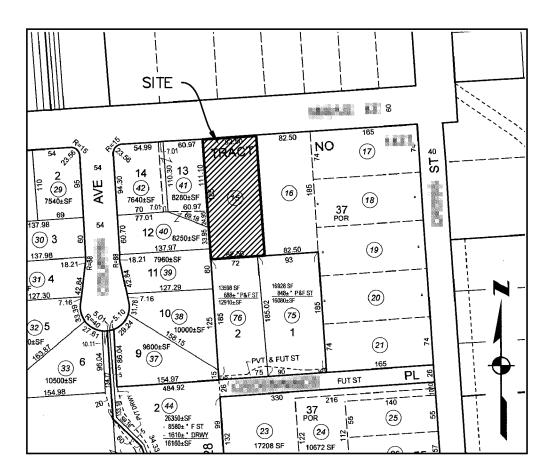
Addition and Remodel

Example Residence



VICINITY MAP

SITE GENERAL NOTES

ON-SITE VERIFICATION OF ALL FIELD CONDITIONS AND DIMENSIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. FIELD VERIFICATION SHALL BE DONE PRIOR TO COMMENCING WITH THE WORK. SHOULD ANY DISCREPANCY ARISE BETWEEN FIELD CONDITIONS AND THE CONSTRUCTION DOCUMENTS, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY BY THE CONTRACTOR.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXISTENCE AND PRECISE LOCATION OF UNDERGROUND FACILITIES OR STRUCTURES IN THE VICINITY OF THE PROJECT. UNDERGROUND FACILITIES OR STRUCTURES SHALL BE CLEARLY IDENTIFIED AT THE SITE AND PROTECTED IN PLACE. THE CONTRACTOR SHALL PROMPTLY NOTIFY EACH UTILITY COMPANY, MUNICIPALITY OR OTHER AGENCY WHO OWNS, OPERATES, OR REGULATES ANY SUCH FACILITIES OR STRUCTURES.

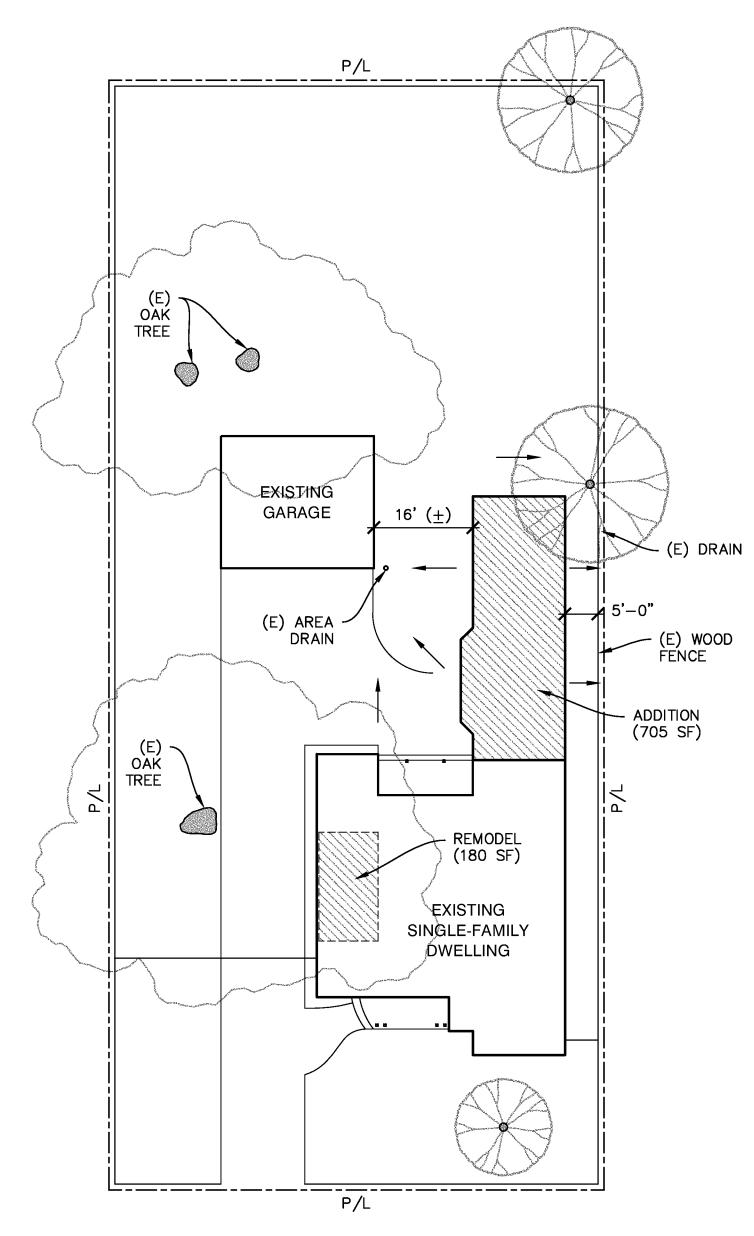
THESE DOCUMENTS DO NOT INDICATE THE METHOD OF CONSTRUCTION. CONTRACTOR SHALL SUPERVISE AND DIRECT METHODS OF CONSTRUCTION AND BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND

THE DESIGN, ERECTION, AND USE OF TEMPORARY BRACING, SHORING AND SUPPORTS ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THESE ITEMS SHALL COMPLY WITH ALL APPLICABLE SAFETY REGULATIONS.

SURFACE WATER SHALL BE CONVEYED AWAY FROM THE BUILDING TO AN APPROVED LOCATION. CONCENTRATED DRAINAGE SHALL BE CONVEYED VIA NON-EROSIVE DEVICES. DRAINAGE SYSTEMS SHALL BE DESIGNED BY OTHERS.

GAS PIPING SHALL NOT BE LOCATED IN OR ON THE GROUND UNDERNEATH A BUILDING OR STRUCTURE.

LOTS SHALL BE GRADED TO DRAIN AWAY FROM FOUNDATION WALLS. PROVIDE A 5% MINIMUM DRAINAGE SLOPE WITHIN 10 FT OF THE STRUCTURE. WHERE EXISTING CONDITIONS PROHIBIT A 5% DRAINAGE SLOPE, IMPERVIOUS SURFACES WITHIN 10 FT OF THE STRUCTURE SHALL BE SLOPED A MINIMUM OF 2% AWAY FROM THE BUILDING.



22345 EXAMPLE LANE

PROJECT DESCRIPTION

ADDITION TO EXISTING SINGLE-FAMILY DWELLING,

ADDED LIVING SPACE: 705 SQ. FT. TOTAL LIVING SPACE: 2,425 SQ. FT.

TYPE OF CONSTRUCTION: V-B OCCUPANCY: R-3

FIRE HAZARD ZONE: NO FLOOD HAZARD ZONE: NO SEWER: YES (EXISTING)

22345 EXAMPLE LN.

SANTA CLARITA, CA

APN: 0123-456-789

ORIGINAL CONSTRUCTION DATE: 1957

APPLICABLE CODES: CITY OF SANTA CLARITA AMENDMENTS

OTHER STATE AND LOCAL LAWS AND REGULATIONS.

NOISE LIMITS

CONSTRUCTION WORK WITHIN 300 FT OF A RESIDENTIAL PROPERTY IS LIMITED TO THE HOURS OF SEVEN A.M. TO SEVEN P.M. MONDAY THROUGH FRIDAY, AND EIGHT A.M. TO SIX P.M. ON SATURDAY. NO WORK SHALL BE PERFORMED ON THE FOLLOWING PUBLIC HOLIDAYS: NEW YEAR'S DAY, INDEPENDENCE DAY, THANKSGIVING, CHRISTMAS, MEMORIAL DAY, AND LABOR

SHEET INDEX

A1: SITE PLAN, PROJECT DESCRIPTION A2: EXISTING / DEMOLITION PLAN, ROOF PLAN
A3: FLOOR PLAN A4: ELEVATIONS, SECTIONS A5: UTILITY PLAN

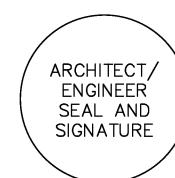
SO: STRUCTURAL GENERAL NOTES S1: FOUNDATION AND FLOOR FRAMING PLAN S2: ROOF FRAMING PLAN

S3: STRUCTURAL DETAILS

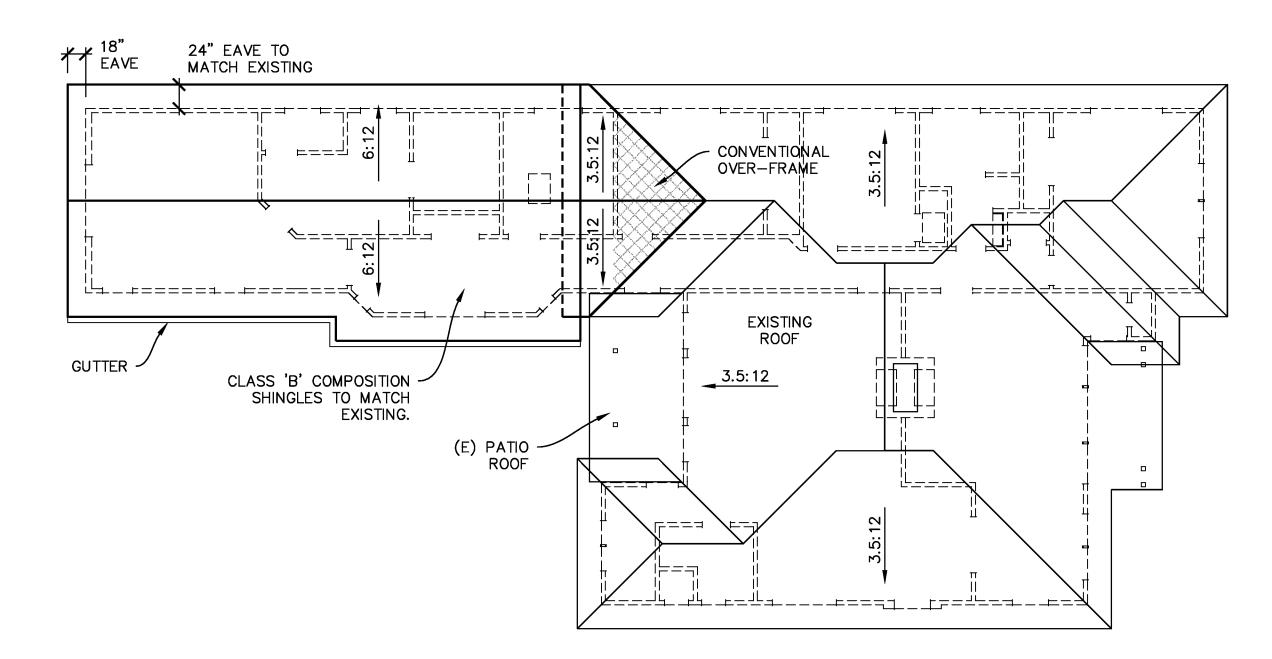
S4: STRUCTURAL DETAILS S5: STRUCTURAL DETAILS, CALGREEN NOTES

E1: ENERGY COMPLIANCE

E2: ENERGY COMPLIANCE E3: ENERGY COMPLIANCE 444



PERMIT #: BLDXX-XXXXX



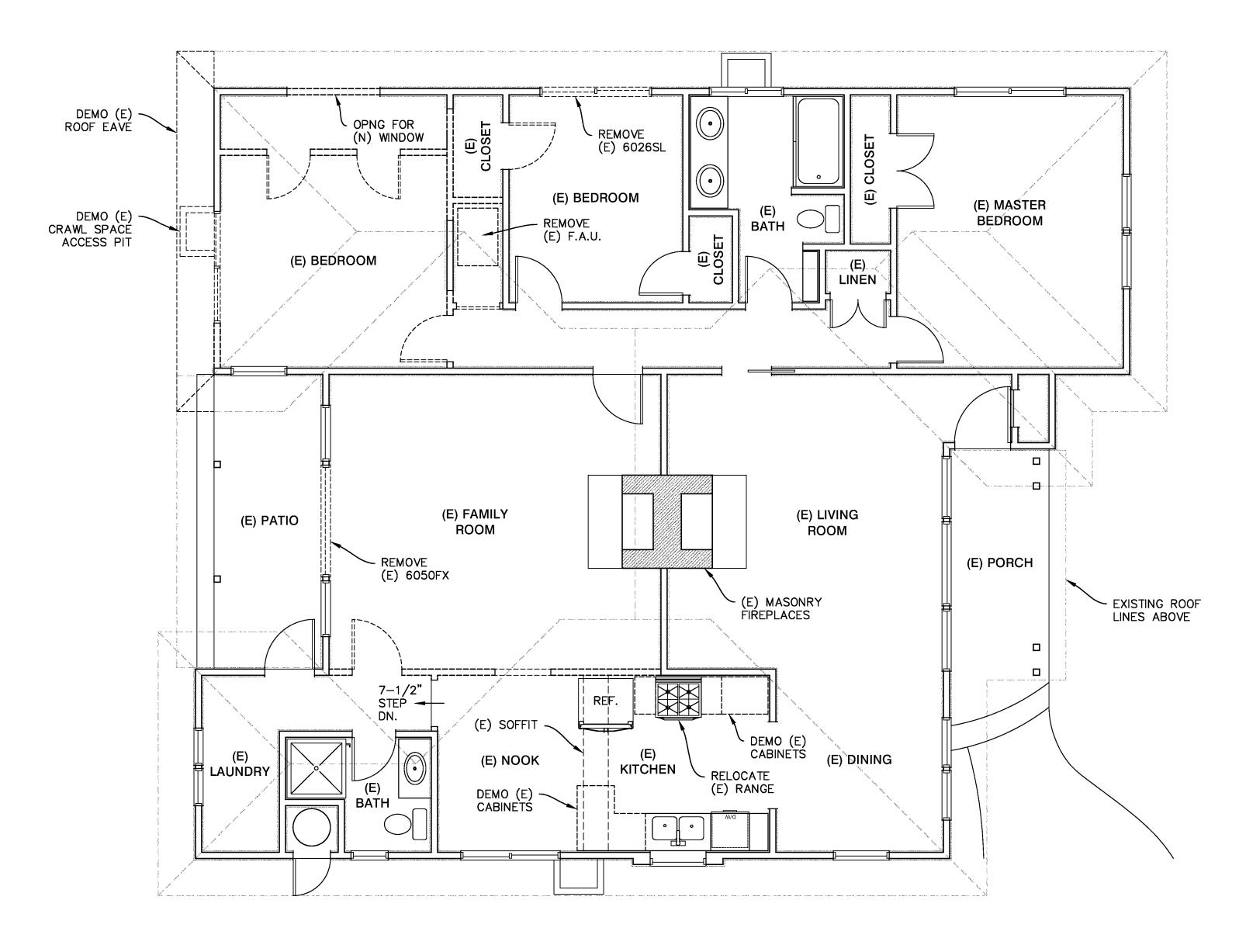


ROOF NOTES

ROOF ASSEMBLIES SHALL BE INSTALLED IN ACCORDANCE WITH THE CODE AND THE APPROVED MANUFACTURER'S INSTALLATION INSTRUCTIONS SUCH THAT THE ROOF ASSEMBLY SHALL SERVE TO PROTECT THE BUILDING OR STRUCTURE. FLASHINGS SHALL BE INSTALLED INA MANNER THAT PREVENTS MOISTURE FROM ENTERING THE WALL AND ROOF THROUGH JOINTS IN COPINGS, THROUGH MOISTURE PERMEABLE MATERIALS AND AT INTERSECTIONS WITH PARAPET WALLS AND OTHER PENETRATIONS THROUGH THE ROOF PLANE.

ENCLOSED ATTICS AND ENCLOSED RAFTER SPACES SHALL HAVE CROSS VENTILATION FOR EACH SEPARATE SPACE PROVIDED BY VENTILATING OPENINGS PROTECTED AGAINST THE ENTRANCE OF RAIN OR SNOW. VENTILATION OPENINGS SHALL BE SCREENED WITH A CORROSION—RESISTANT MESH HAVING 1/16" — 1/8" OPENINGS.

THE TOTAL NET FREE VENTILATING AREA SHALL NOT BE LESS THAN 1/150 OF THE AREA OF THE SPACE VENTILATED. REDUCTION TO 1/300 IS PERMITTED IF BETWEEN 50% AND 80% OF THE VENTILATING AREA IS PROVIDED BY VENTILATORS LOCATED IN THE UPPER PORTION OF THE SPACE, AT LEAST 3 FEET ABOVE EAVE OR CORNICE VENTS. AS AN ALTERNATIVE, THE NET FREE CROSS—VENTILATING AREA MAY BE REDUCED TO 1/300 WHEN A CLASS I OR II VAPOR BARRIER IS INSTALLED ON THE WARM—IN—WINTER SIDE OF THE CEILING. WHERE EAVE OR CORNICE VENTS ARE INSTALLED, INSULATION SHALL NOT BLOCK THE FREE FLOW OF AIR. A MINIMUM OF 1" SPACE SHALL BE PROVIDED BETWEEN THE INSULATION AND THE ROOF SHEATHING AND AT THE LOCATION OF THE VENT.







DEMOLITION NOTES

- ALL DEMOLITION SHALL BE PERFORMED IN SUCH A WAY AS NOT TO DAMAGE EXISTING ELEMENTS WHICH ARE TO BE PART OF THE FINISHED BUILDING.
- 2. ALL ELEMENTS OF THE STRUCTURE WHICH ARE TO REMAIN AND WHICH ARE DAMAGED DURING DEMOLITION WORK SHALL BE REPLACED AT NO ADDED COST TO THE OWNER. EXISTING ELEMENTS SHALL BE PROTECTED TO THE FULLEST EXTENT POSSIBLE TO AVOID SUCH DAMAGE.

PLAN LEGEND

EXISTING WALLS TO REMAIN
EXISTING WALLS TO DEMOLISH

ARCHITECT/ ENGINEER SEAL AND SIGNATURE

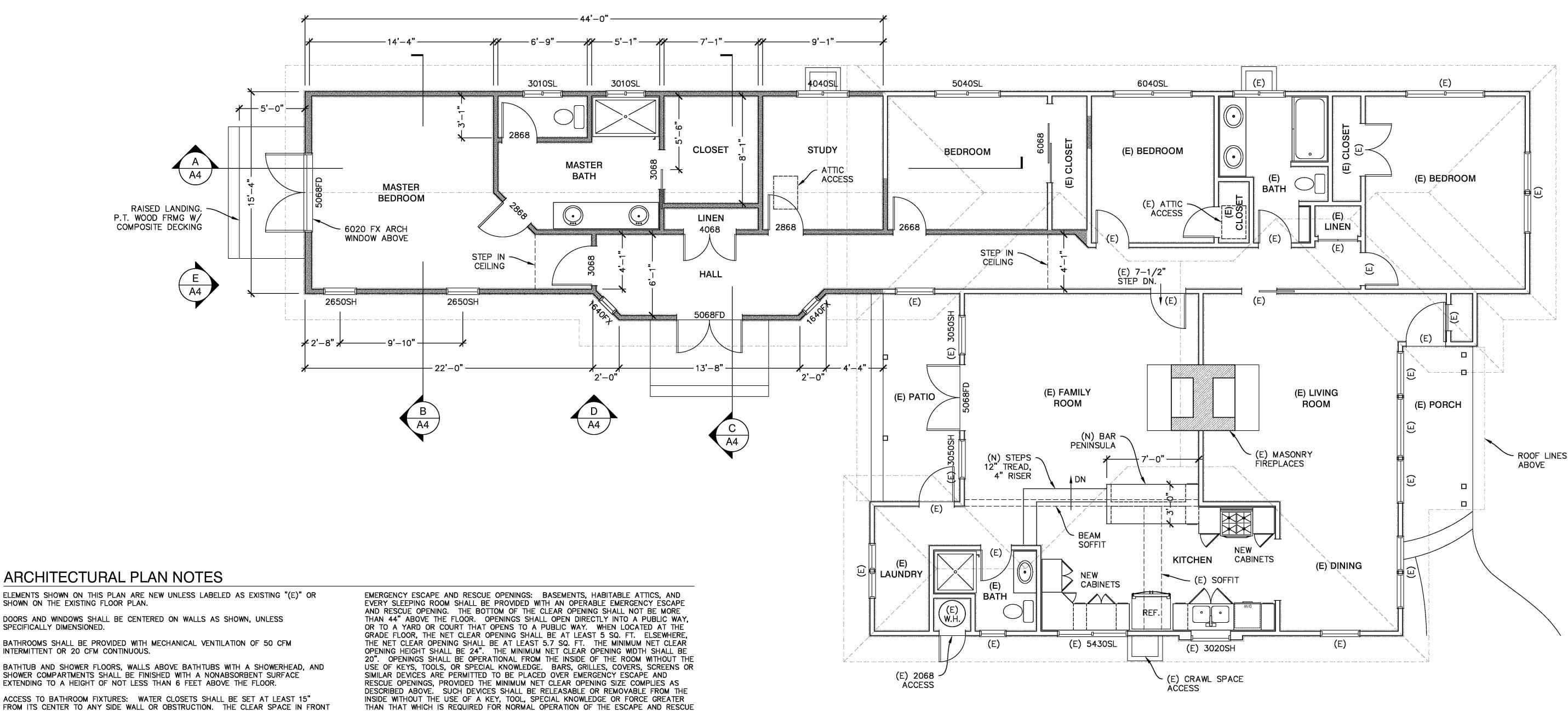
PROJECT: ADDITION AND REMOD 22345 EXAMPLE LN. SANTA CLARITA, CA

444

PERMIT #: BLDXX-XXXXX

SHEET #

A2



ARCHITECTURAL PLAN NOTES

ELEMENTS SHOWN ON THIS PLAN ARE NEW UNLESS LABELED AS EXISTING "(E)" OR SHOWN ON THE EXISTING FLOOR PLAN.

DOORS AND WINDOWS SHALL BE CENTERED ON WALLS AS SHOWN, UNLESS SPECIFICALLY DIMENSIONED.

INTERMITTENT OR 20 CFM CONTINUOUS.

SHOWER COMPARTMENTS SHALL BE FINISHED WITH A NONABSORBENT SURFACE EXTENDING TO A HEIGHT OF NOT LESS THAN 6 FEET ABOVE THE FLOOR.

OF ANY WATER CLOSET SHALL BE NOT LESS THAN 24". SHOWER COMPARTMENTS SHALL HAVE A MINIMUM FINISHED INTERIOR OF 1,024 SQ. IN.

AND SHALL BE CAPABLE OF ENCOMPASSING A 30" CIRCLE.

THE MINIMUM WIDTH OF HALLWAYS SHALL BE AT LEAST 3 FT.

