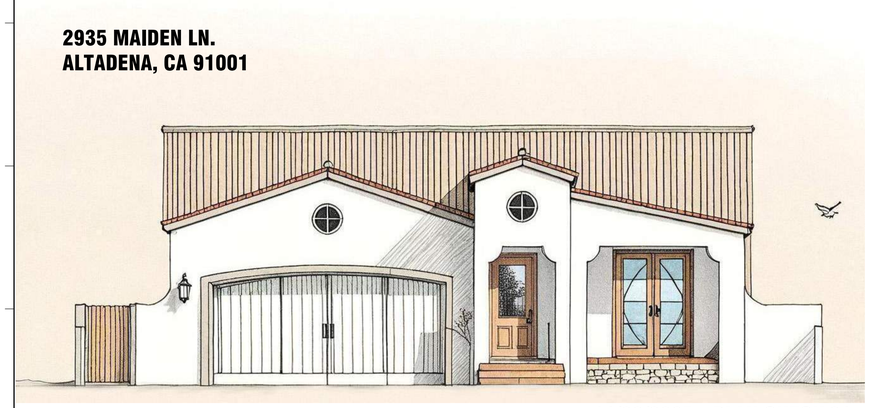
2935 MAIDEN LN

EATON FIRE REBUILD

2935 MAIDEN LN.
ALTADENA, CA 91001



11/30/2025 - PLAN CHECK 01

PROJECT SCOPE

NEW GROUND-UP CONSTRUCTION OF A 1,988.87 SF ONE-STORY SINGLE-FAMILY DWELLING WITH 3 BEDROOMS, 2.5 BATHROOMS, AND AN ATTACHED 467.09 SF TWO-CAR GARAGE ON AN EATON CANYON FIRE-AFFECTED PROPERTY. PROPOSED SCOPE ALSO INCLUDES 97.03 SF ATTACHED PORCH, NEW FENCE AND GARDEN WALLS.

APPLICABLE CODES

2023 COUNTY OF LOS ANGELES BUILDING CODE (TITLE 26)
2023 COUNTY OF LOS ANGELES ELECTRICAL CODE (TITLE 27)
2023 COUNTY OF LOS ANGELES PLUMBING CODE (TITLE 28)
2023 COUNTY OF LOS ANGELES MECHANICAL CODE (TITLE 29)
2023 COUNTY OF LOS ANGELES RESIDENTIAL CODE (TITLE 30)
2023 COUNTY OF LOS ANGELES GREEN BUILDING STANDARDS CODE (TITLE 31)
2023 COUNTY OF LOS ANGELES EXISTING BUILDING CODE (TITLE 33)

DEFERRED SUBMITTALS

- FIRE SPRINKLER
- RETAINING WALLS
- SOLAR

PROJECT INFORMATION

SITE DATA	
PROJECT ADDRESS	2935 MAIDEN LN ALTADENA CA 91001-1758
APN	5842-009-008
TRACT	6954
LOT(S)	8 BLK H
LOT AREA	6,336 SF
CURRENT ZONING	R-1-7500
PROPOSED ZONING	**NO CHANGE**
FIRE HAZARD ZONE	**NO**
HISTORIC	NO

BUILDING CODE INFORMATION	
CONSTRUCTION TYPE	V-B
FIRE SPRINKLER	YES, NFPA 13D
# OF LEVELS	1
# OF SUB-LEVELS	0
EXISTING OCC. GROUP	SFR - R3 / U
PROPOSED OCC. GROUP	**NO CHANGE**
BEDROOMS	3
BATHROOMS	2.5
BUILDING HEIGHT	17'-3"

BUILDING AREA AND GROSS STRUCTURAL AREA (GSA)	
GSA CALCULATIONS	(6,336 x 25%) + 1,000 SF = 2,580 SF
MAX GSA / LOT COVERAGE	**2,580 SF**
	PROPOSED STRUCTURE
DWELLING	1,988.87 SF
COVERED PORCH	97.03
GARAGE	467.09 SF (EXEMPT FROM GSA)
GSA	**2,085.9 SF**
LOT COVERAGE	**2,561.99 SF**

SHEET INDEX

GENERAL
A0.00 COVER SHEET
A0.01 ADDITIONAL NOTES AND ABBREVIATIONS
A0.02 RESIDENTIAL AND GREEN BUILDING NOTES
A0.03 SPECIFICATIONS
A0.10 SURVEY
GRN-01 CAL GREEN SHEET 1
GRN-02 CAL GREEN SHEET 2
T24.1 TITLE 24 COMPLIANCE
T24.2 TITLE 24 COMPLIANCE
T24.3 TITLE 24 COMPLIANCE

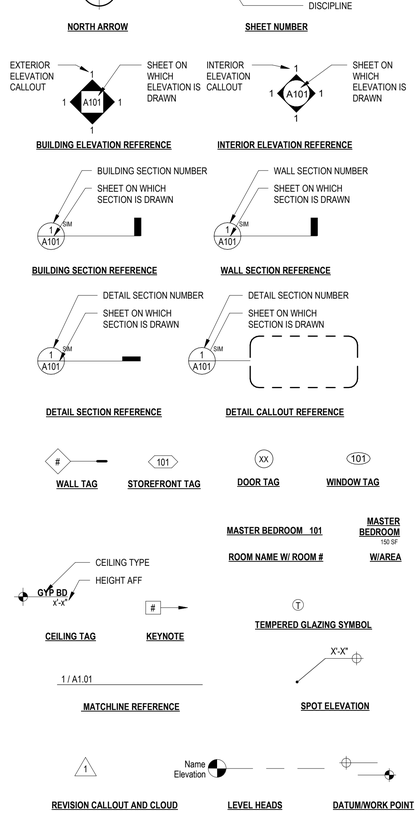
ARCHITECTURAL
A1.01 SITE PLAN
A2.01 FLOOR PLAN
A2.03 ROOF PLAN
A3.01 EXTERIOR BUILDING ELEVATIONS
A3.02 EXTERIOR BUILDING ELEVATIONS
A4.01 BUILDING SECTIONS
A4.02 BUILDING SECTIONS
A8.01 DOOR & WINDOW SCHEDULES
A9.01 WALL DETAILS
A9.11 ROOF DETAILS
A9.21 DOOR & WINDOW DETAILS

STRUCTURAL
S-1 STRUCTURAL GENERAL NOTES
S-2 FOUNDATION PLAN
S-3 ROOF FRAMING PLAN
S-4 STRUCTURAL DETAILS
S-5 STRUCTURAL DETAILS
S-6 STRUCTURAL DETAILS
WSW1 STRONG-WALL WSW
WSW1.1 STRONG-WALL WSW
WSW2 STRONG-WALL WSW
WSW3 STRONG-WALL WSW

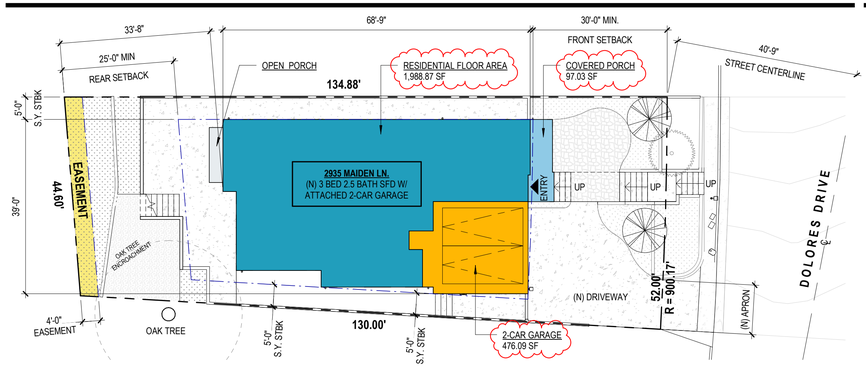
GENERAL NOTES

1. ALL CONSTRUCTION ACTIVITIES SHALL BE PERFORMED DURING APPROVED CONSTRUCTION HOURS BY THE LOCAL JURISDICTION.
2. SEPARATE PERMITS MAY BE REQUIRED FOR MECHANICAL, ELECTRICAL, PLUMBING, SHORING, GRADING, AND DEMOLITION.
3. ALL PROPERTY LINES, EASEMENTS, AND EXITING BUILDINGS HAVE BEEN INDICATED ON THE SITE PLAN.
4. A SECURITY FENCE SHALL BE PROVIDED ON THE CONSTRUCTION AREA THAT SHALL BE INSTALLED PRIOR TO EXCAVATION AND/OR FOUNDATION TRENCHING. (BMC 9-1-1-3302.2)
5. WATER SHALL BE PROVIDED ON THE SITE AND USED TO CONTROL DUST. SEE BMP NOTES FOR ADDITIONAL NOTES.
6. TEMPORARY TOILET FACILITIES SHALL BE PROVIDED ON SITE. (BMC 9-1-1-3305)
7. THE FINISH GRADE SHALL SLOPE A MIN OF 5% OR 6" TO A POINT 10' FROM BUILDING FOUNDATION, OR TO AN APPROVED ALTERNATE METHOD OF DIVERTING WATER AWAY FROM THE FOUNDATION. SWALES SHALL SLOW A MIN OF 2% (CRC R401.3)
8. THE TOP OF THE EXTERIOR FOUNDATION SHALL EXTEND ABOVE THE ELEVATION OF THE STREET CUTTER A MIN. OF 12" PLUS 2% (CRC R402.1.7.3)
9. SEE SHEET A0.01 FOR ADDITIONAL NOTES.

SYMBOLS



PLOT PLAN



LOT COVERAGE SCHEDULE

NAME	AREA
RESIDENTIAL FLOOR AREA	1,988.87 SF
GARAGE	476.09 SF
COVERED PORCH	97.03 SF
	2,561.99 SF

PROJECT TEAM

OWNER
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EMAIL MKITSINIAN@GMAIL.COM

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TBD
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EMAIL

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SURVEYOR
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KAZARIANS ENGINEERING SERVICES, INC.
1528 CANADA BLVD. SUITE 206
GLENDALE, CA 91208
TEL 818.524.8763

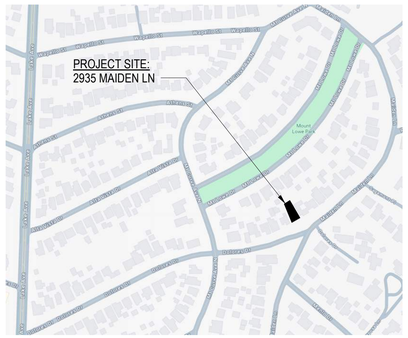
TITLE 24
MARAL RAHMANI
TITLE 24 EXPERTS
TEL 818.561.9333
EMAIL INFO@TITLE24EXPERTS.COM

HERS VERIFICATION

HERS VERIFICATION REQUIREMENT
FIRM OR INDIVIDUAL RESPONSIBLE FOR THE VERIFICATION:

NAME: _____ LICENSE NO: _____

VICINITY MAP



STUDIO KPA
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Los Angeles
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Glendale, CA 91203
310.853.3616

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LICENSED ARCHITECT
KHACHIK C. PILIKYAN
C-33467
06.30.2027
RENEWAL DATE
STATE OF CALIFORNIA

#	DESCRIPTION	DATE
	PLANNING SUBMISSION 01	09.10.2025
1	PLANNING SUBMISSION 02	10.08.2025
	PLAN CHECK 01	11.30.2025

2935 MAIDEN LN
2935 MAIDEN LN.
ALTADENA, CA 91001
PROJECT NO: 250415

SCALE:

DRAWING TITLE
COVER SHEET

DRAWING NO.
A0.00

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GENERAL NOTES

THESE NOTES ARE INTENDED TO EMPHASIZE OR CLARIFY THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. IN THE EVENT OF A CONFLICT BETWEEN THE DRAWINGS, SPECIFICATIONS, AND/OR THESE NOTES, THE CONTRACTOR SHALL COMPLY WITH THE MORE STRINGENT REQUIREMENT, NOTIFY THE OWNER / OWNER'S REPRESENTATIVE OF THE CONFLICT, AND SEEK CLARIFICATION.

1. INFORMATION CONTAINED IN THESE DOCUMENTS WHICH DESCRIBE OR LOCATE EXISTING SITE AND BUILT ELEMENTS, IS BASED ON INFORMATION (DRAWINGS, NOTES, SURVEYS, ETC.) SUPPLIED BY THE OWNER AND/OR HIS CONSULTANTS. THE CONTRACTOR AND SUB-CONTRACTORS SHALL VERIFY ALL DIMENSIONS AND FINISH CONDITIONS APPLICABLE TO THE WORK DESCRIBED HEREIN AND REPORT ANY DISCREPANCIES TO THE OWNER / OWNER'S REPRESENTATIVE BEFORE PROCEEDING WITH THE WORK. ALL BIDDERS SHALL VISIT SITE AND VERIFY CONDITIONS PRIOR TO SUBMITTING BIDS.
2. THE CONTRACTOR IS TO SURVEY EXISTING SITE CONDITIONS AS REQUIRED FOR COORDINATION OF NEW WORK WITH EXISTING UTILITIES AND THEIR CONNECTIONS. WHERE DISCREPANCIES ARE FOUND, THE CONTRACTOR SHALL NOTIFY THE OWNER.
3. SURVEYING AND LAYOUT OF THE PROJECT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
4. LARGER SCALE DRAWINGS SHALL HAVE PRECEDENCE OVER THOSE OF SMALLER SCALE. WHERE DISCREPANCIES ARE FOUND BETWEEN THE ARCHITECTURAL DRAWINGS AND THOSE OF OTHER CONSULTANTS, THE ARCHITECTURAL DRAWINGS SHALL GOVERN. IN ALL SUCH CASES THE CONTRACTOR IS TO OBTAIN CLARIFICATION FROM THE ARCHITECT BEFORE PROCEEDING WITH THE WORK.
5. DIMENSIONS SHALL HAVE PREFERENCE OVER SCALE.
6. DIMENSIONS ARE TO FINISHED SURFACES UNLESS OTHERWISE NOTED.
7. DETAILS NOT SHOWN ARE TO BE SIMILAR IN CHARACTER TO THOSE DETAILED. WHERE SPECIFIC DIMENSIONS, DETAILS OR DESIGN INTENT CANNOT BE DETERMINED, OBTAIN CLARIFICATION FROM THE OWNER / OWNER'S REPRESENTATIVE BEFORE PROCEEDING WITH THE WORK.
8. ALL DRAWINGS AND NOTES ARE COMPLEMENTARY, AND WHAT IS CALLED FOR BY ANY ONE WILL BE AS BINDING AS IF CALLED FOR BY ALL.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL WORK AND MATERIALS IN CONFORMANCE WITH ANY CODE OR CODES OF FEDERAL, STATE, COUNTY OR MUNICIPALITY HAVING JURISDICTION OVER THE PROJECT. ALL APPLICABLE REQUIREMENTS IN THESE REGULATIONS SHALL BE FOLLOWED THE SAME AS IF NOTED ON THE DRAWINGS. CONFLICTS BETWEEN WORK SET FORTH ON THE DRAWINGS AND BUILDING CODES, LAWS OR REGULATIONS NOTED BY THE CONTRACTOR SHALL BE SUBMITTED TO THE OWNER / OWNER'S REPRESENTATIVE FOR RESOLUTION, PRIOR TO PROCEEDING WITH THE WORK.
10. CONTRACTOR SHALL PROVIDE PUBLIC PROTECTION AS REQUIRED PER GOVERNING AGENCY AND CODE REQUIREMENTS. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ANY TEMPORARY SHORING AND BRACING TO INSURE THE SAFETY OF THE WORK.
11. CONTRACTOR SHALL COORDINATE ALL MECHANICAL, PLUMBING, ELECTRICAL, SPRINKLERS AND ARCHITECTURAL WORK. CONTRACTOR SHALL NOTIFY OWNER / OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES OR CONFLICTS PRIOR TO PROCEEDING WITH THE WORK.
12. WHERE WORK OR EQUIPMENT IS INDICATED N.I.C. SUCH WORK AND OR EQUIPMENT SHALL BE PROVIDED BY OTHERS. CONTRACTOR SHALL COORDINATE AND COOPERATE TO EFFECT SUCH INSTALLATION.
13. THE CONTRACTOR SHALL COORDINATE ALL REQUIREMENTS OF THE AUTHORITIES HAVING JURISDICTION FOR SIDEWALKS, DRIVEWAYS, CURBS, GUTTERS, STREETLIGHTS, EASEMENTS, UTILITIES, FENCES, SIGNS, BARRICADES, ETC. ADJACENT TO THE PROPERTY, AND SHALL OBTAIN ALL NECESSARY PERMITS AND APPROVALS.
14. THE CONTRACTOR SHALL TAKE PROTECTION MEASURES THAT WILL BE UTILIZED DURING CONSTRUCTION TO PROTECT ADJOINING AND NEARBY PROPERTIES (PUBLIC AND PRIVATE) FROM NOISE, DUST, DIRT, FIRE HAZARDS AND POTENTIAL PROBLEMS CAUSED BY SUCH CONSTRUCTIONS.
15. PROPERTY AND PREMISE LINES ADJACENT TO THE BUILDING SHALL BE ESTABLISHED IN THE FIELD BY A CALIFORNIA LICENSED SURVEYOR AND A SURVEY REPORT SHALL BE SUBMITTED TO THE INSPECTOR PRIOR TO FOUNDATION INSPECTION.
16. DISSIMILAR METALS SHALL BE EFFECTIVELY ISOLATED FROM EACH OTHER TO PREVENT GALVANIC ACTION.
17. NO MANUFACTURER'S NAME, TRADEMARK, LOGO OR OTHER IDENTIFYING INFORMATION SHALL BE VISIBLE ON ANY PRODUCT, DEVICE OR MATERIAL INSTALLED IN PUBLIC VIEW.
18. WELDING TO BE DONE ON THIS PROJECT SHALL BE PERFORMED BY WELDERS CERTIFIED BY THE BUILDING DEPARTMENT FOR STRUCTURAL AND LIGHT-GAUGE STEEL.
19. CONTRACTOR SHALL PROVIDE ACCESS PANELS AS REQUIRED BY PLUMBING, MECHANICAL, AND OTHER TRADES, AND AS REQUIRED BY CODES, LOCATION, AND TYPES TO BE APPROVED BY THE OWNER / OWNER'S REPRESENTATIVE.
20. THERE SHALL BE NO ENCLOSED USABLE SPACE UNDER THE STAIRWAY IN AN EXIT ENCLOSURE, NOR IS THE OPEN SPACE UNDER SUCH STAIRWAYS TO BE USED FOR ANY PURPOSE.
21. FUTURE OWNER IMPROVEMENTS REQUIRE SEPARATE BUILDING PERMITS.
22. INSTALL PIPING AND DUCTWORK THROUGH FLOORS IN A MANNER THAT WILL PRESERVE THE STRUCTURAL INTEGRITY OF THE BUILDING, AND MAINTAIN REQUIRED FIRE RESISTANCE AT THE PENETRATION.
23. CONTRACTOR SHALL CONSTRUCT ALL STUD FRAMING TO MATCH EXACT PROFILES OF WALLS, REVEALS, ETC. SHOWN ON THESE DRAWINGS.
24. PROVIDE MOCK-UPS AS SPECIFIED AND INDICATED IN THE DRAWINGS AND SPECIFICATIONS. PROVIDE SAMPLES OF ALL FINISH MATERIALS AND COLORS TO BE SELECTED BY THE OWNER / OWNER'S REPRESENTATIVE. THESE SAMPLES ARE TO BE REVIEWED AND ACCEPTED BY THE OWNER / OWNER'S REPRESENTATIVE BEFORE PROCEEDING WITH FULL PRODUCTION OF ITEM UNDER CONSIDERATION. ACCEPTABLE MOCKUPS MAY BE INCORPORATED IN THE FINISHED WORK, IF PRACTICAL.
25. THIS DOCUMENT, THE IDEAS, AND THE DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF THE DESIGNER AND IS NOT TO BE USED IN WHOLE OR IN PART, FOR ANY PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF THE DESIGNER.
26. PROVIDE MOCK-UPS AS SPECIFIED AND INDICATED IN THE DRAWINGS AND SPECIFICATIONS. PROVIDE SAMPLES OF ALL FINISH MATERIALS AND COLORS TO BE SELECTED BY THE OWNER / OWNER'S REPRESENTATIVE. THESE SAMPLES ARE TO BE REVIEWED AND ACCEPTED BY THE OWNER / OWNER'S REPRESENTATIVE BEFORE PROCEEDING WITH FULL PRODUCTION OF ITEM UNDER CONSIDERATION. ACCEPTABLE MOCKUPS MAY BE INCORPORATED IN THE FINISHED WORK, IF PRACTICAL.
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28. ALL, BUT NOT LIMITED TO, THE FOLLOWING TRADES SHALL PROVIDE SUBMITTALS; STEEL/IRON AND MISC. STEEL, GLASS AND GLAZING, CABINETRY, PAINT AND PLASTER, AND ELEVATOR.
29. ALL BELOW GRADE WALLS ENCLOSING HABITABLE, NON-HABITABLE SPACES, AND RETAINING WALLS SHALL BE WATERPROOFED. SEE SPECIFICATIONS.
30. AN APPROVED SEISMIC GAS SHUTOFF VALVE WILL BE INSTALLED ON THE FUEL GAS LINE ON THE DOWN STREAM SIDE OF THE UTILITY METER AND BE RIGIDLY CONNECTED TO THE EXTERIOR OF THE BUILDING OR STRUCTURE CONTAINING FUEL GAS PIPING. [171.874]
31. FIRE BLOCKING MUST BE PROVIDED IN ACCORDANCE WITH CBC SECTION 717 AND IN THE FOLLOWING LOCATIONS AS SPECIFIED IN CBC SECTIONS 717.2.2 THROUGH 717.2.7:

CONCEALED WALL SPACES. FIRE BLOCKING SHALL BE PROVIDED IN CONCEALED SPACES OF STUD WALLS AND PARTITIONS, INCLUDING FURRING SPACES, AND PARALLEL ROWS OF STUDS OR STAGGERED STUDS AS FOLLOWS:

1. VERTICALS AT THE CEILING AND FLOOR LEVELS.
2. HORIZONTALLY AT INTERVALS NOT EXCEEDING 10 FEET.

CONNECTIONS BETWEEN HORIZONTAL AND VERTICAL SPACES. FIRE BLOCKING SHALL BE PROVIDED AT INTERCONNECTIONS BETWEEN CONCEALED VERTICAL STUD WALL OR PARTITION SPACES AND CONCEALED HORIZONTAL SPACES CREATED BY AN ASSEMBLY OF FLOOR JOISTS OR TRUSSES, AND BETWEEN CONCEALED VERTICAL AND HORIZONTAL SPACES SUCH AS OCCUR AT SOFFITS, DROP CEILINGS, COVE CEILINGS AND SIMILAR LOCATIONS.

STAIRWAYS. FIREBLOCKING SHALL BE PROVIDED IN CONCEALED SPACES BETWEEN STAIR STRINGERS AT THE TOP AND BOTTOM OF THE RUN. ENCLOSED SPACES UNDER STAIRS SHALL ALSO COMPLY WITH SECTION 1009.6.3. CEILING AND FLOOR OPENINGS. WHERE REQUIRED BY EXCEPTION 6 OF SECTION 708.2, EXCEPTION 1 OF SECTION 713.4.1.2 OR SECTION 713.4.2, FIREBLOCKING OF THE ANNULAR SPACE AROUND VENTS, PIPES, DUCTS, CHIMNEYS AND FIREPLACES AT CEILINGS AND FLOOR LEVELS SHALL BE INSTALLED WITH A MATERIAL SPECIFICALLY TESTED IN THE FORM AND MANNER INTENDED FOR USE TO DEMONSTRATE ITS ABILITY TO REMAIN IN PLACE AND RESIST THE FREE PASSAGE OF FLAME AND THE PRODUCTS OF COMBUSTION.

FACTORY-BUILT CHIMNEYS AND FIREPLACES. FACTORY-BUILT CHIMNEYS AND FIREPLACES SHALL BE FIREBLOCKED IN ACCORDANCE WITH UL 103 AND UL 127.

ARCHITECTURAL TRIM. FIREBLOCKING SHALL BE INSTALLED WITHIN CONCEALED SPACES OF EXTERIOR WALL FINISH AND OTHER EXTERIOR ARCHITECTURAL ELEMENTS WHERE PERMITTED TO BE OF COMBUSTIBLE CONSTRUCTION AS SPECIFIED IN SECTION 1406 OR WHERE ERECTED WITH COMBUSTIBLE FRAMES, AT MAXIMUM INTERVALS OF 20 FEET, SO THAT THERE WILL BE NO OPEN SPACE EXCEEDING 100 SQUARE FEET. WHERE WOOD FURRING STRIPS ARE USED, THEY SHALL BE OF APPROVED WOOD OF NATURAL DECAY RESISTANCE OR PRESERVATIVE-TREATED WOOD. IF NONCONTINUOUS, SUCH ELEMENTS SHALL HAVE CLOSED ENDS, WITH ATL EAST 4 INCHES OR SEPARATION BETWEEN SECTIONS.

EXCEPTIONS:

1. FIREBLOCKING OF CORNICES IS NOT REQUIRED IN SINGLE-FAMILY DWELLINGS. FIREBLOCKING OF CORNICES OF A TWO-FAMILY DWELLING IS REQUIRED ONLY AT THE LINE OF DWELLING UNIT SEPARATION.
2. FIREBLOCKING SHALL NOT BE REQUIRED WHERE INSTALLED ON NONCOMBUSTIBLE FRAMING AND THE FACE OF THE EXTERIOR WALL FINISH EXPOSED TO THE CONCEALED SPACE IS COVERED BY ONE OF THE FOLLOWING MATERIALS:
   - A. 2.1 ALUMINUM HAVING A MINIMUM THICKNESS OF 0.019 INCH.
   - B. 2.2 CORROSION-RESISTANT STEEL HAVING A BASE METAL THICKNESS OF NOT LESS THAN 0.016 INCH AT ANY POINT.
   - C. 2.3 OTHER APPROVED NONCOMBUSTIBLE MATERIALS.

CONCEALED SLEEPER SPACES. WHERE WOOD SLEEPERS ARE USED FOR LAYING WOOD FLOORING ON MASONRY OR CONCRETE FIRE-RESISTANCE-RATED FLOORS, THE SPACE BETWEEN THE FLOOR SLAB AND THE UNDERSIDE OF THE WOOD FLOORING SHALL BE FILLED WITH AN APPROVED MATERIAL TO RESIST THE FREE PASSAGE OF FLAME AND PRODUCTS OF COMBUSTION OR FIREBLOCKED IN SUCH A MANNER THAT THERE WILL BE NO OPEN SPACES UNDER THE FLOORING THAT WILL EXCEED 100 SQUARE FEET IN AREA AND SUCH SPACE SHALL BE FILLED SOLIDLY UNDER PERMANENT PARTITIONS SO THAT THERE IS NO COMMUNICATION UNDER THE FLOORING BETWEEN ADJOINING ROOMS.

32. THE CONTRACTOR SHALL SUBMIT ALL NECESSARY SHOP DRAWINGS, MATERIAL SCHEDULES, FIXTURE AND EQUIPMENT CUTS TO THE OWNER / OWNER'S REPRESENTATIVE FOR APPROVAL PRIOR TO PURCHASE, FABRICATION AND/OR INSTALLATION.
33. CONTRACTOR TO PROVIDE DESIGN BUILD HVAC COORDINATION OF ALL SIZES, LOCATION OF DIFFUSERS AND SUBMIT SHOP DRAWINGS & CUT SHEETS FOR OWNER'S / OWNER'S REPRESENTATIVE APPROVAL PRIOR TO CONSTRUCTION.
34. THE CONSTRUCTION SHALL NOT RESTRICT A FIRE-FOOT CLEAR AND UNOBSTRUCTED ACCESS TO ANY POWER OR POWER DISTRIBUTION FACILITIES (POWER POLES, PULLBOXES, TRANSFORMERS, VAULTS, PUMPS, VALVES, METERS, APPURTENANCES, ETC.) OR TO LOCATION OF THE HOOK-UP. THE CONSTRUCTION SHALL NOT BE WITHIN TEN (10) FEET OF ANY POWER LINES WHETHER OR NOT THE LINES ARE LOCATED ON THE PROPERTY. FAILURE TO COMPLY MAY CAUSE CONSTRUCTION DELAYS AND/OR ADDITIONAL EXPENSES.
35. PROVIDE AN ALARM FOR DOORS TO THE DWELLING THAT FORM A PART OF THE POOL ENCLOSURE. THE ALARM SHALL SOUND CONTINUOUSLY FOR A MINUTE AND 30 SECONDS WHEN THE DOOR IS OPENED. IT SHALL AUTOMATICALLY RESET AND BE EQUIPPED WITH A MANUAL MEANS TO DEACTIVATE (FOR 15 SECONDS MAXIMUM) FOR A SINGLE OPENING. THE DEACTIVATION SWITCH SHALL BE AT LEAST 54" ABOVE THE FLOOR.
36. PROVIDE FIRE SPRINKLERS THROUGHOUT. THE SPRINKLER SYSTEM SHALL BE APPROVED BY THE PLUMBING DIVISION PRIOR TO INSTALLATION.
37. CONTRACTOR SHALL PROVIDE, ERECT, AND MAINTAIN ALL TEMPORARY BARRIERS AND GUARDS, AND ALL TEMPORARY SHORING AND BRACING AS REQUIRED BY ALL CITY AND STATE REGULATIONS.
38. CONTRACTOR SHALL PROVIDE ADEQUATE WEATHER PROTECTION FOR THE BUILDING AND ITS CONTENTS DURING THE COURSE OF THE WORK.
39. CONTRACTOR TO PROVIDE TEMPORARY POWER POLE AND METER FOR THE DURATION OF THE WORK. CONTRACTOR TO MAINTAIN TEMPORARY LIGHT AS REQUIRED FOR THE DURATION OF THE WORK.
40. CONTRACTOR SHALL PROVIDE TEMPORARY SANITARY FACILITIES AS TO LEAST IMPACT NEIGHBORS AND AS DIRECTED BY CITY REGULATIONS.
41. DRAWINGS AND DIAGRAMS FOR MECHANICAL, ELECTRICAL AND PLUMBING WORK SHALL BE FOLLOWED ONLY FOR THE WORK FOR WHICH THEY WERE PREPARED AND SHALL BE CONSIDERED AS DIAGRAMMATIC ONLY, NOT TO BE USED FOR ANY STRUCTURAL, GUIDANCE OR ARCHITECTURAL LAYOUT.
42. PRIOR TO START OF CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT TO THE OWNER FOR APPROVAL A CONSTRUCTION SCHEDULE AND A LIST OF ALL SUBCONTRACTORS WITH WHOM HE INTENDS TO CONTRACT FOR WORK ON THIS PROJECT. UPON APPROVAL NO SUBSTITUTIONS OF SUBCONTRACTORS MAY BE MADE WITHOUT THE EXPRESS APPROVAL OF THE OWNER.
43. THE CONTRACTOR SHALL PROVIDE AND INSTALL ROUGH PLUMBING AND FINAL HOOK-UP FOR ALL SPECIFIED FIXTURES AND APPLIANCES, AND SHALL SUPPLY ALL SUCH FIXTURES AND APPLIANCES UNLESS NOTED OTHERWISE.
44. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPLYING TEMPORARY UTILITIES (ELECTRIC POWER/LIGHTING, WATER ETC.) TO THE JOB SITE FOR USE BY ALL CONSTRUCTION TRADES, INCLUDING THOSE NOT A SUBCONTRACTOR TO THE CONTRACTOR.
45. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS, APPROVALS AND LICENSES REQUIRED FOR THE PROJECT.
46. VERIFY THAT NO CONFLICT EXISTS BETWEEN THE LOCATION OF ANY MECHANICAL, COMMUNICATIONS, ELECTRICAL, PLUMBING, LIGHTING, SPRINKLER EQUIPMENT (INCLUDING FIXTURES, CONDUITS, PIPES, DUCT) AND REQUIRED CLEARANCE FOR INSTALLATION AND MAINTENANCE OF THIS EQUIPMENT.
47. DO NOT PROCEED WITH ANY WORK REQUIRING ADDITIONAL COMPENSATION BEYOND THE CONTRACT AMOUNT WITHOUT WRITTEN AUTHORIZATION FROM THE OWNER'S REPRESENTATIVE. FAILURE TO OBTAIN AUTHORIZATION SHALL INVALIDATE ANY CLAIM FOR COMPENSATION.

EXISTING SITE CONDITIONS

1. INFORMATION RELATED TO THE EXISTING CONDITIONS WAS OBTAINED FROM DOCUMENTATION PROVIDED BY THE OWNER TO THE DESIGNER AT THE TIME OF DESIGN. THE ACCURACY OF SUCH INFORMATION HAS NOT BEEN VERIFIED. DRAWINGS AND SPECIFICATIONS ARE INTENDED FOR ASSISTANCE AND GUIDANCE, BUT EXACT DIMENSIONS AND ELEVATIONS WILL BE GOVERNED BY ACTUAL SITE CONDITIONS.
2. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS BEFORE PROCEEDING WITH THE WORK. FAILURE TO DO SO WILL NOT RELIEVE THE CONTRACTOR FROM HIS OBLIGATIONS TO CARRY OUT THE PROVISIONS OF THE CONTRACT DOCUMENTS.
3. CONFIRM ON-SITE DELIVERY DATES OF MATERIAL AND PRODUCTS AND IMMEDIATELY NOTIFY THE OWNER, IN WRITING, OF POTENTIAL DELAYS TO THE COMPLETION OF THE WORK.
4. MAINTAIN BUILDING SECURITY, FIRE ALARM AND FIRE PROTECTION SYSTEM AT ALL TIMES.
5. PROTECT EXISTING WORK. MAINTAIN STRICT CONTROL OF DUST AND DEBRIS EMANATING FROM PROJECT AREA. KEEP PROJECT AREA BROOM CLEAN AND FREE OF DEBRIS DAILY.
6. IF BUILDING WILL BE OCCUPIED AT THE TIME OF CONSTRUCTION, COORDINATE THE WORK WITH BUILDING OWNER TO ENSURE MINIMUM DISTURBANCE TO THE BUILDING'S OCCUPANTS AND BUILDING ACCESS. DISTURBANCES SUCH AS EXCESSIVE POLLUTION, NOISE, UTILITY SHUTDOWNS, OBSTRUCTION TO THE SITE OR BUILDING ACCESS, AND WORK PERFORMED OUTSIDE THE SCHEDULED WORKING HOURS ARE CONSIDERED AN INTERRUPTION OR DISTURBANCE TO THE TENANTS ACTIVITIES. NOTIFY THE BUILDING OWNER A MINIMUM OF THREE WORKING DAYS IN ADVANCE OF ANY INTERRUPTIONS OR DISTURBANCES THAT AFFECT THE BUILDING TENANTS OPERATIONS.
7. THE SAFETY OF THE BUILDING OCCUPANTS AND PUBLIC AT THE SITE, AND THE PROTECTION OF THE EXISTING WORK TO REMAIN AND OTHER PROPERTY AT THE SITE IS SOLELY THE CONTRACTORS' RESPONSIBILITY.

GUARANTEE

1. WORK DEFECTIVE IN CONSTRUCTION OR QUALITY OR DEFICIENT IN ANY REQUIREMENTS OF THE CONTRACT DOCUMENTS WILL NOT BE ACCEPTABLE DESPITE THE OWNER'S FAILURE TO DISCOVER OR POINT OUT DEFECTS OR DEFICIENCIES DURING CONSTRUCTION. DEFECTIVE WORK REVEALED WITHIN THE TIME REQUIRED BY GUARANTEES SHALL BE REPLACED BY WORK CONFORMING TO THE INTENT OF THE CONTRACT. NO PAYMENT, EITHER PARTIAL OR FINAL, SHALL BE CONSTRUED AS AN ACCEPTANCE OF DEFECTIVE WORK OR IMPROPER MATERIAL.
2. GUARANTEE ALL WORK AGAINST DEFECTIVE MATERIAL AND/OR WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM DATE OF COMPLETION OF CONSTRUCTION. COST OF ANY CORRECTIVE WORK WILL BE PAID BY THE CONTRACTOR.

AS-BUILT DRAWINGS

1. PROVIDE AS-BUILT DRAWINGS FOR ELECTRICAL PLAN, REFLECTED CEILING PLAN, HVAC SYSTEMS, FIRE SPRINKLER PLAN, AND PLUMBING PLAN. FIRE LIFE SAFETY SYSTEM PLAN BY OTHERS.
2. DURING THE COURSE OF CONSTRUCTION, ACTUAL LOCATIONS OF CONSTRUCTION ITEMS DENOTED IN THE CONSTRUCTION DOCUMENTS SHALL BE INDICATED, TO SCALE, IN CONTRASTING INK ON THE DRAWINGS FOR ALL RUNS OF MECHANICAL AND ELECTRICAL WORK, INCLUDING ANY CONCEALED DEVIATIONS FROM THE DRAWINGS. UPON COMPLETION OF THE PROJECT, INCLUDING THE PUNCH LIST, TRANSFER THIS INFORMATION TO A SET OF REPRODUCIBLE DRAWINGS. CONSPICUOUSLY MARK THIS SET "AS-BUILT SET" AND DELIVER TO THE OWNER.

DESIGN-BUILD SCOPE

1. ALL HVAC, ELECTRICAL, TELEPHONE/DATA/CABLE AND/OR PLUMBING WORK, PHOTOVOLTAIC SYSTEMS (WHERE REQUIRED), FIRE SPRINKLERS, AND ALL FIRE - LIFE SAFETY SYSTEM SHALL BE DESIGN BUILD. CONTRACTOR SHALL APPLY FOR ALL REQUIRED PERMITS.

AESTHETIC CRITERIA NOTES

1. THESE NOTES WILL BE REFERRED TO DURING CONSTRUCTION IN QUESTIONS THAT MAY HAVE AESTHETIC CONCERNS. SUCH CONDITIONS SHALL BE ONES IN WHICH THE CONTRACTOR MUST DETERMINE THE CONSTRUCTION OF PIECES AND PARTS NOT DOCUMENTED.
2. ASSUME THAT NO EXPOSED FASTENERS WILL BE USED UNLESS DIRECTED BY THE OWNER OF DETAILED IN THE CONSTRUCTION DOCUMENTS.
3. ALL ITEMS REQUIRING FASTENING WILL BE DONE THROUGH MECHANICAL MEANS, AND NOT ONLY THROUGH GLUE AND ADHESIVES UNLESS DIRECTED BY THE OWNER / OWNER'S REPRESENTATIVE.
4. ALL MATERIALS WHICH CANNOT ACHIEVE THE FULL DIMENSION INDICATED IN THE CONSTRUCTION DOCUMENTS SHALL BE DIVIDED INTO SEGMENTS AS DIRECTED BY THE OWNER / OWNER'S REPRESENTATIVE. IN ALL CASES THESE JOINTS OR HAIRLINE JOINTS WILL ALIGN WITH ADJACENT CONSTRUCTION JOINTS OR WILL HAVE AN AESTHETIC LOGIC.
5. UNLESS NOTED OTHERWISE, ALL REVEALS AND OR JOINERY SHALL RECEIVED THE SAME FINISH AS ADJACENT SURFACE(S).
6. UNLESS NOTED OTHERWISE, ALL SURFACES SHALL RECEIVE A FINISH TREATMENT (I.E. PAINT OR SEALER) INCLUDING BUT NOT LIMITED TO ALL NEW AND EXISTING CONCRETE/MASONRY TO BE EXPOSED, ALL NEW GYPSUM BOARD FINISHES, ALL NEW ACOUSTICAL FINISH PRODUCTS, ALL NEW AND EXISTING EXPOSED METALS, ALL EXPOSED MECHANICAL DUCTWORK, ELECTRICAL SYSTEMS, AND ASSOCIATES APPURTENANCES.
7. ALL CEILING FINISHES AND EXPOSED ITEMS BY ALL TRADES SHALL BE INSTALLED IN A NEAT AND PRECISE MANNER. ALL EXPOSED CONDUIT, PIPING, DUCTWORK, ETC. TO BE INSTALLED PARALLEL AND PERPENDICULAR TO THE BUILDING, AND BE FASTENED NEATLY, CONSISTENTLY, AND PRECISELY.
8. EACH NEW OUTLET, SWITCH, LIGHT, DIFFUSER, SIGN, ALARM, FIRE EXTINGUISHER, SPEAKER, ETC. SHALL BE LOCATED WITH CONCERN FOR ALIGNMENT TO OTHER'S WORK. IF THE DOCUMENTS DO NOT INDICATE SUCH ALIGNMENT, CONSULT OWNER / OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
9. THERE IS NOT TO BE ASSUMED ANY EXPOSED ITEM THAT IS NOT CONSIDERED TO BE IMPORTANT TO ALIGN (IF ANY) IN THE BUILDING. CONSULT THE OWNER / OWNER'S REPRESENTATIVE ON ANY ITEM WITHIN QUESTION.
10. ALL GROUT FOR CERAMIC TILE SHALL BE COLORED MEDIUM GREY U.N.O.
11. NO MANUFACTURER'S NAME, TRADEMARK, LOGO, OR OTHER IDENTIFYING INFORMATION SHALL BE VISIBLE ON ANY PRODUCT, DEVICE, OR MATERIAL EXPOSED IN PUBLIC VIEW.

