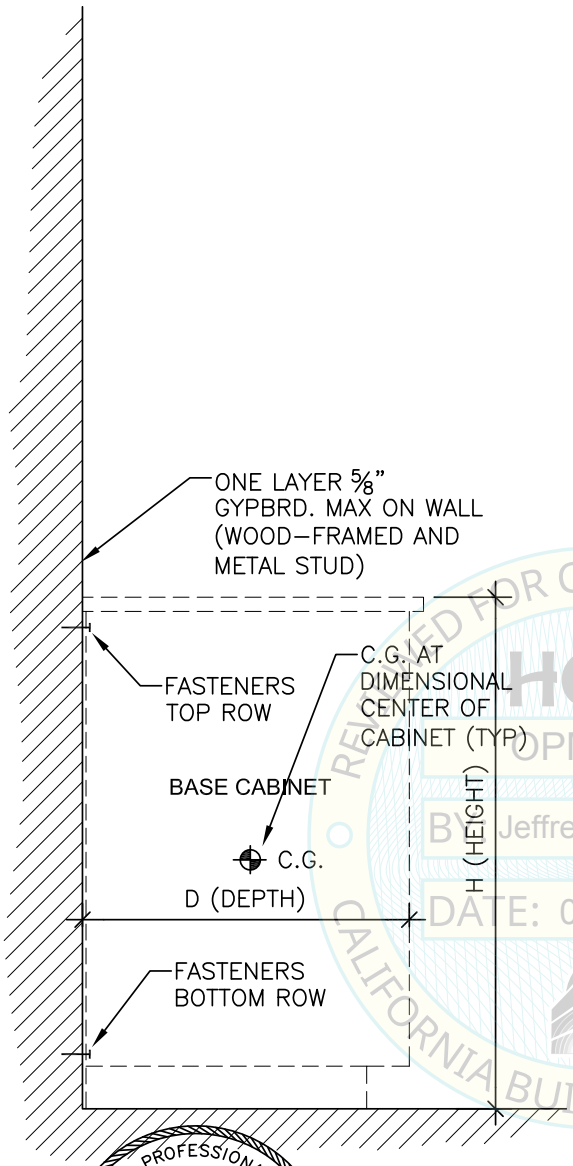
REGISTERED PROFESSIONAL ENGINEER
RAYMOND Z. URIBES
S2479
STRUCTURAL
STATE OF CALIFORNIA

SCALE: NONE	DATE: 5/2/2022	WALL 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

WC-03
9 of 13



STANDARD WOODWORK CASEWORK

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

DIMENSIONS
D = 24" (max)
H = 36" (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:

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)

REGISTERED PROFESSIONAL ENGINEER RAYMOND Z. URIBE'S S2479 STRUCTURAL STATE OF CALIFORNIA

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

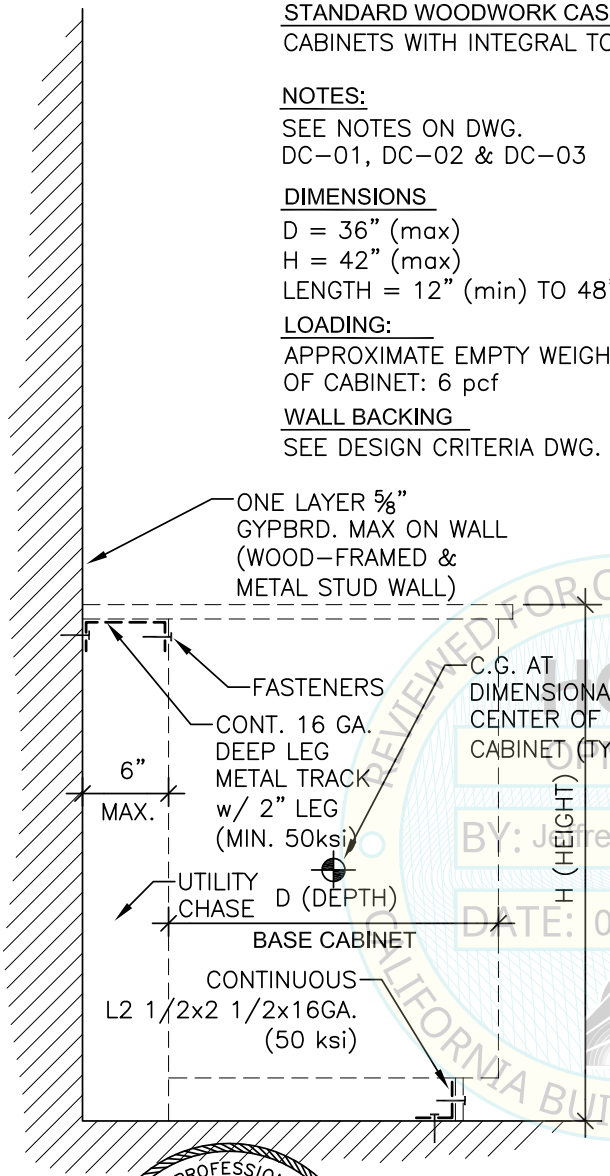
STANDARD WOODWORK CASEWORK
CABINETS WITH INTEGRAL TOE

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

DIMENSIONS
D = 36" (max)
H = 42" (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:

SCREWS AT CABINET TO METAL TRACK:

#14 SMS, 3" FROM EACH END,
8.4" o.c. BETWEEN
T max. = 114 lbs, V max. = 114 lbs
(Forces are ASD)

CABINET TO WALL FASTENERS:

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)

SCREWS TO METAL BACKING:
#14 SMS, 3" FROM EACH END,
7" o.c. BETWEEN
T max. = 125 lbs, V max. = 98 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. = 396 lbs, V max. = 341 lbs
(Forces are ASDxOmega)

ANCHORS TO CONCRETE:
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)

FLOOR ANCHORS:
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
(Forcs are ASD, not concurrent)

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)

REGISTERED PROFESSIONAL ENGINEER
RAYMOND Z. URIBES
S2479
STRUCTURAL
STATE OF CALIFORNIA

SCALE: NONE	DATE: 5/2/2022	BASE CABINET w/ CHASE 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-02
11 of 13

STANDARD WOODWORK CASEWORK
CABINETS SHALL HAVE INTEGRAL TOE.

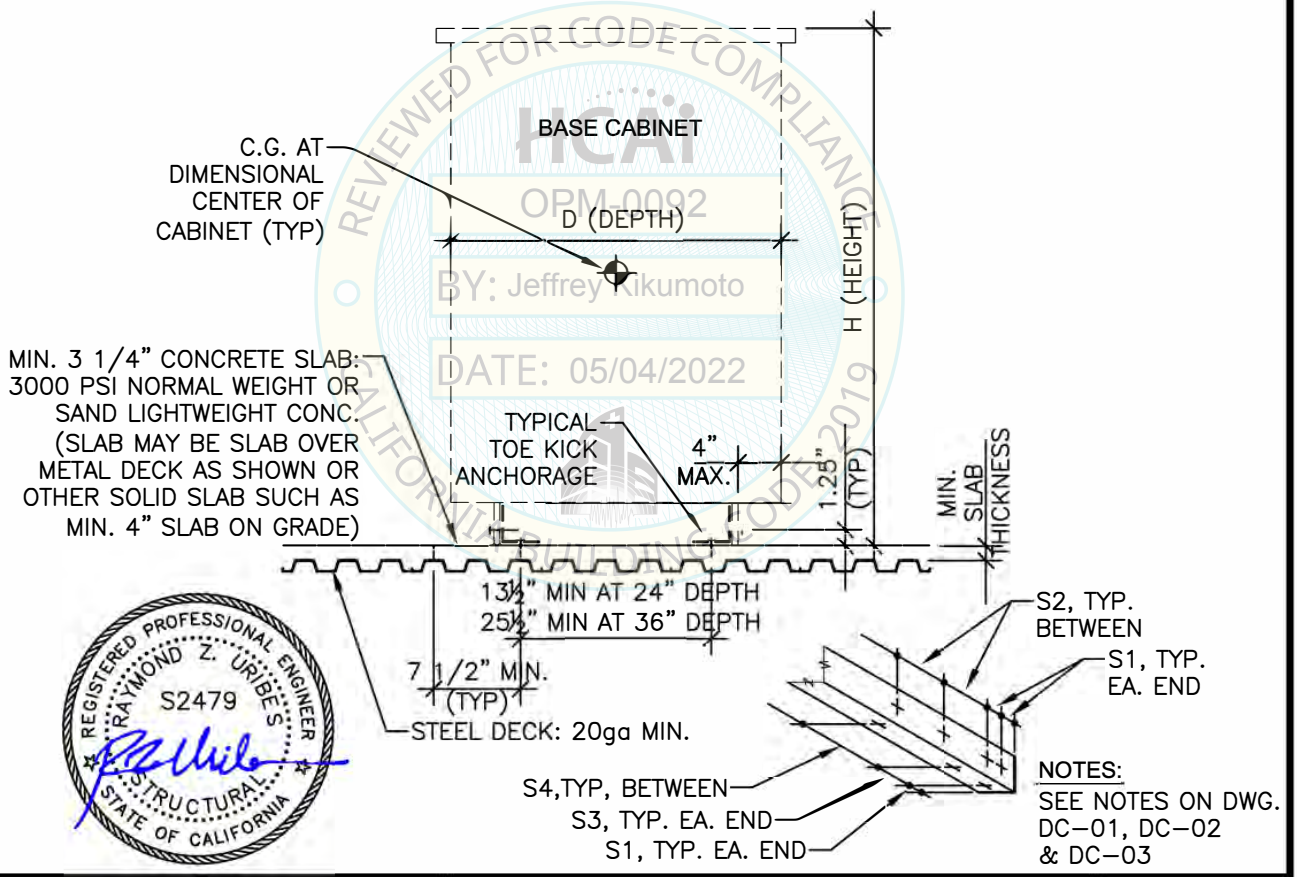
DIMENSIONS
D (max) = 36"
H (max) = 36"
LENGTH = 12" (min) TO 48" (max)

