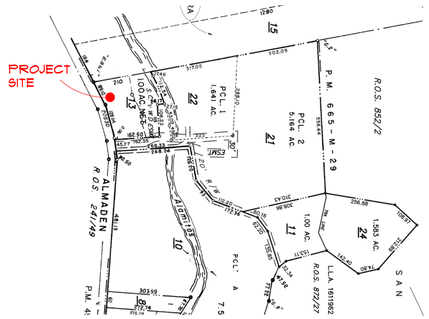


PARCEL MAP

NOT TO SCALE

Santa Clara County REBUILD Determination and Points Allocation [1]

A. Existing Residence

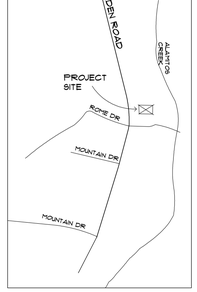
1a Footings[3]	Existing L.F.[2]	New/modified or Removed L.F.	Ratio	Maximum Points	Resulting Points
	908.75	0	0.00		
1b Slab - structural slabs and basement areas	Existing Area	Replaced/ Modified Area	Ratio		
	600	0	0.00		
Subtotal				25	0.00
2 Walls - interior and exterior in linear feet[4]	Existing L.F.[2]	New/modified or Removed L.F.	Ratio	Maximum Points	Resulting Points
	908.75	171.45	0.19	50	9.43
3 Roof[5]	Existing S.F.	new, replaced, altered or removed Roof S.F.	Ratio	Maximum Points	Resulting Points
	3693	104	0.03	25	0.70
Existing Residence Subtotal					10.14

B. Proposed Additions

	Area in S.F.	Ratio 1 pt/ 40 S.F. [6]	Sub-Total Points
First floor and upper story additions[6,7]	10	1.00	1
C. Cumulative rebuild points from permits issued within last 2 years:			0
TOTAL POINT ALLOCATION[1]			11.14

Footnotes

REBUILD CALCULATIONS



VICINITY MAP

NOT TO SCALE

SHEET INDEX

SPECIAL NOTES TO OWNER

SITE DRAINAGE

ALL DRAINAGE FACILITIES SHOULD BE DILIGENTLY MAINTAINED DURING THE LIFE OF THE STRUCTURE – DIRECTING SURFACE AND SUBSURFACE WATERS AWAY FROM THE BUILDING TO ENSURE THAT THE FOUNDATIONS WILL NOT BE ADVERSELY AFFECTED BY SUCH WATER AND IN ADDITION, TO PREVENT WATER INTRUSION INTO THE BUILDING. THIS IS PARTICULARLY IMPORTANT DURING PERIODS OF PROLONGED AND INTENSE RAINFALL.

CONCRETE

UNDER NORMAL CONDITIONS, AND FOR CONVENTIONAL BUILDINGS SUCH AS THE SUBJECT MATTER, REINFORCED CONCRETE DEVELOPS CRACKS. THE CRACKS ARE DUE TO INHERENT SHRINKAGE OF CONCRETE, CREEP, AND RESTRAINING EFFECTS OF WALLS AND OTHER STRUCTURAL ELEMENTS TO WHICH THE BEAMS/SLABS ARE TIED.

THE CRACKS ARE NORMALLY COSMETIC, AND THE SLAB MAINTAINS ITS SERVICEABILITY AND STRENGTH REQUIREMENTS. IT IS POSSIBLE THAT A NUMBER OF HAIRLINE CRACKS, WHICH WOULD NORMALLY BE SPREAD OVER A WIDE AREA, WILL INTEGRATE INTO A SINGLE CRACK WITH A WIDTH EXCEEDING 0.01 INCH. IT IS EMPHASIZED THAT, ALTHOUGH SPECIAL EFFORT IS MADE TO REDUCE THE POTENTIAL CAUSES AND NUMBER OF SUCH CRACKS, IT IS NOT PRACTICAL TO PROVIDE TOTAL ARTICULATION BETWEEN THE FLOOR SLAB SYSTEM AND ITS SUPPORTS, AND THEREBY ACHIEVE COMPLETE INHIBITION.

MOST SUCH CRACKS DEVELOP OVER THE FIRST TWO YEARS OF THE LIFE OF THE FLOOR SLAB SYSTEM. CRACKS THAT ARE WIDER THAN 0.01 INCH MAY NEED TO BE PRESSURE EPOXIED.

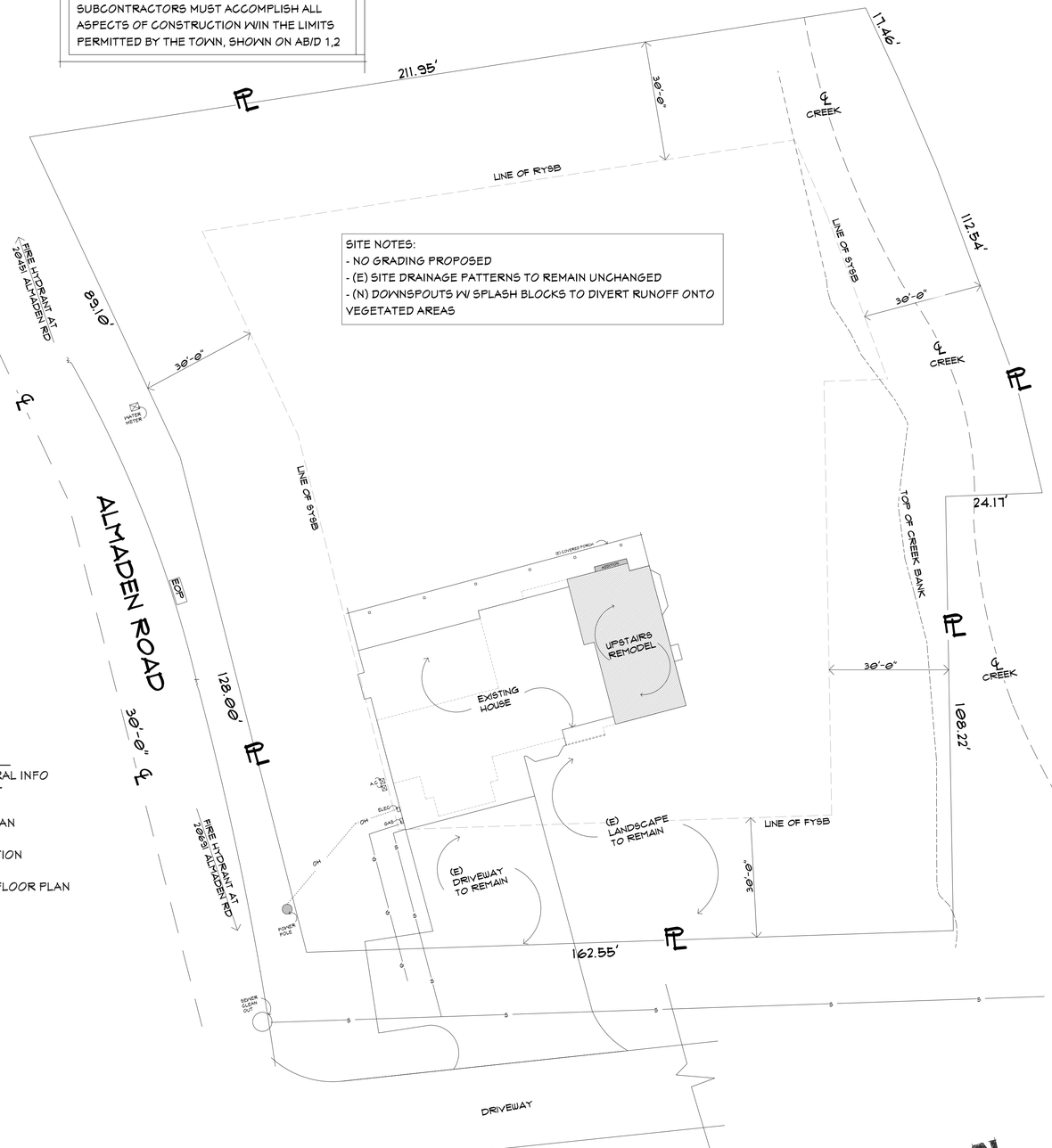
THE OBJECT OF THE JOINTS PROVIDED IS TO ALLOW MOVEMENT. MOVEMENT DUE TO CREEP AND SHRINKAGE MAY NOT BE NOTICEABLE AT THE JOINTS UP TO TWO YEARS AFTER CONSTRUCTION BEYOND WHICH MOVEMENTS DUE TO VARIATION IN TEMPERATURE WILL PERSIST.

EXPANSION AND CONTRACTION

THE EFFECTS OF NORMAL EXPANSIONS AND CONTRACTION CAN BE SEEN IN SUCH THINGS AS SMALL CRACKS IN THE FOUNDATION, DRYWALL, CEMENT, PLASTER, AND PAINT – ESPECIALLY WHERE MOLDINGS MEET AT MITERED CORNERS, WHERE TILE GROUT MEETS THE TUB OR SINK, ETC. SHRINKAGE OF WOOD IN YOUR HOME IS ALSO INEVITABLE. THIS WILL BE MOST NOTICEABLE DURING THE FIRST YEAR FOLLOWING COMPLETION OF THE CONSTRUCTION, BUT TYPICALLY CONTINUES INTO THE SECOND YEAR.

THESE CONSTRUCTION DOCUMENTS MAKE EVERY ATTEMPT TO MINIMIZE CRACKS CAUSED BY EXPANSION AND CONTRACTION.

THE (E) STRUCTURE IS NOT PERMITTED TO BE DEMOLISHED. CONTRACTOR AND SUBCONTRACTORS MUST ACCOMPLISH ALL ASPECTS OF CONSTRUCTION WIN THE LIMITS PERMITTED BY THE TOWN, SHOWN ON AB/D 1,2



SITE PLAN

1/16" = 1'-0"

SITE NOTES:
- NO GRADING PROPOSED
- (E) SITE DRAINAGE PATTERNS TO REMAIN UNCHANGED
- (N) DOWNSPOUTS W/ SPLASH BLOCKS TO DIVERT RUNOFF ONTO VEGETATED AREAS

TREE PROTECTION MEASURES WILL BE INSTALLED AROUND ALL PROTECTED TREES AS REQ'D BY SECTION 29.10.1005

SITE NOTES:
- NO GRADING PROPOSED
- (E) SITE DRAINAGE PATTERNS TO REMAIN UNCHANGED
- (N) DOWNSPOUTS W/ SPLASH BLOCKS TO DIVERT RUNOFF ONTO VEGETATED AREAS

N

ABREVIATION & SYMBOL LEGEND

(E)	EXISTING
(P)	PROPOSED
FYSB	FRONT YARD SET BACK
RYSB	REAR YARD SET BACK
SYSB	SIDE YARD SET BACK
—G—	GAS LINE
—℄—·—	PROPERTY LINE
—PP—	POWER POLE
—OH—	OVERHEAD ELEC LINE
—S—	SEWER LINE
—W—	WATER LINE

OWNERS

JOE & CHERYL DERMER
20530 ALMADEN RD, SAN JOSE, CA 95120
408-592-1619

PROJECT DESCRIPTION

A 818 SF REMODEL OF MASTER BEDROOM & LAUNDRY ROOM

SITE DATA

APN	742-05-013
ZONING	COUNTY
LOT SIZE	42688.8 SF

EXISTING HOUSE AREA

(E)LOWER FLOOR LEVEL	2378.0 SF
(E)UPPER FLOOR LEVEL	2335.9 SF
(E)TOTAL LIVING AREA:	4713.9 SF
ADDED LIVING	10.0 SF
(N)TOTAL LIVING AREA:	4723.9 SF
(E) GARAGE	750.7 SF

REMODEL AREA

MASTER BEDRM	759 SF
LAUNDRY AREA	59 SF
TOTAL	818 SF

APPLICABLE BUILDING CODES

ALL WORK SHALL COMPLY WITH THE CURRENTLY ADOPTED 2019 CRC, CMC, CPC, CEC, CAL-GREEN AS AMENDED BY THE STATE OF CALIFORNIA AND THE TOWN OF LOS GATOS.

GENERAL CONTRACTOR NOTES

1. **DUE DILLIGENCE:** CONTRACTOR SHALL
- VISIT SITE AND REVIEW ALL DRAWINGS. INCLUDE DEMOLITION AS REQUIRED TO COMPLETE THE NEW WORK INCLUDING ANY CONSTRUCTION, PLUMBING, ELECTRICAL, MECHANICAL AND THE FINISH TRADES TO COMPLETE THE PROJECT.
- VERIFY WITH OWNER ANY ITEMS TO BE SALVAGED PRIOR TO START OF WORK.
- VERIFY WITH OWNER A LIST OF SPECIFICATIONS AS IN - CABINETS, DOORS, JAMBS, FINISHES, PAINTING, HARDWARE, FLOORS, FIXTURES, COUNTERTOPS, LIGHTING AND PLUMBING FIXTURES OR APPLIANCES.
- BE RESPONSIBLE FOR VERIFICATION OF ALL JOB CONDITIONS, DIMENSIONS AND DETAILS AS SHOWN ON THE DRAWINGS.
- ENSURE ALL ATTACHMENTS AND CONNECTIONS SHALL MEET OR EXCEED LOCAL AND/OR NATIONAL CODES AND IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND/OR SUB-CONTRACTORS TO VERIFY.

2. **SCOPE OF CONTRACT:** THE SCOPE OF THIS CONTRACT IS TO INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, SCAFFOLDING AND HANDLING OF MATERIALS FOR PROPER SERVICE INCIDENTAL TO PERFORMING AND COMPLETING THE WORK OUTLINED IN THE DRAWINGS AND SPECIFICATIONS. THE CONTRACTOR SHALL FURNISH WORK OMITTED ON THE PLAN, NECESSARY FOR THE PROPER COMPLETION OF THE WORK PER INTENT OF THE PLANS. THE CONTRACTOR SHALL INDICATE TO THE SUBCONTRACTORS THE JURISDICTION OF THEIR TRADE AS IT APPLIES TO THIS JOB. ALL WORK PERSONS AND SUBCONTRACTORS SHALL BE SKILLED IN THEIR INDIVIDUAL TRADES.

3. **EXISTING CONDITIONS:** THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO SUBMITTING A PROPOSAL FOR THE WORK AND SHALL NOT START ANY WORK UNTIL SATISFIED THAT THE ACTUAL SITE CONDITIONS ARE AS SET FORTH ON THE DRAWINGS. ONCE HAVING STARTED WORK, IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO MAKE WHATEVER ADJUSTMENTS, CORRECTIONS, OR REPAIRS AS REQUIRED TO COMPLETE THE PROJECT.

4. **PERMITS & INSPECTIONS:** THE OWNER SHALL PAY NET FOR ALL PERMITS AND FEES REQUIRED BY THE LOCAL AGENCY. THE CONTRACTOR SHALL SECURE AND VERIFY ALL INSPECTIONS WHEN REQUIRED AS PER LOCAL CITY AND /OR COUNTY REQUIREMENTS. INCLUDING ANY INSPECTIONS SPECIAL OR OTHERWISE THAT ARE REQUIRED BY THE BUILDING CODES PER LOCAL BUILDING DEPARTMENT.

5. **CODES:** ALL WORK UNDER THIS CONTRACT SHALL BE IN STRICT ACCORDANCE WITH THE REQUIREMENTS OF ALL APPLICABLE CODES AND LOCAL ORDINANCES. ALL PUBLIC AGENCIES HAVING JURISDICTION, INCLUDING THE LATEST UNIFORM BUILDING CODE, STATE , COUNTY AND LOCAL REQUIREMENTS.

6. **INSURANCE, SAFETY AND WORKMANSHIP:** THE CONTRACTOR SHALL CARRY HIS/HER OWN WORKMAN'S COMPENSATION AND LIABILITY INSURANCE AS REQUIRED. THE CONTRACTOR ALONE IS RESPONSIBLE FOR SITE SAFETY. ALL WORK SHALL BE DONE BY PERSONS SKILLED IN THEIR RESPECTIVE TRADES AND IN ACCORDANCE WITH THE BEST RECOGNIZED PRACTICE FOR EACH TRADE. ALL WORKMANSHIP SHALL BE IN STRICT ACCORDANCE WITH THE MANUFACTURER'S DIRECTIONS, WHERE APPLICABLE. WORKMANSHIP THAT DOES NOT COMPLY WITH THE OBVIOUS INTENT OF THE CONTRACT SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

7. **DIMENSIONS & DISCREPENCIES:** THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, CONDITIONS AND ELEVATIONS AT THE JOB SITE AND BRING ANY DISCREPANCIES TO THE ARCHITECT'S ATTENTION. VERIFY DIMENSIONED ARCHITECTURAL PLANS AS THEY RELATE TO THE STRUCTURAL DIMENSIONS CONTROLLED BY RELATING TO PLUMBING, ELECTRICAL AND MECHANICAL CONSTRUCTION. DO NOT SCALE STRUCTURAL DRAWINGS. VERIFY TYPE AND SIZE OF METAL WORK AGAINST APPROPRIATE MEMBER SIZE BEFORE ORDERING HARDWARE. VERIFY STRUCTURAL DIMENSIONS CONTROLLED BY OR RELATING TO PLUMBING, ELECTRICAL AND MECHANICAL CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE OWNER, ARCHITECT AND ENGINEER OF ERRORS OR OMISSIONS ON THE PLANS, WHICH MIGHT AFFECT THE COMPLETION OF THE PROJECT.

8. **PRECEDENCE & SUBSTITUTION:** IN GENERAL, LARGER SCALE DETAILS SHALL TAKE PRECEDENCE OVER SMALLER SCALE DETAILS. IN CASE OF DISCREPENCIES OR WHERE THE INTENT OF THE PLANS OR SPECIFICATIONS IS NOT CLEAR, REQUEST CLARIFICATION BEFORE PROCEEDING WITH THE WORK. WHERE A NAME BRAND OR MANUFACTURER'S PRODUCT IS SPECIFIED, IT IS USED AS A MEASURE OF THE QUALITY, UTILITY OR AS A STANDARD. PRODUCTS OF SIMILAR CONSTRUCTION AND/OR EQUAL VALUE CAN BE OFFERED FOR THE OWNER'S APPROVAL.

9. **CHANGE ORDER:** MAKE NO DEVIATION FROM THE PLANS OR SPECIFICANS WITHOUT NOTIFICATION TO THE OWNER, ARCHITECT AND ENGINEER. OBTAIN WRITTEN AUTHORIZATION FOR CHANGES INVOLVING COST, PRIOR TO COMMENCING WITH ANY CHANGES.

10. **CLEAN UP:** DURING EXECUTION OF THE WORK, THE JOB SITE SHALL BE KEPT CLEAN AT ALL TIMES. UPON COMPLETION, WINDOWS SHALL BE WASHED AND FLOORS SWEPT. ALL CONSTRUCTION DEBRIS SHALL BE REMOVED AND THE PROJECT SITE RAKED CLEAN AND LEVEL. ALL CLEANING OF CONCRETE, STUCCO AND PAINTING TOOLS, ETC TO BE DONE AT A PLACE DESIGNATED BY THE OWNER.

LETTERS, EVIDENCE, FORMS AND SCHEDULES

1. BUILDER MUST PROVIDE THE HOMEOWNER WITH A LUMINAIRE SCHEDULE (AS REQUIRED IN TITLE 24 CALIFORNIA CODE OF REGULATIONS, PART 1, §10-103(B)) THAT INCLUDES A LIST OF LAMPS INSTALLED IN THE LUMINARIES.
2. HERS VERIFICATION REQUIRED PER TITLE 24 ANALYSIS, SHEET T-1, PAGE 2. PROVIDE EVIDENCE OF THIRD PARTY VERIFICATION (HERS) TO PROJECT BUILDING INSPECTOR PRIOR TO FINAL INSPECTION
3. A COMPLETED CF2R-LTG-01-E FORM MUST BE PROVIDED TO THE CITY BUILDING INSPECTOR PRIOR TO FINAL INSPECTION.
4. PRIOR TO FINAL INSPECTION, A LETTER SIGNED BY THE GENERAL CONTRACTOR OR THE OWNER/BUILDER (FOR ANY OWNER/BUILDER PROJECTS) MUST BE PROVIDED TO THE TOWN OF LOS GATOS BUILDING OFFICIAL CERTIFYING THAT ALL ADHESIVES, SEALANTS, CAULKS, PAINTS, COATINGS , AEROSOL PAINTS, AEROSOL COATINGS, CARPET SYSTEMS (INCLUDING CARPETING, CUSHION AND ADHESIVE), RESILIENT FLOORING SYSTEMS, AND COMPOSITE WOOD PRODUCTS INSTALLED ON THIS PROJECT ARE WITHIN THE EMISSION LIMITS SPECIFIED IN CGBSC SECTION 4.504.

ALL ELECTRICAL, PLUMBING AND MECHANICAL INSTALLATIONS SHALL BE DESIGN BUILD BY THE SPECIFIC SUBCONTRACTOR(S) AND SHALL IN ANY CASE CONFORM TO THE LATEST EDITIONS OF THE APPLICABLE CODES

VERIFY ALL FNSHES W/ INTERIOR DESIGNER CONTACT # 451.385.5843

CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO CONSTRUCTION - ANY DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ARCHITECT

Print date :

10.11.21

JAY PLETT ARCHITECT

LICENSED ARCHITECT Jay Dean Plett C23455 06/30 RENEWAL STATE OF CALIFORNIA

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213 Bean Avenue
Los Gatos, CA 95030

DERMER RESIDENCE

REMODEL
20530 ALMADEN RD.

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Scale :

Date :

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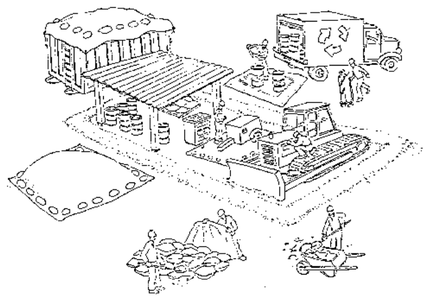
A-1

Pollution Prevention — It's Part of the Plan



Make sure your crews and subs do the job right!

Runoff from streets and other paved areas is a major source of pollution in San Francisco Bay. Construction activities can directly affect the health of the Bay unless contractors and crews plan ahead to keep dirt, debris, and other construction waste away from storm drains and local creeks. Following these guidelines will ensure your compliance with local ordinance requirements.

Materials storage & spill cleanup

Non-hazardous materials management

- ✔ Sand, dirt, and similar materials must be stored at least 10 feet from catch basins, and covered with a tarp during wet weather or when rain is forecast.
- ✔ Use (but don't overuse) reclaimed water for dust control as needed.
- ✔ Sweep streets and other paved areas daily. Do not wash down streets or work areas with water!
- ✔ Recycle all asphalt, concrete, and aggregate base material from demolition activities.
- ✔ Check dumpsters regularly for leaks and to make sure they don't overflow. Repair or replace leaking dumpsters promptly.

Hazardous materials management

- ✔ Label all hazardous materials and hazardous wastes (such as pesticides, paints, thinners, solvents, fuel, oil, and antifreeze) in accordance with city, state, and federal regulations.
- ✔ Store hazardous materials and wastes in secondary containment and cover them during wet weather.
- ✔ Follow manufacturer's application instructions for hazardous materials and be careful not to use more than necessary. Do not apply chemicals outdoors when rain is forecast within 24 hours.
- ✔ Be sure to arrange for appropriate disposal of all hazardous wastes.

Spill prevention and control

- ✔ Keep a stockpile of spill cleanup materials (rags, absorbents, etc.) available at the construction site at all times.
- ✔ When spills or leaks occur, contain them immediately and be particularly careful to prevent leaks and spills from reaching the gutter, street, or storm drain. Never wash spilled material into a gutter, street, storm drain, or creek!
- ✔ Report any hazardous materials spills immediately! Dial 911 or your local emergency response number.

Vehicle and equipment maintenance & cleaning

- ✔ Inspect vehicles and equipment for leaks frequently. Use drip pans to catch leaks until repairs are made; repair leaks promptly.
- ✔ Fuel and maintain vehicles on site only in a bermed area or over a drip pan that is big enough to prevent runoff.
- ✔ If you must clean vehicles or equipment on site, clean with water only in a bermed area that will not allow rinsewater to run into gutters, streets, storm drains, or creeks.
- ✔ Do not clean vehicles or equipment on-site using soaps, solvents, degreasers, steam cleaning equipment, etc.

Earthwork & contaminated soils

- ✔ Keep excavated soil on the site where it is least likely to collect in the street. Transfer to dump trucks should take place on the site, not in the street.
- ✔ Use hay bales, silt fences, or other control measures to minimize the flow of silt off the site.

- ✔ Avoid scheduling earth moving activities during the rainy season if possible. If grading activities during wet weather are allowed in your permit, be sure to implement all control measures necessary to prevent erosion.
- ✔ Mature vegetation is the best form of erosion control. Minimize disturbance to existing vegetation whenever possible.
- ✔ If you disturb a slope during construction, prevent erosion by securing the soil with erosion control fabric, or seed with fast-growing grasses as soon as possible. Place hay bales down-slope until soil is secure.
- ✔ If you suspect contamination (from site history, discoloration, odor, texture, abandoned underground tanks or pipes, or buried debris), call your local fire department for help in determining what testing should be done.
- ✔ Manage disposal of contaminated soil according to Fire Department instructions.

Dewatering operations

- ✔ Reuse water for dust control, irrigation, or another on-site purpose to the greatest extent possible.
- ✔ Be sure to call your city's storm drain inspector before discharging water to a street, gutter, or storm drain. Filtration or diversion through a basin, tank, or sediment trap may be required.
- ✔ In areas of known contamination, testing is required prior to reuse or discharge of groundwater. Consult with the city inspector to determine what testing to do and to interpret results. Contaminated groundwater must be treated or hauled off-site for proper disposal.

Saw cutting

- ✔ Always completely cover or barricade storm drain inlets when saw cutting. Use filter fabric, hay bales, sand bags, or fine gravel dams to keep slurry out of the storm drain system.
- ✔ Shovel, absorb, or vacuum saw-cut slurry and pick up all waste as soon as you are finished in one location or at the end of each work day (whichever is sooner!).
- ✔ If saw cut slurry enters a catch basin, clean it up immediately.

Paving/asphalt work

- ✔ Do not pave during wet weather or when rain is forecast.
- ✔ Always cover storm drain inlets and manholes when paving or applying seal coat, tack coat, slurry seal, or fog seal.
- ✔ Place drip pans or absorbent material under paving equipment when not in use.
- ✔ Protect gutters, ditches, and drainage courses with hay bales, sand bags, or earthen berms.
- ✔ Do not sweep or wash down excess sand from sand sealing into gutters, storm drains, or creeks. Collect sand and return it to the stockpile, or dispose of it as trash.
- ✔ Do not use water to wash down fresh asphalt concrete pavement.

Concrete, grout, and mortar storage & waste disposal

- ✔ Be sure to store concrete, grout, and mortar under cover and away from drainage areas. These materials must never reach a storm drain.
- ✔ Wash out concrete equipment/trucks off-site or designate an on-site area for washing where water will flow onto dirt or into a temporary pit in a dirt area. Let the water seep into the soil and dispose of hardened concrete with trash.

- ✔ Divert water from washing exposed aggregate concrete to a dirt area where it will not run into a gutter, street, or storm drain.
- ✔ If a suitable dirt area is not available, collect the wash water and remove it for appropriate disposal off site.

Painting

- ✔ Never rinse paint brushes or materials in a gutter or street!
- ✔ Paint out excess water-based paint before rinsing brushes, rollers, or containers in a sink. If you can't use a sink, direct wash water to a dirt area and spade it in.
- ✔ Paint out excess oil-based paint before cleaning brushes in thinner.
- ✔ Filter paint thinners and solvents for reuse whenever possible. Dispose of oil-based paint sludge and unusable thinner as hazardous waste.

Bay Area Stormwater Management Agencies Association (BASMAA)
1-888-BAYWISE

Storm drain polluters may be liable for fines of up to $10,000 per day!

Print date :

10.11.21

JAY PLETT
ARCHITECT

LICENSED ARCHITECT
Jay Dennis Plett
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06/30
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A-1.1

ABBREVIATIONS:

&	AND
ANG	ANGLE
@	AT
CL	CENTERLINE
DIA	DIAMETER OR ROUND
AC	ASPHALT CONCRETE OR AIR CONDITIONER
ACOUST	ACOUSTICAL
ADA	DISABLED ACCESSIBLE
ADJ	ADJUSTABLE
AFF	ABOVE FINISH FLOOR
ALUM	ALUMINUM
BLDG	BUILDING
BLK	BLOCK OR BLOCKING
BUR	BUILT-UP ROOFING
CPT	CARPET
CG	CORNER GUARD
CH	CHANNEL STEEL
CLG	CEILING
CLR	CLEAR
CONC	CONCRETE
CONT	CONTINUOUS
DET	DETAIL
DIM	DIMENSION
DS	DOWNSPOUT
(E)	EXISTING
EA	EACH
EL	ELEVATION
EMERG	EMERGENCY
EPB	ELECTRIC PANEL BOARD
EXT	EXTERIOR
FD	FLOOR DRAIN
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FIN	FINISH
FL	FLOOR
FOC	FACE OF CONCRETE
FOF	FACE OF FINISH
FOM	FACE OF MASONRY
FOS	FACE OF STUD
FTG	FOOTING
FURN	FURNACE
GA	GAUGE
GALV	GALVANIZED
GYP. BD.	GYPSUM BOARD DRY WALL
H/C	HANDICAPPED
HM	HOLLOW METAL
INCL	INCLUDING
INSUL	INSULATION
LAM	LAMINATE
LAV	LAVATORY
LP	LOW POINT OR PLASTIC LAMINATE
MANF	MANUFACTURER
MAX	MAXIMUM
MN	MINIMUM
MO	MASONRY OPENING
MTL	METAL
N/C	NOT IN CONTRACT
NTS	NOT TO SCALE
OC	ON CENTER
OPNG	OPENING
PL	PLATE
PLAS	PLASTER
PLWD	PLYWOOD
PTD	PAINTED
PT	POINT
RB	RESILIENT BASE
RD	ROOF DRAIN
REF	REFRIGERATOR
RENF	REINFORCEMENT
REQ	REQUIRED
RF	RESILIENT FLOORING
RM	ROOM
RT	RESILIENT TILE
RWD	REDWOOD
RWL	RAINWATER LEADER
SC	SEALED CONCRETE
SD	STORM DRAIN
SIM	SIMILAR
SS	STAINLESS STEEL OR SANITARY SEWER
STL	STEEL
STRUCT	STRUCTURAL
T	TREAD OR TILE
T&B	TOP AND BOTTOM
T&G	TONGUE AND GROOVE
TOS	TOP OF SLAB
TS	TUBE SECTION
TYP	TYPICAL
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
VF	VERIFY IN FIELD
VCT	VINYL COMPOSITION TILE
VW	VINYL WALL COVERING
W	WITH
WH	WATER HEATER
WP	WATERPROOF
WR	WATER RESISTANT

1. CONTRACTOR SHALL PROVIDE ALL WORK AND MATERIALS IN ACCORDANCE WITH CURRENT 2019 CALIFORNIA RESIDENTIAL BUILDING, MECHANICAL, PLUMBING, ELECTRICAL, ENERGY AND GREEN BUILDING STANDARDS CODES (I.E. 2018 IRC, 2018 IBC, 2018 UMC, 2018 UPC, AND 2017 NEC AS AMENDED BY THE STATE OF CALIFORNIA AND THE TOWN OF LOS GATOS).