ABBREVIATIONS

&	AND
@	AT
d	PENNY
°	ANGLE
⊥	PERPENDICULAR
A/C	AIR CONDITIONER / CONDITIONING
AB	ANCHOR BOLT
ABV	ABOVE
AC	ASPHALTIC CONCRETE
AD	AREA DRAIN
ADA	AMERICANS WITH DISABILITIES ACT
ADJ	ADJUSTABLE / ADJACENT
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AFS	ABOVE FINISHED SLAB
AL / ALUM	ALUMINUM
ALT	ALTERNATE
ANOD	ANODIZED
AP	ACCESS PANEL
APPROX	APPROXIMATELY
ARCH	ARCHITECT(URAL)
ASPH	ASPHALT
ASTM	AMERICAN SOCIETY FOR TESTING MATERIALS
AUTO	AUTOMATIC
AVG	AVERAGE
BD	BOARD
BET	BETWEEN
BITUM	BITUMINOUS
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BN	BOUNDARY NAILING
BOT	BOTTOM
CAB	CABINET
CB	CATCH BASIN
CF	CUBIC FOOT
CI	CAST IRON;CONTRACTOR INSTALLED
CIP	CAST IN PLACE
CJ	CONTROL JOINT; CEILING JOIST
CL	CENTER LINE
CLG	CEILING
CLOS	CLOSET
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
CO	CLEAN/CLEAR OUT
COL	COLUMN
CONC	CONCRETE
CONST	CONSTRUCTION
CONT	CONTINUOUS
CORR	CORRIDOR
CSK	COUNTERSINK
DBL	DOUBLE
DEMO	DEMOLISH; DEMOLITION
DF	DOUGLAS FIR
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DIV	DIVISION
DN	DOWN
DS	DOWNSPOUT
DWG	DRAWING
(E)	EXISTING
E	EAST
EA	EACH
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATOR
EMER	EMERGENCY
EN	EDGE NAIL
ENG	ENGINEER
EQ	EQUAL(LY)
EQPT	EQUIPMENT
EQUIP	EQUIPMENT
EST	ESTIMATE
EXIST	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
FAST	FASTEN(ER)
FAU	FORCED AIR UNIT
FBO	FURNISHED BY OWNER
FCO	FLOOR CLEAN OUT
FD	FLOOR DRAIN
FF	FINISHED FLOOR
FG	FINISHED GRADE
FH	FLAT HEAD
FIN	FINISH(ED)
FIXT	FIXTURE
FL	FLOOR
FLASH	FLASH(ING)
FLUOR	FLUORESCENT
FOC	FACE OF CONCRETE
FOF	FACE OF FINISH
FOM	FACE OF MASONRY
FOP	FACE OF PLYWOOD
FOS	FACE OF STUDS
FOW	FACE OF WALL
FP	FIREPROOF; FIREPLACE
FT	FOOT OR FEET
FTG	FOOTING
FURR	FURRING
GA	GAUGE
GALV	GALVANIZE(D)
GC	GENERAL CONTRACTOR
GL	GLASS / GLAZING
GR	GRADE
GYP	GYPSUM
GYP BD	GYPSUM BOARD
HB	HOSE BIB
HDR	HEADER
HDWR	HARDWARE
HOR / HORIZ	HORIZONTAL
HP	HIGH POINT; HORSEPOWER
HR	HANDRAIL; HOUR
HT	HEIGHT
HTR	HEATER
HVAC	HEATING / VENTILATION / AIR CONDITIONING
HW (R)	HOT WATER (RETURN)
ID	INSIDE DIAMETER
IN	INCH / INCHES
INCL	INCLUDE(D) / INCLUDING
INSUL	INSULATE / INSULATION
INT	INTERIOR
JT	JOINT
LAM	LAMINATE(D)
LAV	LAVATORY
LB	LAG BOLT
LB(S)	POUND(S)
LF	LINEAR FOOT (FEET)
LH	LEFT HAND
LIB	LIBRARY
LP	LOW POINT
LT	LIGHT
LVR	LOUVER
MACH	MACHINE
MAINT	MAINTENANCE
MAS	MASONRY
MATL	MATERIAL
MAX	MAXIMUM
MB	MACHINE BOLT
MECH	MECHANICAL
MEMB	MEMBRANE
MEZZ	MEZZANINE
MFR	MANUFACTURE(R)
MIN	MINIMUM
MISC	MISCELLANEOUS
MR	MOISTURE RESISTANT
MTL	METAL
(N)	NEW
N	NORTH
NA OR N/A	NOT AVAILABLE / APPLICABLE
NIC	NOT IN CONTRACT
NO / #	NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
OPG / OPNG	OPENING
OZ	OUNCE
P	PAINT (NUMBER - SEE SPECS)
PED	PEDESTAL
PER	PERIMETER
PERF	PERFORATED
PERP	PERPENDICULAR
PL	PROPERTY LINE
PLAS	PLASTER
PLYWD	PLYWOOD
POC	POINT OF CONNECTION
PR	PAIR
PRCST	PRE-CAST
PREFAB	PREFABRICATED
PROP	PROPERTY
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	POINT
PTDF	PRESSURE TREATED DOUGLAS FIR
Q	QUARTZ
QT	QUARRY TILE
QTY	QUANTITY
R	RISER
RAD	RADIUS
RCP	REFLECTED CEILING PLAN
RD	ROOF DRAIN
REF	REFERENCE; REFRIGERATOR
REG	REGISTER
REINF	REINFORCE(D)
REQ	REQUIRED
REV	REVISE / REVISION
RFL	REFLECTED
RH	RIGHT HAND; ROUND HEAD

COUNTY OF LOS ANGELES RESIDENTIAL NOTES

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
BUILDING AND SAFETY DIVISION

RESIDENTIAL PLAN
GENERAL NOTES

GENERAL PROJECT INFORMATION

PLAN CHECK NO. _____ DISTRICT NO _____
JOB ADDRESS _____ CITY _____ ZIP _____

NOTE: Numbers in the parenthesis ( ) refer to sections of the 2023 edition of the County of Los Angeles Building Code (BC), Residential Code (R), Plumbing Code (PC), Mechanical Code (MC), Electrical Code (EC), and Green Building Standards Code (GC).

INSTRUCTIONS

- The following notes must be included on the plans.

SECURITY REQUIREMENTS

1. Exterior doors, doors between house and garage, windows and their hardware shall conform to the Security Provisions of Chapter 67 of the Los Angeles County Building Code (LACBC):
   a. Single swinging doors, active leaf of a pair of doors, and the bottom leaf of Dutch doors shall be equipped with a latch and a deadbolt key operated from the outside. Deadbolts shall have a hardened insert with 1" minimum throw and 5/8" minimum embedment into the jamb. If a latch has a key locking feature, it shall be dead latch type. (BC6709.2)
   b. Inactive leaf of a pair of doors and the upper leaf of Dutch doors shall have a deadbolt as per paragraph "a", unless it is not key operated from the exterior, or has a hardened deadbolt at top and bottom with ½" embedment. (BC6709.3)
   c. Swinging wood door(s) shall be solid core not less than 1-3/8" thick. (BC6709.1.1)
   d. Panels of wood doors shall be 9/16" thick and not more than 300 sq. inches. Stiles and rails to be 1-3/8" thick and 3" minimum width. (BC6709.1.2)
   e. Door hinge pins accessible from the outside shall be non-removable. (BC6709.5)
   f. Door stops of wood jambs of in-swinging doors shall be one piece construction or joined by a rabbet. (BC 6709.4)
   g. Windows and door lights within 40" of the locking device of the door shall be fully tempered/approved burglary resistant/protected by bars, screens or grills. (BC6714)
   h. Overhead and sliding garage doors shall be secured with a cylinder lock, a padlock with a hardened steel shackle, or equivalent when not otherwise locked by electric power operation. Jamb locks shall be on both jambs for doors exceeding 9 feet in width (BC6711)
   i. Sliding glass doors and sliding glass windows shall be capable of withstanding the tests set forth in Section 6706 and 6707 of the Los Angeles County Building Code and shall bear a label indicating compliance with these tests. (BC 6710, 6715)

CONSTRUCTION REQUIREMENTS

2. Notching of exterior and bearing/nonbearing walls shall not exceed 25% / 40% of its width, respectively. Bored holes in bearing/nonbearing walls shall not exceed 40% / 60% of its width, respectively. (R602.6)
3. Interior finishes in Group R-3 shall have a flame spread index of not greater than 200, and a smoke-developed index not greater than 450. (R302.9)
4. Provide fire blocking in concealed spaces of stud walls, partitions, including furred spaces, at the ceiling and floor level, and at 10-foot intervals both vertical and horizontal. (R302.11)
5. Ducts installed under a floor in a crawl space shall not prevent access to an area of the crawl space. Where it is required to move under ducts for access to areas of the crawl space, a vertical clearance of 18" minimum shall be provided. (MC 603.1)
6. Where flashing is of metal, the metal shall be corrosion resistant with a thickness of not less than .019 inch (No. 26 galvanized sheet). (R903.2.1)
7. Note on the plans: "Roof diaphragm nailing to be inspected before covering. Face grain of plywood shall be perpendicular to supports."
8. Subfloors shall have end-matched lumber, have blocked panel edges, or occur over supports. Floor sheathing shall comply with Section R503.
9. Provide a note: "SMOKE ALARM shall be interconnected hard-wired with battery backup and shall be installed in accordance with NFPA 72." (R314)
10. Provide a note: "CARBON MONOXIDE ALARM shall be interconnected hard-wired with battery backup." (R315)
11. Finish materials including adhesives, sealants, caulk, paints & coatings, carpet systems, etc. shall meet the (VOC) emission limits per LACGBSC Chapter 4.
12. In newly constructed dwelling units, electrical receptacle outlets, switches and controls shall be located no more than 48-in. measured from the top of the outlet box and not less than 15-in. from the bottom of the outlet box above the finish floor. (R327.1.2)
13. In newly constructed dwelling units, doorbell button or controls, shall not exceed 48-in. above exterior floor or landing, measured from the top of the doorbell button assembly. (R327.1.4)
14. Provide a note on the plans "Fasteners for preservative-treated or fire-retardant-treated wood shall be of hot dipped zinc-coated galvanized steel in accordance with ASTM A 153." (R317.3)

GLAZING REQUIREMENTS

15. The following shall be considered specific hazardous locations requiring safety glazing per Section R308:
   a. Glazing in fixed and operable panels of swinging, sliding, and bifold doors.
   b. Glazing in fixed or operable panels adjacent to a door where the nearest vertical edge of the glazing is within a 24-inch arc of either vertical edge of the door in a closed position and where the bottom exposed edge of the glazing is less than 60 inches above the walking surface.
   c. Window glazing in an individual fixed or operable panel, that meets all of the following conditions:
      1. The exposed area of an individual pane is larger than 9 square feet.
      2. The bottom edge is less than 18 inches above the floor.
      3. The top edge is more than 36 inches above the floor.
      4. One or more walking surfaces are within 36 inches, measured horizontally and in a straight line, of the glazing
   d. Glazing in guards, railings, structural baluster panels, and nonstructural in-fill panels, regardless of area or height above a walking surface.
   e. Glazing in walls, enclosures or fences containing or facing hot tubs, spas, whirlpools, saunas, steam rooms, bathtubs, showers, and indoor or outdoor swimming pools, where all of the following conditions are present:
      1. The bottom edge of the glazing is less than 60 inches above any standing or walking surface.
      2. The glazing is within 60 inches, measured horizontally and in a straight line, from a hot tub, spa, whirlpool, bathtub, or swimming pool.
   f. Glazing adjacent to stairs and ramps where the bottom exposed edge is less than 36 inches above the plane of the adjacent walking surface of stairways, landings between flights of stairs, and ramps, unless the glazing is more than 36 inches measured horizontally from the walking surface, or a rail is designed per Section R308.4.6.
   g. Glazing adjacent to the landing at the bottom of a stairway where the glazing is less than 36 inches above the landing and within 60 inches horizontally of the bottom tread, unless the glazing is more than 18 inches from a protective guard per Section R312.

MECHANICAL/PLUMBING/ELECTRICAL CODE REQUIREMENTS

16. Dwelling shall be provided with comfort heating facilities capable of maintaining a room temperature of 68 degrees F at 3 feet above the floor and 2 feet from exterior walls. (R303.10)
17. The following are required for central heating furnaces and low-pressure boilers in a compartment:
   a. Listed appliances shall be installed with clearances in accordance with the terms of their listings and the manufacturer's installation instructions. (MC 308.1) (MC 904.2(1))
   b. Unlisted appliances shall meet both the clearances in Table 904.2, and the clearances allowed by the manufacturer's installation instructions. (MC 904.2(2))
   c. When combustion air is taken from inside, the area of combustion air openings shall be 1 sq. inch per 1,000 BTU (100 sq. inch minimum) per opening. One Opening shall be within 12 inches of the ceiling and the second shall be within 12 inches of the bottom of the enclosure. The dimension shall not be less than 3 inches. (MC 701.5(1))
   d. 1/4-inch screens are required at openings where combustion air is taken from the outside. (MC 701.10(2))
   e. Separate ducts shall be used for upper and lower combustion air openings and maintained to the source of combustion air. (MC 701.11(4))
18. The following are required for appliances installed in an attic:
   a. An opening and passageway shall not be less than 22 inches by 30 inches, or less than the size of the largest piece of equipment. (MC 904.10)
   b. Where the passageway height is less than 6 feet, the distance from access to the appliance shall not exceed 20 feet, as measured along the centerline. (MC 904.10.1)
   c. Passageway shall be unobstructed and shall have solid flooring not less than 24 inches wide from entrance to appliance. (MC 904.10.2)
   d. A level working platform not less than 30 inches by 30 inches is required in front of the service side of the appliance. (MC 904.10.3)
   e. A permanent 120V receptacle outlet and a lighting fixture shall be installed near the appliance. Light switch shall be located at the entrance to the passageway. (MC 904.10.4)
   f. A type B or L gas vent shall terminate not less than 5 feet above the highest connected appliance flue collar or draft hood. (MC 802.6.2.1)
   g. Appliance installation shall meet all listed clearances. (MC 303.2)
19. Clothes dryer moisture exhaust duct shall terminate on the outside of the building and shall be equipped with a back-draft damper. Screens shall not be used, and the exhaust duct may not extend into or through ducts and plenums. (MC 504.3)
20. Clothes dryer moisture exhaust duct shall be 4 inches in diameter and length is limited to 14 feet with two elbows from the clothes dryer to point of termination. Duct length shall be reduced by 2 feet for every elbow in excess of two. (MC 504.3.1 & 504.3.1.2)
21. Heating appliances (water heater, furnace, etc.) located in the garage, which create a glow, spark or flame, shall be installed at least 18 inches above the floor. (MC 308.1)
22. Ducts shall be sized per Chapter 6 of the Mechanical Code.
23. The effective flush volume of all water closets shall not exceed 1.28gpf. Urinals shall be 0.5gpf maximum. (GC 4.303.1.1)
24. Single shower heads shall have a maximum flow rate or 2.0gpm at 80psi. Multiple shower heads serving one shower shall have a combined flow rate of 2.0gpm at 80psi, or the shower shall be designed to allow only one shower outlet to be in operation at a time. (GC 4.303.1.3)
25. Lavatory faucets shall not exceed 1.5gpm at 60psi. The minimum flow rate shall not be less than 0.8gpm at 20psi. (GC 4.303.1.4)
26. Kitchen faucets shall not exceed 1.8gpm at 60psi. The faucet may temporarily increase to above this rate, but not to exceed 2.2gpm at 60psi, and must default to the maximum flow rate of 1.8gpm at 60psi. (GC 4.303.1.4)
27. ABS and PVC DWV piping installations are limited to not more than two stories of areas. (PC 701.1(2))
28. All showers and tub-showers shall have a pressure balance, thermostatic mixing valve, or a combination pressure balance/thermostatic mixing type valve. (PC 418)
29. All new, replacement and existing water heaters shall be strapped to the wall in two places. One on the upper 1/3 of the tank, and one on the lower 1/3 of the tank. The lower point shall be a minimum of 4 inches above the controls. (PC 508.2)
30. Plumbing plan check and approval are required for 2 inch or larger gas lines and/or water lines.
31. Ground-fault circuit-interruption (GFCI) for personnel shall be provided per EC section 210.8(A) and installed in a readily accessible location.
32. Arc-fault circuit-interruption shall be installed to provide protection of the branch circuit. (EC 210.12)
33. Tamper-resistant receptacles shall be installed in all areas specified in 210.52, all nonlocking-type 12-volt, 15- and 20-ampere receptacles shall be listed tamper-resistant receptacles. (EC 406.12)
34. Where NM Cable (Romex) is run across the top of ceiling joists and/or where the attic is not accessible by permanent stairs or ladders, protection within 6 feet of the nearest edge of the scuttle or attic entrance shall be provided (EC 334.23, 320.23(A))
35. **Sewer.** ADU/JADU sewage can be connected to the existing sewer system at a minimum of 24-inches outside the existing building foundation. It must be approximately 12-inches below grade with no less than 2% to the final connection point. Cleanouts must be installed at intervals as required by the Plumbing Code with locations and size specified on the site plan. Cleanouts shall be installed for each pipe size and within ½" inch of the diameter pipe which the cleanout serves. Other items include vent location and size (combination venting must be calculated based on the pipe size and fixtures); proper use of materials and fittings; under floor or under slab-ABS 12" below grade; underfloor strap with proper straps with rodent protection; or rodent protected straps with adequate pipe protection for dissimilar straps. Fasteners must be approved galvanized, zinc, hot dip, and no "Drywall Screws". *A minimum 10-foot head water test is required during underground drain waste inspection.*

BEST MANAGEMENT PRACTICES

ATTACHMENT A

BEST MANAGEMENT PRACTICES
FOR CONSTRUCTION ACTIVITIES*

Storm Water Pollution Control Requirements for Construction Activities
Minimum Water Quality Protection Requirements for All Development Construction Projects/Certification Statement

The following is intended as minimum notes or as an attachment for building and grading plans and represent the minimum standards of good housekeeping that must be implemented on all construction sites regardless of size. (Applies to all permits)

- Eroded sediments and other pollutants must be retained on site and may not be transported from the site via sheetflow, swales, area drains, natural drainage courses or wind.
- Stockpiles of earth and other construction related materials must be protected from being transported from the site by the forces of wind or water.
- Fuels, oils, solvents and other toxic materials must be stored in accordance with their listing and are not to contaminate the soil and surface waters. All approved storage containers are to be protected from the weather. Spills must be cleaned up immediately and disposed of in a proper manner. Spills may not be washed into the drainage system.
- Non-stormwater runoff from equipment and vehicle washing and any other activity shall be contained at the project site.
- Excess or waste concrete may not be washed into the public way or any other drainage system. Provisions shall be made to retain concrete wastes on site until they can be disposed of as solid waste.
- Trash and construction related solid wastes must be deposited into a covered receptacle to prevent contamination of rainwater and dispersal by wind.
- Sediments and other materials may not be tracked from the site by vehicle traffic. The construction entrance roadways must be stabilized so as to inhibit sediments from being deposited into the public way. Accidental depositions must be swept up immediately and may not be washed down by rain or other means.
- Any slopes with disturbed soils or denuded of vegetation must be stabilized so as to inhibit erosion by wind and water.
- Other: _____

As the project owner or authorized agent of the owner, I have read and understand the requirements listed above, necessary to control storm water pollution from sediments, erosion, and construction materials, and I certify that I will comply with these requirements.

Print Name _____
(Owner or authorized agent of the owner)

Signature _____ Date _____
(Owner or authorized agent of the owner)

*The above Best Management Practices are detailed in the California Storm Water Best Management Practices Handbook, January 2003. www.cabmphandbooks.com

Attachment A BMP Notes.doc

COUNTY OF LOS ANGELES GREEN BUILDING NOTES

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
BUILDING AND SAFETY DIVISION

GREEN BUILDING STANDARDS CODE
GENERAL NOTES

GENERAL PROJECT INFORMATION

PLAN CHECK NO. _____ DISTRICT NO _____
JOB ADDRESS _____ CITY _____ ZIP _____

NOTE: Numbers in the parenthesis ( ) refer to sections of the 2023 edition of the County of Los Angeles Green Building Standards Code, Table (T).

INSTRUCTIONS

- The following notes must be included on the plans.

GENERAL REQUIREMENTS

1. Plumbing fixtures and fixture fittings on the plans shall comply with the following flow rates:
   a. Water Closets – 1.28 GPF
   b. Urinals – 0.5 GPF
   c. Wall-mounted urinal – 0.125 GPF
   d. Single showerhead – 1.8 GPM at 80psi
   e. Multiple showerheads – 1.8 GPM at 80psi for all combined showerheads
   f. Lavatory faucets – 1.2 GPM at 60psi
   g. Lavatory faucets in public use areas – 0.5 GPM at 60psi
   h. Metering faucets - .20 gallons per cycle
   i. Kitchen faucets – 1.8 GPM at 60psi (4.303.1)
2. Annular spaces around pipes, electrical 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 enforcing agency. (4.406.1)
3. Fireplaces shall be direct vent sealed combustion type. Indicate on the plans the manufacturer name and model number. (4.503.1)
4. At the time of rough installation, during storage on the construction site, and until final startup of the heating, cooling and ventilating equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheetmetal, or other acceptable methods to reduce the amount of water, dust and debris which may enter the system. (4.504.1)
5. Building materials with visible signs of water damage shall not be installed. Wall and floor framing shall not be enclosed when the framing members exceed 19% moisture content. Insulation products which are visibly wet or have high moisture content shall be replaced or allowed to dry prior to enclosure in wall or floor cavities. (4.505.3)
6. All mechanical exhaust fans in rooms with a bathtub or shower shall comply with the following:
   a. Fans shall be ENERGY STAR compliant and be ducted to terminate outside the building.
   b. Fans must be controlled by a readily accessible humidistat unless functioning as a component of a whole house ventilation system. Humidity control shall be capable of adjustment between a relative humidity range of 50% and 80%. (4.506.1)
7. Adhesives, sealants and caulks shall meet or exceed the standards outlined in Section 4.504.2.1 and comply with the VOC limits in Tables 4.504.1 and 4.504.2 as applicable. (4.504.2.1)
8. Paints and coatings shall meet or exceed the standards outlined in Section 4.504.2.2 and comply with the VOC limits in Table 4.504.3. (4.504.2.2)
9. Aerosol paints and coatings shall meet or exceed the standards outlined in Section 4.504.2.3. (4.504.2.3)
10. All carpet installed in the building interior shall meet all the testing and product requirements of one of the following:
    a. Carpet and Rug Institute's Green Label Plus Program OR
    b. California Department of Public Health Standard Method for the testing of VOC Emissions (Specification 01350) OR
    c. NSF/ANSI 140 at the Gold Level OR
    d. Scientific Certifications Systems Indoor Advantage Gold (4.504.3)
11. All carpet cushion installed in the building interior shall meet the requirements of the Carpet and Rug Institute Green Label Program. Carpet adhesives shall not exceed a VOC limit of 50 g/L. (4.504.3.1, 4.504.3.2)
12. A minimum of 80% of floor area receiving resilient flooring shall comply with one of the following:
    a. Products certified as a Low-Emitting Material in the CHPS High Performance Products Database, OR
    b. Products certified under UL GREENGUARD Gold (Formerly the Greenguard Children & Schools program), OR
    c. RFCI FloorScore program, OR
    d. Meet the California Department of Public Health Standard Method for the testing of VOC Emissions (Specification 01350) (4.504.4)
13. Composite wood products (hardwood plywood, particle board, and MDF) installed on the interior or exterior of the building shall meet or exceed the standards outlined in Table 4.504.5. Verification of compliance with these sections must be provided at the time of inspection. (4.504.5)

TABLE 4.504.3/TABLE 5.504.4.3
VOC CONTENT LIMITS FOR ARCHITECTURAL COATING[2,3]
Grams of VOC per Liter of Coating, Less Water and Less Exempt Compounds

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

1. Grams of VOC per liter of coating, including water and including exempt compounds.
2. The specified limits remain in effect unless revised limits are listed in subsequent columns in the table.
3. Values in this table are derived from those specified by the California Air Resources Board, Architectural Coatings Suggested Control Measure, February 1, 2000. More information is available from the Air Resources Board.

TABLE 4.504.5/TABLE 5.504.4.5
FORMALDEHYDE LIMITS[1]
Maximum Formaldehyde Emissions in Parts per Million

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

1. Values in this table are derived from those specified by the California Air Resources Board, Air Toxics Control Measure for Composite Wood as tested in accordance with ASTM E 1333. For more information, see California Code of Regulations, Title 17, Section 93120 through 93120.12.
2. Thin medium density fiberboard has a maximum thickness 5/16 inch (6mm).

TABLE 4.504.2/TABLE 5.504.4.2
SEALANT VOC LIMIT
Less Water and Less Exempt Compounds in Grams Per Liter

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

Note: For additional information regarding methods to measure the VOC content specified in this table, see South Coast Air Quality Management District Rule 1168.

TABLE 4.504.1/TABLE 5.504.4.1
ADHESIVE VOC LIMIT[1,2]
Grams of VOC per Liter of Coating, Less Water and Less Exempt Compounds

ARCHITECTURAL APPLICATIONS	VOC LIMIT
Indoor carpet adhesives	50
Carpet pad adhesives	50
Outdoor carpet pad adhesives	100
Wood flooring adhesives	100
Rubber floor adhesives	60
Subfloor adhesives	50
Ceramic tile adhesives	65
VCT and asphalt tile adhesives	50
Drywall and panel adhesives	50
Cove base adhesives	50
Multipurpose construction adhesives	70
Structural glazing adhesives	100
Single-ply roof membrane adhesives	250
Other adhesives	50
SPECIALITY APPLICATIONS	
PVC welding	510
CPVC welding	490
ABS welding	325
Plastic cement welding	250
Adhesive primer for plastic	550
Contact adhesive	80
Special purpose contact adhesive	250
Structural wood member adhesive	140
Top and trim adhesive	250
SUBSTRATE SPECIFIC APPLICATIONS	
Metal to metal	30
Plastic foams	50
Porous material (except wood)	50
Wood	30
Fiberglass	80

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

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LICENSED ARCHITECT
KHACHIK C. PILIKYAN
C-39467
06.30.2027
RENEWAL DATE
STATE OF CALIFORNIA

#	DESCRIPTION	DATE
	PLANNING SUBMISSION 01	09.10.2025
	PLAN CHECK 01	11.30.2025

2935 MAIDEN LN

2935 MAIDEN LN.
ALTADENA, CA 91001

PROJECT NO: 250415

SCALE:

DRAWING TITLE

RESIDENTIAL AND GREEN BUILDING NOTES

DRAWING NO.

A0.02

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MEMBRANE ROOF - R1

ES ICC EVALUATION SERVICE®

ICC-ES Evaluation Report

ESR-1157

Reissued September 2025 — *This report also contains:*
Revised November 2025 — **- City of LA Supplement**
Subject to renewal September 2027 — **- CA Supplement**

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DIVISION: 07 00 00 - THERMAL AND MOISTURE PROTECTION Section: 07 54 00 – Thermoplastic Membrane Roofing Section: 07 54 19 – Polyvinyl-Chloride Roofing	REPORT HOLDER: SIKA CORPORATION – ROOFING	EVALUATION SUBJECT: SARNAFIL S327, G410, G410 SAM, SIKAPLAN FASTENED AND SIKAPLAN ADHERED SINGLE-PLY ROOFING SYSTEMS

1.0 EVALUATION SCOPE

Compliance with the following codes:
- 2024, 2021, 2018, 2015, 2012, 2009 and 2006 *International Building Code®* (IBC)
- 2024, 2021, 2018, 2015, 2012, 2009 and 2006 *International Residential Code®* (IRC)

Property evaluated:
- Weather resistance
- Wind uplift resistance
- Roof covering fire classification
- Impact resistance

2.0 USES

The Sarnafil S327, G410, G410 SAM, Sikaplan Fastened and Sikaplan Adhered Single-Ply Roofing Systems are used as classified roof covering assemblies.

3.0 DESCRIPTION

3.1 General:

The Sarnafil Single-Ply Roofing Systems consist of single-ply reinforced thermoplastic membranes constructed with reinforced poly (vinyl chloride) (PVC). The systems can be installed over various types of roof decking, including wood, steel and concrete surfaces. The systems are either adhered, mechanically fastened or a combination of mechanically fastened and adhered to resist vind uplift. Samafil membranes are manufactured in rolls 3.25, 5, 6.5 and 10 feet wide (914, 1520, 1980 and 3050 mm) with lengths from 65.6 to 100 feet (20 to 30.5 m). The membranes are typically manufactured with a white weathering surface and a grey underside. However, custom pigments are available upon request.

3.2 Materials:

3.2.1 Sarnafil S327 Single-Ply Membrane: The Samafil S327 membrane is a polyester reinforced PVC membrane complying with ASTM D4434 as Type III, and available with or without a factory-applied felt backing. The Samafil S327 is manufactured in four thicknesses. See Table 4 for thicknesses and weights of the

membranes with and without the felt backing. The membrane is reinforced with a polyester scrim. Samafil S327 is intended for installation over foam plastic insulation or specified gypsum substrate when attached with mechanical fasteners described in Section 3.2.9 and Table 2.

3.2.2 Sarnafil S327 Textured Single-Ply Membrane: The Samafil S327 Textured membrane is a polyester reinforced PVC membrane complying with ASTM D4434 as Type III. The textured surface is the weather surface. The Samafil S327 Textured membrane is manufactured in three thicknesses. See Table 4 for thicknesses and weights of the membranes. The membrane is reinforced with a polyester scrim. Samafil S327 Textured membrane is intended for installation over foam plastic insulation or specified gypsum substrate when attached with mechanical fasteners described in Section 3.2.9 and Table 2.

3.2.3 Sarnafil G410 Single-Ply Membrane: The Samafil G410 membrane, typically used in adhered systems, is a glass fiber–reinforced PVC membrane complying with ASTM D4434 as Type II, and is available with or without factory-applied felt backing. The Samafil G410 is manufactured in four thicknesses. See Table 4 for thicknesses and weights of the membranes with and without the felt backing. The fiberglass reinforcement is arranged in a woven mat. Samafil G410 is intended for installation over insulation or specified gypsum substrate when fully adhered to the substrate using proprietary adhesives as described in Section 3.2.10 and Table 3.

3.2.4 Sarnafil G410 Textured Single-Ply Membrane: The Samafil G410 Textured membrane, typically used in adhered systems, is a glass fiber–reinforced PVC membrane complying with ASTM D4434 as Type II. The textured surface is the weather surface. The Samafil G410 Textured membrane is manufactured in three thicknesses. See Table 4 for thicknesses and weights of the membranes. The fiberglass reinforcement is arranged in a woven mat. Samafil G410 Textured membrane is intended for installation over insulation or specified gypsum substrate when fully adhered to the substrate using proprietary adhesives as described in Section 3.2.10 and Table 3.

3.2.5 Sarnafil G410 SAM Single-Ply Membrane: The Samafil G410 SAM, used in adhered systems, is a fiber–reinforced PVC membrane complying with ASTM D4434 as Type II. The Samafil G410 SAM is manufactured in three thicknesses. See Table 4 for thickness and weights of the membranes. The fiberglass reinforcement is arranged in a woven mat. The membrane has a pressure sensitive adhesive backing with a release liner. Samafil G410 SAM is intended for installation over insulation or specified gypsum substrate fully adhered to the substrate as described in Table 3.

3.2.6 Sikaplan Fastened Single-Ply Membrane: The Sikaplan Fastened membrane is a polyester reinforced PVC membrane complying with ASTM D4434 as Type III, and available with or without a factory-applied felt backing. The Sikaplan Fastened membrane is manufactured in two thicknesses. See Table 4 for thicknesses and weights of the membranes with and without the felt backing. The membrane is reinforced with a polyester scrim. Sikaplan Fastened is intended for installation over foam plastic insulation or specified gypsum substrate as indicated in Table 1 when attached with mechanical fasteners described in Section 3.2.9 and Table 2.

3.2.7 Sikaplan Adhered Single-Ply Membrane: The Sikaplan Adhered membrane, typically used in adhered systems, is a reinforced PVC membrane complying with ASTM D4434 as Type II, and is available with or without factory-applied felt backing. The Sikaplan Adhered membranes are manufactured in two thicknesses. See Table 4 for thicknesses and weights of the membranes with and without the felt backing. The fiberglass reinforcement is arranged in a woven mat. Sikaplan Adhered is intended for installation over insulation or specified gypsum substrates when fully adhered to the substrate using proprietary adhesives as described in Section 3.2.10 and Table 3.

3.2.8 Foam Plastic Insulation: Foam plastic insulation, where used, must have a flame-spread index of not greater than 75 when tested, at the maximum thickness intended for use, in accordance with ASTM E84 or UL 723. See Tables 1, 2 and 3 for insulations recognized for use with the respective roofing systems.

3.2.9 Mechanical Fasteners: Substrate, fastener and plate combinations must be as outlined in the manufacturer's published installation instructions and Table 2 of this report.

3.2.9.1 Sarnafastener #12: The Sarnafastener #12 is used with the Sarnaplate, described in Section 3.2.9.6, to attach insulation boards or specified gypsum substrate to steel or combustible roof decks. Sarnafastener #12 has a modified buttress thread, a shank diameter of 0.168 inch (4.3 mm) and a thread diameter of 0.214 inch (5.4 mm).

3.2.9.2 Sarnafastener #14: The Sarnafastener #14 is used with the Sarnaplate, described in Section 3.2.9.6, to attach insulation or specified gypsum substrate, and with the Sarnadisc XPN, described in Section 3.2.9.9, or the Sarnadisc RhinoBond, described in Section 3.2.9.11, or the Sarnarail Polymer Batten, described in Section 3.2.9.12, to attach the membrane (through the insulation or coverboard) to combustible or noncombustible roof decks. The Sikaplan Fastener #14 has a shank diameter of 0.190 inch (4.8 mm) and thread diameter of 0.263 inch (6.2 mm).

described in Section 3.2.9.12 to attach the membrane (through the insulation) to combustible or noncombustible roof decks. The Samafastener #14 has a shank diameter of 0.190 inch (4.8 mm) and thread diameter of 0.245 inch (6.2 mm).

3.2.9.3 Sikaplan Fastener #14: The Sikaplan Fastener #14 is used with the Sarnaplate, described in Section 3.2.9.6, to attach insulation, and with the Sarnadisc 2%, described in Section 3.2.9.8, Sarnadisc XPN, described in Section 3.2.9.9, Sarnadisc RhinoBond, described in Section 3.2.9.11, or Sarnarail Polymer Batten, described in Section 3.2.9.12, to attach the membrane (through the insulation or coverboard) to combustible or noncombustible roof decks. The Sikaplan Fastener #14 has a shank diameter of 0.190 inch (4.8 mm) and thread diameter of 0.263 inch (6.2 mm).

3.2.9.4 Sarnafastener XP: The Sarnafastener XP is used with the Sarnadisc, described in Section 3.2.9.7, to attach insulation, and with the Sarnadisc XPN, described in Section 3.2.9.9, or the Sarnarail Polymer Batten, described in Section 3.2.9.12, to attach the membrane (through the insulation or coverboard) to combustible or noncombustible roof decks. The Samafastener XP has a shank diameter of 0.211 inch (5.3 mm) and thread diameter of 0.26 inch (6.6 mm).

3.2.9.5 Sarnafastener MAXLoad: The Samafastener MAXLoad is used to attach the Samaplate with the Sarnadisc MAXLoad, described in Section 3.2.9.10, or Sarnarail Polymer Batten, described in Section 3.2.9.12, to steel or combustible decks. The Samafastener MAXLoad has a shank diameter of 0.26 inch (6.6 mm) and a thread diameter of 0.33 inch (8.4 mm).

3.2.9.6 Sarnaplate: The Samaplate is a 3-by-3-inch (76 mm by 76 mm), No. 26 gage [0.018 to 0.021 inch (0.45 to 0.53 mm) base-metal thickness], AZ 55 Galvalume-coated plate.

3.2.9.7 Sarnadisc: The Samadisc is a 3-inch-diameter (76 mm), No. 26 gage [0.018 to 0.021 inch (0.45 to 0.53 mm) base-metal thickness], AZ 55 Galvalume-coated plate.

3.2.9.8 Sarnadisc 2%: Sarnadisc 2% is 2⅜-inch (60 mm) diameter, 0.037-inch (0.94 mm) thick plate stamped from Galvalume AZ 50 or AZ 55 steel. It has six equally spaced "v" protrusions punched through concentrically at 1⅝-inch (15 mm) from the center of the plate.

3.2.9.9 Sarnadisc XPN: The Samadisc XPN is a 1⅛-by-3⅛-inch (38 by 95 mm), No. 18 gage [0.040 to 0.042 inch (1.00 to1.05 mm) base-metal thickness], AZ 55 Galvalume-coated plate.

3.2.9.10 Sarnadisc MAXLoad: The Samadisc MAXLoad is a 3-inch-diameter (89 mm), No. 20 gage [0.031 to 0.041 inch (0.78 to 1.02 mm) base-metal thickness], AZ 55 Galvalume-coated plate.

3.2.9.11 Sarnadisc RhinoBond: Samadisc RhinoBond is a 3-inch (75 mm) diameter, 0.028-inch (0.7 mm) thick metal plate coated with a polymer coating used in conjunction with the RhinoBond induction welder to attach the membrane.

3.2.9.12 Sarnarail Polymer Batten: The Samarail Polymer Batten is a 1-inch-wide-by-250-foot-long-by-1/8-inch-thick (25 mm by 762 m by 1.27 mm) modified polymer batten. The batten, manufactured in coils, has holes spaced 6 inches (152 mm) on center and is used with either the Samafastener XP or the MAXLoad fasteners, described in Sections 3.2.9.4 or 3.2.9.5, respectively, for securing the roof membrane.

3.2.10 Adhesives:

3.2.10.1 Sarnacol 2170: Sarnacol 2170 is a solvent-based adhesive for bonding Samafil membranes to foam plastic substrates or specified gypsum substrate with application rates as specified in Table 3. Sarnacol 2170 is supplied in 5-gallon (18.9 L) steel containers. The shelf life is one year when the adhesive is stored in the original unopened container at temperatures between 40°F and 80°F (4.4°C and 26.7°C).

3.2.10.2 Sarnacol 2170 VC: Sarnacol 2170 VC is a solvent-based adhesive used for bonding Samafil membranes to foam plastic substrates or specified gypsum substrate with application rates as specified in Table 3. Sarnocol 2170 VC is supplied in 5-gallon (18.9 L) steel containers. The shelf life is one year when the adhesive is stored in the original unopened container at temperatures between 40°F and 80°F (4.4°C and 26.7°C).

3.2.10.3 Sarnacol 2121: Sarnacol 2121 is a water-based adhesive for bonding Samafil membranes to foam plastic substrates or specified gypsum substrate with application rates as specified in Table 3. Sarnacol 2121 is supplied in 5-gallon (18.9 L) steel containers. The shelf life is one year when the adhesive is stored in the original unopened container at temperatures between 40°F and 80°F (4.4°C and 26.7°C).

3.2.10.4 Sarnacol AD Fetback Membrane Adhesive: Sarnacol AD Adhesive is a two-part liquid applied non-asphaltic urethane adhesive that transforms into a low rise foam during the curing process. The adhesive

is packaged in 0.16-gallon (600mL) cartridges, four to a box or 10-gallon (37.8 L) box sets consisting of two parts: (Part 1 – 5-gallon (18.9 L) and Part 2 – 5-gallon (18.9 L)). The shelf life is 18 months when the adhesive is stored in the original unopened container at temperatures between 45°F and 95°F (7°C and 35°C).