SAFETY GLAZING IS REQUIRED IN THE FOLLOWING LOCATIONS: GLAZING IN ALL FIXED AND OPERABLE PANELS OF SWINGING, SLIDING AND BIFOLD

- GLAZING IN A FIXED OR OPERABLE PANEL ADJACENT TO A DOOR WHERE THE NEAREST VERTICAL EDGE IS WITHIN A 24" ARC OF THE DOOR IN A CLOSED POSITION, AND WHOSE BOTTOM EDGE IS LESS THAN 60" ABOVE THE WALKING SURFACE.
- GLAZING IN A FIXED OR OPERABLE PANEL MEETING ALL OF THE FOLLOWING CONDITIONS: THE EXPOSED AREA OF AN INDIVIDUAL PANE IS LARGER THAN 9 SQ. FT.; AND THE BOTTOM EDGE OF THE GLAZING IS LESS THAN 18" ABOVE THE FLOOR; AND THE TOP EDGE OF THE GLAZING IS MORE THAN 36" ABOVE THE FLOOR; AND A WALKING SURFACE IS WITHIN 36" OF THE GLAZING.
- ALL GLAZING IN RAILINGS. GLAZING IN ENCLOSURES FOR OR WALLS FACING HOT TUBS, WHIRLPOOLS, SAUNAS, STEAM ROOMS, BATHTUBS AND SHOWERS WHERE THE BOTTOM EXPOSED EDGE OF GLAZING IS LESS THAN 60" MEASURED VERTICALLY ABOVE ANY
- STANDING OR WALKING SURFACE. GLAZING IN WALLS AND FENCES ADJACENT TO INDOOR AND OUTDOOR SWIMMING POOLS, HOT TUBS AND SPAS WHERE THE BOTTOM EDGE OF THE GLAZING IS LESS THAN 60" ABOVE A WALKING SURFACE AND WITHIN 60" OF THE WATER'S EDGE. • GLAZING ADJACENT TO STAIRWAYS, LANDINGS AND RAMPS WITHIN 36"
- HORIZONTALLY OF A WALKING SURFACE WHEN THE EXPOSED SURFACE OF THE GLAZING IS LESS THAN 60" ABOVE THE PLANE OF THE ADJACENT WALKING

GLAZING IS LESS THAN 60" ABOVE THE NOSE OF THE TREAD. SAFETY GLAZING SHALL BE PROVIDED WITH A MANUFACTURER'S DESIGNATION OR

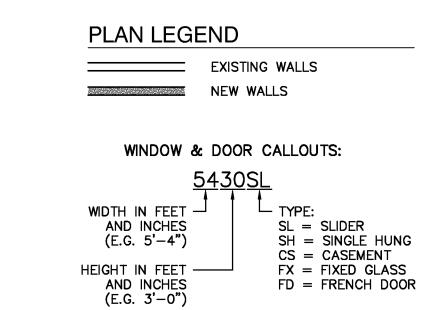
LABEL AS REQUIRED BY THE CODE.

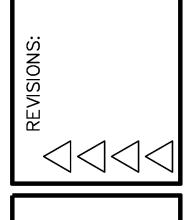
 GLAZING ADJACENT TO STAIRWAYS WITHIN 60" HORIZONTALLY OF THE BOTTOM TREAD OF A STAIRWAY IN ANY DIRECTION WHEN THE EXPOSED SURFACE OF THE OPENING. SECURITY BARS (BURGLAR BARS) SHALL COMPLY WITH CALIFORNIA REFERENCED STANDARDS CODE (TITLE 24, PART 12) CHAPTER 12-3.

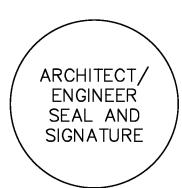
WINDOW SILLS, FALL PROTECTION: WHERE THE OPENING OF AN OPERABLE WINDOW IS LOCATED MORE THAN 72" ABOVE THE FINISHED GRADE OR SURFACE BELOW, THE LOWEST PART OF THE CLEAR OPENING OF THE WINDOW SHALL BE A MINIMUM OF 24" ABOVE THE FINISHED FLOOR OF THE ROOM IN WHICH THE WINDOW IS LOCATED. OTHERWISE, OPENINGS SHALL NOT ALLOW THE PASSAGE OF A 4" DIAMETER SPHERE, OR A CODE-COMPLIANT FALL PREVENTION OR OPENING LIMITING DEVICE SHALL BE

ATTIC ACCESS: AN ATTIC ACCESS SHALL BE LOCATED IN A HALLWAY OR OTHER READILY ACCESSIBLE LOCATION. 30" MINIMUM HEADROOM IS REQUIRED ABOVE THE ACCESS OPENING. THE ROUGH-FRAMED OPENING SHALL BE AT LEAST 22" x 30". WHEN EQUIPMENT IS LOCATED IN THE ATTIC, THE ACCESS OPENING SHALL BE AT LEAST AS LARGE AS THE LARGEST COMPONENT OF THE EQUIPMENT.

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







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FIREBLOCKING SHALL BE PROVIDED IN THE FOLLOWING LOCATIONS:

- IN CONCEALED SPACES OF STUD WALLS AND PARTITIONS, INCLUDING FURRED SPACES AND PARALLEL ROWS OF STUDS OR STAGGERED STUDS AS FOLLOWS: VERTICALLY AT THE CEILING AND FLOOR LEVELS. HORIZONTALLY AT INTERVALS NOT EXCEEDING 10 FEET.
- AT ALL INTERCONNECTIONS BETWEEN CONCEALED VERTICAL AND HORIZONTAL SPACES SUCH AS OCCUR AT SOFFITS, DROP CEILINGS, AND COVE CEILINGS.
- IN CONCEALED SPACES BETWEEN STAIR STRINGERS AT THE TOP AND BOTTOM OF THE RUN
- AT OPENINGS AROUND VENTS, PIPES, DUCTS, CABLES AND WIRES AT CEILING AND FLOOR LEVELS, WITH AN APPROVED MATERIAL TO RESIST THE FREE PASSAGE OF FLAME AND PRODUCTS OF COMBUSTION.

FIREBLOCKING MATERIALS SHALL BE AS FOLLOWS: • 2" NOMINAL LUMBER.

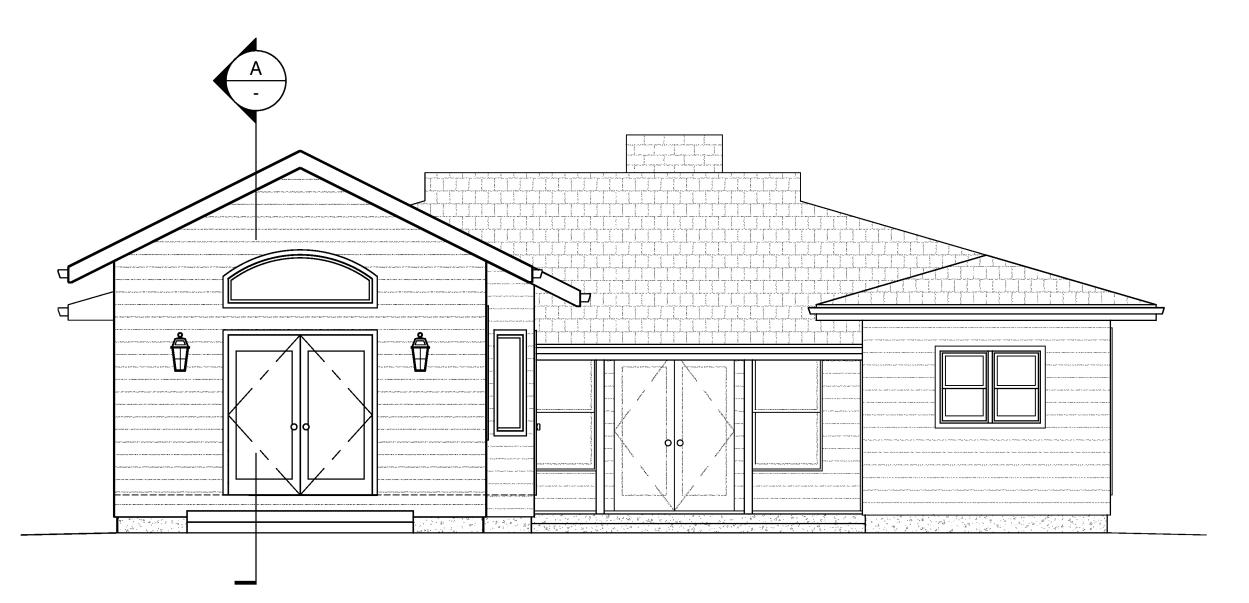
- TWO THICKNESSES OF 1" NOMINAL LUMBER WITH BROKEN LAP JOINTS.
 ONE THICKNESS OF 23/32" WOOD STRUCTURAL PANEL WITH JOINTS BACKED BY
- 23/32" WOOD STRUCTÚRAL PANELS.

 ONE THICKNESS OF 3/4" PARTICLEBOARD WITH JOINTS BACKED BY 3/4"
- PARTICLEBOARD.
 1/2" GYPSUM BOARD.
- 1/4" CEMENT—BASED MILLBOARD
- BATTS OR BLANKETS OF MINERAL WOOL OR GLASS FIBER OR OTHER APPROVED MATERIALS INSTALLED IN SUCH A MANNER AS TO BE SECURELY RETAINED IN

EXTERIOR WALLS SHALL PROVIDE THE BUILDING WITH A WEATHER-RESISTANT EXTERIOR WALL ENVELOPE. APPROVED CORROSION-RESISTANT FLASHING SHALL BE APPLIED SHINGLE-FASHION IN A MANNER TO PREVENT ENTRY OF WATER INTO THE WALL CAVITY OR PENETRATION OF WATER TO THE BUILDING STRUCTURAL FRAMING COMPONENTS.

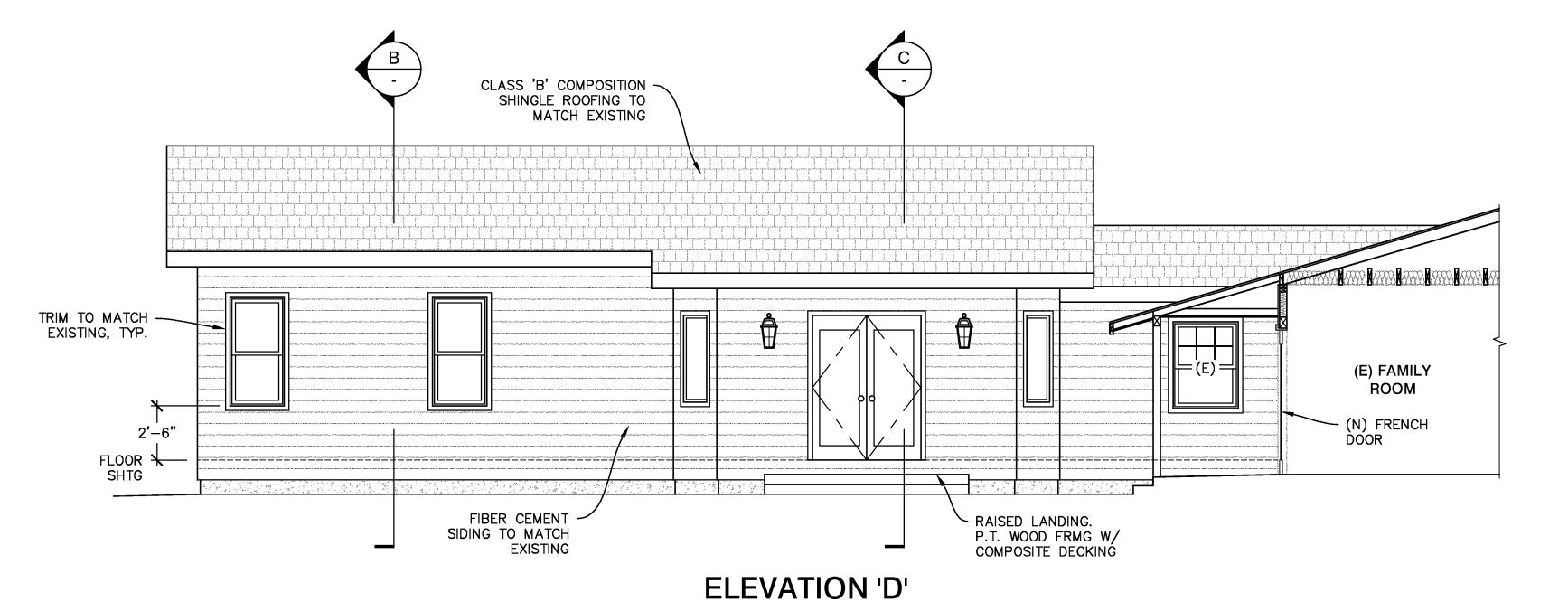
ONE LAYER OF NO. 15 ASPHALT FELT COMPLYING WITH ASTM D 226 FOR TYPE 1 FELT OR OTHER APPROVED WATER-RESISTIVE BARRIER SHALL BE APPLIED OVER STUDS OR SHEATHING OF ALL EXTERIOR WALLS.

ADDRESS NUMBERS: BUILDINGS SHALL HAVE ADDRESS NUMBERS PLACED IN A POSITION THAT IS PLAINLY LEGIBLE AND VISIBLE FROM THE STREET OR ROAD FRONTING THE PROPERTY. ADDRESS NUMBERS SHALL BE ARABIC NUMBERS OR ALPHABETICAL LETTERS AND SHALL CONTRAST WITH THEIR BACKGROUND. NUMBERS SHALL BE A MINIMUM OF 4" HIGH WITH A MINIMUM STROKE OF WIDTH OF 1/2". WHERE ACCESS IS BY MEANS OF A PRIVATE ROAD AND THE BUILDING ADDRESS CANNOT BE VIEWED BY THE PUBLIC WAY, A MONUMENT, POLE OR OTHER SIGN SHALL BE USED TO IDENTIFY THE STRUCTURE.

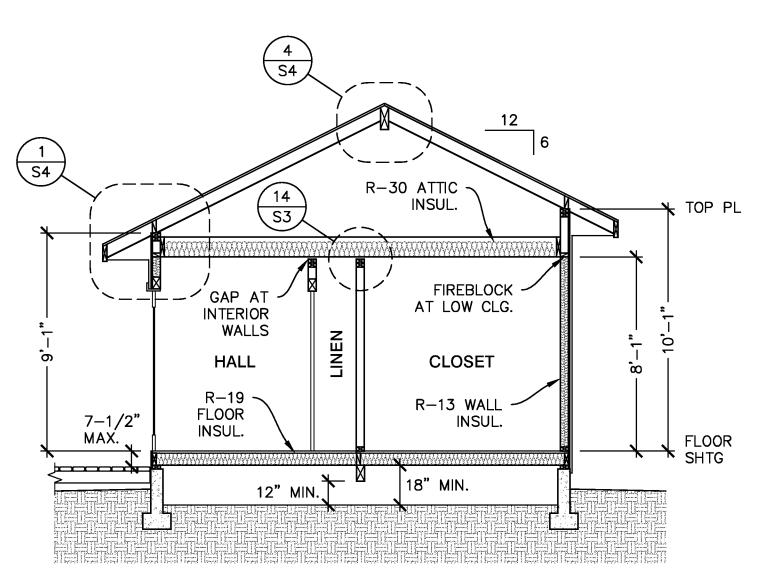


ELEVATION 'E'

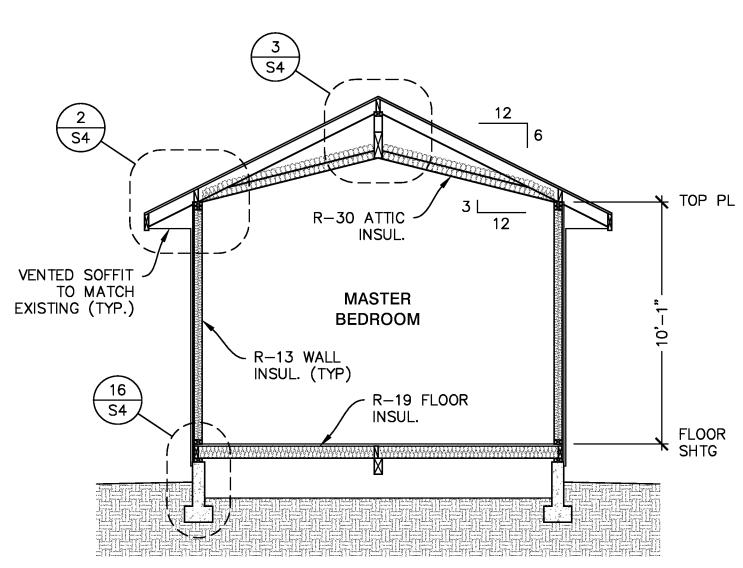
SCALE: 1/4" = 1'-0"

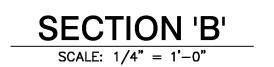


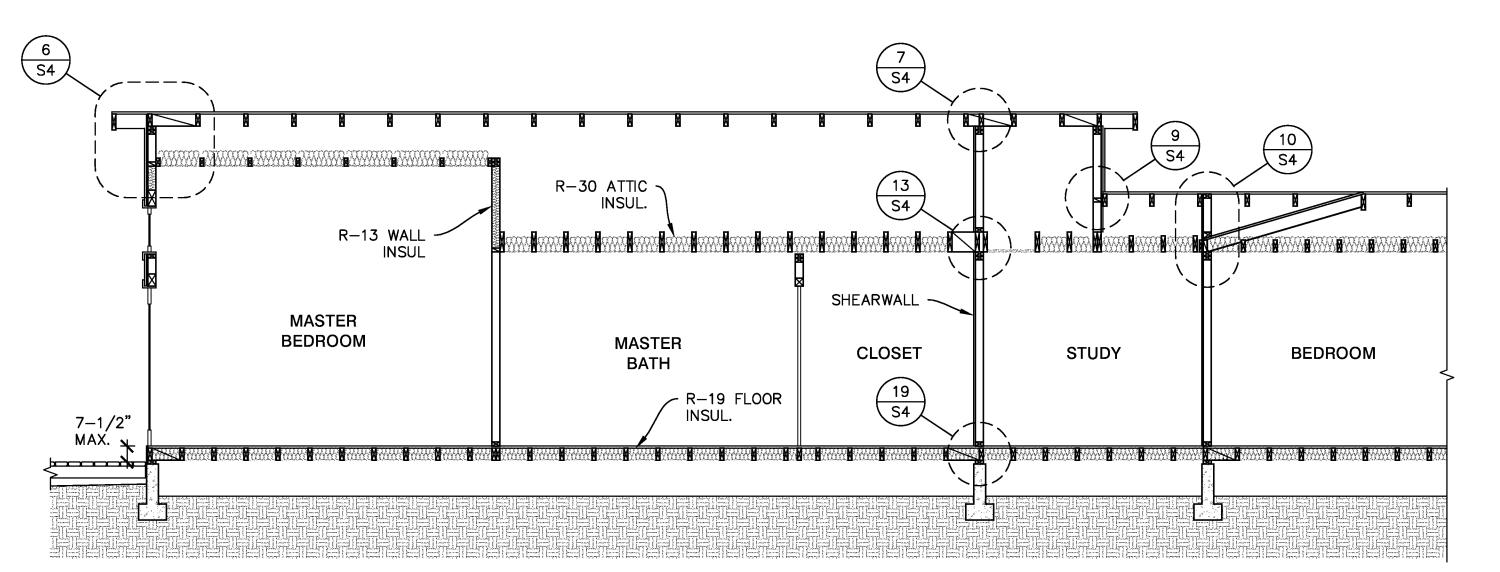
SCALE: 1/4" = 1'-0"





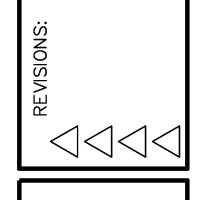






SECTION 'A'

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



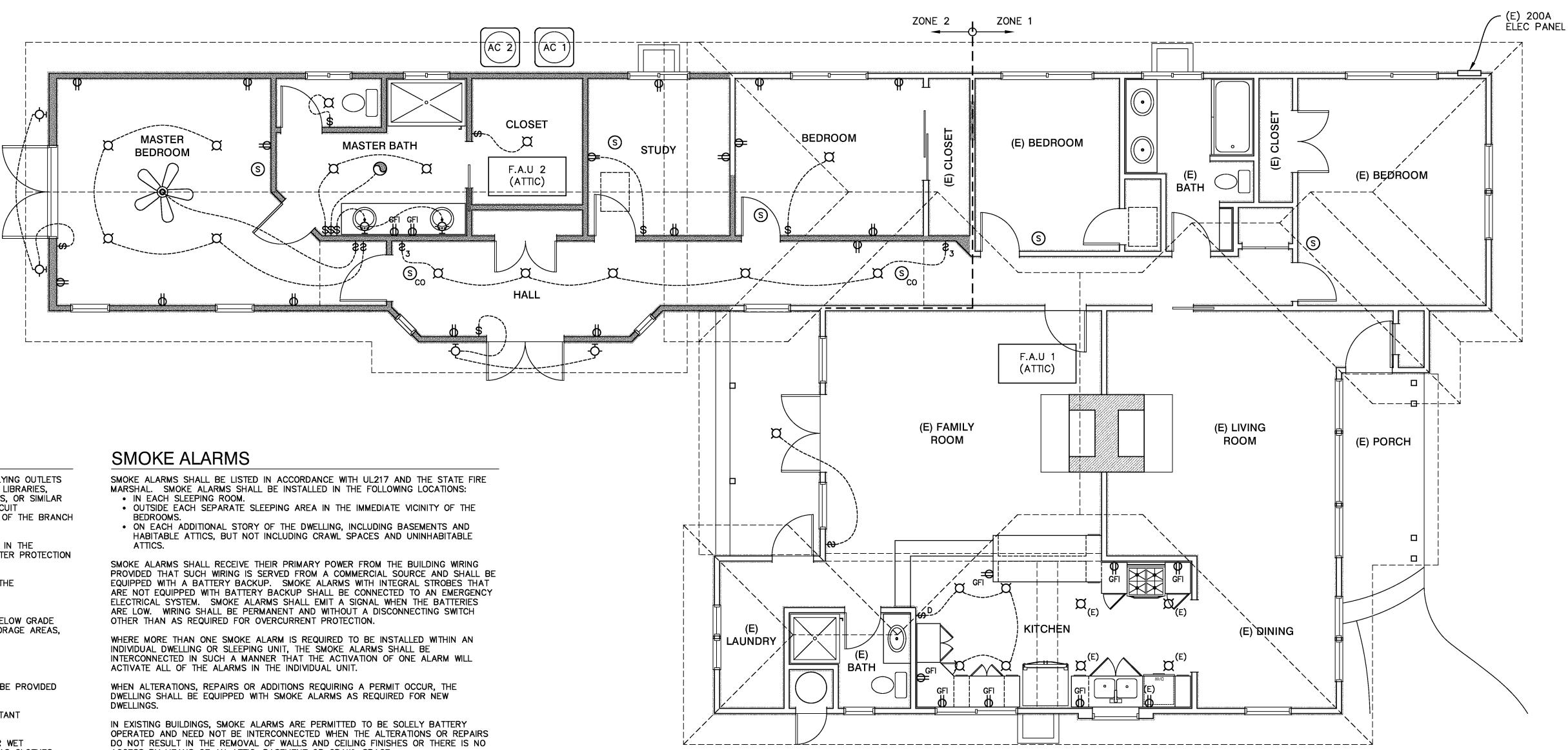
THIS DOCUMENT IS PROVIDED AS A GENERAL EXAMPLE ONLY. THE CITY OF SANTA CLARITA DOES NOT ENDORSE THE CONTENT OF THIS DOCUMENT OR GUARANTEE ITS ACCURACY OR COMPLIANCE WITH BUILDING CODES OR OTHER REGULATIONS. THIS DOCUMENT SHALL NOT BE CONSTRUED AS AN APPROVAL TO VIOLATE ANY BUILDING CODE OR OTHER REGULATION. THE INFORMATION INCLUDED IN THIS DOCUMENT SHALL NOT BE COPIED OR SUBSTITUTED FOR THE CONSTRUCTION DOCUMENTS FOR ANY OTHER PROJECT. CONSTRUCTION DOCUMENTS SHALL CONTAIN SUFFICIENT INFORMATION TO DEMONSTRATE COMPLIANCE WITH THE BUILDING CODES AND OTHER APPLICABLE REGULATIONS, AS DETERMINED BY THE CITY OF SANTA CLARITA.