2. IN THE EVENT CERTAIN FEATURES OF THE CONSTRUCTION ARE NOT FULLY SHOWN, THEIR CONSTRUCTION SHALL BE AS SHOWN FOR SIMILAR FEATURE, ORE REVIEW THE AREA IN QUESTION WITH THE DESIGN PROFESSIONAL PRIOR TO CONSTRUCTION.

3. VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION .

4. UNLESS OTHERWISE SHOWN, EXCAVATION SHALL BE NEARLY AS POSSIBLE TO THE NEAT LINES REQUIRED BY THE SIZE AND SHAPE OF THE FOOTINGS.

5. ALL FOOTING DEPTHS SHOWN ARE MINIMUM. FOOTINGS SHALL BE FOUNDED OVER FIRM AND NATIVE SUBSOIL. INCREASE FOOTING DEPTHS AS REQUIRED AND AS NECESSARY TO MATCH EXISTING FOOTING DEPTH.

6. FOUNDATION VENTILATION SHALL COMPLY WITH THE CURRENT U.B.C. REQUIREMENTS (1) SQ. FT. OF VENT AREA FOR EACH 150 SQ. FT. OR UNDER FLOOR AREA.

7. PROVIDE GARAGE VENTILATION EQUAL TO 60 SQ. IN. PER VEHICLE WITHIN 6" OF THE SLAB.

8. PROVIDE DOUBLE JOISTS UNDER WALLS PARALLEL TO FLOOR JOISTS AND SOLID BLOCKING UNDER WALLS PERPENDICULAR TO FLOOR JOISTS.

9. NON-COMBUSTIBLE FIRE STOPS SHALL BE PROVIDED IN OPENINGS AROUND VENTS, PIPES, DUCTS, CHIMNEYS, FIREPLACES, AND SIMILAR OPENINGS AT FLOOR CEILING LEVELS PER 2019 CRC AND CBC REQUIREMENTS.

10. ALL JOINTS, PENETRATIONS, AND OTHER OPENINGS IN THE BUILDING ENVELOPE SHALL BE SEALED, CAULKED, GASKETED, OR WEATHER-STRIPPED TO LIMIT AIR LEAKAGE.

11. A POSITIVE GRADIENT OF 6" MIN. WITHIN 10'-0" (5% MIN. AND / OR 2% AT IMPERVIOUS SURFACES MUST BE PROVIDED AWAY FROM ALL FOUNDATIONS IN ORDER TO PROVIDE RAPID REMOVAL OF SURFACE WATER RUNOFF AWAY FROM THE FOUNDATION TO AN ADEQUATE DISCHARGE POINT. NO PONDING OF WATER SHOULD BE ALLOWED ON THE PAD OR ADJACENT TO THE FOUNDATIONS.

12. ADD A BEAD OF CAULKING AROUND THE INTERIOR OF THE SOLE PLATE AT ALL EXTERIOR WALLS. THE BEAD SHOULD BE APPLIED AT THE JOINT OF SUBFLOOR AND SOLE PLATE JUST PRIOR TO SHEETROCK INSTALLATION.

13. GARAGE AREAS SHALL HAVE ON-HOUR SEPARATION FROM ALL LIVING AREAS, ONE HOUR SEPARATION CONSTRUCTION SHALL EXTEND FROM THE BOTTOM OF THE MUDSILL TO THE BOTTOM OF THE ROOF SHEATHING WITH JOINTS TAPED AND SEALED (SEE PLANS FOR LOCATIONS).

14. ALL EXTERIOR DOORS SHALL BE 1-3/4" SOLID CORE AND WEATHER STRIPPED.

15. DOORS LEADING FROM THE HOUSE TO THE GARAGE SHALL BE 1-3/4" SOLID CORE 20-MINUTE RATED, TIGHT-FITTING, SELF-CLOSING WITH WEATHER STRIPPING AND BOTTOM SWEEP.

16. ATTIC VENTING SHALL BE PROVIDED PER CURRENT 2019 CRC AND CBC REQUIREMENTS.

17. PROVIDE SOUND INSULATION IN WALLS AROUND ALL BATHROOMS, LAUNDRY ROOMS AND BETWEEN COMMON WALLS OF BEDROOMS AND BETWEEN FLOORS.

18. ALL PATCHING, REPAIRING, AND REPLACING OF MATERIALS AND SURFACES CUT OR DAMAGED IN EXECUTION OF WORK SHALL BE DONE WITH IDENTICAL MATERIALS SO THAT SURFACE REPLACED WILL, UPON COMPLETION, MATCH SURROUNDING SIMILAR SURFACES.

19. PLUMBING FIXTURES SHALL COMPLY WITH THE FOLLOWING CONSERVATION MEASURES:
A. ALL WATER CLOSETS TO BE 1.28 GAL. MAXIMUM
B. ALL SHOWER HEADS OR MULTIPLE SHOWER HEADS SERVING ONE SHOWER (COMBINED FLOW RATE OF ALL SHOWERHEADS AND/OR OTHER SHOWER OUTLETS CONTROLLED BY A SINGLE VALVE). TO BE 1.8 GPM MAX AT 80 PSI PER CGBSC SECTION 4.303.1.3
C. LAVATORY FAUCETS TO BE 1.2 GPM AT 60 PSI (MIN. SHALL NOT BE LESS THAN 0.8 GPM AT 20 PSI)
D. KITCHEN FAUCETS TO BE 1.8 GPM AT 60 PSI

20. ALL WINDOWS AT BATHTUBS AND / OR SHOWERS TO BE TEMPERED GLASS AS NOTED.

21. ALL GLAZING WITHIN 24" OF DOORS AND/ OR 18" OF FLOOR TO BE TEMPERED GLASS.

22. NO STORAGE (PLYWOOD, SUB-FLOORING, ETC.) ALLOWABLE AT ATTIC SPACES.

23. PROVIDE BACK-FLOW DEVICES AT ALL NEW HOSE BIBS.

24. SHOWERS AND TUB / SHOWER COMBINATIONS SHALL BE PROVIDED WITH INDIVIDUAL CONTROL VALVES OF THE PRESSURE BALANCE OR THERMOSTATIC MIXING VALVE TYPE.

25. WATER TREATMENT SYSTEMS SHALL BE EQUIPPED WITH AN AUTOMATIC SHUT-OFF TO PREVENT CONTINUOUS FLOW WHEN NOT IN USE.

26. ALL PLUMBING VENTS TO BE 10 FEET MIN. FROM OPERABLE SKYLIGHTS.

27. EXTERIOR WALL BOTTOM SILL PLATES SHALL BE PRESSURE TREATED OR EQ. AND SHALL BEAR / EXTEND 8" MINIMUM ABOVE FINISH GRADE.

28. WINDOWS LOCATED MORE THAN 72" ABOVE FINISHED GRADE SHALL HAVE THE LOWEST PART OF CLEAR OPENING OF THE WINDOW TO BE MINIMUM 24: ABOVE THE FLOOR IN WHICH IT SERVES.

29. GYPSUM BOARD APPLIED TO A CEILING WALL SHALL BE ½" WHEN FRAMING MEMBERS ARE 16" O.C. OR 5/8" WHEN FRAMING MEMBERS ARE 24" O.C. OR USE LABELED ½" SAG-RESISTANT GYPSUM CEILING BOARD.

30. SHOWER AREA WALLS SHALL BE FINISHED WITH A SMOOTH, HARD, NON-ABSORBENT SURFACE SUCH AS CERAMIC TILE TO A HEIGHT OF NOT LESS THAN 72" ABOVE THE DRAIN INLET. WATER-RESISTANT GYPSUM BOARD SHALL NOT BE INSTALLED OVER A VAPOR RETARDER IN A SHOWER OR TUB COMPARTMENT, CEMENT, FIBER-CEMENT, OR GLASS MAT GYPSUM BACKERS INSTALLED IN ACCORDANCE WITH THE MFG'S RECOMMENDATION SHALL BE USED AS BACKERS FOR WALL TILE IN TUB AND SHOWER AREAS AND WALL PANELS IN SHOWER AREA.

31. DOMESTIC DISHWASHING MACHINES CONNECTED TO A DISPOSER SHALL HAVE THE DISCHARGE INSTALLED AS HIGH AS POSSIBLE.

32. HOT WATER RECIRCULATION PUMPS: PROVIDE A HOT WATER DEMAND CONTROLLED RECIRCULATION PUMP FOR WATER HEATERS LOCATED MORE THAN 20 FEET FROM THE FURTHEST FIXTURE SERVED. A MANUAL CONTROL OR OCCUPANT SENSOR SWITHC SHALL OPERATE THE PUMP WITH AN AUTOMATIC TEMPERATURE SENSOR SHUT-OFF.

33. INSULATION MATERIAL, INCLUDING FACINGS SUCH AS VAPOR BARRIERS OR BREATHER PAPERS INSTALLED WITHIN FLOOR / CEILING OR ROOF / CEILING ASSEMBLIES, WALLS, CRAWL-SPACES OR ATTICS SHALL HAVE A FLAME SPREAD NOT TO EXCEED 25 AND A SMOKE DENSITY RATING OF 450 WHEN TESTED IN ACCORDANCE W / UBC STANDARD 8-1.

34. DIMENSIONS INDICATED ARE DIMENSIONS TO BE USED. DO NOT SCALE DRAWINGS.

35. PROVIDE FIRE BLOCKING AT LOCATIONS AS REQUIRED BY CRC SECTION R302.1 (1).

36. INSTALL AT LEAST ONE ENERGY STAR DISHWASHER AND CLOTHES WASHER WITH MAXIMUM WATER USAGE: STANDARD DISHWASHER = 4.25 GAL PER CYCLE. COMPACT DISHWASHER = 3.5 GAL PER CYCLE. CLOTHES WASHER = WATER FACTOR OF 6 GAL PER CUBIC FEET OF DRUM CAPACITY.

37: RENEWABLE SOURCE BUILDING PRODUCTS SUCH AS BAMBOO FLOORING SHALL BE USED WHERE APPLICABLE.

38. ALL ANNULAR SPACES AROUND PIPES, ELECTRIC CABLES, CONDUITS OR OTHER OPENINGS IN PLATES AT EXTERIOR WALLS SHALL BE PROTECTED AGAINST THE PASSAGE OF RODENTS BY CLOSING SUCH OPENINGS WITH CEMENT MORTAR, CONCRETE MASONRY OR SIMILAR METHOD ACCEPTABLE TO THE ENFORCING AGENCY.

39. RECYCLE AND/OR SALVAGE FOR REUSE A MINIMUM OF 65% OF THE NON-HAZARDOUS CONSTRUCTION AND DEMOLITION WASTE IN ACCORDANCE WITH ONE OF THE FOLLOWING:
1. COMPLY WITH A MORE STRINGENT LOCAL CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT ORDINANCE, OR:
2. A CONSTRUCTION WASTE MANAGEMENT PLAN PER SECTION 4.408.2, OR:
3. A WASTE MANAGEMENT COMPANY PER SECTION 4.408.3, OR:
4. THE WASTE STREAM REDUCTION ALTERNATIVE PER SECTION 4.408.4

40. CONSTRUCTION WASTE GENERATED AT THE SITE I TO BE DIVERTED TO RECYCLE OR SALVAGE BY AT LEAST 65%.

41. MOISTURE CONTENT OF BUILDING MATERIALS USED IN WALL AND FLOOR FRAMING TO BE CHECKED BEFORE ENCLOSURE.

42. HVAC SYSTEM INSTALLERS TO BE TRAINED AND CERTIFIED IN THE PROPER INSTALLATION OF HVAC SYSTEMS

43. VERIFICATION OF COMPLIANCE WITH THIS CODE MAY INCLUDE CONSTRUCTION DOCUMENTS, PLANS SPECIFICATIONS, BUILDER OR INSTALLER CERTIFICATION, INSPECTION REPORTS, OR OTHER METHODS ACCEPTABLE TO THE ENFORCING AGENCY WHICH SHOW SUBSTANTIAL CONFORMANCE.

1. STEPS AT INTERIOR DOORS:
A. THE DROP OF THE FLOOR OR LANDING ON EACH SIDE OF THE DOOR SHALL NOT BE MORE THAN ½" FROM THE TOP OF THE THRESHOLD OF THE DOORWAY.

2. EXTERIOR DOOR NOTES
A. CONCRETE LANDINGS TO BE 36" X FULL WIDTH OF DOOR OPENING.
B. PROVIDE WEATHER STRIPPING ALL AROUND DOORS.
C. PROVIDE METAL THRESHOLDS .
D. PROVIDE A MAXIMUM OF 7-1/2" DROP FROM TOP OF THRESHOLD TO LANDING AT IN-SWINGING EXTERIOR DOORS.
E. EXIT DOORS SHALL BE OPERABLE FROM THE INSIDE WITHOUT THE USE OF A KEY OR ANY SPECIAL KNOWLEDGE.

3. PLUMBING REQUIREMENTS
A. VERIFY / PROVIDE A BACKWATER VALVE ON DRAINAGE PIPING SERVING FIXTURES THAT HAVE FLOOD LEVEL RIMS LESS THAN 12" ABOVE THE NEXT UPSTREAM MANHOLE.
B. CONTRACTOR TO PROVIDE PRESSURE ABSORBING DEVICES OR APPROVED MECHANICAL DEVICES LOCATED AS CLOSE AS POSSIBLE TO QUICK ACTING VALVES THAT WILL ABSORB HIGH PRESSURE RESULTING FROM THE QUICK CLOSING OF QUICK ACTING VALVES.

4. SHOWERS & SHOWER / TUB COMBINATIONS
A. SHOWER FLOORS: PROVIDE CERAMIC TILE OVER WATERPROOF MEMBRANE.
B. WALLS: FINISH W/ SMOOTH, NON-ABSORBENT SURFACE SUCH AS CERAMIC TILE TO A HEIGHT OF NOT LESS THAN 72" ABOVE THE DRAIN INLET. WATER-RESISTANT GYPSUM BOARD SHALL NOT BE INSTALLED OVER A VAPOR RETARDER IN A SHOWER OR TUB COMPARTMENT. CEMENT, FIBER-CEMENT, OR GLASS MAT GYPSUM BACKERS INSTALLED IN ACCORDANCE W/ MFG RECOMMENDATIONS SHALL BE USED AS BACKERS FOR WALL TILE IN TUB AND SHOWER AREAS AND WALL PANELS IN SHOWER AREAS.
C. PROVIDE TEMPERED GLASS ENCLOSURES AS SHOWN ON PLAN W/ 22" MIN. WIDE ACCESS DOORS.
D. MIN. SHOWER SIZE TO BE 1,024 SQ. IN. AND 30" DIA MIN. CLEAR TO THE CENTERLINE OF THE CURB.

5. SHOWER VALVES
A. SHOWERS AND TUB / SHOWER COMBINATIONS SHALL BE PROVIDED WITH INDIVIDUAL PRESSURE BALANCE OR THERMOSTATIC MIXING CONTROL VALVES.
B. THE MAXIMUM MIXED WATER SETTING SHALL BE 120 DEGREES FAHRENHEIT.
C. WATER HEATER THERMOSTAT SHALL NOT BE CONSIDERED AS SUITABLE FOR MEETING THIS REQUIREMENT.

6. SAFETY GLAZING IN HAZARDOUS LOCATIONS
A. GLAZING IN EGRESS AND INGRESS DOORS
B. GLAZING IN FIXED AND SLIDING PANEL DOORS OTHER THAN WARDROBE DOORS.
C. GLAZING IN DOORS AND ENCLOSURES FOR HOT TUBS, WHIRLPOOLS, SAUNAS, STEAM ROOMS, BATHTUBS AND SHOWERS. GLAZING IN WALL ENCLOSING THESE COMPARTMENTS LESS THAN 60 INCHES ABOVE THE DRAIN INLET.
D. GLAZING IN PANELS ADJACENT TO A DOOR WITHIN A 24-INCH ARC AND LESS THAN 60 INCHES ABOVE THE WALKING SURFACE.
E. GLAZING IN PANELS MORE THAN 9 SQ. FT. THE BOTTOM LESS THAN 18" ABOVE THE FLOOR, THE TOP GREATER THAN 36" ABOVE THE FLOOR, AND A WALKING SURFACE WITHIN 26" HORIZONTALLY OF THE PLANE.

7. EACH WATER CLOSET STOOL SHALL BE LOCATED IN A CLEAR SPACE NOT LESS THAN 30" IN WIDTH AND HAVE A CLEAR SPACE IN FRONT OF THE WATER CLOSET STOOL OF NOT LESS THAN 24".

8. DASHED LINES INDICATE REQUIRED W/C CLEARANCE.

9. PROVIDE 2 X 8 WOODEN BACKING IN ALL BATHROOM WALLS AT WATER CLOSET, SHOWER, AND BATHTUB LOCATED AT 34" FROM THE FLOOR TO THE CENTER OF THE BACKING SUITABLE FOR THE ADDITION OF GRAB BARS.

10. TRIM-LESS WINDOWS TO BE FLUSH W/ FLOOR AND ANGLED TO BE FLUSH W/ BOTTOM OF SLOPED CEILING.

11. INDICATES 30" DIA. REQUIRED SHOWER CLEARANCE.

PROJECT REQUIREMENTS

1. CONTRACTOR SHALL PROVIDE ALL WORK AND MATERIALS IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL CODES.

2. CONTRACTOR SHALL FIELD INSPECT JOB SITE PRIOR TO COMMENCEMENT OF WORK AND SHALL ADHERE TO ALL RULES GOVERNING CONSTRUCTION, SAFETY, BUILDING ACCESS, AND THE USE OF FACILITIES AS SET BY THE BUILDING OWNER, BUILDING DEPARTMENT, FIRE DEPARTMENT STATE AUTHORITIES.

3. IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.

4. ALL MECHANICAL, ELECTRICAL, PLUMBING, WORK AND ENGINEERING IS DESIGNATED TO BE "DESIGN BUILD" AND IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND HIS ASSIGNED DESIGN BUILD SUB-CONTRACTORS. THEY ARE THEREBY IN SOLE CHARGE OF DESIGN ENGINEERING, PERMITS, FEES, CALCULATIONS, REPORTS, DRAWINGS, ETC. REQUIRED BY LOCAL AND ALL OTHER GOVERNING AGENCIES FOR THE WORK SO DESIGNATED.

5. THE CONTRACTOR AND ALL SUB-CONTRACTORS AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF ALL WORK ON THIS PROJECT EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE DESIGN PROFESSIONAL.

6. CONTRACTOR SHALL NOTIFY DESIGN PROFESSIONAL OF ANY DISCREPANCIES ENCOUNTERED ON THE DRAWINGS. SUCH DISCREPANCIES SHALL BE RESOLVED TO THE SATISFACTION OF THE DESIGN PROFESSIONAL PRIOR TO THE START OF THE AFFECTED WORK.

7. CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL SUB-CONTRACTORS TO ENSURE A TIMELY COMPLETION OF THE JOB. NO ALLOWANCE SHALL BE MADE FOR INCREASED COSTS INCURRED DUE TO LACK OF PROPER COORDINATION.

8. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ALL RUBBISH AND WASTE MATERIALS ON A REGULAR BASIS AND SHALL EXERGISE STRICT CONTROL OVER JOB CLEANING TO PREVENT ANY DIRT, DEBRIS OR DUST FROM AFFECTING IN ANY WAY THE FINISHED AREAS IN OR OUTSIDE JOB SITE. THE BUILDING REFUSE FACILITIES SHALL NOT BE USED FOR THIS PURPOSE.

9. GENERAL AND ALL SUB-CONTRACTORS ARE RESPONSIBLE FOR INSPECTING THE PREMISES DURING ANY BIDDING/CONTRACT NEGOTIATIONS TO ASCERTAIN EXISTING CONDITIONS WHICH MIGHT AFFECT THE COST OR SCHEDULE OF CONSTRUCTION. DISCREPANCIES AND/ OR CONFLICTS SHALL BE REPORTED TO THE OWNER AND THE DESIGN PROFESSIONAL BEFORE SUBMITTING BIDS OR CONCLUSION OF ANY CONTRACT NEGOTIATIONS.

10. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING LOCATION OF ALL UTILITIES PRIOR TO EXCAVATION AND/OR DEMOLITION.

11. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO PROPERTY OR CONSTRUCTION RESULTING FROM WORK OF CONTRACTOR AND/OR SUB-CONTRACTORS, AND SHALL REPAIR ALL SUCH DAMAGE TO ORIGINAL CONDITION AT NO ADDITIONAL COST.

12. GENERAL CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR EXECUTION OF WORK IN ACCORDANCE WITH CONSTRUCTION DOCUMENTS. BIDDING ON DOCUMENTS IS CONSIDERED ACCEPTANCE OF ALL NOTES AND INFORMATION HEREIN.

13. THE CONSTRUCTION DOCUMENTS ARE PROVIDED TO ILLUSTRATE THE DESIGN AND GENERAL TYPE OF CONSTRUCTION DESIRED TO IMPLY THE FINEST QUALITY OF CONSTRUCTION, MATERIAL AND/OR WORKMANSHIP THROUGHOUT, THE GENERAL CONTRACTOR, IN ASSUMING RESPONSIBILITY FOR THE WORK INDICATED, SHALL COMPLY WITH THE SPIRIT AS WELL AS THE LETTER IN WHICH THEY WERE WRITTEN.

14. THE GENERAL CONTRACTOR SHALL MAINTAIN A CURRENT AND COMPLETE SET OF CONSTRUCTION DOCUMENTS ON THE JOB SITE DURING ALL PHASES OF CONSTRUCTION FOR USE OF ALL TRADES, SHALL PROVIDE ALL SUBCONTRACTORS WITH CURRENT CONSTRUCTION DOCUMENTS AS REQUIRED.

15. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ALL EXISTING CABINETS, APPLIANCES, FIXTURES AND FLOOR COVERINGS AS NOTED IN THE SPECIFICATIONS OR CONSTRUCTION DOCUMENTS. EXCEPT WHERE NOTED OTHERWISE, ALL ITEMS REMOVED FROM BUILDING SHALL BECOME THE PROPERTY OF THE CONTRACTOR. IT BECOMES THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO REMOVE THESE ITEMS FROM THE JOB SITE AND DISPOSE OF THEM PROPERLY.

16. ALL WORK LISTED, SHOWN OR IMPLIED ON ANY CONSTRUCTION DOCUMENTS SHALL BE SUPPLIED AND INSTALLED BY GENERAL CONTRACTOR EXCEPT WHERE NOTED OTHERWISE. THE GENERAL CONTRACTOR SHALL CLOSELY COORDINATE HIS WORK WITH THAT OF OTHER CONTRACTORS OR VENDORS TO ASSURE THAT ALL SCHEDULES ARE MET AND THAT ALL WORK IS DONE IN CONFORMANCE WITH MANUFACTURER'S REQUIREMENTS.

17. THE GENERAL CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AS REQUESTED FOR FABRICATED ITEMS TO THE DESIGN PROFESSIONAL FOR APPROVAL PRIOR TO INSTALLATION.

18. GENERAL CONTRACTOR AND ALL SUBCONTRACTORS SHALL CONFINE OPERATIONS TO AREAS AND TIMES OF OPERATION PERMITTED BY LAW, ORDINANCES, PERMITS AND THE CONTRACT DOCUMENTS AND SHALL NOT UNREASONABLY ENCUMBER THE SITE WITH ANY MATERIAL AND/OR EQUIPMENT.

19. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING THE JOB SITE AT THE COMPLETION OF THE WORK. CLEANING SHALL INCLUDE WINDOWS, FLOORING/CARPET, CABINETRY, WALLS AND CEILINGS.

20. ALL MATERIALS STORED ON THE SITE SHALL BE PROPERLY STACKED AND PROTECTED TO PREVENT DAMAGE AND/OR DETERIORATION UNTIL USE. FAILURE TO PROTECT MATERIALS MAY BE CAUSE FOR REJECTION OF WORK.

21. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL DEBRIS FROM THE PREMISES.

PLUMBING
1. ALL PLUMBING FIXTURES AND FITTINGS SHALL MEET THE STANDARDS REFERENCED IN TABLE 1701.1 OF THE 2019 CALIFORNIA PLUMBING CODE

WASTE MANAGEMENT
1. CONTRACTOR TO PROVIDE DOCUMENTATION PRIOR TO THE FIRST INSPECTION CONFIRMING COMPLIANCE TO THE WASTE MANAGEMENT PLAN PROVIDED AND APPROVED BY THE APPROPRIATE AGENCIES.

DOCUMENTATION
2. AT FINAL INSPECTION, A MANUAL, COMPACT DISC, WEB-BASED REFERENCE OR OTHER ACCEPTABLE MEDIA INCLUDING ALL ITEMS 1 THROUGH 10 OF SECGN4.410 OF THE CALIF. GREEN RESIDENTIAL MANDATORY MEASURES.

MECHANICAL
3. ALL DUCT AND OTHER RELATED AIR DISTRIBUTION COMPONENT OPENINGS SHALL BE COVERED WITH TAPE, PLASTIC, SHEETMETAL, OR OTHER ACCEPTABLE METHODS AT THE TIME OF ROUGH INSTALLATION OR DURING STORAGE ON THE CONSTRUCTION SITE AND UNTIL FINAL STARTUP OF THE HEATING AND COOLING EQUIPT.
4. ALL HEATING AND AIR CONDITIONING SYSTEMS SHALL BE DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF CGBSC SECTION 4.507.2

FRAMING
5. PRIOR TO ENCLOSING THE WALL AND FLOOR FRAMING, CONFIRMATION MUST BE PROVIDED TO THE BUILDING INSPECTOR SHOWING THE FRAMING MEMBERS DO NOT EXCEED 19% MOISTURE CONTENT.

ENERGY
6. A COMPLETED CF2R-LTG-01-E FORM MUST BE PROVIDED TO THE TOWN BUILDING INSPECTOR PRIOR TO FINAL INSPECTION.

CAL-GREEN
7. ALL ADHESIVES, SEALANTS, CAULKS, PAINTS, COATINGS, AND AEROSOL PAINT CONTAINERS MUST REMAIN ON THE SITE FOR FIELD VERIFICATION BY THE BUILDING INSPECTOR.
8. FOR ADDITIONAL INFORMATION SEE MANDATORY MEASURES SHEET G1.0.

ADDRESS:
9. THE BUILDING ADDRESS SHALL COMPLY WITH CRC SECTION R319.

SPECIFICATIONS

1. ALL GAS ONLY METAL FIREBOXES TO BE AS MANUFACTURE3D BY "HEAT-N-GLO" MODEL "6000 CL UL APPROVED ANSI Z21.88b-2008 CSA 2.33b-2008 OR EQUAL. CONTRACTOR TO PRESENT BUILDING INSPECTION W/ MANUFACTURER INSTALLATION INSTRUCTIONS FOR VERIFICATION.

2. ALL SKYLIGHTS TO BE FIXED AND PAN-FLASHED AS MANUFACTURED BY "VELLUX". SKYLIGHTS TO BE FLAT-GLASS W/ ANODIZED FRAMES UNLESS NOTED OTHERWISE. IWDMA HALLMARK CERTIFIED 426-H-664 AND ICC APPROVED PER ICC-ES LEGACY REPORT NER-216. ALL SKYLIGHTS TO BE TESTED AND APPROVED, BEARING A LABEL INDICATION COMPLIANCE WITH THE REQUIREMENTS OF AAMA/WDMA/CSA 101/I.S.2/A440. ADDITIONALLY, CERTIFICATION LABELS SHALL BE PROVIDED UPON INSPECTION.

SPECIAL INSPECTIONS

1. PER SECTION 1705 OF THE 2019 CBC, SPECIAL INSPECTION ARE REQUIRED FOR SHEARWALLS WITH A NAILING SCHEDULE OF 4" O.C OR LESS. THE SPECIAL INSPECTION MAY BE PERFORMED BY THE ENGINEER OF RECORD.

2. STRUCTURAL OBSERVATION BY THE ENGINEER IS REQUIRED FOR EPOXY INSTALL AT HOLD DOWNS AND FOUNDATION DOWELS.

NON-COMPLIANT PLUMBING FIXTURE REPLACEMENT REQUIREMENTS

ALL BUILDINGS UNDERGOING PERMIT ALTERATIONS, ADDITIONS, OR IMPROVEMENTS SHALL REPLACE NON -COMPLIANT PLUMBING FIXTURES WITH WATER-CONSERVING PLUMBING FIXTURES. PLUMBING FIXTURE REPLACEMENT IS REQUIRED PRIOR TO ISSUANCE OF FINAL COMPLETION, CERTIFICATE OF OCCUPANCY, OR FINAL PERMIT APPROVAL BY THE LOCAL BUILDING DEPARTMENT.