3.2.10.5 Sarnacol OM Fetback Membrane Adhesive: Sarnacol OM Adhesive is a two-part low rise polyurethane adhesive that is applied in one step, dispensed at a 1:1 ratio. The adhesive is packaged in 0.16-gallon (600 mL) cartridges, four to a box or 10-gallon (37.8 L) box sets consisting of two parts: (Part 1 – 5-gallon (18.9 L) and Part 2 – 5-gallon (18.9 L)). The shelf life is 18 months when the adhesive is stored in the original unopened container at temperatures between 45°F and 95°F (7°C and 35°C).

3.2.10.6 Sarnacol AD Board Adhesive: Sarnacol AD Adhesive is a two-part low rise polyurethane adhesive that is applied in one step, dispensed at a 1:1 ratio. The adhesive is packaged in 0.16-gallon (600 mL) cartridges, four to a box or 10-gallon (37.8 L) box sets consisting of two parts: (Part 1 – 5-gallon (18.9 L) and Part 2 – 5-gallon (18.9 L)). The shelf life is 18 months when the adhesive is stored in the original unopened container at temperatures between 45°F and 95°F (7°C and 35°C).

3.2.10.7 Sarnacol 2163 Adhesive: Samacol 2163 Adhesive is a two-part low rise polyurethane adhesive that is applied in one step, dispensed at a 1:1 ratio. The adhesive is packaged in 0.16-gallon (600 mL) cartridges, four to a box. The shelf life is 18 months when the adhesive is stored in the original unopened container at temperatures not exceeding 90°F (32°C).

3.2.10.8 Sarnacol 2175 Membrane Adhesive: Sarnacol 2175 membrane adhesive is a spray applied, canister adhesive. The adhesive is packaged in 40 lbs (18.14 kg) cartons, 36 cartons per pallet. The shelf life is 12 months when the adhesive is stored in the original unopened, sealed and undamaged packaging between 60°F (16°C) and 90°F (32°C) without direct sunlight.

3.2.11 Barrier Board: Barrier board, where used, must be a minimum of ½-inch (6.4 mm) DensDeck® Roof Board or DensDeck Prime® manufactured by Georgia-Pacific Gypsum LLC, or minimum ½-inch (6.4 mm) SECUROCK® Glass Mat Gypsum-Fiber Roof Board manufactured by USG Corporation as indicated in Table 1, 2 or 3 of this report.

3.3 Impact Resistance:

The Samafil S327 and G410 Single-Ply Roofing Systems described in this report comply with the requirements for impact resistance in accordance with Section 4.6 of FM 4470.

4.0 INSTALLATION

4.1 General:

Installation of the Samafil S327, G410, G410 SAM, Sikaplan Fastened and Sikaplan Adhered Single-Ply Roofing Systems must comply with the applicable code, this report and the manufacturer's published installation instructions. The manufacturer's published installation instructions must be available at the jobsite at all times during installation. The substrate must be smooth, dry, clean and free of sharp projections, loose fasteners, protrusions, depressions or contaminants that might interfere with the adhesive or attachment of the membrane. Any surface defects must be corrected prior to the membrane installation. All materials must be protected against contact with incompatible materials. The roof systems must not be installed on roofs having slopes less than ¼:12 (2 percent slope) or more than the slope that is specified for the particular assembly as listed in Table 1 for the corresponding assembly and roof classification.

4.2 Roof Covering Classification:

See Table 1 for a full description of components and the roof covering classification for each of the evaluated systems. The systems must be installed up to the maximum slope specified in Table 1.

4.3 Wind Resistance:

See Tables 2 and 3 for a full description of components, fastener spacing, adhesive application and allowable design vind uplift pressures for each of the evaluated systems.

4.3.1 Metal Edge Securement Systems: Metal edge securement systems must be listed in accordance with the 2017 edition, as applicable, of ANSI/SPRI/FM 4435 ES-1, and designed and installed for vind loads in accordance with the 2024 and 2021 IBC Section 1504.6 and 2024 and 2021 IBC Chapter 16 [2011 edition of ANSI/SPRI/FM 4435 ES-1, and designed and installed for vind loads in accordance 2018 and 2015 IBC Section 1504.5, and 2018 and 2015 IBC Chapter 16 (2003 edition of ANSI/SPRI/FM 4435 ES-1, and designed and installed for vind loads in accordance with 2012, 2009 and 2006 IBC Section 1504.5 and 2012, 2009 and 2006 IBC Chapter 16)].

4.4 Flashing:

Flashing must be provided as required by IBC Section 1503.2.1 or IRC Section R903.2.1, as applicable. Where flashing is of metal, the metal must be corrosion-resistant with a thickness of not less than No. 26 gage [base-metal thickness of 0.019 inch (0.5 mm)].

4.5 Reroofing:

The existing deck must be inspected to verify that the structure to be reroofed is structurally sound and adequate to support and secure the roofing membrane. Prior to installation of new roof coverings, inspection by, and written approval from, the code official having jurisdiction are required in accordance with 2024 and 2021 IBC Section 1512 [2018 and 2015 IBC Section 1511 (2012, 2009 and 2006 IBC Section 1510)].

The roof covering systems described in this report, installed over an existing roof covering system, must be shown to satisfy classification requirements by testing of the complete system in accordance with ASTM E108 or UL 790. As an alternative, Class A, B or C roof covering systems are permitted to be installed over existing classified roof covering systems under the following conditions without additional roof classification tests, provided the resulting classification is the lower of the classification for the new and existing roofing:

- New uninsulated systems installed over existing uninsulated assemblies.
- New insulated systems installed only over existing uninsulated assemblies.

Since the composition and/or condition of any particular underlying existing roofing material may vary widely, roof reviewer, or installing the adhered systems in this report over an existing roof covering, without removing the existing roof covering, is outside the scope of this report.

5.0 CONDITIONS OF USE:

The Samafil S327, G410, G410 SAM, Sikaplan Fastened and Sikaplan Adhered Single-Ply Roofing Systems described in this report comply with, or are suitable alternatives to what is specified in, the codes indicated in Section 1.0 of this report, subject to the following conditions:

5.1 Installation must comply with this report, the manufacturer's published instructions and the applicable code. If there is a conflict between the manufacturer's published installation instructions and this report, this report governs.

5.2 The Samafil S327, G410, G410 SAM, Sikaplan Fastened and Sikaplan Adhered Single-Ply Roofing Systems must be installed by a Samafil, Inc., trained and approved contractor. Evidence of this approval must be made available to the code official upon request.

5.3 Design vind uplift pressures on any roof area, including edge and corner zones, must not exceed the allowable vind uplift pressure for the system installed in that particular area.

5.4 The foam plastic board, utilized in the systems described in this report, must bear the label of an approved agency indicating that the foam plastic has a flame-spread index of no greater than 75 at the maximum thickness intended for use in accordance with ASTM E84 or UL T23.

5.5 Foam plastic must be separated from the interior of the building by an approved thermal barrier in accordance with IBC Section 2603.4.1.5 unless otherwise noted in an ICC-ES evaluation report on the foam plastic insulation for direct-to-steel-deck applications.

5.6 The allowable vind uplift pressures listed in Tables 2 and 3 are for the roof covering systems only. The deck and framing to which the system is attached must be designed for the applicable components and cladding vind loads in accordance with the applicable code.

5.7 Sikaplan Fastened and Sikaplan Adhered roofing systems are limited to installation on roof slopes of 2:12 or greater.

5.8 Where gypsum board is used as a barrier board or coverboard in the roofing assembly, weather protection must be provided to prevent damage to the gypsum board prior to application of the roofing membrane.

5.9 Vind uplift resistance of roof coverings placed over existing roof coverings is outside the scope of this report.

5.10 The Samafil S327, G410, G410 SAM, Sikaplan Fastened and Sikaplan Adhered PVC membranes are produced in Canton, Massachusetts, under a quality control program with inspections by ICC-ES.

6.0 EVIDENCE SUBMITTED

Data in accordance with the ICC-ES Acceptance Criteria for Membrane Roof-covering Systems (AC75), dated July 2010. (editorially revised April 2024)

7.0 IDENTIFICATION

7.1 The ICC-ES mark of conformity, electronic labeling, or the evaluation report number (ICC-ES ESR-1157) along with the name, registered trademark, or registered logo of the report holder must be included in the product label.

7.2 In addition, the Samafil S327, G410, G410 SAM, Sikaplan Fastened and Sikaplan Adhered single-ply membranes described in this report must be identified with the manufacturer's name (Sika Corporation – Roofing), the product type, the manufacturing date and the evaluation report number (ESR-1157).

7.3 The report holder's contact information is the following:

SIKA CCORPORATION – Roofing
100 DAN ROAD
CANTON, MASSACHUSETTS 02021
(781) 332-3293
www.usa.sarnafil.sika.com

TABLE 1—ROOF CLASSIFICATIONS OF SARNAFIL AND SIKAPLAN ROOFING SYSTEMS

SYSTEM NO.	RATING	SUBSTRATE	MAXIMUM ROOF SLOPE	INSULATION, SLIP SHEET, BARRIER BOARD OR COVER BOARD[2]			MEMBRANE[3]	
				Insulation[4,5]	Barrier or Cover Board or Slip Sheet	Attachment	Type	Attachment[1]
1	A	Combustible	Unlimited	(Optional) one or more layers of polyisocyanurate or polystyrene or combination	Minimum ¼-inch DensDeck® Roof Board or DensDeck Prime® Roof Board	Mechanically attached	Samafil S327, G410	Adhered with Sarnacol 2121 adhesive, 2 gal/sq
2	A	Combustible	Unlimited	(Optional) one or more layers of polyisocyanurate or polystyrene or combination	Minimum ¼-inch DensDeck® Roof Board or DensDeck Prime® Roof Board	Mechanically attached	Samafil S327, S327 Fetback	Mechanically attached
3	A	Combustible	Unlimited	(Optional) one or more layers of polyisocyanurate or polystyrene or combination	Minimum ¼-inch DensDeck® Roof Board or SECUROCK® Glass-Mat Roof Board	Mechanically fastened	Samafil G410, G410 Fetback, S327, S327 Fetback	Adhered with Sarnacol 2121 adhesive, 0.75 to 1.25 gal/100 sq.
4	A	Noncombustible	2:12	RMax Multi-Max-3a and RMax Thermarroof Plus-3	Minimum ¼-inch DensDeck® Roof Board	Mechanically fastened	Samafil S327, S327 Fetback	Mechanically attached
5	A	Noncombustible	2:12	RMax Multi-Max-3a and RMax Thermarroof Plus-3	(Optional) Minimum ¼-inch DensDeck® Roof Board	Mechanically attached	Samafil G410, G410 Fetback	Fetback adhered with Sarnacol 2170 adhesive, 1.5 to 2.5 gal/sq, or Sarnacol 2121 adhesive, 1.75 gal/sq
6	A	Combustible	Unlimited	(Optional) one or more layers of polyisocyanurate or polystyrene or combination	Minimum ¼-inch DensDeck® Roof Board or SECUROCK® Glass-Mat Roof Board	Mechanically attached	Samafil G410 Fetback, S327 Fetback	Fetback adhered with Samacol OM Fetback Membrane Adhesive, 1.75 gal/sq
7	A	Noncombustible	2:12	Hunter Panels H-Shield; Atlas ENERGY 3, Rmax Multi-Max RCThermi 90; Johns-Manville ENRGY 3, Rmax Multi-Max FA-3, SamaTherm insulation board	(Optional) Minimum ¼-inch DensDeck® Roof Board	Mechanically attached	Samafil G410 Fetback	Fetback adhered with Samacol OM Fetback Membrane Adhesive or Sarnacol AD Fetback Membrane Adhesive, 1.75 gal/sq
8	A	Combustible	Unlimited	(Optional) one or more layers of polyisocyanurate or polystyrene or combination	Minimum ¼-inch DensDeck® Roof Board, DensDeck Prime® Roof Board or SECUROCK® Glass-Mat Roof Board	Mechanically attached with all barrier board butt joints staggered a minimum of 8 inches from plywood deck butt joints	Sikaplan	Mechanically attached
9	A	Noncombustible	½:12	Atlas Roofing ACFoam II, Johns Manville ENRGY 3, Rmax Multi-Max FA-3, SamaTherm insulation board	Minimum ¼-inch DensDeck® Roof Board	Mechanically attached	Sikaplan and Sikaplan Fetback	Mechanically attached
10	A	Combustible	4:12	(Optional) one or more layers of polyisocyanurate or polystyrene or combination	Minimum ¼-inch DensDeck® Roof Board	Mechanically attached	Sikaplan Fetback	Mechanically attached
11	A	Noncombustible	1:12	Atlas Roofing ACFoam II, Hunter Panels H-Shield, Johns-Manville ENERGY 3, Rmax Multi-Max FA-3, SamaTherm Insulation Boards	Optional Minimum ¼-inch DensDeck® Roof Board or SECUROCK® Glass-Mat Roof Board	Mechanically attached	Samafil G410 SAM	Self Adhered

For **SI:** 1 inch = 25.4 mm; 1 gal/sq = 407 mL/m².
[1] The application rate is given in gallons per 100 square feet (gal/sq).
[2] Noncombustible includes concrete and minimum No. 22 gage galvanized steel [0.030-inch-thick (0.76 mm)]. Combustible wood decks must be minimum ⁵⁄₁₆-inch-thick (7.9 mm) plywood.
[3] Insulation, barrier, coverboard, coversheet, membrane and membrane adhesive and membrane must be UL classified for roofing system applications.
[4] All foam plastic insulation must be UL classified foam plastic for roofing systems, and must be limited to the maximum thickness in accordance with Section 5.4.
[5] Polyisocyanurate foam plastic insulation board must comply with ASTM C1289. Extruded polystyrene (XPS) and expanded polystyrene (EPS) foam plastic insulation boards must comply with ASTM C578.

TABLE 2—TYPICAL MEMBRANE THICKNESSES AND WEIGHTS

MEMBRANE	THICKNESS (mil)	ACTUAL DIMENSION (inch)	WEIGHT WITH FELT BACKING (psf)	WEIGHT WITHOUT FELT BACKING (psf)
G410, S327	48	0.048	0.375	0.312
G410, S327	60	0.059	0.453	0.390
G410, S327	72	0.071	0.530	0.467
G410, S327	80	0.079	0.582	0.562
G410 SAM	60	0.059	NA	0.445
G410 SAM	72	0.071	NA	0.533
G410 SAM	80	0.079	NA	0.595
G410 Textured, S327 Textured	60	0.059	NA	0.390
G410 Textured, S327 Textured	72	0.072	NA	0.467
G410 Textured, S327 Textured	80	0.079	NA	0.562
Sikaplan Fastened 45, Sikaplan Adhered 45	45	0.045	0.341	0.278
Sikaplan Fastened 60, Sikaplan Adhered 60	60	0.054	0.411	0.348

For **SI:** 1 inch = 25.4 mm; 1 psf = 47.88 Pa.

TABLE 3—ATTACHMENT OF SARNAFIL G410 OR SIKAPLAN ADHERED PVC ROOFING MEMBRANES FOR WIND UPLIFT CAPACITY (Continued)

SYSTEM NO.	SUBSTRATE	INSULATION[1,2]		COVERBOARD		SARNAFIL PVC MEMBRANE	ALLOWABLE WIND UPLIFT CAPACITY (PSF)
		Type	Attachment	Type	Attachment		
13	Poured Gypsum over Concreta	Samatherm and Samatherm e	Adhered with Sarnacol 2163 or Sarnacol AD Board Adhesive, applied with 0.5" wide stripsss at 12" o.c.	Minimum 0.25-inch DensDeck Prime	Adhered with Sarnacol 2163 or Sarnacol AD Board Adhesive, applied with 0.5" wide stripsss at 12" o.c.	G410, S327 membrane or Sikaplan Adhered membrane adhered to the cover board with Sarnacol 2170, Sarnacol VC adhesive or Sarnacol 2121 adhesive or Sikaplan applied to the membrane backside at 0.75 gal/100 sq.ft. and cover board at 0.75 gal./100 sq. ft. or Sarnacol 2121 adhesive cover board at 0.75 gal./100 sq.ft. G410 Fellback, S327 Fellback or Sikaplan Adhered Fellback membrane adhered to cover board with Samacol 2170 or Samacol 2170VC applied in two coats to the cover board at a total application rate of 2 gal/100 sq. ft., or Sarnacol 2121 adhesive applied to the cover board at 2.0 gal/100 sq. ft.	257.5

For **SI:** 1 inch = 25.4 mm, 1 lb/ft² = 0.89 kPa, 1 lb/ft2 = 47.9 Pa, 1 gal/sq = 407mL/m².
[1]Concrete must have a minimum compressive strength of 2500 psi.
[2]All foam plastic insulation must be UL classified foam plastic for roofing systems, and must be limited to a maximum thickness in accordance with Section 5.4.
[3]Polyisocyanurate foam plastic insulation board must comply with ASTM C1289. Extruded polystyrene (XPS) and expanded polystyrene (EPS) foam plastic insulation boards must comply with ASTM C578.

TABLE 3—ATTACHMENT OF SARNAFIL G410 OR SIKAPLAN ADHERED PVC ROOFING MEMBRANES FOR WIND UPLIFT CAPACITY

SYSTEM NO.	SUBSTRATE	INSULATION[1,2]		COVERBOARD		SARNAFIL PVC MEMBRANE	ALLOWABLE WIND UPLIFT CAPACITY (PSF)
		Type	Attachment	Type	Attachment		
13	Poured Gypsum over Concreta	Samatherm and Samatherm e	Adhered with Sarnacol 2163 or Sarnacol AD Board Adhesive, applied with 0.5" wide stripsss at 12" o.c.	Minimum 0.25-inch DensDeck Prime	Adhered with Sarnacol 2163 or Sarnacol AD Board Adhesive, applied with 0.5" wide stripsss at 12" o.c.	G410, S327 membrane or Sikaplan Adhered membrane adhered to the cover board with Sarnacol 2170, Sarnacol VC adhesive or Sarnacol 2121 adhesive or Sikaplan applied to the membrane backside at 0.75 gal/100 sq.ft. and cover board at 0.75 gal./100 sq. ft. or Sarnacol 2121 adhesive cover board at 0.75 gal./100 sq.ft. G410 Fellback, S327 Fellback or Sikaplan Adhered Fellback membrane adhered to cover board with Samacol 2170 or Samacol 2170VC applied in two coats to the cover board at a total application rate of 2 gal/100 sq. ft., or Sarnacol 2121 adhesive applied to the cover board at 2.0 gal/100 sq. ft.	257.5

TABLE 4—TYPICAL MEMBRANE THICKNESSES AND WEIGHTS

MEMBRANE	THICKNESS (mil)	ACTUAL DIMENSION (inch)	WEIGHT WITH FELT BACKING (psf)	WEIGHT WITHOUT FELT BACKING (psf)
G410, S327	48	0.048	0.375	0.312
G410, S327	60	0.059	0.453	0.390
G410, S327	72	0.071	0.530	0.467
G410, S327	80	0.079	0.582	0.562
G410 SAM	60	0.059	NA	0.445
G410 SAM	72	0.071	NA	0.533
G410 SAM	80	0.079	NA	0.595
G410 Textured, S327 Textured	60	0.059	NA	0.390
G410 Textured, S327 Textured	72	0.072	NA	0.467
G410 Textured, S327 Textured	80	0.079	NA	0.562
Sikaplan Fastened 45, Sikaplan Adhered 45	45	0.045	0.341	0.278
Sikaplan Fastened 60, Sikaplan Adhered 60	60	0.054	0.411	0.348

For **SI:** 1 inch = 25.4 mm; 1 psf = 47.88 Pa.

WATER HEATER



PERFORMANCE PLATINUM™ **ProTerra® Hybrid Electric Heat Pump with LeakGuard™ is the most efficient water heater available**

Efficiency
- Up to 4.07 UEF reduces operating cost
- ENERGY STAR® certified

Performance
- Delivers hot water faster than most standard electric water heaters
- Ambient operating range: 37-145° F is widest in class, offering more heat pump operation annually; designed to meet Northern Climate Spec (Tier 4)
- Quiet Operation

Easy Installation
- Universal top and side water connections
- Quick access to electrical junction box
- Duct ready design
- Easily replaces a standard electric water heater

Integration
- LED Screen with built-in water sensor alert with audible alarm
- EcoNet® Wi-Fi® and free mobile app gives users control over water heater, allowing for customizable temperature, vacation settings, energy savings and system monitoring at home or away
- Demand Response Ready with built in EcoPort™ (CTA-2045 Port)
- **LeakGuard™ leak detection and prevention system** with factory installed 360° leak detection cable and auto shutoff valve (included) to help auto water shut off valve limits leaks to no more than 20 ounces of water*

Operation Modes
- Energy Saver
- Heat Pump
- High Demand
- Electric
- Vacation/Away: 2-28 days (or placed on hold indefinitely)

Plus…
- Premium grade anode rod extends the life of the tank
- Dip tube diffuser reduces sediment improving efficiency and tank life
- 3/4" NPT water inlet and outlet; 3/4" condensate drain connections
- Incoloy stainless steel resistor elements
- Dry-fire protection
- Easy access, top mounted washable air filter
- 2" Non-CFC foam insulation
- Enhanced flow brass drain valve
- Temperature and pressure relief valve
- Design certified to NSF/ANSI 372 (Lead Content)

Warranty
- 10-Year limited tank and parts warranty

See Residential Warranty Certificate for complete information

Units meet or exceed ANSI requirements and have been tested according to D.O.E. procedures. Units are certified by the A.G.A. and bear the registered mark of NAEGA. All FHV standard 40, ECO Code and all state energy efficiency performance criteria.

*Wi-Fi broadband internet connection required. †Source: Rheem Leak Sensing Daily testing under a vacuum-lock using 50 gallon tank, no expansion tank, average tank pressure of 40 psi, assuming no additional faucets are opened.



PERFORMANCE PLATINUM
Hybrid Electric Heat Pump
40, 50, 65 and 80-Gallon Capacities
208-240 Volt / 1 PH
30 Amp

See specifications chart on back.

Rheem
The new degree of comfort™

PERFORMANCE PLATINUM® Hybrid Electric Heat Pump Specifications

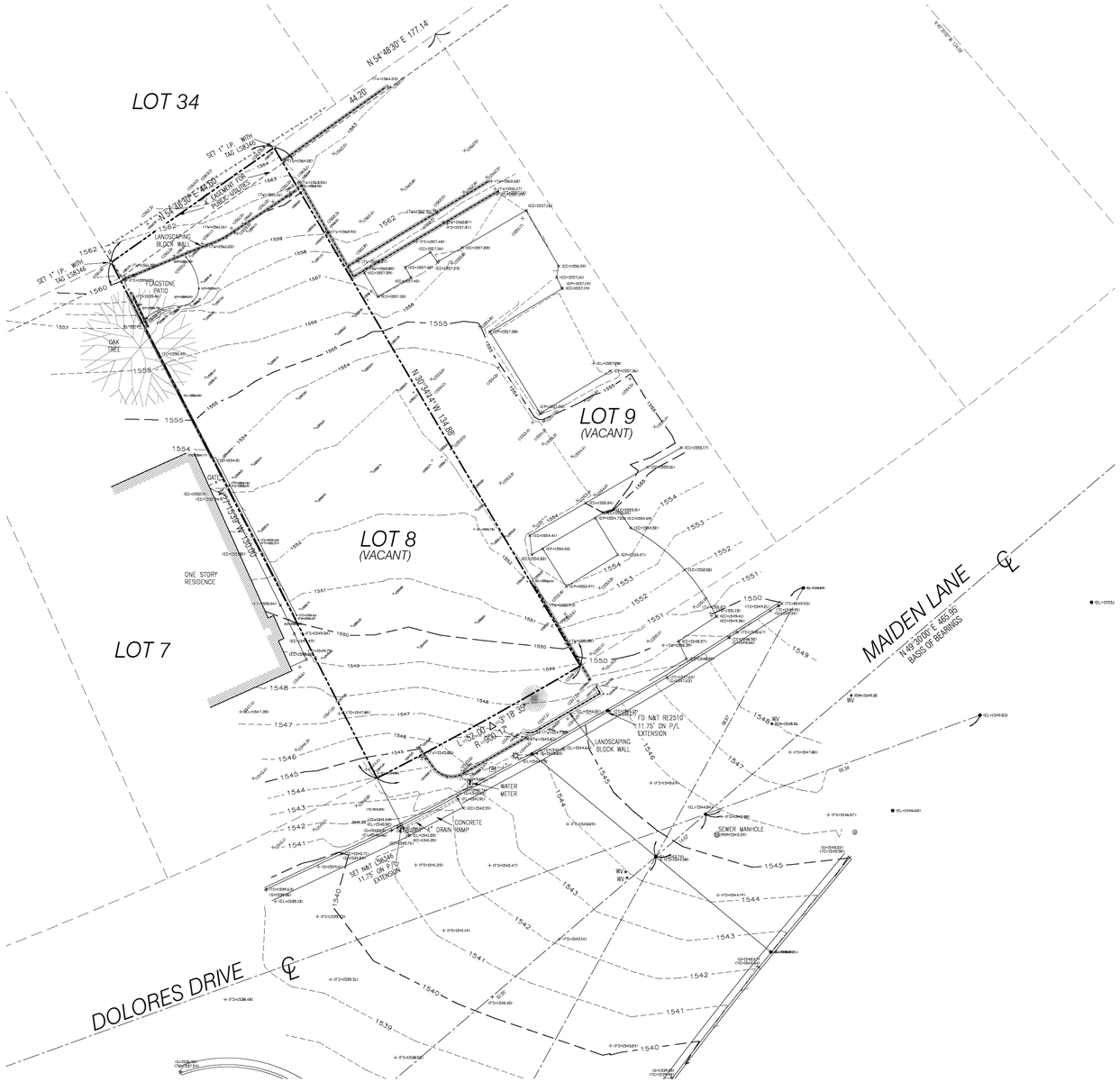
| Fuel Type | Sku | Nominal Gallon Size | Rated Gallon Size | Model Number | Electric Grade/ Size | Drain Valve Size | Delivery Gallon Size (GEF) | Recovery @ 0.4 Gal. @ 67.5psi | Tank Height | Dia. |

TOPOGRAPHICAL SURVEY

LOT 8 BLOCK H TRACT NO. 6854 M.B. 75/54

2935 MAIDEN LANE ALTADENA CA

APN: 5842-009-008



GRAPHIC SCALE

12' 0 6' 12'

FEET

LEGEND OF SYMBOLS & ABBREVIATIONS

UP	POWER/UTILITY POLE		WOOD FENCE
	SEWER MANHOLE		CHAIN LINK FENCE
	STORM DRAIN MANHOLE		GUARD POST
	RETAINING/BLOCK WALL	WM	WATER METER
	FOUND MONUMENT		TELEPHONE MANHOLE
	CONCRETE PAVEMENT		STREET LIGHT
	EDGE OF PAVEMENT		YARD LIGHT
	PALM TREE		ELECTRIC VAULT
CB	CATCH BASIN		GAS METER
FH	FIRE HYDRANT	CLF	CHAIN LINK FENCE
FDC	FIRE DEPARTMENT CONNECTION	WV	WATER VALVE
ICV	IRRIGATION CONTROL VALVE	P/L	PROPERTY LINE
CO	SEWER CLEANOUT	m	MEASURED
	GAS VALVE	c	CALCULATED
	UTILITY PEDESTAL		ELECTRIC BOX
	TRAFFIC SIGNAL BOX		GUY WIRE
	SIGN POST	FT.	FEET
N.	NORTH	°	DEGREES
S.	SOUTH	'	FEET OR MINUTES
E.	EAST	"	INCHES OR SECONDS
W.	WEST	Sq.	SQUARE
ROW	RIGHT OF WAY	TR.	ELECTRIC TRANSFORMER
LS	LANDSCAPE	FDC	FIRE DEP. CONNECTION
	TRAFFIC LIGHTS		BLDG. HEIGHT MEASUREMENT
E.E.	ELECTRICAL EQUIPMENT		

SOURCE BENCHMARK

THE ELEVATIONS SHOWN HEREON ARE BASED UPON DPW BENCHMARK HY5098: BT SPK IN E CB 2FT S/O BCR @ NE COR WAPELLO ST & LAKE AVE MKD (AE 597A) HY5098
EL=1611.840 FEET (NAVD88)

BASIS OF BEARINGS

BASIS OF BEARINGS FOR THIS SURVEY WAS THE CENTER LINE OF MAIDEN LANE AS SHOWN ON TRACT NO 6854, M.B. 75/54, SAID BEARING BEING NORTH 49° 30' 00" EAST.

Ray R. Zegoilari
Registration No. 8346
In the state of California
Date of Survey: APRIL 25, 2025 & JUNE10, 2025
JOB NUMBER 25064-2

LICENSED LAND SURVEYOR — RAY R. ZEGOILARI — EXP.12/31/25 — LS 8145 — STATE OF CALIFORNIA

SHEET 1 OF 1

STUDIO KPA

Studio KPA, Inc
Los Angeles
500 N Brand Blvd, Suite 2000
Glendale, CA 91203

310.853.3616

All ideas, designs and plans indicated or represented by these drawings are owned by and are property of the Architect and were created and developed for use in connection with the specified project. None of such ideas, designs or plans shall be used for any purpose whatsoever without the written permission of the Architect.

#	DESCRIPTION	DATE
	PLANNING SUBMISSION 01	09.10.2025
	PLAN CHECK 01	11.30.2025

2935 MAIDEN LN

2935 MAIDEN LN.
ALTADENA, CA 91001

PROJECT NO: 250415

SCALE:

DRAWING TITLE

SURVEY

DRAWING NO.

A0.10

FOR REFERENCE ONLY

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2022 CALIFORNIA GREEN BUILDING STANDARDS CODE
RESIDENTIAL MANDATORY MEASURES, SHEET 1 (January 2023)

Y – YES
N/A – NOT APPLICABLE
RESPON. PARTY – RESPONSIBLE PARTY (ie: ARCHITECT, ENGINEER, OWNER, CONTRACTOR, INSPECTOR ETC.)

CHAPTER 3
GREEN BUILDING
SECTION 301 GENERAL

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

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

The mandatory provision of Section 4.106.4.2 may apply to additions or alterations of existing parking facilities or the addition of new parking facilities serving existing multifamily buildings. See Section 4.106.4.3 for application.

Note: Repairs including, but not limited to, resurfacing, restriping and repairing or maintaining existing lighting fixtures are not considered alterations for the purpose of this section.

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

301.2 LOW-RISE AND HIGH-RISE RESIDENTIAL BUILDINGS. [HCD] The provisions of individual sections of CALGreen may apply to either low-rise residential buildings high-rise residential buildings, or both. Individual sections will be designated by banners to indicate where the section applies specifically to low-rise only (LR) or high-rise only (HR). When the section applies to both low-rise and high-rise buildings, no banner will be used.

SECTION 302 MIXED OCCUPANCY BUILDINGS

302.1 MIXED OCCUPANCY BUILDINGS. In mixed occupancy buildings, each portion of a building shall comply with the specific green building measures applicable to each specific occupancy.

Exceptions:
1. [HCD] Accessory structures and accessory occupancies serving residential buildings shall comply with Chapter 4 and Appendix A4, as applicable.
2. [HCD] For purposes of CALGreen, live/work units, complying with Section 419 of the *California Building Code*, shall not be considered mixed occupancies. Live/Work units shall comply with Chapter 4 and Appendix A4, as applicable.

DIVISION 4.1 PLANNING AND DESIGN

ABBREVIATION DEFINITIONS:

HCD	Department of Housing and Community Development
BSC	California Building Standards Commission
DSA-SS	Division of the State Architect, Structural Safety
OSHPD	Office of Statewide Health Planning and Development
LR	Low Rise
HR	High Rise
AA	Additions and Alterations
N	New

CHAPTER 4
RESIDENTIAL MANDATORY MEASURES

SECTION 4.102 DEFINITIONS

4.102.1 DEFINITIONS
The following terms are defined in Chapter 2 *(and are included here for reference)*

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

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

4.106 SITE DEVELOPMENT

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

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

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

Note: Refer to the State Water Resources Control Board for projects which disturb one acre or more of soil, or are part of a larger common plan of development which in total disturbs one acre or more of soil.

(Website: https://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.html)

4.106.3 GRADING AND PAVING. Construction plans shall indicate how the site grading or drainage system will manage all surface water flows to keep water from entering buildings. Examples of methods to manage surface water include, but are not limited to, the following:

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

Exception: Additions and alterations not altering the drainage path.

4.106.4 Electric vehicle (EV) charging for new construction. New construction shall comply with Sections 4.106.4.1 or 4.106.4.2 to facilitate future installation and use of EV chargers. Electric vehicle supply equipment (EVSE) shall be installed in accordance with the *California Electrical Code*, Article 625.

Exceptions:
1. On a case-by-case basis, where the local enforcing agency has determined EV charging and infrastructure are not feasible based upon one or more of the following conditions:
   1.1 Where there is no local utility power supply or the local utility is unable to supply adequate power.
   1.2 Where there is evidence suitable to the local enforcing agency substantiating that additional local utility infrastructure design requirements, directly related to the implementation of Section 4.106.4, may adversely impact the construction cost of the project.
2. Accessory Dwelling Units (ADU) and Junior Accessory Dwelling Units (JADU) without additional parking facilities.

4.106.4.1 New one- and two-family dwellings and townhouses with attached private garages. For each dwelling unit, install a listed raceway to accommodate a dedicated 208/240-volt branch circuit. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). The raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or other enclosure in close proximity to the proposed location of an EV charger. Raceways are required to be continuous at enclosed, inaccessible or concealed areas and spaces. The service panel and/or subpanel shall provide capacity to install a 40-ampere 208/240-volt minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit overcurrent protective device.

Exemption: A raceway is not required if a minimum 40-ampere 208/240-volt dedicated EV branch circuit is installed in close proximity to the proposed location of an EV charger at the time of original construction in accordance with the *California Electrical Code*.

4.106.4.1.1 Identification. The service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging as "EV CAPABLE". The raceway termination location shall be permanently and visibly marked as "EV CAPABLE".

4.106.4.2 New multifamily dwellings, hotels and motels and new residential parking facilities.
When parking is provided, parking spaces for new multifamily dwellings, hotels and motels shall meet the requirements of Sections 4.106.4.2.1 and 4.106.4.2.2. Calculations for spaces shall be rounded up to the nearest whole number. A parking space served by electric vehicle supply equipment or designed as a future EV charging space shall count as at least one standard automobile parking space only for the purpose of complying with any applicable minimum parking space requirements established by a local jurisdiction. See Vehicle Code Section 22511.2 for further details.

4.106.4.2.1Multifamily development projects with less than 20 dwelling units; and hotels and motels with less than 20 sleeping units or guest rooms.
The number of dwelling units, sleeping units or guest rooms shall be based on all buildings on a project site subject to this section.

1.EV Capable. Ten (10) percent of the total number of parking spaces on a building site, provided for all types of parking facilities, shall be electric vehicle charging spaces (EV spaces) capable of supporting future Level 2 EVSE. Electrical load calculations shall demonstrate that the electrical panel service capacity and electrical system, including any on-site distribution transformer(s), have sufficient capacity to simultaneously charge all EVs at all required EV spaces at a minimum of 40 amperes.

The service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging purposes as "EV CAPABLE" in accordance with the California Electrical Code.

Exceptions:

1.When EV chargers (Level 2 EVSE) are installed in a number equal to or greater than the required number of EV capable spaces.

2.When EV chargers (Level 2 EVSE) are installed in a number less than the required number of EV capable spaces, the number of EV capable spaces required may be reduced by a number equal to the number of EV chargers installed.

Notes:

a.Construction documents are intended to demonstrate the project's capability and capacity for facilitating future EV charging.

b.There is no requirement for EV spaces to be constructed or available until receptacles for EV charging or EV chargers are installed for use.

2.EV Ready. Twenty-five (25) percent of the total number of parking spaces shall be equipped with low power Level 2 EV charging receptacles. For multifamily parking facilities, no more than one receptacle is required per dwelling unit when more than one parking space is provided for use by a single dwelling unit.

Exception: Areas of parking facilities served by parking lifts.

4.106.4.2.2 Multifamily development projects with 20 or more dwelling units, hotels and motels with 20 or more sleeping units or guest rooms.
The number of dwelling units, sleeping units or guest rooms shall be based on all buildings on a project site subject to this section.

1.EV Capable. Ten (10) percent of the total number of parking spaces on a building site, provided for all types of parking facilities, shall be electric vehicle charging spaces (EV spaces) capable of supporting future Level 2 EVSE. Electrical load calculations shall demonstrate that the electrical panel service capacity and electrical system, including any on-site distribution transformer(s), have sufficient capacity to simultaneously charge all EVs at all required EV spaces at a minimum of 40 amperes.

The service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging purposes as "EV CAPABLE" in accordance with the California Electrical Code.

Exception: When EV chargers (Level 2 EVSE) are installed in a number greater than five (5) percent of parking spaces required by Section 4.106.4.2.2, Item 3, the number of EV capable spaces required may be reduced by a number equal to the number of EV chargers installed over the five (5) percent required.

Notes:

a.Construction documents shall show locations of future EV spaces.

b.There is no requirement for EV spaces to be constructed or available until receptacles for EV charging or EV chargers are installed for use.

2.EV Ready. Twenty-five (25) percent of the total number of parking spaces shall be equipped with low power Level 2 EV charging receptacles. For multifamily parking facilities, no more than one receptacle is required per dwelling unit when more than one parking space is provided for use by a single dwelling unit.

Exception: Areas of parking facilities served by parking lifts.

3.EV Chargers. Five (5) percent of the total number of parking spaces shall be equipped with Level 2 EVSE. Where common use parking is provided, at least one EV charger shall be located in the common use parking area and shall be available for use by all residents or guests.

When low power Level 2 EV charging receptacles or Level 2 EVSE are installed beyond the minimum required, an automatic load management system (ALMS) may be used to reduce the maximum required electrical capacity to each space served by the ALMS. The electrical system and any on-site distribution transformers shall have sufficient capacity to deliver at least 3.3 kW simultaneously to each EV charging station (EVCS) served by the ALMS. The branch circuit shall have a minimum capacity of 40 amperes, and installed EVSE shall have a capacity of not less than 30 amperes. ALMS shall not be used to reduce the minimum required electrical capacity to the required EV capable spaces.

4.106.4.2.2.1 Electric vehicle charging stations (EVCS).
Electric vehicle charging stations required by Section 4.106.4.2.2, Item 3, shall comply with Section 4.106.4.2.2.1.

Exception: Electric vehicle charging stations serving public accommodations, public housing, motels and hotels shall not be required to comply with this section. See California Building Code, Chapter 11B, for applicable requirements.

4.106.4.2.2.1.1 Location.
EVCS shall comply with at least one of the following options:

1.The charging space shall be located adjacent to an accessible parking space meeting the requirements of the California Building Code, Chapter 11A, to allow use of the EV charger from the accessible parking space.

2.The charging space shall be located on an accessible route, as defined in the California Building Code, Chapter 2, to the building.

Exception: Electric vehicle charging stations designed and constructed in compliance with the California Building Code, Chapter 11B, are not required to comply with Section 4.106.4.2.2.1.1 and Section 4.106.4.2.2.1.2, Item 3.

4.106.4.2.2.1.2 Electric vehicle charging stations (EVCS) dimensions.
The charging spaces shall be designed to comply with the following:

1.The minimum length of each EV space shall be 18 feet (5486 mm).

2.The minimum width of each EV space shall be 9 feet (2743 mm).

3.One in every 25 charging spaces, but not less than one, shall also have an 8-foot (2438 mm) wide minimum aisle. A 5-foot (1524 mm) wide minimum aisle shall be permitted provided the minimum width of the EV space is 12 feet (3658 mm).

a.Surface slope for this EV space and the aisle shall not exceed 1 unit vertical in 48 units horizontal (2.083 percent slope) in any direction.

4.106.4.2.2.1.3 Accessible EV spaces.
In addition to the requirements in Sections 4.106.4.2.2.1.1 and 4.106.4.2.2.1.2, all EVSE, when installed, shall comply with the accessibility provisions for EV chargers in the California Building Code, Chapter 11B. EV ready spaces and EVCS in multifamily developments shall comply with California Building Code, Chapter 11A, Section 1109A.

4.106.4.2.3 EV space requirements.
1.Single EV space required. Install a listed raceway capable of accommodating a 208/240-volt dedicated branch circuit. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). The raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or enclosure in close proximity to the location or the proposed location of the EV space. Construction documents shall identify the raceway termination point, receptacle or charger location, as applicable. The service panel and/ or subpanel shall have a 40-ampere minimum dedicated branch circuit, including branch circuit overcurrent protective device installed, or space(s) reserved to permit installation of a branch circuit overcurrent protective device.