PROJECT:
ADDITION AND REMODEL FOR SINGLE—FAMILY DWELLING 22345 EXAMPLE LN.
SANTA CLARITA, CA
OWNFRS:

ARCHITECT/ ENGINEER SEAL AND SIGNATURE

PERMIT #: BLDXX—XXXXX

A4



ELECTRICAL NOTES

AFCI REQUIREMENTS: ALL 15- AND 20-AMP BRANCH CIRCUITS SUPPLYING OUTLETS INSTALLED IN FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, DENS, BEDROOMS, SUNROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS, OR SIMILAR ROOMS OR AREAS SHALL BE PROTECTED BY A LISTED ARC-FAULT CIRCUIT INTERRUPTER, COMBINATION TYPE, INSTALLED TO PROVIDE PROTECTION OF THE BRANCH

GFCI REQUIREMENTS: ALL 15- AND 20-AMP RECEPTACLES INSTALLED IN THE FOLLOWING LOCATIONS SHALL HAVE GROUND-FAULT CIRCUIT-INTERRUPTER PROTECTION

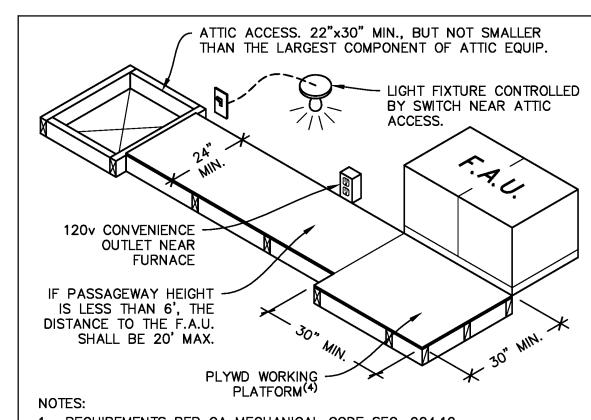
- FOR PERSONNEL:
- KITCHENS, WHERE THE RECEPTACLES ARE INSTALLED TO SERVE THE COUNTERTOP SURFACES
- OUTDOORS
- GARAGES
- ACCESSORY BUILDINGS WHICH HAVE A FLOOR LOCATED AT OR BELOW GRADE LEVEL NOT INTENDED AS HABITABLE ROOMS AND LIMITED TO STORAGE AREAS, WORK AREAS, AND AREAS OF SIMILAR USE.
- CRAWL SPACES, AT OR BELOW GRADE LEVEL
- UNFINISHED BASEMENTS LAUNDRY, UTILITY AND WET BAR SINKS

GROUND-FAULT CIRCUIT-INTERRUPTION (GFCI) FOR PERSONNEL SHALL BE PROVIDED AND INSTALLED IN A READILY ACCESSIBLE LOCATION.

ALL 15- AND 20-AMP RECEPTACLES SHALL BE LISTED TAMPER-RESISTANT RECEPTACLES.

ELECTRICAL PANELS SHALL NOT BE LOCATED IN BATHROOMS, DAMP OR WET LOCATIONS, OR IN THE VICINITY OF EASILY IGNITABLE MATERIAL SUCH AS CLOTHES CLOSETS. ELECTRICAL PANELS SHALL BE PROTECTED FROM PHYSICAL DAMAGE.

ELECTRICAL EQUIPMENT SHALL HAVE A MINIMUM CLEAR WORKING SPACE OF 30" WIDE x 36" DEEP.



- 1. REQUIREMENTS PER CA MECHANICAL CODE SEC. 904.10.
- 2. F.A.U. SHALL BE LISTED FOR THE USE SHOWN.
- 3. MAINTAIN ALL CLEARANCES AS SPECIFIED IN THE F.A.U. LISTING REPORT. 4. A WORKING PLATFORM NEED NOT BE PROVIDED WHERE THE FURNACE IS CAPABLE OF BEING SERVICED FROM THE REQUIRED ACCESS OPENING. THE FURNACE SERVICE SIDE SHALL NOT EXCEED 12" FROM THE ACCESS OPENING.

ATTIC FORCED AIR UNIT

ACCESS BY MEANS OF AN ATTIC, BASEMENT OR CRAWL SPACE.

WITHIN WHICH FUEL-BURNING APPLIANCES ARE INSTALLED AND IN DWELLING UNITS THAT HAVE ATTACHED GARAGES. CARBON MONOXIDE ALARMS SHALL BE INSTALLED IN • OUTSIDE OF EACH SEPARATE DWELLING UNIT SLEEPING AREA IN THE IMMEDIATE

AN APPROVED CARBON MONOXIDE ALARM SHALL BE INSTALLED IN DWELLING UNITS

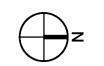
VICINITY OF THE BEDROOM(S). • ON EVERY LEVEL OF A DWELLING UNIT INCLUDING BASEMENTS.

CARBON MONOXIDE ALARMS SHALL RECEIVE THEIR PRIMARY POWER FROM THE BUILDING WIRING PROVIDED THAT SUCH WIRING IS SERVED FROM A COMMERCIAL SOURCE AND SHALL BE EQUIPPED WITH A BATTERY BACKUP. WIRING SHALL BE PERMANENT AND WITHOUT A DISCONNECTING SWITCH OTHER THAN AS REQUIRED FOR OVERCURRENT

WHEN ALTERATIONS, REPAIRS OR ADDITIONS REQUIRING A PERMIT OCCUR, THE DWELLING SHALL BE EQUIPPED WITH CARBON MONOXIDE ALARMS AS REQUIRED FOR NEW DWELLINGS.

IN EXISTING BUILDINGS, CARBON MONOXIDE ALARMS ARE PERMITTED TO BE SOLELY BATTERY OPERATED AND NEED NOT BE INTERCONNECTED WHEN THE ALTERATIONS OR REPAIRS DO NOT RESULT IN THE REMOVAL OF WALLS AND CEILING FINISHES OR THERE IS NO ACCESS BY MEANS OF AN ATTIC, BASEMENT OR CRAWL SPACE.

ELECTRICAL/UTILITY PLAN



PLAN LEGEND

SMOKE DETECTOR CARBON MONOXIDE ALARM AFCI RECEPTACLE

GFCI RECEPTACLE

SWITCH (WITH DIMMER) HIGH EFFICACY LIGHT FIXTURE EXHAUST FAN

> PERMIT #: BLDXX-XXXXX

> > SHEET #

ARCHITECT/

ENGINEER SEAL AND

SIGNATURE

<<<

CLR COL C.P. COMPLETE PENETRATION CONC CONCRET CMU CONCRETE MASONRY UNIT CONN CONNECTION $\text{CON} \exists N$ CONTINUOUS CTSK COUNTERSINK DBL DEG DOUBLE DEGREE DET

DETAIL DIM DIMENSION DIST DISTANCE DBL **DOUBLE** DFL DOUGLAS FIR LARCH FACH EACH FACE E.W. EACH WAY EDGE NAILING E.N. EMBED **EMBEDMENT** EQUAL EXISTING

FLOOR JOIST FIELD NAILING FRMG FRAMING FEET FTG **FOOTING** GALV GALVANIZED GLB GLU-LAM BEAM HDR HEADER HGR HANGER HEIGHT **HORZ** HORIZONTAL INCHES

K.P. KING POST POUND MACHINE BOLT MANU MANUFACTURER MAX MAXIMUM MIN MINIMUM NFW Ň.Ť.S. NOT TO SCALE O.C. ON CENTER 0.H. OPPOSITE HAND PLCS **PLACES** PLATE PROPERTY LINE

PLYWD PLYWOOD POUNDS PER SQ. FT. PRESERVATIVE TREATED REINF REINFORCING REQD REQUIRED R.R. ROOF RAFTER SCHED SCHEDULE SQUARE FOOT S.W. SHEARWALL SHTG SHEATHING S.O.G. SLAB ON GRADE SPACES SPCG SQ STD SPACING **SQUARE** STANDARD STEEL TOE NAILING **⊺&B** TOP AND BOTTOM

T.O.C. T.O.S. TOP OF CONCRETE TOP OF STEEL T.O.W. TOP OF WALL TPL TRIPLE TYP TYPICAL U.N.O. UNLESS NOTED OTHERWISE V.I.F. VERIFY IN FIELD VERT VERTICAL WELDED WIRE FABRIC W.W.F. WORKING POINT

1. ALL WORK SHALL COMPLY WITH THE 2013 EDITIONS OF THE FOLLOWING:

CALIFORNIA BUILDING CODE

GENERAL

 CALIFORNIA RESIDENTIAL CODE CALIFORNIA MECHANICAL CODE

 CALIFORNIA ELECTRICAL CODE CALIFORNIA PLUMBING CODE

 CALIFORNIA ENERGY CODE CODE AMENDMENTS ADOPTED BY THE LOCAL AUTHORITY.

 ALL FEDERAL, STATE AND LOCAL LAWS, REGULATIONS AND ORDINANCES APPLICABLE TO THE SCOPE OF WORK.

2. CODES AND STANDARDS NOTED IN THE CONSTRUCTION DOCUMENTS SHALL BE THE LATEST ADOPTED ISSUE, INCLUDING SUPPLEMENTS, UNLESS NOTED OTHERWISE. MATERIAL SPECIFICATIONS SHALL COMPLY WITH THE LATEST ASTM REFERENCED

3. THE CONTRACTOR SHALL REVIEW THE DRAWINGS TO IDENTIFY THE SCOPE OF WORK, VISIT THE SITE TO RELATE THE SCOPE OF WORK TO EXISTING CONDITIONS, AND DETERMINE THE EXTENT TO WHICH THOSE CONDITIONS AND PHYSICAL SURROUNDINGS WILL IMPACT THE WORK.

4. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION. THE ENGINEER OF RECORD SHALL BE NOTIFIED OF ANY INCONSISTENCIES OR DISCREPANCIES.

5. INFORMATION RELATED TO EXISTING CONDITIONS SHOWN ON THE DRAWINGS REPRESENTS THE PRESENT KNOWLEDGE, BUT WITHOUT GUARANTEE OF ACCURACY. CONDITIONS THAT CONFLICT WITH THE CONSTRUCTION DOCUMENTS SHALL BE REPORTED TO THE ENGINEER OF RECORD. DO NOT DEVIATE FROM THE CONSTRUCTION DOCUMENTS WITHOUT WRITTEN DIRECTION FROM THE ENGINEER OF

6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXISTENCE AND PRECISE LOCATION OF UNDERGROUND FACILITIES OR STRUCTURES IN THE VICINITY OF THE PROJECT. UNDERGROUND FACILITIES OR STRUCTURES SHALL BE CLEARLY IDENTIFIED AT THE SITE AND PROTECTED IN PLACE. THE CONTRACTOR SHALL PROMPTLY NOTIFY EACH UTILITY COMPANY, MUNICIPALITY OR OTHER AGENCY WHO OWNS, OPERATES, OR REGULATES ANY SUCH FACILITIES OR STRUCTURES.

7. DIMENSIONS INDICATED ON THE DRAWINGS SHALL TAKE PRECEDENCE OVER SCALED

8. TYPICAL DETAILS AND GENERAL NOTES APPLY TO ALL PARTS OF THE WORK THAT ARE THE SAME OR SIMILAR TO THOSE SPECIFICALLY REFERENCED, UNLESS NOTED OTHERWISE OR SPECIFICALLY DETAILED.

9. DETAILS AND NOTES ON DRAWINGS SHALL TAKE PRECEDENCE OVER TYPICAL DETAILS AND GENERAL NOTES. WHERE DETAILS AND NOTES ON DRAWINGS AND THE TYPICAL DETAILS AND GENERAL NOTES ARE IN CONFLICT, THE MOST STRINGENT SHALL APPLY. CONDITIONS NOT SPECIFICALLY SHOWN SHALL BE CONSTRUCTED AS SHOWN FOR SIMILAR WORK.

10. OPENINGS, POCKETS, ETC. SHALL NOT BE PLACED IN STRUCTURAL ELEMENTS UNLESS SPECIFICALLY DETAILED ON THE STRUCTURAL DRAWINGS. THE ENGINEER OF RECORD SHALL BE NOTIFIED WHEN DRAWINGS BY OTHERS SHOW OPENINGS, POCKETS, ETC. WHICH ARE LOCATED IN STRUCTURAL MEMBERS, AND ARE NOT SHOWN ON THE STRUCTURAL DRAWINGS.

11. SUBSTITUTIONS OF PRODUCTS OR MATERIALS SPECIFIED ON THE CONSTRUCTION DOCUMENTS SHALL BE APPROVED BY THE ENGINEER OF RECORD.

12. THE CONSTRUCTION DOCUMENTS REPRESENT THE FINISHED STRUCTURE: THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE MEANS, METHOD, TECHNIQUES, PROCEDURE AND SEQUENCE OF CONSTRUCTION AS REQUIRED. SITE VISITS PERFORMED BY THE ENGINEER OF RECORD DO NOT INCLUDE INSPECTIONS OF MEANS AND METHODS OF CONSTRUCTION PERFORMED BY THE CONTRACTOR.

13. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY SHORES, BRACES AND GUYS REQUIRED TO SUPPORT ALL LOADS TO WHICH THE BUILDING STRUCTURE AND COMPONENTS. SOILS. OTHER STRUCTURES AND UTILITIES MAY... DURING CONSTRUCTION. VISITS TO THE SITE BY THE ENGINEER OF RECORD WILL NOT INCLUDE OBSERVATION OF THE ABOVE NOTED ITEMS.

14. CONSTRUCTION MATERIALS SHALL BE SPREAD OUT WHEN PLACED ON FRAMED FLOORS OR ROOFS. LOADS SHALL NOT EXCEED THE DESIGN LIVE LOAD PER SQUARE FOOT. PROVIDE ADEQUATE SHORING AND/OR BRACING WHERE THE STRUCTURE HAS NOT ATTAINED DESIGN STRENGTH OR WHERE OVERLOAD IS ANTICIPATED.

15. STRUCTURAL OBSERVATIONS PERFORMED DURING CONSTRUCTION DO NOT WAIVE THE RESPONSIBILITY FOR THE INSPECTIONS REQUIRED OF THE BUILDING INSPECTOR OR THE DEPUTY INSPECTOR. STRUCTURAL OBSERVATIONS ARE NOT THE SPECIAL INSPECTION SERVICES. OBSERVATIONS SHALL NOT BE CONSIDERED AS SUPERVISION OF CONSTRUCTION AND DO NOT GUARANTEE THE CONTRACTOR'S PERFORMANCE.

16. THE CONTRACTOR SHALL RESOLVE ANY CONFLICTS ON THE CONSTRUCTION DOCUMENTS WITH THE ENGINEER OF RECORD BEFORE PROCEEDING WITH THE WORK.

17. THE ENGINEER OF RECORD SHALL HAVE NO LIABILITY FOR WATERPROOFING OR MOISTURE TRANSMISSION ISSUES. WHETHER RELATED TO FOUNDATIONS OR OTHERWISE. THE OWNER SHALL DEFEND AND INDEMNIFY THE ENGINEER OF RECORD AGAINST ANY SUCH CLAIMS.

18. THE SCOPE OF THIS PROJECT INCLUDES THE NEW STRUCTURE(S) SHOWN ON THESE PLANS AND THOSE PORTIONS OF ANY EXISTING STRUCTURE(S) DIRECTLY AFFECTED BY THE NEW STRUCTURE(S). THE ENGINEER SHALL HAVE NO LIABILITY FOR THE SAFETY, PERFORMANCE, OR CODE COMPLIANCE OF ANY EXISTING ELEMENTS WHICH ARE NOT WITHIN THE PROJECT SCOPE.

19. ALL CONNECTORS WHICH WILL BE PERMANENTLY EXPOSED TO THE WEATHER SHALL BE CORROSION-RESISTANT (HOT-DIPPED GALVANIZED OR STAINLESS STEEL).

GLUED LAMINATED TIMBER

PROVIDE STRUCTURAL GLUED LAMINATED TIMBER OF DOUGLAS FIR LUMBER CONFORMING TO ANSI/AITO A 190.1.

2. MARK MEMBERS WITH THE ENGINEERED WOOD SYSTEM APA-EWS TRADEMARK OR ALTC QUALITY INSPECTED MARK INDICATING CONFORMANCE WITH PROVISIONS OF ANSI STANDARD A190.1.

3. ADHESIVES SHALL BE EXTERIOR TYPE

. GLUED LAMINATED MEMBERS SHALL BE PRESERVATIVE—TREATED FOR EXTERIOR USE WHEN EXPOSED TO THE WEATHER.

5. BEAMS TO BE COMBINATION 24F-V4 FOR SINGLE SPAN MEMBERS AND 24F-V8 FOR CONTINUOUS OR CANTILEVERED MEMBERS UNLESS OTHERWISE NOTED.

6. NOTCH OR BORE GLUED LAMINATED MEMBERS ONLY WHERE SPECIFICALLY DETAILED ON THE STRUCTURAL DRAWINGS.

CONCRETE

1. ALL STRUCTURAL CONCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH AS FOLLOWS:

SLAB ON GRADE: 2500 PSI NORMAL WEIGHT

GRADE BEAMS: 2500 PSI NORMAL WEIGHT

ALL OTHER CONCRETE: 2500 PSI NORMAL WEIGHT

NO MORE THAN ONE GRADE OF CONCRETE SHALL BE ON THE JOB SITE AT ANY ONE TIME.

3. CONCRETE CONSTRUCTION SHALL CONFORM TO THE FOLLOWING STANDARDS:

ACI 318 — BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE

 ACI 304 — MEASURING, MIXING, TRANSPORTING, AND PLACING CONCRETE ASTM C94 — STANDARD SPECIFICATION FOR READY—MIXED CONCRETE

 ASTM C150 — STANDARD SPECIFICATION FOR PORTLAND CEMENT, PORTLAND CEMENT SHALL CONFORM TO TYPE I OR TYPE II, LOW ALKALI.

ASTM C33 — STANDARD SPECIFICATION FOR CONCRETE AGGREGATES

4. CONCRETE IS REINFORCED AND CAST IN PLACE UNLESS OTHERWISE NOTED.

5. CONCRETE EXPOSED TO SULFATES SHALL COMPLY WITH ACI 318.

CONTAINING CALCIUM CHLORIDE ARE NOT ALLOWED.

6. CONCRETE MIXES SHALL BE DESIGNED BY AN APPROVED LABORATORY. ADMIXTURES

7. CONCRETE CAST WITH AIR POCKETS AND/OR "HONEYCOMB" UNDER OR AROUND THE MEMBERS IS NOT ACCEPTABLE. PROVIDE POUR POCKETS IN FORMS AND UNDER EXISTING STRUCTURAL MEMBERS AS REQUIRED TO PREVENT AIR POCKETS AND/OR "HONEYCOMB" UNDER OR AROUND THE EXISTING MEMBERS.

8. CONCRETE SLAB THICKNESS SHALL BE UNIFORM UNLESS OTHERWISE SHOWN

9. NON-SHRINK CEMENT GROUT SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 7000 PSI AT 28 DAYS. USE "FIVE STAR GROUT" (COLA RR # 23616) OR "MASTERFLOW 928" (COLA RR # 23137).

10. THOROUGHLY CLEAN AND ROUGHEN ALL EXISTING CONCRETE, CONCRETE PREVIOUSLY POURED AND HARDENED AND MASONRY SURFACES TO RECEIVE NEW CONCRETE. INTERFACE SHALL BE ROUGHENED TO 1/4 IN. AMPLITUDE UNLESS NOTED OTHERWISE.

11. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR

REINFORCEMENT IN CAST-IN-PLACE CONCRETE: CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: 3 IN.

• FORMED CONCRETE EXPOSED TO EARTH OR WEATHER: #6 BAR AND LARGER: 2 IN.

#5 BAR, W31 OR D31 WIRE, AND SMALLER: 1-1/2 IN. • CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND: SLABS, WALLS AND JOISTS (#11 BARS AND SMALLER): 3/4 IN. BEAMS AND COLUMNS PRIMARY REINFORCEMENT, TIES, STIRRUPS, AND SPIRALS: 1-1/2 IN.

12. BOLTS AND RODS CAST IN CONCRETE SHALL CONFORM TO ASTM F1554, GRADE 36 AND SHALL BE HOT-DIPPED GALVANIZED.

13. ALL REINFORCING BARS, ANCHOR BOLTS AND OTHER CONCRETE INSERTS SHALL BE WELL-SECURED IN POSITION PRIOR TO CONCRETE PLACEMENT

14. PROVIDE SLEEVES FOR PLUMBING AND ELECTRICAL OPENINGS IN CONCRETE BEFORE PLACING. DO NOT CUT ANY REINFORCING WHICH MAY CONFLICT. CORING IN CONCRETE IS NOT PERMITTED EXCEPT AS SHOWN. NOTIFY THE ENGINEER IN ADVANCE OF CONDITIONS NOT SHOWN ON THE DRAWINGS.

15. PROJECTING CORNERS OF BEAMS, WALLS, COLUMNS, ETC., SHALL BE FORMED WITH A 3/4 IN. CHAMFER, UNLESS OTHERWISE NOTED ON ARCHITECTURAL DRAWINGS.

REINFORCING STEEL

1. ALL REINFORCING STEEL SHALL BE DETAILED AND PLACED IN CONFORMANCE WITH ACI 318 - 'BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE,' AND THE 'MANUAL OF STANDARD PRACTICE FOR REINFORCED CONCRETE CONSTRUCTION' BY THE C.R.S.I. AND THE W.C.R.S.I., OR AS MODIFIED BY THE CONSTRUCTION

REINFORCING BARS SHALL CONFORM TO THE FOLLOWING, UNLESS NOTED

• REINFORCING STEEL #7 AND SMALLER: ASTM A615, 60 KS • REINFORCING STEEL #8 AND LARGER: ASTM A706, 60 KS

• REINFORCING STEEL TO BE WELDED: ASTM A706, 60 KS WELDED STEEL WIRE FABRIC: ASTM A185, 70 KSL

3. ALL BARS SHALL BE MARKED SO THEIR IDENTIFICATION CAN BE MADE WHEN THE FINAL IN PLACE INSPECTION IS MADE.

4. ALL REINFORCING BAR BENDS SHALL BE MADE COLD.

MINIMUM LAP OF WELDED WIRE FABRIC SHALL BE 12 INCHES, OR ONE FULL MESH PLUS TWO INCHES, WHICHEVER IS GREATER.

REINFORCING SPLICES SHALL ONLY BE MADE AS INDICATED ON THE DRAWINGS.

7. WELDING OF REINFORCEMENT SHALL BE WITH LOW HYDROGEN E90XX ELECTRODES IN CONFORMANCE WITH 'RECOMMENDED PRACTICES FOR WELDING REINFORCING STEEL. ETC., AMERICAN WELDING SOCIETY, AWS-D1.4. WELDING OF REINFORCING STEEL. SHALL BE PERFORMED BY WELDERS SPECIFICALLY CERTIFIED FOR REINFORCING

8. MECHANICAL COUPLERS: LENTON THREADED OR INTERLOCK COUPLERS BY ERICO, ICC-ES #3967, CADWELD BY ERICO, ICC-ES #3967, OR XTENDER BY HEADED REINFORCEMENT CORPORATION, ICC-ES #5309. COUPLERS FOR BEAM AND SLAB BARS AT FORMED CONSTRUCTION JOINTS MAY BE LENTON FORM SAVERS BY ERICO.

9. DOWELS BETWEEN FOOTINGS AND WALLS OR COLUMNS SHALL BE THE SAME GRADE, SIZE AND SPACING AS THE VERTICAL REINFORCING, RESPECTIVELY, UNLESS NOTED OTHERWISE.

10. DOWELS BETWEEN SLABS AND WALLS OR COLUMNS SHALL BE THE SAME GRADE. SIZE AND SPACING AS THE SLAB REINFORCING, UNLESS NOTED OTHERWISE.

LUMBER

1. LUMBER SHALL BE DOUGLAS FIR, SEASONED AND GRADE MARKED, UNLESS NOTED

2. LUMBER GRADES SHALL BE AS FOLLOWS, UNLESS NOTED OTHERWISE:

VERTICAL FRAMING MEMBERS:

• 4x POSTS: NO.