Print date :

10.11.21

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Revisions :

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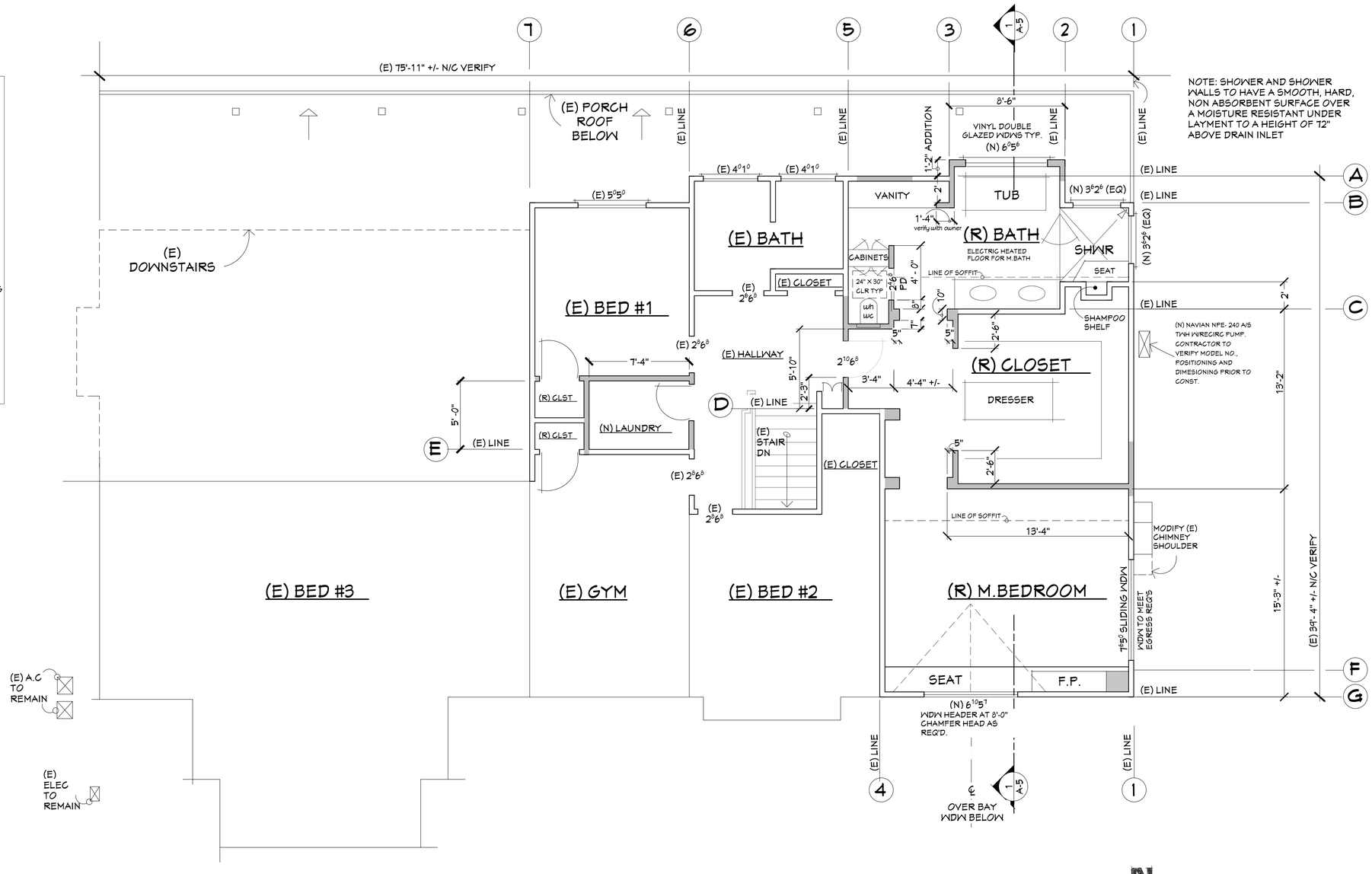
MECHANICAL / PLUMBING NOTES

1. NO DUCT WORK MODIFICATIONS ANTICIPATED. VERIFY.
2. ALL MECHANICAL, PLUMBING, ELECTRICAL AND SIMILAR PENETRATIONS OF FLOOR OR TOP PLATES SHALL BE CAULKED WITH AN ASTM E136 RATED RESIDENTIAL FIRE CAULK
3. GAS PIPING SHALL BE SUPPORTED PER CPC 1211.11.
4. SUSPENDED PLUMBING PIPING SHALL BE SUPPORTED PER CPC TABLE 3-2 AND SECTIONS 314.0. DUCTWORK SHALL BE SUPPORTED PER CMC TABLES 6-5 AND 6-6 AND SECTION 604.0 PLUMBING AND MECHANICAL (ETC...). ROOF VENTS SHALL BE PLACED AS INCONSPICUOUSLY AS POSSIBLE. COORDINATE W/G.C. AND ARCHITECT.
5. MAXIMUM ALLOWED FIXTURE FLOW RATES - SEE CAL GREEN NOTES, SHEET G-1
6. NO DOMESTIC DISHWASHING MACHINE SHALL BE DIRECTLY CONNECTED TO A DRAINAGE SYSTEM OR FOOD WASTE DISPOSER WITHOUT THE USE OF AN APPROVED DISHWASHER AIR GAP FITTING ON THE DISCHARGE SIDE OF THE DISHWASHING MACHINE. LISTED AIRGAPS SHALL BE INSTALLED WITH THE FLOOD-LEVEL (FL) MARKING AT OR ABOVE THE FLOOD LEVEL OF THE SINK OR DRAIN BOARD, WHICHEVER IS HIGHER. CPC SEC. 807.3
7. NO NEW AIR VENTS. OPENABLE WINDOWS , AND ENTRY DOORS TO HABITABLE SPACE WITHIN A RECTANGULAR AREA EXTENDING 10 INCHES BEYOND EITHER SIDE OF AND 10 FEET ABOVE THE GAS SERVICE REGULATOR VENT



PROPOSED UPPER FLOOR PLAN

1/4" = 1'-0"

N

LEGEND

EXISTING WALL

NEW WALL

WINDOWS:
VERIFY EXACT WDW SIZES AND MFRER WITH ARCHITECT PRIOR TO STARTING CONST.

CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO CONSTRUCTION - ANY DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ARCHITECT, PRIOR TO CONTINUING WITH CONSTRUCTION

CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO CONSTRUCTION - ANY DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ARCHITECT

PLUMBING NOTES:
PROVIDE A MINIMUM 4" DIAMETER DRAINAGE PIPE FOR (4) OR MORE WATER CLOSET FIXTURES ON THE SAME HORIZONTAL BRANCH OR DRAIN

ALL ELECTRICAL, PLUMBING AND MECHANICAL INSTALLATIONS SHALL BE DESIGN BUILD BY THE SPECIFIC SUBCONTRACTOR(S) AND SHALL IN ANY CASE CONFORM TO THE LATEST EDITIONS OF THE APPLICABLE CODES

CONTRACTOR AND SUBCONTRACTORS SHALL COORDINATE W/ ARCHITECT TO PLACE ALL THROUGH ROOF VENTS, JACKS AND COLD AIR RETURNS AS INCONSPICOUSLY AS POSSIBLE WITHIN ZONES HIGHLIGHTED ON ROOF PLAN

THE EXISTING STRUCTURE IS NOT PERMITTED TO BE DEMOLISHED. CONTRACTOR AND SUBCONTRACTORS MUST ACCOMPLISH ALL ASPECTS OF CONSTRUCTION WITHIN THE LIMITS PERMITTED BY THE TOWN, SHOWN ON AB/D - 1,2

NON-COMPLIANT PLUMING FIXTURE REPLACEMENT REQUIREMENTS:
ALL BUILDINGS UNDERGOING PERMIT ALTERATIONS, ADDITIONS OR IMPROVEMENTS SHALL REPLACE NON-COMPLIANT PLUMBING FIXTURES WITH WATER-CONSERVING PLUMBING FIXTURES. PLUMBING FIXTURES REPLACEMENT IS REQUIRED PRIOR TO ISSUANCE OF FINAL COMPLETION, CERTIFICATE OF OCCUPANCY OR FINAL PERMIT APPROVAL BY THE LOCAL BUILDING DEPARTMENT

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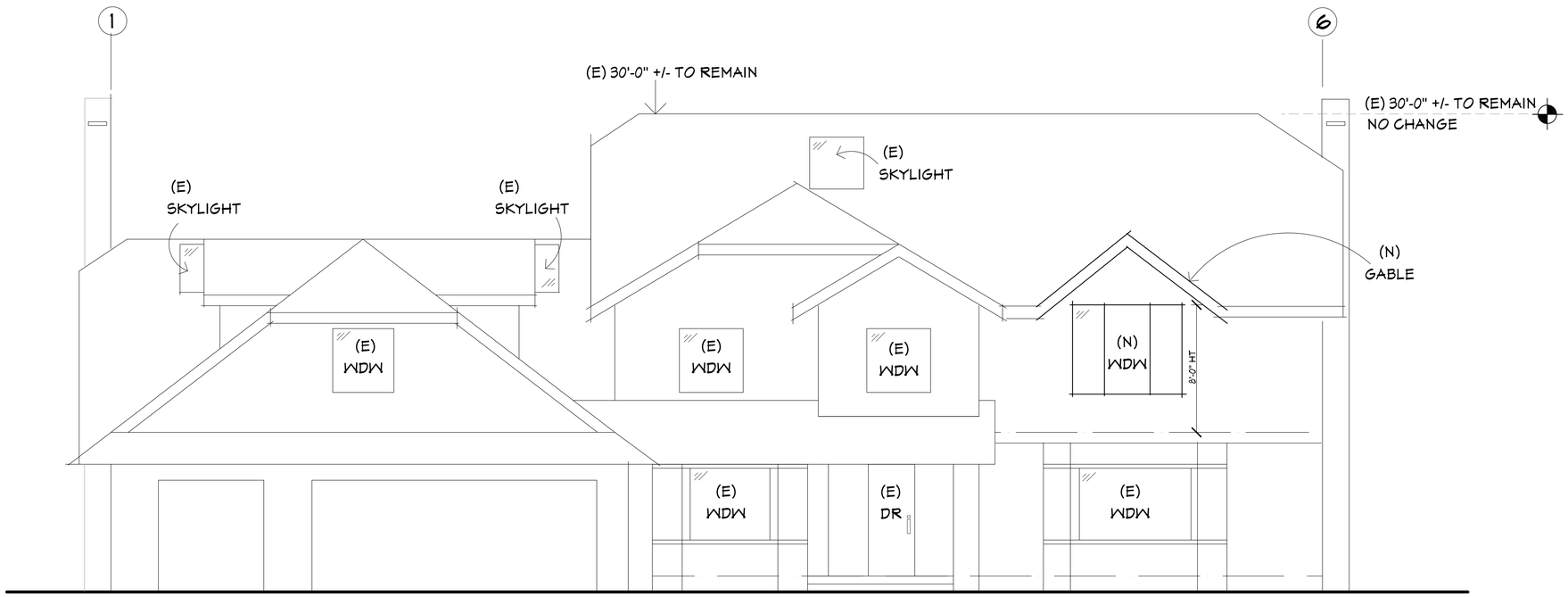
A-3

WINDOWS:
(N) WDWS TO BE VINYL
VERIFY EXACT WDW SIZES AND REFER WITH ARCHITECT PRIOR TO ORDERING

CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO CONSTRUCTION - ANY DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ARCHITECT

THE EXISTING STRUCTURE IS NOT PERMITTED TO BE DEMOLISHED. CONTRACTOR AND SUBCONTRACTORS MUST ACCOMPLISH ALL ASPECTS OF CONSTRUCTION WITHIN THE LIMITS PERMITTED BY THE TOWN, SHOWN ON AB/D - 1,2

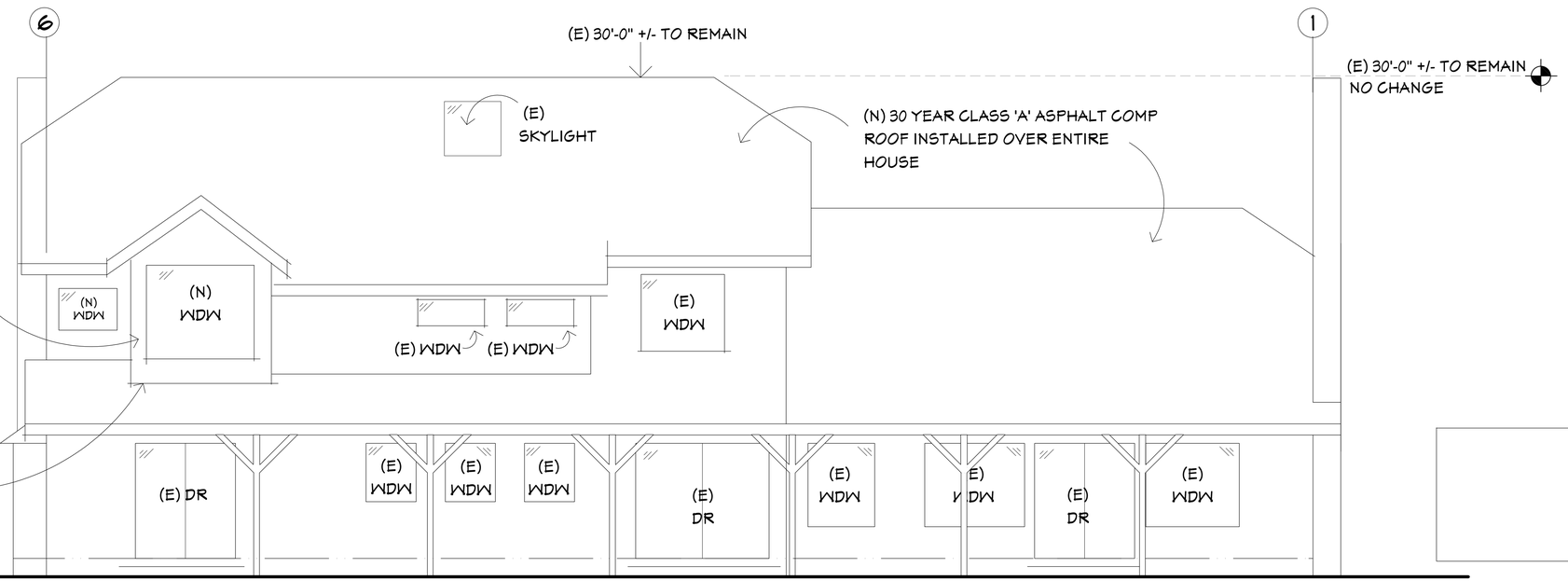


FRONT (SOUTH) ELEVATION

1/4" = 1'-0"

PLASTER @ NEW PLASTER LOCATIONS
NEW 3 COAT APPLICATION w/ WEEP SCREED IF APPLICABLE. APPLY PER CRC R703.7 TYP. TWO LAYERS GRADE 'D' PAPER UNDER PLASTER WHERE OCCURS OVER PLYWOOD SHEATHING.
MATCH TEXTURE AND COLOR OF (E) PLASTER

(N) WDW POP OUT



REAR (NORTH) ELEVATION

1/4" = 1'-0"

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DERMER RESIDENCE
REMODEL
20530 ALMADEN RD.

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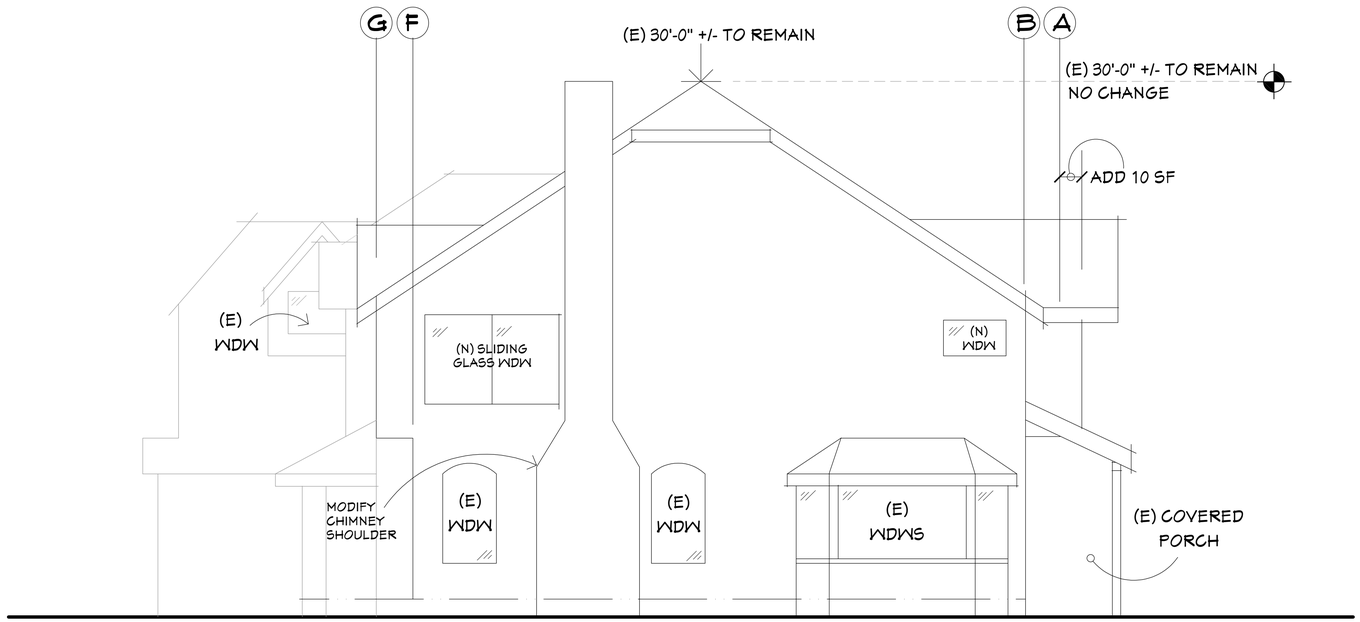
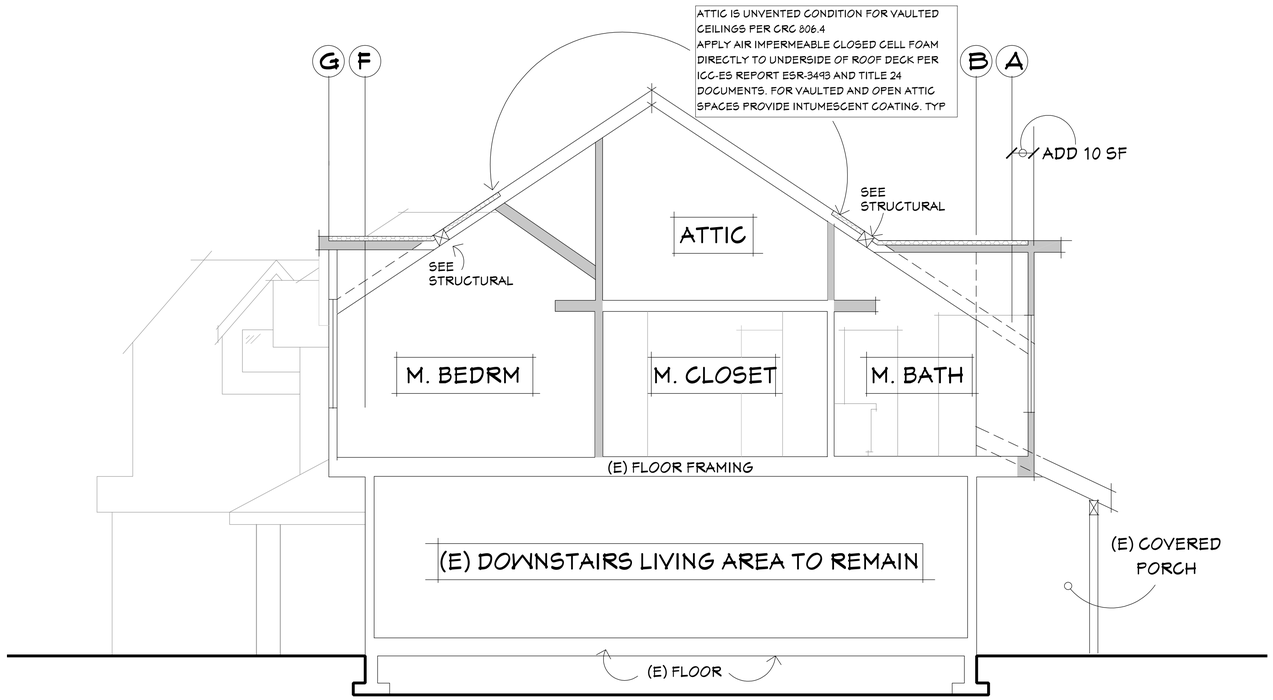


RIGHT (EAST) ELEVATION

1/4" = 1'-0"



SECTION

1/4" = 1'-0"

WINDOWS:
(N) WDWS TO BE VINYL
VERIFY EXACT WDW SIZES
AND REFER WITH ARCHITECT
PRIOR TO ORDERING

THE EXISTING STRUCTURE IS NOT PERMITTED TO BE DEMOLISHED. CONTRACTOR AND SUBCONTRACTORS MUST ACCOMPLISH ALL ASPECTS OF CONSTRUCTION WITHIN THE LIMITS PERMITTED BY THE TOWN, SHOWN ON AB/D - 1,2

CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO CONSTRUCTION - ANY DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ARCHITECT

Print date :

10.11.21

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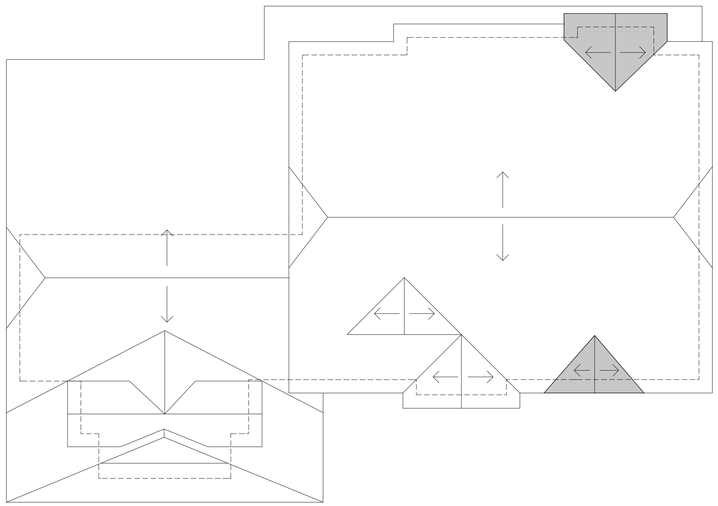

ROOF PLAN

1/8" = 1'-0"

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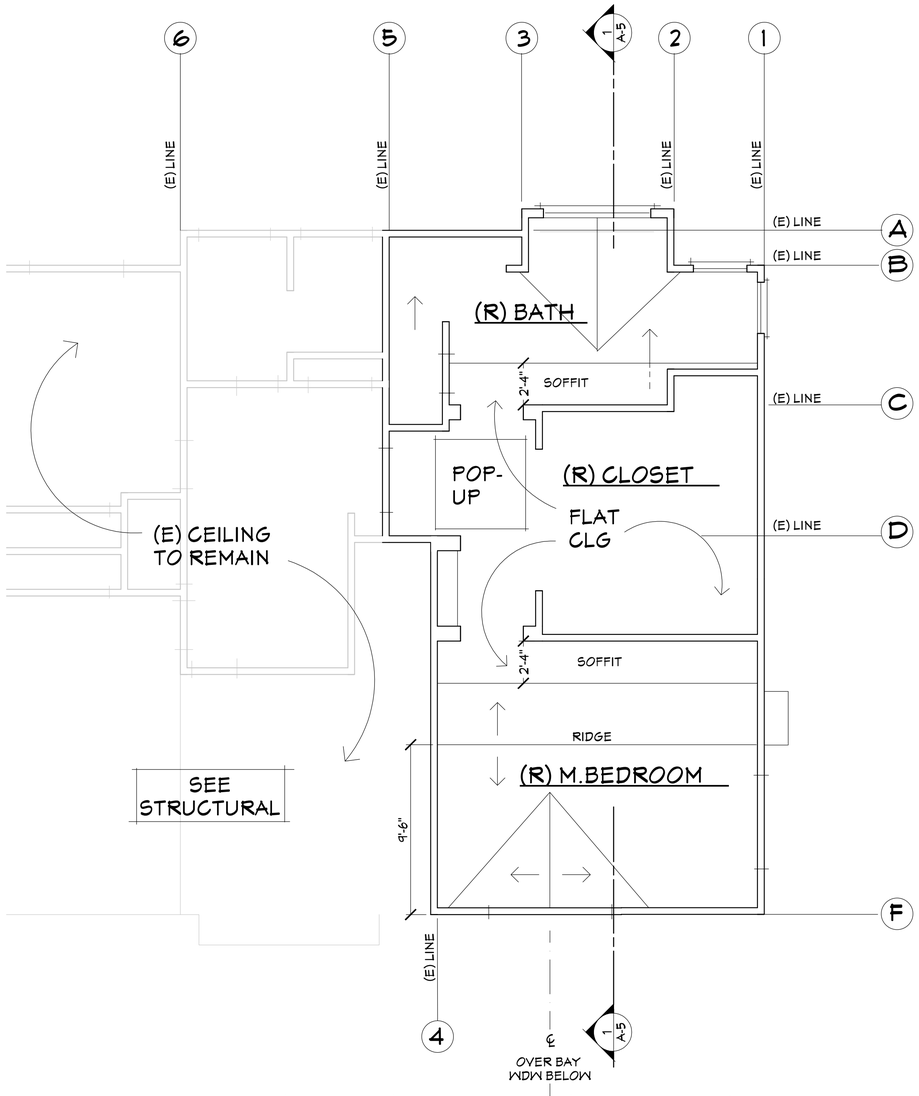
CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO CONSTRUCTION - ANY DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ARCHITECT



REFLECTED CEILING

1/4" = 1'-0"

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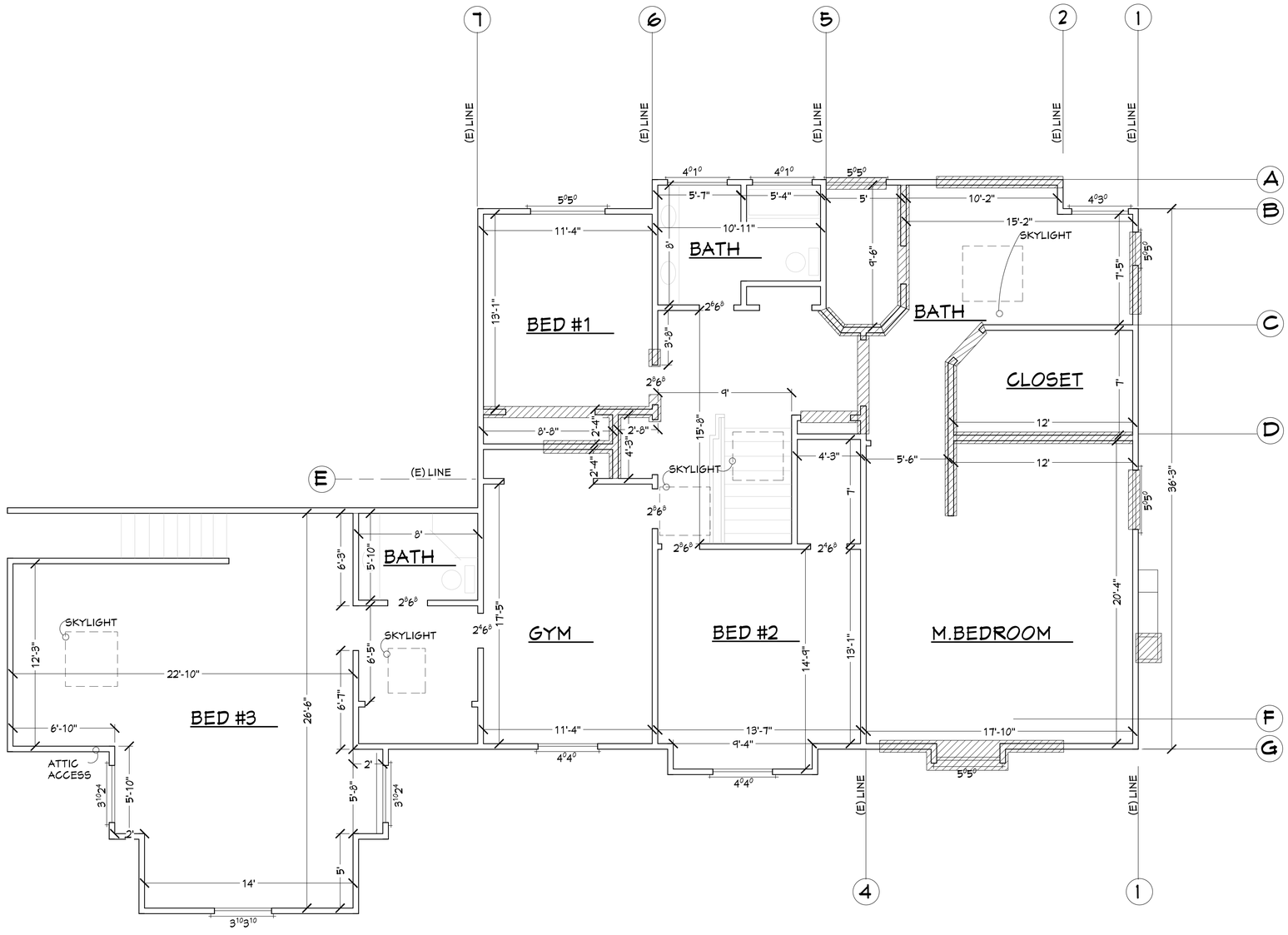

AS BUILT / DEMO - UPPER FLOOR PLAN

1/4" = 1'-0"

LEGEND

EXISTING WALL TO REMAIN

EXISTING WALL TO BE REMOVED

CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO CONSTRUCTION - ANY DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ARCHITECT

THE (E) STRUCTURE IS NOT PERMITTED TO BE DEMOLISHED. CONTRACTOR AND SUBCONTRACTORS MUST ACCOMPLISH ALL ASPECTS OF CONSTRUCTION WITH THE LIMITS PERMITTED BY THE TOWN, SHOWN ON AB/D 1,2

Print date :

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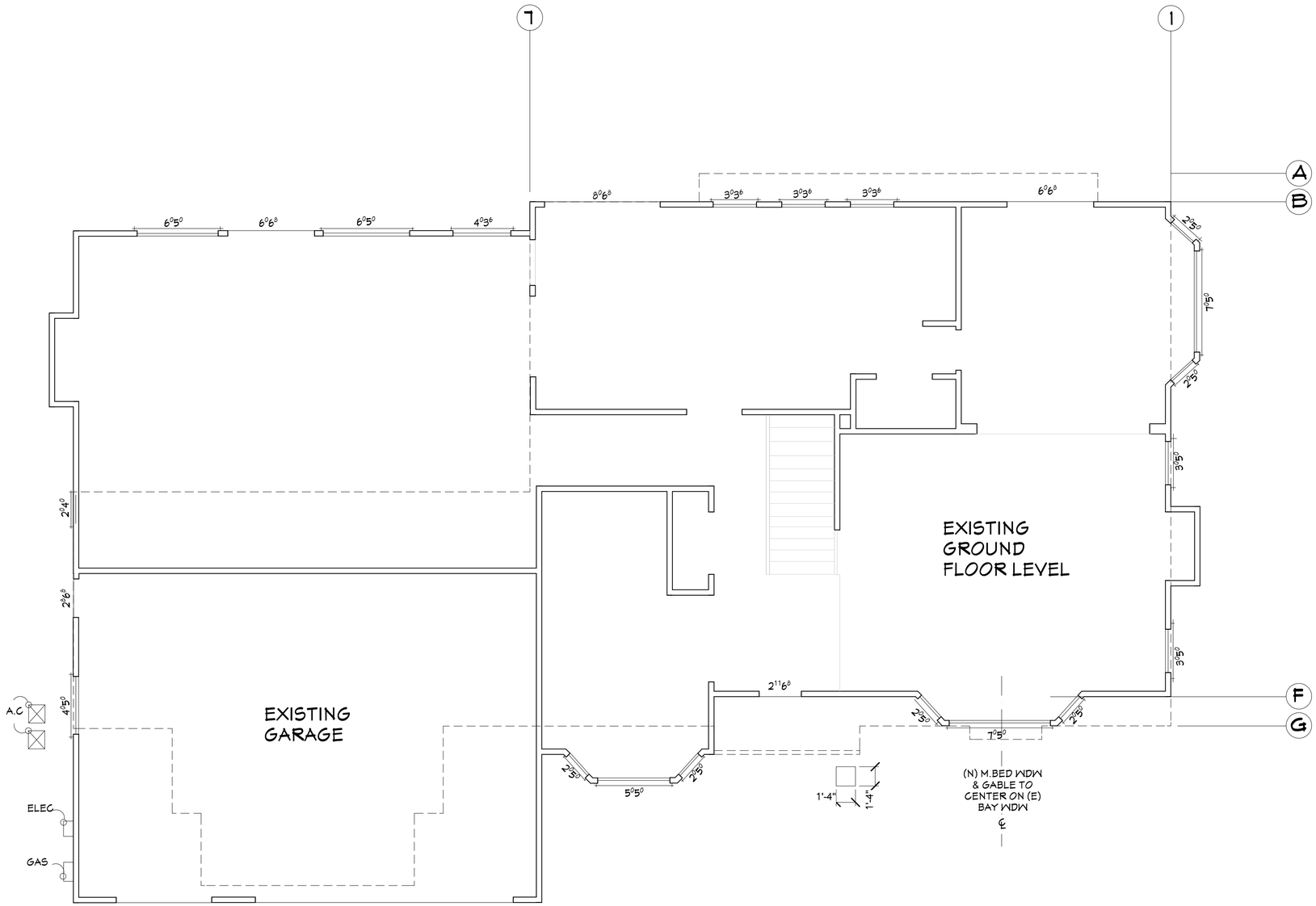