Exception: A raceway is not required if a minimum 40-ampere 208/240-volt dedicated EV branch circuit is installed in close proximity to the location or the proposed location of the EV space, at the time of original construction in accordance with the California Electrical Code.

2.Multiple EV spaces required. Construction documents shall indicate the raceway termination point and the location of installed or future EV spaces, receptacles or EV chargers. Construction documents shall also provide information on amperage of installed or future receptacles or EVSE, raceway method(s), wiring schematics and electrical load calculations. Plan design shall be based upon a 40-ampere minimum branch circuit. Required raceways and related components that are planned to be installed underground, enclosed, inaccessible or in concealed areas and spaces shall be installed at the time of original construction.

Exception: A raceway is not required if a minimum 40-ampere 208/240-volt dedicated EV branch circuit is installed in close proximity to the location or the proposed location of the EV space at the time of original construction in accordance with the California Electrical Code.

4.106.4.2.4 Identification.
The service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging purposes as "EV CAPABLE" in accordance with the California Electrical Code.

4.106.4.2.5 Electric Vehicle Ready Space Signage.
Electric vehicle ready spaces shall be identified by signage or pavement markings, in compliance with Caltrans Traffic Operations Policy Directive 13-01 (Zero Emission Vehicle Signs and Pavement Markings) or its successor(s).

4.106.4.3 Electric vehicle charging for additions and alterations of parking facilities serving existing multifamily buildings.
When new parking facilities are added, or electrical systems or lighting of existing parking facilities are added or altered and the work requires a building permit, ten (10) percent of the total number of parking spaces added or altered shall be electric vehicle charging spaces (EV spaces) capable of supporting future Level 2 EVSE.

Notes:

1.Construction documents are intended to demonstrate the project's capability and capacity for facilitating future EV charging.

2.There is no requirement for EV spaces to be constructed or available until EV chargers are installed for use.

DIVISION 4.2 ENERGY EFFICIENCY

4.201 GENERAL

4.201.1 SCOPE. For the purposes of mandatory energy efficiency standards in this code, the California Energy Commission will continue to adopt mandatory standards.

DIVISION 4.3 WATER EFFICIENCY AND CONSERVATION

4.303 INDOOR WATER USE

4.303.1 WATER CONSERVING PLUMBING FIXTURES AND FITTINGS. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the sections 4.303.1.1, 4.303.1.2, 4.303.1.3, and 4.303.4.4.

Note: All noncompliant plumbing fixtures in any residential real property shall be replaced with water-conserving plumbing fixtures. Plumbing fixture replacement is required prior to issuance of a certificate of final completion, certificate of occupancy, or final permit approval by the local building department. See Civil Code Section 1101.1, et seq., for the definition of a noncompliant plumbing fixture, types of residential buildings affected and other important enactment dates.

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

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

4.303.1.2 Urinals. The effective flush volume of wall mounted urinals shall not exceed 0.125 gallons per flush. The effective flush volume of all other urinals shall not exceed 0.5 gallons per flush.

4.303.1.3 Showerheads.

4.303.1.3.1 Single Showerhead. Showerheads shall have a maximum flow rate of not more than 1.8 gallons per minute at 80 psi. Showerheads shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Showerheads.

4.303.1.3.2 Multiple showerheads serving one shower. When a shower is served by more than one showerhead, the combined flow rate of all the showerheads and/or other shower outlets controlled by a single valve shall not exceed 1.8 gallons per minute at 80 psi, or the shower shall be designed to only allow one shower outlet to be in operation at a time.

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

4.303.1.4 Faucets.

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

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

4.303.1.4.3 Metering Faucets. Metering faucets when installed in residential buildings shall not deliver more than 0.2 gallons per cycle.

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

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

4.303.1.4.5 Pre-rinse spray valves.
When installed, shall meet the requirements in the *California Code of Regulations*, Title 20 (Appliance Efficiency Regulations), Sections 1605.1 (h)(4) Table H-2, Section 1605.3 (h)(4)(A), and Section 1607 (d)(7) and shall be equipped with an integral automatic shutoff.

FOR REFERENCE ONLY: The following table and code section have been reprinted from the *California Code of Regulations*, Title 20 (Appliance Efficiency Regulations),Section 1605.1 (h)/4) and Section 1605.3 (h)(4)(A).

TABLE H-2

STANDARDS FOR COMMERCIAL PRE-RINSE SPRAY VALVES MANUFACTURED ON OR AFTER JANUARY 28, 2019

PRODUCT CLASS [spray force in ounce force (ozf)]	MAXIMUM FLOW RATE (gpm)
Product Class 1 (≤ 5.0 ozf)	1.00
Product Class 2 (> 5.0 ozf and ≤ 8.0 ozf)	1.20
Product Class 3 (> 8.0 ozf)	1.28

Title 20 Section 1605.3 (h)(4)(A): Commercial prerinse spray values manufactured on or after January 1, 2006, shall have a minimum spray force of not less than 4.0 ounces-force (ozf)[113 grams-force(gf)]

4.303.2 Submeters for multifamily buildings and dwelling units in mixed-used residential/commercial buildings.
Submeters shall be installed to measure water usage of individual rental dwelling units in accordance with the *California Plumbing Code*.

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

NOTE:
THIS TABLE COMPILES THE DATA IN SECTION 4.303.1, AND IS INCLUDED AS A CONVENIENCE FOR THE USER.

TABLE - MAXIMUM FIXTURE WATER USE

FIXTURE TYPE	FLOW RATE
SHOWER HEADS (RESIDENTIAL)	1.8 GMP @ 80 PSI
LAVATORY FAUCETS (RESIDENTIAL)	MAX. 1.2 GPM @ 60 PSI MIN. 0.8 GPM @ 20 PSI
LAVATORY FAUCETS IN COMMON & PUBLIC USE AREAS	0.5 GPM @ 60 PSI
KITCHEN FAUCETS	1.8 GPM @ 60 PSI
METERING FAUCETS	0.2 GAL/CYCLE
WATER CLOSET	1.28 GAL/FLUSH
URINALS	0.125 GAL/FLUSH

4.304 OUTDOOR WATER USE

4.304.1 OUTDOOR POTABLE WATER USE IN LANDSCAPE AREAS. Residential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent.

NOTES:

1. The Model Water Efficient Landscape Ordinance (MWELO) is located in the *California Code Regulations*, Title 23, Chapter 2.7, Division 2. MWELO and supporting documents, including water budget calculator, are available at: https://www.water.ca.gov/

DIVISION 4.4 MATERIAL CONSERVATION AND RESOURCE EFFICIENCY

4.406 ENHANCED DURABILITY AND REDUCED MAINTENANCE

4.406.1 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 enforcing agency.

4.408 CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING

4.408.1 CONSTRUCTION WASTE MANAGEMENT. Recycle and/or salvage for reuse a minimum of 65 percent of the non-hazardous construction and demolition waste in accordance with either Section 4.408.2, 4.408.3 or 4.408.4, or meet a more stringent local construction and demolition waste management ordinance.

Exceptions:

1. Excavated soil and land-clearing debris.
2. Alternate waste reduction methods developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist or are not located reasonably close to the jobsite.
3. The enforcing agency may make exceptions to the requirements of this section when isolated jobsites are located in areas beyond the haul boundaries of the diversion facility.

4.408.2 CONSTRUCTION WASTE MANAGEMENT PLAN. Submit a construction waste management plan in conformance with Items 1 through 5. The construction waste management plan shall be updated as necessary and shall be available during construction for examination by the enforcing agency.

1. Identify the construction and demolition waste materials to be diverted from disposal by recycling, reuse on the project or salvage for future use or sale.
2. Specify if construction and demolition waste materials will be sorted on-site (source separated) or bulk mixed (single stream).
3. Identify diversion facilities where the construction and demolition waste material collected will be taken.
4. Identify construction methods employed to reduce the amount of construction and demolition waste generated.
5. Specify that the amount of construction and demolition waste materials diverted shall be calculated by weight or volume, but not by both.

4.408.3 WASTE MANAGEMENT COMPANY. Utilize a waste management company, approved by the enforcing agency, which can provide verifiable documentation that the percentage of construction and demolition waste material diverted from the landfill complies with Section 4.408.1.

Note: The owner or contractor may make the determination if the construction and demolition waste materials will be diverted by a waste management company.

4.408.4 WASTE STREAM REDUCTION ALTERNATIVE [LR]. Projects that generate a total combined weight of construction and demolition waste disposed of in landfills, which do not exceed 3.4 lbs./sq.ft. of the building area shall meet the minimum 65% construction waste reduction requirement in Section 4.408.1

4.408.4.1 WASTE STREAM REDUCTION ALTERNATIVE. Projects that generate a total combined weight of construction and demolition waste disposed of in landfills, which do not exceed 2 pounds per square foot of the building area, shall meet the minimum 65% construction waste reduction requirement in Section 4.408.1

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

Notes:

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

4.410 BUILDING MAINTENANCE AND OPERATION

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

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

4.410.2 RECYCLING BY OCCUPANTS. Where 5 or more multifamily dwelling units are constructed on a building site, provide readily accessible area(s) that serves all buildings on the site and are identified for the depositing, storage and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waster, and metals, or meet a lawfully enacted local recycling ordinance, if more restrictive.

Exception: Rural jurisdictions that meet and apply for the exemption in Public Resources Code Section 42649.82 (a)(2)(A) et seq. are note required to comply with the organic waste portion of this section.

DIVISION 4.5 ENVIRONMENTAL QUALITY

SECTION 4.501 GENERAL

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

SECTION 4.502 DEFINITIONS

5.102.1 DEFINITIONS
The following terms are defined in Chapter 2 *(and are included here for reference)*

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

COMPOSITE WOOD PRODUCTS. Composite wood products include hardwood plywood, particleboard and medium density fiberboard. "Composite wood products" does not include hardboard, structural plywood, structural panels, structural composite lumber, oriented strand board, glued laminated timber, prefabricated wood I-joists or finger-jointed lumber, all as specified in California Code of regulations (CCR), title 17, Section 93120.1.

DIRECT-VENT APPLIANCE. A fuel-burning appliance with a sealed combustion system that draws all air for combustion from the outside atmosphere and discharges all flue gases to the outside atmosphere.

DISCLAIMER: *THIS DOCUMENT IS PROVIDED AND INTENDED TO BE USED AS A MEANS TO INDICATE AREAS OF COMPLIANCE WITH THE CALIFORNIA GREEN BUILDING STANDARDS (CALGREEN) CODE. DUE TO THE VARIABLES BETWEEN BUILDING DEPARTMENT JURISDICTIONS, THIS CHECKLIST IS TO BE USED ON AN INDIVIDUAL PROJECT BASIS AND MAY BE MODIFIED BY THE END USER TO MEET THOSE INDIVIDUAL NEEDS. THE END USER ASSUMES ALL RESPONSIBILITY ASSOCIATED WITH THE USE OF THIS DOCUMENT, INCLUDING VERIFICATION WITH THE FULL CODE.*

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LICENSED ARCHITECT
KHACHIK C. PILIKYAN
C-39467
06.30.2027
RENEWAL DATE
STATE OF CALIFORNIA

#	DESCRIPTION	DATE
	PLAN CHECK 01	11.30.2025

2935 MAIDEN LN
2935 MAIDEN LN.
ALTADENA, CA 91001
PROJECT NO: 250415

SCALE:

DRAWING TITLE
CAL GREEN SHEET 1

DRAWING NO.
GRN-01

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AIA California

2022 CALIFORNIA GREEN BUILDING STANDARDS CODE

RESIDENTIAL MANDATORY MEASURES, SHEET 2 (January 2023)

Y – YES
N/A – NOT APPLICABLE
RESPON. PARTY – RESPONSIBLE PARTY (ie: ARCHITECT, ENGINEER, OWNER, CONTRACTOR, INSPECTOR ETC.)

MAXIMUM INCREMENTAL REACTIVITY (MIR). The maximum change in weight of ozone formed by adding a compound to the "Base Reactive Organic Gas (ROG) Mixture" per weight of compound added, expressed to hundredths of a gram (g O³/g ROC).
Note: MIR values for individual compounds and hydrocarbon solvents are specified in CCR, Title 17, Sections 94700 and 94701.

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

PRODUCT-WEIGHTED MIR (PWMIR). The sum of all weighted-MIR for all ingredients in a product subject to this article. The PWMIR is the total product reactivity expressed to hundredths of a gram of ozone formed per gram of product (excluding container and packaging).
Note: PWMIR is calculated according to equations found in CCR, Title 17, Section 94521 (a).

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

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

4.503 FIREPLACES

4.503.1 GENERAL. Any installed gas fireplace shall be a direct-vent sealed-combustion type. Any installed woodstove or pellet stove shall comply with U.S. EPA New Source Performance Standards (NSPS) emission limits as applicable, and shall have a permanent label indicating they are certified to meet the emission limits. Woodstoves, pellet stoves and fireplaces shall also comply with applicable local ordinances.

4.504 POLLUTANT CONTROL

4.504.1 COVERING OF DUCT OPENINGS & PROTECTION OF MECHANICAL EQUIPMENT DURING CONSTRUCTION. At the time of rough installation, during storage on the construction site and until final startup of the heating, cooling and ventilating equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheet metal or other methods acceptable to the enforcing agency to reduce the amount of water, dust or debris which may enter the system.

4.504.2 FINISH MATERIAL POLLUTANT CONTROL. Finish materials shall comply with this section.

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

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

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

4.504.2.3 Aerosol Paints and Coatings. Aerosol paints and coatings shall meet the Product-weighted MIR Limits for ROC in Section 94522(a)(2) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances, in Sections 94522(e)(1) and (f)(1) of *California Code of Regulations*, Title 17, commencing with Section 94520; and in areas under the jurisdiction of the Bay Area Air Quality Management District additionally comply with the percent VOC by weight of product limits of Regulation 8, Rule 49.

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

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

TABLE 4.504.1 - ADHESIVE VOC LIMIT[1,2]

(Less Water and Less Exempt Compounds in Grams per Liter)

ARCHITECTURAL APPLICATIONS	VOC LIMIT
INDOOR CARPET ADHESIVES	50
CARPET PAD ADHESIVES	50
OUTDOOR CARPET ADHESIVES	150
WOOD FLOORING ADHESIVES	100
RUBBER FLOOR ADHESIVES	60
SUBFLOOR ADHESIVES	50
CERAMIC TILE ADHESIVES	65
VCT & ASPHALT TILE ADHESIVES	50
DRYWALL & PANEL ADHESIVES	50
COVE BASE ADHESIVES	50
MULTIPURPOSE CONSTRUCTION ADHESIVE	70
STRUCTURAL GLAZING ADHESIVES	100
SINGLE-PLY ROOF MEMBRANE ADHESIVES	250
OTHER ADHESIVES NOT LISTED	50
SPECIALTY APPLICATIONS	
PVC WELDING	510
CPVC WELDING	490
ABS WELDING	325
PLASTIC CEMENT WELDING	250
ADHESIVE PRIMER FOR PLASTIC	550
CONTACT ADHESIVE	80
SPECIAL PURPOSE CONTACT ADHESIVE	250
STRUCTURAL WOOD MEMBER ADHESIVE	140
TOP & TRIM ADHESIVE	250
SUBSTRATE SPECIFIC APPLICATIONS	
METAL TO METAL	30
PLASTIC FOAMS	50
POROUS MATERIAL (EXCEPT WOOD)	50
WOOD	30
FIBERGLASS	80

1. IF AN ADHESIVE IS USED TO BOND DISSIMILAR SUBSTRATES TOGETHER, THE ADHESIVE WITH THE HIGHEST VOC CONTENT SHALL BE ALLOWED.

2. FOR ADDITIONAL INFORMATION REGARDING METHODS TO MEASURE THE VOC CONTENT SPECIFIED IN THIS TABLE, SEE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT RULE 1168.

TABLE 4.504.2 - SEALANT VOC LIMIT

(Less Water and Less Exempt Compounds in Grams per Liter)

SEALANTS	VOC LIMIT
ARCHITECTURAL	250
MARINE DECK	760
NONMEMBRANE ROOF	300
ROADWAY	250
SINGLE-PLY ROOF MEMBRANE	450
OTHER	420
SEALANT PRIMERS	
ARCHITECTURAL	
NON-POROUS	250
POROUS	775
MODIFIED BITUMINOUS	500
MARINE DECK	760
OTHER	750

TABLE 4.504.3 - VOC CONTENT LIMITS FOR ARCHITECTURAL COATINGS[2,3]

GRAMS OF VOC PER LITER OF COATING, LESS WATER & LESS EXEMPT COMPOUNDS

COATING CATEGORY	VOC LIMIT
FLAT COATINGS	50
NON-FLAT COATINGS	100
NONFLAT-HIGH GLOSS COATINGS	150
SPECIALTY COATINGS	
ALUMINUM ROOF COATINGS	400
BASEMENT SPECIALTY COATINGS	400
BITUMINOUS ROOF COATINGS	50
BITUMINOUS ROOF PRIMERS	350
BOND BREAKERS	350
CONCRETE CURING COMPOUNDS	350
CONCRETE/MASONRY SEALERS	100
DRIVEWAY SEALERS	50
DRY FOG COATINGS	150
FAUX FINISHING COATINGS	350
FIRE RESISTIVE COATINGS	350
FLOOR COATINGS	100
FORM-RELEASE COMPOUNDS	250
GRAPHIC ARTS COATINGS (SIGN PAINTS)	500
HIGH TEMPERATURE COATINGS	420
INDUSTRIAL MAINTENANCE COATINGS	250
LOW SOLIDS COATINGS[1]	120
MAGNESITE CEMENT COATINGS	450
MASTIC TEXTURE COATINGS	100
METALLIC PIGMENTED COATINGS	500
MULTICOLOR COATINGS	250
PRETREATMENT WASH PRIMERS	420
PRIMERS, SEALERS, & UNDERCOATERS	100
REACTIVE PENETRATING SEALERS	350
RECYCLED COATINGS	250
ROOF COATINGS	50
RUST PREVENTATIVE COATINGS	250
SHELLACS	
CLEAR	730
OPAQUE	550
SPECIALTY PRIMERS, SEALERS & UNDERCOATERS	100
STAINS	250
STONE CONSOLIDANTS	450
SWIMMING POOL COATINGS	340
TRAFFIC MARKING COATINGS	100
TUB & TILE REFINISH COATINGS	420
WATERPROOFING MEMBRANES	250
WOOD COATINGS	275
WOOD PRESERVATIVES	350
ZINC-RICH PRIMERS	340

1. GRAMS OF VOC PER LITER OF COATING, INCLUDING WATER & EXEMPT COMPOUNDS

2. THE SPECIFIED LIMITS REMAIN IN EFFECT UNLESS REVISED LIMITS ARE LISTED IN SUBSEQUENT COLUMNS IN THE TABLE.

3. VALUES IN THIS TABLE ARE DERIVED FROM THOSE SPECIFIED BY THE CALIFORNIA AIR RESOURCES BOARD, ARCHITECTURAL COATINGS SUGGESTED CONTROL MEASURE, FEB. 1, 2008. MORE INFORMATION IS AVAILABLE FROM THE AIR RESOURCES BOARD.

TABLE 4.504.5 - FORMALDEHYDE LIMITS[1]

MAXIMUM FORMALDEHYDE EMISSIONS IN PARTS PER MILLION

PRODUCT	CURRENT LIMIT
HARDWOOD PLYWOOD VENEER CORE	0.05
HARDWOOD PLYWOOD COMPOSITE CORE	0.05
PARTICLE BOARD	0.09
MEDIUM DENSITY FIBERBOARD	0.11
THIN MEDIUM DENSITY FIBERBOARD[2]	0.13

1. VALUES IN THIS TABLE ARE DERIVED FROM THOSE SPECIFIED BY THE CALIF. AIR RESOURCES BOARD, AIR TOXICS CONTROL MEASURE FOR COMPOSITE WOOD AS TESTED IN ACCORDANCE WITH ASTM E 1333. FOR ADDITIONAL INFORMATION, SEE CALIF. CODE OF REGULATIONS, TITLE 17, SECTIONS 93120 THROUGH 93120.12.

2. THIN MEDIUM DENSITY FIBERBOARD HAS A MAXIMUM THICKNESS OF 5/16" (8 MM).

DIVISION 4.5 ENVIRONMENTAL QUALITY (continued)

4.504.3 CARPET SYSTEMS. All carpet installed in the building interior shall meet the requirements of the California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers," Version 1.2, January 2017 (Emission testing method for California Specification 01350)

See California Department of Public Health's website for certification programs and testing labs.

https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/VOC.aspx.

4.504.3.1 Carpet cushion. All carpet cushion installed in the building interior shall meet the requirements of the California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers," Version 1.2, January 2017 (Emission testing method for California Specification 01350)

See California Department of Public Health's website for certification programs and testing labs.

https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/VOC.aspx.

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

4.504.4 RESILIENT FLOORING SYSTEMS. Where resilient flooring is installed , at least 80% of floor area receiving resilient flooring shall meet the requirements of the California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers," Version 1.2, January 2017 (Emission testing method for California Specification 01350)

See California Department of Public Health's website for certification programs and testing labs.

hhttps://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/VOC.aspx.

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

4.504.5.1 Documentation. Verification of compliance with this section shall be provided as requested by the enforcing agency. Documentation shall include at least one of the following:

1. Product certifications and specifications.
2. Chain of custody certifications.
3. Product labeled and invoiced as meeting the Composite Wood Products regulation (see CCR, Title 17, Section 93120, et seq.).
4. Exterior grade products marked as meeting the PS-1 or PS-2 standards of the Engineered Wood Association, the Australian AS/NZS 2269, European 636 3S standards, and Canadian CSA 0121, CSA 0151, CSA 0153 and CSA 0325 standards.
5. Other methods acceptable to the enforcing agency.

4.505 INTERIOR MOISTURE CONTROL

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

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

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

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

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

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

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

4.506 INDOOR AIR QUALITY AND EXHAUST

4.506.1 Bathroom exhaust fans. Each bathroom shall be mechanically ventilated and shall comply with the following:

1. Fans shall be ENERGY STAR compliant and be ducted to terminate outside the building.
2. Unless functioning as a component of a whole house ventilation system, fans must be controlled by a humidity control.
   a. Humidity controls shall be capable of adjustment between a relative humidity range less than or equal to 50% to a maximum of 80%. A humidity control may utilize manual or automatic means of adjustment.
   b. A humidity control may be a separate component to the exhaust fan and is not required to be integral (i.e., built-in)

Notes:

1. For the purposes of this section, a bathroom is a room which contains a bathtub, shower or tub/shower combination.
2. Lighting integral to bathroom exhaust fans shall comply with the *California Energy Code*.

4.507 ENVIRONMENTAL COMFORT

4.507.2 HEATING AND AIR-CONDITIONING SYSTEM DESIGN. Heating and air conditioning systems shall be sized, designed and have their equipment selected using the following methods:

1. The heat loss and heat gain is established according to ANSI/ACCA 2 Manual J - 2011 (Residential Load Calculation), ASHRAE handbooks or other equivalent design software or methods.
2. Duct systems are sized according to ANSI/ACCA 1 Manual D - 2014 (Residential Duct Systems), ASHRAE handbooks or other equivalent design software or methods.
3. Select heating and cooling equipment according to ANSI/ACCA 3 Manual S - 2014 (Residential Equipment Selection), or other equivalent design software or methods.

Exception: Use of alternate design temperatures necessary to ensure the system functions are acceptable.

CHAPTER 7
INSTALLER & SPECIAL INSPECTOR QUALIFICATIONS

702 QUALIFICATIONS

702.1 INSTALLER TRAINING. HVAC system installers shall be trained and certified in the proper installation of HVAC systems including ducts and equipment by a nationally or regionally recognized training or certification program. Uncertified persons may perform HVAC installations when under the direct supervision and responsibility of a person trained and certified to install HVAC systems or contractor licensed to install HVAC systems. Examples of acceptable HVAC training and certification programs include but are not limited to the following:

1. State certified apprenticeship programs.
2. Public utility training programs.
3. Training programs sponsored by trade, labor or statewide energy consulting or verification organizations.
4. Programs sponsored by manufacturing organizations.
5. Other programs acceptable to the enforcing agency.

702.2 SPECIAL INSPECTION [HCD]. When required by the enforcing agency, the owner or the responsible entity acting as the owner's agent shall employ one or more special inspectors to provide inspection or other duties necessary to substantiate compliance with this code. Special inspectors shall demonstrate competence to the satisfaction of the enforcing agency for the particular type of inspection or task to be performed. In addition to other certifications or qualifications acceptable to the enforcing agency, the following certifications or education may be considered by the enforcing agency when evaluating the qualifications of a special inspector:

1. Certification by a national or regional green building program or standard publisher.
2. Certification by a statewide energy consulting or verification organization, such as HERS raters, building performance contractors, and home energy auditors.
3. Successful completion of a third party apprentice training program in the appropriate trade.
4. Other programs acceptable to the enforcing agency.

Notes:

1. Special inspectors shall be independent entities with no financial interest in the materials or the project they are inspecting for compliance with this code.
2. HERS raters are special inspectors certified by the California Energy Commission (CEC) to rate homes in California according to the Home Energy Rating System (HERS).

[BSC] When required by the enforcing agency, the owner or the responsible entity acting as the owner's agent shall employ one or more special inspectors to provide inspection or other duties necessary to substantiate compliance with this code. Special inspectors shall demonstrate competence to the satisfaction of the enforcing agency for the particular type of inspection or task to be performed. In addition, the special inspector shall have a certification from a recognized state, national or international association, as determined by the local agency. The area of certification shall be closely related to the primary job function, as determined by the local agency.

Note: Special inspectors shall be independent entities with no financial interest in the materials or the project they are inspecting for compliance with this code.

703 VERIFICATIONS

703.1 DOCUMENTATION. Documentation used to show compliance with this code shall include but is not limited to, construction documents, plans, specifications, builder or installer certification, inspection reports, or other methods acceptable to the enforcing agency which demonstrate substantial conformance. When specific documentation or special inspection is necessary to verify compliance, that method of compliance will be specified in the appropriate section or identified applicable checklist.

DISCLAIMER: *THIS DOCUMENT IS PROVIDED AND INTENDED TO BE USED AS A MEANS TO INDICATE AREAS OF COMPLIANCE WITH THE CALIFORNIA GREEN BUILDING STANDARDS (CALGREEN) CODE. DUE TO THE VARIABLES BETWEEN BUILDING DEPARTMENT JURISDICTIONS, THIS CHECKLIST IS TO BE USED ON AN INDIVIDUAL PROJECT BASIS AND MAY BE MODIFIED BY THE END USER TO MEET THOSE INDIVIDUAL NEEDS. THE END USER ASSUMES ALL RESPONSIBILITY ASSOCIATED WITH THE USE OF THIS DOCUMENT, INCLUDING VERIFICATION WITH THE FULL CODE.*

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LICENSED ARCHITECT
KHACHIK C. PILIKYAN
C-39467
06.30.2027
RENEWAL DATE
STATE OF CALIFORNIA

#	DESCRIPTION	DATE
	PLAN CHECK 01	11.30.2025

2935 MAIDEN LN

2935 MAIDEN LN.
ALTADENA, CA 91001

PROJECT NO: 250415

SCALE:

DRAWING TITLE

CAL GREEN SHEET 2

DRAWING NO.

GRN-02

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GENERAL INFORMATION					
01	Project Name	2935 MAIDEN LN_SFD			
02	Run Title	Title 24 Analysis			
03	Project Location	2935 MAIDEN LN.			
04	City	ALTADENA	05	Standards Version	2022
06	Zip code	91001	07	Software Version	EnergyPro 9.4
08	Climate Zone	9	09	Front Orientation (deg/ Cardinal)	90
10	Building Type	Single family	11	Number of Dwelling Units	1
12	Project Scope	Newly Constructed	13	Number of Bedrooms	3
14	Addition Cond. Floor Area (ft^2)	0	15	Number of Stories	1
16	Existing Cond. Floor Area (ft^2)	n/a	17	Fenestration Average U-factor	0.3
18	Total Cond. Floor Area (ft^2)	2018.73	19	Glazing Percentage (%)	15.07%
20	ADU Bedroom Count	n/a	21	ADU Conditioned Floor Area	n/a
22	Fuel Type	Natural gas	23	No Dwelling Unit:	No

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.
03	This building incorporates one or more Special Features shown below

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ENERGY DESIGN RATINGS						
	Energy Design Ratings			Compliance Margins		
	Source Energy (EDR1)	Efficiency[1] EDR (EDR2efficiency)	Total[2] EDR (EDR2total)	Source Energy (EDR1)	Efficiency[1] EDR (EDR2efficiency)	Total[2] EDR (EDR2total)
Standard Design	32.1	41.6	28.7			
Proposed Design	31.1	39.1	27.2	1	2.5	1.5
RESULT[3]: PASS						

[1]Efficiency EDR includes improvements like a better building envelope and more efficient equipment
[2]Building complies when source energy, efficiency and total compliance margins are greater than or equal to zero and unmet load hour limits are not exceeded

- Standard Design PV Capacity: 2.71 kWdc

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ENERGY USE SUMMARY						
Energy Use	Standard Design Source Energy (EDR1) (kBtu/ft^2 -yr)	Standard Design TDV Energy (EDR2) (kTDV/ft^2 -yr)	Proposed Design Source Energy (EDR1) (kBtu/ft^2 -yr)	Proposed Design TDV Energy (EDR2) (kTDV/ft^2 -yr)	Margin (EDR1)	Margin (EDR2)
Space Heating	0.46	2.15	0.8	5.76	-0.34	-3.61
Space Cooling	0.97	24.3	0.66	21.47	0.31	2.83
IAQ Ventilation	0.34	3.6	0.34	3.6	0	0
Water Heating	1.16	12.15	0.89	8.83	0.27	3.32
Self Utilization/Flexibility Credit			0	0	0	0
Efficiency Compliance Total	**2.93**	**42.2**	**2.69**	**39.66**	**0.24**	**2.54**
Photovoltaics	-1.52	-44.71	-1.5	-44.99		
Battery			0	0		
Flexibility			0			
Indoor Lighting	0.7	6.63	0.7	6.63		
Appl. & Cooking	2.27	22.37	2.26	22.27		
Plug Loads	2.71	27.58	2.71	27.58		
Outdoor Lighting	0.19	1.64	0.19	1.64		
TOTAL COMPLIANCE	**7.28**	**55.71**	**7.05**	**52.79**		

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ENERGY USE INTENSITY				
	Standard Design (kBtu/ft^2 - yr)	Proposed Design (kBtu/ft^2 - yr)	Margin (kBtu/ft^2 - yr)	Margin Percentage
Gross EUI[1]	11.99	11.38	0.61	5.09
Net EUI[2]	4.18	3.57	0.61	14.59

Notes
1. Gross EUI is Energy Use Total (not including PV) / Total Building Area.
2. Net EUI is Energy Use Total (including PV) / Total Building Area.

REQUIRED PV SYSTEMS											
01	02	03	04	05	06	07	08	09	10	11	12
DC System Size (kWdc)	Exception	Module Type	Array Type	Power Electronics	CFI	Azimuth (deg)	Tilt Input	Array Angle (deg)	Tilt: (x in 12)	Inverter Eff. (%)	Annual Solar Access (%)
2.6	NA	Standard (14-17%)	Fixed	none	false	180	Degrees	22	4.85	96	100

REQUIRED SPECIAL FEATURES
The following are features that must be installed as condition for meeting the modeled energy performance for this computer analysis.
• Non-standard duct location (any location other than attic)
• Northwest Energy Efficiency Alliance (NEEA) rated heat pump water heater; specific brand/model, or equivalent, must be installed
• One or more heat pump water heaters have been modeled as demand response compatible

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HERS FEATURE SUMMARY
The following is a summary of the features that must be field-verified by a certified HERS Rater as a condition for meeting the modeled energy performance for this computer analysis. Additional detail is provided in the building tables below. Registered CF2Rs and CF3Rs are required to be completed in the HERS Registry
• Quality insulation installation (QII)
• Indoor air quality ventilation
• Kitchen range hood
• Minimum Airflow
• Verified EER/EER2
• Verified Refrigerant Charge
• Fan Efficacy Watts/CFM
• Verified HSPF2
• Verified heat pump rated heating capacity
• Duct leakage testing

BUILDING - FEATURES INFORMATION						
01	02	03	04	05	06	07
Project Name	Conditioned Floor Area (ft^2)	Number of Dwelling Units	Number of Bedrooms	Number of Zones	Number of Ventilation Cooling Systems	Number of Water Heating Systems
2935 MAIDEN LN_SFD	2018.73	1	3	1	0	1

ZONE INFORMATION						
01	02	03	04	05	06	07
Zone Name	Zone Type	HVAC System Name	Zone Floor Area (ft^2)	Avg. Ceiling Height	Water Heating System 1	Status
PROPOSED SFD	Conditioned	(N) A/C1	2018.73	8	DHW Sys 1	New

OPAQUE SURFACES							
01	02	03	04	05	06	07	08
Name	Zone	Construction	Azimuth	Orientation	Gross Area (ft^2)	Window and Door Area (ft2)	Tilt (deg)
N Wall	PROPOSED SFD	R-19 Wall	0	Right	560	91.97	90
E Wall	PROPOSED SFD	R-19 Wall	90	Front	160	56	90
S Wall	PROPOSED SFD	R-19 Wall	180	Left	200	51	90
W Wall	PROPOSED SFD	R-19 Wall	270	Back	40	0	90

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OPAQUE SURFACES							
01	02	03	04	05	06	07	08
Name	Zone	Construction	Azimuth	Orientation	Gross Area (ft^2)	Window and Door Area (ft2)	Tilt (deg)
W Wall 2	PROPOSED SFD	R-19 Wall	270	Back	140	19.32	90
W Wall 3	PROPOSED SFD	R-19 Wall	270	Back	130	56	90
S Wall 2	PROPOSED SFD	R-19 Wall	180	Left	24	0	90
S Wall 3	PROPOSED SFD	R-19 Wall	180	Left	160	30	90
ATTIC Roof	PROPOSED SFD	R-30 Roof Attic	n/a	n/a	418.73	n/a	n/a

OPAQUE SURFACES - CATHEDRAL CEILINGS										
01	02	03	04	05	06	07	08	09	10	11
Name	Zone	Construction	Azimuth	Orientation	Area (ft^2)	Skylight Area (ft^2)	Roof Rise (x in 12)	Roof Reflectance	Roof Emittance	Cool Roof
Roof	PROPOSED SFD	R-30 Roof No Attic	0	Right	1600	0	0.2	0.1	0.85	No

ATTIC							
01	02	03	04	05	06	07	08
Name	Construction	Type	Roof Rise (x in 12)	Roof Reflectance	Roof Emittance	Radiant Barrier	Cool Roof
Attic PROPOSED SFD	Attic RoofPROPOSED SFD	Ventilated	4	0.1	0.85	No	No

FENESTRATION / GLAZING													
01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Type	Surface	Orientation	Azimuth	Width (ft)	Height (ft)	Mult.	Area (ft^2)	U-factor	U-factor Source	SHGC	SHGC Source	Exterior Shading
Window-07	Window	N Wall	Right	0			1	9.66	0.3	NFRC	0.23	NFRC	Bug Screen
Window-06	Window	N Wall	Right	0			1	9.66	0.3	NFRC	0.23	NFRC	Bug Screen
Window-04	Window	N Wall	Right	0			1	12	0.3	NFRC	0.23	NFRC	Bug Screen

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Client:

Project Name:
2935 MAIDEN LN_SFD
2935 MAIDEN LN.
ALTADENA, CA 91001

Project Number:
75-251124-08
Date: 11/24/2025

TITLE 24 COMPLIANCE
T24.1

DRAWN BY:
MARAL RAHMANI

Engineering Planning Title 24
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FENESTRATION / GLAZING

01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Type	Surface	Orientation	Azimuth	Width (ft)	Height (ft)	Mult.	Area (ft^2)	U-factor	U-factor Source	SHGC	SHGC Source	Exterior Shading
Window-03	Window	N Wall	Right	0			1	35.33	0.3	NFRC	0.23	NFRC	Bug Screen
Window-02	Window	N Wall	Right	0			1	9.66	0.3	NFRC	0.23	NFRC	Bug Screen
Window-01	Window	N Wall	Right	0			1	9.66	0.3	NFRC	0.23	NFRC	Bug Screen
Window-05	Window	N Wall	Right	0			1	6	0.3	NFRC	0.23	NFRC	Bug Screen
Door-100	Window	E Wall	Front	90			1	35	0.3	NFRC	0.23	NFRC	Bug Screen
Door-101	Window	E Wall	Front	90			1	21	0.3	NFRC	0.23	NFRC	Bug Screen
Window-13	Window	S Wall	Left	180			1	6	0.3	NFRC	0.23	NFRC	Bug Screen
Window-12	Window	S Wall	Left	180			1	24	0.3	NFRC	0.23	NFRC	Bug Screen
Door-103	Window	S Wall	Left	180			1	21	0.3	NFRC	0.23	NFRC	Bug Screen
Window-09	Window	W Wall 2	Back	270			1	9.66	0.3	NFRC	0.23	NFRC	Bug Screen
Window-08	Window	W Wall 2	Back	270			1	9.66	0.3	NFRC	0.23	NFRC	Bug Screen
Door-104	Window	W Wall 3	Back	270			1	56	0.3	NFRC	0.23	NFRC	Bug Screen
Window-10	Window	S Wall 3	Left	180			1	24	0.3	NFRC	0.23	NFRC	Bug Screen
Window-11	Window	S Wall 3	Left	180			1	6	0.3	NFRC	0.23	NFRC	Bug Screen

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OPAQUE SURFACE CONSTRUCTIONS

01	02	03	04	05	06	07	08
Construction Name	Surface Type	Construction Type	Framing	Total Cavity R-value	Interior / Exterior Continuous R-value	U-factor	Assembly Layers
R-19 Wall	Exterior Walls	Wood Framed Wall	2x6 @ 16 in. O. C.	R-19	None / None	0.074	Inside Finish: Gypsum Board Cavity / Frame: R-19 in 5-1/2 in. (R-18) / 2x6 Exterior Finish: 3 Coat Stucco
R-30 Roof No Attic	Cathedral Ceilings	Wood Framed Ceiling	2x10 @ 16 in. O. C.	R-30	None / None	0.037	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: R-30 / 2x10 Inside Finish: Gypsum Board
Attic RoofPROPOSED SFD	Attic Roofs	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-0	None / 0	0.644	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: no insul. / 2x4
R-30 Roof Attic	Ceilings (below attic)	Wood Framed Ceiling	2x8 @ 16 in. O. C.	R-30	None / None	0.033	Over Ceiling Joists: R-11.2 insul. Cavity / Frame: R-18.9 / 2x8 Inside Finish: Gypsum Board

BUILDING ENVELOPE - HERS VERIFICATION

01	02	03	04	05
Quality Insulation Installation (QII)	High R-value Spray Foam Insulation	Building Envelope Air Leakage	CFM50	CFM50
Required	Not Required	N/A	n/a	n/a

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WATER HEATING SYSTEMS

01	02	03	04	05	06	07	08	09
Name	System Type	Distribution Type	Water Heater Name	Number of Units	Solar Heating System	Compact Distribution	HERS Verification	Water Heater Name (#)
DHW Sys 1	Domestic Hot Water (DHW)	Standard	DHW Heater 1	1	n/a	None	n/a	DHW Heater 1 (1)

WATER HEATERS - NEEA HEAT PUMP

01	02	03	04	05	06	07	08
Name	# of Units	Tank Vol. (gal)	NEEA Heat Pump Brand	NEEA Heat Pump Model	Tank Location	Duct Inlet Air Source	Duct Outlet Air Source
DHW Heater 1	1	40	Rheem	PROPH40 T2 RH37530 (40 gal, JA13)	Garage	PROPOSED SFD	PROPOSED SFD

WATER HEATING - HERS VERIFICATION

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

SPACE CONDITIONING SYSTEMS

01	02	03	04	05	06	07	08
Name	System Type	Heating Unit Name	Heating Equipment Count	Cooling Unit Name	Cooling Equipment Count	Fan Name	Distribution Name
(N) A/C1	Heat pump heating cooling	Heat Pump System 1	1	Heat Pump System 1	1	HVAC Fan 1	Air Distribution System 1

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HVAC - HEAT PUMPS

01	02	03	04	05	06	07	08	09	10	11	12	13
			Heating				Cooling					
Name	System Type	Number of Units	Heating Efficiency Type	HSPF/HSPF2/COP	Cap 47	Cap 17	Cooling Efficiency Type	SEER/SEER2	EER/EER2/CEER	Zonally Controlled	Compressor Type	HERS Verification
Heat Pump System 1	Central packaged HP	1	HSPF2	9	60000	50000	EER2SEER2	14	12.2	Not Zonal	Single Speed	Heat Pump System 1-hers-htpump

HVAC HEAT PUMPS - HERS VERIFICATION

01	02	03	04	05	06	07	08	09
Name	Verified Airflow	Airflow Target	Verified EER/EER2	Verified SEER/SEER2	Verified Refrigerant Charge	Verified HSPF/HSPF2	Verified Heating Cap 47	Verified Heating Cap 17
Heat Pump System 1-hers-htpump	Required	350	Required	Not Required	Yes	Yes	Yes	Yes

HVAC - DISTRIBUTION SYSTEMS

01	02	03	04	05	06	07	08	09	10	11	12
			Duct Ins. R-value		Duct Location		Surface Area				
Name	Type	Design Type	Supply	Return	Supply	Return	Supply	Return	Bypass Duct	Duct Leakage	HERS Verification
Air Distribution System 1	Outdoor locations	Non-Verified	R-8	R-8	Outside	Outside	n/a	n/a	No Bypass Duct	Sealed and Tested	Air Distribution System 1-hers-dist

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HVAC DISTRIBUTION - HERS VERIFICATION

01	02	03	04	05	06	07	08	09
Name	Duct Leakage Verification	Duct Leakage Target (%)	Verified Duct Location	Verified Duct Design	Buried Ducts	Deeply Buried Ducts	Low-leakage Air Handler	Low Leakage Ducts Entirely in Conditioned Space
Air Distribution System 1-hers-dist	Yes	5.0	Not Required	Not Required	Not Required	Credit not taken	Not Required	No

HVAC - FAN SYSTEMS

01	02	03	04
Name	Type	Fan Power (Watts/CFM)	Name
HVAC Fan 1	HVAC Fan	0.25	HVAC Fan 1-hers-fan

HVAC FAN SYSTEMS - HERS VERIFICATION

01	02	03
Name	Verified Fan Watt Draw	Required Fan Efficacy (Watts/CFM)
HVAC Fan 1-hers-fan	Required	0.25

INDOOR AIR QUALITY (IAQ) FANS

01	02	03	04	05	06	07	08	09
Dwelling Unit	Airflow (CFM)	Fan Efficacy (W/CFM)	IAQ Fan Type	Includes Heat/Energy Recovery?	IAQ Recovery Effectiveness - SRE/ASRE	Includes Fault Indicator Display?	HERS Verification	Status
SFam IAQVentRpt	89	0.35	Exhaust	No	n/a / n/a	No	Yes	

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DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Maral Rahmani	Documentation Author Signature: Maral Rahmani
Company: Title24 Experts	Signature Date: 11/25/2025
Address: 23882 Mariano St.	CEA/ HERS Certification Identification (If applicable):
City/State/Zip: Woodland Hills, CA 91306	Phone: 3105044878

RESPONSIBLE PERSON'S DECLARATION STATEMENT

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

Responsible Designer Name: Maral Rahmani	Responsible Designer Signature: Maral Rahmani
Company: Title24 Experts	Date Signed: 11/25/2025
Address: 23882 Mariano St.	License: M-35134
City/State/Zip: Woodland Hills, CA 91306	Phone: 3105044878

Digitally signed by California Home Energy Efficiency Rating Services (CHEERS). 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.