 5x POSTS AND LARGER: NO. 1 BEARING STUDS: NO. 2 OR CONSTRUCTION

NON—BEARING STUDS: STUD

• ALL OTHER VERTICAL MEMBERS: NO. 2

HORIZONTAL FRAMING MEMBERS:

TOP PLATES AND SILL PLATES: NO. 2 OR CONSTRUCTION

• 2x & 3x MEMBERS: NO. 2 4x MEMBERS & LARGER: NO. 1

3. WOOD PANEL SHEATHING SHALL BE PLYWOOD OR OSB AND SHALL COMPLY WITH DEPARTMENT OF COMMERCE STANDARD PS 1 OR PS 2. GRADES SHALL BE MARKED BY APA AND BONDED WITH EXTERIOR GLUE (EXPOSURE 1) UNLESS NOTED OTHERWISE. REFER TO PLANS AND DETAILS FOR GRADE AND INCKNESS.

4. NAILS SHALL BE COMMON WIRE NAILS. AS A MINIMUM, NAILING SHALL COMPLY WITH NAILING SCHEDULES PRESCRIBED BY THE GOVERNING BUILDING CODE

5. NAILS LARGER THAN 16d SHALL BE INSTALLED IN PRE-DRILLED HOLES OF 2/3 THE NAIL DIAMETER.

6. FASTENERS AND CONNECTORS IN CONTACT WITH PRESERVATIVE-TREATED WOOD OR FIRE-RETARDANT-TREATED WOOD SHALL BE HOT-DIPPED ZINC-COATED GALVANIZED STEEL IN ACCORDANCE WITH ASTM A153.

7. WOOD CONNECTOR DESIGNATIONS SPECIFIED ON THE DRAWINGS REFER TO CONNECTORS MANUFACTURED BY SIMPSON STRONG-TIE. INSTALL CONNECTORS PER APPLICABLE ICC-ES REPORTS AND MANUFACTURER'S RECOMMENDATIONS.

8. SILL PLATES AND OTHER WOOD MEMBERS BEARING DIRECTLY ON CONCRETE OR MASONRY SHALL BE PRESERVATIVE—TREATED LUMBER.

9. BOLTS AND LAG SCREWS SHALL COMPLY WITH ASTM A307 (Fy = 45 KSI). BOLTS AND LAG SCREWS SHALL BE FULL DIAMETER BODY. PROVIDE STANDARD CUT STEEL WASHERS AT ALL BOLT AND LAG SCREW CONNECTIONS. WASHERS SHALL CONFORM TO ANSI STANDARD B18.22.1.

10. BOLT HOLES SHALL NOT BE MORE THAN 1/16" LARGER THAN THE BOLT DIAMETER.

11. LAG SCREWS SHALL BE INSTALLED IN PRE-DRILLED HOLES. THE DIAMETER OF PRE-DRILL FOR THE THREADED PORTION SHALL BE 2/3 THE SHANK DIAMETER. THE DIAMETER OF PRE-DRILL FOR THE SHANK PORTION SHALL BE EQUAL TO THE SHANK DIAMETER. LAG SCREWS SHALL BE TURNED, NOT DRIVEN.

12, SILL PLATE ANCHOR BOLTS AT SHEARWALLS SHALL HAVE SQUARE PLATE WASHERS MEASURING 1/4 IN. x 3 IN. x 3 IN.

13. PROVIDE DOUBLE JOISTS BENEATH NON-BEARING WALLS PARALLEL TO JOISTS. PROVIDE SOLID BLOCKING BENEATH NON-BEARING WALLS PERPENDICULAR TO

14. PROVIDE FULL BEARING AT ENDS OF ALL BLOCKING, UNLESS NOTED OTHERWISE.

15. CARE SHALL BE TAKEN TO AVOID WOOD SPLITTING OR CHIPPING DUE TO NAILING. PRE-DRILL AS REQUIRED. SPLIT WOOD MEMBERS SHALL BE REPLACED.

NAILING SCHEDULE

· · · · · · · · · · · · · · · · · · ·	14 CONEDUL	
CONNECTION	NAILING	LOCATION
JOIST TO SILL, TOP PLATE, OR GIRDER	3-8d COMMON, OR 3-10d BOX	TOENAIL
BOTTOM PLATE TO JOIST, RIM, OR BLOCKING (AT NON-SHEAR WALLS)	16d COMMON @ 16", OR 16d BOX @ 12"	FACE NAIL
TOP PLATE TO STUD	2-16d COMMON, OR 3-10d BOX	END NAIL
STUD TO BOTTOM PLATE	2-16d COMMON, OR 3-10d BOX, OR 4-8d COMMON, OR 4-10d BOX	END NAIL END NAIL TOENAIL TOENAIL
BLOCKING BETWEEN JOISTS OR RAFTERS TO TOP PLATE	3-8d COMMON, OR 3-10d BOX	TOENAIL AT EACH
RIM BOARD TO TOP PLATE	8d COMMON @ 6", OR 10d BOX @ 6"	TOENAIL
TOP PLATES, LAPS AND INTERSECTIONS	2-16d COMMON, OR 3-10d BOX	FACE NAIL
CEILING JOISTS TO PLATE	3-8d COMMON, OR 3-10d BOX	TOENAIL PER JOIST
CONTINUOUS HEADER TO STUD	4-8d COMMON, OR 4-10d BOX	TOENAIL
CEILING JOISTS LAPS OVER PARTITIONS	3-16d COMMON, OR 4-10d BOX	FACE NAIL
CEILING JOISTS TO PARALLEL RAFTERS	3-16d COMMON, OR 4-10d BOX	FACE NAIL
RAFTER TO PLATE	3-10d COMMON, OR 3-16d BOX	TOENAIL
BUILT-UP CORNER STUDS	16d COMMON @ 16", OR 16d BOX @ 12"	FACE NAIL
COLLAR TIE TO RAFTER	3-10d COMMON, OR 4-10d BOX	FACE NAIL
JACK RAFTER TO HIP	3-10d COMMON, OR 2-16d COMMON	TOENAIL FACE NAIL
ROOF RAFTER TO 2x RIDGE BOARD	3-10d COMMON, OR 3-16d BOX, OR 4-10d BOX	TOENAIL
JOIST TO RIM JOIST	3-16d COMMON, OR 4-10d BOX	END NAIL

THE CONNECTIONS SPECIFIED IN THIS SCHEDULE SHALL BE PROVIDED, AS A MINIMUM, AT ALL OF THE FRAMING CONDITIONS INDICATED. CONNECTIONS SPECIFIED ON THE DETAILS SHALL TAKE PRECEDENCE OVER THOSE SPECIFIED IN THIS SCHEDULE.

ADHESIVE ANCHORS AND DOWELS

1. ANCHORS AND DOWELS INSTALLED INTO CONCRETES SIMPSON SET-XP EPOXY (ICC-ES #ESR-2508) OR HILTI HIT-RE 500-SD (ICC-ES #ER-2322).

2. ANCHORS AND DOWELS INSTALLED INTO GROUT-FILLED MASONRY UNITS: HILTI

HY-150 (ICC-ES #5193) OR SIMPSON SET ADHESIVE (ICC-ES #1772).

3. ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH ICC-ES REPORT AND MANUFACTURER'S RECOMMENDATIONS.

4. ANCHORS: ASTM A36 THREADED RODS WITH ASTM A 563 GRADE A NUTS AND ANSI B18.22.1 TYPE A WASHERS, UNLESS OTHERWISE NOTED. ANCHORS DESIGNATED AS ASTM A193 GRADE B7 THREADED RODS TO USE ASTM A 563 GRADE DH HEAVY HEX NUTS AND ASTM F436 WASHERS.

5. DOWELS: ASTM A615 GRADE 60 REINFORCING STEEL, UNLESS NOTED OTHERWISE

6. WEDGE BARS TIGHT AND CENTERED IN THE HOLE WITH WOODEN WEDGES TO HOLD IT IN PLACE UNTIL THE ADHESIVE SETS.

7. IF REINFORCEMENT IS ENCOUNTERED DURING DRILLING, ABANDON AND SHIFT LOCATION OF THE HOLE TO AVOID THE REINFORCEMENT. PROVIDE A MINIMUM OF 2 ANCHOR DIAMETERS OR 1 IN., WHICHEVER IS LARGER, OF SOUND CONCRETE BETWEEN THE DOWEL AND THE ABANDONED HOLE, FILL THE ABANDONED HOLE WITH NON-SHRINK GROUT. IF THE ANCHOR OR DOWEL MAY NOT BE SHIFTED AS NOTED ABOVE, THE ENGINEER WILL DETERMINE A NEW LOCATION.

8. LOCATE REINFORCEMENT AND CONFIRM FINAL ANCHOR LOCATIONS PRIOR TO FABRICATING PLATES, MEMBERS, OR OTHER STEEL ASSEMBLIES ATTACHED WITH ADHESIVE ANCHORS.

9. ANCHORS SHALL BE TESTED IN ACCORDANCE WITH ICC-ES REPORT AND MANUFACTURER'S RECOMMENDATIONS.

MASONRY

CONCRETE BLOCK SHALL BE HOLLOW LOAD—BEARING CONCRETE MASONRY UNITS CONFORMING TO ASTM COO GRADE N, NORMAL WEIGHT. USE OPEN END UNITS FOR ALL EXTERIOR WALLS, AND BOND BEAM UNITS AT HORIZONTAL REINFORCING. MINIMUM COMPRESSIVE STRENGTH OF BLOCKS AS REQUIRED TO MEET SPECIFIED COMPRESSIVE STRENGTH OF MASONRY (f'm) SPECIFIED ON THE CONSTRUCTION DOCUMENTS.

2. SPECIFIED COMPRESSIVE STRENGTH OF MASONRY, I'm SHALL BE AS FOLLOWS:

I'm = 1500 PSI AT 28 DAYS, TYPICAL UNLESS NOTED OTHERWISE.

3. VERIFY SPECIFIED COMPRESSIVE STRENGTH OF MASONRY IN ACCORDANCE WITH ONE OF THE FOLLOWING METHODS AS DEFINED IN CBC CHAPTER 21: MASONRY PRISM TESTING, MASONRY PRISM TEST RECORD OR UNIT STRENGTH METHOD.

4. CEMENT SHALL BE AS SPECIFIED FOR CONCRETE.

BELOW TOP OF MASONRY UNIT.

5. MORTAR MIX SHALL CONFORM TO THE ASTM C270 REQUIREMENTS FOR TYPE S. MORTAR SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH AS REQUIRED TO MEET THE SPECIFIED COMPRESSIVE STRENGTH OF MASONRY (f'm). THE COMPRESSIVE STRENGTH OF THE GROUT SHALL NOT BE LESS THAN OF 2000 PSI AT 28 DAYS.

6. PROVIDE GROUT COMPLYING WITH ASTM C476 ATTAINING A MINIMUM COMPRESSIVE STRENGTH AS REQUIRED TO MEET THE SPECIFIED COMPRESSIVE STRENGTH OF MASONRY (f'm). THE COMPRESSIVE STRENGTH OF THE GROUT SHALL NOT BE LESS THAN 2000 PSI AT 28 DAYS.

7. ADMIXTURES SHALL BE ADDED TO MORTAR OR GROUT RESPECTIVELY PER MANUFACTURER'S RECOMMENDATIONS.

8. PROVIDE 3/4 IN. CLEAR GROUT SPACE (ONE BAR DIAMETER MINIMUM) BETWEEN MAIN REINFORCING AND MASONRY UNITS.

9. PROVIDE 1 IN. CLEAR GROUT SPACE (ONE BAR DIAMETER MINIMUM) BETWEEN PARALLEL BARS.

10. LOW-LIFT CONSTRUCTION; MAXIMUM GROUT POUR HEIGHT IS 4 FEET.

21 OF THE CALIFORNIA BUILDING CODE. 12. ALL CELLS IN CONCRETE BLOCKS SHALL BE FILLED SOLID WITH GROUT, UNLESS

11. HIGH-LIFT GROUTED CONSTRUCTION MAY BE USED IN CONFORMANCE WITH CHAPTER

NOTED OTHERWISE. 13. CELLS SHALL BE IN VERTICAL ALIGNMENT. DOWELS IN FOOTINGS AND FLOORS SHALL BE SET TO ALIGN WITH CORES CONTAINING REINFORCING STEEL AND SHALL

MATCH THE SIZE OF THE WALL REINFORCING. 14. REFER TO ARCHITECTURAL DRAWING FOR SURFACE AND HEIGHT OF UNITS. LAYING

PATTERN, AND JOINT TYPE. 15. IF WORK IS STOPPED FOR AN HOUR OR LONGER, PROVIDE HORIZONTAL CONSTRUCTION JOINT PER TYPICAL DETAILS AND BY STOPPING GROUT 1-1/2 IN.

STRUCTURAL DESIGN CRITERIA

FLOOR LIVE LOAD: 40 PSF ROOF LIVE LOAD: 20 PSF

ATTIC LIVE LOAD: 20 PSF

WIND DESIGN CRITERIA BASIC WIND SPEED: 110 MPH WIND EXPOSURE CATEGORY: B

SEISMIC DESIGN CRITERIA RISK CATEGORY: II

IMPORTANCE FACTOR: 1.0 MAPPED ACCELERATIONS: SS = 3.03g, S1 = 0.95g SITE CLASS: D MAPPED COEFFICIENTS: SDS = 2.02g, SD1 = 0.95g

RESPONSE MODIFICATION FACTOR: R = 6.5SEISMIC RESPONSE COEFFICIENT: CS = 0.31W

SEISMIC DESIGN CATEGORY: E

ANALYSIS PROCEDURE USED: EQUIVALENT LATERAL FORCE

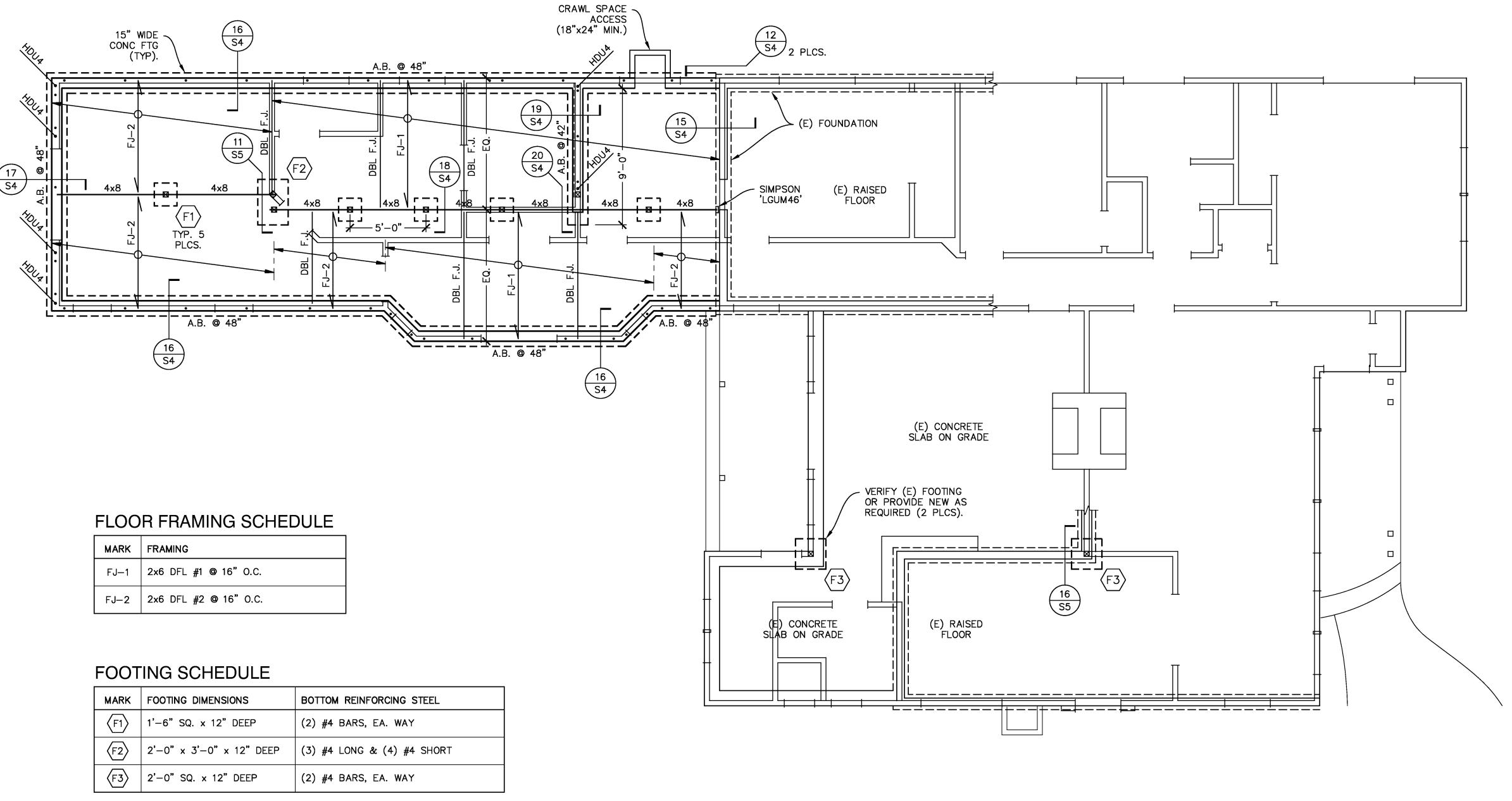
LATERAL SYSTEM: WOOD PANEL SHEARWALLS

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AND

ARCHITECT ENGINEER SEAL AND SIGNATURE

PERMIT #: BLDXX-XXXXX



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



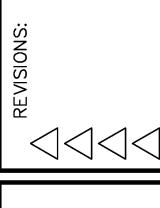
FOUNDATIONS AND SITE WORK NOTES

- 1. THE DESIGN OF THE FOUNDATION SYSTEM IS BASED UPON MINIMUM SOIL VALUES PRESCRIBED IN CHAPTERS 16 & 18 OF THE BUILDING CODE.
- FOOTING DESIGN IS BASED ON ALLOWABLE SOIL PRESSURE OF 1,500 PSF. BOTTOM
 OF FOOTINGS TO BE A MINIMUM OF 12" BELOW LOWEST ADJACENT FINISHED FLOOR
 OR GRADE, AND 24" INTO UNDISTURBED NATURAL SOIL.
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR EXCAVATION PROCEDURES INCLUDING SHORING, LAGGING, UNDERPINNING AND PROTECTION OF EXISTING CONSTRUCTION.
- 4. CONTRACTOR SHALL PROVIDE DE-WATERING OF EXCAVATIONS FROM SURFACE WATER, GROUND WATER OR SEEPAGE. REMOVE LOOSE SOIL AND STANDING WATER FROM FOUNDATION EXCAVATIONS PRIOR TO PLACING CONCRETE.
- 5. LOCATE AND PROTECT EXISTING UTILITIES TO REMAIN DURING AND/OR AFTER CONSTRUCTION.
- 6. ALL ABANDONED FOOTINGS, UTILITIES, ETC. THAT INTERFERE WITH NEW CONSTRUCTION SHALL BE REMOVED.

PLAN NOTES

FOUNDATION PLAN

- ANCHOR BOLTS SHALL BE 5/8" DIA X 10" LONG. MAXIMUM SPACING OF ANCHOR BOLTS IS INDICATED ON THE FOUNDATION PLAN. SEE TYPICAL DETAILS FOR ANCHOR BOLT PLACEMENT.
- HOLDOWN HARDWARE MUST BE SECURED IN PLACE PRIOR TO FOUNDATION INSPECTION.
- 3. HOLDOWNS SHALL BE TIGHTENED JUST PRIOR TO COVERING THE WALL FRAMING.
- FLOOR SHEATHING SHALL BE 5/8" STRUCT 1 PLYWD OR OSB UNBLOCKED WITH 10d NAILS OR APPROVED SCREWS @ 6" BOUNDARY, 6" EDGE, 12" FIELD.
- 5. FLOOR SHEATHING SHALL BE GLUED TO FRAMING.



THIS DOCUMENT IS PROVIDED AS A GENERAL EXAMPLE ONLY. THE CITY OF SANTA CLARITA DOES NOT ENDORSE THE CONTENT OF THIS DOCUMENT OR GUARANTEE ITS ACCURACY OR COMPLIANCE WITH BUILDING CODES OR OTHER REGULATIONS. THIS DOCUMENT SHALL NOT BE CONSTRUED AS AN APPROVAL TO VIOLATE ANY BUILDING CODE OR OTHER REGULATION. THE INFORMATION INCLUDED IN THIS DOCUMENT SHALL NOT BE COPIED OR SUBSTITUTED FOR THE CONSTRUCTION DOCUMENTS FOR ANY OTHER PROJECT. CONSTRUCTION DOCUMENTS SHALL CONTAIN SUFFICIENT INFORMATION TO DEMONSTRATE COMPLIANCE WITH THE BUILDING CODES AND OTHER APPLICABLE REGULATIONS, AS DETERMINED BY THE CITY OF SANTA CLARITA.

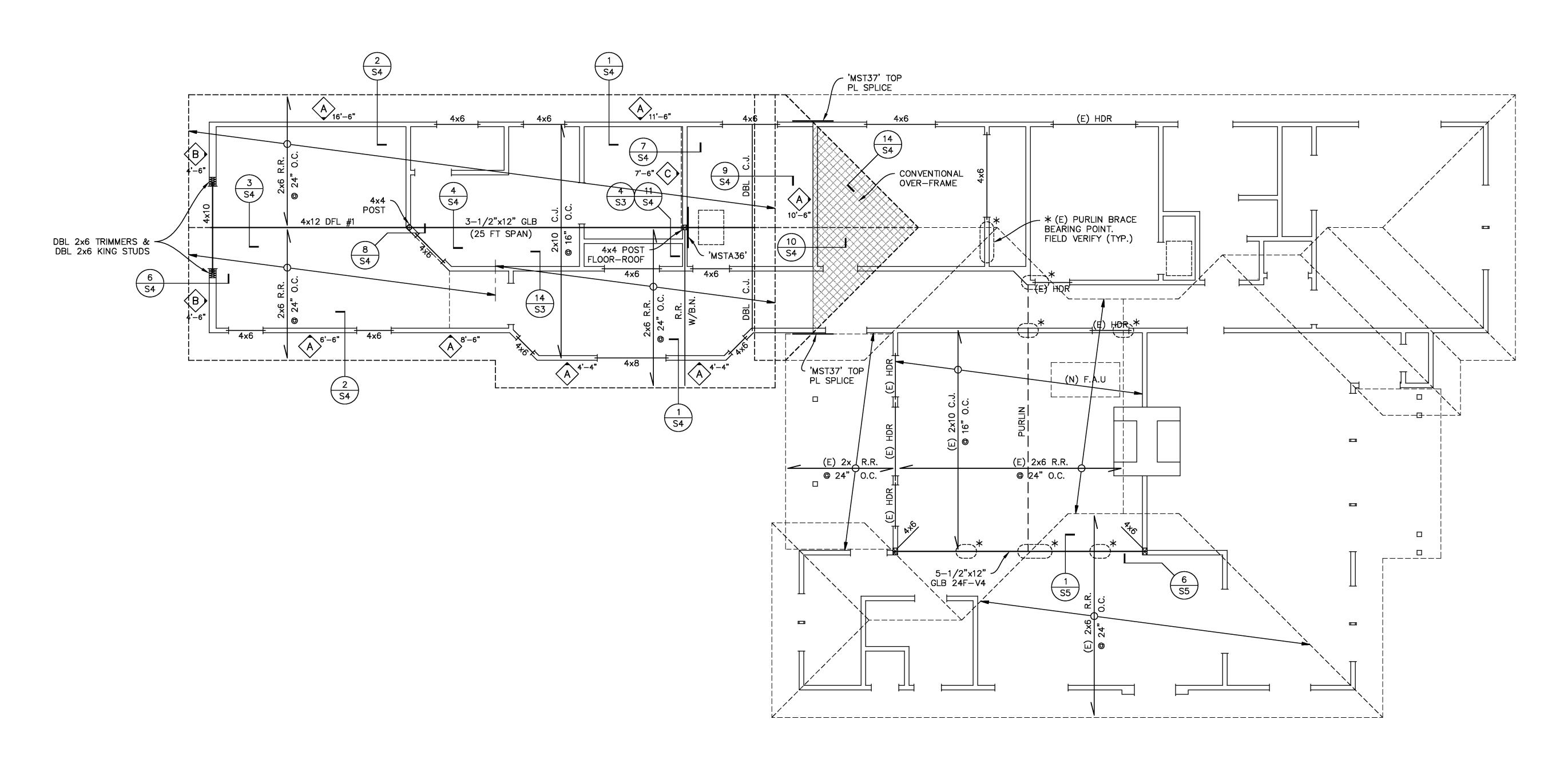
PROJECT:
ADDITION AND REMODEL FOR SINGLE—FAMILY DWELLING
22345 EXAMPLE LN.
SANTA CLARITA, CA
OWNERS:

ARCHITECT/ ENGINEER SEAL AND SIGNATURE

PERMIT #: BLDXX-XXXXX

SHEET #

S1



SHEARWALL SCHEDULE

		STUDS AT PANEL			FOUNDATION	UP	PER FLOORS	ALLOW SHEAR	
MARK	SHEATHING (PLYWOOD OR OSB)	EDGES (1)	E.N. / F.N. (2)	SILL PL	ANCHOR BOLTS (3)	SILL PL	SILL CONN (4)	(PLF)	
A	1/2" STRUCT. 1	2x	8d @ 6"/12"	2x	5/8" DIA. @ 48"	2x	16d @ 4"	280	
B	1/2" STRUCT. 1	2x	10d @ 6"/12"	2x	5/8" DIA. @ 48"	2x	16d @ 4"	340	
\$\sqrt{c}\$	1/2" STRUCT. 1	3x	10d @ 4"/12"	2x	5/8" DIA. @ 42"	2x	16d @ 3"	510	
(D)	1/2" STRUCT. 1	3x	10d @ 3"/12"	2x	5/8" DIA. @ 32"	2x	SDS @ 6"	665	
E	1/2" STRUCT. 1	3x	10d @ 2"/12"	2x	5/8" DIA. @ 24"	2x	SDS @ 4"	870	
F	1/2" STRUCT. 1 (BOTH SIDES)	3x	10d @ 4"/12"	2x	5/8" DIA. @ 20"	2x	SDS @ 4"	1020	
G	1/2" STRUCT. 1 (BOTH SIDES)	3x	10d @ 3"/12"	2x	5/8" DIA. @ 16"	2x	SDS @ 3"	1330	
H	1/2" STRUCT. 1 (BOTH SIDES)	3x	10d @ 2"/12"	2x	5/8" DIA. @ 12"	2x	SDS @ 2-1/2"	1740	

1. THICKNESS OF STUDS AND BLOCKING RECEIVING EDGE NAILING FROM ADJOINING PANELS.
2. NAILS SHALL BE COMMON NAILS WITH FULL HEADS.
3. ANCHOR BOLTS SHALL BE INSTALLED WITH 3" SQ x 1/4" PLATE WASHERS.
4. 'SDS' INDICATES SIMPSON 'STRONG DRIVE' 1/4" x 4" S—SERIES WOOD SCREW (ICC—ES# 5268).