AS BUILT / DEMO - GROUND FLOOR PLAN

1/4" = 1'-0"

LEGEND

EXISTING WALL TO REMAIN

EXISTING WALL TO BE REMOVED

CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO CONSTRUCTION - ANY DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ARCHITECT

THE (E) STRUCTURE IS NOT PERMITTED TO BE DEMOLISHED. CONTRACTOR AND SUBCONTRACTORS MUST ACCOMPLISH ALL ASPECTS OF CONSTRUCTION WIN THE LIMITS PERMITTED BY THE TOWN, SHOWN ON AB/D 1,2

Print date :

10.11.21

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AB/D-2

ELECTRICAL SYMBOL LEGEND

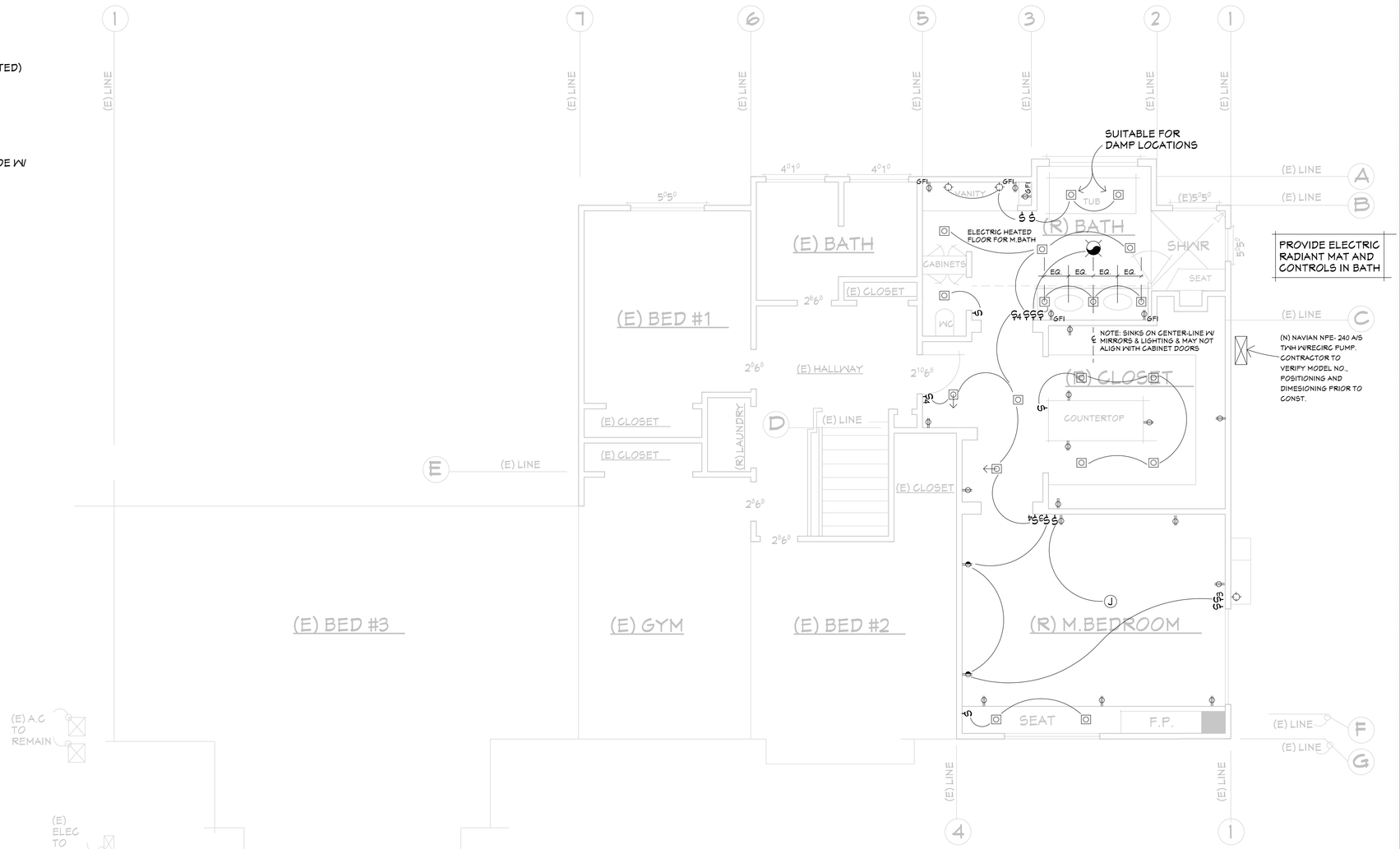
- DUPLEX CONVENIENCE OUTLET MOUNTING HEIGHT TO CENTER OF OUTLET (12" UNO NOTED)
- GFI — W/GROUND FAULT INTERCEPTOR
- WP — WATER PROOF
- W/ONE SWITCHABLE OUTLET
- RECESSED EXHAUST FAN W/VENT TO OUTSIDE W/ BUILT IN LIGHT FIXTURE AND HEAT
- LIGHT FIXTURE
- WALL SCONCE
- UNDER CABINET TASK LIGHTING
- RECESSED CAN LIGHT
- RECESSED DIRECTIONAL LIGHT
- J — JUNCTION BOX
- S — WALL SWITCH
- S3 — 3 WAY
- S4 — 4 WAY OR GREATER
- SD CD — SMOKE / CARBON MONOXIDE DETECTOR

GENERAL AND ELECTRICAL CONTRACTORS SHALL DO WALK THROUGH OF ELECTRICAL PLAN WITH OWNER PRIOR TO CONSTRUCTION

CONTRACTOR AND SUBCONTRACTORS SHALL COORDINATE WITH ARCHITECT TO PLACE ALL THROUGH ROOF VENTS, JACKS AND COLD AIR RETURNS AS INCONSPICOUSLY AS POSSIBLE WITHIN ZONES HIGHLIGHTED ON ROOF PLAN

ALL EXTERIOR LIGHT FIXTURES WILL MEET THE REQ'TS OF TOWN CODE SEC. 29.10.09015 TO BE DOWNWARD DIRECTED AND SHIELDED

FOR BATHROOM EXHAUST FANS, PROVIDE 50 CFM INTERMITTENT AIRFLOW MIN. OR 20CFM FOR CONTINUOUSLY OPERATING FANS. PER CEC SEC 150(o) AND ASHRAE 62.2-2016 TABLE 5.1 AND 5.2



ELECTRICAL PLAN

1/4" = 1'-0"

ELECTRICAL NOTES:

1. TWO 20-AMP SMALL APPLIANCE BRANCH CIRCUITS ARE REQUIRED FOR THE KITCHEN AND ARE LIMITED TO SUPPLYING WALL AND COUNTER SPACE OUTLETS FOR THE KITCHN, FANTRY, BREAKFAST ROOM, DINING ROOM, OR SIMILAR AREAS. NOTE: THESE CIRCTUIS CANNOT SERVE OUTSIDE PLUGS, RANGE HOOD, DISPOSALS, DISHWASHERS OR MICROWAVES - ONLY THE REQUIRED COUTERTOP/WALL OUTLETS, INCLUDING THE REFRIGERATOR. PER CEC 210.11(C)(1) & 210.52(B)
2. A DEDICATED 20-AMP BRANCH CIRCUIT SHALL BE PROVIDED TO SUPPLY THE LAUNDRY RECEPTICLE OUTLET. PER CEC210.11(C)(2) & 210.52(F)
3. A DEDICATED 20-AMP CIRCUIT IS REQUIRED TO SERVE THE BATHROOM OUTLETS. THIS CIRCUIT CANNOT SUPPLY ANY OTHER RECEPTICLES, LIGHTS, FANS, ETC. (EXCEPTION - WHERE THE CIRCUIT SUPPLIES A SINGLE BATHROOM, OUTLETS FOR OTHER EQUIPMENT WITHIN THE SAME BATHROOM SHALL BE PERMITTED TO BE SUPPLIED.) IN NO CASE SHALL THE RECEPTICLE BE LOCATED MORE THAN 12" BELOW THE TOP OF THE BASIN. PER CEC 210.11 (C)(3) & 210.52
4. ALL BRANCH CIRCUITS THAT SUPPLY OUTLETS INSTALLED IN DWELLING UNIT KITCHENS, FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, DENS, BEDROOMS, SUNROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS, LAUNDRY AREAS, OR SIMILAR ROOMS OR AREAS SHALL BE PROTECTED BY AN ARC-FAULT CIRCUIT INTERRUPTER. PER CEC 210.12.
5. THERE SHALL BE MINIMUM ONE RECEPTICLE OUTLET AT THE KITCHEN ISLAND COUNTERS. PER CEC 210.52(C)(2).
6. ALL 15-AMP AND 20-AMP DWELLING UNIT RECEPTICLE OUTLETS SHALL BE LISTED TAMPER-RESISTANT RECEPTICLES. PER CEC ARTICLE 406.12

ENERGY NOTES:

1. ALL LIGHTING IS HIGH EFFICACY (I.E. PIN-BASED CFL; PULSE START MH, HPS, GU-24 SOCKETS OTHER THAN LEDs. LED LUMINARIES W/ INTEGRAL SOURCE, ETC.). PER CEC TABLE 150-A
2. ALL JA8 COMPLIANT LIGHT SOURCES IN THE FOLLOWING LOCATIONS ARE CONTROLLED BY VACANCY SENSORS OR DIMMERS (EXCEPTION: CLOSETS LESS THAN 70 SF AND HALLWAYS) PER CEC 150.0 (K) (2K):
   - i CEILING RECESSED DOWNLIGHT LUMINARIES
   - ii LED LUMINARIES W/ INTEGRAL SOURCES
   - iii PIN-BASED LED LAMPS (I.E. MR16, AR-111, ETC.)
   - iv GU-24 BASED LED LIGHT SOURCES
3. AT LEAST ONE FIXTURE IN EACH BATHROOM, THE GARAGE, EACH LAUNDRY ROOM AND THE UTILITY ROOM SHALL BE CONTROLLED BY A VACANCY OR OCCUPANCY SENSOR PROVIDED THE OCCUPANCY SENSOR THAT IS INITIALLY PROGRAMED LIKE A VACANCY SENSOR (MANUAL-ON OPERATION) PER CEC 150.0 (K) 2J.
4. EXHAUST FANS (EXCLUDING THE KITCHEN EXHAUST HOOD) SHALL BE SWITCHED SEPARATE FROM LIGHTING (OR UTILIZE A DEVICE WHERE LIGHTING CAN BE TURNED OFF WHILE THE FAN IS RUNNING).
5. NIGHT LIGHTS, STEP LIGHTS AND PATH LIGHTS MUST BE HIGH EFFICACY AND CONTROLLED BY A VACANCY SENSOR PER CEC 150.0 (k) 1E
6. LIGHT SOURCES INTEGRAL TO DRAWERS, CABINETS AND LINEN CLOSETS MUST BE HIGH EFFICACY AND CONTROLLED BY A VACANCY SENSOR PER CEC 150.0 (k) 1I
7. ALL OUTDOOR LIGHTING SHALL BE HIGH EFFICACY WITH MANUAL ON/OFF SWITCH AND ONE OF THE FOLLOWING IN ACCORDANCE WITH CEC 150.0 (k)3:
   - i PHOTOCONTROL AND MOTION SENSOR
   - ii PHOTOCONTROL AND AUTOMATIC TIME SWITCH CONTROL
   - iii ASTRONOMICAL TIME SWITCH CONTROL
   - iv ENERGY MANAGEMENT CONTROL SYSTEMS

Print date :

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CALIFORNIA GREEN BUILDING STANDARDS - RESIDENTIAL MANDATORY MEASURES

Division 4.1 – PLANNING AND DESIGN

SECTION 4.101 GENERAL

4.101.1 Purpose. The provisions of this division outline planning, design and development methods that include environmentally responsible site selection, building design, building siting and development to protect, restore and enhance the environmental quality of the site and respect the integrity of adjacent properties.

SECTION 4.102 DEFINITIONS

4.102.1 Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

FRENCH DRAIN. A trench, hole or other depressed area loosely filled with rock, gravel, fragments of brick or similar pervious material used to collect or channel drainage or runoff water.

WATTLES. Wattles are used to reduce sediment in runoff. Wattles are often constructed of natural plant materials such as hay, straw or similar material shaped in the form of tubes and placed on a downflow slope. Wattles are also used for perimeter and inlet controls.

SECTION 4.106 SITE DEVELOPMENT

4.106.1 General. Preservation and use of available natural resources shall be accomplished through evaluation and careful planning to minimize negative effects on the site and adjacent areas. Preservation of slopes, management of storm water drainage and erosion controls shall comply with this section.

4.106.2 Storm water drainage and retention during construction. Projects which disturb less than one acre of soil and are not part of a larger common plan of development which in total disturbs one acre or more, shall manage storm water drainage during construction. In order to manage storm water drainage during construction, one or more of the following measures shall be implemented to prevent flooding of adjacent property, prevent erosion and retain soil runoff on the site.

1. Retention basins of sufficient size shall be utilized to retain storm water on the site.
2. Where storm water is conveyed to a public drainage system, collection point, gutter or similar disposal method, water shall be filtered by use of a barrier system, wattle or other method approved by the enforcing agency.
3. Compliance with a lawfully enacted storm water management ordinance.

4.106.3 Surface drainage. The site shall be planned and developed to keep surface water from entering buildings. Construction plans shall indicate how the site grading or drainage system will manage surface water flows. Examples of methods to manage surface water include, but are not limited to, the following:

1. Swales
2. Water collection and disposal systems
3. French drains
4. Water retention gardens
5. Other water measures which keep surface water away from buildings and aid in groundwater recharge

EXCEPTION: ADDITIONS AND ALTERATIONS NOT ALTERING THE DRAINAGE PATH

Division 4.2 – ENERGY EFFICIENCY

SECTION 4.201 GENERAL

4.201.1 Scope. The Department of Housing and Community Development does not regulate mandatory energy efficiency standards in residential buildings. For the purposes of mandatory energy efficiency standards in this code, the California Energy Commission will continue to adopt mandatory building standards.

Note: It is the intent of this code to encourage buildings to achieve exemplary performance in the area of energy efficiency. For the purposes of energy efficiency standards, the California Energy Commission believes specifically, a green building should achieve at least a 15 percent reduction in energy usage when compared to the State's mandatory energy efficiency standards. The Department of Housing and Community Development's mandatory green building standards for residential buildings do not require compliance with levels of minimum energy efficiency beyond those required by the California Energy Commission.

Division 4.3 – WATER EFFICIENCY AND CONSERVATION

SECTION 4.301 GENERAL

4.301.1 Scope. The provisions of this chapter shall establish the means of conserving water used indoors, outdoors and in wastewater conveyance.

SECTION 4.302 DEFINITIONS

4.302.1 Definitions. Reserved.

SECTION 4.303 INDOOR WATER USE

4.303.1 Water conserving plumbing fixtures and fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following:

4.303.1.1 Water closets. The effective flush volume of all water closets shall not exceed 1.28 gallons per flush. Tank-type water closets shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Tank-type Toilets.

Note: The effective flush volume of dual flush toilets is defined as the composite, average flush volume of two reduced flushes and one full flush.

4.303.1.2 Urinals. The effective flush volume of urinals shall not exceed 0.5 gallons per flush.

4.303.1.3 Showerheads.

4.303.1.3.1 Single showerhead. Showerheads shall have a maximum flow rate of not more than 2.0 gallons per minute at 80 psi. Showerheads shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Showerheads.

4.303.1.3.2 Multiple showerheads serving one shower. When a shower is served by more than one showerhead, the combined flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed 2.0 gallons per minute at 80 psi, or the shower shall be designed to allow only one shower outlet to be in operation at a time.

Note: A hand-held shower shall be considered a showerhead.

4.303.1.4 Faucets.

4.303.1.4.1 Residential lavatory faucets. The maximum flow rate of residential lavatory faucets shall not exceed 1.2 gallons per minute at 60 psi. The minimum flow rate of residential lavatory faucets shall not be less than 0.8 gallons per minute at 20 psi

4.303.1.4.2 Lavatory faucets in common and public use areas. The maximum flow rate of lavatory faucets installed in common and public use areas (outside of dwellings or sleeping units) in residential buildings shall not exceed 0.5 gallons per minute at 60 psi.

4.303.1.4.3 Metering faucets. Metering faucets when installed in residential buildings shall not deliver more than 0.25 gallons per cycle.

4.303.1.4.4 Kitchen faucets. The maximum flow rate of kitchen faucets shall not exceed 1.8 gallons per minute at 60 psi. Kitchen faucets may temporarily increase the flow above the maximum rate, but not to exceed 2.2 gallons per minute at 60 psi, and must default to a maximum flow rate of 1.8 gallons per minute at 60 psi.

Note: Where complying faucets are unavailable, aerators or other means may be used to achieve reduction.

4.303.2 Standards for plumbing fixtures and fittings Plumbing fixtures and fittings shall be installed in accordance with the California Plumbing Code, and shall meet the applicable standards referenced in Table 1701.1 of the 2016 California Plumbing Code

SECTION 4.304 OUTDOOR WATER USE

4.304.1 Residential development with an aggregate Landscape area equal to or greater than 500 square feet To comply with one of the following options:

A. Local water efficient landscape ordinance or the current CA Dept. Water Resources Model Water Efficient Landscape Ordinance *(MWELO)* Whichever is more stringent, or

B. Projects with an aggregate landscape area less Than 2,500 square feet may comply with the MWELO's Appendix D Prescriptive Compliance Option

SECTION 4.305 WATER REUSE SYSTEMS (Reserved)

Division 4.4 – MATERIAL CONSERVATION AND RESOURCE EFFICIENCY

SECTION 4.401 GENERAL

4.401.1 Scope. The provisions of this chapter shall outline means of achieving material conservation and resource efficiency through protection of buildings from exterior moisture; construction waste diversion; employment of techniques to reduce pollution through recycling of materials; and building commissioning or testing, adjusting and balancing.

SECTION 4.402 DEFINITIONS

4.402.1 Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

SECTION 4.403 FOUNDATION SYSTEMS (Reserved)

SECTION 4.404 EFFICIENT FRAMING TECHNIQUES (Reserved)

SECTION 4.405 MATERIAL SOURCES (Reserved)

SECTION 4.406 ENHANCED DURABILITY AND REDUCED MAINTENANCE

4.406.1 RODENT: Annular spaces around pipes, electric cables, conduits or other openings in plates at exterior walls shall be protected against the passage of rodents by closing such openings with cement mortar, concrete masonry or a similar method acceptable to the enforcing agency.

SECTION 4.407 WATER RESISTANCE AND MOISTURE MANAGEMENT (Reserved)

SECTION 4.408 CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING

4.408.1 Construction waste reduction of at least 65% Recycle and/or salvage for reuse a minimum of 65% of the nonhazardous construction and demolition debris, or meet a local construction and demolition waste management ordinance, whichever is more stringent.

Exceptions:

1. Excavated soil and land-clearing debris.
2. Alternate waste reduction methods developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist or are not located reasonably close to the jobsite.

4.408.2 Construction waste management plan. Where a local jurisdiction does not have a construction and demolition waste management ordinance, a construction waste management plan shall be submitted for approval to the enforcing agency that:

1. Identifies the materials to be diverted from disposal by recycling, reuse on the project or salvage for future use or sale.
2. Specifies if materials will be sorted on-site or mixed for transportation to a diversion facility.
3. Identifies the diversion facility where the material collected will be taken.
4. Identifies construction methods employed to reduce the amount of waste generated.
5. Specifies that the amount of materials diverted shall be calculated by weight or volume, but not by both.

4.408.2.1 Documentation. Documentation shall be provided to the enforcing agency which demonstrates compliance with Section 4.408.2, Items 1 through 5. The waste management plan shall be updated as necessary and shall be accessible during construction for examination by the enforcing agency.

4.408.2.2 Isolated jobsites. The enforcing agency may make exceptions to the requirements of this section when jobsites are located in areas beyond the haul boundaries of the diversion facility.

Notes:

1. Sample forms found in Chapter 8 may be used to assist in documenting compliance with the waste management plan.
2. Mixed construction and demolition debris (C&D) processors can be located at the California Department of Resources Recycling and Recovery (CalRecycle).

4.408.4 Waste stream reduction alternative [LR]. Projects that generate a total combined weight of construction and demolition waste disposed of in landfills, which do not exceed four (4) lbs/sq. ft. of the building area shall meet the minimum 50 percent construction waste reduction requirement in Section 4.408.1

4.408 4.1 Waste stream reduction alternative. Projects that generate a total combined weight of construction and demolition waste disposed in landfills, which do not exceed two (2) pounds per square foot of the building area shall meet the minimum 50 percent construction waste requirement in Section 4.408.1

4.408.5 Documentation. Documentation shall be provided to the enforcing agency which demonstrates compliance with Section 4.408.2 Items 1 through 5. Section 4.408.3 or 4.408.4

Notes:

1. Sample forms found in: "A guide to the California Green Building Standards Code (Residential)" located at www.hcd.ca.gov/CALGREEN.html may be used to assist in documenting compliance with this section
2. Mixed construction and demolition debris (C&D) processors can be located at the California Department of Resources Recycling and Recovery

SECTION 4.409 LIFE CYCLE ASSESSMENT (Reserved)

SECTION 4.410 BUILDING MAINTENANCE AND OPERATION

4.410.1 Operation and maintenance manual. At the time of final inspection, a manual, compact disc, web-based reference or other media acceptable to the enforcing agency which includes all of the following shall be placed in the building:

1. Directions to the owner or occupant that the manual shall remain with the building throughout the life cycle of the structure.
2. Operation and maintenance instructions for the following:
   a. Equipment and appliances, including water-saving devices and systems, HVAC systems, water-heating systems and other major appliances and equipment.
   b. Roof and yard drainage, including gutters and downspouts.
   c. Space conditioning systems, including condensers and air filters.
   d. Landscape irrigation systems.
   e. Water reuse systems.
3. Information from local utility, water and waste recovery providers on methods to further reduce resource consumption, including recycle programs and locations.
4. Public transportation and/or carpool options available in the area.
5. Educational material on the positive impacts of an interior relative humidity between 30–60 percent and what methods an occupant may use to maintain the relative humidity level in that range.
6. Information about water-conserving landscape and irrigation design and controllers which conserve water.
7. Instructions for maintaining gutters and downspouts and the importance of diverting water at least 5 feet away from the foundation.
8. Information on required routine maintenance measures, including, but not limited to, caulking, painting, grading around the building, etc.
9. Information about state solar energy and incentive programs available.
10. A copy of all special inspection verifications required by the enforcing agency or this code.

Division 4.5 – ENVIRONMENTAL QUALITY

SECTION 4.501 GENERAL

4.501.1 Scope. The provisions of this chapter shall outline means of reducing the quantity of air contaminants that are odorous, irritating and/or harmful to the comfort and well-being of a building's installers, occupants and neighbors.

SECTION 4.502 DEFINITIONS

4.502.1 Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

AGRIFIBER PRODUCTS. Agrifiber products include wheatboard, strawboard, panel substrates and door cores, not including furniture, fixtures and equipment (FF&E) not considered base building elements.

COMPOSITE WOOD PRODUCTS. Composite wood products include hardwood plywood, particleboard and medium density fiberboard. Composite wood products do not include hardboard, structural plywood, structural panels, structural composite lumber, oriented strand board, glued laminated timber as specified in "Structural Glued Laminated Timber" (ANSI A190.1-2002) or prefabricated wood I-joists.

MAXIMUM INCREMENTAL REACTIVITY (MIR). The maximum change in weight of ozone formed by adding a compound to the "base reactive organic gas (ROG) mixture" per weight of compound added, expressed to hundredths of a gram (g O³/g ROC).

Note: MIR values for individual compounds and hydrocarbon solvents are specified in CCR, Title 17, Sections 94700 and 94701.

MOISTURE CONTENT. The weight of the water in wood expressed in percentage of the weight of the oven-dry wood.

PRODUCT-WEIGHTED MIR (PWMIR). The sum of all weighted MIR for all ingredients in a product subject to this article. The PWMIR is the total product reactivity expressed to hundredths of a gram of ozone formed per gram of product (excluding container and packaging).

Note: PWMIR is calculated according to equations found in CCR, Title 17, Section 94521(a).

REACTIVE ORGANIC COMPOUND (ROC). Any compound that has the potential, once emitted, to contribute to ozone formation in the troposphere.

VOC. A volatile organic compound broadly defined as a chemical compound based on carbon chains or rings with vapor pressures greater than 0.1 millimeters of mercury at room temperature. These compounds typically contain hydrogen and may contain oxygen, nitrogen and other elements. See CCR Title 17, Section 94508(a).

Note: Where specific regulations are cited from different agencies such as SCAQMD, ARB, etc., the VOC definition included in that specific regulation is the one that prevails for the specific measure in question.

SECTION 4.503 FIREPLACES

4.503.1 General. Any installed gas fireplace shall be a direct-vent sealed-combustion type. Any installed woodstove or pellet stove shall comply with U.S. EPA Phase II emission limits where applicable. Woodstoves, pellet stoves and fireplaces shall also comply with applicable local ordinances.

SECTION 4.504 POLLUTANT CONTROL

4.504.1 Covering of duct openings and protection of mechanical equipment during construction. At the time of rough installation or during storage on the construction site and until final startup of the heating and cooling equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheetmetal or other methods acceptable to the enforcing agency to reduce the amount of dust or debris which may collect in the system.

4.504.2 Finish material pollutant control. Finish materials shall comply with this section.

4.504.2.1 Adhesives, sealants and caulks. Adhesives, sealants and caulks used on the project shall meet the requirements of the following standards unless more stringent local or regional air pollution or air quality management district rules apply:

1. Adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers, and caulks shall comply with local or regional air pollution control or air quality management district rules where applicable or SCAQMD Rule 1168 VOC limits, as shown in Table 4.504.1 or 4.504.2, as applicable. Such products also shall comply with the Rule 1168 prohibition on the use of certain toxic compounds (chloroform, ethylene dichloride, methylene chloride, perchloroethylene and trichloroethylene), except for aerosol products, as specified in Subsection 2 below.
2. Aerosol adhesives, and smaller unit sizes of adhesives, and sealant or caulking compounds (in units of product, less packaging, which do not weigh more than 1 pound and do not consist of more than 16 fluid ounces) shall comply with statewide VOC standards and other requirements, including prohibitions on use of certain toxic compounds, of *California Code of Regulations*, Title 17, commencing with Section 94507.

4.504.2.2 Paints and coatings. Architectural paints and coatings shall comply with VOC limits in Table 1 of the ARB Architectural Suggested Control Measure, as shown in Table 4.504.3, unless more stringent local limits apply. The VOC content limit for coatings that do not meet the definitions for the specialty coatings categories listed in Table 4.504.3 shall be determined by classifying the coating as a Flat, Nonflat or Nonflat-High Gloss coating, based on its gloss, as defined in subsections 4.21, 4.36, and 4.37 of the 2007 California Air Resources Board, Suggested Control Measure, and the corresponding Flat, Nonflat or Nonflat-High Gloss VOC limit in Table 4.504.3 shall apply.

4.504.2.3 Aerosol paints and coatings. Aerosol paints and coatings shall meet the Product-Weighted MIR Limits for ROC in Section 94522(a)(3) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances, in Sections 94522(e)(2) and (d)(2) of *California Code of Regulations*, Title 17, commencing with Section 94520; and in areas under the jurisdiction of the Bay Area Air Quality Management District additionally comply with the percent VOC by weight of product limits of Regulation 8, Rule 49.

4.504.2.4 Verification. Verification of compliance with this section shall be provided at the request of the enforcing agency. Documentation may include, but is not limited to, the following:

1. Manufacturer's product specification.
2. Field verification of on-site product containers.

4.504.3 Carpet systems. All carpet installed in the building interior shall meet the testing and product requirements of one of the following:

1. Carpet and Rug Institute's Green Label Plus Program.
2. California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers," Version 1.1, February 2010 (also known as Specification 01350.)
3. NSF/ANSI 140 at the Gold level.
4. Scientific Certifications Systems Indoor Advantage™ Gold.

4.504.3.1 Carpet cushion. All carpet cushion installed in the building interior shall meet the requirements of the Carpet and Rug Institute's Green Label program.

4.504.3.2 Carpet adhesive. All carpet adhesive shall meet the requirements of Table 4.504.1.

4.504.4 Resilient flooring systems. Where resilient flooring is installed, at least 80 percent of floor area receiving resilient flooring shall comply with one or more of the following:

1. VOC emission limits defined in the Collaborative for High Performance Schools (CHPS) High Performance Products Database.
2. Products compliant with CHPS criteria certified under the Greenguard Children & Schools program.
3. Certification under the Resilient Floor Covering Institute (RFCI) FloorScore program.
4. Meet the California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers." Version 1.1, February 2010 (also known as Specification 01350).

4.504.5 Composite wood products. Hardwood plywood, particleboard and medium density fiberboard composite wood products used on the interior or exterior of the building shall meet the requirements for formaldehyde as specified in ARB's Air Toxics Control Measure for Composite Wood (17 CCR 93120 et seq.), by or before the dates specified in those sections, as shown in Table 4.504.5.

TABLE 4.504.5
FORMALDEHYDE LIMITS[1]
Maximum Formaldehyde Emissions in Parts per Million

PRODUCT	CURRENT LIMIT
Hardwood plywood veneer core	0.05
Hardwood plywood composite core	0.05
Particleboard	0.09
Medium density fiberboard	0.11
Thin medium density fiberboard[2]	0.13

1. Values in this table are derived from those specified by the California Air Resources Board, Air Toxics Control Measure for Composite Wood as tested in accordance with ASTM E 1333. For additional information, see *California Code of Regulations*, Title 17, Sections 93120 through 93120.12.
2. Thin medium density fiberboard has a maximum thickness of 5/16 inch (8 mm).