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Maral Rahmani

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DESIGNER:
Studio KPA, Inc
500 N Brand Blvd, Suite 2000
Glendale, CA 91203
310.853.3616

Project Name:

2935 MAIDEN LN_SFD
2935 MAIDEN LN.
ALTADENA, CA 91001

Project Number:
75-251124-08
Date: 11/24/2025

TITLE 24 COMPLIANCE

T24.2

DRAWN BY:
MARAL RAHMANI

Engineering Planning Title 24
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BUILDING ENERGY ANALYSIS REPORT

PROJECT:

2935 MAIDEN LN_SFD
2935 MAIDEN LN.
ALTADENA, CA 91001

Project Designer:

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500 N Brand Blvd, Suite 2000
Glendale, CA 91203
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Report Prepared by:

Maral Rahmani

Woodland Hills, CA 91367
818-561-9333

Job Number:

75-251124-08

Date:

11/25/2025

The EnergyPro computer program has been used to perform the calculations summarized in this compliance report. This program has approval and is authorized by the California Energy Commission for use with both the Residential and Nonresidential 2022 Building Energy Efficiency Standards.

This program developed by EnergySoft, LLC – www.energysoft.com.

RESIDENTIAL MEASURES SUMMARY — RMS-1

Project Name	Building Type			Date
2935 MAIDEN LN_SFD	☑ Single Family ☐ Multi Family	☐ Addition Alone ☐ Existing+ Addition/Alteration		11/25/2025
Project Address	**California Energy Climate Zone**	**Total Cond. Floor Area**	**Addition**	**# of Units**
2935 MAIDEN LN. ALTADENA	CA Climate Zone 09	2,019	n/a	1

INSULATION

Construction	Type	Cavity	Area (ft^2)	Special Features	Status
Wall	Wood Framed	R 19	1,110		New
Roof	Wood Framed Rafter	R 30	1,600		New
Roof	Wood Framed Attic	R 30	419		New

FENESTRATION — Total Area: 304 | Glazing Percentage: 15.1% | New/Altered Average U-Factor: 0.30

Orientation	Area (ft^2)	U-Fac	SHGC	Overhang	Sidefins	Exterior Shades	Status
Right (N)	92.0	0.300	0.23	none	none	N/A	New
Front (E)	56.0	0.300	0.23	none	none	N/A	New
Left (S)	60.0	0.300	0.23	none	none	N/A	New
Left (S)	21.0	0.300	0.23	none	none	N/A	New
Rear (W)	19.3	0.300	0.23	none	none	N/A	New
Rear (W)	56.0	0.300	0.23	none	none	N/A	New

HVAC SYSTEMS

Qty.	Heating	Min. Eff	Cooling	Min. Eff	Thermostat	Status
1	Electric Heat Pump	9.00 HSPF2	Packaged Heat Pump	14.0 SEER2	Setback	New

HVAC DISTRIBUTION

Location	Heating	Cooling	Duct Location	Duct R-Value	Status
(N) A/C	Ducted	Ducted	Outdoors	8.0	New

WATER HEATING

Qty.	Type	Gallons	Min. Eff	Distribution	Status
1	Heat Pump	40	3.10	Standard	New

5/6/22

2022 Single-Family Residential Mandatory Requirements Summary

NOTE: Single-family residential buildings subject to the Energy Codes must comply with all applicable mandatory measures, regardless of the compliance approach used. Review the respective section for more information. (04/2022)

Building Envelope:

§ 110.6(a)1:	**Air Leakage.** Manufactured fenestration, exterior doors, and exterior pet doors must limit air leakage to 0.3 CFM per square foot or less when tested per NFRC-400, ASTM E283, or AAMA/WDMA/CSA 101/I.S.2/A440-2011. *
§ 110.6(a)5:	**Labeling.** Fenestration products and exterior doors must have a label meeting the requirements of § 10-111(a).
§ 110.6(b):	**Field fabricated exterior doors and fenestration** products must use U-factors and solar heat gain coefficient (SHGC) values from Tables 110.6-A, 110.6-B, or JA4.5 for exterior doors. They must be caulked and/or weather-stripped.
§ 110.7:	**Air Leakage.** All joints, penetrations, and other openings in the building envelope that are potential sources of air leakage must be caulked, gasketed, or weather stripped.
§ 110.8(a):	**Insulation Certification by Manufacturers.** Insulation must be certified by the Department of Consumer Affairs, Bureau of Household Goods and Services (BHGS).
§ 110.8(g):	**Insulation Requirements for Heated Slab Floors.** Heated slab floors must be insulated per the requirements of § 110.8(g).
§ 110.8(i):	**Roofing Products Solar Reflectance and Thermal Emittance.** The thermal emittance and aged solar reflectance values of the roofing material must meet the requirements of § 110.8(i) and be labeled per §10-113 when the installation of a cool roof is specified on the CF1R.
§ 110.8(j):	**Radiant Barrier.** When required, radiant barriers must have an emittance of 0.05 or less and be certified to the Department of Consumer Affairs.
§ 150.0(a):	**Roof Deck, Ceiling and Rafter Roof Insulation.** Roof decks in newly constructed attics in climate zones 4 and 8-16 area-weighted average U-factor not exceeding U-0.184. Ceiling and rafter roofs minimum R-22 insulation in wood-frame ceiling; or area-weighted average U-factor must not exceed 0.043. Rafter roof alterations minimum R-19 or area-weighted average U-factor of 0.054 or less. Attic access doors must have permanently attached insulation using adhesive or mechanical fasteners. The attic access must be gasketed to prevent air leakage. Insulation must be installed in direct contact with a roof or ceiling which is sealed to limit infiltration and exfiltration, as specified in § 110.7, including but not limited to placing insulation either above or below the roof deck or on top of a drywall ceiling.
§ 150.0(b):	**Loose-fill Insulation.** Loose fill insulation must meet the manufacturer's required density for the labeled R-value.
§ 150.0(c):	**Wall Insulation.** Minimum R-13 insulation in 2x4 inch wood framing wall or have a U-factor of 0.102 or less, or R-20 in 2x6 inch wood framing or have a U-factor of 0.071 or less. Opaque non-framed assemblies must have an overall assembly U-factor not exceeding 0.102. Masonry walls must meet Tables 150.1-A or B. *
§ 150.0(d):	**Raised-floor Insulation.** Minimum R-19 insulation in raised wood framed floor or 0.037 maximum U-factor. *
§ 150.0(f):	**Slab Edge Insulation.** Slab edge insulation must meet all of the following: have a water absorption rate, for the insulation material alone without facings, no greater than 0.3 percent; have a water vapor permeance no greater than 2.0 perm per inch, be protected from physical damage and UV light deterioration; and, when installed as part of a heated slab floor, meet the requirements of § 110.8(g).
§ 150.0(g)1:	**Vapor Retarder.** In climate zones 1 through 16, the earth floor of unvented crawl space must be covered with a Class I or Class II vapor retarder. This requirement also applies to controlled ventilation crawl space for buildings complying with the exception to §150.0(d).
§ 150.0(g)2:	**Vapor Retarder.** In climate zones 14 and 16, a Class I or Class II vapor retarder must be installed on the conditioned space side of all insulation in all exterior walls, vented attics, and unvented attics with air-permeable insulation.
§ 150.0(q):	**Fenestration Products.** Fenestration, including skylights, separating conditioned space from unconditioned space or outdoors must have a maximum U-factor of 0.45; or area-weighted average U-factor of all fenestration must not exceed 0.45. *

Fireplaces, Decorative Gas Appliances, and Gas Log:

§ 110.5(e)	**Pilot Light.** Continuously burning pilot lights are not allowed for indoor and outdoor fireplaces.
§ 150.0(e)1:	**Closable Doors.** Masonry or factory-built fireplaces must have a closable metal or glass door covering the entire opening of the firebox.
§ 150.0(e)2:	**Combustion Intake.** Masonry or factory-built fireplaces must have a combustion outside air intake, which is at least six square inches in area and is equipped with a readily accessible, operable, and tight-fitting damper or combustion-air control device. *
§ 150.0(e)3:	**Flue Damper.** Masonry or factory-built fireplaces must have a flue damper with a readily accessible control. *

Space Conditioning, Water Heating, and Plumbing System:

§ 110.0-§ 110.3:	**Certification.** Heating, ventilation, and air conditioning (HVAC) equipment, water heaters, showerheads, faucets, and all other regulated appliances must be certified by the manufacturer to the California Energy Commission.
§ 110.2(a):	**HVAC Efficiency.** Equipment must meet the applicable efficiency requirements in Table 110.2-A through Table 110.2-N. *
§ 110.2(b):	**Controls for Heat Pumps with Supplementary Electric Resistance Heaters.** Heat pumps with supplementary electric resistance heaters must have controls that prevent supplementary heater operation when the heating load can be met by the heat pump alone; and in which the cut-on temperature for compression heating is higher than the cut-on temperature for supplementary heating, and the cut-off temperature for compression heating is higher than the cut-off temperature for supplementary heating.
§ 110.2(c):	**Thermostats.** All heating or cooling systems not controlled by a central energy management control system (EMCS) must have a setback thermostat. *
§ 110.3(c)3:	**Insulation.** Unfired service water heater storage tanks and solar water-heating backup tanks must have adequate insulation, or tank surface heat loss rating.
§ 110.3(c)6:	**Isolation Valves.** Instantaneous water heaters with an input rating greater than 6.8 kBtu per hour (2 kW) must have isolation valves with hose bibbs or other fittings on both cold and hot water lines to allow for flushing the water heater when the valves are closed.

5/6/22

2022 Single-Family Residential Mandatory Requirements Summary

§ 110.5:	**Pilot Lights.** Continuously burning pilot lights are prohibited for natural gas: fan-type central furnaces; household cooking appliances (except appliances without an electrical supply voltage connection with pilot lights that consume less than 150 Btu per hour); and pool and spa heaters.
§ 150.0(h)1:	**Building Cooling and Heating Loads.** Heating and/or cooling loads are calculated in accordance with the ASHRAE Handbook, Equipment Volume, Applications Volume, and Fundamentals Volume; the SMACNA Residential Comfort System Installation Standards Manual; or the ACCA Manual J using design conditions specified in § 150.0(h)2.
§ 150.0(h)3A:	**Clearances.** Air conditioner and heat pump outdoor condensing units must have a clearance of at least five feet from the outlet of any dryer.
§ 150.0(h)3B:	**Liquid Line Drier.** Air conditioners and heat pump systems must be equipped with liquid line filter driers if required, as specified by the manufacturer's instructions.
§ 150.0(j)1:	**Water Piping, Solar Water-heating System Piping, and Space Conditioning System Line Insulation.** All domestic hot water piping must be insulated as specified in § 609.11 of the California Plumbing Code. *
§ 150.0(j)2:	**Insulation Protection.** Piping insulation must be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind as required by §120.3(b). Insulation exposed to weather must be water retardant and protected from UV light (no adhesive tapes). Insulation covering chilled water piping and refrigerant suction piping located outside the conditioned space must include, or be protected by, a Class I or Class II vapor retarder. Pipe insulation buried below grade must be installed in a waterproof and non-crushable casing or sleeve.
§ 150.0(n)1:	**Gas or Propane Water Heating Systems.** Systems using gas or propane water heaters to serve individual dwelling units must designate a space at least 2.5' x 2.5' x 7' suitable for the future installation of a heat pump water heater, and meet electrical and plumbing requirements, based on the distance between this designated space and the water heater location, and a condensate drain no more than 2" higher than the base of the water heater
§ 150.0(n)3:	**Solar Water-heating Systems.** Solar water-heating systems and collectors must be certified and rated by the Solar Rating and Certification Corporation (SRCC), the International Association of Plumbing and Mechanical Officials, Research and Testing (IAPMO R&T), or by a listing agency that is approved by the executive director.

Ducts and Fans:

§ 110.8(d)3:	**Ducts.** Insulation installed on an existing space-conditioning duct must comply with § 604.0 of the California Mechanical Code (CMC). If a contractor installs the insulation, the contractor must certify to the customer, in writing, that the insulation meets this requirement.
§ 150.0(m)1:	**CMC Compliance.** All air-distribution system ducts and plenums must meet CMC §§ 601.0-605.0 and ANSI/SMACNA-006-2006 HVAC Duct Construction Standards Metal and Flexible 3rd Edition. Portions of supply-air and return-air ducts and plenums must be insulated to R-6.0 or higher; ducts located entirely in conditioned space as confirmed through field verification and diagnostic testing (RA3.1.4.3.8) do not require insulation. Connections of metal ducts and inner core of flexible ducts must be mechanically fastened. Openings must be sealed with mastic, tape, or other duct-closure system that meets the applicable UL requirements, or aerosol sealant that meets UL 723. The combination of mastic and either mesh or tape must be used to seal openings greater than ¼", If mastic or tape is used. Building cavities, air handler support platforms, and plenums designed or constructed with materials other than sealed sheet metal, duct board or flexible duct must not be used to convey conditioned air. Building cavities and support platforms may contain ducts; ducts installed in these spaces must not be compressed. *
§ 150.0(m)2:	**Factory-Fabricated Duct Systems.** Factory-fabricated duct systems must comply with applicable requirements for duct construction, connections, and closures; joints and seams of duct systems and their components must not be sealed with cloth back rubber adhesive duct tapes unless such tape is used in combination with mastic and draw bands.
§ 150.0(m)3:	**Field-Fabricated Duct Systems.** Field-fabricated duct systems must comply with applicable requirements for: pressure-sensitive tapes, mastics, sealants, and other requirements specified for duct construction.
§ 150.0(m)7:	**Backdraft Damper.** Fan systems that exchange air between the conditioned space and outdoors must have backdraft or automatic dampers.
§ 150.0(m)8:	**Gravity Ventilation Dampers.** Gravity ventilating systems serving conditioned space must have either automatic or readily accessible, manually operated dampers in all openings to the outside, except combustion inlet and outlet air openings and elevator shaft vents.
§ 150.0(m)9:	**Protection of Insulation.** Insulation must be protected from damage due tosunlight, moisture, equipment maintenance, and wind. Insulation exposed to weather must be suitable for outdoor service (e.g., protected by aluminum, sheet metal, painted canvas, or plastic cover). Cellular foam insulation must be protected as above or painted with a water retardant and solar radiation-resistant coating.
§ 150.0(m)10:	**Porous Inner Core Flex Duct.** Porous inner cores of flex ducts must have a non-porous layer or air barrier between the inner core and outer vapor barrier.
§ 150.0(m)11:	**Duct System Sealing and Leakage Test.** When space conditioning systems use forced air duct systems to supply conditioned air to an occupiable space, the ducts must be sealed and duct leakage tested, as confirmed through field verification and diagnostic testing, in accordance with Reference Residential Appendix RA3.1.
§ 150.0(m)12:	**Air Filtration.** Space conditioning systems with ducts exceeding 10 feet and the supply side of ventilation systems must have MERV 13 or equivalent filters. Filters for space conditioning systems must have a two inch depth or can be one inch if sized per Equation 150.0-A. Clean-filter pressure drop and labeling must meet the requirements in §150.0(m)12. Filters must be accessible for regular service. Filter racks or grilles must use gaskets, sealing, or other means to close gaps around the inserted filters to and prevents air from bypassing the filter. *

5/6/22

2022 Single-Family Residential Mandatory Requirements Summary

§ 150.0(m)13:	**Space Conditioning System Airflow Rate and Fan Efficacy.** Space conditioning systems that use ducts to supply cooling must have a hole for the placement of a static pressure probe, or a permanently installed static pressure probe in the supply plenum. Airflow must be ≥ 350 CFM per ton of nominal cooling capacity, and an air-handling unit fan efficacy ≤ 0.45 watts per CFM for gas furnace air handlers and ≤ 0.58 watts per CFM for all others. Small duct high velocity systems must provide an airflow ≥ 250 CFM per ton of nominal cooling capacity, and an air-handling unit fan efficacy ≤ 0.62 watts per CFM. Field verification testing is required in accordance with Reference Residential Appendix RA3.3. *

Ventilation and Indoor Air Quality:

§ 150.0(o)1:	**Requirements for Ventilation and Indoor Air Quality**. All dwelling units must meet the requirements of ASHRAE Standard 62.2, Ventilation and Acceptable Indoor Air Quality in Residential Buildings subject to the amendments specified in § 150.0(o)1. *
§ 150.0(o)1B:	**Central Fan Integrated (CFI) Ventilation Systems**. Continuous operation of CFI air handlers is not allowed to provide the whole-dwelling unit ventilation airflow required per §150.0(o)1C. A motorized damper(s) must be installed on the ventilation duct(s) that prevents all airflow through the space conditioning duct system when the damper(s) is closed andcontrolled per §150.0(o)1Biii&iv. CFI ventilation systems must have controls that track outdoor air ventilation run time, and either open or close the motorized damper(s) for compliance with §150.0(o)1C.
§ 150.0(o)1C:	**Whole-Dwelling Unit Mechanical Ventilation for Single-Family Detached and townhouses** . Single-family detached dwelling units, and attached dwelling units not sharing ceilings or floors with other dwelling units, occupiable spaces, public garages, or commercial spaces must have mechanical ventilation airflow specified in § 150.0(o)1Ci-iii.
§ 150.0(o)1G:	**Local Mechanical Exhaust.** Kitchens and bathrooms must have local mechanical exhaust; nonenclosed kitchens must have demand-controlled exhaust system meeting requirements of §150.0(o)1Giii,enclosed kitchens and bathrooms can use demand-controlled or continuous exhaust meeting §150.0(o)1Giii-iv. Airflow must be measured by the installer per §150.0(o)1Gv, and rated for sound per §150.0(o)1Gvi. *
§ 150.0(o)1H&I:	**Airflow Measurement and Sound Ratings of Whole-Dwelling Unit Ventilation Systems.** The airflow required per § 150.0(o)1C must be measured by using a flow hood, flow grid, or other airflow measuring device at the fan's inlet or outlet terminals/grilles per Reference Residential Appendix RA3.7. Whole-Dwelling unit ventilation systems must be rated for sound per ASHRAE 62.2 §7.2 at no less than the minimum airflow rate required by §150.0(o)1C.
§ 150.0(o)2:	**Field Verification and Diagnostic Testing.** Whole-Dwelling Unit ventilation airflow, vented range hood airflow and sound rating, and HRV and ERV fan efficacy must be verified in accordance with Reference Residential Appendix RA3.7. Vented range hoods must be verified per Reference Residential Appendix RA3.7.4.3 to confirm if it is rated by HVI or AHAM to comply with the airflow rates and sound requirements per §150.0(o)1G

Pool and Spa Systems and Equipment:

§ 110.4(a):	**Certification by Manufacturers.** Any pool or spa heating system or equipment must be certified to have all of the following: compliance with the Appliance Efficiency Regulations and listing in MAEDbS, an on-off switch mounted outside of the heater that allows shutting off the heater without adjusting the thermostat setting, a permanent weatherproof plate or card with operating instructions, and must not use electric resistance heating. *
§ 110.4(b)1:	**Piping.** Any pool or spa heating system or equipment must be installed with at least 36 inches of pipe between the filter and the heater, or dedicated suction and return lines, or built-in or built-up connections to allow for future solar heating.
§ 110.4(b)2:	**Covers.** Outdoor pools or spas that have a heat pump or gas heater must have a cover.
§ 110.4(b)3:	**Directional Inlets and Time Switches for Pools.** Pools must have directional inlets that adequately mix the pool water, and a time switch that will allow all pumps to be set or programmed to run only during off-peak electric demand periods.
§ 110.5:	**Pilot Light.** Natural gas pool and spa heaters must not have a continuously burning pilot light.
§ 150.0(p):	**Pool Systems and Equipment Installation.** Residential pool systems or equipment must meet the specified requirements for pump sizing, flow rate, piping, filters, and valves. *

Lighting:

§ 110.9:	**Lighting Controls and Components.** All lighting control devices and systems, ballasts, and luminaires must meet the applicable requirements of § 110.9. *
§ 150.0(k)1A:	**Luminaire Efficacy.** All installed luminaires must meet the requirements in Table 150.0-A, except lighting integral to exhaust fans, kitchen range hoods, bath vanity mirrors, and garage door openers; navigation lighting less than 5 watts; and lighting internal to drawers, cabinets, and linen closets with an efficacy of at least 45 lumens per watt.
§ 150.0(k)1B:	**Screw based luminaires.** Screw based luminaires must contain lamps that comply with Reference Joint Appendix JA8. *
§ 150.0(k)1C:	**Recessed Downlight Luminaires in Ceilings.** Luminaires recessed into ceilings must not contain screw based sockets, must be airtight, and must be sealed with a gasket or caulk. California Electrical Code § 410.116 must also be met.
§ 150.0(k)1D:	**Light Sources in Enclosed or Recessed Luminaires.** Lamps and other separable light sources that are not compliant with the JA8 elevated temperature requirements, including marking requirements, must not be installed in enclosed or recessed luminaires.
§ 150.0(k)1E:	**Blank Electrical Boxes.** The number of electrical boxes that are more than five feet above the finished floor and do not contain a luminaire or other device shall be no more than the number of bedrooms. These boxes must be served by a dimmer, vacancy sensor control, low voltage wiring, or fan speed control.
§ 150.0(k)1F:	**Lighting Integral to Exhaust Fans.** Lighting integral to exhaust fans (except when installed by the manufacturer in kitchen exhaust hoods) must meet the applicable requirements of § 150.0(k). *

5/6/22

2022 Single-Family Residential Mandatory Requirements Summary

§ 150.0(k)1G:	**Screw based luminaires.** Screw based luminaires must contain lamps that comply with Reference Joint Appendix JA8. *
§ 150.0(k)1H:	**Light Sources in Enclosed or Recessed Luminaires.** Lamps and other separable light sources that are not compliant with the JA8 elevated temperature requirements, including marking requirements, must not be installed in enclosed or recessed luminaires.
§ 150.0(k)1I:	**Light Sources in Drawers, Cabinets, and Linen Closets.** Light sources internal to drawers, cabinetry or linen closets are not required to comply with Table 150.0-A or be controlled by vacancy sensors provided that they are rated to consume no more than 5 watts of power, emit no more than 150 lumens, and are equipped with controls that automatically turn the lighting off when the drawer, cabinet or linen closet is closed.
§ 150.0(k)2A:	**Interior Switches and Controls.** All forward phase cut dimmers used with LED light sources must comply with NEMA SSL 7A.
§ 150.0(k)2B:	**Interior Switches and Controls.** Exhaust fans must be controlled separately from lighting systems. *
§ 150.0(k)2A:	**Accessible Controls.** Lighting must have readily accessible wall-mounted controls that allow the lighting to be manually turned on and off. *
§ 150.0(k)2B:	**Multiple Controls.** Controls must not bypass a dimmer, occupant sensor, or vacancy sensor function if the dimmer or sensor is installed to comply with § 150.0(k).
§ 150.0(k)2C:	**Mandatory Requirements.** Lighting controls must comply with the applicable requirements of § 110.9.
§ 150.0(k)2D:	**Energy Management Control Systems.** An energy management control system (EMCS) may be used to comply with dimming, occupancy, and control requirements if it provides the functionality of the specified control per § 110.9 and the physical controls specified in § 150.0(k)2A.
§ 150.0(k)2E:	**Automatic Shutoff Controls.** In bathrooms, garages, laundry rooms, utility rooms and walk-in closets, at least one installed luminaire must be controlled by an occupancy or vacancy sensor providing automatic-off functionality. Lighting inside drawers and cabinets with opaque fronts or doors must have controls that turn the light off when the drawer or door is closed.
§ 150.0(k)2F:	**Dimmers.** Lighting in habitable spaces (e.g., living rooms, dining rooms, kitchens, and bedrooms) must have readily accessible wall-mounted dimming controls that allow the lighting to be manually adjusted up and down. Forward phase cut dimmers controlling LED light sources in these spaces must comply with NEMA SSL 7A.
§ 150.0(k)2K:	**Independent controls.** Integrated lighting of exhaust fans shall be controlled independently from the fans. Lighting under cabinets or shelves, lighting in display cabinets, and switched outlets must be controlled separately from ceiling-installed lighting.
§ 150.0(k)3A:	**Residential Outdoor Lighting.** For single-family residential buildings, outdoor lighting permanently mounted to a residential building, or to other buildings on the same lot, must have a manual on/off switch and either a photocell and motion sensor or automatic time switch control) or an astronomical time clock. An energy management control system that provides the specified control functionality and meets all applicable requirements may be used to meet these requirements.
§ 150.0(k)4:	**Internally illuminated address signs.** Internally illuminated address signs must either comply with § 140.8 or consume no more than 5 watts of power.
§ 150.0(k)5:	**Residential Garages for Eight or More Vehicles.** Lighting for residential parking garages for eight or more vehicles must comply with the applicable requirements for nonresidential garages in §§ 110.9, 130.0, 130.1, 130.4, 140.6, and 141.0.

Solar Readiness:

§ 110.10(a)1:	**Single-family Residences.** Single-family residences located in subdivisions with 10 or more single-family residences and where the application for a tentative subdivision map for the residences has been deemed complete and approved by the enforcement agency, which do not have a photovoltaic system installed, must comply with the requirements of § 110.10(b)-(e).
§110.10(b)1A:	**Minimum Solar Zone Area.** The solar zone must have a minimum total area as described below. The solar zone must comply with access, pathway, smoke ventilation, and spacing requirements as specified in Title 24, Part 9 or other parts of Title 24 or in any requirements adopted by a local jurisdiction. The solar zone total area must be comprised of areas that have no dimension less than 5 feet and are no less than 80 square feet each for buildings with roof areas less than or equal to 10,000 square feet or no less than 160 square feet each for buildings with roof areas greater than 10,000 square feet. For single-family residences, the solar zone must be located on the roof or overhang of the building and have a total area no less than 250 square feet. *
§ 110.10(b)2:	**Azimuth.** All sections of the solar zone located on steep-sloped roofs must have an azimuth between 90-300° of true north.
§ 110.10(b)3A:	**Shading.** The solar zone must not contain any obstructions, including but not limited to: vents, chimneys, architectural features, and roof mounted equipment.
§ 110.10(b)3B:	**Shading.** Any obstruction located on the roof or any other part of the building that projects above a solar zone must be located at least twice the horizontal distance of the height difference between the highest point of the obstruction and the horizontal projection of the nearest point of the solar zone, measured in the vertical plane. *
§ 110.10(b)4:	**Structural Design Loads on Construction Documents.** For areas of the roof designated as a solar zone, the structural design loads for roof dead load and roof live load must be clearly indicated on the construction documents.
§ 110.10(c):	**Interconnection Pathways.** The construction documents must indicate: a location reserved for inverters and metering equipment and a pathway reserved for routing of conduit from the solar zone to the point of interconnection with the electrical service; and for single-family residences and central water-heating systems, a pathway reserved for routing plumbing from the solar zone to the water-heating system.
§ 110.10(d):	**Documentation.** A copy of the construction documents or a comparable document indicating the information from § 110.10(b)-(c) must be provided to the occupant.
§ 110.10(e)1:	**Main Electrical Service Panel.** The main electrical service panel must have a minimum busbar rating of 200 amps.
§ 110.10(e)2:	**Main Electrical Service Panel.** The main electrical service panel must have a reserved space to allow for the installation of a double pole circuit breaker for a future solar electric installation. The reserved space must be permanently marked as "For Future Solar Electric."

Electric and Energy Storage Ready:

5/6/22

2022 Single-Family Residential Mandatory Requirements Summary

§ 150.0(s)	**Energy Storage System (ESS) Ready.** All single-family residences must meet all of the following: Either ESS-ready interconnection equipment with backed up capacity of 60 amps or more and four or more ESS supplied branch circuits, or a dedicated raceway from the main service to a subpanel that supplies the branch circuits in § 150.0(s), at least four branch circuits must be identified and have their source collocated at a single panelboard suitable to be supplied by the ESS, with one circuit supplying the refrigerator, one lighting circuit near the primary exit, and one circuit supplying a sleeping room receptacle outlet; main panelboard must have a minimum busbar rating of 225 amps; sufficient space must be reserved to allow future installation of a system isolation equipment/transfer switch within 3' of the main panelboard, with raceways installed between the panelboard and the switch location to allow the connection of backup power source.
§ 150.0(t)	**Heat Pump Space Heater Ready.** Systems using gas or propane furnaces to serve individual dwelling units must include: A dedicated unobstructed 240V branch circuit wiring installed within 3' of the furnace with circuit conductors rated at least 30 amps with the blank cover identified as "240V ready," and a reserved main electrical service panel space to allow for the installation of a double pole circuit breaker permanently marked as "For Future 240V use."
§ 150.0(u)	**Electric Cooktop Ready.** Systems using gas or propane cooktop to serve individual dwelling units must include: A dedicated unobstructed 240V branch circuit wiring installed within 3' of the cooktop with circuit conductors rated at least 50 amps with the blank cover identified as "240V ready," and a reserved main electrical service panel space to allow for the installation of a double pole circuit breaker permanently marked as "For Future 240V use."
§ 150.0(v)	**Electric Clothes Dryer Ready.** Clothes dryer locations with gas or propane plumbing to serve individual dwelling units must include: A dedicated unobstructed 240V branch circuit wiring installed within 3' of the dryer location with circuit conductors rated at least 30 amps with the blank cover identified as "240V ready," and a reserved main electrical service panel space to allow for the installation of a double pole circuit breaker permanently marked as "For Future 240V use."

*Exceptions may apply.

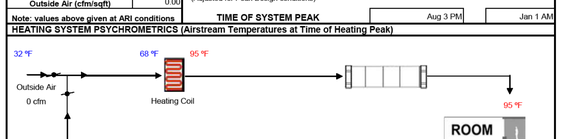
5/6/22

HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY

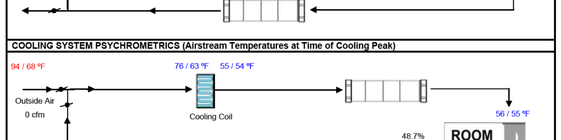
Project Name		Date
2935 MAIDEN LN_SFD		11/25/2025
System Name		**Floor Area**
(N) A/C		2,019

ENGINEERING CHECKS		SYSTEM LOAD	COIL COOLING PEAK		COIL HTG. PEAK	
			CFM	Sensible	CFM	Sensible
Number of Systems	1					
Heating System						
Output per System	60,000	**Total Room Loads**	760	15,246	413	11,361
Total Output (Btuh)	60,000	**Return Vented Lighting**		0		
Output (Btuh/sqft)	29.7	**Return Air Ducts**		614		420
Cooling System		**Return Fan**		0		0
Output per System	60,000	**Ventilation**	0	0	0	0
Total Output (Btuh)	60,000	**Supply Fan**		0		0
Total Output (Tons)	5.0	**Supply Air Ducts**		614		420
Total Output (Btuh/sqft)	29.7					
Total Output (sqft/Ton)	403.7	**TOTAL SYSTEM LOAD**		16,473	680	12,201
Air System						
CFM per System	0	**HVAC EQUIPMENT SELECTION**				
Airflow (cfm)	0	Standard Heat Pump		56,395	0	43,758
Airflow (cfm/sqft)	0.00					
Airflow (cfm/Ton)	0.0					
Outside Air (%)	0.0%	**Total Adjusted System Output** (Adjusted for Peak Design conditions)		56,395	0	43,758
Outside Air (cfm/sqft)	0.00					
Note: values above given at ARI conditions		**TIME OF SYSTEM PEAK**		Aug 3 PM		Jan 1 AM

HEATING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Heating Peak)



COOLING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Cooling Peak)



Title 24 Experts
Nikan Design Group Inc.
7518 Jumilla Ave.
Winnetka, CA 91306
818-561-9333

Maral Rahmani
Digitally signed by Maral Rahmani
DN: C=US, E=mrahmani@sbrgroup.com, O=DLR Group, OU=Mechanical, CN=Maral Rahmani
Date: 2023.03.23 21:11:44-07'00'

DESIGNER:
Studio KPA, Inc
500 N Brand Blvd, Suite 2000
Glendale, CA 91203
310.853.3616

Title 24 Compliance:
Nikan Design Group Inc. (Title 24 Experts)
7518 Jumilla Ave.
Winnetka, CA 91306
818-561-9333

Client:

Project Name:

2935 MAIDEN LN_SFD
2935 MAIDEN LN.
ALTADENA, CA 91001

Project Number:
75-251124-08
Date: 11/24/2025

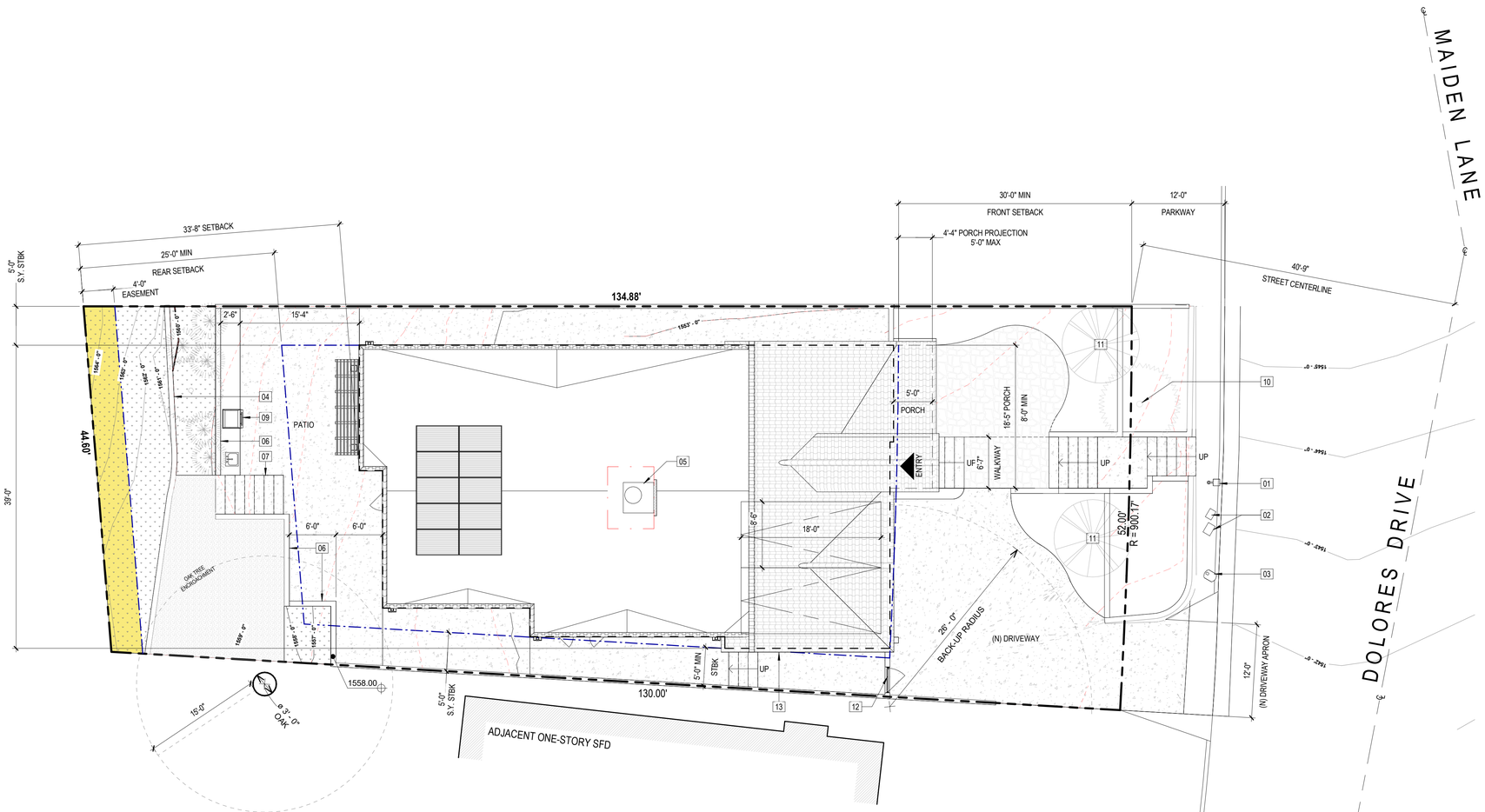
TITLE 24 COMPLIANCE

T24.3

DRAWN BY:
MARAL RAHMANI

Engineering Planning Title 24

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1 SITE / ROOF PLAN

1/8" = 1'-0"

4'-0" 8'-0" 16'-0"

SHEET NOTES

1. SEE TOPOGRAPHIC SURVEY ON SHEET A0.10.
2. ALL SETBACKS IN PROPOSED AREAS SHALL BE STAKED BY A LICENSED SURVEYOR UPON REQUEST BY THE BUILDING OFFICIAL.