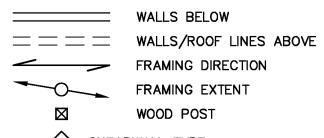
ROOF FRAMING PLAN

PLAN NOTES

ROOF SHEATHING SHALL BE 1/2" STRUCT 1 PLYWD OR OSB UNBLOCKED WITH 8d NAILS @ 6" BOUNDARY, 6" EDGE, 12" FIELD.

- 2. STUD WALLS UP TO 10 FT TALL SHALL BE MINIMUM 2x4 @ 16" O.C. STUD WALLS UP TO 14 FEET TALL MAY BE DOUBLE 2x4 @ 16" O.C.. WALLS TALLER THAN 14 FEET SHALL BE 2x6 @ 16" O.C.
- 3. EXISTING ROOF PURLINS, PURLIN BRACES, CEILING JOIST BRACES, AND OTHER ROOF ELEMENTS ABOVE THE CEILING SHALL BE PROTECTED IN PLACE. PROVIDE ADEQUATE SHORING DURING CONSTRUCTION.

PLAN LEGEND



SHEARWALL TYPE

X'-X" MINIMUM WALL LENGTH

SHEET #

ARCHITECT/

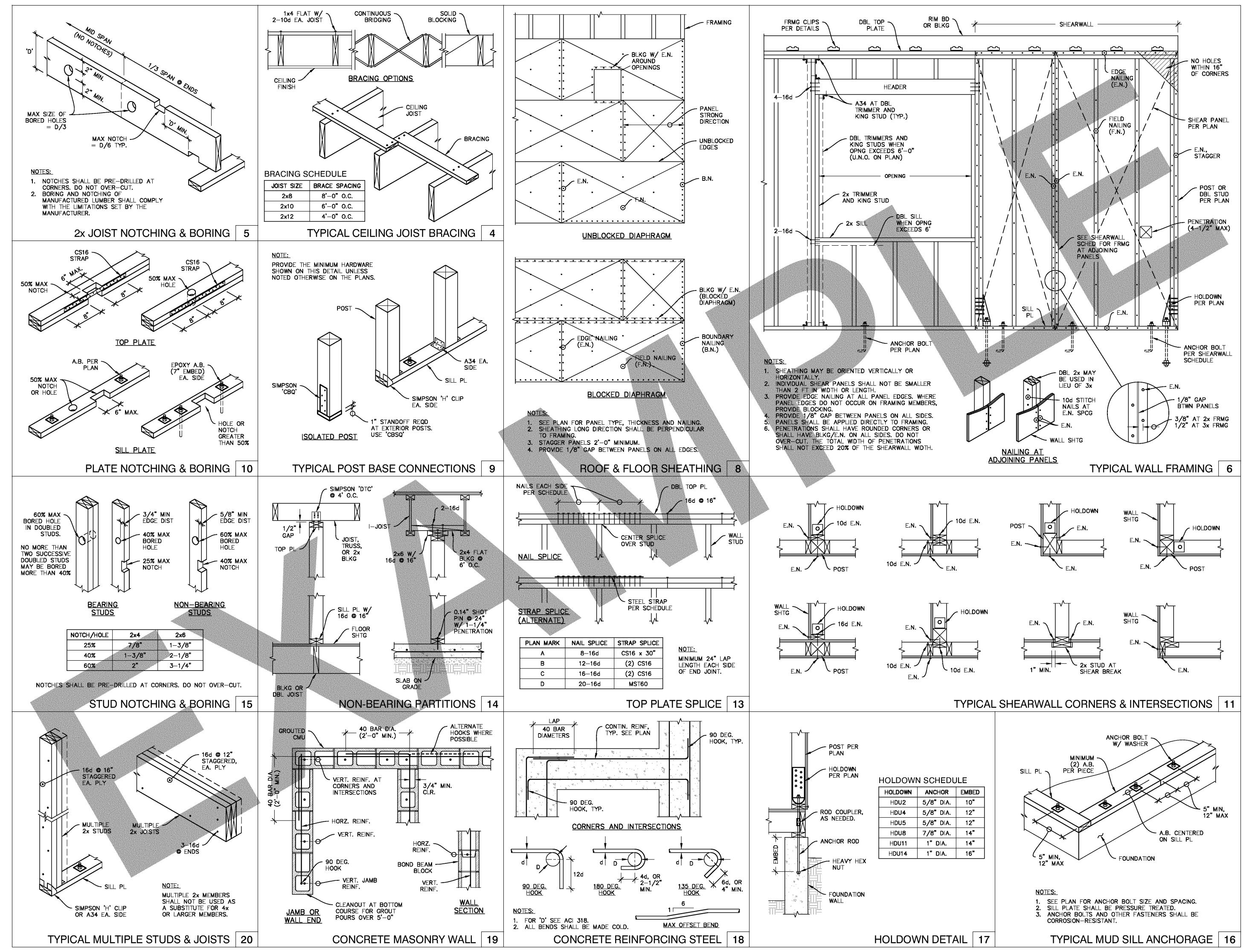
ENGINEER

SEAL AND SIGNATURE

PERMIT #: BLDXX-XXXXX

444

PROJECT:
ADDITION AND REMODE
22345 EXAMPLE LN.
SANTA CLARITA, CA



REVISIONS:

THIS DOCUMENT IS PROVIDED AS A GENERAL EXAMPLE ONLY. THE CITY OF SANTA CL DOES NOT ENDORSE THE CONTENT OF THIS DOCUMENT OR GUARANTEE ITS ACCURACY COMPLIANCE WITH BUILDING CODES OR OTHER REGULATIONS. THIS DOCUMENT SHALL N BE CONSTRUED AS AN APPROVAL TO VIOLATE ANY BUILDING CODE OR OTHER REGULATHE INFORMATION INCLUDED IN THIS DOCUMENT SHALL NOT BE COPIED OR SUBSTITUTE THE CONSTRUCTION DOCUMENTS FOR ANY OTHER PROJECT. CONSTRUCTION DOCUMENT SHALL CONTAIN SUFFICIENT INFORMATION TO DEMONSTRATE COMPLIANCE WITH THE BUILCODES AND OTHER APPLICABLE REGULATIONS, AS DETERMINED BY THE CITY OF SANTACLARITA.

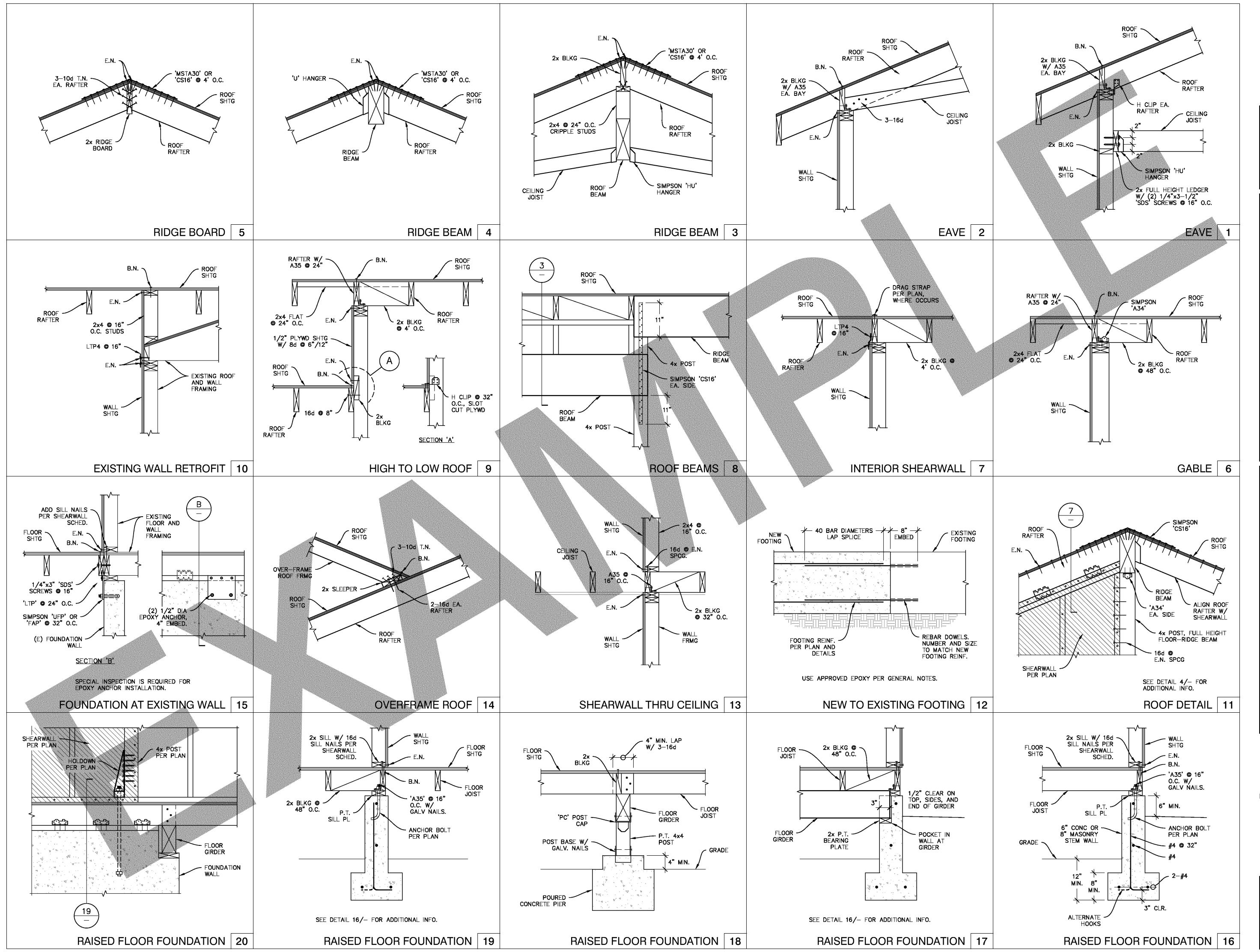
PROJECT:
ADDITION AND REMODEL FOR SINGLE—FAMILY DWELLING
22345 EXAMPLE LN.
SANTA CLARITA, CA
OWNERS:

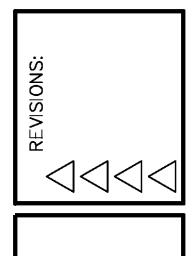
ARCHITECT/ ENGINEER SEAL AND SIGNATURE

PERMIT #: BLDXX-XXXX

SHEET #

S3





THIS DOCUMENT IS PROVIDED AS A GENERAL EXAMPLE DOES NOT ENDORSE THE CONTENT OF THIS DOCUMENT COMPLIANCE WITH BUILDING CODES OR OTHER REGULATING SAN APPROVAL TO VOLATE ANY BUILDING CODES OR OTHER PROJECT OF THIS DOCUMENT SHALL INFORMATION TO DEMONSTR. CODES AND OTHER APPLICABLE REGULATIONS, AS DETERMENT.

ADDITION AN 22345 EXAM SANTA CLAR SANTA CLAR OWNERS:

ARCHITECT/ ENGINEER SEAL AND SIGNATURE

PERMIT #: BLDXX-XXXXX

City of Santa Clarita Building & Safety Division

2013 CalGreen Code residential mandatory measures For additions or alterations that increase the building's conditioned area, volume, or size

2013 CPC.

division 4.4

inspector.

to final inspection.

Material Conservation & Resource Efficiency

1. Rodent proofing- Annular spaces around pipes,

electric cables, conduits or other openings in

sole/bottom 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 city building

nonhazardous construction and demolition waste shall

be recycled and/or salvaged. Projects that qualify

under the City's construction and demolition waste

ordinance must also comply with City recycle

requirements. City of Santa Clarita Environmental

Services division approval and stamp required on

submitted to the City's Environmental Services

Division per the requirement in Section 4.408.2 of the

company that can provide verifiable documentation

that the percentage of construction waste material

diverted from the landfill meets the 50% minimum

construction and demolition waste disposed of in

landfills, which do not exceed four lbs./sq. ft. of the

building area shall be deemed to meet the minimum

must be provided to and signed off by the

Environmental Services Division at the time of final inspection and approval by the building inspector.

6. **Proof of compliance** with one of the methods listed

5. Projects that generate a total combined weight of

3. A construction waste management plan shall be

4. **Documentation-** Utilize a waste management

plans prior to permit issuance.

50% requirement.

2013 CGBSC prior to permit issuance.

2. Construction waste- A minimum of 50% of

THE FOLLOWING REQUIREMENTS APPLY ONLY TO AND/OR WITHIN THE SPECIFIC AREA OF THE ADDITION OR ALTERATION

Planning & Design division 4.1

- 1. 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.
- 2. Storm water pollution- This project shall comply with all NPDES and local storm water ordinance requirements to control storm water drainage and prevent sediment runoff during construction. BMPs per Section 4.106.2 shall be in place and strictly adhered to throughout construction
- 3. Surface drainage shall be designed to prevent water from entering the building. Construction plans shall clearly show how the site grading and drainage system will manage surface water flows to keep water from entering building(s).

See sheet # A1 for compliance details. (N/A for projects that do not alter the existing drainage path)

Energy Efficiency division 4.2

1. All new/alter areas shall comply with all applicable energy efficiency requirements as set forth in the 2013 California Energy Code (use 2010 edition prior to July 1, 2014). Title 24 Energy calcs shall be included as part of the plans and drawings.

Water Efficiency and Conservation division 4.3 1. Plumbing fixtures and fittings shall comply with the

- a. Water closets- 1.28 gallons per flush
- b. **Urinals** 0.5 gallons per flush
- c. Single showerheads- flow rate shall not exceed 2.0 gallons per minute at 80 psi. d. Multiple showerheads serving one shower-
- combined flow rate of all showerheads controlled by a single valve shall not exceed 2.0 gallons per minute at 80 psi.
- e. Lavatory faucets- flow rate shall not exceed 1.5 gallons per minute at 60 psi.
- f. Lavatory faucets (common/public use areas)flow rate shall not exceed 0.5 gallons per minute at 60 psi.
- g. **Metering faucets-** maximum 0.25 gallons per
- h. **Kitchen faucets** 1.8 gallons per minute at 60

sealed combustion type. Wood burning masonry fireplaces are not allowed (per SCAQMD).

- 2. During the construction process and until final startup of the HVAC system, all duct openings and other (incorporate these requirements and the signed compliance statement into the plans) related air distribution component openings shall be covered with tape, plastic, sheetmetal or other method 2. Plumbing fixtures and fittings shall be installed in to reduce the amount of water, dust or debris which accordance with the 2013 CPC and shall meet the
 - may enter the system. applicable standards referenced in Table 1401.1 of the 3. All adhesives, sealants and caulks used on this project shall comply with SCAQMD Rule 1168 for 3. For homes constructed prior to January 1, 1994, all VOC limits and toxic compounds. Aerosol adhesives, plumbing fixtures throughout the entire residence sealants and caulks (in packaging units not more than must be upgraded to water-conserving fixtures (per one pound or 16 fluid ounces) shall comply with SB 407 California State law). Compliance form to be statewide VOC standards. signed and given to the City building inspector prior
 - 4. **Paints and coatings** shall comply with VOC limits in Table 4.504.3 of the CGBSC.

Environmental Quality division 4.5

1. Pre-fabricated fireplaces shall be gas direct-vent

- 5. Aerosol paints and coatings shall comply with statewide requirements and other requirements noted in Section 4.504.2.3 of the CGBSC.
- 6. Carpeting and carpet cushions shall meet the requirements of the Carpet and Rug Institute Green Label program or equivalent. Adhesives shall comply
- with VOC limits in Table 4.504.1 of the CGBSC. 7. Where **resilient flooring** is installed, 50% of the floor area receiving resilient flooring shall comply with one
- or more of the requirements listed in Section 4.504.4. 8. Composite wood products used on the interior or exterior shall comply with the formaldehyde limits as noted in Table 4.504.5 of the CGBSC.
- 9. **Documentation of compliance** for items 3 through 8 shall be available for the building inspector upon request prior to final inspection.
- 10. Interior moisture control- A 10 mil vapor barrier shall be provided below new concrete slabs of conditioned spaces to minimize moisture intrusion (clearly show on details).
- 11. Building materials with visible signs of water damage shall not be installed. Framing lumber shall be protected from moisture prior to installation. Prior to enclosing the framing, the moisture content of the framing members shall be verified not to exceed 19%. Documentation of moisture content from at least three separate locations shall be provided to the building
- inspector prior to enclosing wall and floor framing. 12. Bathroom fans shall be ENERGY STAR compliant with humidistat controls capable of adjustment between 50% and 80% relative humidity. Fans shall be ducted to terminate outside the building and shall be equipped with a backdraft damper.
- 13. Whole house fans shall have insulated louvers or covers with a minimum insulation value of R-4.2

14. New HVAC systems shall be sized, designed and have equipment selected as outlined in Section 4.507.2 of the CGBSC. Documentation of compliance, including drawings and calculations of the system design, shall be provided to the City planchecker upon request prior to permit issuance.

Installer and Special Inspector Qualifications Chapter 7

- . HVAC equipment installers shall be trained and certified by a nationally recognized training or certification program as outlined in section 702.1 of the 2013 CGBSC. Verification of qualifications shall
- be provided to the building inspector upon request. **Special inspectors** must be registered with the City of Santa Clarita Building & Safety Division prior to performing special inspections of any 'green building' component or system required by this Code. Contact Building & Safety for registration requirements.

Compliance Statement

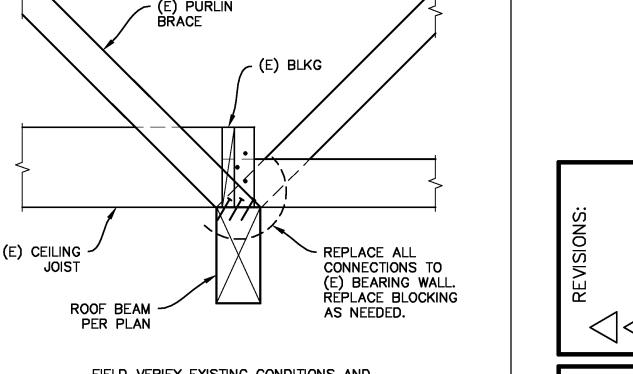
(to be completed by the project designer of record) As the design professional or designer of record for this project, I certify that this project will comply with all applicable provisions of the 2013 California Green Building Standards Code (CalGreen Code).

gnature	ACTIVITIES AND AND AND ACTIVITIES AND	yczonacie – obaki yczonacie – ob	осы в українсь українсь на выська мученно чистою	CHECK MATHOLOGODIC ROMANT	NORTH WITH SERVICE AND ANY ORDER

June, 2016

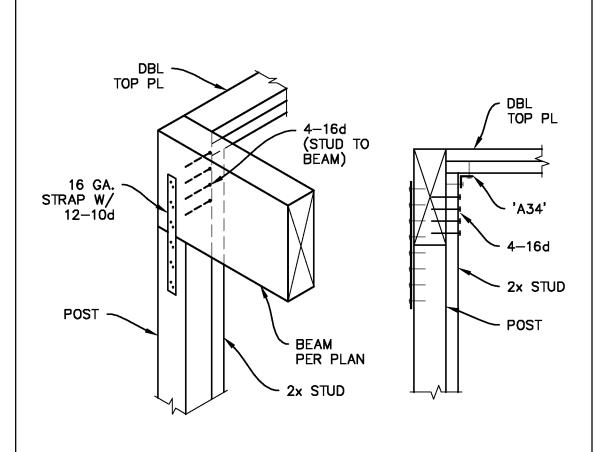
Print Name

Eff. Date 1/1/2014

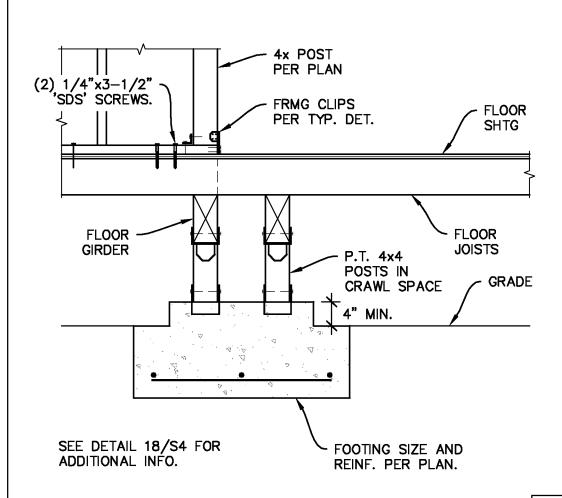


FIELD VERIFY EXISTING CONDITIONS AND PROVIDE ADEQUATE SHORING PRIOR TO REMOVAL OF EXISTING BEARING WALL.