TABLE 4.504.1
ADHESIVE VOC LIMIT[1,2]
Less Water and Less Exempt Compounds in Grams per Liter

ARCHITECTURAL APPLICATIONS	CURRENT VOC LIMIT
Indoor carpet adhesives	50
Carpet pad adhesives	50
Outdoor carpet adhesives	150
Wood flooring adhesive	100
Rubber floor adhesives	60
Subfloor adhesives	50
Ceramic tile adhesives	65
VCT and asphalt tile adhesives	50
Drywall and panel adhesives	50
Cove base adhesives	50
Multipurpose construction adhesives	70
Structural glazing adhesives	100
Single-ply roof membrane adhesives	250
Other adhesives not specifically listed	50
SPECIALTY APPLICATIONS	
PVC welding	510
CPVC welding	490
ABS welding	325
Plastic cement welding	250
Adhesive primer for plastic	550
Contact adhesive	80
Special purpose contact adhesive	250
Structural wood member adhesive	140
Top and trim adhesive	250
SUBSTRATE SPECIFIC APPLICATIONS	
Metal to metal	30
Plastic foams	50
Porous material (except wood)	50
Wood	30
Fiberglass	80

1. If an adhesive is used to bond dissimilar substrates together, the adhesive with the highest VOC content shall be allowed.
2. For additional information regarding methods to measure the VOC content specified in this table, see South Coast Air Quality Management District Rule 1168.

TABLE 4.504.2
SEALANT VOC LIMIT
Less Water and Less Exempt Compounds in Grams per Liter

SEALANTS	CURRENT VOC LIMIT
Architectural	250
Marine deck	760
Nonmembrane roof	300
Roadway	250
Single-ply roof membrane	450
Other	420
SEALANT PRIMERS	
Architectural Nonporous Porous	250 775
Modified bituminous	500
Marine deck	760
Other	750

TABLE 4.504.3
VOC CONTENT LIMITS FOR ARCHITECTURAL COATINGS[2,3]
Grams of VOC per Liter of Coating,
Less Water and Less Exempt Compounds

COATING CATEGORY	EFFECTIVE 1/1/2010	EFFECTIVE 1/1/2012
Flat coatings	50	
Nonflat coatings	100	
Nonflat-high gloss coatings	150	
Specialty Coatings		
Aluminum roof coatings	400	
Basement specialty coatings	400	
Bituminous roof coatings	50	
Bituminous roof primers	350	
Bond breakers	350	
Concrete curing compounds	350	
Concrete/masonry sealers	100	
Driveway sealers	50	
Dry fog coatings	150	
Faux finishing coatings	350	
Fire resistive coatings	350	
Floor coatings	100	
Form-release compounds	250	
Graphic arts coatings (sign paints)	500	
High temperature coatings	420	
Industrial maintenance coatings	250	
Low solids coatings[1]	120	
Magnesite cement coatings	450	
Mastic texture coatings	100	
Metallic pigmented coatings	500	
Multicolor coatings	250	
Pretreatment wash primers	420	
Primers, sealers, and undercoaters	100	
Reactive penetrating sealers	350	
Recycled coatings	250	
Roof coatings	50	
Rust preventative coatings	400	250
Shellacs Clear Opaque	730 550	
Specialty primers, sealers and undercoaters	350	100
Stains	250	
Stone consolidants	450	
Swimming pool coatings	340	
Traffic marking coatings	100	
Tub and tile refinish coatings	420	
Waterproofing membranes	250	
Wood coatings	275	
Wood preservatives	350	
Zinc-rich primers	340	

1. Grams of VOC per liter of coating, including water and including exempt compounds.
2. The specified limits remain in effect unless revised limits are listed in subsequent columns in the table.
3. Values in this table are derived from those specified by the California Air Resources Board, Architectural Coatings Suggested Control Measure, February 1, 2008. More information is available from the Air Resources Board.

SECTION 4.505 INTERIOR MOISTURE CONTROL

4.505.1 General. Buildings shall meet or exceed the provisions of the *California Building Standards Code*.

4.505.2 Concrete slab foundations. Concrete slab foundations required to have a vapor retarder by the *California Building Code*, Chapter 19 or concrete slab-on-ground floors required to have a vapor retarder by the *California Residential Code*, Chapter 5, shall also comply with this section.

4.505.2.1 Capillary break. A capillary break shall be installed in compliance with at least one of the following:

1. A 4-inch-thick (101.6 mm) base of 1/2 inch (12.7 mm) or larger clean aggregate shall be provided with a vapor retarder in direct contact with concrete and a concrete mix design, which will address bleeding, shrinkage, and curling, shall be used. For additional information, see American Concrete Institute, ACI 302.2R-06.
2. Other equivalent methods approved by the enforcing agency.
3. A slab design specified by a licensed design professional.

4.505.3 Moisture content of building materials. Building materials with visible signs of water damage shall not be installed. Wall and floor framing shall not be enclosed when the framing members exceed 19-percent moisture content. Moisture content shall be verified in compliance with the following:

1. Moisture content shall be determined with either a probe-type or contact-type moisture meter. Equivalent moisture verification methods may be approved by the enforcing agency and shall satisfy requirements found in Section 101.8 of this code.
2. Moisture readings shall be taken at a point 2 feet (610 mm) to 4 feet (1219 mm) from the grade stamped end of each piece to be verified.
3. At least three random moisture readings shall be performed on wall and floor framing with documentation acceptable to the enforcing agency provided at the time of approval to enclose the wall and floor framing.

Insulation products which are visibly wet or have a high moisture content shall be replaced or allowed to dry prior to enclosure in wall or floor cavities. Wet-applied insulation products shall follow the manufacturers' drying recommendations prior to enclosure.

SECTION 4.506 INDOOR AIR QUALITY AND EXHAUST

4.506.1 Bathroom exhaust fans. Mechanical exhaust fans which exhaust directly from bathrooms shall comply with the following:

1. Fans shall be ENERGY STAR compliant and be ducted to terminate outside the building.
2. Unless functioning as a component of a whole house ventilation system, fans must be controlled by a humidistat which shall be readily accessible.

Humidistat controls shall be capable of adjustment between a relative humidity range of 50 to 80 percent.

Note: For the purposes of this section, a bathroom is a room which contains a bathtub, shower or tub/shower combination.

SECTION 4.507 ENVIRONMENTAL COMFORT

~~**4.507.1 Openings.** Whole house exhaust fans shall have insulated louvers or covers which close when the fan is off. Covers or louvers shall have a minimum insulation value of R-4.2.~~

4.507.2 Heating and air-conditioning system design. Heating and air-conditioning systems shall be sized, designed and have their equipment selected using the following methods:

1. The heat loss and heat gain is established according to ACCA Manual J, ASHRAE handbooks or other equivalent design software or methods.
2. Duct systems are sized according to ACCA 29-D Manual D, ASHRAE handbooks or other equivalent design software or methods.
3. Select heating and cooling equipment according to ACCA 36-S Manual S or other equivalent design software or methods.

Exception: Use of alternate design temperatures necessary to ensure the systems function are acceptable.

SECTION 4.508 OUTDOOR AIR QUALITY (Reserved)

SECTION 301 GENERAL

301.1 Scope. Buildings shall be designed to include the green building measures specified as mandatory in the application checklists contained in this code. Voluntary green building measures are also included in the application checklists and may be included in the design and construction of structures covered by this code, but are not required unless adopted by a city, county, or city and county as specified in Section 101.7.

301.1.1 Additions and alterations. [HCD] The mandatory provisions of Chapter 4 shall be applied to additions or alterations of existing residential buildings where the addition or alteration increases the building's conditioned area, volume, or size. The requirements shall apply only to and/or within the specific area of the addition or alteration.

Note: On and after January 1, 2014, residential buildings undergoing permitted alterations, additions or improvements shall replace noncompliant plumbing fixtures with water-conserving plumbing fixtures. Plumbing fixture replacement is required prior to issuance of a certificate of final completion, certificate of occupancy or final permit approval by the local building department. See Civil Code Section 1101.1, et seq., for the definition of a noncompliant plumbing fixture, types of residential buildings affected and other important enactment dates.

Revisions:

residential mandatory green building standards

Sheet
G1.0

March 17, 2012

STRUCTURAL SPECIFICATIONS

SHEATHING

ALL SHEATHING SHALL CONFORM TO U.S. PRODUCT STANDARD PS 1, AMERICAN PLYWOOD ASSOCIATION. EACH SHEET SHALL BE STAMPED WITH THE PS AND/OR APA GRADEMARK.

ROOF SHEATHING

– SHALL BE MINIMUM 1/2" OSB OR 3 PLY INTERIOR TYPE RATED SHEATHING, C-D GRADE WITH EXTERIOR GLUE (CDX-EXPOSURE 1), SPAN RATING 32/16, SPECIES GROUP 2 OR BETTER.

WALL SHEATHING

– SHALL BE MINIMUM 1/2" OSB OR 3 PLY INTERIOR TYPE RATED SHEATHING, C-D GRADE WITH EXTERIOR GLUE (CDX-EXPOSURE 1), SPAN RATING 24/0, SPECIES GROUP 2 OR BETTER.

FLOOR SHEATHING

– SHALL BE MINIMUM 3/4" OSB OR 4 PLY INTERIOR TYPE RATED SHEATHING, C-D GRADE WITH EXTERIOR GLUE (CDX-EXPOSURE 1), SPAN RATING 48/24, SPECIES GROUP 2 OR BETTER.

ALL SHEATHING PERMANENTLY EXPOSED TO WEATHER SHALL BE EXTERIOR TYPE SHEATHING VS. INTERIOR TYPE SHEATHING AS REFERENCED ABOVE.

ALL UNBLOCKED SHEATHING EDGES SHALL BE TONGUE-AND-GROOVE OR SUPPORTED WITH CLEATS OR CLIPS.

FRAMING

DOUGLAS FIR COAST REGION, CONFORMING TO WEST COAST LUMBER INSPECTION BUREAU STANDARD GRADING AND DRESSING RULE NO. 17 AS AMENDED TO DATE.

1. 2x, 3x, PLATES, JOISTS, AND PURLINS NO.2 (900F-b), PARA. 123-a.
2. 4x, PURLINS, LEDGERS, AND BEAMS, NO.1 (1000F-b), PARA. 123-b.
3. 6x BEAMS, DENSE NO.1 (1550F-b), PARA. 130-bb.
4. 4x4 POSTS, NO.1 (1500F-c), PARA. 124-b.
5. 4x6 POSTS, NO.1 (1500F-c), PARA. 123-b.
6. 6x6 AND LARGER POSTS, DENSE NO.1 (1200F-c), PARA. 131-bb.
7. 2x4, 3x4, STUDS BLOCKING, CONSTRUCTION GRADE, (1000F-b), PARA. 122-b.
8. 2x6 OR LARGER STUDS AND BLOCKING NO.1 (1000F-b), PARA. 123-b.
9. FOUNDATION PLATES: SBX/DOT OR ZINC BORATE PRESSURE TREATED DOUGLAS FIR.

ALL FRAMING LUMBER 6" OR LARGER IN THE LEAST DIMENSION SHALL BE F.O.H.C.

PARALLAMS / MICROLLAMS / TJI'S

PARALLAMS, MICROLLAMS AND TJI'S SHALL BE MANUFACTURED BY WEYERHAEUSER.
PARALLAM AND MICROLLAM CONSTRUCTION SHALL BE IN ACCORDANCE WITH ICBO REPORT ESR-1387.

LIGHT GAGE METAL CONNECTORS

ALL LIGHT GAGE METAL CONNECTORS SHALL BE SIMPSON COMPANY STRONG TIE CONNECTORS, UNLESS NOTED OTHERWISE ON THE DRAWINGS.

CONCRETE

ALL CONCRETE SHALL HAVE PROPERTIES AS LISTED BELOW.
MAXIMUM WATER-CEMENT RATIO, BY WEIGHT SHALL BE AS FOLLOWS:

	W/O FLY ASH	W/ UP TO 15% FLY ASH
5000 PSI CONCRETE AT 28 DAYS	.48	0.43
4000 PSI CONCRETE AT 28 DAYS	.55	0.5
3500 PSI CONCRETE AT 28 DAYS	.55	0.5
3000 PSI CONCRETE AT 28 DAYS	.55	0.5
2500 PSI CONCRETE AT 28 DAYS	.55	0.5
2000 PSI CONCRETE AT 28 DAYS	.67	0.60

APPROXIMATELY 3 OUNCES PER SACK OF CEMENT OF POZZOLITH 300R OR APPROVED EQUAL SHALL BE USED AS A WATER DISPERSING ADDITIVE. AT CONTRACTOR'S OPTION, AN AIR ENTRAINING AGENT CONFORMING TO THE LATEST REVISION OF ASTM SPECIFICATION C 260 MAY BE ADDED TO THE CONCRETE TO PROVIDE SPECIFIED AMOUNTS OF ENTRAINED AIR.

CONCRETE ELEMENT	MIN. 28 DAY COMPRESSIVE STRENGTH	MAX. SIZE AGGREGATE (INCHES)	MAX. SLUMP	TOTAL AIR CONTENT
FOOTINGS	*3000	3/4	4	--%
SLAB ON GRADE	*3000	3/4	4	4%±1.5%
YARD CONCRETE, WALKS, AND CURBS	2000	3/4	4	--

*2500 PSI USED FOR DESIGN, NO SPECIAL INSPECTION REQUIRED

REINFORCING STEEL

BARS FOR REINFORCING SHALL BE GRADE 60 DEFORMED BARS CONFORMING TO ASTM A-615 INCLUDING SUPPLEMENT S1. LAP SPLICES SHALL BE IN ACCORDANCE WITH ACI 318 UNLESS NOTED OTHERWISE ON THE PLANS.

SLAB MEMBRANE

– 15 MIL. POLYETHYLENE FILM.

NON-SHRINK GROUT

NON-SHRINK GROUT SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 5000 PSI AND SHALL BE AS MANUFACTURED BY SAKRETE OR APPROVED EQUAL.

ADHESIVE ANCHORING FOR CONCRETE

EPOXY ADHESIVE SHALL BE HILTI HIT-RE 500-V3 ADHESIVE ICC REPORT ESR-3814 OR SIMPSON SET-XP EPOXY ADHESIVE ICC REPORT ESR-2508. THE PROPORTIONS SHALL BE AS RECOMMENDED BY THE MANUFACTURER FOR THE CONDITION AND USE. PREPARATION OF CONCRETE INCLUDING DRILLING OF HOLES FOR ANCHORS AS WELL AS EPOXY ANCHOR INSTALLATION SHALL BE AS RECOMMENDED BY THE MANUFACTURER.

STRUCTURAL STEEL AND MISCELLANEOUS IRON

ALL STRUCTURAL STEEL AND MISCELLANEOUS IRON SHALL RECEIVE SHOP PRIME COAT.
INDIVIDUAL SPECIFICATIONS ARE AS FOLLOWS.

1.) WIDE FLANGE – ASTM A992, Fy=50 ksi
2.) HOLLOW STRUCTURAL STEEL AND TUBE STEEL – ASTM A500, GRADE B, Fy = 46ksi
3.) MISCELLANEOUS IRON – ASTM A36M Fy = 36ksi

MACHINE BOLTS, ANCHOR BOLTS AND STUDS

ASTM A307

THREADED RODS

ASTM F1554 GRADE A36

WELDING

ALL WELDING SHALL BE PERFORMED BY CERTIFIED WELDERS PER AWS "STANDARD QUALIFICATION PROCEDURE" TO PERFORM THE TYPE OF WORK REQUIRED. ALL WELDING SHALL BE IN ACCORDANCE WITH AWS WELDING CODE. ARC WELDING ELECTRODES SHALL BE E70 SERIES. WELDING SHALL BE INSPECTED AS REQUIRED BY THE CALIFORNIA BUILDING CODE.

SHOP DRAWINGS

FOR THE ENGINEERS REVIEW WILL BE REQUIRED AS FOLLOWS:

1. MIX DESIGNS;
2. REINFORCING STEEL;
3. STRUCTURAL STEEL AND MISCELLANEOUS METALS;

CONTRACTOR SHALL SUBMIT THREE SETS OF PRINTS FOR REVIEW. FABRICATION SHALL NOT PROCEED UNTIL SHOP DRAWINGS HAVE BEEN REVIEWED BY THE ENGINEER.

CONSTRUCTION LIABILITY

CONSTRUCTION CONTRACTOR AND HIS SUBCONTRACTORS AGREE THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR AND HIS SUBCONTRACTORS WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR AND HIS SUBCONTRACTORS FURTHER AGREE TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPT LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF DESIGN PROFESSIONAL.

EXISTING CONDITIONS

THE CONTRACTOR OR SUBCONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO BEGINNING CONSTRUCTION AND OR ORDERING MATERIAL, ANY DISCREPANCIES DISCOVERED SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.

SPECIAL INSPECTIONS

THE OWNER SHALL EMPLOY A SPECIAL INSPECTOR DURING CONSTRUCTION ON THE FOLLOWING TYPES OF WORK:

CONCRETE (FOR PIER ONLY)

– DURING THE TAKING OF TEST SPECIMENS AND PLACING OF ALL REINFORCED CONCRETE AND PNEUMATICALLY PLACED CONCRETE.

EXCEPTIONS:

1. CONCRETE FOR FOUNDATIONS FOR STUD BEARING WALLS (EXCLUDING PIERS AND CAISSONS).
2. CONCRETE FOR FOUNDATIONS WITH f'_c EQUAL TO 2500 PSI OR LESS.
3. CONCRETE FOR SLABS ON GRADE.
4. SITE CONCRETE FULLY-SUPPORTED ON EARTH.

REINFORCING STEEL (FOR PIER ONLY)

– PERIODICALLY, DURING THE PLACING OF REINFORCING STEEL FOR ALL CONCRETE REQUIRED TO HAVE SPECIAL INSPECTION.

WELDING

– DUCTILE MOMENT-RESISTING STEEL FRAMES. AS REQUIRED BY THE APPLICABLE SECTION OF THE 2013 C.B.C.

– ALL STRUCTURAL WELDING, INCLUDING WELDING OF REINFORCING STEEL.

EXCEPTIONS:

1. WELDING DONE IN A FABRICATOR'S SHOP, APPROVED BY THE CITY BUILDING OFFICIAL.
2. SINGLE PASS FILLET WELDS MAY HAVE PERIODIC INSPECTION PER C.B.C. NOTED OTHERWISE UNLESS ON THE CONTRACT DRAWNGS.

ADHESIVE ANCHORS

– DURING ALL ADHESIVE ANCHORING INSTALLATIONS.

SPECIAL INSPECTOR

– THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE HIS COMPETENCE, TO THE SATISFACTION OF THE BUILDING OFFICIAL, FOR INSPECTION OF A PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION.

DUTIES AND RESPONSIBILITIES OF THE SPECIAL INSPECTOR

– THE SPECIAL INSPECTOR SHALL OBSERVE THE WORK ASSIGNED FOR CONFORMANCE WITH THE APPLICABLE DESIGN DRAWINGS AND SPECIFICATIONS.

– THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, THE ENGINEER OR ARCHITECT OF RECORD, AND OTHER DESIGNATED PERSONS. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION, THEN, IF UNCORRECTED, THE PROPER DESIGN AUTHORITY AND TO THE BUILDING OFFICIAL.

– THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL SIGNED REPORT STATING WHETHER THE WORK REQUIRING SPECIAL INSPECTION WAS, TO THE BEST OF HIS KNOWLEDGE, IN CONFORMANCE WITH THE APPROVED PLANS AND SPECIFICATIONS AND THE APPLICABLE WORKMANSHIP PROVISION OF THIS CODE.

DESIGN CRITERIA: 2019 C.B.C.

SITE LOCATION:
LATITUDE: 37.1886
LONGITUDE: -121.818

SEISMIC FORCE-RESISTANCE SYSTEM:
– LIGHT FRAME WALLS SHEATHED w/ WOOD STRUCTURAL PANELS FOR SHEAR RESISTANCE

RISK CATEGORY = II

I	= 1.0
S_S	= 2.355g
S_1	= 0.881g
SITE CLASS	= D
F_a	= 1.2
F_v	= 1.7
S_{MS}	= 2.826g
S_{M1}	= 1.50g
S_{DS}	= 1.884g
S_{D1}	= 0.80g
R	= 6.5
SDC	= E
V_{MPB}	= 0.290 W
V_{MDB}	= 0.203 W

WIND:

SPEED	= 110 MPH
EXPOSURE	= B
I	= 1.0

	DEAD	LIVE
ROOF LOAD (NON-VAULTED)	14.0 PSF	20.0 PSF
ROOF LOAD (VAULTED)	20.0 PSF	20.0 PSF
CEILING LOAD	10.0 PSF	10.0 PSF
2nd FLOOR LOAD	17.0 PSF	40.0 PSF
1st FLOOR LOAD	11.0 PSF	40.0 PSF

FOUNDATION BEARING PRESSURE PER 2019 CBC TABLE 1806.2
1500 PSF DEAD + LIVE LOADS

ABBREVIATIONS

&	And
A.B.	Anchor bolt
@	At
ALUM.	Aluminum
ARCH.	Architect or Architectual
BLK.	Block
BLKG.	Blocking
BN	Boundary Nailing per Schedule/Plan
BTWN.	Between
C	Channel
CANTL.	Cantilevered
CL or ℄	Centerline
C.J.	Construction Joint or Cold Joint
C.J.P.	Complete Joint Penetration
CLR	Clear
COL.	Column
COLL.	Collector
CONC.	Concrete
CONN.	Connection
CONT.	Continuous
CMU	Concrete Masonry Unit
DBL.	Double
DF	Douglas Fir
DIA. or ⌀	Diameter
DWG.	Drawing(s)
(E)	Existing
EA.	Each
EF	Edge Fastening
ELEV.	Elevation
EMBED.	Embedment
EN	Edge Nail per Shearwall Schedule
EQ.	Equal
EXT.	Exterior
E.W.	Each Way
FDN.	Foundation
F.F.	Finish Floor
FLR.	Floor
FN	Field Nailing per Schedule
F.O.H.C.	Free of Heart Center
F.P.	Full Penetration
FRMG.	Framing
FTG.	Footing
ga.	Gage (Gauge)
GALV.	Galvanized
G.I.	Galvanized Iron
GLB	Glulam Beam
HD	Holdown
HDR	Header
HGR	Hanger
HORIZ.	Horizontal
H.S.B.	High Strength Bolt(s)
H.S.S.	Hollow Structural Section
HT	Height
INT.	Interior
I.M.R.F.	Intermediate Moment Resisting Frames
LBS. or #	Pounds
LSL	Laminated Strand Lumber
LVL	Laminated Veneer Lumber
(L.L.H.)	Long Leg Horizontal
(L.L.V.)	Long Leg Vertical
MAX.	Maximum
M.B.	Machine Bolt(s)
MC	Miscellaneous Channel
MECH.	Mechanical
MFR.	Manufacturer
MIN.	Minimum
(N)	New
N.T.S.	Not To Scale
o/	Over
O.C.	On Center
O.M.R.F.	Ordinary Moment Resisting Frame
O.F.	Outside Face
O.H.	Opposite Hand
OSB	Oriented Strand Board
PL. or ℄	Plate
PLYWD.	Plywood
P.J.P.	Partial Joint Penetration
P.P.	Partial Penetration
PSL	Parallel Strand Lumber
PTDF	Pressure Treated Douglas Fir
REINF.	Reinforcing or Reinforcement
REQ.	Require or Required
RDWD.	Redwood
S.A.D.	See Architectural Drawings
SECT.	Section
SHT.	Sheet
SIM.	Similar
SN	Sill Nail
SMRF	Special Moment Resisting Frame
SPECS.	Specifications
SQ. or ϕ	Square
S.S.	Stainless Steel
SP	Standard Pipe
XSP	Extra Strong Pipe
XXSP	Double Extra Strong Pipe
STAGG	Staggered
STD.	Standard
STIFF.	Stiffener
STL.	Steel
T&B	Top and Bottom
T.&G.	Tongue and Groove
TN	Toe Nail
T.O.C.	Top of Concrete or Top of Curb
T.O.P.	Top of Plywood
T.O.S.	Top of Steel
TS	Tube Steel
TYP.	Typical
U.N.O.	Unless Noted Otherwise
VERT.	Vertical
V.I.F. or *	Verify In Field
w/	With
w/o	Without
W.P.	Work Point
WT.	Weight

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SYMBOLS LEGEND

SYMBOL	DESCRIPTION
1 / S2.1	Detail No. Sheet Location
1 / S0.1	View Direction Section/Elevation No. Sheet Location
1 / 6.0	Sheathed Face of Wall (Shaded) Shear Wall Type per Schedule, See Detail 1 / S0.2 Shear Wall Length (FEET)
1 / 6.0 / P	Sheathed Face of Wall (Shaded) Shear Wall Type per Schedule, See Detail 1 / S0.2 Pier Length (FEET) Indicates Force-Transfer Shear Wall, See Detail 9 / S0.2
A	Plate Fastening Type per Schedule, See Detail 1 / S0.2
HD	Etc... Indicates Pre-Manufactured Proprietary Hardware by Simpson Strong-Tie Inc. Model Number enclosed within Box.
1/4 SLOPE	Indicates Degree of Slope Indicates Sloped Beam, Slab, or Deck. Arrowhead indicates direction.
6'-0"±	Indicates estimated dimension. For Exact Dimension see Architect
	Indicates 2x with strut from roof to wall below or from ceiling to roof above
1/4	Indicates Field Weld, Shop Weld when not shown. TYP. Weld Notes Weld Type Weld Size Weld all sides Refer to AISC, Latest Edition, for All Weld Types & Symbols
1	Revision Number
	Affected Region due to Current Revision.

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SHEET CONTENT
STRUCTURAL SPECIFICATIONS
ABBREVIATIONS LEGEND
SYMBOLS LEGEND
TABLE OF CONTENTS

DESIGNED BY: JP
DRAFTED BY: DE
CHECKED BY: SPD
INITIAL DATE: October 11, 2021

JOB No. 21-0071

SHEET No. S0.0

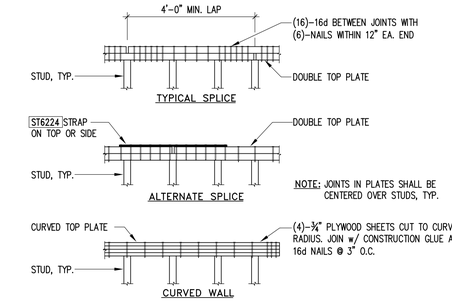
SHEET PAGE SHEET 1 OF 8

NAILING SCHEDULE

NAILED CONNECTION DESCRIPTION	MINIMUM REQUIRED NAILING (UNLESS DETAILED OTHERWISE)
JOIST TO SILL PLATE OR GIRDER	(3)–8d TOE NAILS
BRIDGING TO JOIST	(2)–8d TOE NAILS EACH END
1"x 6" SUB–FLOOR OR LESS	(2)–8d FACE NAILS EACH JOIST
WIDER THAN 1"x 6" SUB–FLOOR	(3)–8d FACE NAILS EACH JOIST
2" SUB–FLOOR TO JOIST OR GIRDER	(2)–16d BLIND & FACE NAIL
SOLE PLATE TO JOIST OR GIRDER	16d @ 16" O.C. FACE NAIL, (3)–16d EVERY 16" O.C. AT BRACED WALL PANELS
TOP PLATE TO STUD	(2)–16d END NAIL
STUD TO SILL PLATE	(4)–8d TOE NAIL, (2)–16d END NAIL AT 2x SILL OR (2)–20d END NAIL AT ALL 3x SILL
DOUBLE STUDS	16d FACE NAILS @ 24" O.C.
DOUBLE TOP PLATES	16d FACE NAILS @ 16" O.C., (8)–16d AT LAPS
BLOCKING BETWEEN JOISTS OR RAFTERS TO TOP PLATE	(3)–8d TOE NAILS
RIM JOIST OR BLOCKING TO TOP PLATE OR SILL PLATE	8d TOE NAILS @ 6" O.C.
TOP PLATE AT LAPS AND INTERSECTIONS	(2)–16d FACE NAILS
CONTINUOUS HEADER, TWO PIECES (ALONG EACH EDGE) w/ ½" SPACER	16d @ 16" O.C.
CEILING JOIST (CJ) TO PLATE	(3)–8d TOE NAILS
CONTINUOUS HEADER TO STUD	(4)–8d TOE NAILS
CEILING JOIST (CJ) LAPPED OVER PARTITIONS	(3)–16d FACE NAILS
CEILING JOIST (CJ) PARALLEL TO RAFTERS	(3)–16d FACE NAILS
RAFTER OR ROOF TRUSS TO PLATE	(3)–10d TOE NAILS, (2)–10d TOE NAILS ON ONE SIDE AND (1)–10d TOE NAIL ON OPPOSITE SIDE OF EACH RAFTER OR TRUSS
1" DIAGONAL BRACE TO EACH STUD & PLATE	(3)–8d FACE NAILS
1"x 6" SHEATHING OR LESS TO EACH BEARING	(3)–8d FACE NAILS
1"x 8" SHEATHING OR LESS TO EACH BEARING	(3)–8d FACE NAILS
WIDER THAN 1"x 8" SHEATHING TO EACH BEARING	(3)–8d FACE NAILS
BUILT–UP CORNER STUDS	16d FACE NAILS @ 12" O.C.
BUILT–UP GIRDERS AND BEAMS	20d @ 32" O.C. FACE NAILS TOP & BOTTOM, STAGGERED w/ (2)–20d AT EACH END & SPLICES
2" PLANKS, EACH END AND EACH BEARING	(2)–16d
COLLAR TIE TO RAFTER	(3)–10d FACE NAILS
ROOF RAFTER TO HIP OR VALLEY RAFTER	(4)–16d TOE NAILS OR (3)–16d FACE NAILS
ROOF RAFTER TO 2x RIDGE BEAM	(4)–16d TOE NAILS OR (3)–16d FACE NAILS
JOISTS TO RIM JOIST	(3)–16d FACE NAILS
2x LEDGER STRIP SUPPORTING JOISTS OR RAFTERS	(3)–16d FACE NAILS AT EACH JOIST OR RAFTER

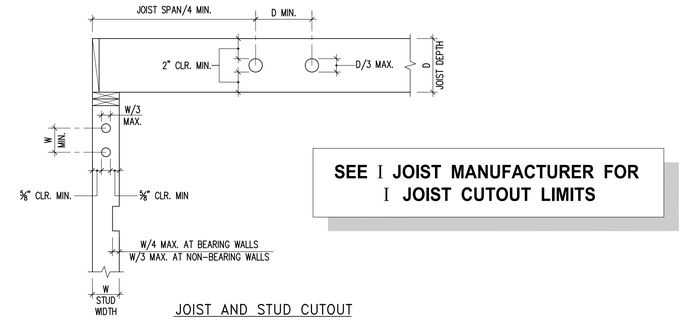
NOTES:
1. USE COMMON WIRE NAILS FOR ALL NAILED CONNECTIONS. BOX NAILS ARE PROHIBITED.
2. WHERE POSSIBLE, DRIVE NAILS PERPENDICULAR TO THE GRAIN IN LIEU OF TOE NAILING.
3. NAILING DETAILED ELSEWHERE SUPERSEDE THE REQUIREMENTS OF THIS SCHEDULE. NAILING SHOWN ABOVE ARE MINIMUM REQUIREMENTS.
4. NAILS USED AT PRESSURE TREATED FRAMING SHALL BE HOT–DIPPED GALVANIZED.