KEYNOTES

CODE	KEYNOTE
01	(E) STREET LIGHT
02	(E) IN-GROUND ELEC. BOX.
03	(E) WATER METER TO REMAIN. VERIFY WITH UTILITY.
04	(E) GARDEN WALL TO REMAIN.
05	CURB MOUNTED ROOFTOP HVAC EQUIPMENT
06	(N) 5' HIGH RETAINING WALL
07	(N) CONCRETE STAIR
09	(N) BBQ AND OUTDOOR KITCHEN
10	(E) TREE TO REMAIN
11	(N) CANOPY TREE WITHIN 4' OF FRONT YARD. SPEC TBD.
12	STEEL GATE AT SIDEYARD. FINISH TBD
13	(N) 200 AMP ELECTRICAL SERVICE PANEL

LEGEND

- ENTRY
- PROPERTY LINE
- SITE SETBACK
- CENTERLINE OF ROADWAY
- EXISTING STRUCTURE
- PROPOSED CONTOUR
- EXISTING CONTOUR
- CHAINLINK FENCE
- OVERHEAD LINE
- SITE DRAINAGE DIRECTION AND SLOPE (2%)
- AREA NOT IN CONTRACT
- EASEMENT

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LICENSED ARCHITECT
KHACHIK C. PILIKYAN
C-39467
06.30.2027
RENEWAL DATE
STATE OF CALIFORNIA

#	DESCRIPTION	DATE
	PLANNING SUBMISSION 01	09.10.2025
1	PLANNING SUBMISSION 02	10.08.2025
	PLAN CHECK 01	11.30.2025

2935 MAIDEN LN

2935 MAIDEN LN.
ALTADENA, CA 91001

PROJECT NO: 250415

SCALE: 1/8" = 1'-0"

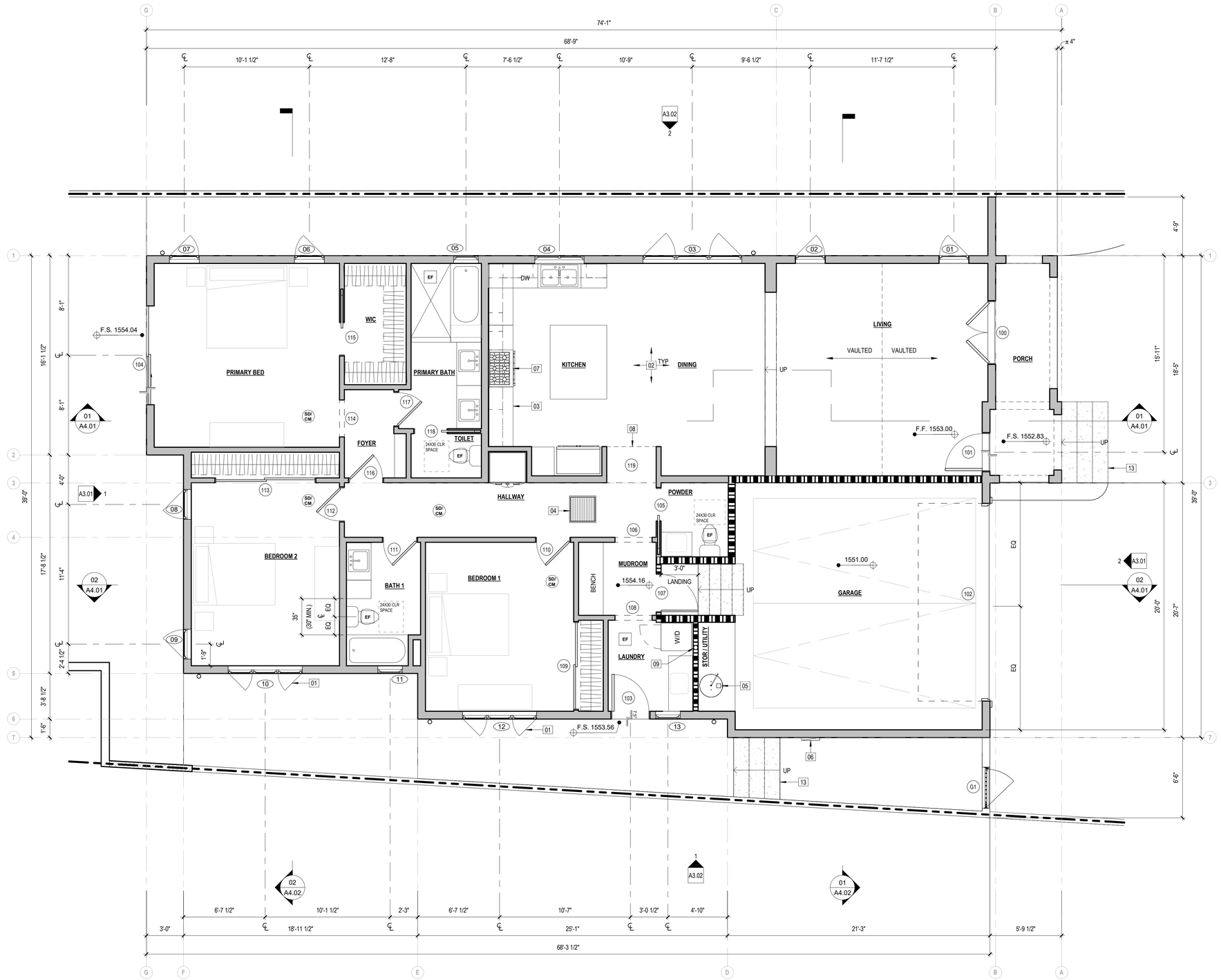
DRAWING TITLE

SITE PLAN

DRAWING NO.

A1.01

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1 FLOOR PLAN

1/4" = 1'-0"

SHEET NOTES

1. ALL DIMENSIONS ARE TO FINISH FACE, UNO.
2. ALL DIMENSIONS TO BE VERIFIED IN FIELD PRIOR TO COMMENCEMENT OF WORK. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT IMMEDIATELY.
3. SEE ARCHITECTURAL ELEVATION AND SECTION SHEETS FOR FINISH FLOOR ELEVATIONS AND BUILDING HEIGHTS.
4. ALL WALLS CONTAINING PLUMBING PIPING LESS THAN 3" DIAMETER SHALL BE 2X6 STUD CONSTRUCTION. WALLS CONTAINING 3" DIAMETER OR LARGER SHALL BE 2X8 STUD CONSTRUCTION.
5. MECHANICAL SIZES TO BE COORDINATED AND VERIFIED WITH MECH SUB.
6. OCCUPANCY SENSORS AND HUMISTATS TO BE INCLUDED IN RESTROOMS PER CODE.
7. G.I. ATTIC VENTILATION OPENINGS SHALL BE COVERED WITH CORROSION METAL WIRE MESH WITH MESH OPENINGS OF 1/4" IN DIMENSION.
8. PROVIDE ATTIC VENTS AT A RATE OF 1 SF PER 150 SF OF AREA BEING VENTILATED, IF THE VENTILATION IS ONLY BEING PROVIDED AT EAVES ONLY. IF AT LEAST 40 PERCENT BUT NOT MORE THAN 50 OF THE VENTILATION IS BEING PROVIDED WITHIN 3' MEASURED VERTICALLY FROM THE RIDGE OR THE HIGHEST POINT OF THE AREA BEING VENTILATED, THE VENTILATION RATE CAN BE REDUCED TO 1 SF PER 300 SF BEING SERVED. PROVIDE RAFTER SPACE VENTILATION. CRC R806
9. AT ENCLOSED ATTIC SPACE GREATER THAN 30" SHALL BE PROVIDED WITH 22" X 30" ATTIC ACCESS. A MINIMUM OF 30" UNOBSTRUCTED HEADROOM IN THE ATTIC SPACE SHALL BE PROVIDED AT OR ABOVE THE ACCESS OPENING, PER CBC SECTION 1209.2.
10. ALL (N) EXTERIOR INFILL WALLS TO MATCH WIDTH AND EXTERIOR FINISH OF ADJACENT WALLS.
11. ALL (N) FLOORING, CEILING, AND WALL FINISHES SHALL BE INSTALLED TO ENSURE SMOOTH TRANSITION BETWEEN EXISTING AND NEW.
12. SHOWER FLOORS AND WALLS ABOVE BATHTUBS WITH INSTALLED SHOWER HEAD SHALL BE FINISHED WITH A NONABSORBENT SURFACE TO A HEIGHT NOT LESS THAN 6 FT. ABOVE THE FLOOR. (CRC R307.2, CBC 1209.2.3)
13. SEE SHEET A0.02 FOR ADDITIONAL ELECTRICAL NOTES AND REQUIREMENTS.

KEYNOTES

CODE	KEYNOTE
01	EGRESS WINDOW. SEE WINDOW SCHEDULE
02	PROVIDE G.F.I. OUTLET @ +42" A.F.F. (TYP. OF KITCHENS, BATHROOMS, AND LAUNDRY AREA).
03	LOWER CABINETS W/ S.S. COUNTERTOPS AND OVERHEAD STORAGE
04	MECH. RETURN GRILL ABOVE
05	WATER HEATER UNIT.
06	200 AMP. ELECTRICAL SERVICE PANEL.
07	RANGE HOOD ABOVE
08	ARCHED OPENING PER SCHEDULE
09	4" DIA DRYER EXHAUST VENT TO OUTSIDE, MAX 14' RUN W/ NO MORE THAN TWO 90 DEG TURNS. PROVIDE EXTERIOR VENT CAP W/ RODENT FLAP
13	STEPS (MAX. RISE = 7" MIN. RUN = 11")

LEGEND

- (E) WALL TO REMAIN
- (N) WALL
- 1-HR WALL
- SD/CM — SMOKE / CARBON MONOXIDE DETECTOR, ALSO SEE RCP
- EF — EXHAUST FAN CAPABLE OF 50 CFM,
- LEVEL CHANGE SYMBOL

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2935 MAIDEN LN

2935 MAIDEN LN.
ALTADENA, CA 91001

PROJECT NO: 250415

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

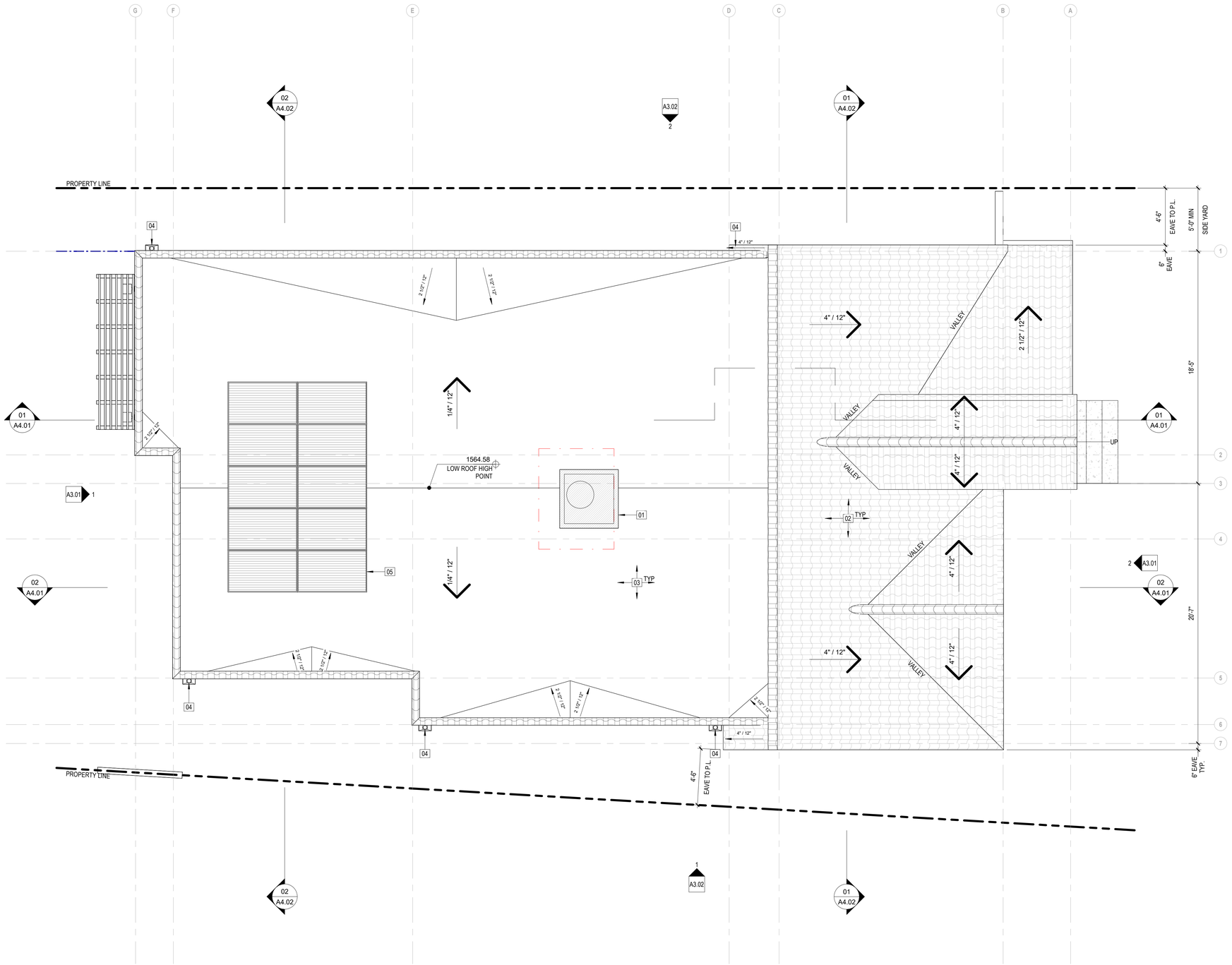
DRAWING TITLE

FLOOR PLAN

DRAWING NO.

A2.01

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13. SEE SHEET A0.02 FOR ADDITIONAL ELECTRICAL NOTES AND REQUIREMENTS.

KEYNOTES

CODE	KEYNOTE
01	CURB MOUNTED ROOFTOP HVAC EQUIPMENT
02	CLASS 'A' COMPOSITE ROOF TILES, TYP
03	CLASS 'A' COOL ROOFING MEMBRANE
04	ROOF SCUPPER AND DOWNSPOUT
05	PHOTOVOLTAIC PANEL SOLAR ZONE

LEGEND

PROPOSED ROOF AREA

BUILDING OUTLINE

ROOF SLOPE

1 **ROOF PLAN**
1/4" = 1'-0"

4'-0" 8'-0" 16'-0"

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C-39467
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STATE OF CALIFORNIA

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	PLAN CHECK 01	11.30.2025

2935 MAIDEN LN

2935 MAIDEN LN.
ALTADENA, CA 91001

PROJECT NO: 250415

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

DRAWING TITLE

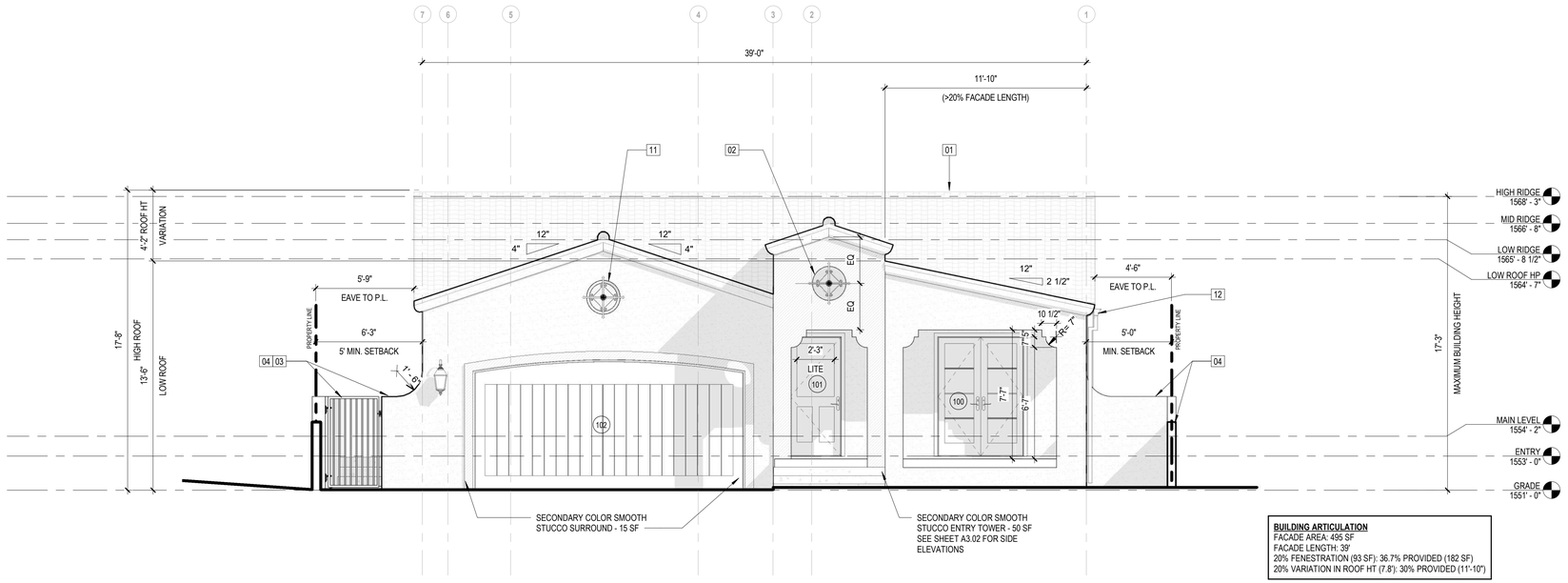
ROOF PLAN

DRAWING NO.

A2.03

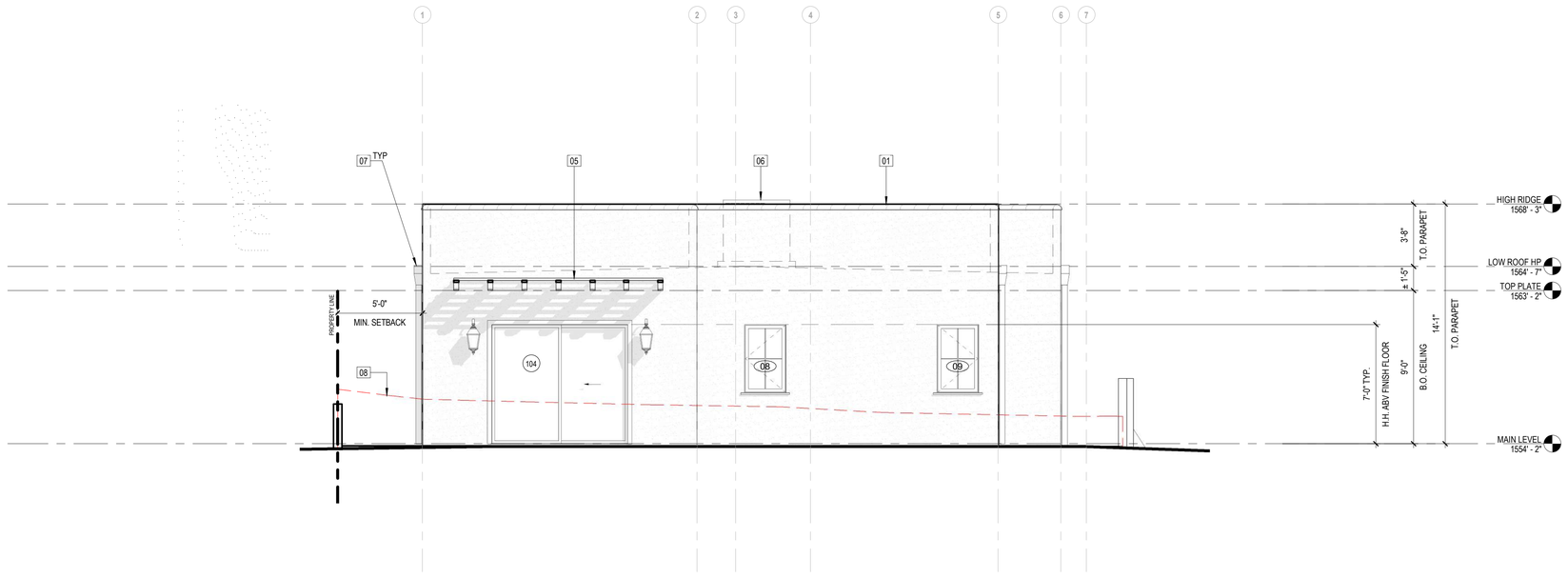
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12/1/2025 2:19:01 PM



2 SOUTH ELEVATION

1/4" = 1'-0"



1 NORTH ELEVATION

1/4" = 1'-0"

2'-0" 4'-0" 8'-0"

SHEET NOTES

1. ALL DIMENSIONS ARE TO FACE OF FINISH UNLESS OTHERWISE NOTED.
2. CONTRACTOR TO VERIFY ALL DIMENSIONS AND CONDITIONS IN FIELD AND NOTIFY ARCHITECT OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK.

BUILDING ARTICULATION
FACADE AREA: 495 SF
FACADE LENGTH: 39'
20% FENESTRATION (93 SF): 36.7% PROVIDED (182 SF)
20% VARIATION IN ROOF HT (7.8'): 30% PROVIDED (11'-10")

BUILDING FACADE DETAILS
FACADE AREA: 495 SF
MATERIAL VARIETY REQUIRED: 49.5 SF (10%)
MATERIAL VARIETY PROVIDED: 65 SF (13%)

KEYNOTES

#

CODE	KEYNOTE
01	TILE COPING AT RIDGE AND PARAPET, TYP.
02	24" DIA. OCULUS WITH WROUGHT IRON ACCENT, SPECIFICATION TBD.
03	STEEL GATE AT SIDEYARD. FINISH TBD
04	BLOCK FENCE WALL AT SIDEYARD. FINISH TO MATCH EXTERIOR
05	OPEN LATTICE WOOD AWNING
06	CURB MOUNTED ROOFTOP HVAC EQUIPMENT
07	G.I. SCUPPER AND DOWNSPOUT.
08	LINE OF (E) GRADE
09	PROPOSED FINISH GRADE
10	ELECTRICAL METER
11	24" DIA. INDENTED DECORATIVE OCULUS TO MATCH OPENING O/ PORCH W/ WROUGHT IRON ACCENT.
12	G.I. GUTTER AND DOWNSPOUT

FINISHES

#

MARK	DESCRIPTION

LEGEND

- # — KEYNOTE
- # — MATERIAL TAG
- 101 — WINDOW TAG
- XX — DOOR TAG

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PROJECT NO: 250415

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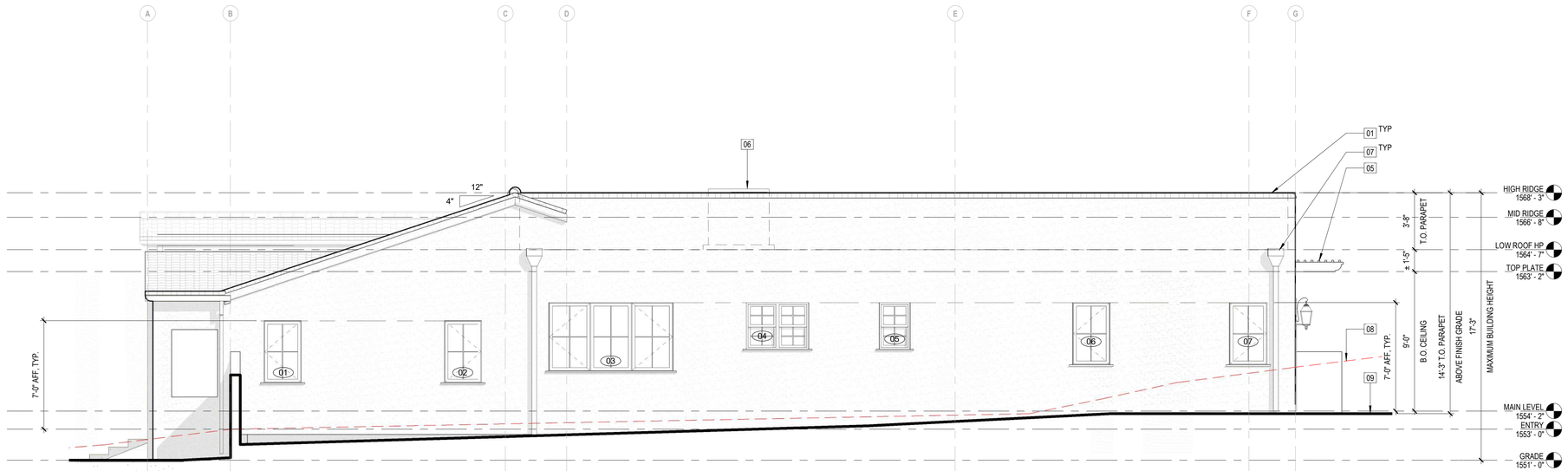
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EXTERIOR BUILDING ELEVATIONS

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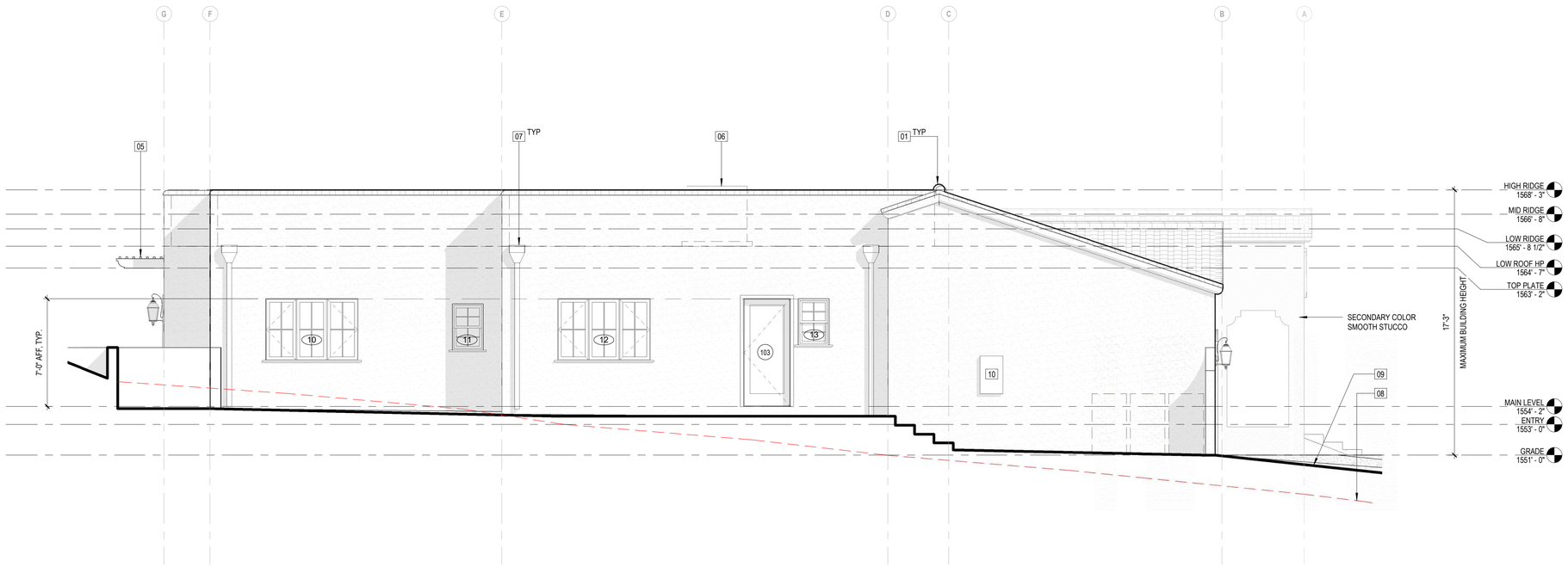
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2 EAST ELEVATION

1/4" = 1'-0"



1 WEST ELEVATION

1/4" = 1'-0"

2'-0" 4'-0" 8'-0"

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FINISHES

#

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PROJECT NO: 250415

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

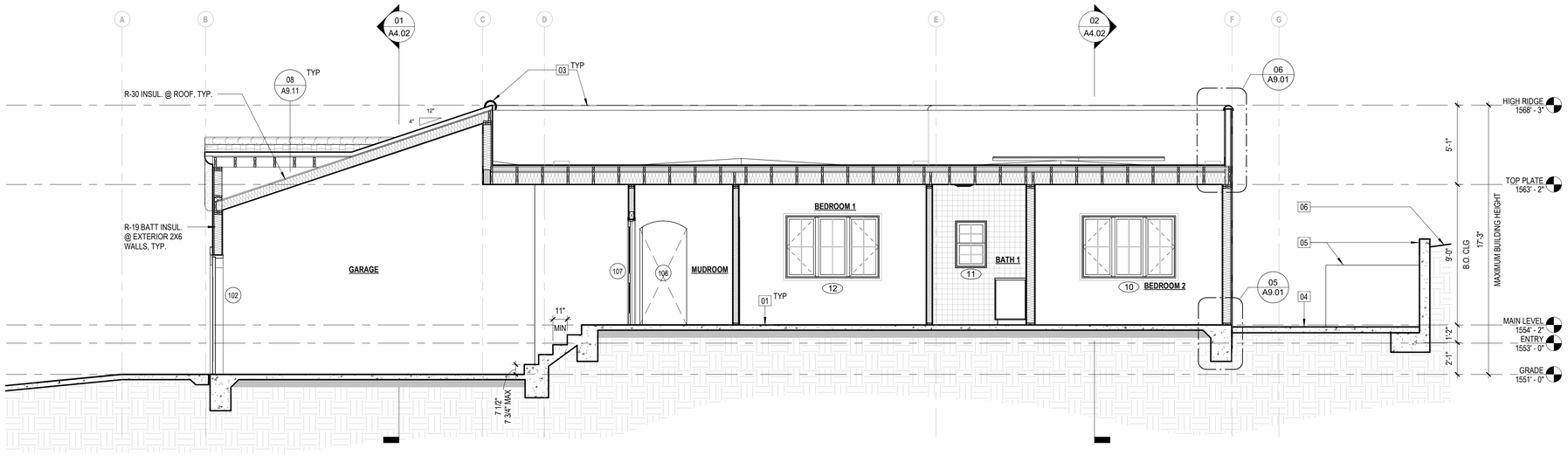
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EXTERIOR BUILDING ELEVATIONS

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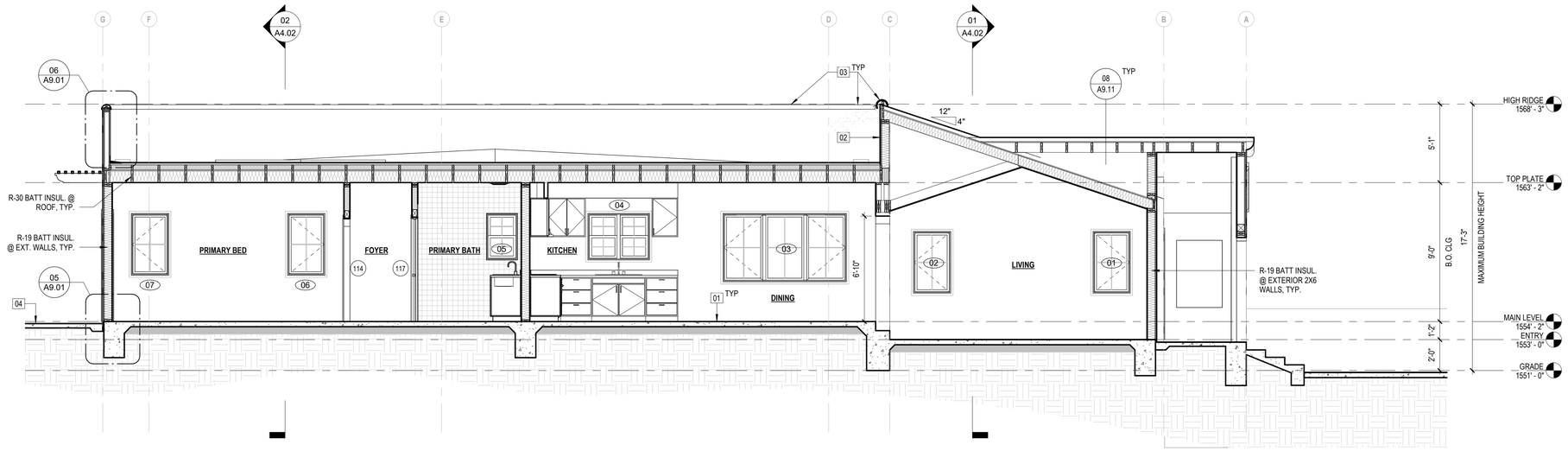
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02 Longitudinal Section B

1/4" = 1'-0"



01 Longitudinal Section A

1/4" = 1'-0"

2'-0" 4'-0" 8'-0"

SHEET NOTES

1. ALL DIMENSIONS ARE TO FACE OF FINISH UNLESS OTHERWISE NOTED.
2. CONTRACTOR TO VERIFY ALL DIMENSIONS AND CONDITIONS IN FIELD AND NOTIFY ARCHITECT OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK.

KEYNOTES

CODE	KEYNOTE
01	CONC. SLAB O/ VAPOR BARRIER PER STRUCT.
02	SIDE WALL ATTIC VENT
03	TILE PARAPET COPING AND RIDGE CAP, TYP.
04	EXTERIOR PAVING / FINISH GRADE
05	RETAINING BLOCK WALL, PLASTER FINISH TO MATCH EXT. WALLS
06	NATURAL GRADE

FINISHES

MARK	DESCRIPTION

LEGEND

- # — KEYNOTE
- # — MATERIAL TAG
- 101 — WINDOW TAG
- XX — DOOR TAG

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LICENSED ARCHITECT
KHACHIK C. PILIKYAN
C-39467
06.30.2027
RENEWAL DATE
STATE OF CALIFORNIA

#	DESCRIPTION	DATE
	PLAN CHECK 01	11.30.2025

2935 MAIDEN LN

2935 MAIDEN LN
2935 MAIDEN LN.
ALTADENA, CA 91001

PROJECT NO: 250415

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

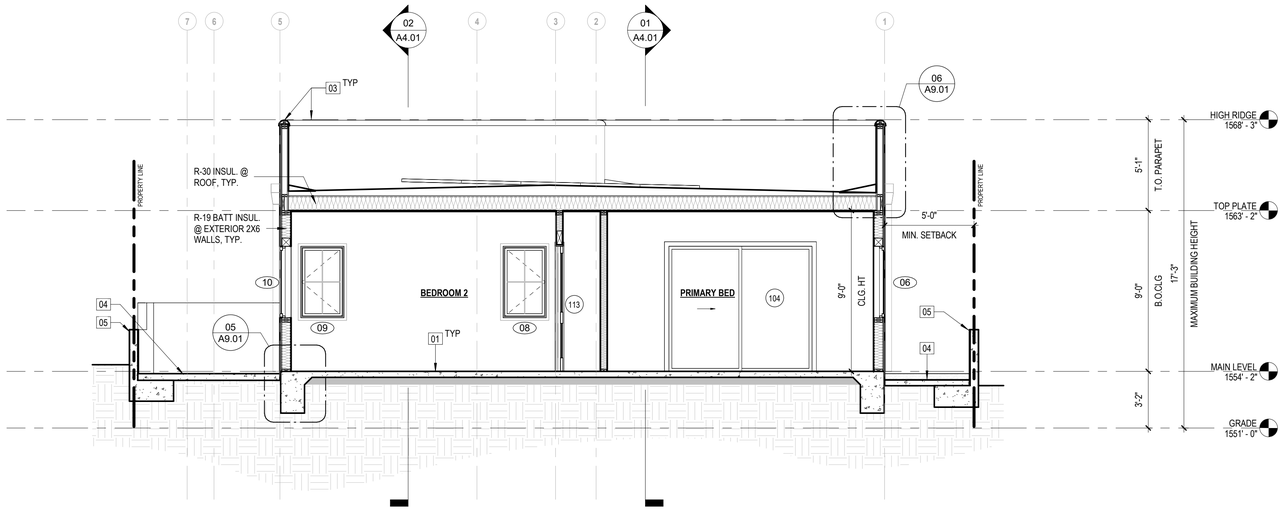
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BUILDING SECTIONS

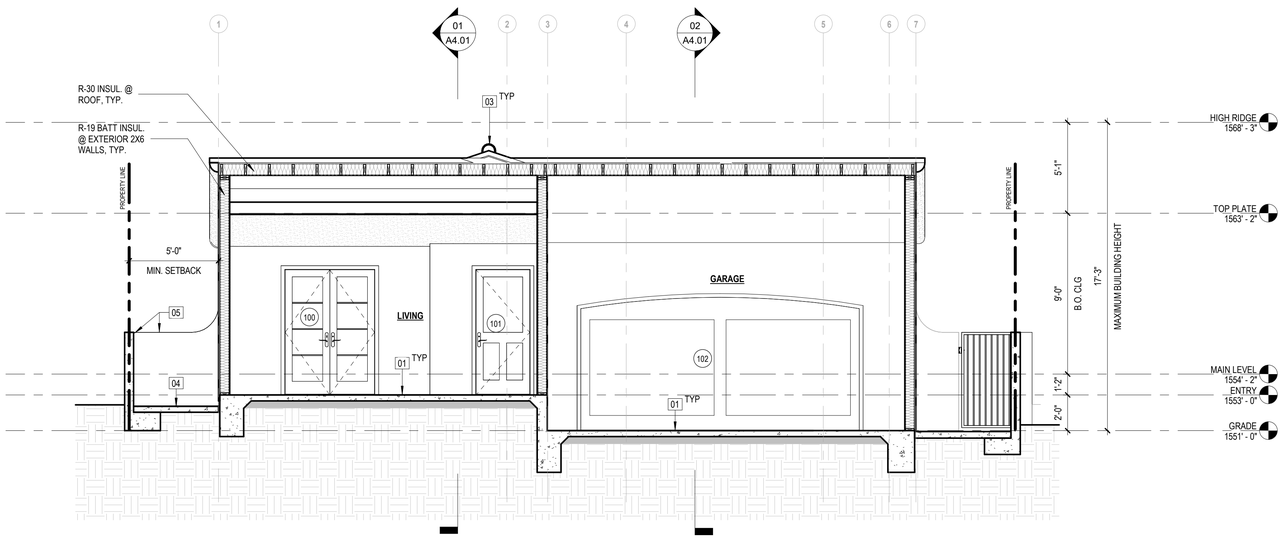
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02 **Transverse Section B**
1/4" = 1'-0"



01 **Transverse Section A**
1/4" = 1'-0"

2'-0" 4'-0" 8'-0"

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BUILDING SECTIONS

DRAWING NO.