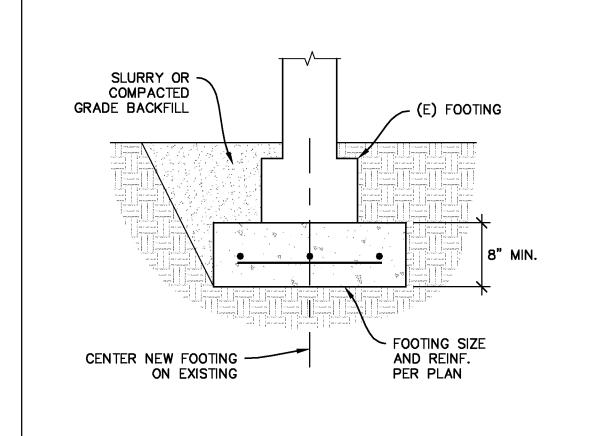
NEW BEAM AT EXISTING ROOF 1



BEAM-POST CONNECTION | 6



COMBINED FOOTING 11



UNDERPIN FOOTING | 16

444

THIS DO DOES NO COMPLIA BE CON THE INFI THE CON SHALL CODES /

DWE AND



PERMIT #: BLDXX-XXXXX

Calculation Date/Time: 20:16, Sat, Aug 13, 2016 Input File Name: 06192016e R.xml

CF1R-PRF-01 Page 3 of 9

Calcula	nion bescription. The 24 Analysis		input i ne iv	aire. 001920106 N.XIIII						
GENER	AL INFORMATION									
01	01 Project Name Residence Addition									
02	Calculation Description	Title 24 Analysis								
03	Project Location	3 13 13								
04	City	Santa Clarita	05	Standards Version	Compliance 2015					
06	Zip Code		07	Compliance Manager Version	BEMCmpMgr 2013-4 (744)					
08	Climate Zone	CZ9	09	Software Version	EnergyPro 6.6					
10	Building Type	Single Family	11	Front Orientation (deg/Cardinal)	355					
12	Project Scope	Addition and/or Alteration	13	Number of Dwelling Units	1					
14	Total Cond. Floor Area (ft ²)	2425	15	Number of Zones	2					
16	Slab Area (ft ²)	415	17	Number of Stories	1					
18	Addition Cond. Floor Area	705	19	Natural Gas Available	Yes					
20	Addition Slab Area (ft ²)	0	21	Glazing Percentage (%)	18.4%					

COMPLIANCE RESULTS

01	Building Complies with Computer Performance
02	This building incorporates features that require field testing and/or verification by a certified HERS rater under the supervision of a CEC-approved HERS provider.

	ENERGY USE SUMMARY											
04	05	06	07	08								
Energy Use (kTDV/ft ² -yr)	Standard Design	Proposed Design	Compliance Margin	Percent Improvement								
Space Heating	19.22	16.42	2.80	14.6%								
Space Cooling	63.28	65.59	-2.31	-3.7%								
IAQ Ventilation	0.00	0.00	0.00	0.0%								
Water Heating	12.37	12.37	0.00	0.0%								
Photovoltaic Offset		0.00	0.00									
Compliance Energy Total	94.87	94.38	0.49	0.5%								

Registration Number: CA Building Energy Efficiency Standards - 2013 Residential Compliance Report Version - CF1R-04072016-744

Registration Date/Time:

This is the sum of the annual TDV energy consumption for energy use components included in the performance compliance approach for the Standard Design Building (Energy Budget) and the annual TDV energy consumption for lighting and components not regulated by Title 24, Part 6 (such as domestic appliances and consumer electronics) and accounting for the annual TDV energy offset by an on-site renewable energy system.

CF1R-PRF-01

Page 4 of 9

Total Energy (kTDV/f2-y	r)*	139.36		138.87	0.49	0.4%
ncludes calculated Appliances an	d Miscellaneous Energy Use (AM	ΛEU)				
UILDING - FEATURES INFORMA	NOIT					
01	02	03	04	05	06	07
Project Name	Conditioned Floor Area (ft2)	Number of Dwelling Units	Number of Bedrooms	Number of Zones	Number of Ventilation Cooling Systems	n Number of Water Heating Systems
Residence Addition	2425	1	4	2	0	1

02	03	04	05	06	07
Zone Type	HVAC System Name	Zone Floor Area (ft ²)	Avg. Ceiling Height	Water Heating System 1	Water Heating System 2
Conditioned	Furnace/AC1	1475	8.1	DHW Sys 1	
Conditioned	Furnace/AC2	950	8.1	DHW Sys 1	
	Zone Type Conditioned	Zone Type HVAC System Name Conditioned Furnace/AC1	Zone Type HVAC System Name (ft²) Conditioned Furnace/AC1 1475	Zone Type HVAC System Name Conditioned Furnace/AC1 Type HVAC System Name Avg. Ceiling Height 8.1	Zone TypeHVAC System NameZone Floor Area (ft²)Avg. Ceiling HeightWater Heating System 1ConditionedFurnace/AC114758.1DHW Sys 1

CalCERTS inc. Registration Number: Registration Date/Time: Report Generated at: 2016-08-13 20:17:55 CA Building Energy Efficiency Standards - 2013 Residential Compliance Report Version - CF1R-04072016-744

REQUIRED SPECIAL FEATURES				OPAQUE SURFACES									
The following are features that must be installed a	s condition for meeting the modeled energy performance for this computer analysis.				T		T		T		T	T	T
NO SPECIAL FEATURES REQUIRED				01	02	03	04	05	06	07	08	09	10
										Window & Door	Tilt		Verifie Existin
HERS FEATURE SUMMARY				Name	Zone	Construction	Azimuth	Orientation	Gross Area (ft ²)	Area (ft ²)	(deg)	Status	Conditi
	ust be field-verified by a certified HERS Rater as a condition for meeting the modeled energy po	erformance for this co	mputer analysis. Additional detail is	North Frame Wall	Existing/Altered - Zone 1	Default Wall Prior to 197	355	Front	336	94	90	Existing	No
provided in the building components tables below.				East Frame Wall	Existing/Altered - Zone 1	Default Wall Prior to 197	85	Left	451	60	90	Existing	No
Building-level Verifications:				South Frame Wall	Existing/Altered - Zone 1	Default Wall Prior to 197	175	Back	211	75.4	90	Existing	No
Cooling System Verifications:				West Frame Wall	Existing/Altered - Zone 1	Default Wall Prior to 197	265	Right	328	68.8	90	Existing	No
Minimum Airflow Refrigerant Charge				Roof Attic (Existing)	Existing/Altered - Zone 1	Default Roof Attic Prior			1475			Existing	No
Fan Efficacy Watts/CFM				Raised Floor	Existing/Altered - Zone 1	Default Floor Crawlspace			1060			Existing	No
HVAC Distribution System Verifications: • Duct Sealing				East Frame Wall 2	Existing/Addition - Zone	Default Wall Prior to 197	85	Left	47	12.5	90	Existing	No
Domestic Hot Water System Verifications:				West Frame Wall 2	Existing/Addition - Zone	Default Wall Prior to 197	265	Right	126	20	90	Existing	No
• None				East Frame Wall 3	Existing/Addition - Zone	R-13 Wall	85	Left	324	58.4	90	New	N/A
- CAN DESCRIPTION OF THE PROPERTY OF THE PROPE				South Frame Wall 2	The second secon		175		145	43.4		ļ	
ENERGY DESIGN RATING					Existing/Addition - Zone	R-13 Wall		Back			90	New	N/A
This is the sum of the annual TDV energy consum	nption for energy use components included in the performance compliance approach for the Sta	andard Design Building	g (Energy Budget) and the annual	West Frame Wall 3	Existing/Addition - Zone	R-13 Wall	265	Right	356	22	90	New	N/A
TDV energy consumption for lighting and compon	ents not regulated by Title 24, Part 6 (such as domestic appliances and consumer electronics)	and accounting for the	e annual TDV energy offset by an	Northeast Frame Wall	Existing/Addition - Zone	R-13 Wall	40	45	27	6	90	New	N/A
on-site renewable energy system.		<u> </u>		Southeast Frame Wall	Existing/Addition - Zone	R-13 Wall	130	135	27	6	90	New	N/A
	Reference Energy Use Energy Design Rating	Margin	Percent Improvement	Roof Attic (Existing) 2	Existing/Addition - Zone	Default Roof Attic Prior	Line Control		49			Existing	No
Total Energy (kTDV/f2-yr)*	139.36 138.87	0.49	0.4%	Roof Attic (Addition)	Existing/Addition - Zone	R-30 Roof Attic	10 10 10		705			New	N/A
* includes calculated Appliances and Miscellaneou	us Energy Use (AMEU)			Raised Floor 2	Existing/Addition - Zone	Default Floor Crawlspace			245			Existing	No
				Raised Floor 3	Existing/Addition - Zone	R-19 Floor Crawlspace			705			New	N/A

ATTIC									
01	02	03	04	05	06	07	08	09	10
Name	Construction	Туре	Roof Rise	Roof Reflectance	Roof Emittance	Radiant Barrier	Cool Roof	Statu s	Verified Existing Condition
Attic Existing/Altered - Zone 1	Attic RoofExisting/Altered - Zone 1	Ventilated	0	0.1	0.85	No	No	Existi ng	No
Attic Existing/Addition - Zone	Attic RoofExisting/Addition - Zone	Ventilated	0	0.1	0.85	No	No	Existi ng	No

CalCERTS inc. Registration Number: Registration Date/Time: HERS Provider: CalCERTS inc. Report Generated at: 2016-08-13 20:17:55 CA Building Energy Efficiency Standards - 2013 Residential Compliance Report Version - CF1R-04072016-744 Report Generated at: 2016-08-13 20:17:55

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: Residence Addition Calculation Date/Time: 20:16, Sat, Aug 13, 2016 Calculation Description: Title 24 Analysis Input File Name: 06192016e R.xml

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE	METHOD
Project Name: Residence Addition	Calculati

Southeast Frame Wall (- specify

Calculation Description: Title 24 Analysis

Hall Fixed Window 2

DOORS

Calculation Date/Time: 20:16, Sat, Aug 13, 2016 Input File Name: 06192016e R.xml

0.35 0.28 Insect Screen (default)

CF1R-PRF-01 CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD Page 5 of 9 Project Name: Residence Addition Calculation Description: Title 24 Analysis

SLAB FLOORS

DHW Heater 1

N/A

Calculation Date/Time: 20:16, Sat, Aug 13, 2016 Input File Name: 06192016e R.xml

Edge Insul. R-value

0.58 EF

Carpeted Fraction

Heated

Status

CF1R-PRF-01 Page 6 of 9

07 08 09

Verified

Existing Condition

INDOWS 01	02	03	04	05	06	07	08	09	10	11
Name	Surface (Orientation-Azimuth)	Width(ft)	Height (ft)	Multiplie r	Area (ft ²)	U-factor	SHGC	Exterior Shading	Status	Verified Existing Condition
Existing Bedroom Window	North Frame Wall (Front-355)			1	24.0	1.04	0.76	Insect Screen (default)	Existing	No
Existing Living Room Wind	North Frame Wall (Front-355)			1	15.0	1.04	0.76	Insect Screen (default)	Existing	No
Existing Living Room Wind 2	North Frame Wall (Front-355)			1	20.0	1.04	0.76	Insect Screen (default)	Existing	No
Existing Living Room Wind 3	North Frame Wall (Front-355)			1	15.0	1.04	0.76	Insect Screen (default)	Existing	No
Existing Dining Room Wind	North Frame Wall (Front-355)			1	20.0	1.04	0.76	Insect Screen (default)	Existing	No
Existing Bath Window	East Frame Wall (Left-85)			1	3.0	1.04	0.76	Insect Screen (default)	Existing	No
Existing Kitchen Window	East Frame Wall (Left-85)			1	16.0	1.04	0.76	Insect Screen (default)	Existing	No
Existing Kitchen Window 2	East Frame Wall (Left-85)			1	6.0	1.04	0.76	Insect Screen (default)	Existing	No
Existing Dining Room Wind 2	East Frame Wall (Left-85)			1	15.0	1.04	0.76	Insect Screen (default)	Existing	No
Existing Family Room Wind	South Frame Wall (Back-175)			1	15.0	1.04	0.76	Insect Screen (default)	Existing	No
Existing Family Room Door	South Frame Wall (Back-175)	(Sec. 23 co.)		1	33.4	0.99	0.76	Insect Screen (default)	Existing	No
Existing Family Room Wind 2	South Frame Wall (Back-175)			1	15.0	1.04	0.76	Insect Screen (default)	Existing	No
Existing Laundry Window	South Frame Wall (Back-175)			1	12.0	1.04	0.76	Insect Screen (default)	Existing	No
Existing Laundry Door	West Frame Wall (Right-265)			1	17.8	0.99	0.76	Insect Screen (default)	Existing	No
Existing Bedroom Window 2	West Frame Wall (Right-265)			1	24.0	1.04	0.76	Insect Screen (default)	Existing	No
Existing Bath Window 2	West Frame Wall (Right-265)			1	3.0	1.04	0.76	Insect Screen (default)	Existing	No
Existing Bedroom Window 3	West Frame Wall (Right-265)			1	24.0	1.04	0.76	Insect Screen (default)	Existing	No
Existing Hall Window	East Frame Wall 2 (Left-85)			1	12.5	1.04	0.76	Insect Screen (default)	Existing	No
Exiting Bedroom Window	West Frame Wall 2 (Right-265)			1	20.0	1.04	0.76	Insect Screen (default)	Existing	No
Master Bedroom Single-Hun	East Frame Wall 3 (Left-85)			1	12.5	0.35	0.28	Insect Screen (default)	New	N/A
Master Bedroom Single-Hun 2	East Frame Wall 3 (Left-85)			1	12.5	0.35	0.28	Insect Screen (default)	New	N/A
Hall French Doors	East Frame Wall 3 (Left-85)			1	33.4	0.35	0.28	Insect Screen (default)	New	N/A
Master Bedroom Transom Wi	South Frame Wall 2 (Back-175)			1	10.0	0.35	0.28	Insect Screen (default)	New	N/A
Master Bedroom French Doo	South Frame Wall 2 (Back-175)			1	33.4	0.35	0.28	Insect Screen (default)	New	N/A
Master Bath Slider Window	West Frame Wall 3 (Right-265)			1	3.0	0.35	0.28	Insect Screen (default)	New	N/A
Master Bath Slider Window 2	West Frame Wall 3 (Right-265)			1	3.0	0.35	0.28	Insect Screen (default)	New	N/A
Study Slider Window	West Frame Wall 3 (Right-265)			1	16.0	0.35	0.28	Insect Screen (default)	New	N/A
Hall Fixed Window	Northeast Frame Wall (- specify40)			1	6.0	0.35	0.28	Insect Screen (default)	New	N/A

01			02		03		0	4	05	5	06
Name			Side of Buildin	ıg	Area (ft ²	²)	U-fa	ctor	Stat	us	Verified Existing Condition
Entry Door			East Frame Wa	ıll	20.0		0.	50	Exist	ing	No
PAQUE SURFACE CONSTRU	CTIONS					-					
01	02		03	04		0)5	06			07
Construction Name	Surface 1	Гуре	Construction Type	Framinç	9	1	Cavity alue	Winter Des U-value	J ,		Assembly Layers
Attic RoofExisting/Altered - Zone 1	Attic Ro	ofs	Wood Framed Ceiling	2x4 Top Chord of Roo in. O.C.		nc	one	0.644		Roof D	/ Frame: no insul. / 2x4 Top Chrd eck: Wood Siding/sheathing/decking g: Light Roof (Asphalt Shingle)
Default Roof Attic Prior	Ceilings (b attic)		Wood Framed Ceiling	2x4 @ 16 in.	. o.c.	R	11	0.083	ŀ	Cavity /	Finish: Gypsum Board / Frame: R-9.1 / 2x4 loor Joists: R-1.9 insul.
Default Wall Prior to 197	Exterior V	Valls	Wood Framed Wall	2x4 @ 16 in.	. O.C.	nc	one	0.302	•	Cavity / Exterio	Finish: Gypsum Board / Frame: no insul. / 2x4 r Finish: Wood sheathing/decking
Default Floor Crawlspace	Floors O Crawlspa		Wood Framed Floor	2x12 @ 16 in	ı. O.C.	nc	one	0.216	ŀ	Floor D	urface: Carpeted leck: Wood Siding/sheathing/deckin / Frame: no insul. / 2x12
Attic RoofExisting/Addition - Zone	Attic Ro	ofs	Wood Framed Ceiling	2x4 Top Chord of Roo in. O.C.		nc	one	0.644		Roof D	/ Frame: no insul. / 2x4 Top Chrd eck: Wood Siding/sheathing/decking g: Light Roof (Asphalt Shingle)
R-30 Roof Attic	Ceilings (b attic)		Wood Framed Ceiling	2x4 @ 16 in.	. O.C.	R	30	0.032		Cavity /	Finish: Gypsum Board / Frame: R-9.1 / 2x4 loor Joists: R-20.9 insul.
R-13 Wall	Exterior V	Valls	Wood Framed Wall	2x4 @ 16 in.	. O.C.	R	13	0.095		Cavity / Exterio	Finish: Gypsum Board / Frame: R-13 / 2x4 r Finish: Wood sheathing/decking
R-19 Floor Crawlspace	Floors O Crawlspa		Wood Framed Floor	2x6 @ 16 in.	. O.C.	R	19	0.049		Floor D	urface: Carpeted leck: Wood Siding/sheathing/deckin / Frame: R-19 / 2x6

Slab-on-Grade	Existing/Altered - Zone 1	415	47	None	0.8	No	Existing	No
BUILDING ENVELOPE - HERS VERIFICAT	rion	t						
01		02		03			04	
Quality Insulation Installation (QII) Quality Installat	ion of Spray F	Foam Insulation	Building Envelope Air	Leakage		CFM50	
Not Required		Not Required		Not Required				

(ft)

03

Area (ft²)

Small Storage

Zone

ATER HEATING SYSTEM	S								
01	02		03		04	05	06	07	08
Name	System Type		Distribution Type	w	/ater Heater	Number of Heaters	Solar Fraction (%)	Status	Verified Existing Condition
DHW Sys 1	DHW		Standard	ום	HW Heater 1	1	Annual	Existing	No
									
ATER HEATERS	•								
01	02		- 03	04	05	06		07	08
Name	Heater Elemer	nt Type	Tank Type	Tank Volume (gal)	Energy Factor or Efficiency	Input Rating		Exterior on R-value	Standby Loss (Fraction)

WATER HEATING - HERS VERIFICA	ATION					
01	02	03	04	05	06	07
Name	Pipe Insulation	Parallel Piping	Compact Distribution	Point-of Use	Recirculation with Manual Control	Recirculation with Sensor Control
DHW Sys 1	n/a	n/a	n/a	n/a	n/a	n/a

Registration Number: CA Building Energy Efficiency Standards - 2013 Residential Compliance Report Version - CF1R-04072016-744

Registration Date/Time:

HERS Provider:

CalCERTS inc. Registration Number: Report Generated at: 2016-08-13 20:17:55 CA Building Energy Efficiency Standards - 2013 Residential Compliance

Registration Date/Time: Report Version - CF1R-04072016-744 HERS Provider:

CalCERTS inc. Registration Number:

Natural Gas

Registration Date/Time: Report Generated at: 2016-08-13 20:17:55 CA Building Energy Efficiency Standards - 2013 Residential Compliance Report Version - CF1R-04072016-744

HERS Provider: CalCERTS inc. Report Generated at: 2016-08-13 20:17:55

40000-Btu/hr

ARCHITECT/ ENGINEER SEAL AND SIGNATURE

PROJECT: ADDITION AND REMODE 22345 EXAMPLE LN. SANTA CLARITA, CA

PERMIT #: BLDXX-XXXXX

CF1R-PRF-01 CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD Calculation Date/Time: 20:16, Sat, Aug 13, 2016 Page 7 of 9 Project Name: Residence Addition

Duct Leakage

Verification

Required

Required

Calculation Description: Title 24 Analysis

HVAC DISTRIBUTION - HERS VERIFICATION

Air Distribution System 1-hers-dist

Air Distribution System 2-hers-dist

SFam IAQVentRpt

CF1R-PRF-01 CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD Page 8 of 9 Project Name: Residence Addition Calculation Description: Title 24 Analysis

06

City/State/Zip:

Verified Duct Design

Return

Calculation Date/Time: 20:16, Sat, Aug 13, 2016 Input File Name: 06192016e R.xml

CF1R-PRF-01 Page 9 of 9

Calculation Desc	ription: Title 24 Analy	sis		i	nput File Na	me : 06192016e	R.xml			
SPACE CONDITION	IING SYSTEMS									
01	02	0:	3	0	4	05	06	07	08	09
Name	System Type	Heating Name	System Ducted	Cooling Name	System Ducted	Distribution System	Fan System	Floor Area Served	Status	Verified Existing Condition
Furnace/AC1	Other Heating and Cooling System	Heating Component 1	Yes	Cooling Component 1	Yes	Air Distribution System 1	HVAC Fan 1	1475	Altered	No
Furnace/AC2	Other Heating and Cooling System	Heating Component 2	Yes	Cooling Component 2	Yes	Air Distribution System 2	HVAC Fan 2	950	New	No

HVAC - DISTRIBUTIO	ON SYSTEMS	· · · · · · · · · · · · · · · · · · ·			***************************************	**************************************			***************************************
01	02	03	04	05	06	07	08	09	10
Name	Туре	Duct Leakage	Insulation R-value	Supply Duct Location	Return Duct Location	Bypass Duct	Status	Verified Existing Condition	HERS Verification
Air Distribution System 1	Ducts located in attic	Sealed and tested	6.0	Attic	Attic	None	Altered	No	Air Distribution System 1-hers-dist
Air Distribution System 2	Ducts located in attic	Sealed and tested	6.0	Attic	Attic	None	New	No	Air Distribution System 2-hers-dist

03

Duct Leakage

Target (%)

6.0

6.0

Attached Heating & Cooling load summary is submitted as part of the calculations required by the current regulations. DO NOT USE FOR ACTUAL HEATING & AC DESIGN

Input File Name: 06192016e R.xml

Verified Duct Location

DOCUMENTATION AUTHOR'S DE	CLARATION STATEMENT			
1. I certify that this Certificate of Cor	npliance documentation is a	ccurate and complete.		
Documentation Author Name:			Documentation Author Signature:	
Company:			Signature Date:	
			2016-08-14 15:51:51	
Address:			CEA/HERS Certification Identification (I	f applicable):
City/State/Zip:			Phone:	
RESPONSIBLE PERSON'S DECLA	RATION STATEMENT			
 I certify that the energy features Regulations. The building design features 	3 of the Business and Profes ires and performance specif or system design features in	sions Code to accept responsibilit cations identified on this Certificat dentified on this Certificate of Com	·	nts of Title 24, Part 1 and Part 6 of the California Code of provided on other applicable compliance documents,
Responsible Designer Name:			Responsible Designer Signature:	
Company:			Date Signed:	
Address:			License:	

HVAC - HEATING SYSTEMS		
01	02	03
Name	Туре	Efficiency
Heating Component 1	CntrlFurnace - Fuel-fired central furnace	95 AFUE
Heating Component 2	CntrlFurnace - Fuel-fired central furnace	95 AFUE

Airflow Target

350

350

11.7

11.7

03 04 05

Zonally Controlled

No

No

Verified EER

Not Required

Not Required

05

Verified SEER

Not Required

Not Required

		HVAC - F
06	07	
Multi-speed Compressor	HERS Verification	
No	Cooling Component 1-hers-cool	
No	Cooling Component 2-hers-cool	IAQ (Ind

Verified Refrigerant

Charge

Required

Required

	1000000	385 385	3000 1000	(683)		
HVAC - FAN SYSTEMS & HERS VERIFIC	CATION					
01		02			03	04
Name		Туре		Fan Po	wer (Watts/CFM)	HERS Verification
HVAC Fan 1	3	Single Speed PSC Furnace	Fan	- (e	0.58	Required
HVAC Fan 2		Single Speed PSC Furnace	Fan		0.58	Required
				· W · ·		
IAQ (Indoor Air Quality) FANS						
01		02	03		04	05
Name		IAQ CFM	IAQ Fan	Туре	IAQ Recovery Effectivenes	s(%) HERS Verification

Default

Digitally signed by CalCERTS. This digital signature is provided in order to secure the content of this registered document, and in no way implies Registration Provider responsibility for the accuracy of the information.