NAILING SCHEDULE — 1



DOUBLE TOP PLATE DETAILS — 2

SCALE: 3/4" = 1'–0"

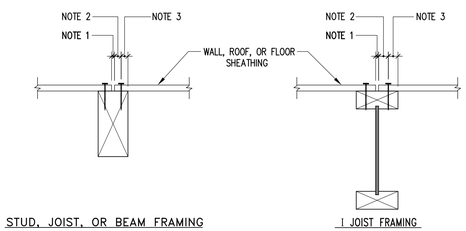


JOIST AND STUD CUTOUT

SEE I JOIST MANUFACTURER FOR I JOIST CUTOUT LIMITS

JOIST, STUD & I JOIST CUTOUT LIMITS — 3

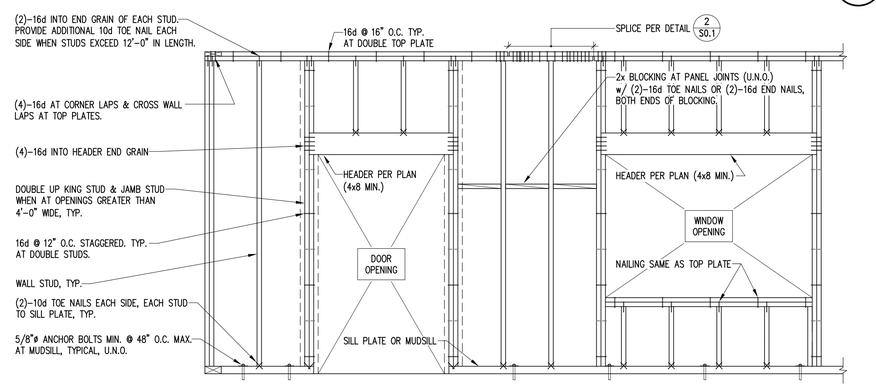
SCALE: 3/4" = 1'–0"



NOTES:
1. CLEARANCES PER PANEL MFG., 1/8" TYP.
2. 3/8" MIN. PANEL EDGE DISTANCE
3. 5/16" MIN. LUMBER EDGE DISTANCE

MINIMUM NAILING EDGE DISTANCES FOR SHEATHING — 4

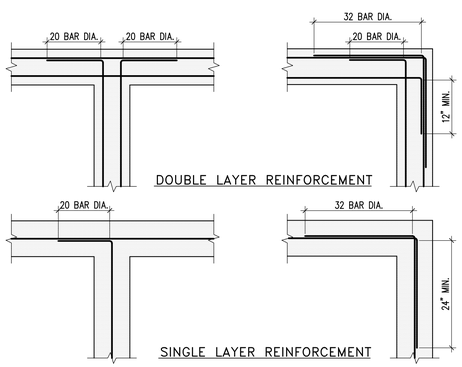
SCALE: 2" = 1'–0"



NOTES:
1. SHEATHING NOT SHOWN FOR CLARITY

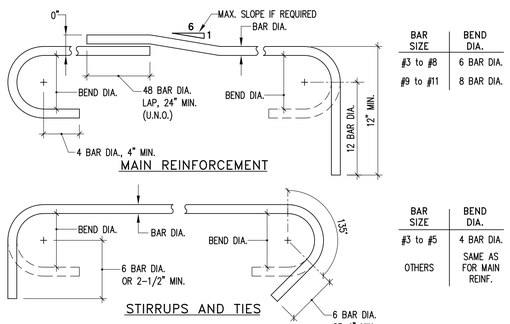
TYPICAL BEARING/STUD WALL FRAMING — 5

SCALE: 1/2" = 1'–0"



BAR LAPS AT CONCRETE INTERSECTIONS FOOTINGS & WALLS — 6

SCALE: 3/4" = 1'–0"



BAR SIZE	BEND DIA.
#3 to #8	6 BAR DIA.
#9 to #11	8 BAR DIA.

BAR SIZE	BEND DIA.
#3 to #5	4 BAR DIA.
OTHERS	SAME AS FOR MAIN REINF.

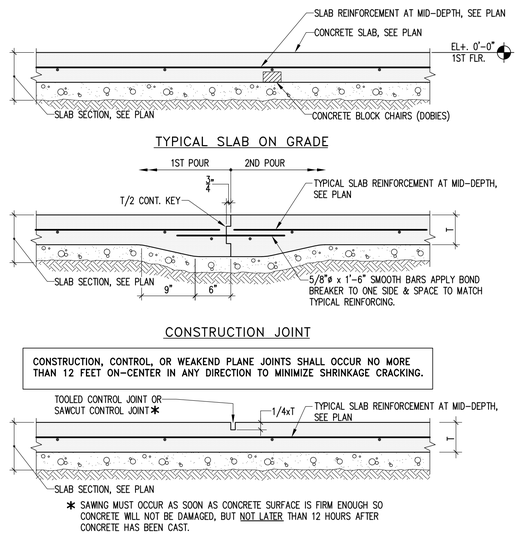
CLASS A & B BAR LAP SPLICE LENGTHS (INCHES)
ld = DEVELOPMENT LENGTH OF BAR

BAR SIZE	f'_c=2500			f'_c=3000			f'_c=4000		
	Ld	A	B	Ld	A	B	Ld	A	B
# 3	18	18	23	16	16	21	14	14	18
# 4	24	24	31	22	22	28	19	19	25
# 5	30	30	39	27	27	36	24	24	31
# 6	36	36	47	33	33	43	28	28	37
# 7	53	53	68	48	48	62	42	42	54
# 8	60	60	78	55	55	71	47	47	62
# 9	68	68	88	62	62	80	54	54	70
# 10	76	76	99	70	70	77	60	60	78
# 11	85	85	110	90	90	100	67	67	87

NOTES:
1. FOR SLAB BARS, BOTTOM BEAM BARS, AND TEMPERATURE BARS IN SLABS, BEAMS, OR FOOTINGS WITH SPACING 6" OR MORE, USE 0.8 TIMES THE LENGTHS SHOWN, BUT NOT LESS THAN 1'–0".
2. FOR BARS WITH MORE THAN 1'–0" OF CONCRETE CAST BELOW THE DEVELOPMENT LENGTH OR SPLICE, USE 1.3 TIMES THE LENGTHS SHOWN.
3. IF MORE THAN 50% OF THE BARS ARE SPLICED WITHIN SPLICE LENGTH, USE CLASS 'B' LAP, OTHERWISE USE CLASS 'A' LAP.

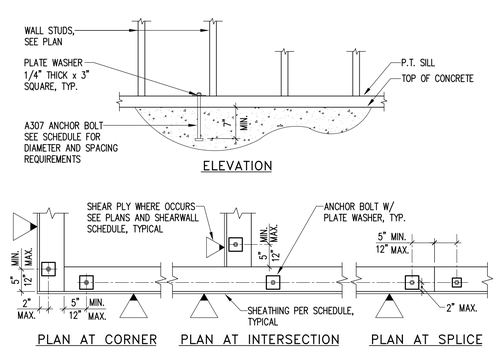
TYPICAL REINFORCING BAR BENDS AND LAP SPLICE SCHEDULE — 7

SCALE: 3" = 1'–0"



SLAB ON GRADE DETAILS — 8

SCALE: 1" – 1'–0"



SILL PLATE ANCHOR BOLT REQUIREMENT — 9

SCALE: 3/4" = 1'–0"

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SHEET PAGE SHEET 2 OF 8

SHEAR WALL PLATE FASTENING SCHEDULE

MARK	FASTENING	LOCATION
A	16d @ 6" O.C.	FROM WALL SILL PLATE TO 2x JOIST OR BLOCKING BELOW
B	A35, L50, LS50 OR LTP4 @ 16" O.C.	FROM WALL TOP PLATE TO 2x JOIST OR BLOCKING OR RIM TO SILL
C	16d @ 4" O.C.	FROM WALL SILL PLATE TO 2x JOIST OR BLOCKING BELOW
D	A35, L50, LS50 OR LTP4 @ 12" O.C.	FROM WALL TOP PLATE TO 2x JOIST OR BLOCKING OR RIM TO SILL
E	1/2"ø x 6" LAG SCREWS @ 12" O.C., PREDRILL	FROM WALL SILL PLATE TO 2x JOIST OR BLOCKING BELOW
F	A35, L50, LS50 OR LTP4 @ 8" O.C.	FROM WALL TOP PLATE TO 2x JOIST OR BLOCKING OR RIM TO SILL
G	1/2"ø x 6" LAG SCREWS @ 8" O.C., PREDRILL	FROM WALL SILL PLATE TO 2x JOIST OR BLOCKING BELOW
H	A35, L50, LS50 OR LTP4 @ 6" O.C.	FROM WALL TOP PLATE TO 2x JOIST OR BLOCKING OR RIM TO SILL
J	5/8"ø x 12" A.B.'S @ 32" O.C.	MUDSILL TO CONCRETE
K	5/8"ø x 12" A.B.'S @ 24" O.C.	MUDSILL TO CONCRETE
L	5/8"ø x 12" A.B.'S @ 16" O.C.	MUDSILL TO CONCRETE

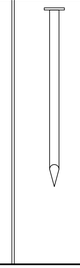
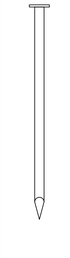
WALL SHEATHING SCHEDULE **

MARK	SHEATHING	NAILING
6	1/2"	8d @ 6" O.C. EDGES & 12" O.C. FIELD, BLOCK ALL SHEET EDGES.
4A	1/2"	8d @ 4" O.C. EDGES & 12" O.C. FIELD, BLOCK ALL SHEET EDGES.
4B *	1/2"	8d @ 4" O.C. EDGES & 12" O.C. FIELD, BLOCK ALL SHEET EDGES.
3 *	1/2"	8d @ 3" O.C. EDGES & 12" O.C. FIELD, BLOCK ALL SHEET EDGES.
2 *	1/2"	8d @ 2" O.C. EDGES & 12" O.C. FIELD, BLOCK ALL SHEET EDGES.

* INSTALL MINIMUM OF 3X MEMBERS AT ALL ADJOINING SHEET EDGES (STUDS AND BLOCKING) AND AT MUDSILL – STAGGER NAILS

** WHERE PANELS ARE APPLIED ON BOTH FACES OF THE WALL AND NAIL SPACING IS LESS THAN 6" O.C. ON EITHER SIDE, PANEL JOINTS SHALL BE OFFSET TO FALL ON DIFFERENT FRAMING MEMBERS OR FRAMING SHALL BE 3x OR THICKER AND NAILS ON EACH SIDE SHALL BE STAGGERED.

FIELD VERIFICATION OF NAILS

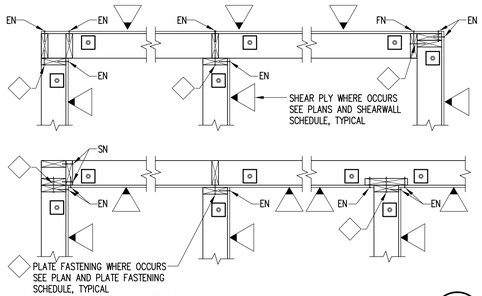
NAIL DESIGNATION	8d COMMON	10d COMMON	16d COMMON
SHANK DIAMETER	0.131" DIA.	0.148" DIA.	0.162" DIA.
LENGTH	2 1/2"	3"	3 1/2"
HEAD MARKING: TRUESPEC NUMERICAL CODE	3	4	6
TRUESPEC COLOR CODE	BLUE	PURPLE	ORANGE
ACTUAL SIZE			

SHEARWALL NAIL SPECIFICATION:

1. COLLATED NAILS MANUFACTURED BY HALSTEEL®–TREE ISLAND STEEL (U.S.A.), WITH THE "TRUESPEC"® NAIL IDENTIFICATION SYSTEM SHALL BE IN ACCORDANCE WITH ICBO REPORT ESR–1768. FOR ORDERING INFORMATION AND LOCAL DISTRIBUTORS CONTACT TREE ISLAND STEEL
   4190 EAST SANTA ANA
   ONTARIO, CA 91761
   PH: 1 (800) 255–6974
   FAX: 1 (909) 595–0439
2. NAILS USED AT PRESSURE PRESERVATIVE TREATED FRAMING SHALL BE HOT–DIPPED GALVANIZED OR STAINLESS STEEL.

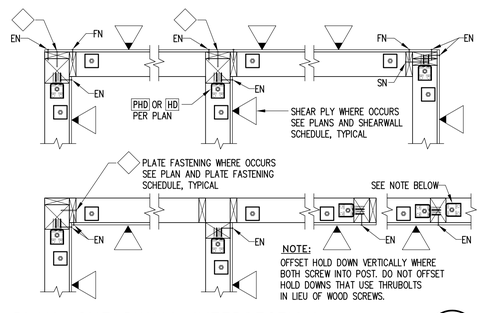
SHEARWALL SCHEDULE

SCALE: 1/2" = 1'–0" — 1



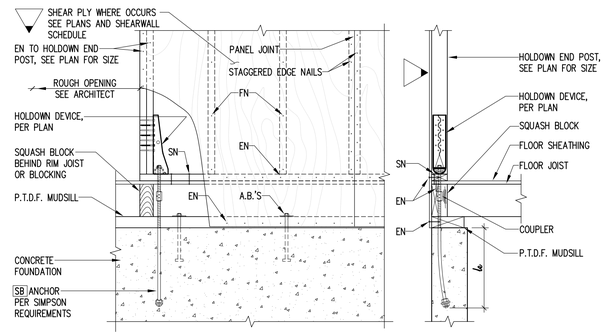
SHEARWALL INTERSECTION FRAMING REQUIREMENTS

SCALE: 3/4" = 1'–0" — 6



PLAN: SHEARWALL INTERSECTION WITH HOLD–DOWNS

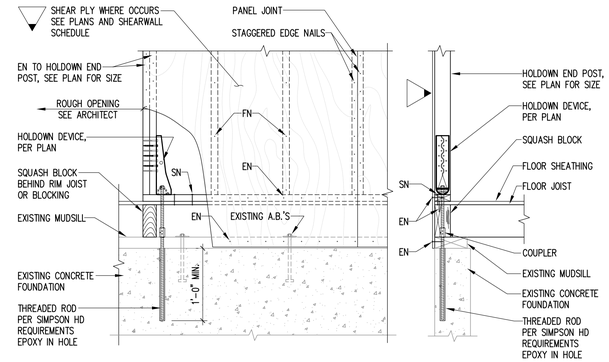
SCALE: 3/4" = 1'–0" — 7



HOLDOWN	SB ANCHOR BOLT	MIN. ANCHOR EMBEDMENT, la
HDU2–SDS2.5, HDU4–SDS2.5, & HDU5–SDS2.5	SB 5/8"ø x 24"	18"
HDU8–SDS2.5 & HDQ8–SDS3	SB 7/8"ø x 24"	18"
HDU11–SDS2.5, HDU14–SDS2.5, HHDQ11–SDS2.5, & HHDQ14–SDS2.5	SB 1"ø x 30"	24"

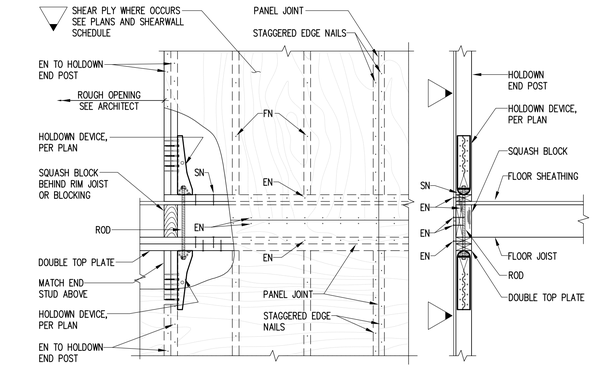
SCREWED HOLD–DOWN ANCHOR AT SHEARWALL ENDS INTO NEW CONCRETE FOOTING

SCALE: 3/4" = 1'–0" — 2



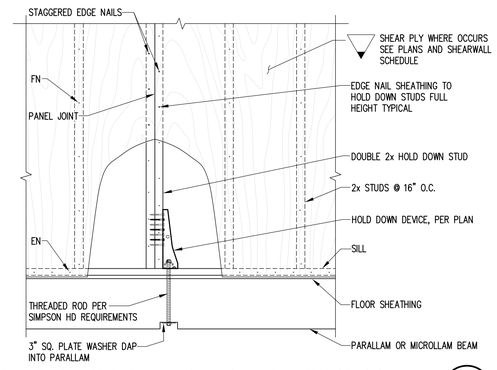
SCREWED HOLD–DOWN ANCHOR AT SHEARWALL ENDS INTO EXISTING CONCRETE FOOTING

SCALE: 3/4" = 1'–0" — 3



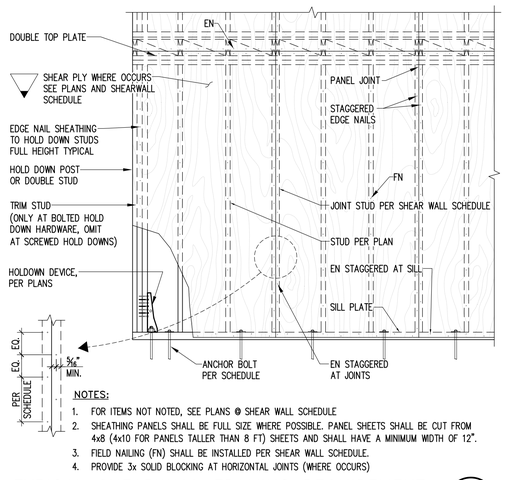
SCREWED HOLD–DOWN ANCHOR AT SHEARWALL ENDS THROUGH SECOND FLOOR

SCALE: 3/4" = 1'–0" — 4



SCREWED HOLD–DOWN ANCHOR AT WOOD BEAM

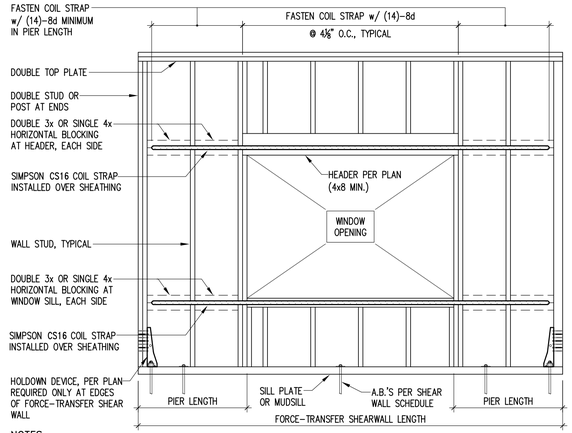
SCALE: 3/4" = 1'–0" — 5



NOTES:
1. FOR ITEMS NOT NOTED, SEE PLANS @ SHEAR WALL SCHEDULE
2. SHEATHING PANELS SHALL BE FULL SIZE WHERE POSSIBLE. PANEL SHEETS SHALL BE CUT FROM 4x8 (4x10 FOR PANELS TALLER THAN 8 FT) SHEETS AND SHALL HAVE A MINIMUM WIDTH OF 12".
3. FIELD NAILING (FN) SHALL BE INSTALLED PER SHEAR WALL SCHEDULE.
4. PROVIDE 3x SOLID BLOCKING AT HORIZONTAL JOINTS (WHERE OCCURS)

TYPICAL SHEARWALL FRAMING REQUIREMENT

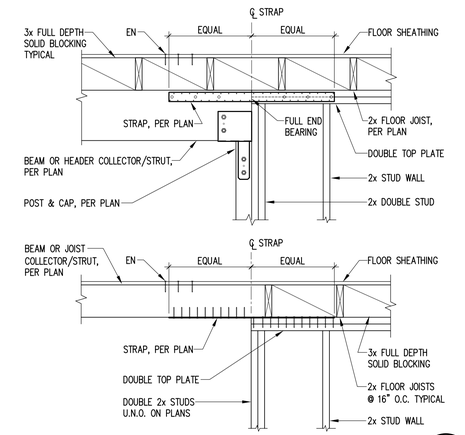
SCALE: 1/2" = 1'–0" — 8



NOTES:
1. SHEATHING NOT SHOWN FOR CLARITY. SHEATHING ABOVE AND BELOW OPENINGS SHALL MATCH MOST HEAVILY NAILED PER NOTED ON PLAN.
2. PROVIDE END NAIL FOR FULL HEIGHT AT ALL HOLD DOWN POSTS OR DOUBLE STUDS.
3. SEE PLANS AND SYMBOLS LEGEND FOR NOTATION OF FORCE–TRANSFER SHEAR WALLS ON FRAMING PLANS.

FORCE–TRANSFER SHEARWALL FRAMING REQUIREMENTS AROUND OPENINGS

SCALE: 1/2" = 1'–0" — 9



COLLECTOR STRAP DETAIL

SCALE: 3/4" = 1'–0" — 10

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SHEARWALL SCHEDULE
WOOD SHEARWALL DETAILS

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DRAFTED BY: DE
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INITIAL DATE: October 11, 2021

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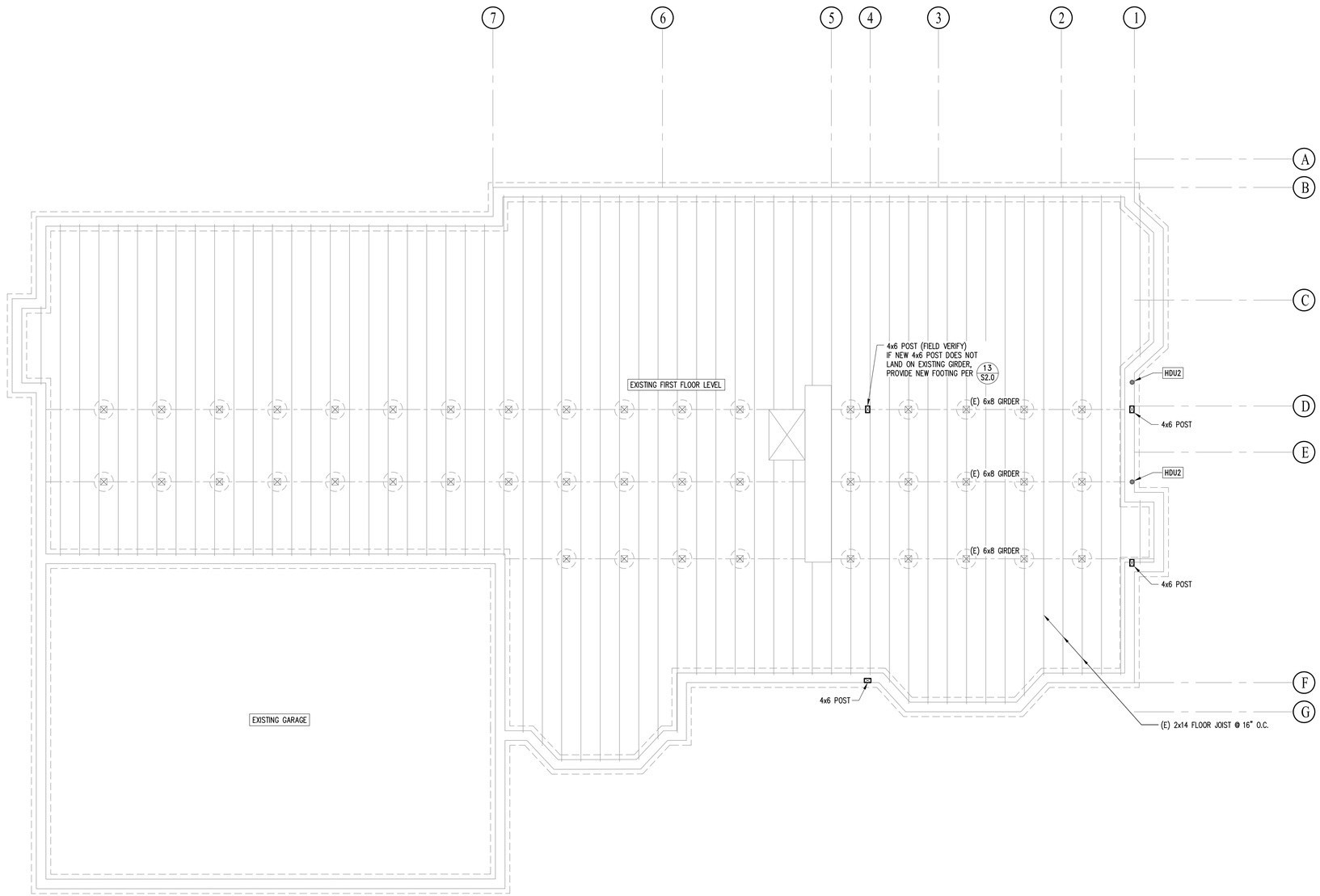
SHEET No. S0.2

SHEET PAGE SHEET 3 OF 8

SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS, ELEVATIONS AND WALL LAYOUT. DO NOT SCALE THE STRUCTURAL DRAWINGS.



FOUNDATION NOTES :

1. _____ INDICATES EXISTING FOUNDATION
2. AREA OF NOT LESS THAN 1/150 OF THE UNDER-FLOOR AREA PER CBC SECTION 1203.3 OPENINGS SHALL BE PROTECTED BY MESH WITH 1/4" MAXIMUM OPENING.
3. HDU5 INDICATES HOLDOWNS AT FOUNDATION. LOCATE ALL HOLDOWNS AT A DOUBLE CORNER STUD OR THE OPENING KING AND CRIPPLE STUD.
   SEE DETAIL 2 S0.2 AND 3 S0.2 FOR TYPICAL HOLDOWN AT FOUNDATION

FOUNDATION PLAN

SCALE: 1/4" = 1'-0"

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STEVEN P. DUQUETTE
S 3019
EXP. 3-31-2023
CIVIL & STRUCTURAL
STATE OF CALIFORNIA

ISSUE	DATE	DESCRIPTION
0	10-26-21	RELEASED FOR PLAN CHECK

PROJECT

Dermer Residence
Remodel
20530 Almaden Road
San Jose, CA 95120

SHEET CONTENT
FOUNDATION PLAN

CLIENT
Joe and Cheryl Dermer
c/o Jay Plett Architect
213 Bean Avenue
Los Gatos, CA 95030
(408) 354-4551

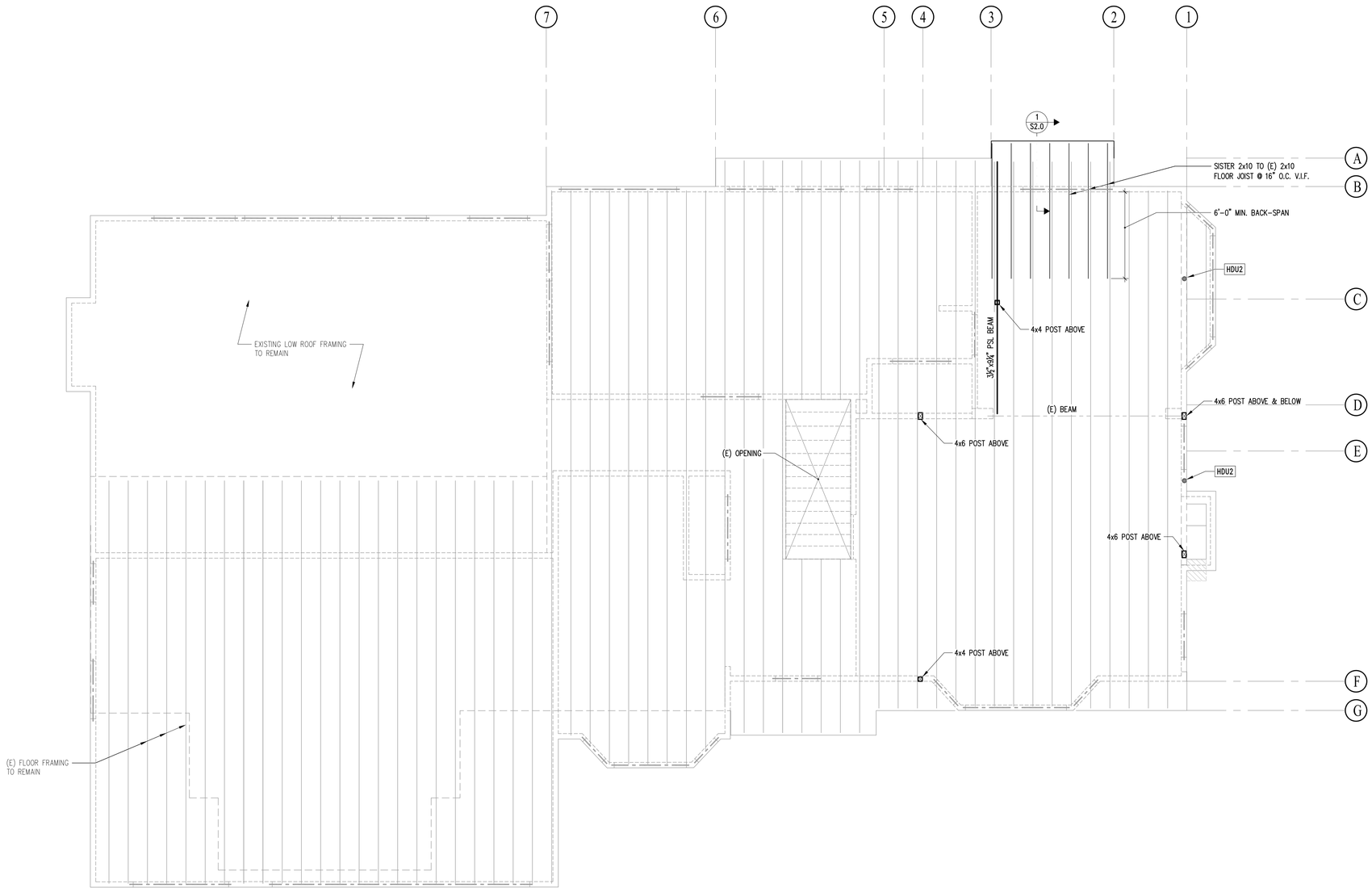
DESIGNED BY: JP
DRAFTED BY: DE
CHECKED BY: SPD
INITIAL DATE: October 11, 2021

JOB No. 21-0071

SHEET No. **S1.0**

SHEET PAGE SHEET 4 OF 8

SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS, ELEVATIONS AND WALL LAYOUT. DO NOT SCALE THE STRUCTURAL DRAWINGS.