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DOOR AND GLAZING NOTES

1. GENERAL CONTRACTOR TO FIELD MEASURE ALL FRAMED OPENINGS PRIOR TO ORDER.
2. ALL GLAZED EXTERIOR WINDOWS AND DOORS MUST MEET CRITERIA OUTLINED IN THE GENERAL NOTES - GLAZING REQUIREMENTS. SEE SHEET A0.02.
3. DIRECTION OF OPERATION SHOWN FROM THE EXTERIOR OF DOOR/ WINDOW.
4. EACH UNIT OF TEMPERED GLASS SHALL BE PERMANENTLY IDENTIFIED BY THE MANUFACTURER. THE IDENTIFICATION SHALL BE ETCHED OR CERAMIC FIRED ON THE GLASS AND BE VISIBLE WHEN THE UNIT IS GLAZED.
5. GLAZING IN HAZARDOUS LOCATIONS SHALL BE TEMPERED. 91.2406.4
6. SEE SHEET A0.02 FOR SAFETY GLAZING REQUIREMENTS.
7. GLAZING IN DOORS AND ENCLOSURES FOR BATHTUBS AND SHOWERS SHALL HAVE CATEGORY II CLASSIFICATION PER CBC CHAPTER 24 AND UBC STD 24-2.
8. AT LEAST ONE EXIT DOORWAY SHALL NOT BE LESS THAN 3'-0" WIDE AND 6'-8" HEIGHT AND SHALL BE SO MOUNTED THAT THE CLEAR WIDTH OF 32" IS MAINTAINED.
9. WOOD FLUSH-TYPE DOORS SHALL BE 1 3/8" THICK MIN. WITH SOLID CORE CONSTRUCTION.
10. WOOD PANEL TYPE DOORS MUST HAVE PANELS AT LEAST 9/16" THICK WITH SHAPED PORTIONS NOT LESS THAN 1/4" THICK AND INDIVIDUAL PANELS MUST BE NO MORE THAN 300 SQ. IN. IN AREA. MULLIONS SHALL BE CONSIDERED A PART OF ADJACENT PANELS EXCEPT MULLIONS NOT OVER 18" LONG MAY HAVE AN OVERALL WIDTH OF NOT LESS THAN 2". STILES AND RAILS SHALL BE OF SOLID LUMBER IN THICKNESS WITH OVERALL DIMENSIONS OF NOT LESS THAN 1 3/8" AND 3" IN WIDTH.
11. EXTERIOR WINDOWS, WINDOW WALLS, GLAZED OPENINGS WITHIN EXTERIOR DOORS SHALL BE INSULATING GLASS UNITS WITH A MINIMUM OF ONE TEMPERED PANE, OR GLASS BLOCK UNITS OR HAVE A FIRE RESISTANCE RATING OF NOT LESS THAN 20 MINUTES, WHEN TESTED ACCORDING TO *ASTM E 2010,* OR CONFORM TO THE PERFORMANCE REQUIREMENTS OF *SFM 12-7A-2.* (CBC 704A.3.2.2)
12. EXTERIOR DOOR ASSEMBLIES SHALL CONFORM TO THE PERFORMANCE REQUIREMENTS OF STANDARD *SFM 12-7A-1,* OR SHALL BE APPROVED NONCOMBUSTIBLE CONSTRUCTION, OR SOLID CORE WOOD HAVING STILES AND RAILS NOT LESS THAN 1 3/8 INCH THICK WITH INTERIOR FIELS PANEL THICKNESS NO LESS THAN 1 1/4 INCH THICK, OR SHALL HAVE A FIRE RESISTANCE RATING OF NOT LESS THAN 20 MINUTES WHEN TESTED ACCORDING TO *ASTM E 2074.* (CBC 704A.3.2.3)

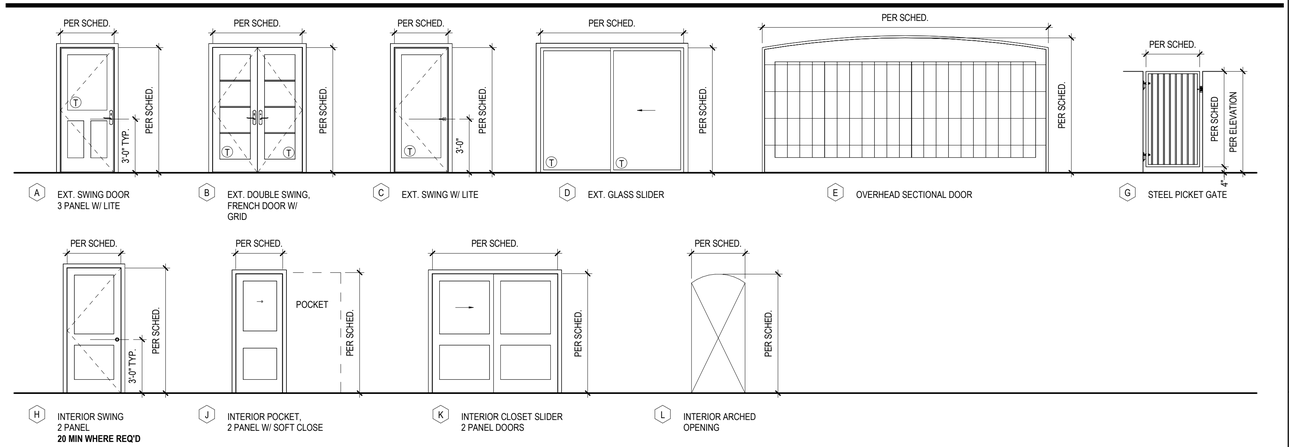
    EXCEPTION: NONCOMBUSTIBLE OR EXTERIOR FIRE RETARDENT TREATED WOOD VEHICLE ACCESS DOORS ARE NOT REQUIRED TO COMPLY.
13. PROVIDE AN ALARM FOR DOORS TO THE DWELLING THAT FORM A PART OF THE POOL ENCLOSURE. THE ALARM SHALL SOUND CONTINUOUSLY FOR A MIN. OF 30 SECONDS WHEN THE DOOR IS OPENED. IT SHALL AUTOMATICALLY RESET AND BE EQUIPPED WITH A MANUAL MEAN TO DEACTIVATE (FOR 15 SECONDS MAX.) FOR A SINGLE OPENING. THE DEACTIVATION SWITCH SHALL BE AT LEAST 54" ABOVE THE FLOOR.
14. THE EXTERIOR DOORS MUST OPEN OVER A LANDING NOT MORE THAN 1" BELOW THE THRESHOLD. EXCEPTION: PROVIDING THE DOOR DOES NOT SWING OVER THE LANDING, THE LANDING SHALL BE NOT MORE THAN 8" BELOW THE THRESHOLD.
15. DOOR STOPS OF IN-SWINGING DOORS SHALL BE OF ONE-PIECE CONSTRUCTION WITH THE JAMB OR JOINED BY RABBET TO THE JAMB.
16. ALL PIN-TYPE DOOR HINGES ACCESSIBLE FROM OUTSIDE SHALL HAVE NON-REMOVABLE HINGE PINS. HINGES SHALL HAVE MIN. 1/4" DIA. STEEL JAMB STUD WITH 1/4" MIN. PROTECTION. THE STRIKE PLATE FOR LATCHES AND HOLDING DEVICE FOR PROJECTING DEAD BOLTS IN WOOD CONSTRUCTION SHALL BE SECURED TO THE JAMB AND THE WALL FRAMING WITH SCREWS NO LESS THAN 2-1/2" LONG.
17. PROVIDE DEADBOLTS WITH HARDENED INSERTS; DEADLOCKING LATCH WITH KEY-OPERATED LOCKS ON EXTERIOR. LOCKS MUST BE OPENABLE FROM INSIDE WITHOUT KEY, SPECIAL KNOWLEDGE OR SPECIAL EFFORT.
18. STRAIGHT DEADBOLTS SHALL HAVE A MIN. THROW OF 1" AND AN EMBEDMENT OF NOT LESS THAN 5/8", AND A HOOK-SHAPED OR AN EXPANDING-LUG DEADBOLT SHALL HAVE A MIN. THROW OF 3/4"
19. THE USE OF A LOCKING SYSTEM WHICH CONSISTS OF A DEADLOCKING LATCH OPERATED BY A DOORKNOB AND A DEADBOLT OPERATED BY A NON-REMOVABLE THUMB TURN WHICH IS INDEPENDENT OF THE DEADLOCKING LATCH AND WHICH MUSTBE SEPARATELY OPERATED, SHALL NOT BE CONSIDERED AS A SYSTEM WHICH REQUIRES SPECIAL KNOWLEDGE OR EFFORT WHEN USED IN DWELLING UNITS. THE DOOR KNOB AND THE THUMB TURN WHICH OPERATES THE DEADBOLT SHALL NOT BE SEPARATED BY MORE THAN 8 INCHES.
20. SLIDING DOORS SHALL BE PROVIDED WITH A DEVICE IN THE UPPER CHANNEL OF THE MOVING PANEL TO PROHIBIT RAISING AND REMOVING OF THE MOVING PANEL IN THE CLOSED OR PARTIALLY OPEN POSITION.
21. SLIDING GLASS DOORS SHALL BE EQUIPPED WITH LOCKING DEVICES AND SHALL BE SO CONSTRUCTED AND INSTALLED THAT THEY REMAIN INTACT AND ENGAGED WHEN SUBJECTED TO THE TESTS SPECIFIED IN CODE SECTION 91.6717.1
22. FIRE RESISTIVE ASSEMBLIES FOR PROTECTION OF OPENINGS TO COMPLY WITH TITLE 24, SECTIONS 302 AND 713.
23. DOORS BETWEEN GARAGE AND THE DWELLING UNIT SHALL BE SELF-CLOSING AND SELF-LATCHING, SOLID WOOD OR SOLID OR HONEYCOMB CORE STEEL NOT LESS THAN 1 3/8" INCHES THICK , OR HAVE A MINIMUM FIRE PROTECTION RATING OF 20 MINUTES. (406.1.4)
24. SLIDING WINDOWS SHALL BE PROVIDED WITH A DEVICE IN THE UPPER CHANNEL OF THE MOVING PANEL TO PROHIBIT RAISING AND REMOVING OF THE MOVING PANEL IN THE CLOSED OR PARTIALLY OPEN POSITION.
25. SLIDING WINDOWS SHALL BE EQUIPPED WITH LOCKING DEVICES AND SHALL BE SO CONSTRUCTED AND INSTALLED THAT THEY REMAIN INTACT AND ENGAGED WHEN SUBJECTED TO THE TESTS SPECIFIED IN CODE SECTION 91.6717.2
26. GLASS SKYLIGHTS SHALL COMPLY WITH SECTION 2405, PLASTIC SKYLIGHTS SHALL COMPLY WITH SECTION 2610.
27. GLASS AND PLASTIC SKYLIGHTS SHALL BE MOUNTED ON A 4" MIN. CURB ABOVE THE ROOF WHEN THE ROOF SLOPES LESS THAN 3:12 PER CODES SECTIONS 2405.4 AND 2610.2.
28. EXTERIOR SKYLIGHTS ARE TO BE NON-REFLECTIVE, DARK IN FINISH AND SHALL NOT CONTAIN ARTIFICIAL LIGHTING, PER KWPOA CC&R.
29. PROVIDE EMERGENCY EGRESS FROM SLEEPING ROOMS: 24" CLEAR HEIGHT MIN., 20" CLEAR WIDTH MIN., 5.7 S.F. MIN. AREA WHEN ABOVE GRADE AND 5.0S.F. MIN AREA WHEN AT GRADE. THE BOTTOM OF CLEAR OPENING SHALL NOT BE GREATER THAN 44" A.F.F.
30. NEW AND REPLACEMENT BEDROOM WINDOWS (AT LEAST ONE PER ROOM) SHALL BE A MIN. NET CLEAR OPENABLE AREA THAT MEASURES 5.7 SF. (IF THE WINDOW IS 44" OR LESS ABOVE GRADE ON THE EXTERIOR, THE OPENING MAY BE REDUCED TO 5 SF.) THE MIN. HEIGHT DIMENSION SHALL BE 24". THE MIN. WIDTH SHALL BE 20". WHERE COMPLIANCE WITH THESE DIMENSIONS IS INFEASIBLE AND WHERE APPROVED BY THE BUILDING OFFICIAL, A REPLACEMENT WINDOW MAY BE PERMITTED IN ACCORDANCE WITH CALIFORNIA EXISTING BUILDING CODE, SECTION 406.3.

DOOR SCHEDULE

SEE DOOR SCHEDULE FOR LOCKSET & CLOSER REQUIREMENTS

			DOOR							FRAME						
			DIMENSIONS									DETAILS			HDWR	
DOOR #	TYPE	LOCATION	WIDTH	HEIGHT	THICK	PANEL	FINISH	U-FACTOR	SHGC VALUE	FRAME	FINISH	HEAD	JAMB	THRESHOLD	GROUP	COMMENTS
100	B	LIVING	5' - 0"	7' - 0"	0' - 2 1/4"	VINYL / GL	BR / CLR	0.3	0.23	VINYL	BR					
101	A	LIVING	3' - 0"	7' - 0"	0' - 2 1/4"	FIBERGLASS	BR	0.3	0.23	FIBERGLASS	BR					
102	E	GARAGE	16' - 0"	7' - 0"	0' - 2"	ALUM	BR			-	-					
103	C	LAUNDRY	3' - 0"	7' - 0"	0' - 2 1/4"	WD / GL	PTD	0.3	0.23	WD	PTD					
104	D	PRIMARY BED	8' - 0"	7' - 0"	0' - 2"	VINYL	BR	0.3	0.23	VINYL	BR	02/A9.21	02/A9.21	01/A9.21		
105	J	POWDER	2' - 8"	6' - 8"	0' - 1 3/4"	WD	PTD			WD	PTD					
106	L	MUDROOM	3' - 6"	6' - 8"						-	-					
107	H	GARAGE	3' - 0"	6' - 8"	0' - 1 3/8"	WD	PTD			WD	PTD					20 MIN DOOR
108	L	LAUNDRY	3' - 6"	6' - 8"						-	-					
109	K	BEDROOM 1	7' - 0"	6' - 8"	0' - 1 3/4"	WD	PTD			WD	PTD					
110	H	BEDROOM 1	2' - 8"	6' - 8"	0' - 1 3/4"	WD	PTD			WD	PTD					
111	H	BATH 1	2' - 8"	6' - 8"	0' - 1 3/4"	WD	PTD			WD	PTD					
112	H	BEDROOM 2	2' - 8"	6' - 8"	0' - 1 3/4"	WD	PTD			WD	PTD					
113	K	BEDROOM 2	8' - 0"	7' - 0"	0' - 1 3/4"	WD	PTD			WD	PTD					
114	L	PRIMARY BED	3' - 6"	6' - 8"						-	-					
115	J	PRIMARY BED	2' - 8"	6' - 8"	0' - 1 3/4"	WD	PTD			WD	PTD					
116	H	FOYER	2' - 8"	6' - 8"	0' - 1 3/4"	WD	PTD			WD	PTD					
117	H	PRIMARY BATH	2' - 8"	6' - 8"	0' - 1 3/4"	WD	PTD			WD	PTD					
118	J	TOILET	2' - 8"	6' - 8"	0' - 1 3/4"	WD	PTD			WD	PTD					
119	L	HALLWAY	4' - 0"	6' - 8"						-	-					
G1	G		3' - 0"	5' - 0"	0' - 2"	STL	PTD			-	-					
G4	N	DINING	12' - 6"	8' - 0"												

DOOR LEGEND



WINDOW SCHEDULE

			DIMENSIONS		GLAZING				FRAME						
											DETAILS				
#	TYPE	LOCATION	WIDTH	HEIGHT	GLASS	OPERATION	U-FACTOR	SHGC VALUE	MATERIAL	FINISH	HEAD	JAMB	SILL	EGRESS	COMMENTS
01	A	LIVING	2' - 5"	4' - 0"	CLR	CSMNT	0.3	0.23	VINYL	BR	04/A9.21	04/A9.21	03/A9.21		
02	A	LIVING	2' - 5"	4' - 0"	CLR	CSMNT	0.3	0.23	VINYL	BR	04/A9.21	04/A9.21	03/A9.21		
03	B	DINING	8' - 0"	4' - 5"	CLR	CSMNT / FIXED	0.3	0.23	VINYL	BR	04/A9.21	04/A9.21	03/A9.21		
04	D		4' - 0"	3' - 0"	CLR	SINGLE HUNG	0.3	0.23	VINYL	BR	04/A9.21	04/A9.21	03/A9.21		
05	C	PRIMARY BATH	2' - 0"	3' - 0"	CLR	SINGLE HUNG	0.3	0.23	VINYL	BR	04/A9.21	04/A9.21	03/A9.21		
06	A	PRIMARY BED	2' - 5"	4' - 0"	CLR	CSMNT	0.3	0.23	VINYL	BR	04/A9.21	04/A9.21	03/A9.21		
07	A	PRIMARY BED	2' - 5"	4' - 0"	CLR	CSMNT	0.3	0.23	VINYL	BR	04/A9.21	04/A9.21	03/A9.21		
08	A	BEDROOM 2	2' - 5"	4' - 0"	CLR	CSMNT	0.3	0.23	VINYL	BR	04/A9.21	04/A9.21	03/A9.21		
09	A	BEDROOM 2	2' - 5"	4' - 0"	CLR	CSMNT	0.3	0.23	VINYL	BR	04/A9.21	04/A9.21	03/A9.21		
10	B	BEDROOM 2	6' - 0"	4' - 0"	CLR	CSMNT / FIXED	0.3	0.23	VINYL	BR	04/A9.21	04/A9.21	03/A9.21	■	
11	C	BATH 1	2' - 0"	3' - 0"	CLR	SINGLE HUNG	0.3	0.23	VINYL	BR	04/A9.21	04/A9.21	03/A9.21		
12	B	BEDROOM 1	6' - 0"	4' - 0"	CLR	CSMNT / FIXED	0.3	0.23	VINYL	BR	04/A9.21	04/A9.21	03/A9.21	■	
13	C	LAUNDRY	2' - 0"	3' - 0"	CLR	SINGLE HUNG	0.3	0.23	VINYL	BR	04/A9.21	04/A9.21	03/A9.21		

DOOR / WINDOW ABBREVIATIONS

DOOR CONSTRUCTION

WD: SOLID CORE, WOOD VENEER
WD/GL: SOLID CORE, VENEER W/ TEMPERED GLASS LIGHT
PG: SOLID CORE, PAINT GRADE
PG/GL: SOLID CORE, PAINT GRADE W/ TEMPERED GLASS LIGHT
GL: TEMPERED GLAZING
HM: HOLLOW METAL

DOOR FINISH

CL: CLEAR VENEER
PT: PAINTED
GL: CLEAR TEMPERED GLASS
ST: STAIN - STAINED TO MATCH SAMPLE

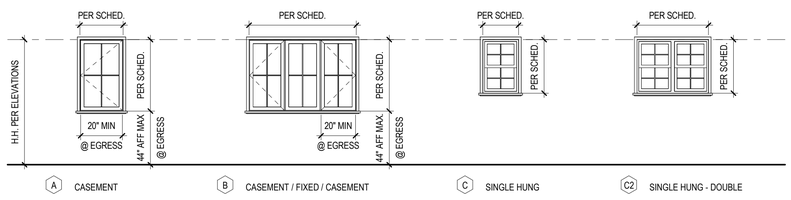
FRAME FINISH

CL: CLEAR ANODIZED FACTORY FINISH
BR: BRONZE ANODIZED FACTORY FINISH
W: WHITE ANODIZED FACTORY FINISH
PT: PAINTED
ST: STAIN - STAINED TO MATCH SAMPLE

FRAME CONSTRUCTION

AL: ALUMINUM
HM: HOLLOW METAL, FULLY WELDED
WD: WOOD

WINDOW LEGEND



NOTE:
1. ALL WINDOWS TO BE MILGARD OR APPRV'D EQ. BRONZE FINISH DUAL PANE TEMPERED GLASS. SEE T-24 FOR U-FACTOR AND SHGC VALUES
2. SKYLIGHTS SHALL BE TESTED AND LABELED AS COMPLYING WITH AMA/WDMA/CSA101/I.S.2/A440
3. SEE ELEVATIONS FOR SWING DIRECTION.
4. FIELD MEASURE AND PROVIDE SHOP DRAWINGS FOR REVIEW PRIOR TO PLACING ORDER.

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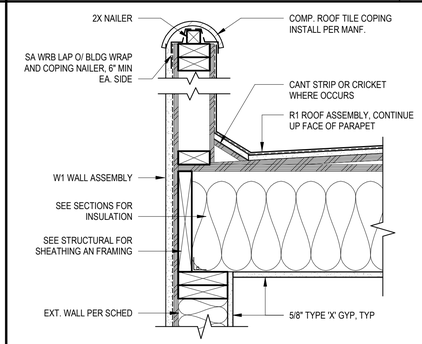
DOOR & WINDOW SCHEDULES

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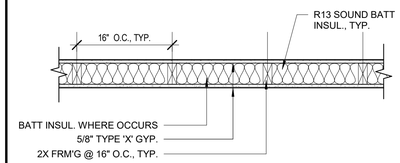
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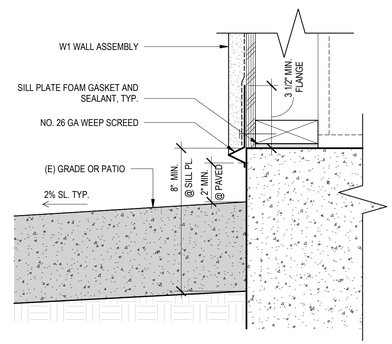
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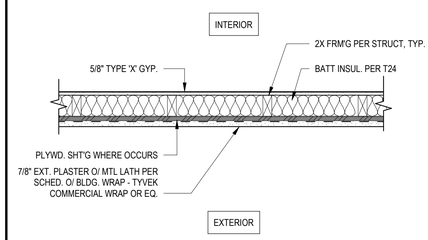
TYP. PARAPET WALL 06
scale: 1 1/2" = 1'-0"



TYP. INTERIOR WALL W2
scale: 1" = 1'-0"



TYP. WEEP SCREED 05
scale: 3" = 1'-0"



1-HR CONST. PER GYPSUM ASSOC. GA FILE NO. WP 8131
FIRE TEST: UL1319, 97NK14997, 4-25-97, UL DESIGN U303, TYP.

TYP. EXTERIOR 1-HR W1
scale: 1" = 1'-0"

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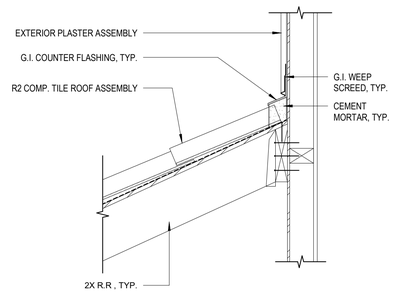
WALL DETAILS

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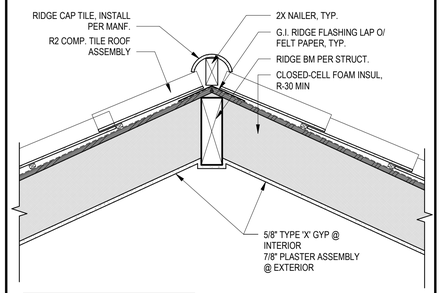
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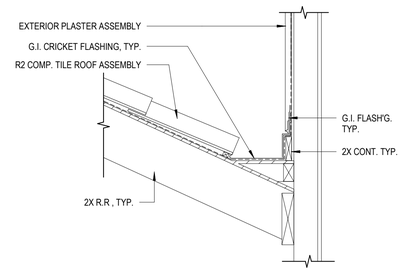


ROOF TO WALL FLASHING 12
scale: 1" = 1'-0"

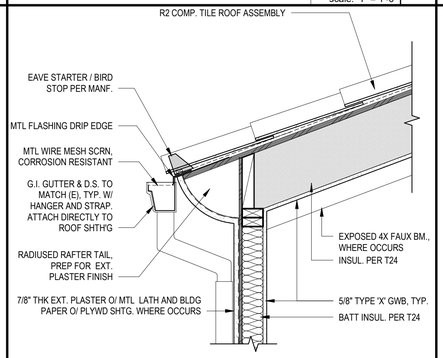


NOTE: REFER TO MANF. RECOMMENDED INSTALL DETAILS

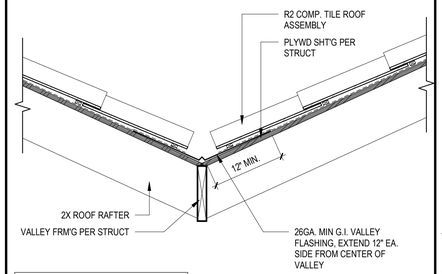
TYP. ROOF RIDGE 08
scale: 1" = 1'-0"



TYP.G.I. CRICKET/ROOF CHIMNEY 11
scale: 1" = 1'-0"

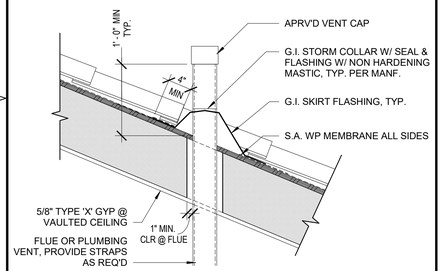


TYP. ROOF EAVE 07
scale: 1" = 1'-0"



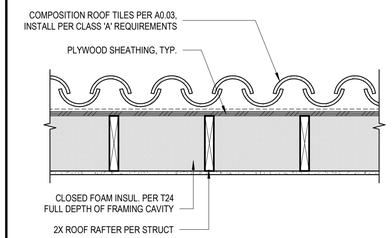
NOTE: REFER TO MANF. RECOMMENDED INSTALL DETAILS

TYP. VALLEY FLASHING 10
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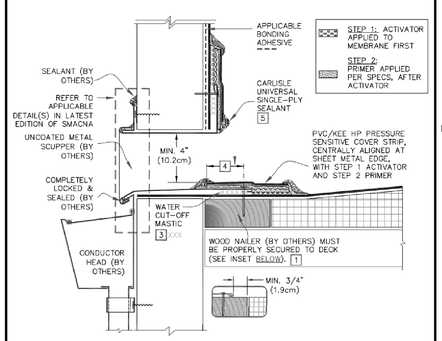


NOTE: REFER TO MANF. RECOMMENDED INSTALL DETAILS

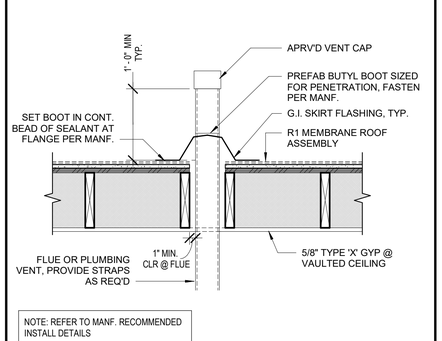
ROOF PENETRATION - R2 06
scale: 1" = 1'-0"



COMPOSITE TILE ROOF R2
scale: 1" = 1'-0"

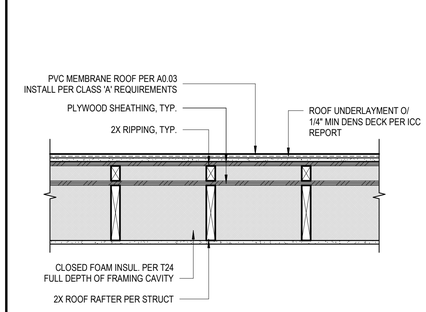


THRU-WALL SCUPPER 09
not to scale



NOTE: REFER TO MANF. RECOMMENDED INSTALL DETAILS

ROOF PENETRATION - R1 05
scale: 1" = 1'-0"



LOW SLOPE ROOF R1
scale: 1" = 1'-0"

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LICENSED ARCHITECT
KHACHIK C. PILIKYAN
C-39467
06.30.2027
RENEWAL DATE
STATE OF CALIFORNIA

#	DESCRIPTION	DATE
	PLAN CHECK 01	11.30.2025

2935 MAIDEN LN

2935 MAIDEN LN.
ALTADENA, CA 91001

PROJECT NO: 250415

SCALE:

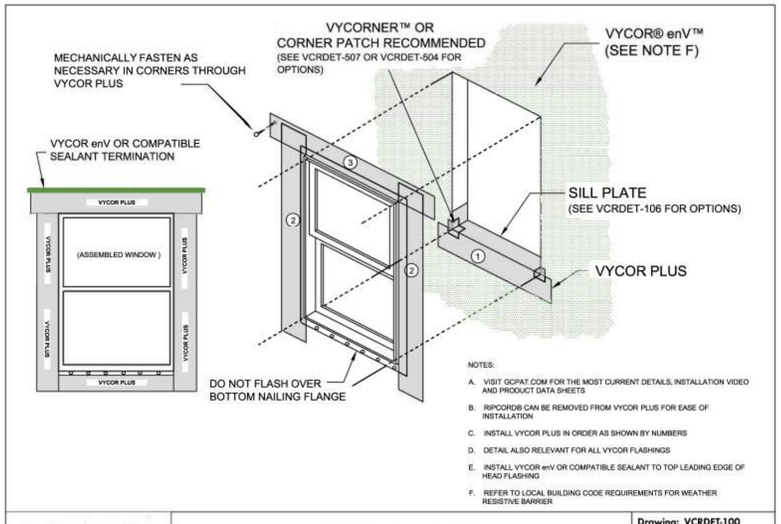
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ROOF DETAILS

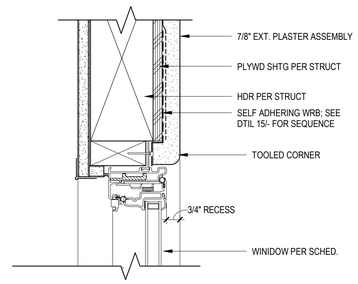
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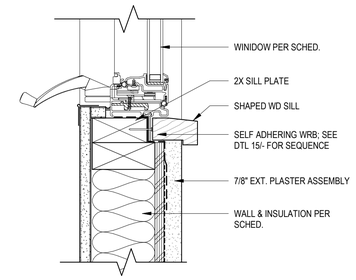
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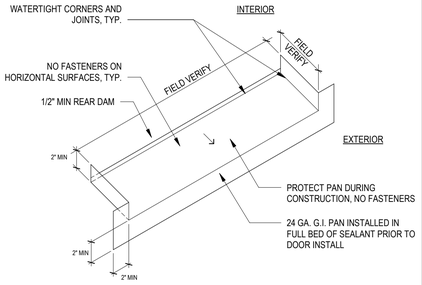
TYP. WINDOW FLASHING 15
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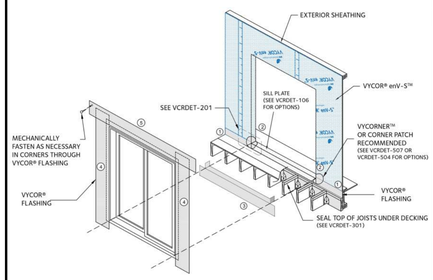
TYP. WINDOW HEAD 04
scale: 3" = 1'-0"



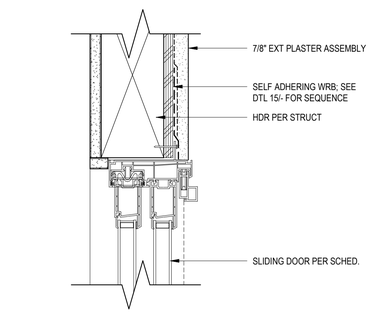
TYP. WINDOW SILL 03
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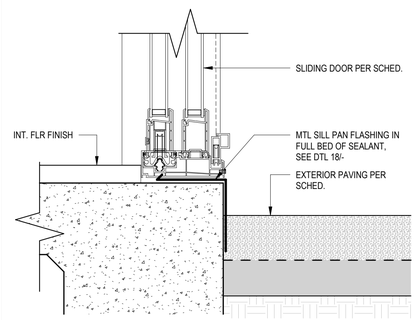
TYP. SHEET METAL SILL PAN 18
scale: 1 1/2" = 1'-0"



TYP. DOOR FLASHING 14
scale: 3" = 1'-0"



TYP. SLIDING DOOR HEAD 02
scale: 3" = 1'-0"



TYP. SLIDING DOOR THRESHOLD 01
scale: 3" = 1'-0"

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RENEWAL DATE
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#	DESCRIPTION	DATE
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2935 MAIDEN LN

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ALTADENA, CA 91001

PROJECT NO: 250415

SCALE:

DRAWING TITLE

DOOR & WINDOW DETAILS

DRAWING NO.

A9.21

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LUMBER & PLYWOOD (NDS 2024 EDITION)

1. GRADE & SIZE: ALL STRUCTURAL LUMBER SHALL BE 454 DOUGLAS FIR OF THE FOLLOWING GRADES UNLESS NOTED OTHERWISE ON FRAMING PLANS.

   STUDS, PLATES AND BLOCKING ..... STANDARD
   JOISTS AND PLANKS 2" TO 4" WIDE
   AND 6" AND DEEPER NO.2
   BEAMS AND STRINGERS (6X AND LARGER) NO.1
   POSTS AND TIMBERS NO.1

   ALL LUMBER SHALL BE GRADE STAMPED BY AN APPROVED GRADING AGENCY.

2. MOISTURE CONTENT: MAXIMUM MOISTURE CONTENT SHALL NOT EXCEED 19% UNLESS NOTED OTHERWISE.

3. PLYWOOD: PLYWOOD SHALL BE STRUCTURAL I, OR CDX GRADE (WITH EXTERIOR TYPE GLUE) AND SHALL CONFORM TO DOC PS1 & PS2. EACH SHEET SHALL BE IDENTIFIED BY A REGISTERED STAMP OR BRAND OF THE A.P.A.

4. PRESSURE TREATED WOOD: ALL WOOD BEARING ON CONCRETE OR MASONRY SHALL BE PRESSURE TREATED DOUGLAS FIR AND CONFORM TO CBC 2304.11 AND APWA U1 COMMODITY SPECIFICATION A OR F.

5. BOLTS: ALL BOLTS BEARING ON WOOD SHALL HAVE SQUARE WASHERS UNDER HEAD AND NUT UNLESS NOTED OTHERWISE. ALL BOLTS SHALL BE RE-TIGHTENED PRIOR TO APPLICATION OF PLYWOOD, PLASTER, OR ANY WALL SHEATHING.

6. HOLES: HOLES FOR BOLTS SHALL BE BORED WITH A BIT 1/32" TO 1/16" LARGER THAN THE NOMINAL BOLT DIAMETER.

7. CUTTING: STRUCTURAL MEMBERS SHALL NOT BE CUT FOR PIPES, ETC. UNLESS SPECIFICALLY NOTED OR DETAILED.

8. BLOCKING: TWO INCH SOLID BLOCKING SHALL BE PLACED BETWEEN JOISTS OR RAFTERS AT ALL SUPPORTS.

9. BRACING: PROVIDE 1" X 6" DIAGONAL LET-IN BRACES OR EQUAL STEEL STRAPS EVERY 25' IN ALL STUD WALLS. NON PLYWOOD SHEATHED BRACING SHALL BE CONTINUOUS FROM TOP TO BOTTOM PLATES.

10. HARDWARE: ALL METAL HARDWARE, CONNECTORS, TIEDOWNS & HOLDOWNS SHALL BE MANUFACTURED BY SIMPSON LARR 22086, 24818 & 25720.

11. FIRE STOPS: PROVIDE 2X FIRE STOPS AT INTERSECTION OF STUD WALLS AND FLOORS, CEILINGS AND ROOFS. PLACE FIRE STOPS AT A MAXIMUM SPACING OF 8'-0" O.C. IN THE VERTICAL DIRECTION. PROVIDE FIRE STOPS IN ALL FURRED SPACES VERTICALLY AND HORIZONTALLY AT A MAXIMUM SPACING OF 8'-0" O.C.

12. NAILING: SEE PLANS AND/OR SCHEDULES FOR NAILING OF VERTICAL AND HORIZONTAL SHEATHING (SHEAR PANELS AND DIAPHRAGMS). INSTALLATION OF VERTICAL AND HORIZONTAL SHEATHING SHALL BE NAILED AND INSPECTED PRIOR TO COVERING. NAILS SHALL BE DRIVEN PERPENDICULAR WHERE POSSIBLE INSTEAD OF USING TOE NAILS. PREDRILL FOR ALL NAILS 20d AND LARGER. NAILING SHALL BE IN ACCORDANCE WITH NAILING SCHEDULES IN APPLICABLE CODES.

13. DOUBLE JOISTS: USE DOUBLE JOISTS UNDER WALLS OR PARTITIONS PARALLEL TO JOISTS. USE SOLID BLOCK UNDER PARTITIONS PERPENDICULAR TO JOISTS. ALL DOUBLE JOISTS SHALL BE NAILED TOGETHER WITH 16d NAILS @ 9" O.C. STAGGERED 1 1/2" FROM EDGES.

14. SILL PLATES: SILL PLATES FOR ALL WALLS SHALL BE ATTACHED TO CONCRETE WITH 5/8" DIAMETERS BY 12" ANCHOR BOLTS AT 4'-0" MAXIMUM ON CENTER AND WITHIN 12" OF THE ENDS OF SILL MEMBERS, UNLESS OTHERWISE NOTED.

15. SPLICE: PLATE SPLICES SHALL HAVE 4'-0" MINIMUM LAP.

16. ALL FLOOR PLYWOOD SHEATHING SHALL HAVE TONGUE AND GROOVE JOINTS GLUE-NAILED TO JOISTS, BLOCKS, NAILERS & BEAMS. USE APPROVED CONSTRUCTION TYPE GLUE. TONGUE & GROOVE JOINTS MUST ALSO BE GLUED.

17. PROVIDE 2x FULL DEPTH SOLID BLOCKING FOR 8'-0" AND LARGER SPANS FOR ALL SOLID-SAWN RECTANGULAR LUMBER BEAMS, RAFTERS AND JOISTS.

18. LAG BOLTS: PROVIDE LEAD HOLE 70% OF THREADED SHANK DIA., AND FULL DIA. FOR SMOOTH SHANK PORTION. SOAP, PARAFFIN OR OTHER APPROVED LUBRICANT SHALL BE USED ON THREADS INSTALLATION SHALL BE BY SCREWING NOT HAMMERING. CARE SHALL BE TAKEN TO AVOID OVER TORQUING BOLT. (91.2337)

19. STUD PENETRATION: BEARING WALL STUDS CANNOT BE NOTCHED MORE THAN 25% OF THEIR WIDTH. BORED HOLES CANNOT HAVE A DIAMETER GREATER THAN 40% OF THE STUD WIDTH.

20. ALL FASTENERS IN CONTACT WITH PRESSURE TREATED DOUGLAS FIR SHALL BE HOT DIPPED GALVANIZED OR STAINLESS STEEL IN ACCORDANCE WITH ASTM A-153.

MFG'D TRUSSES OR JOISTS (ASTM D-5055, LARR-22614) (ICC ESR-1774)

1. ALL MANUFACTURED WOOD TRUSSES SHALL CONFORM TO PRODUCT ACCEPTANCE STANDARDS OF TRUSS PLATE INSTITUTE. THEY SHALL BE MANUFACTURED IN A PLANT APPROVED FOR FABRICATION BY THE LOCAL BUILDING CODE. STRUCTURAL WOOD CHORDS SHALL BE OF MACHINE GRADED LUMBER AND KILN DRIED TO 19% MOISTURE CONTENT. ALL END JOINTS SHALL BE FINGER JOINTS. STEEL WEB MEMBERS SHALL BE DIE STAMPED FROM COLD ROLLED STEEL TUBING WITH A MINIMUM YIELD OF 45 KSI. MANUFACTURER SHALL FURNISH ALL PLATES, BLOCKING, ETC. NECESSARY FOR PERMANENT INSTALLATION TO JOB SITE.

2. SHOP DRAWINGS AND DESIGN CALCULATIONS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO FABRICATION. SHOP DRAWINGS AND DESIGN CALCULATIONS SHALL BE SIGNED BY A LICENSED ENGINEER IN STATE IN WHICH THE PROJECT IS LOCATED.

3. ALL MANUFACTURED WOOD JOISTS SHALL CONFORM TO PRODUCT ACCEPTANCE STANDARDS FOR - TRUS JOIST/MAC MILLAN CORPORATION - PRODUCTS.

4. IF TRUSSES/JOISTS ARE TO BE STORED PRIOR TO ERECTION, THEY SHALL BE STORED IN A VERTICAL POSITION AND PROTECTED FROM WEATHER. TEMPORARY CONSTRUCTION LOADS WHICH ARE EXCESSIVE ARE NOT PERMITTED. SPECIFIED ERECTION BRACING SHALL REMAIN IN PLACE UNTIL THE SHEATING MATERIAL IS APPLIED.

NAILING SCHEDULE (MINIMUM REQUIREMENT) (CBC2022-TABLE 2304.9.1)

CONNECTION (COMMON NAILS ONLY)	NAILING
1. JOIST TO SILL OR GIRDER, TOENAIL	3-8d
2. BRIDGING TO JOIST, TOE NAIL EACH END	2-8d
3. 1"x6"(25mm x 152mm) SUBFLOOR OR LESS TO EACH JOIST, FACE NAIL	2-8d
4. WIDER THAN 1"x6"(25mm x 152mm) SUBFLOOR TO EACH JOIST, FACE NAIL	3-8d
5. 2"(51mm) SUBFLOOR TO JOIST OR GIRDER, BLIND AND FACE NAIL	2-16d
6. SOLE PLATE TO JOIST OR BLOCKING, TYPICAL FACE NAIL	16d @ 16" (406mm) o.c.
SOLE PLATE TO JOIST OR BLOCKING, AT BRACED WALL PANELS	3-16d per 16" (406mm)
7. TOP PLATE TO STUD, END NAIL	2-16d
8. STUD TO SOLE PLATE	4-8d, toenail or 2-16d, end nail
9. DOUBLE STUDS, FACE NAIL	16d @ 24"(610mm) o.c.
10. DOUBLED TOP PLATES, TYPICAL FACE NAIL	16d @ 16"(406mm) o.c.
DOUBLE TOP PLATES, LAP SPLICE	8-16d
11. BLOCKING BETWEEN JOISTS OR RAFTERS TO TOP PLATE, TOENAIL	3-8d
12. RIM JOIST TO TOP PLATE, TOENAIL	8d @ 6"(152mm) o.c.
13. TOP PLATES, LAPS AND INTERSECTIONS, FACE NAIL	2-16d
14. CONTINUOUS HEADER, TWO PIECES	16d @ 16"(406mm) o.c. along each edge
15. CEILING JOISTS TO PLATE, TOENAIL	3-8d
16. CONTINUOUS HEADER TO STUD, TOENAIL	4-8d
17. CEILING JOISTS, LAPS OVER PARTITIONS, FACE NAIL	3-16d
18. CEILING JOISTS TO PARALLEL RAFTERS, FACE NAIL	3-16d
19. RAFTER TO PLATE, TOENAIL	3-8d
20. 1"(25mm) BRACE TO EACH STUD AND PLATE, FACE NAIL	2-8d
21. 1" x 8"(25mm x 203mm) SHEATHING OR LESS TO EACH BEARING, FACE NAIL	2-8d
22. WIDER THAN 1" x 8"(25mm x 203mm) SHEATHING TO EACH BEARING, FACE NAIL	3-8d
23. BUILT-UP CORNER STUDS	16d @ 24" o.c.
24. BUILT-UP GIRDER AND BEAMS	20d @32" o.c. @ top & bottom & staggered 2-20d at ends and at each splice
25. 2"(51mm) PLANKS	2-16d @ EACH BEARING

GLUED LAMINATED TIMBER (AITC A190.1 & ASTM D 3737)

1. MATERIALS, MANUFACTURE AND QUALITY CONTROL SHALL BE IN CONFORMANCE WITH COMMERCIAL STANDARD CS 253 "STRUCTURAL GLUED LAMINATED TIMBER".