LOADING:
APPROXIMATE EMPTY WEIGHT
OF CABINET: 6 pcf

FLOOR 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



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

REGISTERED PROFESSIONAL ENGINEER
RAYMOND Z. URIBE'S
S2479
STRUCTURAL
STATE OF CALIFORNIA

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

WOODWORK INSTITUTE
1455 Response Road, Suite 110
Sacramento, CA 95815
(916) 372-9943
woodworkinstitute.com

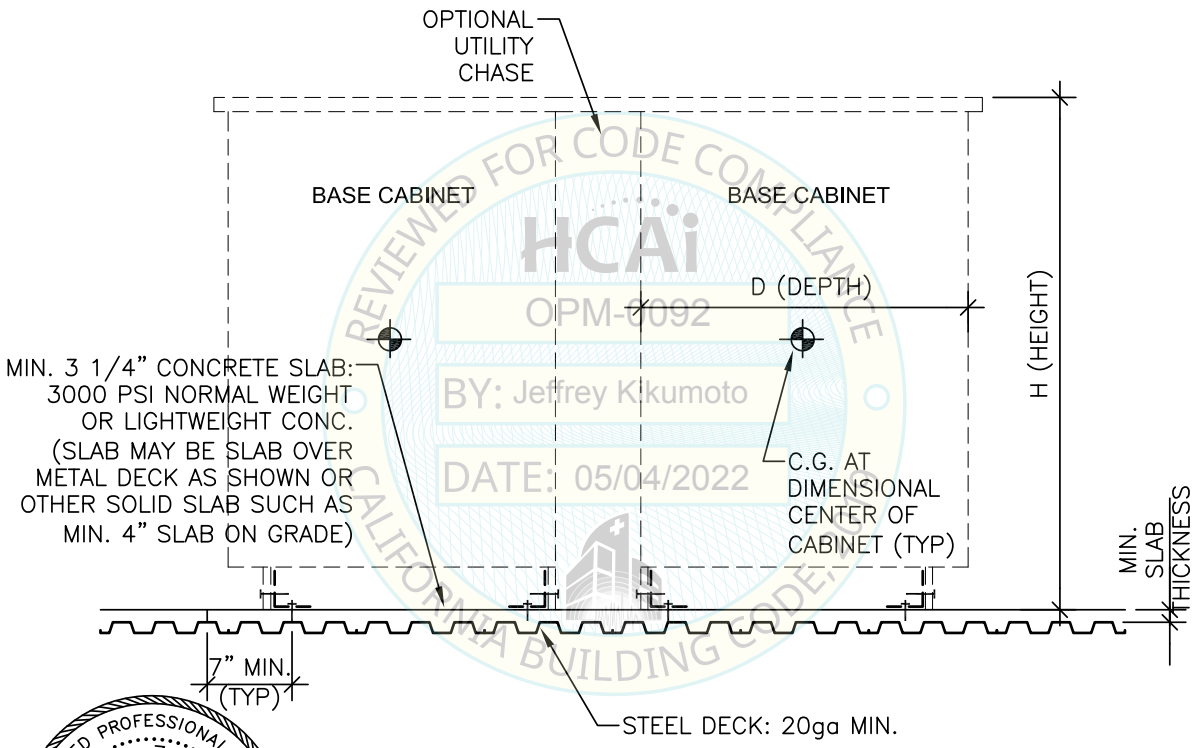
PC-01
12 of 13

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



REGISTERED PROFESSIONAL ENGINEER
RAYMOND Z. URIBE'S
S2479
STRUCTURAL
STATE OF CALIFORNIA

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

WOODWORK INSTITUTE
1455 Response Road, Suite 110
Sacramento, CA 95815
(916) 372-9943
woodworkinstitute.com

PC-02