SECOND FLOOR / LOW ROOF / (N) BALCONY FRAMING PLAN

SCALE: 1/4" = 1'-0"

FRAMING NOTES :

1. INDICATES EXISTING WALLS
2. INDICATES NEW WALLS
3. INDICATES EXISTING WALL TO BE REMOVED
4. SEE SHEET S0.1 FOR MINIMUM NAILING REQUIREMENTS.
5. SEE SHEET S0.0 FOR STRUCTURAL SPECIFICATIONS.
6. SHEATH ALL EXTERIOR WALLS WITH 1/2" PLY. NAIL WITH 8d @ 6" O.C. EDGES AND 12" O.C. FIELD, U.N.O. PER NOTE 5.
   - 6.0 / 1 — INDICATES WALL LENGTH (FEET) USED IN CALCULATIONS
   - E — INDICATES SHEAR WALL PLATE FASTENING, SEE SCHEDULE ON SHEET S0.2.
7. INDICATES SHEAR WALLS WITH SPECIAL NAILING REQUIREMENTS, SEE SCHEDULE ON SHEET S0.2.
8. SEE DETAILS 2/S0.1, 3/S0.1 AND 5/S0.1 FOR TYPICAL STUD AND JOIST CUTOUT LIMITS, TOP PLATE, AND HEADER FRAMING DETAILS
9. HDU5 INDICATES HOLDOWNS BETWEEN FLOORS. LOCATE ALL HOLDOWNS AT DOUBLE CORNER STUD OR THE OPENING KING AND CRIPPLE STUD.
   SEE DETAIL 4/S0.2 FOR TYPICAL HOLDOWN BETWEEN FLOORS
10. LSTA21 INDICATES SIMPSON COLLECTOR STRAP SEE 9/S0.2 TYP. U.N.O.

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SECOND FLOOR / LOW ROOF / (N) BALCONY FRAMING PLAN

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SHEET PAGE **SHEET 5 OF 8**

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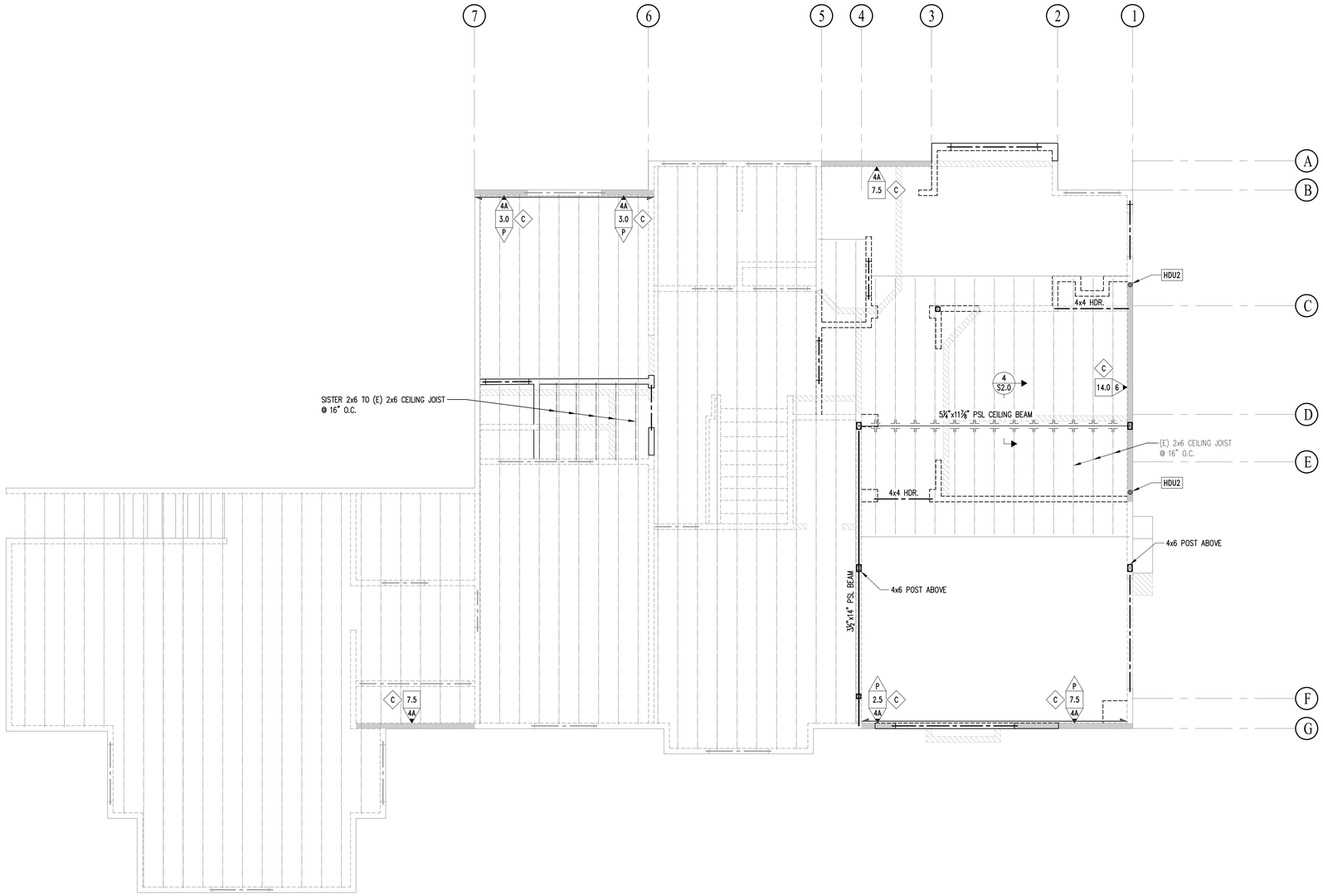

CEILING FRAMING PLAN

SCALE: 1/4" = 1'-0"

FRAMING NOTES :

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3. INDICATES EXISTING WALL TO BE REMOVED
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10. LSTA21 INDICATES SIMPSON COLLECTOR STRAP SEE 9/S0.2 TYP. U.N.O.

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SHEET CONTENT
CEILING FRAMING PLAN

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SHEET No. **S1.2**

SHEET PAGE **SHEET 6 OF 8**

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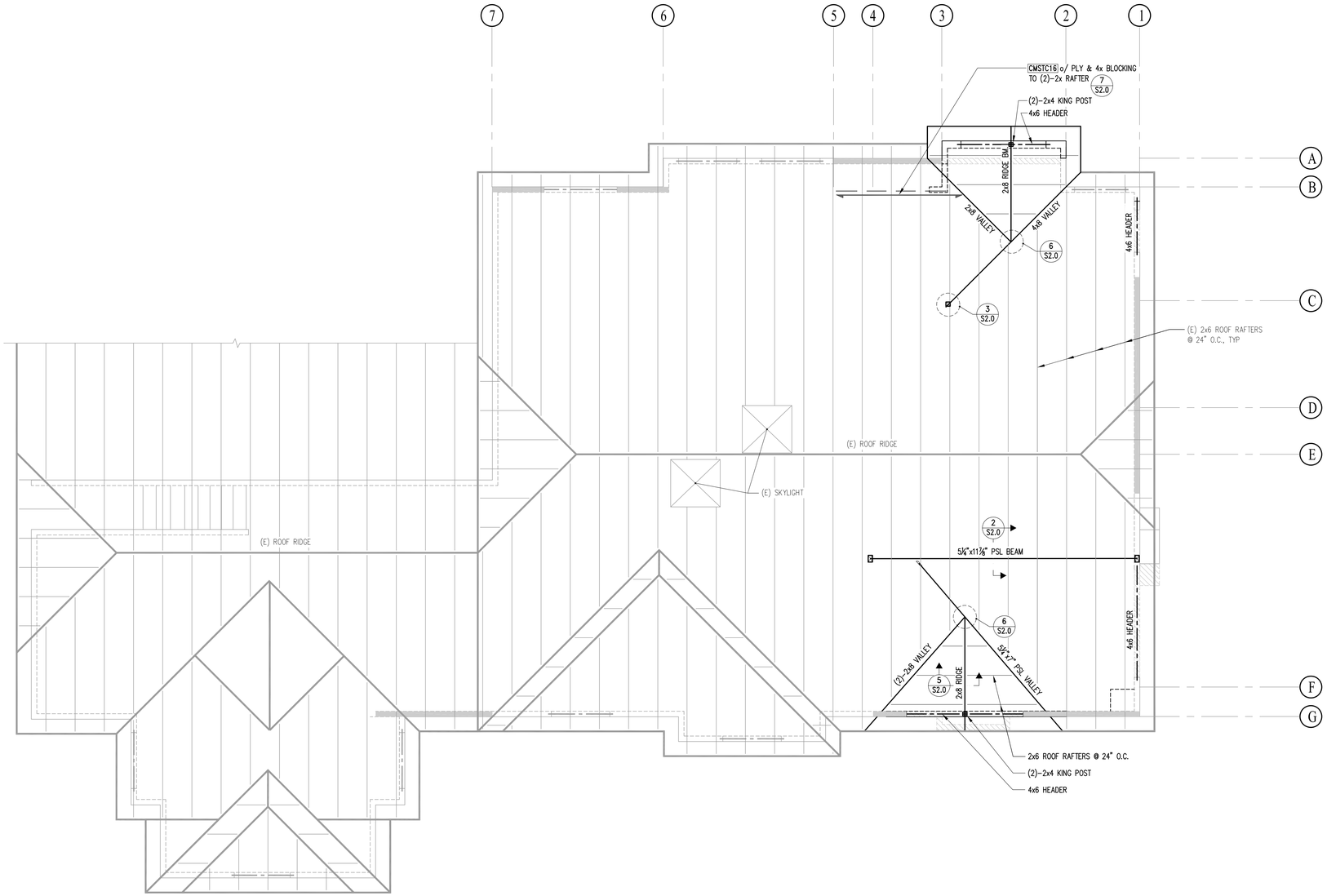

UPPER ROOF FRAMING PLAN

SCALE: 1/4" = 1'-0"

FRAMING NOTES :

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3. INDICATES EXISTING WALL TO BE REMOVED
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SHEET CONTENT
UPPER ROOF FRAMING PLAN

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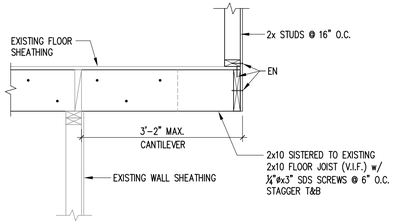
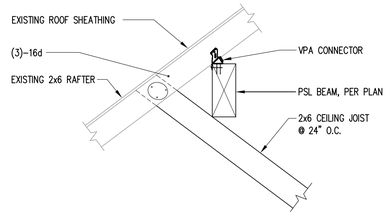
SHEET No. **S1.3**

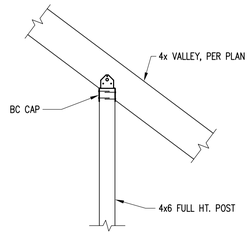
SHEET PAGE **SHEET 7 OF 8**



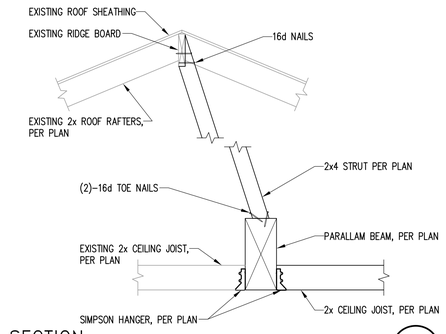
SECTION 1
SCALE: 3/4" = 1'-0"



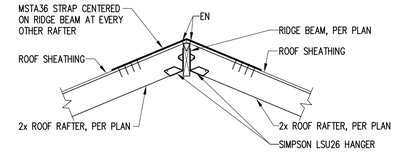
SECTION 2
SCALE: 3/4" = 1'-0"



SECTION 3
SCALE: 3/4" = 1'-0"



SECTION 4
SCALE: 3/4" = 1'-0"



SECTION 5
SCALE: 3/4" = 1'-0"

SECTION 6
SCALE: 3/4" = 1'-0"

SECTION 7
SCALE: 3/4" = 1'-0"

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SHEET No. S2.0

SHEET PAGE SHEET 8 OF 8

CERTIFICATE OF COMPLIANCE CF1R-PRF-01E
Project Name: Dermer Residence **Calculation Date/Time:** 2021-06-24T09:10:58-07:00 (Page 1 of 11)
Calculation Description: Title 24 Analysis **Input File Name:** 21-377 Dermer E+A+A.ribd19x

GENERAL INFORMATION					
01	Project Name	Dermer Residence			
02	Run Title	Title 24 Analysis			
03	Project Location	20530 Almaden Rd.			
04	City	San Jose	05	Standards Version	2019
06	Zip code	95120	07	Software Version	EnergyPro 8.2
08	Climate Zone	4	09	Front Orientation (deg/ Cardinal)	139
10	Building Type	Single family	11	Number of Dwelling Units	1
12	Project Scope	AdditionAlteration	13	Number of Bedrooms	5
14	Addition Cond. Floor Area (ft^2)	10	15	Number of Stories	2
16	Existing Cond. Floor Area (ft^2)	4714	17	Fenestration Average U-factor	0.39
18	Total Cond. Floor Area (ft^2)	4724	19	Glazing Percentage (%)	15.32%
20	ADU Bedroom Count	n/a	21	ADU Conditioned Floor Area	n/a
22	Is Natural Gas Available?	Yes			

COMPLIANCE RESULTS	
01	**Building Complies with Computer Performance**
02	**Building does not require field testing or HERS verification**
03	**This building incorporates one or more Special Features shown below**

ENERGY USE SUMMARY

Energy Use (kTDV/ft^2-yr)	Standard Design	Proposed Design	Compliance Margin	Percent Improvement
Space Heating	32.87	31.84	1.03	3.1
Space Cooling	38.29	37.92	0.37	1
IAQ Ventilation	0	0	0	
Water Heating	8.29	8.29	0	0
Self Utilization/Flexibility Credit	n/a	0	0	n/a
Compliance Energy Total	**79.45**	**78.05**	**1.4**	**1.8**

CERTIFICATE OF COMPLIANCE CF1R-PRF-01E
Project Name: Dermer Residence **Calculation Date/Time:** 2021-06-24T09:10:58-07:00 (Page 2 of 11)
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REQUIRED SPECIAL FEATURES

The following are features that must be installed as condition for meeting the modeled energy performance for this computer analysis.

- Floor has high level of insulation
- New ductwork added is less than 40 ft. in length

HERS FEATURE SUMMARY

The following is a summary of the features that must be field-verified by a certified HERS Rater as a condition for meeting the modeled energy performance for this computer analysis. Additional detail is provided in the buildng tables below. Registered CF2Rs and CF3Rs are required to be completed in the HERS Registry

Building-level Verifications:
- -- None --

Cooling System Verifications:
- -- None --

Heating System Verifications:
- -- None --

HVAC Distribution System Verifications:
- -- None --

Domestic Hot Water System Verifications:
- -- None --

BUILDING - FEATURES INFORMATION						
01	02	03	04	05	06	07
Project Name	Conditioned Floor Area (ft^2)	Number of Dwelling Units	Number of Bedrooms	Number of Zones	Number of Ventilation Cooling Systems	Number of Water Heating Systems
Dermer Residence	4724	1	5	2	0	1

ZONE INFORMATION						
01	02	03	04	05	06	07
Zone Name	Zone Type	HVAC System Name	Zone Floor Area (ft^2)	Avg. Ceiling Height	Water Heating System 1	Water Heating System 2
Existing House	Conditioned	FAU + A/C1	4714	8.75	DHW Sys 1	N/A
Addition Only	Conditioned	FAU + A/C1	10	9	DHW Sys 1	N/A

CERTIFICATE OF COMPLIANCE CF1R-PRF-01E
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OPAQUE SURFACES										
01	02	03	04	05	06	07	08	09	10	11
Name	Zone	Construction	Azimuth	Orientation	Gross Area (ft^2)	Window and Door Area (ft2)	Tilt (deg)	Wall Exceptions	Status	Verified Existing Condition
FWall/E	Existing House	R-13 Wall	139	Front	1034.9	206.7	90	none	Existing	No
LWall/E	Existing House	R-13 Wall	229	Left	657.8	16.9	90	none	Existing	No
BWall/E	Existing House	R-13 Wall	319	Back	1273.6	280.6	90	none	Existing	No
RWall/E	Existing House	R-13 Wall	49	Right	789	155.2	90	none	Existing	No
LWall	Addition Only	R-15 Wall	229	Left	9.4	0	90	none	New	n/a
BWall	Addition Only	R-15 Wall	319	Back	34	33	90	none	New	n/a
BWall2	Addition Only	R-15 Wall	319	Back	34	0	90	none	New	n/a
RWall	Addition Only	R-15 Wall	49	Right	9.4	0	90	none	New	n/a
Partition Wall/E	Existing House>>__Garage__	R-13 Wall1	n/a	n/a	404.3	20	n/a		Existing	No
Attic/E 2	Existing House	R-19 Attic	n/a	n/a	2251.6	n/a	n/a		Existing	No
Attic/A	Existing House	R-38 Attic	n/a	n/a	735	n/a	n/a		Altered	No
Attic	Addition Only	R-38 Attic	n/a	n/a	10	n/a	n/a		New	n/a
Attic2/E	__Garage__	R-0 Garage Attic	n/a	n/a	224	n/a	n/a		Existing	No
Raised Floor X/E	Existing House	R-13 Floor No Crawlspace1	n/a	n/a	113	n/a	n/a		Existing	No
Raised Floor X	Addition Only	R-30 Floor No Crawlspace	n/a	n/a	10	n/a	n/a		New	n/a
Raised Floor/E	Existing House	R-13 Floor Crawlspace	n/a	n/a	2378	n/a	n/a		Existing	No
Partition Floor/E	Existing House	R-13 Floor No Crawlspace	n/a	n/a	527	n/a	n/a		Existing	No
FWall2/E	__Garage__	R-0 Garage Wall	139	Front	291.8	0	90	none	Existing	No
LWall2/E	__Garage__	R-0 Garage Wall	229	Left	205.5	0	90	none	Existing	No
RWall2/E	__Garage__	R-0 Garage Wall	49	Right	92.3	0	90	none	Existing	No

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OPAQUE SURFACES - CATHEDRAL CEILINGS													
01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Zone	Construction	Azimuth	Orientation	Area (ft^2)	Skylight Area (ft^2)	Roof Rise (x in 12)	Roof Reflectance	Roof Emittance	Cool Roof	Status	Verified Existing Condition	Existing Construction
Attic/E	Existing House	R-19 Attic1	0	n/a	31.5	31.4	6	0.1	0.85	No	Existing	No	

ATTIC									
01	02	03	04	05	06	07	08	09	10
Name	Construction	Type	Roof Rise (x in 12)	Roof Reflectance	Roof Emittance	Radiant Barrier	Cool Roof	Status	Verified Existing Condition
Attic __Garage__	Attic Garage Roof Cons	Ventilated	6	0.1	0.85	No	No	Existing	No
Attic Existing House	Attic RoofExisting House	Ventilated	6	0.1	0.85	No	No	Existing	No
Attic Addition Only	Attic RoofAddition Only	Ventilated	6	0.1	0.85	No	No	New	n/a

FENESTRATION / GLAZING															
01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
Name	Type	Surface	Orientation	Azimuth	Width (ft)	Height (ft)	Mult.	Area (ft^2)	U-factor	U-factor Source	SHGC	SHGC Source	Exterior Shading	Status	Verified Existing Condition
FG/E	Window	FWall/E	Front	139			1	166.7	0.79	Table 110.6-A	0.7	Table 110.6-B	Bug Screen	Existing	No
FG/N	Window	FWall/E	Front	139			1	40	0.39	NFRC	0.28	NFRC	Bug Screen	New	n/a
LG/E	Window	LWall/E	Left	229			1	16.9	0.79	Table 110.6-A	0.7	Table 110.6-B	Bug Screen	Existing	No
BG/E	Window	BWall/E	Back	319			1	271.8	0.79	Table 110.6-A	0.7	Table 110.6-B	Bug Screen	Existing	No
BG/A	Window	BWall/E	Back	319			1	8.8	0.39	NFRC	0.28	NFRC	Bug Screen	Altered	No
RG/E	Window	RWall/E	Right	49			1	93.9	0.79	Table 110.6-A	0.7	Table 110.6-B	Bug Screen	Existing	No
RG/A	Window	RWall/E	Right	49			1	8.8	0.39	NFRC	0.28	NFRC	Bug Screen	Altered	No

CERTIFICATE OF COMPLIANCE CF1R-PRF-01E
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FENESTRATION / GLAZING															
01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
Name	Type	Surface	Orientation	Azimuth	Width (ft)	Height (ft)	Mult.	Area (ft^2)	U-factor	U-factor Source	SHGC	SHGC Source	Exterior Shading	Status	Verified Existing Condition
RG/N	Window	RWall/E	Right	49			1	52.5	0.39	NFRC	0.28	NFRC	Bug Screen	New	n/a
BG	Window	BWall	Back	319			1	33	0.39	NFRC	0.28	NFRC	Bug Screen	New	n/a
Skylight/E	Skylight	Attic/E		0			1	31.4	1.3	Table 110.6-A	0.73	Table 110.6-B	None	Existing	No

OPAQUE DOORS					
01	02	03	04	05	06
Name	Side of Building	Area (ft^2)	U-factor	Status	Verified Existing Condition
Door/E	Partition Wall/E	20	0.5	Existing	No

SLAB FLOORS									
01	02	03	04	05	06	07	08	09	10
Name	Zone	Area (ft^2)	Perimeter (ft)	Edge Insul. R-value and Depth	Edge Insul. R-value and Depth	Carpeted Fraction	Heated	Status	Verified Existing Condition
Slab-on-Grade2/E	__Garage__	751	65.5	none	0	0%	No	Existing	No

OPAQUE SURFACE CONSTRUCTIONS							
01	02	03	04	05	06	07	08
Construction Name	Surface Type	Construction Type	Framing	Total Cavity R-value	Interior / Exterior Continuous R-value	U-factor	Assembly Layers
R-0 Garage Wall	Exterior Walls	Wood Framed Wall	2x4 @ 16 in. O. C.	R-0	None / None	0.361	Inside Finish: Gypsum Board Cavity / Frame: no insul. / 2x4 Exterior Finish: 3 Coat Stucco

CERTIFICATE OF COMPLIANCE CF1R-PRF-01E
Project Name: Dermer Residence **Calculation Date/Time:** 2021-06-24T09:10:58-07:00 (Page 6 of 11)
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OPAQUE SURFACE CONSTRUCTIONS							
01	02	03	04	05	06	07	08
Construction Name	Surface Type	Construction Type	Framing	Total Cavity R-value	Interior / Exterior Continuous R-value	U-factor	Assembly Layers
R-13 Wall	Exterior Walls	Wood Framed Wall	2x4 @ 16 in. O. C.	R-13	None / None	0.101	Inside Finish: Gypsum Board Cavity / Frame: R-13 / 2x4 Exterior Finish: 3 Coat Stucco
R-15 Wall	Exterior Walls	Wood Framed Wall	2x4 @ 16 in. O. C.	R-15	None / None	0.095	Inside Finish: Gypsum Board Cavity / Frame: R-15 / 2x4 Exterior Finish: 3 Coat Stucco
R-19 Attic1	Cathedral Ceilings	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-19	None / None	0.057	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: R-19 / 2x4 Inside Finish: Gypsum Board
R-13 Wall1	Interior Walls	Wood Framed Wall	2x4 @ 16 in. O. C.	R-13	None / None	0.092	Inside Finish: Gypsum Board Cavity / Frame: R-13 / 2x4 Other Side Finish: Gypsum Board
Attic Garage Roof Cons	Attic Roofs	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-0	None / None	0.644	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: no insul. / 2x4
Attic RoofExisting House	Attic Roofs	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-0	None / None	0.644	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: no insul. / 2x4
Attic RoofAddition Only	Attic Roofs	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-0	None / None	0.644	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: no insul. / 2x4

REVISIONS: | BY:

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DERMER RESIDENCE
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ENERGY COMPLIANCE

DATE: 06/24/2021
SCALE: AS NOTED
DRAWN: MEG
CHECKED:
CHECKED:
FILE NAME:
SHEET: T-1
SHEET OF SHEETS

CERTIFICATE OF COMPLIANCE **CF1R-PRF-01E**

Project Name: Dermer Residence **Calculation Date/Time:** 2021-06-24T09:10:58-07:00 **(Page 7 of 11)**

Calculation Description: Title 24 Analysis **Input File Name:** 21-377 Dermer E+A+A.ribd19x

OPAQUE SURFACE CONSTRUCTIONS

01	02	03	04	05	06	07	08
Construction Name	Surface Type	Construction Type	Framing	Total Cavity R-value	Interior / Exterior Continuous R-value	U-factor	Assembly Layers
R-13 Floor Crawlspace	Floors Over Crawlspace	Wood Framed Floor	2x6 @ 16 in. O. C.	R-13	None / None	0.062	Floor Surface: Carpeted Floor Deck: Wood Siding/sheathing/decking Cavity / Frame: R-13 / 2x6
R-0 Garage Attic	Ceilings (below attic)	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-0	None / None	0.481	Cavity / Frame: no insul. / 2x4 Inside Finish: Gypsum Board
R-19 Attic	Ceilings (below attic)	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-19	None / None	0.049	Over Ceiling Joists: R-9.9 insul. Cavity / Frame: R-9.1 / 2x4 Inside Finish: Gypsum Board
R-38 Attic	Ceilings (below attic)	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-38	None / None	0.025	Over Ceiling Joists: R-28.9 insul. Cavity / Frame: R-9.1 / 2x4 Inside Finish: Gypsum Board
R-13 Floor No Crawlspace1	Exterior Floors	Wood Framed Floor	2x6 @ 16 in. O. C.	R-13	None / None	0.064	Floor Surface: Carpeted Floor Deck: Wood Siding/sheathing/decking Cavity / Frame: R-13 / 2x6
R-30 Floor No Crawlspace	Exterior Floors	Wood Framed Floor	2x10 @ 16 in. O. C.	R-30	None / None	0.034	Floor Surface: Carpeted Floor Deck: Wood Siding/sheathing/decking Cavity / Frame: R-30 / 2x10
R-13 Floor No Crawlspace	Interior Floors	Wood Framed Floor	2x6 @ 16 in. O. C.	R-13	None / None	0.06	Floor Surface: Carpeted Floor Deck: Wood Siding/sheathing/decking Cavity / Frame: R-13 / 2x6 Ceiling Below Finish: Gypsum Board

Registration Number: Registration Date/Time: HERS Provider:

CA Building Energy Efficiency Standards - 2019 Residential Compliance Report Version: 2019.1.300 Schema Version: rev 20200901 Report Generated: 2021-06-24 09:10:20

CERTIFICATE OF COMPLIANCE **CF1R-PRF-01E**

Project Name: Dermer Residence **Calculation Date/Time:** 2021-06-24T09:10:58-07:00 **(Page 8 of 11)**

Calculation Description: Title 24 Analysis **Input File Name:** 21-377 Dermer E+A+A.ribd19x

BUILDING ENVELOPE - HERS VERIFICATION

01	02	03	04
Quality Insulation Installation (QII)	High R-value Spray Foam Insulation	Building Envelope Air Leakage	CFM50
Not Required	Not Required	Not Required	n/a

WATER HEATING SYSTEMS

01	02	03	04	05	06	07	08	09	10
Name	System Type	Distribution Type	Water Heater Name (#)	Solar Heating System	Compact Distribution	HERS Verification	Status	Verified Existing Condition	Existing Water Heating System
DHW Sys 1	Domestic Hot Water (DHW)	Standard Distribution System	DHW Heater 1 (1)	n/a	None	n/a	Existing	No	

WATER HEATERS

01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Heating Element Type	Tank Type	# of Units	Tank Vol. (gal)	Energy Factor or Efficiency	Input Rating or Pilot	Tank Insulation R-value (Int/Ext)	Standby Loss or Recovery Eff	1st Hr. Rating or Flow Rate	NEEA Heat Pump Brand or Model	Tank Location or Ambient Condition	Status	Verified Existing Condition
DHW Heater 1	Gas	Small Storage	1	50	0.6-EF	<= 75 kBtu/hr	0	78	n/a	n/a	n/a	Existing	No

WATER HEATING - HERS VERIFICATION

01	02	03	04	05	06	07	08
Name	Pipe Insulation	Parallel Piping	Compact Distribution	Compact Distribution Type	Recirculation Control	Central DHW Distribution	Shower Drain Water Heat Recovery
DHW Sys 1 - 1/1	Not Required	Not Required	Not Required	None	Not Required	Not Required	Not Required

Registration Number: Registration Date/Time: HERS Provider:

CA Building Energy Efficiency Standards - 2019 Residential Compliance Report Version: 2019.1.300 Schema Version: rev 20200901 Report Generated: 2021-06-24 09:10:20

CERTIFICATE OF COMPLIANCE **CF1R-PRF-01E**

Project Name: Dermer Residence **Calculation Date/Time:** 2021-06-24T09:10:58-07:00 **(Page 10 of 11)**

Calculation Description: Title 24 Analysis **Input File Name:** 21-377 Dermer E+A+A.ribd19x

HVAC - DISTRIBUTION SYSTEMS

01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
			Duct Ins. R-value		Duct Location		Surface Area								
Name	Type	Design Type	Supply	Return	Supply	Return	Supply	Return	Bypass Duct	Duct Leakage	HERS Verification	Status	Verified Existing Condition	Existing Distribution system	New Ducts 40 ft
											1-hers-dist				

HVAC FAN SYSTEMS - HERS VERIFICATION

01	02	03
Name	Verified Fan Watt Draw	Required Fan Efficacy (Watts/CFM)
HVAC Fan 1-hers-fan	Not Required	0

HERS RATER VERIFICATION OF EXISTING CONDITIONS

Registration Number: Registration Date/Time: HERS Provider:

CA Building Energy Efficiency Standards - 2019 Residential Compliance Report Version: 2019.1.300 Schema Version: rev 20200901 Report Generated: 2021-06-24 09:10:20

CERTIFICATE OF COMPLIANCE **CF1R-PRF-01E**

Project Name: Dermer Residence **Calculation Date/Time:** 2021-06-24T09:10:58-07:00 **(Page 9 of 11)**

Calculation Description: Title 24 Analysis **Input File Name:** 21-377 Dermer E+A+A.ribd19x

SPACE CONDITIONING SYSTEMS

01	02	03	04	05	06	07	08	09	10	11
Name	System Type	Heating Unit Name	Cooling Unit Name	Fan Name	Distribution Name	Required Thermostat Type	Status	Verified Existing Condition	Heating Equipment Count	Cooling Equipment Count
FAU + A/C1	Heating and cooling system other	Heating Component 1	Cooling Component 1	HVAC Fan 1	Air Distribution System 1	n/a	Existing	No	1	1

HVAC - HEATING UNIT TYPES

01	02	03	04
Name	System Type	Number of Units	Heating Efficiency
Heating Component 1	Central gas furnace	1	AFUE-78

HVAC - COOLING UNIT TYPES

01	02	03	04	05	06	07	08
Name	System Type	Number of Units	Efficiency EER/CEER	Efficiency SEER	Zonally Controlled	Mulit-speed Compressor	HERS Verification
Cooling Component 1	Central split AC	1	11.5	13	Not Zonal	Single Speed	Cooling Component 1-hers-cool

HVAC - DISTRIBUTION SYSTEMS

01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
			Duct Ins. R-value		Duct Location		Surface Area								
Name	Type	Design Type	Supply	Return	Supply	Return	Supply	Return	Bypass Duct	Duct Leakage	HERS Verification	Status	Verified Existing Condition	Existing Distribution system	New Ducts 40 ft
Air Distribution System 1	Unconditioned attic	Non-Verified	R-8	R-8	Attic	Attic	n/a	n/a	No Bypass Duct	Existing (not specified)	Air Distribution System	Existing + New	No	n/a	n/a

Registration Number: Registration Date/Time: HERS Provider:

CA Building Energy Efficiency Standards - 2019 Residential Compliance Report Version: 2019.1.300 Schema Version: rev 20200901 Report Generated: 2021-06-24 09:10:20

CERTIFICATE OF COMPLIANCE **CF1R-PRF-01E**

Project Name: Dermer Residence **Calculation Date/Time:** 2021-06-24T09:10:58-07:00 **(Page 11 of 11)**

Calculation Description: Title 24 Analysis **Input File Name:** 21-377 Dermer E+A+A.ribd19x

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: David Knight	Documentation Author Signature: David Knight
Company: Monterey Energy Group, Inc.	Signature Date: 6/24/2021
Address: 26465 Carmel Rancho Blvd. #8	CEA/ HERS Certification Identification (If applicable):
City/State/Zip: Carmel, CA 939523	Phone: (831) 250-0323

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design identified on this Certificate of Compliance.
2. I certify that the energy features and performance specifications identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
3. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.