Phone:

Registration Number: Registration Date/Time: CA Building Energy Efficiency Standards - 2013 Residential Compliance Report Version - CF1R-04072016-744

Verified Airflow

Required

Required

02

System Type

SplitAirCond - Split air conditioning

system SplitAirCond - Split air conditioning

HVAC - COOLING SYSTEMS

Name

Cooling Component 1

Cooling Component 2

HVAC COOLING - HERS VERIFICATION

Cooling Component 1-hers-cool

Cooling Component 2-hers-cool

Registration Date/Time: CalCERTS inc. Registration Number: Report Generated at: 2016-08-13 20:17:55 CA Building Energy Efficiency Standards - 2013 Residential Compliance Report Version - CF1R-04072016-744

Not Required

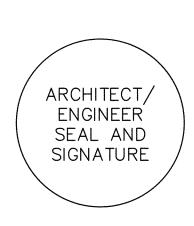
CalCERTS inc. Registration Number: Report Generated at: 2016-08-13 20:17:55 CA Building Energy Efficiency Standards - 2013 Residential Compliance Report Version - CF1R-04072016-744

Registration Date/Time:

HERS Provider: CalCERTS inc. Report Generated at: 2016-08-13 20:17:55

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PROJECT: ADDITION AND REMODE 22345 EXAMPLE LN. SANTA CLARITA, CA



PERMIT #: BLDXX-XXXXX

SHEET #

E2

		IVILAJI	JRES SU)	AKY						RMS-1
Project Nan Residen (ne ce Addition			Build	ling Type		gle Fami Iti Family		Addition Alone Existing+ Additior	n/Alteration	Date 8/13/2010
Project Add	o seeks		886 ans	- 1	ornia Ene		I	Total	Cond. Floor Area	Addition	# of Units
				C.	A Clima		ie 09		2,425	705	1
INSULA Constru	_	pe		Cav	itv	Area (ft^2)	Sı	pecia	al Features		Status
Roof	Wood Framed A			R 11	J	1,524					Existing
Wall	Wood Framed		u	- no ins	ulation	1,168					Existing
Door	Opaque Door	***		- no ins	ulation	20					Existing
Demising	Wood Framed			- no ins	ulation	291	-,-		***************************************	·	New
Floor	Wood Framed v	v/Crawl Spa	ce	- no ins	ulation	1,305				, , ,	Existing
Slab	Unheated Slab-	on-Grade		- no ins	ulation	415	Perim =	= 47'			Existing
Roof	Wood Framed A	Attic		R 30		705					New
Wall	Wood Framed			R 13		743					New
FENES	TRATION		Total Area:	447	Glazing	Percenta	ge: 18	8.4 %	New/Altered Avera	ge U-Factor:	0.35
Orienta	tion Are	$a(ft^2)$ \tilde{l}	J-Fac SI	HGC	Overl	nang	Sidef	ins	Exterior Sha	ades	Status
Front (N)		94.0	1.040	0.76	none		none		Bug Screen		Existing
Left (E)		52.5	1.040	0.76	none		none		Bug Screen		Existing
Rear (S)		42.0	1.040	0.76	none		none		Bug Screen		Existing
Rear (S)		33.4	0.990	0.76	none		none		Bug Screen		Existing
Right (W)		17.8	0.990	0.76	none		none		Bug Screen		Existing
Right (W)		71.0	1.040	0.76	none		none		Bug Screen		Existing
Left (E)		25.0	0.350	0.28	none		none		Bug Screen		New
Left (E)		33.4	0.350	0.28	none		none		Bug Screen		New
Rear (S)		10.0	0.350	0.28	none		none		Bug Screen		New
Rear (S)		33.4	0.350	0.28	none		none		Bug Screen		New
Right (W)		22.0	0.350	0.28	none		none		Bug Screen		New
Front (NE)		6.0	0.350	0.28	none		none		Bug Screen		New
Left (SE)		6.0	0.350	0.28	none		none		Bug Screen		New
HVAC S	SYSTEMS										
Qty. H	leating		Min. Eff	Co	oling		Min	. Eff	Ther	mostat	Status
1 C	entral Furnace	~~~~	95% AFUE	Spli	t Air Cond	ditioner	14.0	SEER	Setback		Altered
1 C	entral Furnace		95% AFUE	Spli	t Air Cond	ditioner	14.0	SEER	Setback		New
HVAC [DISTRIBUT	TION					*******************************		D	uct	
Locatio	n	Heat	ing	Co	oling	Duc	t Loca	ation	ı R	-Value	Status
Furnace/AC		Ducted		Duct	ed	Attic			6	.0	Altered
Furnace/AC		Ducted	-	Duct	ed	Attic			6	.0	New
	HEATING	;									
Qty. T	уре		Gallo	ons	Min.	Eff	Distri	butio	on		Status

RESIDENTIAL MEASUR	ES SUMN	IARY					RMS-
Project Name Residence Addition	Ви	uilding Type	☑ Single Fa □ Multi Fam		ddition Alone xisting+ Additi	on/Alteration	Date 8/13/201
Project Address	Ca	alifornia Ene	rgy Climate Zon	•	ond. Floor Area		# of Unit
			ate Zone 09		2,425	705	1
INSULATION	0-	:4	Area (<i>ft</i> ²)	Ci-	l Cantuus a		Ctatura
Construction Type Floor Wood Framed w/Crawl Space	R 19	avity	(π) 705	Specia	I Features		Status New
FENESTRATION Tota	ıl Area: 4	47 Glazing	Percentage:	18.4 %	New/Altered Ave	erage I I-Factor	0.35
Orientation Area(ft²) U-F			nang Side	efins l	Exterior S	hades	Status

HVAC SYSTEMS							
	in. Eff C	ooling	M	in. Eff	The	ermostat	Status
	in. Eff C	ooling	M	in. Eff	The	ermostat	Status
	in. Eff C	ooling	M	in. Eff	The	ermostat	Status
Qty. Heating Mi	in. Eff C	ooling	M	in. Eff			Status
Qty. Heating Mi						Duct	
Qty. Heating Mi		ooling	M Duct Lo				Status
Qty. Heating Mi						Duct	
Qty. Heating Mi						Duct	
Qty. Heating Mi HVAC DISTRIBUTION Location Heating						Duct	
Qty. Heating Mi HVAC DISTRIBUTION Location Heating WATER HEATING	ı C	ooling	Duct Lo	cation		Duct	Status
Qty. Heating Mi HVAC DISTRIBUTION Location Heating			Duct Lo			Duct	
Qty. Heating Mi HVAC DISTRIBUTION Location Heating WATER HEATING	ı C	ooling	Duct Lo	cation		Duct	Status
Qty. Heating Mi HVAC DISTRIBUTION Location Heating WATER HEATING	ı C	ooling	Duct Lo	cation		Duct	Status

2013 Low-Rise Residential Mandatory Measures Summary

NOTE: Low-rise residential buildings subject to the Standards must comply with all applicable mandatory measures listed, regardless of the

	e residential buildings subject to the Standards must comply with all applicable mandatory measures listed, regardless of the oach used. Exceptions may apply. Review the respective code section for more information.
Building Envelo	pe Measures:
§110.6(a)1:	Doors and windows between conditioned and unconditioned spaces are manufactured to limit air leakage.
§110.6(a)5:	Fenestration products (except field-fabricated windows) have a label listing the certified U-Factor, certified Solar Heat Gain Coefficient (SHGC), and infiltration that meets the requirements of §10-111(a).
§110.7:	Exterior doors and windows are weatherstripped; all joints and penetrations are caulked and sealed.
§110.8(a):	Insulation specified or installed meets Standards for Insulating Material. Indicate type and include on the CF2R.
§110.8(i):	The thermal emittance and aged solar reflectance values of the cool roofing material meets the requirements of §110.8(i) when the installation of a cool roof is specified on the CF1R.
§110.8(j):	A radiant barrier shall have an emittance of 0.05 or less when the installation of a radiant barrier is specified on the CF1R.
§150.0(a):	Minimum R-30 insulation in wood-frame ceiling; or the weighted average U-factor shall not exceed 0.031. Minimum R-19 in a rafter roof alteration. Attic access doors shall have permanently attached insulation using adhesive or mechanical fasteners. The attic access shall be gasketed to prevent air leakage.
§150.0(b):	Loose fill insulation shall conform with manufacturer's installed design labeled R-value.
§150.0(c):	Minimum R-13 insulation in 2x4 inch wood framing wall or have a U-factor of 0.102 or less (R-19 in 2x6 or 0.074 maximum U-factor).
§150.0(d):	Minimum R-19 insulation in raised wood-frame floor or 0.037 maximum U-factor.
§150.0(g)1:	In Climate Zones 14 and 16 a Class II vapor retarder shall 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(g)2:	In Climate Zones 1-16 with unvented crawl spaces the earth floor of the crawl space shall be covered with a Class I or Class II vapor retarder.
§150.0(g)3:	In a building having a controlled ventilation crawl space, a Class I or Class II vapor retarder shall be placed over the earth floor of the crawl space to reduce moisture entry and protect insulation from condensation, as specified in the exception to Section 150.0(d).
§150.0(1):	Slab edge insulation shall: have a water absorption rate, for the insulation material alone without facings, no greater than 0.3%; have water vapor permeance rate is no greater than 2.0 perm/inch, be protected from physical damage and UV light deterioration; and when installed as part of a heated slab floor meets the requirements of §110.8(g).
§150.0(q):	Fenestration, including skylights, separating conditioned space from unconditioned space or outdoors shall have a maximum U-factor of 0.58; or the weighted average U-factor of all fenestration shall not exceed 0.58.
Fireplaces, Deco	orative Gas Appliances and Gas Log Measures:
§150.0(e)1A:	Masonry or factory-built fireplaces have a closable metal or glass door covering the entire opening of the firebox.
§150.0(e)1B:	Masonry or factory-built fireplaces 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 a combustion-air control device.
§150.0(e)1C:	Masonry or factory-built fireplaces have a flue damper with a readily accessible control.
§150.0(e)2:	Continuous burning pilot lights and the use of indoor air for cooling a firebox jacket, when that indoor air is vented to the outside of the building, are prohibited.
Space Condition	ning, Water Heating and Plumbing System Measures:
§110.0-§110.3:	HVAC equipment, water heaters, showerheads, faucets and all other regulated appliances are certified to the Energy Commission.
§110.3(c)5:	Water heating recirculation loops serving multiple dwelling units meet the air release valve, backflow prevention, pump isolation valve, and recirculation loop connection requirements of §110.3(c)5.
§110.5:	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:	Heating and/or cooling loads are calculated in accordance with ASHRAE, SMACNA or ACCA using design conditions specified in §150.0(h)2.
§150.0(h)3A:	Installed air conditioner and heat pump outdoor condensing units shall have a clearance of at least five feet from the outlet of any dryer vent.
3150.0(i):	Heating systems are equipped with thermostats that meet the setback requirements of §110.2(c).
150.0(j)1A:	Storage gas water heaters with an energy factor equal to or less than the federal minimum standards shall be externally wrapped with insulation having an installed thermal resistance of R-12 or greater.
3150.0(j)1B:	Unfired hot water tanks, such as storage tanks and backup storage tanks for solar water-heating systems, have R-12 external insulation or R-16 internal insulation where the internal insulation R-value is indicated on the exterior of the tank.
	For domestic hot water system piping, whether buried or unburied: the first 5 feet of hot and cold water pipes from the storage
§150.0(j)2A:	tank, all piping with a nominal diameter of 3/4 inch or larger, all piping associated with a domestic hot water recirculation system regardless of the pipe diameter, piping from the heating source to storage tank or between tanks, piping buried below grade, and all hot water pipes from the heating source to kitchen fixtures must be insulated according to the requirements of TABLE 120.3-A.