Responsible Designer Name: Jay Plett	Responsible Designer Signature:
Company: Jay Plett Architect	Date Signed:
Address: 213 Bean Ave.	License:
City/State/Zip: Los Gatos , CA 95030	Phone: (408) 354-4551

Registration Number: Registration Date/Time: HERS Provider:

CA Building Energy Efficiency Standards - 2019 Residential Compliance Report Version: 2019.1.300 Schema Version: rev 20200901 Report Generated: 2021-06-24 09:10:20

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ENERGY COMPLIANCE

DATE: 06/24/2021
SCALE: AS NOTED
DRAWN: MEG
CHECKED:
CHECKED:
FILE NAME:
SHEET: T-2
SHEET OF SHEETS

2019 Low-Rise Residential Mandatory Measures Summary

NOTE: Low-rise residential buildings subject to the Energy Standards must comply with all applicable mandatory measures, regardless of the compliance approach used. Review the respective section for more information. "Exceptions may apply.
(Original 08/2019)

Building Envelope Measures:	
§ 110.6(a)1:	**Air Leakage.** Manufactured fenestration, exterior doors, and exterior pet doors must limit air leakage to 0.3 cfm per square foot or less when tested per NFRC-400, ASTM E283 or AAMA/WDMA/CSA 101/I.S.2/A440-2011."
§ 110.6(a)5:	**Labeling.** Fenestration products and exterior doors must have a label meeting the requirements of Section 10-111(a).
§ 110.6(b):	**Field fabricated exterior doors and fenestration** products must use U-factors and solar heat gain coefficient (SHGC) values from Tables 110.6-A, 110.6-B, or JA4.5 for exterior doors. They must be caulked and/or weather stripped.'
§ 110.7:	**Air Leakage.** All joints, penetrations, and other openings in the building envelope that are potential sources of air leakage must be caulked, gasketed, or weather stripped..
§ 110.8(a):	**Insulation Certification by Manufacturers.** Insulation must be certified by the Department of Consumer Affairs, Bureau of Household Goods and Services (BHGS).
§ 110.8(g):	**Insulation Requirements for Heated Slab Floors.** Heated slab floors must be insulated per the requirements of Section 110.8(g).
§ 110.8(i):	**Roofing Products Solar Reflectance and Thermal Emittance.** The thermal emittance and aged solar reflectance values of the roofing material must meet the requirements of § 110.8(i) and be labeled per §10-113 when the installation of a cool roof is specified on the CF1R.
§ 110.8(j):	**Radiant Barrier.** When required, radiant barriers must have an emittance of 0.05 or less and be certified to the Department of Consumer Affairs.
§ 150.0(a):	**Ceiling and Rafter Roof Insulation.** Minimum R-22 insulation in wood-frame ceiling; or the weighted average U-factor must not exceed 0.043. Minimum R-19 or weighted average U-factor of 0.054 or less in a rafter roof assembly. Attic access doors must have permanently attached insulation using adhesive or mechanical fasteners. The attic access must be gasketed to prevent air leakage. Insulation must be installed in direct contact with a continuous roof or ceiling which is sealed to limit infiltration and exfiltration as specified in § 110.7, including but not limited to placing insulation either above or below the roof deck or on top of a drywall ceiling."
§ 150.0(b):	**Loose-fill Insulation.** Loose fill insulation must meet the manufacturer's required density for the labeled R-value.
§ 150.0(c):	**Wall Insulation.** Minimum R-13 insulation in 2x4 inch wood framing wall or have a U-factor of 0.102 or less, or R-20 in 2x6 inch wood framing or have a U-factor of 0.071 or less. (R-19 in 2x6 or U-factor of 0.074 or less). Opaque non-framed assemblies must have an overall assembly U-factor not exceeding 0.102, equivalent to an installed value of R-13 in a wood framed assembly. Masonry walls must meet Table 150.1-A or B.'
§ 150.0(d):	**Raised-floor Insulation.** Minimum R-19 insulation in raised wood framed floor or 0.037 maximum U-factor.'
§ 150.0(f):	**Slab Edge Insulation.** Slab edge insulation must meet all of the following: have a water absorption rate, for the insulation material alone without facings no greater than 0.3%; have a water vapor permeance no greater than 2.0 perm per inch; be protected from physical damage and UV light deterioration; and, when installed as part of a heated slab floor, meet the requirements of § 110.8(g).
§ 150.0(g)1:	**Vapor Retarder.** In climate zones 1 through 16, the earth floor of unvented crawl space must be covered with a Class I or Class II vapor retarder. This requirement also applies to controlled ventilation crawl space for buildings complying with the exception to § 150.0(d).
§ 150.0(g)2:	**Vapor Retarder.** In climate zones 14 and 16, a Class I or Class II vapor retarder must be installed on the conditioned space side of all insulation in all exterior walls, vented attics, and unvented attics with air-permeable insulation.
§ 150.0(q):	**Fenestration Products.** Fenestration, including skylights, separating conditioned space from unconditioned space or outdoors must have a maximum U-factor of 0.58; or the weighted average U-factor of all fenestration must not exceed 0.58.'
Fireplaces, Decorative Gas Appliances, and Gas Log Measures:	
§ 110.5(e)	**Pilot Light.** Continuously burning pilot lights are not allowed for indoor and outdoor fireplaces.
§ 150.0(e)1:	**Closable Doors.** Masonry or factory-built fireplaces must have a closable metal or glass door covering the entire opening of the firebox.
§ 150.0(e)2:	**Combustion Intake.** Masonry or factory-built fireplaces must have a combustion outside air intake, which is at least six square inches in area and is equipped with a readily accessible, operable, and tight-fitting damper or combustion-air control device."
§ 150.0(e)3:	**Flue Damper.** Masonry or factory-built fireplaces must have a flue damper with a readily accessible control.'
Space Conditioning, Water Heating, and Plumbing System Measures:	
§ 110.0-§ 110.3;	**Certification.** Heating, ventilation and air conditioning (HVAC) equipment, water heaters, showerheads, faucets, and all other regulated appliances must be certified by the manufacturer to the Energy Commission.'
§ 110.2(a):	**HVAC Efficiency.** Equipment must meet the applicable efficiency requirements in Table 110.2-A through Table 110.2-K.'
§ 110.2(b):	**Controls for Heat Pumps with Supplementary Electric Resistance Heaters.** Heat pumps with supplementary electric resistance heaters must have controls that prevent supplementary heater operation when the heating load can be met by the heat pump alone; and in which the cut-on temperature for compression heating is higher than the cut-on temperature for supplementary heating, and the cut-off temperature for compression heating is higher than the cut-off temperature for supplementary heating."
§ 110.2(c):	**Thermostats.** All heating or cooling systems not controlled by a central energy management control system (EMCS) must have a setback thermostat.'
§ 110.3(c)4:	**Water Heating Recirculation Loops Serving Multiple Dwelling Units.** Water heating recirculation loops serving multiple dwelling units must meet the air release valve, backflow prevention, pump priming, pump isolation valve, and recirculation loop connection requirements of § 110.3(c)4.
§ 110.3(c)6:	**Isolation Valves.** Instantaneous water heaters with an input rating greater than 6.8 kBTU per hour (2 kW) must have isolation valves with hose bibbs or other fittings on both cold and hot water lines to allow for flushing the water heater when the valves are closed.
§ 110.5:	**Pilot Lights.** Continuously burning pilot lights are prohibited for natural gas: fan-type central furnaces; household cooking appliances (appliances without an electrical supply voltage connection with pilot lights that consume less than 150 Btu/hr are exempt); and pool and spa heaters."
§ 150.0(h)1:	**Building Cooling and Heating Loads.** Heating and/or cooling loads are calculated in accordance with the ASHRAE Handbook, Equipment Volume, Applications Volume, and Fundamentals Volume; the SMACNA Residential Comfort System Installation Standards Manual; or the ACCA Manual J using design conditions specified in § 150.0(h)2.

2019 Low-Rise Residential Mandatory Measures Summary

Requirements for Ventilation and Indoor Air Quality:	
§ 150.0(o)1:	**Requirements for Ventilation and Indoor Air Quality.** All dwelling units must meet the requirements of ASHRAE Standard 62.2, Ventilation and Acceptable Indoor Air Quality in Residential Buildings subject to the amendments specified in § 150.0(o)1.
§ 150.0(o)1C:	**Single Family Detached Dwelling Units.** Single family detached dwelling units, and attached dwelling units not sharing ceilings or floors with other dwelling units, occupiable spaces, public garages, or commercial spaces must have mechanical ventilation airflow provided at rates determined by ASHRAE 62.2 Sections 4.1.1 and 4.1.2 and as specified in § 150.0(o)1C.
§ 150.0(o)1E:	**Multifamily Attached Dwelling Units.** Multifamily attached dwelling units must have mechanical ventilation airflow provided at rates in accordance with Equation 150.0-B and must be either a balanced system or continuous supply or continuous exhaust system. If a balanced system is not used, all units in the building must use the same system type and the dwelling-unit envelope leakage must be ≤ 0.3 CFM at 50 Pa (0.2 inch water) per square foot of dwelling unit envelope surface area and verified in accordance with Reference Residential Appendix RA3.8.
§ 150.0(o)1F:	**Multifamily Building Central Ventilation Systems.** Central ventilation systems that serve multiple dwelling units must be balanced to provide ventilation airflow for each dwelling unit served at a rate equal to or greater than the rate specified by Equation 150.0-B. All unit airflows must be within 20% of the unit with the lowest airflow rate as it relates to the individual unit's minimum required airflow rate needed for compliance.
§ 150.0(o)1G:	**Kitchen Range Hoods.** Kitchen range hoods must be rated for sound in accordance with Section 7.2 of ASHRAE 62.2.
§ 150.0(o)2:	**Field Verification and Diagnostic Testing.** Dwelling unit ventilation airflow must be verified in accordance with Reference Residential Appendix RA3.7. Kitchen range hoods must be verified in accordance with Reference Residential Appendix RA3.7.4.3 to confirm it is rated by HVI to comply with the airflow rates and sound requirements as specified in Section 5 and 7.2 of ASHRAE 62.2.
Pool and Spa Systems and Equipment Measures:	
§ 110.4(a):	**Certification by Manufacturers.** Any pool or spa heating system or equipment must be certified to have all of the following: a thermal efficiency that complies with the Appliance Efficiency Regulations; an on-off switch mounted outside of the heater that allows shutting off the heater without adjusting the thermostat setting; a permanent weatherproof plate or card with operating instructions; and must not use electric resistance heating."
§ 110.4(b)1:	**Piping.** Any pool or spa heating system or equipment must be installed with at least 36 inches of pipe between the filter and the heater, or dedicated suction and return lines, or built-in or built-up connections to allow for future solar heating.
§ 110.4(b)2:	**Covers.** Outdoor pools or spas that have a heat pump or gas heater must have a cover.
§ 110.4(b)3:	**Directional Inlets and Time Switches for Pools.** Pools must have directional inlets that adequately mix the pool water, and a time switch that will allow all pumps to be set or programmed to run only during off-peak electric demand periods.
§ 110.5:	**Pilot Light.** Natural gas pool and spa heaters must not have a continuously burning pilot light.
§ 150.0(p):	**Pool Systems and Equipment Installation.** Residential pool systems or equipment must meet the specified requirements for pump sizing, flow rate, piping, filters, and valves."
Lighting Measures:	
§ 110.9:	**Lighting Controls and Components.** All lighting control devices and systems, ballasts, and luminaires must meet the applicable requirements of § 110.9.'
§ 150.0(k)1A:	**Luminaire Efficacy.** All installed luminaires must meet the requirements in Table 150.0-A.
§ 150.0(k)1B:	**Blank Electrical Boxes.** The number of electrical boxes that are more than 5 feet above the finished floor and do not contain a luminaire or other device must be no greater than the number of bedrooms. These electrical boxes must be served by a dimmer, vacancy sensor control, or fan speed control.
§ 150.0(k)1C:	**Recessed Downlight Luminaires in Ceilings.** Luminaires recessed into ceilings must meet all of the requirements for: insulation contact (IC) labeling; air leakage; sealing; maintenance; and socket and light source as described in § 150.0(k)1C.
§ 150.0(k)1D:	**Electronic Ballasts for Fluorescent Lamps.** Ballasts for fluorescent lamps rated 13 watts or greater must be electronic and must have an output frequency no less than 20 kHz.
§ 150.0(k)1E:	**Night Lights, Step Lights, and Path Lights.** Night lights, step lights and path lights are not required to comply with Table 150.0-A or be controlled by vacancy sensors provided they are rated to consume no more than 5 watts of power and emit no more than 150 lumens.
§ 150.0(k)1F:	**Lighting Integral to Exhaust Fans.** Lighting integral to exhaust fans (except when installed by the manufacturer in kitchen exhaust hoods) must meet the applicable requirements of § 150.0(k)."
§ 150.0(k)1G:	**Screw based luminaires.** Screw based luminaires must contain lamps that comply with Reference Joint Appendix JA8.'
§ 150.0(k)1H:	**Light Sources in Enclosed or Recessed Luminaires.** Lamps and other separable light sources that are not compliant with the JA8 elevated temperature requirements, including marking requirements, must not be installed in enclosed or recessed luminaires.
§ 150.0(k)1I:	**Light Sources in Drawers, Cabinets, and Linen Closets.** Light sources internal to drawers, cabinetry or linen closets are not required to comply with Table 150.0-A or be controlled by vacancy sensors provided that they are rated to consume no more than 5 watts of power, emit no more than 150 lumens, and are equipped with controls that automatically turn the lighting off when the drawer, cabinet or linen closet is closed.
§ 150.0(k)2A:	**Interior Switches and Controls.** All forward phase cut dimmers used with LED light sources must comply with NEMA SSL 7A.
§ 150.0(k)2B:	**Interior Switches and Controls.** Exhaust fans must be controlled separately from lighting systems."
§ 150.0(k)2C:	**Interior Switches and Controls.** Lighting must have readily accessible wall-mounted controls that allow the lighting to be manually turned ON and OFF."
§ 150.0(k)2D:	**Interior Switches and Controls.** Controls and equipment must be installed in accordance with manufacturer's instructions.
§ 150.0(k)2E:	**Interior Switches and Controls.** Controls must not bypass a dimmer, occupant sensor, or vacancy sensor function if the control is installed to comply with § 150.0(k).
§ 150.0(k)2F:	**Interior Switches and Controls.** Lighting controls must comply with the applicable requirements of § 110.9.

2019 Low-Rise Residential Mandatory Measures Summary

§ 150.0(h)3A:	**Clearances.** Air conditioner and heat pump outdoor condensing units must have a clearance of at least 5 feet from the outlet of any dryer vent.
§ 150.0(h)3B:	**Liquid Line Drier.** Air conditioners and heat pump systems must be equipped with liquid line filter driers if required, as specified by the manufacturer's instructions.
§ 150.0(j)1:	**Storage Tank Insulation.** Unfired hot water tanks, such as storage tanks and backup storage tanks for solar water-heating systems, must have a minimum of R-12 external insulation or R-16 internal insulation where the internal insulation R-value is indicated on the exterior of the tank.
§ 150.0(j)2A:	**Water Piping, Solar Water-heating System Piping, and Space Conditioning System Line Insulation.** All domestic hot water piping must be insulated as specified in Section 609.11 of the California Plumbing Code. In addition, the following piping conditions must have a minimum insulation wall thickness of 1 inch or a minimum insulation R-value of 7.7: the first 5 feet of cold water pipes from the storage tank; all hot water piping with a nominal diameter equal to or greater than 3/4 inch and less than 1 inch; all hot water piping with a nominal diameter less than 3/4 inch that is: associated with a domestic hot water recirculation system, from the heating source to storage tank or between tanks, buried below grade, and from the heating source to kitchen fixtures."
§ 150.0(j)3:	**Insulation Protection.** Piping insulation must be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind as required by Section 120.3(c), insulation exposed to weather must be water retardant and protected from UV light (no adhesive tapes). Insulation covering chilled water piping and refrigerant suction piping located outside the conditioned space must include, or be protected by: a Class I or Class II vapor retarder. Pipe insulation buried below grade must be installed in a waterproof and non-crushable casing or sleeve.
§ 150.0(n)1:	**Gas or Propane Water Heating Systems.** Systems using gas or propane water heaters to serve individual dwelling units must include all of the following: A dedicated 125 volt, 20 amp electrical receptacle that is connected to the electric panel with a 120/240 volt,3 conductor, 10 AWG copper branch circuit, within 3 feet from the water heater without obstruction. Both ends of the unused conductor must be labeled with the word "spare" and be electrically isolated. Have a reserved single pole circuit breaker space in the electrical panel adjacent to the circuit breaker for the branch circuit and labeled with the words "Future 240V Use"; a Category III or IV vent, or a Type B vent with straight pipe between the outside termination and the space where the water heater is installed; a condensate drain that is no more than 2 inches higher than the base of the water heater, and allows natural draining without pump assistance; and a gas supply line with a capacity of at least 200,000 Btu per hour.
§ 150.0(n)2:	**Recirculating Loops.** Recirculating loops serving multiple dwelling units must meet the requirements of § 110.3(c)5.
§ 150.0(n)3:	**Solar Water-heating Systems.** Solar water-heating systems and collectors must be certified and rated by the Solar Rating and Certification Corporation (SRCC), the International Association of Plumbing and Mechanical Officials, Research and Testing (IAPMO R&T), or by a listing agency that is approved by the Executive Director.
Ducts and Fans Measures:	
§ 110.8(d)3:	**Ducts.** Insulation installed on an existing space-conditioning duct must comply with California Mechanical Code (CMC) Section 604.0. If a contractor installs the insulation, the contractor must certify to the customer in writing, that the insulation meets this requirement.
§ 150.0(m)1:	**CMC Compliance.** All air-distribution system ducts and plenums must meet the requirements of the CMC Section 601.0, 602.0, 603.0, 604.0, 605.0 and ANSI/SMACNA-006-2006 HVAC Duct Construction Standards Metal and Flexible 3rd Edition. Portions of supply-air and return-air ducts and plenums must be insulated to a minimum installed level of R-6.0 or a minimum installed level of R-4.2 when ducts are entirely in conditioned space as confirmed through field verification and diagnostic testing (RA3.1.4.3.6). Portions of the duct system completely exposed and surrounded by directly conditioned space are not required to be insulated. Connections of metal ducts and inner core of flexible ducts must be mechanically fastened. Openings must be sealed with mastic, tape, or other duct-closure system that meets the applicable requirements of UL 181, UL 181A, or UL 181B or aerosol sealant that meets the requirements of UL 723. If mastic or tape is used to seal openings greater than ¼ inch, the combination of mastic and either mesh or tape must be used. Building cavities, support platforms for air handlers, and plenums designed or constructed with materials other than sealed sheet metal, duct board or flexible duct must not be used to convey conditioned air. Building cavities and support platforms may contain ducts. Ducts installed in cavities and support platforms must not be compressed to cause reductions in the cross-sectional area."
§ 150.0(m)2:	**Factory-Fabricated Duct Systems.** Factory-fabricated duct systems must comply with applicable requirements for duct construction, connections, and closures; joints and seams of duct systems and their components must not be sealed with cloth back rubber adhesive duct tapes unless such tape is used in combination with mastic and draw bands.
§ 150.0(m)3:	**Field-Fabricated Duct Systems.** Field-fabricated duct systems must comply with applicable requirements for: pressure-sensitive tapes, mastics, sealants, and other requirements specified for duct construction.
§ 150.0(m)7:	**Backdraft Damper.** Fan systems that exchange air between the conditioned space and outdoors must have backdraft or automatic dampers.
§ 150.0(m)8:	**Gravity Ventilation Dampers.** Gravity ventilating systems serving conditioned space must have either automatic or readily accessible, manually operated dampers in all openings to the outside, except combustion inlet and outlet air openings and elevator shaft vents.
§ 150.0(m)9:	**Protection of Insulation.** Insulation must be protected from damage, sunlight, moisture, equipment maintenance, and wind. Insulation exposed to weather must be suitable for outdoor service. For example, protected by aluminum, sheet metal, painted canvas, or plastic cover. Cellular foam insulation must be protected as above or painted with a coating that is water retardant and provides shielding from solar radiation.
§ 150.0(m)10:	**Porous Inner Core Flex Duct.** Porous inner core flex ducts must have a non-porous layer between the inner core and outer vapor barrier.
§ 150.0(m)11:	**Duct System Sealing and Leakage Test.** When space conditioning systems use forced air duct systems to supply conditioned air to an occupiable space, the ducts must be sealed and duct leakage tested, as confirmed through field verification and diagnostic testing, in accordance with § 150.0(m)11 and Reference Residential Appendix RA3.
§ 150.0(m)12:	**Air Filtration.** Space conditioning systems with ducts exceeding 10 feet and the supply side of ventilation systems must have MERV 13 or equivalent filters. Filters for space conditioning systems must have a 2 inch depth or can be 1 inch if sized per Equation 150.0-A. Pressure drops and labeling must meet the requirements in §150.0(m)12. Filters must be accessible for regular service."
§ 150.0(m)13:	**Space Conditioning System Airflow Rate and Fan Efficacy.** Space conditioning systems that use ducts to supply cooling must have a hole for the placement of a static pressure probe, or a permanently installed static pressure probe in the supply plenum. Airflow must be ≥ 350 CFM per ton of nominal cooling capacity, and an air-handling unit fan efficacy ≤ 0.45 watts per CFM for gas furnace air handlers and ≤ 0.58 watts per CFM for all others. Small duct high velocity systems must provide an airflow ≥ 250 CFM per ton of nominal cooling capacity, and an air-handling unit fan efficacy ≤ 0.62 watts per CFM. Field verification testing is required in accordance with Reference Residential Appendix RA3.3."

2019 Low-Rise Residential Mandatory Measures Summary

§ 150.0(k)2G:	**Interior Switches and Controls.** An energy management control system (EMCS) may be used to comply with control requirements if it: provides functionality of the specified control according to § 110.9; meets the Installation Certificate requirements of § 130.4; meets the EMCS requirements of § 130.0(d); and meets all other requirements in § 150.0(k)2.
§ 150.0(k)2H:	**Interior Switches and Controls.** A multiscene programmable controller may be used to comply with dimmer requirements in § 150.0(k) if it: provides the functionality of a dimmer according to § 110.9, and complies with all other applicable requirements in § 150.0(k)2.
§ 150.0(k)2I:	**Interior Switches and Controls.** In bathrooms, garages, laundry rooms, and utility rooms, at least one luminaire in each of these spaces must be controlled by an occupant sensor or a vacancy sensor providing automatic-off functionality. If an occupant sensor is installed, it must be initially configured to manual-on operation using the manual control required under Section 150.0(k)2C.
§ 150.0(k)2J:	**Interior Switches and Controls.** Luminaires that are or contain light sources that meet Reference Joint Appendix JA8 requirements for dimming, and that are not controlled by occupancy or vacancy sensors, must have dimming controls."
§ 150.0(k)2K:	**Interior Switches and Controls.** Under cabinet lighting must be controlled separately from ceiling-installed lighting systems.
§ 150.0(k)3A:	**Residential Outdoor Lighting.** For single-family residential buildings, outdoor lighting permanently mounted to a residential building, or to other buildings on the same lot, must meet the requirement in item § 150.0(k)3A (ON and OFF switch) and the requirements in either § 150.0(k)3Ai (photocell and either a motion sensor or automatic time switch control) or § 150.0(k)3Aii (astronomical time clock), or an EMCS.
§ 150.0(k)3B:	**Residential Outdoor Lighting.** For low-rise residential buildings with four or more dwelling units, outdoor lighting for private patios, entrances, balconies, and porches; and residential parking lots and carports with less than eight vehicles per site must comply with either Section 150.0(k)3A or with the applicable requirements in Sections 110.9, 130.0, 130.2, 130.4, 140.7 and 141.0.
§ 150.0(k)3C:	**Residential Outdoor Lighting.** For low-rise residential buildings with four or more dwelling units, any outdoor lighting for residential parking lots or carports with a total of eight or more vehicles per site and any outdoor lighting not regulated by Section 150.0(k)3B or Section 150.0(k)3D must comply with the applicable requirements in Sections 110.9, 130.0, 130.2, 130.4, 140.7 and 141.0.
§ 150.0(k)4:	**Internally illuminated address signs.** Internally illuminated address signs must comply with § 140.8; or must consume no more than 5 watts of power as determined according to § 130.0(c).
§ 150.0(k)5:	**Residential Garages for Eight or More Vehicles.** Lighting for residential parking garages for eight or more vehicles must comply with the applicable requirements for nonresidential garages in Sections 110.9, 130.0, 130.1, 130.4, 140.6, and 141.0.
§ 150.0(k)6A:	**Interior Common Areas of Low-rise Multifamily Residential Buildings.** In a low-rise multifamily residential building where the total interior common area in a single building equals 20 percent or less of the floor area, permanently installed lighting for the interior common areas in that building must be comply with Table 150.0-A and be controlled by an occupant sensor.
§ 150.0(k)6B:	**Interior Common Areas of Low-rise Multifamily Residential Buildings.** In a low-rise multifamily residential building where the total interior common area in a single building equals more than 20 percent of the floor area, permanently installed lighting for the interior common areas in that building must: i. Comply with the applicable requirements in Sections 110.9, 130.0, 130.1, 140.6 and 141.0; and ii. Lighting installed in corridors and stairwells must be controlled by occupant sensors that reduce the lighting power in each space by at least 50 percent. The occupant sensors must be capable of turning the light fully on and off from all designed paths of ingress and egress.
Solar Ready Buildings:	
§ 110.10(a)1:	**Single Family Residences.** Single family residences located in subdivisions with ten or more single family residences and where the application for a tentative subdivision map for the residences has been deemed complete and approved by the enforcement agency, which do not have a photovoltaic system installed, must comply with the requirements of § 110.10(b) through § 110.10(e).
§ 110.10(a)2:	**Low-rise Multifamily Buildings.** Low-rise multi-family buildings that do not have a photovoltaic system installed must comply with the requirements of § 110.10(b) through § 110.10(e).
§ 110.10(b)1:	**Minimum Solar Zone Area.** The solar zone must have a minimum total area as described below. The solar zone must comply with access, pathway, smoke ventilation, and spacing requirements as specified in Title 24, Part 9 or other Parts of Title 24 or in any requirements adopted by a local jurisdiction. The solar zone total area must be comprised of areas that have no dimension less than 5 feet and are no less than 80 square feet each for buildings with roof areas less than or equal to 10,000 square feet or no less than 160 square feet each for buildings with roof areas greater than 10,000 square feet. For single family residences, the solar zone must be located on the roof or overhang of the building and have a total area no less than 250 square feet. For low-rise multi-family buildings the solar zone must be located on the roof or overhang of the building, or on the roof or overhang of another structure located within 250 feet of the building, or on covered parking installed with the building project, and have a total area no less than 15 percent of the total roof area of the building excluding any skylight area. The solar zone requirement is applicable to the entire building, including mixed occupancy."
§ 110.10(b)2:	**Azimuth.** All sections of the solar zone located on sloped roofs must be oriented between 90 degrees and 300 degrees of true north.
§ 110.10(b)3A:	**Shading.** The solar zone must not contain any obstructions, including but not limited to: vents, chimneys, architectural features, and roof mounted equipment.'
§ 110.10(b)3B:	**Shading.** Any obstruction located on the roof or any other part of the building that projects above a solar zone must be located at least twice the distance, measured in the horizontal plane, of the height difference between the highest point of the obstruction and the horizontal projection of the nearest point of the solar zone, measured in the vertical plane."
§ 110.10(b)4:	**Structural Design Loads on Construction Documents.** For areas of the roof designated as a solar zone, the structural design loads for roof dead load and roof live load must be clearly indicated on the construction documents.
§ 110.10(c):	**Interconnection Pathways.** The construction documents must indicate a location reserved for inverters and metering equipment and a pathway reserved for routing of conduit from the solar zone to the point of interconnection with the electrical service; and for single family residences and central water-heating systems, a pathway reserved for routing plumbing from the solar zone to the water-heating systems.
§ 110.10(d):	**Documentation.** A copy of the construction documents or a comparable document indicating the information from § 110.10(b) through § 110.10(c) must be provided to the occupant.
§ 110.10(e)1:	**Main Electrical Service Panel.** The main electrical service panel must have a minimum busbar rating of 200 amps.
§ 110.10(e)2:	**Main Electrical Service Panel.** The main electrical service panel must have a reserved space to allow for the installation of a double pole circuit breaker for a future solar electric installation. The reserved space must be permanently marked as "For Future Solar Electric".

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2019 LOW-RISE RESIDENTIAL MANDATORY MEASURES SUMMARY

DATE: 06/24/2021
SCALE: AS NOTED
DRAWN: MEG
CHECKED:
CHECKED:
FILE NAME:
SHEET: T-3
SHEET OF SHEETS