2013 Low-Rise Residential Mandatory Measures Summary

\$150,0(3)\$. Insulation is protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind. Insulation exposed to weather shall clitch be rated for ordinor user visibilities of the state of \$150,0(3)\$. Insulation exposed to weather shall clitch be rated for ordinor user visibilities of the state of \$150,0(3)\$. Insulation covering chills water piping and refrigerant suction piping located outside the conditioned space shall have a Class I year retarder. \$150,0(3)\$B. The state of th	15.00(g) 3: Insolation is protected from damage, including that due to sanight, moisture, equipment maintenance, and wind Insolation exposed to weather shall either be read for control or we of insolated with a cover stabile for outdoor service. For example, protected by administum, sheet metal, painted canvas, or plastic cover. Cellular foam insulation protected as specified or institute with control that is water retarding facing or the insulation shall be insulated with a course stabile for outdoor service. For example, protected by administum, sheet metal, and the protected and provides which go and control that is most accordance with the control of the protected of the shall be insulated at the thickness that qualifies as a Class I or Class II yapper retarder. 15.00(g) 3 15.00(g) 4	§150.0(j)2C:	Pipe for cooling system lines shall be insulated as specified in §150.0(j)2A. Piping insulation for steam and hydronic heating systems or hot water systems with pressure > 15 psig shall meet the requirements in TABLE 120.3-A.
Insulation exposed to weather shall either be rated for outdoor use or installed with a cover suitable for outdoor service. For sumple, protected by abuniums, short metal, painted cover. Cellular foam insulation protected as specified or painted with conting that is water retardant and provides shielding from solar radiation that degrades the material. Istallation covering child water pinging and refrigerant usefucine pringing to the continued provides shielding from solar radiation that degrades the material. Istallation covering child water pinging and refrigerant usefucine pringing to the class I water clarker. Systems using gas or propane water heaters to serve individual dwelling units shall include: a 120V electrical receptable within 3 feet of the water heater; a Category III or IV vent, or a Type B vent with simple pipe between do ustick termination and the space where the water heater; a installed: a condensate drain that is no more than 2 includes in a 120V electrical receptable within 3 feet of the water heater; a category III or IV vent, or a Type B vent with simple pipe between the outside termination and the space where the water heater; a simple diversion of the provided of the stable of the search of the water heater; and allows natural dening without pump assistance; and a gas supply line with a capacity of at least 200,000 Blushr. Solar water-heating systems and collectors shall be certified and rated by the Solar Rating and Certification Corporation (SRCC) of the activation of the search of the	Insulation exposed to weather shall either be nated for outdoor use or installed with a cover suitable for outdoor service. For painted with conting that is water retardant and provides shielding from solar adiation that degrades the material. Insulation covering that is water retardant and provides shielding from solar adiation that degrades the material. Insulation covering shill down a proping and refrigerant suction pringing located outside the conditioned space and little was Class I or Class II vapor retarding facing, or the insulation shall be insulabled at the thickness that qualifies as a Class I or Class II vapor retarding facing, or the insulation shall be insulabled at the thickness that qualifies as a Class I or Class II vapor retarding facing, or the insulation shall be insulabled at the thickness that qualifies as a Class I or Class II vapor retarding facing, or the insulation shall be insulabled at the thickness that qualifies as a Class I or Class II vapor retarding facing, or the insulation shall be insulabled at the thickness that qualifies as a Class I or Class II vapor retarding facing, or the insulation shall be insulabled at the thickness that qualifies as a Class I or Class II vapor retarding facing, or the insulation shall be insulabled at the thickness that qualifies as a Class I or Class II vapor retarding facing or the shall retard the properties of the material. 18 150.0(m): 28 150.0(m): 29 150.0(m): 20 20 20 20 20 20 20 20 20 20 20 20 20 2	§150.0(j)3:	
st (15.0.0(a)381: or Class II vapor returding facing, or the instalation shall be installed at the thickness that qualifies as a Class I or Class II vapor retardor. Systems using gas or propane water heaters to serve individual dwelling units shall include: a 1200 electrical receptable within 3 feet of the water heater 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 installed water heater, and allows natural draining without pump assistance; and agas supply line with a capacity of at least 200,000 Bruhr. Story and Fans Measures: All air-distribution system ducts and plenums installed are sealed and installed to meet the requirements of S110.3(c)5. Solar water-heating systems and collectors shall be certified and rated by the Solar Rating and Certification Corporation (SRCC) or by a testing agency approved by the Executive Director. But and Tarman Measures: All air-distribution system ducts and plenums installed are sealed and installed to meet the requirements of CMC §601.0, §602.0, §605.0) or and NSISMACNA-0406-2006 IVAC Duct Construction Standards Metal and Flexible 3rd Edition. Supplyair and return-air ducts and plenums are insulated to a minimum installed level of R-6.0 (or higher if required by CMC §605.0) or and S05.00 or and S05.00 and ANSISMACNA-0406-2006 IVAC Duct Construction Standards Metal and Flexible 3rd Edition. Supplyair and return-air ducts and inner core of flexible ducts are mechanically fastened. Openings shall be sealed with mustic, large or other duct-obsour system that meets the applicability fraction and diagnostic testing (RA31.4.3.8). Connections of metal ducts and inner core of flexible ducts are mechanically fastened. Openings shall be stall to the constructed with materials other than sealed sheet metal, duct board or flexible ducts hall not be sealed with small and the complex and search of the construc	st Class II vapor returding facing, or the installation shall be installed at the thickness that qualifies as a Class I or Class II vapor returding fearing, or the installation shall be installed at the thickness that qualifies as a Class I or Class II vapor returding fearing for the installation of the control of the		Insulation exposed to weather shall either be rated for outdoor use or installed with a cover suitable for outdoor service. For example, protected by aluminum, sheet metal, painted canvas, or plastic cover. Cellular foam insulation protected as specified or painted with coating that is water retardant and provides shielding from solar radiation that degrades the material.
Section of the water heaters in 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 these of the installed water heater, and allows natural draining without pump assistance; and a gas supply line with a capacity of at least 200,000 Bitu/hr.	Sect of the water heater, 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, and allows natural draining without pump assistance; and a gas supply line with a capacity of at least 200,000 Blowh.	§150.0(j)3B:	or Class II vapor retarding facing, or the insulation shall be installed at the thickness that qualifies as a Class I or Class II vapor retarder.
\$150.0(n)2: Recirculating loops serving multiple dwelling units shall meet the requirements of \$110.3(c)5. Solar water-heating systems and collectors shall be certified and rated by the Solar Rating and Certification Corporation (SRCC) or by a testing agency approved by the Executive Director. Ducts and Fans Measures: All air-distribution system ducts and plenums installed are scaled and insulated to meet the requirements of CMC \$601.0, \$602.0, \$603.0, \$604.0, \$605.0 and ANSESMACNA-006-2006 HVAC Duct Construction Standards Metal and Flexible 3rd Edition. Supply-air and return-air ducts and plenums are insulated to a maintain installed level of R-6.0 (or higher if required by CMC \$601.0, \$605.0) or independent of the property of the prop	8 5.0 (m)2: Recirculating loops serving multiple dwelling units shall meet the requirements of § 11.0.3 (c)5. Solar water-heuting systems and collectors shall be certified and rated by the Solar Rating and Certification Corporation (SRCC) or by a testing agency approved by the Executive Director. Purcts and Pans Measures: All air-distribution system ducts and plenums installed are sealed and insulated to meet the requirements of CMC §601.0, §602.0, §603.0, §603.0 and ANNI/SMACNA-006-2006 HVAC Duct Construction Standards Metal and Flexible 3rd Edition. Supply-serial and enterno-air ducts and plenums are insulated to a minimum insulated elve of R6.0 (or the Policy Construction Standards Metal and Flexible 3rd Edition. Supply-serial and enterno-air ducts and inner core of flexible ducts are mechanically fastened if required by CMC §605.0) or enclosed entirely in directly conditioned space as confirmed through field verification and diagnostic testing (RA3.1.4.3.8). Connections of metal ducts and inner core of flexible ducts are mechanically fastened if required by CMC §605.00 or enclosed entirely in directly conditioned space as confirmed through field verification and diagnostic testing (RA3.1.4.3.8). Connections of metal ducts and inner core of flexible ducts are mechanically fastened in equirements are accessed expensing general requirements of serial and serial properties and support platforms are accessed expensions. The properties of the flexibility of the	§150.0(n)1:	feet of the water heater; 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 installed water heater, and allows natural draining without pump assistance; and a gas supply line with a capacity of at least 200,000
or by a testing agency approved by the Executive Director. Ducts and Fans Measures: All air-distribution system ducts and plenums installed are sealed and insulated to meet the requirements of CMC §601.0, §602.0, §603.0, §604.0, §605.0 and ANSI/SMACNA-0.00-2006 HVAC Duct Construction Standards Metal and Flexible 3rd Edition. Supply-air and return-air ducts and plenums are insulated to a minimum installed level of R-6.0 (or higher if required by CMC §605.0) or enclosed entirely in directly conditioned space as confirmed through field verification and diagnostic testing (RA3.14.38). Connections of metal ducts and inner core of flexible ducts are mechanically fastend and adjusted testing (RA3.14.38). Connections of metal ducts and inner core of flexible ducts are mechanically fastend and diagnostic testing (RA3.14.38). Connections of metal ducts and inner core of flexible ducts are nechanically fastend and acrossless and that meets the requirements of UL. 181, UL. 181A, OL. 181B or acrossless and that meets the requirements of unitarity of the combination of mastic and either mesh or tape shall be used. Building cavities, support platforms for air handlers, and plenums defined or constructed with materials other than scaled sheet metal, duct board or flexible duct shall be used for conveying conditioned air. Building cavities and support platforms may contain ducts. Ducts installed in cavities and support platforms shall not be compressed to examine reductions in the cross-sectional area of the ducts. Factory-Fabricated Duct Systems shall comply with specified requirements for duct construction, connections, and closures; joints and seams of duct systems and their components shall not be sealed with cloth back rubber adhesive duct tapes unless such tape is used in combination with mastic and draw back. Field-Fabricated Duct Systems shall comply with requirements for: pressure-sensitive tapes, mastics, sealants, and other requirements specified for duct construction; duct insulation R-value ratings, duct insul	or by a testing agency approved by the Executive Director. Ducts and Fans Measures: All air-distribution system ducts and plenums installed are sealed and insulated to meet the requirements of CMC §601.0, §602.0, §603.0, §604.0, §605.0 and ANSI/SMACNA-0.06-2006 HVAC Duct Construction Standards Metal and Flexible 3rd Edition. Supply-air and return-air ducts and plenums installed are sealed and insulated to meet the requirements of CMC §601.0, §605.0 or enclosed entirely in directly conditioned space as confirmed through field verification and diagnostic testing. §605.0 or enclosed entirely in directly conditioned space as confirmed through field verification and diagnostic testing. §605.0 or enclosed entirely in directly conditioned space as confirmed through field verification and diagnostic testing. §605.0 or enclosed entirely in directly conditioned space as confirmed through field verification and diagnostic testing. §605.0 or enclosed entirely in directly conditioned space as confirmed through field verification and diagnostic testing. §605.0 or enclosed entirely in directly conditioned space as confirmed through field verification and diagnostic testing. §605.0 or enclosed entirely in directly conditioned space as confirmed through field verification and diagnostic testing. §605.0 or enclosed entirely in directly conditioned space as confirmed through field verification and diagnostic testing. §605.0 or enclosed entirely in directly deviced by a diagnostic space and the construction of the ducts. §605.0 or enclosed entirely in directly deviced by a diagnostic entirely and the space diagnostic deviced by a diagnostic entirely and the space conditioning systems serving conditioned space have either automatic or readily accessible, manually operated dampers except combustion inled and outlet air openings and elevator shark verification. §60	§150.0(n)2:	
\$603.0, \$604.0, \$605.0 and ANSI/SMACNA-006-2006 HVAC Duct Construction Standards Metal and Flexible 3rd Edition. Supply-air and return-air ducts and plenums are insulated to a minimum installed level of R-6.0 for higher if required by CMC \$605.0) or enclosed entirely in directly conditioned space as confirmed through field verification and diagnostic testing (RA3.14.33). Connections of metal ducts and inner core of flexible ducts are mechanically fastened. Openings shall be sealed with mastic, tape, or other duct-closure system that meets the applicable requirements of UL 181, UL 181A, or UL 181B or acrosol sealant that meets the requirements of UL 73.3. If mastic or tape is used to seal openings greater than ½ inch, the combination of mastic and other mesh or tape shall be used to seal openings greater than ½ inch, the combination of mastic and either mesh or tape shall be used to seal openings greater than ½ inch, the combination of mastic and cavities and support platforms may contain ducts. Ducts installers, and plenums defined or constructed with materials other than sealed sheet metal, duct board or flexible duct shall not be used for conveying conditioned air. Building cavities and support platforms may contain ducts. Ducts installer activities and support platforms may contain ducts. Ducts installer activities and support platforms may contain ducts. Ducts installer activities and support platforms may contain ducts. Ducts installer activities and support platforms may contain ducts. Ducts installer activities and support platforms may contain ducts. Ducts installer activities and support platforms may contain ducts. Ducts installer activities and support platforms may contain ducts. Ducts installer activities and support platforms may contain ducts. Ducts installer activities and support platforms may contain ducts. §150.0(m)3-6: Flexibic ducts active the construction in the conditioned space and the outstale of the building must have backfard or automatic dampers. §150.0(m)10: Space conditioning	All air-distribution system duets and plenums installed are scaled and insulated to meet the requirements of CMC \$601.0, \$602.0, \$603.0, \$6040.0, \$603.0 and ANSISMACNA-006-2006 HVAC Duet Construction Standards Metal and Flexible 3rd Edition Supply-air and return-air duets and plenums are insulated to a minimum installed level of R-6.0 (or higher if required by CMC \$605.0) or enclosed entirely in directly conditioned space as confirmed through field verification and diagnostic testing (RA3.1.4.38). Connections of metal duets and inner core of lexible duets are mechanically be standard across of scalant that meets the requirements of Idexble duets are mechanically standard or encode acrossol scalant that meets the requirements of UL. 723. If mastic or taps is used to seal openiated. Openings shall be sealed with mastic, appe, or other duet-closure system that meets the applicable requirements of UL. 181, UL. 181A, or UL. 181B or acrossol scalant that meets the requirements of UL. 723. If mastic or taps is used to seal openiatal all not be used for conveying conditioned air. Building cavities and support platforms may contain duets. Duets installed in cavities and support platforms shall not be scaled and recompressed to cause reductions in the cross-sectional area of the duets. §150.0(m)3-6: Featory-Fabricated Duet Systems shall comply with specified requirements for duet construction, connections, and closures; joint and scams of duet systems and their components shall not be scaled with cloth back rubber adhesive duet tapes unless such tape is used in combination with mastic and draw bands. §150.0(m)3-6: Field-Pabricated Duet Systems shall comply with requirements for: pressure-sensitive tapes, mastics, sealants, and other requirements specified for duet construction; duet insulation Revalue ratings; duet insulation thickness; and duet labeling. §150.0(m)15: Marchael Systems specified for duet construction; duet insulation Revalue ratings; duet insulation thickness; and duet labeling. §150.0(m)16: Plexible	§150.0(n)3:	
\$603.0, \$604.0, \$605.0 and ANSI/SMACNA-006-2006 HVAC Duet Construction Standards Metal and Flexible 3rd Edition. Supply-air and return-air duets and plenums are insultated to a minimum installed level of R-6.0 (or higher if required by CMC \$605.0) or enclosed entirely in directly conditioned space as confirmed through field verification and diagnostic testing (RA3.14.38). Connections of metal duets and inner core of flexible duets are mechanically fastened. Openings shall be sealed with mastic, tape, or other duet-closure system that meets the applicable requirements of UL 181, UL 181A, or UL 181B or acrosol sealant that meets the requirements of UL 723. If mastic or tape is used to seal openings greater than ½ inch, the combination of mastic and either mesh or tape shall be used. Building eavities, support platers, and plenums defined or constructed with materials other than sealed sheet metal, duet board or flexible duet shall not be used for conveying conditioned air. Building cavities and support platforms may contain duets. Duets installers, and plenums shall not be compressed to cause reductions in the cross-sectional area of the duets. §150.0(m)2: §150.0(m)3-6: Field-Fabricated Duet Systems shall comply with specified requirements for duet construction, connections, and closures; joints and seams of duet systems and their components shall not be sealed with cloth back rubber adhesive duet tapes unless such tape is used in combination with mastic and draw bands. Field-Fabricated Duet Systems shall comply with requirements for gressure-sensitive tapes, mastics, scalants, and other requirements specified for duet construction; duet insulation R-value ratings; duet insulation shall be protected by alminum; and the stability of the building must have backfard or automatic dampers. §150.0(m)1: Gravity ventilating systems serving conditioned space have either automatic or readily accessible, manually operated dampers except combustion iniet and outlet air openings and clevator shaft vents. Insulation	\$603.0, §604.0, §605.0 and ANSI/SMACNA-006-2006 HVAC Duet Construction Standards Metal and Flexible 3rd Edition. Supply-sir and return—air ducts and plenums are insulated to a minimum installed level of R-6.0 for higher if required by CMC \$605.0) or enclosed entirely in directly conditioned space as confirmed through field verification and diagnostic testing (RA3 1.4.38). Connections of metal ducts and inner core of flexible ducts are mechanically fastened. Openings shall be sealed with mastic, tape, or other duct-closure system that meets the applicable requirements of U.I. 181, U.I. 181A, or U.I. 181B or aerosol sealant that meets the requirements of U.I. 723. If mastic or tape is used to seal openings greater than ½ inch, the combination of mastic and either mesh or tape shall be used. Building eavities, support platforms for air handlers, and plenums defined or constructed with materials other than sealed sheet metal, duct board or flexible duct shall not be used for conveying conditioned air. Building eavities and support platforms may contain ducts. Ducts installed in eavities and support platforms shall not be compressed to cause reductions in the cross-sectional area of the ducts. Factory-Fabricated Duct Systems shall comply with specified requirements but on ducts. Field-Fabricated Duct Systems shall comply with specified requirements for duct construction, onnections, and closures; joints and seams of duct systems and their components shall not be sealed with cloth back rubber adhesive duct tapes unless such tape is used in combination with mastic and draw bands. Field-Fabricated Duct Systems shall comply with requirements for; pressure-sensitive tapes, mastics, scalants, and other requirements specified for duct construction; duct insulation R-value ratings, duct insulation thankness; and duct labeling. Sto.0(m): All fan systems that exchange air between the conditioned space and the outside of the building must have backfand and pencified for under constructions and the protected dampers excep	Ducts and Fans	Measures:
and seams of duct systems and their components shall not be sealed with cloth back rubber adhesive duct tapes unless such tape is used in combination with mastic and draw bands. Field-Fabricated Duct Systems shall comply with requirements for: pressure-sensitive tapes, mastics, sealants, and other requirements specified for duct construction; duct insulation R-value ratings; duct insulation thickness; and duct labeling. All fan systems that exchange air between the conditioned space and the outside of the building must have backdraft or automatic dampers. Gravity ventilating systems serving conditioned space have either automatic or readily accessible, manually operated dampers except combustion inlet and outlet air openings and elevator shaft vents. Insulation shall be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind but not limited to the following: insulation exposed to weather shall be suitable for outdoor service. For example, protected by aluminum, sheet metal, painted canwas, or plastic cover. Cellular foam insulation shall be protected as above or painted with a coating that is water retardant and provides shielding from solar radiation. When space conditioning systems use forced air duct systems to supply conditioned air to an occupiable space, the ducts shall be sealed and duct leakage tested, as confirmed through field verification and diagnostic testing, in accordance with Reference Residential Appendix RA3. Mechanical systems that supply air to an occupiable space through ductwork exceeding 10 feet in length and through a thermal conditioning component, except evaporative coolers, shall be provided with air filter devices that meet the requirements of §150.0(m)12: Space conditioning systems that utilize forced air ducts to supply cooling to an occupiable space shall have a hole for the placement of a static pressure probe (HSPP), or a permanently installed static pressure probe (PSPP) in the supply plenum. The space conditioning system must al	and seams of duct systems and their components shall not be sealed with cloth back rubber adhesive duct tapes unless such tape is used in combination with mastic and draw bands. Field-Fabricated Duct Systems shall comply with requirements for: pressure-sensitive tapes, mastics, sealants, and other requirements specified for duct construction; duct insulation R-value ratings; duct insulation thickness; and duct labeling. All fan systems that exchange air between the conditioned space and the outside of the building must have backdraft or automatic dampers. Gravity ventilating systems serving conditioned space have either automatic or readily accessible, manually operated dampers except combustion inlet and outlet air openings and elevator shaft vents. Insulation shall be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind but not limited to the following: insulation exposed to weather shall be suitable for outdoor service. For example, protected by aluminum, sheet metal, painted cannot have porous inner cores. When space conditioning systems use forced air duct systems to supply conditioned air to an occupiable space, the ducts shall be sealed and duct leakage tested, as confirmed through field verification and diagnostic testing, in accordance with Reference Residential Appendix RA3. Mechanical systems that supply air to an occupiable space through ductwork exceeding 10 feet in length and through a thermal conditioning component, except evaporative coolers, shall be provided with air filter devices that meet the requirements of \$150.0(m)12. Space conditioning systems that utilize forced air ducts to supply cooling to an occupiable space shall have a hole for the placement of a static pressure probe (HSPP), or a permanently installed static pressure probe (PSPP) in the supply plenum. The space conditioning system must also demonstrate airflow ≥ 350 CFM per ton of nominal cooling capacity through the return grilles, and an air-handling unit fan efficacy ≤ 0.58	§150.0(m)1:	§603.0, §604.0, §605.0 and ANSI/SMACNA-006-2006 HVAC Duct Construction Standards Metal and Flexible 3rd Edition. Supply-air and return-air ducts and plenums are insulated to a minimum installed level of R-6.0 (or higher if required by CMC §605.0) or enclosed entirely in directly conditioned space as confirmed through field verification and diagnostic testing (RA3.1.4.3.8). Connections of metal ducts and inner core of flexible ducts are mechanically fastened. Openings shall 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 shall be used. Building cavities, support platforms for air handlers, and plenums defined or constructed with materials other than sealed sheet metal, duct board or flexible duct shall not be used for conveying conditioned air. Building cavities and support platforms may contain ducts. 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All fan systems that exchange air between the conditioned space and the outside of the building must have backdraft or automatic dampers. S150.0(m)8: Gravity ventilating systems serving conditioned space have either automatic or readily accessible, manually operated dampers except combustion inlet and outlet air openings and elevator shaft vents. Insulation shall be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind but not limited to the following: insulation exposed to weather shall be suitable for outdoor service. For example, protected by aluminum, sheet metal, painted canvas, or plastic cover. Cellular foam insulation shall be protected as above or painted with a coating that is water retardant and provides shielding from solar radiation. S150.0(m)10: Flexible ducts cannot have porous inner cores. When space conditioning systems use forced air duct systems to supply conditioned air to an occupiable space, the ducts shall be sealed and duct leakage tested, as confirmed through field verification and diagnostic testing, in accordance with Reference Residential Appendix RA3. Mechanical systems that supply air to an occupiable space through ductwork exceeding 10 feet in length and through a thermal conditioning component, except evaporative coolers, shall be provided with air filter devices that meet the requirements of \$150.0(m)12. Space conditioning systems that utilize forced air ducts to supply cooling to an occupiable space shall have a hole for the placement of a static pressure probe (HSPP), or a permanently installed static pressure probe (PSPP) in the supply plenum. The space conditioning system must also demonstrate airflow ≈ 350 CFM per ton of nominal cooling capacity through the return grilles, and an air-handling unit fan efficacy ≤ 0.58 W/CFM as confirmed by field verification and diagnostic testing, in accordance with Reference Residential Appendix RA3. Zonally controlled central forced air cooling systems shall be capable of simultaneously	requirements specified for duct construction; duct insulation R-value ratings; duct insulation thickness; and duct labeling. All fan systems that exchange air between the conditioned space and the outside of the building must have backdraft or automatic dampers. Gravity ventilating systems serving conditioned space have either automatic or readily accessible, manually operated dampers except combustion inlet and outlet air openings and elevator shaft vents. Insulation shall be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind but not limited to the following: insulation exposed to weather shall be suitable for outdoor service. For example, protected by aluminum, sheet metal, painted canvas, or plastic cover. Cellular foam insulation shall be protected as above or painted with a coating that is water retardant and provides shielding from solar radiation. Flexible ducts cannot have porous inner cores. When space conditioning systems use forced air duct systems to supply conditioned air to an occupiable space, the ducts shall be sealed and duct leakage tested, as confirmed through field verification and diagnostic testing, in accordance with Reference Residential Appendix RA3. Mechanical systems that supply air to an occupiable space through ductwork exceeding 10 feet in length and through a thermal conditioning component, except evaporative coolers, shall be provided with air filter devices that meet the requirements of \$150.0(m)12. Space conditioning systems that utilize forced air ducts to supply cooling to an occupiable space shall have a hole for the placement of a static pressure probe (HSPP), or a permanently installed static pressure probe (PSPP) in the supply plenum. The space conditioning system must also demonstrate airflow ≥ 350 CFM per ton of nominal cooling capacity through the return grilles, and an air-handling unit fan efficacy ≤ 0.58 W/CFM as confirmed by field verification and diagnostic testing, in accordance with Reference Residential Appe	§150.0(m)2:	and seams of duct systems and their components shall not be sealed with cloth back rubber adhesive duct tapes unless such tape is used in combination with mastic and draw bands.
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		§150.0(o)1A:	Whole Building Ventilation airflow shall be confirmed through field verification and diagnostic testing, in accordance with

Any pool or spa heating system shall be certified to have: 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 shall not use electric resistance heating.

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§110.4(b)1:	Any pool or spa heating equipment shall be installed with at least 36 inches of pipe between filter and heater or dedicated suction and return lines, or built-up connections for future solar heating.	
§110.4(b)2:	Outdoor pools or spas that have a heat pump or gas heater shall have a cover.	
§110.4(b)3:	Pools shall 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:	Natural gas pool and spa heaters shall not have a continuous burning pilot light.	
§150.0(p):	Residential pool systems or equipment shall meet specified pump sizing, flow rate, piping, filters, and valve requirements.	
Lighting Meas	ures:	0150
§110.9:	All lighting control devices and systems, ballasts, and luminaires shall meet the applicable requirements of §110.9.	§150
§150.0(k)1A:	Installed luminaires shall be classified as high-efficacy or low-efficacy for compliance with §150.0(k) in accordance with TABLE 150.0-A or TABLE 150.0-B, as applicable.	2150
§150.0(k)1B:	When a high efficacy and low efficacy lighting system are combined in a single luminaire, each system shall separately comply with the applicable provisions of §150.0(k).	§150 §150
§150.0(k)1C:	The wattage and classification of permanently installed luminaires in residential kitchens shall be determined in accordance with §130.0(c). In residential kitchens, the wattage of electrical boxes finished with a blank cover or where no electrical equipment has been installed, and where the electrical box can be used for a luminaire or a surface mounted ceiling fan, shall be calculated as 180 watts of low efficacy lighting per electrical box.	§150
§150.0(k)1D:	Ballasts for fluorescent lamps rated 13 watts or greater shall be electronic and shall have an output frequency no less than 20 kHz.	§150
§150.0(k)1E:	Permanently installed night lights and night lights integral to installed luminaires or exhaust fans shall be rated to consume no more than 5 watts of power per luminaire or exhaust fan as determined in accordance with §130.0(c). Night lights do not need to be controlled by vacancy sensors.	§150
§150.0(k)1F:	Lighting integral to exhaust fans (except when installed by the manufacturer in kitchen exhaust hoods) shall meet the applicable requirements of §150.0(k).	
§150.0(k)2A:	High efficacy luminaires must be switched separately from low efficacy luminaires.	§150
§150.0(k)2B:	Exhaust fans shall be switched separately from lighting systems.	
§150.0(k)2C:	Luminaires shall be switched with readily accessible controls that permit the luminaires to be manually switched ON and OFF.	
§150.0(k)2D:	Controls and equipment are installed in accordance with manufacturer's instructions.	Sola
§150.0(k)2E:	No control shall bypass a dimmer or vacancy sensor function if the control is installed to comply with §150.0(k).	§110
§150.0(k)2F:	Lighting controls comply with applicable requirements of §110.9.	8110
§150.0(k)2G:	An Energy Management Control System (EMCS) may be used to comply with dimmer requirements if: it functions as a dimmer according to §110.9; meets Installation Certificate requirements of §130.4; the EMCS requirements of §130.5; and all other requirements in §150.0(k)2.	§110
§150.0(k)2H:	An Energy Management Control System (EMCS) may be used to comply with vacancy sensor requirements of §150.0(k) if: it functions as a vacancy sensor according to §110.9; meets Installation Certificate requirements of §130.4; the EMCS requirements of §130.5; and all other requirements in §150.0(k)2.	§110
§150.0(k)2I:	A multiscene programmable controller may be used to comply with dimmer requirements of this section 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)3A:	A minimum of 50 percent of the total rated wattage of permanently installed lighting in kitchens shall be high efficacy.	
§150.0(k)3B:	Kitchen lighting includes all permanently installed lighting in the kitchen except internal lighting in cabinets that illuminate only the inside of the cabinets. Lighting in areas adjacent to the kitchen, including but not limited to dining and nook areas, are	§110
§150.0(k)4:	considered kitchen lighting if they are not separately switched from kitchen lighting. Permanently installed lighting that is internal to cabinets shall use no more than 20 watts of power per linear foot of illuminated cabinet.	§110
§150.0(k)5:	A minimum of one high efficacy luminaire shall be installed in each bathroom; and all other lighting installed in each bathroom shall be high efficacy or controlled by vacancy sensors.	§110
§150.0(k)6:	Lighting installed in attached and detached garages, laundry rooms, and utility rooms shall be high efficacy luminaires and controlled by vacancy sensors.	§110
§150.0(k)7:	Lighting installed in rooms or areas other than in kitchens, bathrooms, garages, laundry rooms, and utility rooms shall be high efficacy, or shall be controlled by either dimmers or vacancy sensors.	§110
§150.0(k)8:	Luminaires recessed into ceilings shall: be listed for zero clearance insulation contact (IC) by Underwriters Laboratories or other nationally recognized testing/rating laboratory; have a label that certifies that the luminaire is airtight with air leakage less than 2.0 CFM at 75 Pascals when tested in accordance with ASTM E283; be sealed with a gasket or caulk between the luminaire housing and ceiling, and shall have all air leak paths between conditioned and unconditioned spaces sealed with a gasket or caulk; and allow ballast maintenance and replacement without requiring cutting holes in the ceiling. For recessed compact fluorescent luminaries with ballasts to qualify as high efficacy for compliance with §150.0(k), the ballasts shall be certified to the Energy Commission to comply with the applicable requirements in §110.9.	§110 §110
§150.0(k)9A:	For single-family residential buildings, outdoor lighting permanently mounted to a residential building or other buildings on the same lot shall be high efficacy, or may be low efficacy if it meets all of the following requirements: i. Controlled by a manual ON and OFF switch that does not override to ON the automatic actions of Items ii or iii below; and ii. Controlled by a motion sensor not having an override or bypass switch that disables the motion sensor, or controlled by a motion sensor having a temporary override switch which temporarily bypasses the motion sensing function and automatically reactivates the motion sensor within 6 hours; and iii. Controlled by one of the following methods:	§110

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a. Photocontrol not having an override or bypass switch that disables the photocontrol; or

indicated on the construction documents.

shall be provided to the occupant.

ogrammed to automatically turn the outdoor lighting OFF during daylight hours; or c. Energy management control system which meets all of the following requirements: At a minimum provides the functionality of an astronomical time clock in accordance with §110.9; meets the Installation Certification requirements in §130.4; meets the requirements for an EMCS in §130.5; does not have an override or bypass switch that allows the luminaire to be always ON; and, is programmed to automatically turn the outdoor lighting OFF during daylight hours. For low-rise multifamily residential buildings, outdoor lighting for private patios, entrances, balconies, and porches; and outdoor lighting for residential parking lots and residential carports with less than eight vehicles per site shall comply with one of the 0.0(k)9B: following requirements: i. Shall comply with §150.0(k)9A; or ii. Shall comply with the applicable requirements in §110.9, §130.0, §130.2, §130.4, §140.7 and §141.0. For low-rise residential buildings with four or more dwelling units, outdoor lighting not regulated by §150.0(k)9B or 150.0(k)9D shall comply with the applicable requirements in §110.9, §130.0, §130.2, §130.4, §140.7 and §141.0. Outdoor lighting for residential parking lots and residential carports with a total of eight or more vehicles per site shall comply with the applicable requirements in §110.9, §130.0, §130.2, §130.4, §140.7 and §141.0. Internally illuminated address signs shall comply with §140.8; or shall consume no more than 5 watts of power as determined Lighting for residential parking garages for eight or more vehicles shall comply with the applicable requirements for nonresidential garages in §110.9, §130.0, §130.1, §130.4, §140.6, and §141.0.

In a low-rise multifamily residential building where the total interior common area in a single building equals 20 percent or less of 0.0(k)12A: the floor area, permanently installed lighting for the interior common areas in that building shall be high efficacy luminaires or controlled by an occupant sensor. 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 in that building shall: i. Comply with the applicable requirements in §110.9, §130.0, §130.1, §140.6 and §141.0; and ii. Lighting installed in corridors and stairwells shall be controlled by occupant sensors that reduce the lighting power in each space by at least 50 percent. The occupant sensors shall be capable of turning the light fully On and Off from all designed paths of r Ready Buildings: 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, by the enforcement agency, on or after January 1, 2014, shall comply with the requirements of §110.10(b) through §110.10(e). .10(a)2: Low-rise multi-family buildings shall comply with the requirements of §110.10(b) through §110.10(d). The solar zone shall have a minimum total area as described below. The solar zone shall 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 shall 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 shall 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 shall 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. 0.10(b)2: All sections of the solar zone located on steep-sloped roofs shall be oriented between 110 degrees and 270 degrees of true north. No obstructions, including but not limited to, vents, chimneys, architectural features, and roof mounted equipment, shall be located in the solar zone. Any obstruction, located on the roof or any other part of the building that projects above a solar zone shall be located at least twice .10(b)3B: 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. For areas of the roof designated as solar zone, the structural design loads for roof dead load and roof live load shall be clearly

The construction documents shall indicate: a location for inverters and metering equipment and a pathway for routing of conduit

A copy of the construction documents or a comparable document indicating the information from §110.10(b) through §110.10(c)

The main electrical service panel shall have a reserved space to allow for the installation of a double pole circuit breaker for a future solar electric installation. The reserved space shall be: positioned at the opposite (load) end from the input feeder location or

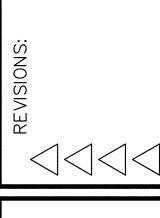
interconnection will be the main service panel); a pathway for routing of plumbing from the solar zone to the water-heating

from the solar zone to the point of interconnection with the electrical service (for single family residences the point of

The main electrical service panel shall have a minimum busbar rating of 200 amps.

main circuit location, and permanently marked as "For Future Solar Electric".

b. Astronomical time clock not having an override or bypass switch that disables the astronomical time clock, and which is



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ADDITION AND REMODEL FOR SINGLE—FAMILY I 22345 EXAMPLE LN. SANTA CLARITA, CA

ARCHITECT/ ENGINEER SEAL AND SIGNATURE

PERMIT #: BLDXX-XXXXX

SHEET #

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