2. GLUED LAMINATED BEAMS SHALL BE COMBINATION 24F OF ARCHITECTURAL APPEARANCE GRADE WHERE EXPOSED, AND INDUSTRIAL GRADE WHERE NOT EXPOSED. EXTERIOR GLUE SHALL BE PROVIDED WHERE BEAMS ARE EXPOSED TO WEATHER. NO CAMBER, UNLESS NOTED OTHERWISE.

3. THE GLUED LAMINATED BEAMS SHALL BE FURNISHED BY A CITY OF LOS ANGELES LICENSED FABRICATOR SPECIALIZING IN THIS TYPE OF WORK. THE FABRICATOR SHALL SUBMIT COMPLETE SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL PRIOR TO FABRICATION.

4. AN "AITC CERTIFICATE" OF INSPECTION MUST BE SUBMITTED TO BUILDING AND SAFETY DEPT. PRIOR TO ERECTION OF ANY GLUE-LAM BEAM.

PARALLAM NOTES (LARR 25202, ICC ESR-1387)

1. ALL PARALLAM MEMBERS SHALL BE OF PSL 2.0E QUALITY.
2. LATERAL SUPPORT IS REQUIRED AT ALL BEARING POINTS AND ALONG COMPRESSION EDGE AT 24" ON-CENTER OR CLOSER
3. SIZE COMBINATIONS
   3 1/2" MEMBERS MAY BE TWO PIECES OF $1\frac{3}{4}$" OR A SINGLE $3\frac{1}{2}$" WIDTH BEAM
   $5\frac{1}{4}$" MEMBERS MAY BE THREE PIECES OF $1\frac{3}{4}$" OR ONE PIECE OF $1\frac{3}{4}$" WITH ONE PIECE OF $3\frac{1}{2}$" OR A SINGLE $5\frac{1}{4}$" WIDTH BEAM.
   7" MEMBERS MAY BE TWO PIECES OF $1\frac{3}{4}$" AROUND ONE PIECE OF $3\frac{1}{2}$", OR TWO PIECES OF $3\frac{1}{2}$", OR A SINGLE 7" WIDTH BEAM.

MASONRY NOTES (ACI 530.1-14, ASCE 7-16 & TMS 402-22)

1. BLOCKS: CONCRETE BLOCK SHALL BE OF SIZE SHOWN ON STRUCTURAL DRAWINGS AND SHALL CONFORM TO ASTM C-90 GRADE N LIGHT WEIGHT UNITS, UNLESS NOTED OTHERWISE.
2. MORTAR: SHALL BE COMPOSED OF NOT LESS THAN 1/4 PART NOR MORE THAN 1/2 PART LIME PUTTY OR DRY HYDRATED LIME, 1 PART PORTLAND CEMENT, AND 4 PARTS SAND BASED ON DRY, LOOSED VOLUMES. THE TOTAL CLAY CONTENTS, INCLUDING THAT IN THE SAND, SHALL NOT EXCEED 2% OF SAND CONTENT OR 6% OF THE CEMENT CONTENT.
3. GROUT: NOT LESS THAN 7 SACKS OF CEMENT PER CUBIC YARD, FLUID CONSISTENCY, FOR POURING WITHOUT SEGREGATION OF CONSTITUENT PARTS. ($f'c$=2,500 Psi)
4. MIX:1 PART PORTLAND CEMENT TO NOT MORE THAN 3 PARTS PER GRAVEL, 3/8 INCH MAXIMUM SIZE COARSE AGGREGATE, GROUT FILL USING COARSER AGGREGATE MAY BE USED IF MIX IS PROPERLY DESIGNED AND APPROVED BY ENGINEER. MAXIMUM SIZE OF AGGREGATE: MAX. 1/5 LEAST LATERAL DIMENSION OF CELL TO BE FILLED. MINIMUM COMPRESSIVE STRENGTH OF 2500 PSI AT 28 DAYS. ONLY APPROVED ADMIXTURES MAY BE ADDED.
5. MIXING: PLACE THE SAND, CEMENT AND WATER IN MIXER IN THAT ORDER FOR EACH BATCH OF MORTAR OR GROUT AND MIX FOR A PERIOD OF AT LEAST 2 MINUTES. ADD THE SAND AND CONTINUE MIXING FOR AS LONG AS NEEDED TO SECURE A UNIFORM MASS, BUT IN NO CASE LESS THAN 10 MINUTES. USE MIXERS TO SECURE A UNIFORM CAPACITY. BATCHES REQUIRING FRACTIONAL SACKS WILL NOT BE PERMITTED UNLESS CEMENT IS WEIGHT FOR EACH SUCH BATCH. RETEMPER MORTAR ONLY BY ADDING WATER INTO A BATCH MADE WITH MORTAR AND THEN CAREFULLY WORKING THE WATER INTO THE MORTAR. RETEMPERING THE MORTAR BY DASHING WATER OVER THE MORTAR SHALL NOT BE PERMITTED. ANY MORTAR OR GROUT WHICH IS UNUSED WITHIN ONE HOUR AFTER THE INITIAL MIXING SHALL BE REMOVED FROM THE WORK. MORTAR SHALL BE MIXED AND MAINTAINED ON BOARDS TO SLUMP OF 2-3/4 INCHES PLUS OR MINUS 1/4".
6. CONSTRUCTION JOINTS: WHEN GROUTING IS STOPPED FOR A PERIOD OF ONE HOUR OR LONGER, FORM HORIZONTAL CONSTRUCTION JOINTS BY STOPPING THE GROUT POUR 1-1/2 INCHES MINIMUM BELOW THE UPPERMOST UNIT.
7. ALIGNMENT OF VERTICAL CELLS: ALL MASONRY SHALL BE BUILT TO PRESERVE THE UNOBSTRUCTED VERTICAL CONTINUITY OF CELLS TO BE FILLED. THE VERTICAL ALIGNMENT SHALL BE SUFFICIENT TO MAINTAIN A CLEAR UNOBSTRUCTED VERTICAL FLUE MEASURING NOT LESS THAN 3 INCHES BY 3 INCHES.
8. LAYING; IN PLACING MORTAR IN HORIZONTAL JOINTS, COMPLETELY COVER THE FACE SHELLS OF THE UNITS WITH MORTAR. SOLIDLY FILL ALL HEAD JOINTS. LAY ALL MASONRY WITH COMMON BOND. HOLD RAKING TO A MINIMUM.
9. GROUT PLACEMENT: MAXIMUM GROUT LIFT SHALL BE 4'-0"(U.N.O.) NON CONTINUOUS POURS SHALL BE STOPPED 1 1/2" BELOW THE TOP OF A COURSE TO FORM A KEY AT POUR JOINTS.
   A. GROUT ALL CELLS SOLID (U.N.O.)
   B. SOLID ONLY CELLS CONTAINING REINFORCEMENTS, ANCHORS, BOLTS, INSERTS, ETC. WHERE NOTED.
10. PROVIDE CLEANOUT OPENINGS AT THE BOTTOM OF ALL VERTICALLY GROUTED CELLS IF GROUT LIFT EXCEEDS 4'-0".
11. NO PIPES OR DUCTS SHALL BE PLACED IN MASONRY WALLS UNLESS SPECIFICALLY NOTED OR DETAILED.
12. DOWELS IN MASONRY WALLS SHALL BE THE SAME SIZE AND SPACING AS VERTICAL WALL REINFORCING (U.N.O.).
13. ALL VERTICAL REINFORCING IN MASONRY WALLS NOT RETAINING EARTH SHALL BE LOCATED IN CENTER OF THE WALLS.
14. SEE MECHANICAL, ELECTRICAL AND ARCHITECTURAL DRAWINGS FOR OPENINGS IN WALLS LESS THAN 8" IN DIMENSIONS. PROVIDE STANDARD PIPE SLEEVES AT THESE OPENINGS.
15. STRENGTH: ULTIMATE TEST PRISM COMPRESSIVE STRENGTH, f'_m SHALL BE 1500 PSI. (U.N.O.)
16. MASONRY REBAR LAP LENGTHS:

BAR SIZE	GRADE	WALLS WITH SPEC. INSPECTION
#4	40	24"
#5	60	36"
#6	60	44"
#7	60	51"
#8	60	58"

17. MIN. EDGE DISTANCE OF EMBEDDED ANCHOR BOLT SHALL BE 2".
18. MIN. EMBEDMENT LENGTH OF ANCHOR BOLT SHALL BE 4 TIMES BOLT DIA.

CONCRETE (ACI 318-19)

1. STRENGTH & QUALITY: CONCRETE STRENGTH AT 28 DAYS SHALL BE MINIMUM $f'c$=2500 PSI OR AS INDICATED BELOW:

CONCRETE QUALITY: CONCRETE USE	STRENGTH	SLUMP	AGG.SIZE
EXTERIOR WALKS AND CURBS	2500 @ 28 DAYS	4 1/2"	1"
GRADE SLAB AND WALL FOUNDATION	2500 @ 28 DAYS	4 1/2"	1"
MAT & PAD FOUNDATION	3000 @ 28 DAYS	4 1/2"	1"
COLUMNS	4000 @ 28 DAYS	4 1/2"	3/4"
STRUCTURAL SLAB	4000 @ 28 DAYS	4 1/2"	3/4"
WALLS	4000 @ 28 DAYS	4 1/2"	3/4"
GRADE BEAM	3000 @ 28 DAYS	4 1/2"	3/4"
PILES	4000 @ 28 DAYS	4 1/2"	3/4"

2. CEMENT: ALL CEMENT SHALL CONFORM TO ASTM C-150, TYPE II, UNLESS ALKALINE SOILS ARE PRESENT.
3. AGGREGATES: ALL CONCRETE UNLESS OTHERWISE NOTED SHALL BE REGULAR WEIGHT HARD ROCK TYPE (150 LBS/CU.FT.). AGGREGATES SHALL CONFORM TO ASTM C-33 WITH PROVEN SHRINKAGE CHARACTERISTICS OF LESS THAN .005.
4. CURING: CONCRETE SHALL BE MAINTAINED IN A MOIST CONDITION FOR A MINIMUM OF FIVE (5) DAYS AFTER PLACEMENT. APPROVED CURING COMPOUNDS MAY BE USED IN LIEU OF MOST CURING. STRENGTH TEST OF CONCRETE SHALL BE REQUIRED AS PER SECTION 1904 OF C.B.C. 2013 PLACEMENT OF CONCRETE AND REINFORCING STEEL SHALL BE INSPECTED BY A QUALIFIED SPECIAL INSPECTOR FROM AN AGENCY APPROVED BY THE BUILDING DEPARTMENT. KEYED CONSTRUCTION JOINTS SHALL BE USED IN ALL CASES. ALL CONSTRUCTION JOINTS SHALL BE THOROUGHLY CLEANED AND ALL LAITANCE SHALL BE REMOVED. ALL VERTICAL JOINTS SHALL BE THOROUGHLY WETTED AND SLUSHED WITH A COAT OF NEAT CEMENT IMMEDIATELY BEFORE PLACING NEW CONCRETE.
5. SLEEVES: SLEEVES NOT SPECIFICALLY SHOWN ON THE DRAWING SHALL BE LOCATED BY THE TRADES INVOLVED AND SHALL BE REVIEWED BY THE ENGINEER BEFORE CONCRETE IS PLACED. IT SHALL BE THE TRADES TO INSURE PROPER PLACEMENT OF OPENING, SLEEVES, CURBS, CONDUITS, ETC., RELATING TO THE WORK.
6. INSERTS: ALL ITEMS TO BE CAST IN CONCRETE SUCH AS REINFORCING BARS, DOWELS, BOLTS, ANCHORS, PIPES, SLEEVES, ETC., SHALL BE SECURELY POSITIONED IN THE FORMS BEFORE PLACING THE CONCRETE.
7. SEGREGATION OF AGGREGATES: CONCRETE SHALL NOT BE DROPPED THROUGH REINFORCING STEEL (AS IN WALLS AND COLUMNS) SO AS TO CAUSE SEGREGATION OF AGGREGATES. USE HOPPERS, CHUTES OR TRUNKS OF VARYING LENGTH SO THAT THE FREE UNCONFINED FALL OF CONCRETE SHALL NOT EXCEED FIVE FEET, AND A SUFFICIENT NUMBER SHALL BE USED TO ENSURE THE CONCRETE BEING KEPT LEVEL AT ALL TIMES.
8. DOWELING: ALL WALLS AND COLUMNS SHALL BE DOWELED INTO FOOTINGS, WALLS, BEAMS OR SLABS WITH BARS OF THE SAME SIZE AND SPACING AS THE WALL BARS EXCEPT WHERE SPECIFICALLY INDICATED OTHERWISE WITH 30 BAR DIAMETER LAP.
9. SPLICES: SPLICES IN CONTINUOUS REINFORCEMENT AS USED IN WALL, GRADE BEAMS, ETC., SHALL HAVE A LAP OF 30 TIMES BAR DIAMETERS BUT NOT LESS THAN 12 INCHES. THE SPLICES IN ADJACENT BARS SHALL NOT BE LESS THAN 3'-0" APART. VERTICAL WALL BARS SHALL BE SPLICED AT OR NEAR FLOOR LINES.
   SPLICE BARS IN SPANDRELS, WALLS, BEAMS, GRADE BEAMS, ETC., AS FOLLOWS: TOP BARS AT CENTER LINE OF SPAN, BOTTOM BARS AT THE SUPPORT: ALL REINFORCING STEEL SHALL BE SECURELY WIRED AND PROPERLY SUPPORTED ABOVE GROUND AND AWAY FROM THE FORMS.
10. CONSTRUCTION JOINTS: SHALL HAVE ENTIRE SURFACE REMOVED TO EXPOSE CLEAN AGGREGATE SOLIDLY EMBEDDED. THE CONTRACTOR SHALL OBTAIN THE ENGINEER'S APPROVAL OF CONSTRUCTION JOINT LOCATION OTHER THAN DETAILED OR SPECIFIED IN ALL SLABS, BEAMS AND SHEAR WALLS.
11. PIPES: PIPES OTHER THAN ELECTRICAL CONDUITS SHALL NOT BE EMBEDDED IN STRUCTURAL CONCRETE EXCEPT WHERE SPECIFICALLY APPROVED BY THE ENGINEER.
12. INSPECTION: THE FOLLOWING SPECIAL INSPECTIONS SHALL BE PERFORMED WHEN THE CONCRETE DESIGN STRENGTH IS GREATER THAN $f'c$ = 2500 PSI;
   a. REINFORCEMENT
   b. CONCRETE PLACING
   c. CONCRETE STRENGTH
13. DRYPACK: DRYPACK SHALL BE COMPOSED OF ONE PART PORTLAND CEMENT TO NOT MORE THAN THREE PARTS SAND. DRYPACKING OR NON-SHRINK GROUTING SHALL HAVE MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 2500 PSI @ 7 DAYS.
14. MISC. ITEMS: REFER TO ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR MISCELLANEOUS ITEMS TO BE CAST INTO CONCRETE AND MASONRY. DO NOT CUT OR DEFORM PRIMARY REINFORCING BARS WITHOUT CONSENT OF THE ENGINEER.
15. FINISH: SEE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR SCORING AND FINISHING FOR CONCRETE SLABS AND STRUCTURAL CONCRETE.
16. BOLTS: BOLTS EMBEDDED IN CONCRETE TO BE ASTM A-307 U.N.O.
17. VIBRATION: VIBRATION OF CONCRETE SHALL BE IN ACCORDANCE WITH THE GENERAL PROVISIONS OUTLINED IN PORTLAND CEMENT ASSOCIATION SPECIFICATION ST26.
18. LIGHT WEIGHT CONCRETE: LIGHT WEIGHT CONCRETE USED WHERE INDICATED SHALL HAVE A MAXIMUM DENSITY OF 112 LBS/CU.FT. AGGREGATES SHALL BE EXPANDED SHALE TYPE CONFORMING TO ASTM C-330. PLACEMENT OF CONCRETE SHALL BE IN CONFORMANCE WITH THE ACI SPEC.301.
19. REBAR COVER: MINIMUM COVERAGE SHALL BE AS FOLLOWS:
   3" WHERE CONCRETE IS DEPOSITED DIRECTLY AGAINST GROUND, EXCEPT SLABS ON GRADE.
   2" WHERE CONCRETE IS EXPOSED TO GROUND BUT PLACED IN FORMS.
   1 1/2" FOR MAIN BARS IN BEAMS, TIED COLUMNS AND TIED BARS IN WALLS.
   1 1/2" FOR TIES IN COLUMNS.
   1 1/2" FOR WALL BARS TO WEATHER SURFACE: 1" TO PROTECTED SURFACES.
   1 1/2" FOR BARS IN SLABS ON GRADE.
   1" FOR BARS IN SLABS.
20. BOLTS IN CONCRETE OR CONCRETE BLOCK: LENGTH OF EMBEDMENT OF ANCHOR BOLTS IN MASONRY OR CONCRETE SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED.

SIZE OF BOLT	LENGTH OF EMBEDMENT
1/2"	4"
5/8"	5"
3/4"	6"
7/8"	7"
1"	8"
1-1/2"	9"

DRILLED AND DRYPACKED OR GROUTED BOLTS SHALL HAVE 1" CLEAR FROM BOLT TO EDGE OF HOLE.

REINFORCING STEEL (ACI 318-19)

1. GENERAL: DESIGN, DETAILING, FABRICATION, PLACEMENT AND SPECIAL INSPECTION SHALL BE IN ACCORDANCE WITH ACI CODES AND MANUALS 318-14, 318R-14, IBC2018 & CBC2019. STEEL REINFORCEMENT SHALL BE NEW DEFORMED BILLET STEEL, MEETING ASTM STANDARD "A" 615-68; GRADE 60 KSI FOR #4 AND LARGER BARS, EXCEPT AS NOTED; GRADE 40 KSI FOR #3 AND SMALLER BARS. SHOP DRAWINGS SHALL BE MARKED ACCORDINGLY AND SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO FABRICATION. GRADE 60 KSI REBARS SHALL NOT BE BENT IN FIELD AFTER PLACING.
2. LAPS: ALL TENSIONS SPLICES ARE ACCORDING TO ACI 318-14, CLASS C, OR 48 TIMES BAR DIAMETERS AND ALL COMPRESSION SPLICES 40 TIMES DIAMETERS (U.N.O.).
3. WELDING: TACK WELDING OF REBARS IS NOT PERMITTED UNLESS CALLED FOR OR APPROVED BY THE ENGINEER.
4. REINFORCING: ALL REINFORCING SHALL BE SECURELY TIED AND BRACED IN PLACE PRIOR TO POURING CONCRETE OR GROUTING MASONRY.
5. WIRE FABRIC: WELDED WIRE FABRIC (WWM OR WWF) SHALL CONFORM TO ASTM A-82 AND A-185. LAP 1 1/2 SPACES OR 9" MINIMUM.

STRUCTURAL STEEL AISC MANUAL - 16TH EDITION

1. MATERIAL:
   GENERAL: ALL STRUCTURAL AND MISCELLANEOUS STEEL SHALL CONFORM TO MATERIAL REQUIREMENTS OF AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) MANUAL 16TH EDITION TABLES 2-3 TO 2-5.
   SEISMIC LOAD RESISTING SYSTEM (SLRS): ALL STRUCTURAL STEEL USED IN THE SLRS SHALL CONFORM TO ASTM SPECIFICATIONS OF A572/A572M, A913/A913M & A992/A992M (Fy=50ksi)
2. FABRICATION & ERECTION: ALL STRUCTURAL AND MISCELLANEOUS STEEL STRUCTURES SHALL BE DESIGNED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE REQUIREMENTS & SPECIFICATIONS OF AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) MANUAL LATEST EDITION.
3. PIPE COLUMNS: PIPE COLUMNS SHALL CONFORM TO ASTM A-53, GRADE B U.N.O. SULFUR CONTENT SHALL BE LESS THAN OR EQUAL TO 0.05%.
4. TUBES: STEEL TUBES SHALL CONFORM TO ASTM A-501, U.N.O. SULFUR CONTENT SHALL BE LESS THAN OR EQUAL TO 0.05%.
5. BOLTS: BOLTS SHALL CONFORM TO ASTM A-325, U.N.O.
6. SHOP DRAWINGS: STRUCTURAL STEEL SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO FABRICATION AND ERECTION.
7. PROTECTION: HOT DIP GALVANIZE OR PROVIDE 3" MINIMUM CONCRETE COVER AROUND ALL STRUCTURAL STEEL BELOW GRADE. STRUCTURAL STEEL EMBEDDED IN CONCRETE OR MASONRY SHALL BE UNPAINTED.
8. WELDING: ALL WELDING IS TO COMPLY WITH AWS SPECIFICATION AND IS TO BE DONE BY WELDERS CERTIFIED FOR THE TYPE OF WELDING TO BE PERFORMED AS REQUIRED BY THE DEPARTMENT OF BUILDING AND SAFETY.
9. ALL WELDING IS TO BE DONE BY ELECTRIC ARC PROCESS WITH E70XX ELECTRODES.
10. ALL WELDING SHALL BE DONE IN THE SHOP OF A CITY OF LOS ANGELES LICENSED FABRICATOR OR WITH CONTINUOUS INSPECTION BY A REGISTERED DEPUTY BUILDING INSPECTOR, U.N.O.
11. ALL BUTT WELDS SHALL BE FULL PENETRATION WELDS UNLESS OTHERWISE INDICATED ON THE DRAWINGS. ALL BUTT WELDS SHALL BE STANDARD PREQUALIFIED WELDS. IF OTHER JOINT FORMS ARE USED TESTING AND QUALIFICATION OF JOINTS SHALL BE IN ACCORDANCE WITH AWS STANDARD QUALIFICATIONS PROCEDURE.
12. CONTINUOUS DEPUTY INSPECTION IS REQUIRED FOR ALL FIELD WELDING.
13. THE USE OF ROLLED STEEL SECTIONS AND/OR BOLTS MANUFACTURED OUTSIDE OF THE UNITED STATES WILL REQUIRE VERIFICATION THAT THE PRODUCTS COMPLY WITH APPLICABLE ASTM STANDARDS. MILL CERTIFICATES WILL BE REQUIRED FOR ALL STEEL. STEEL GRADES OTHER THAN ASTM-36 WILL REQUIRE TESTING BY AN APPROVED LABORATORY. ALL FOREIGN BOLTS MUST BE APPROVED BY LOS ANGELES COUNTY BUILDING AND SAFETY PRIOR TO THEIR USE.
14. STRUCTRUAL STEEL MEMBERS USED IN SEISMIC LOAD RESISTING SYSTEM (SLRS) WITH A FLANGE THICKNESS OF MORE THAN 1.5" SHALL HAVE A CHARPY V-NOTCH (CVN) TOUGHNESS OF 20 FT-LBS AT 70 DEGREE(F) TESTED IN THE ALTERNATE CORE LOCATION AS DESCRIBED IN ASTM A6 SUPPLEMENTARY REQUIREMENT S30

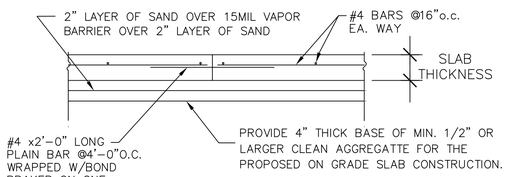
FOUNDATIONS & RETAINING WALLS

1. IN THE EVENT OF ADVERSE SOIL CONDITION SERVICES OF A GEOTECHNICAL ENGINEER IS REQUIRED
2. INSPECTION: FOUNDATION EXCAVATION AND REINF. SHALL BE INSPECTED BY CITY INSPECTOR PRIOR TO PLACEMENT OF CONCRETE.
3. BEARING: THE FOUNDATION DESIGN IS BASED ON A BEARING CAPACITY OF (1500 PSF), AND ALL FOOTINGS SHALL BE FOUNDED AT LEAST 24" BELOW LOWEST ADJACENT GRADE OR FINISH GRADE, WHICHEVER IS LOWER.
4. BASE: ALL FOOTINGS SHALL BE FOUNDED IN BEDROCK.
5. COMPACTION: MATERIAL FOR FILLING AND BACKFILLING SHALL CONSIST OF THE EXCAVATED MATERIAL AND/OR IMPORTED BORROW AND SHALL BE FREE OF ORGANIC MATTER, TRASH, LUMBER OR OTHER DEBRIS. BACKFILL AROUND THE EXTERIOR WALLS SHALL NOT BE PLACED UNTIL AFTER THE WALLS ARE SUPPORTED BY THE COMPLETION OF INTERIOR FLOOR SYSTEMS. DO NOT PROCEED WITH BACKFILL UNTIL 7 DAYS MINIMUM AFTER THE COMPLETION OF INTERIOR FLOOR SYSTEMS UNLESS WALLS ARE ADEQUATELY BRACED. BACKFILL SHALL NOT BE PLACED UNTIL AFTER COMPLETION AND INSPECTION OF DAMP PROOFING. FILL AND BACKFILL SHALL BE DEPOSITED IN LAYERS NOT TO EXCEED 8 INCHES THICK PROPERLY MOISTENED TO APPROXIMATE OPTIMUM REQUIREMENTS AND THOROUGHLY ROLLED OR COMPACTED WITH APPROVED EQUIPMENT IN SUCH A MANNER AND EXTENT AS TO PRODUCE A RELATIVE COMPACTION OF 90% OF MAXIMUM POSSIBLE DENSITY FOR OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D1557-54 METHOD OF COMPACTION. HAND TAMPERS SHALL WEIGHT AT LEAST 50 LBS. EACH SHALL HAVE A FACE AREA NOT IN EXCESS OF 64 SQUARE INCHES. HAND TAMPER MAY BE OPERATED EITHER MANUALLY OR MECHANICALLY AND SHALL BE USED WHERE LARGER POWER DRIVEN COMPACTION EQUIPMENT CANNOT BE USED. ALL COMPACTION SHALL CONFORM TO METHODS DESCRIBED IN THE SOIL REPORT.
6. GRADE SLAB: GRADE SLAB SHALL BE SUPPORTED ON COMPACTED SOIL.
7. BACKFILL: BACKFILLING BEHIND A RETAINING WALL SHALL NOT BE PLACED UNTIL THE CONCRETE OR MASONRY OB

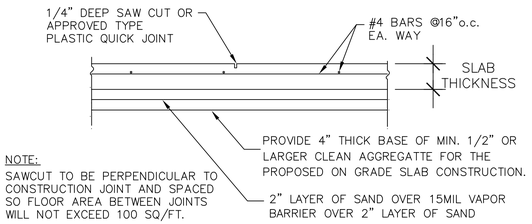
CONCRETE SLAB ON GRADE

1) PROVIDE 4" THICK BASE OF MIN. ½" OR LARGER CLEAN AGGREGATTE FOR THE PROPOSED ON GRADE SLAB CONSTRUCTION.
2) THE VAPOR BARRIER SHALL BE PROVIDED IN DIRECT CONTACT WITH CONCRETE FOR THE PROPOSED SLAB ON GRADE CONSTRUCTION.
3) THE VAPOR BARRIER SHALL CONFORM WITH ASTM E1745 CLASS A & TO BE INSTALLED IN ACCORDANCE WITH ASTM E1643 STANDARDS

5" MIN. THICKNESS CONCRETE GRADE SLAB (f'c=2500 PSI) WITH #4@16" O.C. REINF. EACH WAY OVER 15 MIL VAPOR BARRIER OVER 4" THICK AGGREGATE BASE OVER EXISTING COMPACTED SOILS



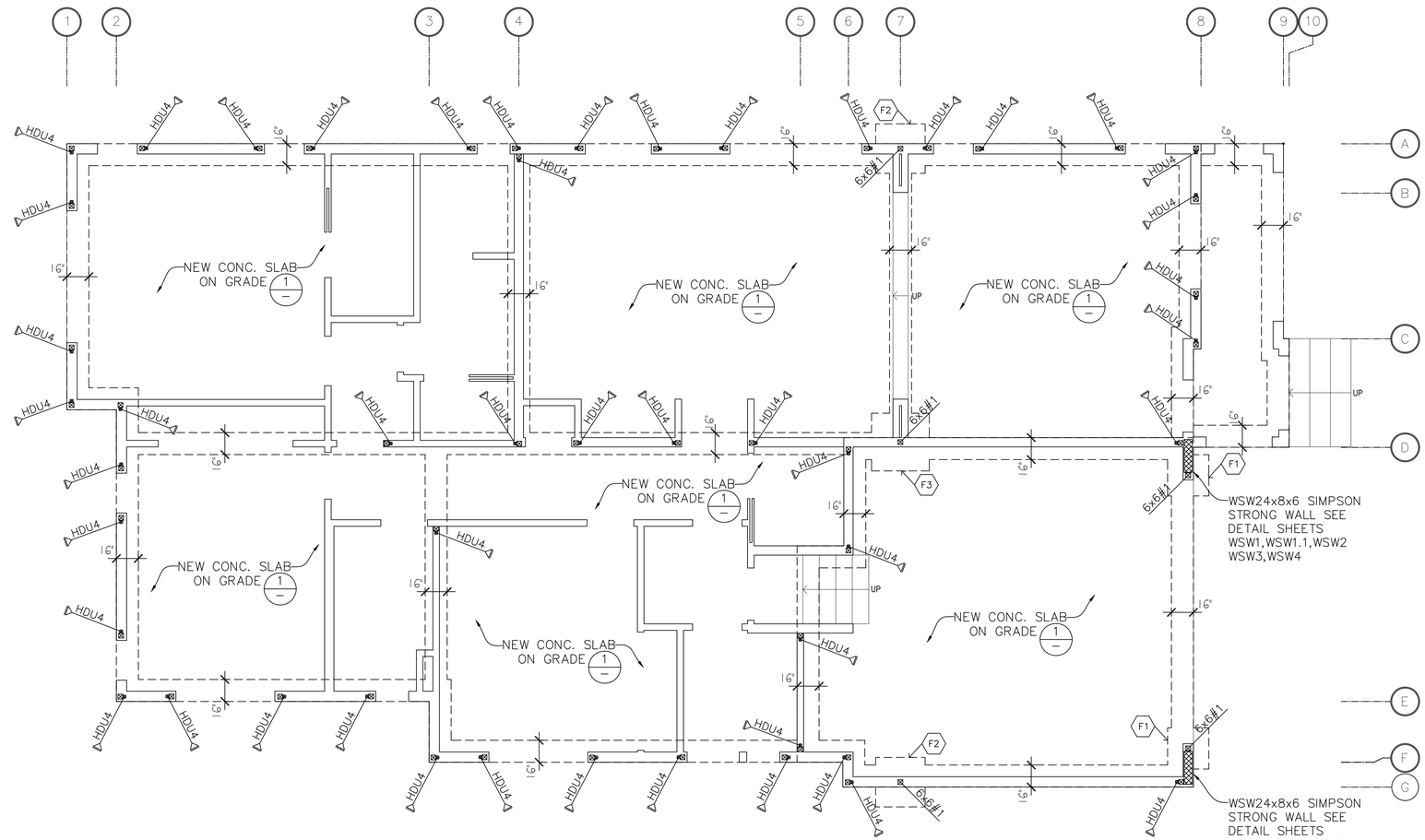
CONSTRUCTION JOINT



NOTE:
SAWCUT TO BE PERPENDICULAR TO CONSTRUCTION JOINT AND SPACED SO FLOOR AREA BETWEEN JOINTS WILL NOT EXCEED 100 SQ/FT.

CONTRACTION JOINT

FTS-02
1 DETAIL



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

NOTES:

1. FOR GENERAL NOTES, SPECIFICATIONS, SHEARWALL SCHEDULE, LEGEND ABBREVIATIONS SEE SHEET S-1.
2. FOR DETAILS, SEE SHEETS S-4, S-5, S-6. & WSW1, WSW1.1, WSW2, WSW3.
3. CONTRACTOR TO STUDY ALL PLANS PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES ON PLAN.
4. SEE ARCHITECTURAL DRAWINGS FOR EXACT DIMENSIONS. CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION.
5. CONTRACTOR TO REVIEW SOIL REPORT PRIOR TO EXCAVATION, GRADING AND FOUNDATION CONSTRUCTION.
6. INSTALL ALL HOLDOWN HARDWARE AND ANCHOR BOLTS PRIOR TO FOUNDATION INSPECTION AND POURING CONCRETE.
7. ALL SILL PLATES @ SHEARWALLS ARE 3x PRESSURE TREATED.
8. FOR HOLDOWN & ANCHOR BOLTS DETAILS SEE (5/S-4) (6/S-4)

REQUIRED SPECIAL INSPECTIONS

IN ADDITION TO THE REGULAR INSPECTIONS, THE FOLLOWING LISTED ITEMS WILL ALSO REQUIRE SPECIAL INSPECTION IN ACCORDANCE WITH CBC SECTION 1704

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	CBC CODE REFERENCE	NOTES / REMARKS
1. HIGH STRENGTH BOLTS	X		1704.3.3	TABLE 1704.3
2. STEEL STRUCTURE WELDING	X		1704.3.1	TABLE 1704.3
3. SHOTCRETE WALL – CONCRETE	X		1913.10/1913.6/1913.7/1913.8	TABLE 1704.4
4. SHOTCRETE WALL REINFORCEMENT		X	1913.4	
5. MASONRY		X	1704.5	TABLE 1704.5.1
6. CONCRETE WALL – CONCRETE	X		1913.10/1913.6/1913.7/1913.8	TABLE 1704.4
7. CONCRETE WALL REINFORCEMENT		X	1913.4	TABLE 1704.4
8. CONCRETE SLAB – CONCRETE	X		1913.10/1913.6/1913.7/1913.8	TABLE 1704.4
9. CONCRETE SLAB REINFORCEMENT		X	1913.4	TABLE 1704.4
10. EPOXY ANCHORS	X			
11. SHEAR WALL PLYWOOD NAILING		X	1705.3	4"o.c. and LESS NAIL SPACING
12. SIMPSON STRONG WALL		X	1705.3	

NOTES:

1) THE FOUNDATION BOLTS SHALL BE 1/2" DIAMETER FOR SDC Do, D1 OR D2, OR 5/8" DIAMETER DOE SDC E OR F. FOUNDATION BOLTS SHALL BE EBEDDED AT LEAST 7" INTO THE CONCRETE OR MASONRY FOUNDATION SPACED NOT MORE THAN 6FT APART AND PROVIDED WITH 0.229" X3"X3" PLATE WASHERS.
2) FOUNDATION SILLS SHALL BE NATURALLY DURABLE OR PRESERVATIVE-TREATED WOOD. FIELD-CUT ENDS NOTCHES AND DRILLED HOLES OF PRESERVATIVE-TREATED WOOD SHALL BE FIELD TREATED PER AWPA M4.
3) HOLD-DOWN CONNECTER BOLTS INTO WOOD FRAMING REQUIRE 0.229"x3"x3" PLATE WASHERS ON THE POST OPPOSITE THE HOLD-DOWN. ALL HOLDOWNS SHALL BE RE-TIGHTEN TO FINGER TIGHT PLUS ONE-HALF WRENCH TURN JUST PRIOR TO COVERING THE WALL FRAMING.
4) ALL FASTENERS IN CONTACT WITH PRESSURE TREATED DOUGLAS FIR SHALL BE HOT DIPPED GALVANIZED OR STAINLESS STEEL IN ACCORDANCE WITH ASTM A-153.

FOOTING SCHEDULE

TYPE	SIZE (SQ.)	THICKNESS	REINF. EA WAY TOP & BOTTOM
F1	2'-6"	18"	4-#4
F2	3'-0"	18"	4-#4
F3	3'-6"	18"	5-#4

LEGEND:
——— STUD WALL

REVISIONS	DATE	BY
ISSUED FOR PLAN CHECK	11-21-25	AK

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Kazarians Engineering Services, Inc.
CIVIL & STRUCTURAL CONSULTANTS
1528 CANADA BLVD. SUITE 206
GLENDALE, CA 91208-2840
TEL. 818-240-8763

REGISTERED PROFESSIONAL ENGINEER
JOHNNES KAZARIANS
No. C36687
Exp. 06-30-26
CIVIL
STATE OF CALIFORNIA

2935 MAIDEN LN., ALTADENA, CA
NEW ONE STORY SFD

DATE: 11-17-25
SCALE: AS SHOWN
DRAWN: VY
DESIGNED: AK
JOB: 25-
SHEET **S-2**

CITY OF LOS ANGELES SPECIFIC NOTES:

1–CONTRACTORS RESPONSIBLE FOR THE CONSTRUCTION OF A WIND OR SEISMIC FORCE RESISTING SYSTEM/COMPONENT LISTED IN THE "STATEMENT OF SPECIAL INSPECTION" SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE LADBS INSPECTORS AND THE OWNER PRIOR TO THE COMMENCEMENT OF WORK ON SUCH SYSTEM OR COMPONENT PER SEC. 1704.4.

2–CONTINUOUS SPECIAL INSPECTION BY A REGISTERED DEPUTY INSPECTOR IS REQUIRED FOR FIELD WELDING,POST–INSTALLED ADHESIVE ANCHORS INSTALLED HORIZONTALLY OR UPWARDLY INCLINED TO RESIST SUSTAINED TENSION LOADS, SHOTCRETE PLACEMENT, CONCRETE STRENGTH f'c>2500 psi, HIGH STRENGTH BOLTING, SPRAYED–ON FIREPROOFING, ENGINEERED MASONRY, HIGH–LIFT GROUTING, HIGH LOAD DIAPHRAGMS, SPECIAL MOMENT–RESISTING CONCRETE FRAMES, AND HELICAL PILE FOUNDATIONS. (1704 & CHAPTERS 19, 21, AND 22).

3–FOUNDATION SILLS SHALL BE NATURALLY DURABLE OR PRESERVATIVE–TREATED WOOD.

4–FIELD WELDING TO BE DONE BY WELDERS CERTIFIED BY THE LADBS FOR (STRUCTURAL STEEL) (REINFORCING STEEL) (LIGHT GAUGE STEEL). CONTINUOUS INSPECTION BY A DEPUTY INSPECTOR IS REQUIRED.

5–SHOP WELDS MUST BE PERFORMED IN A LADBS LICENSED FABRICATOR'S SHOP.

6–LADBS LICENSED FABRICATOR IS REQUIRED FOR MANUFACTURED TRUSSES AND STRUCTURAL STEEL MEMBERS.

7–GLUED–LAMINATED TIMBERS MUST BE FABRICATED IN A LADBS LICENSED SHOP. IDENTIFY GRADE SYMBOL AND LAMINATION SPECIES PER 2015 NDS SUPPLEMENT TABLE 5A.

8–PROVIDE LEAD HOLE 40% TO 70% OF THREADED SHANK DIAMETER AND FULL DIAMETER FOR SMOOTH SHANK PORTION.

9–PERIODIC SPECIAL INSPECTION IS REQUIRED FOR WOOD SHEAR WALLS, SHEAR PANELS, AND DIAPHRAGMS, INCLUDING NAILING, BOLTING, ANCHORING, AND OTHER FASTENING TO COMPONENTS OF THE SEISMIC FORCE RESISTING SYSTEM. SPECIAL INSPECTION BY A DEPUTY INSPECTOR IS REQUIRED WHERE THE FASTENER SPACING OF THE SHEATHING IS 4 INCHES ON CENTER OR LESS. (1705.12.2)

10–SPECIAL ACTIVITY INSPECTION IS REQUIRED FOR (BUILDING OVER 5 STORIES OR 60' IN HEIGHT) (BUILDING OVER 50,000 SF OF GROUND FLOOR AREA) (BUILDING OVER 200,000 SF OF TOTAL FLOOR AREA. (1705.1.6)

11–A COPY OF THE LOS ANGELES RESEARCH REPORT AND/OR CONDITIONS OF LISTING SHALL BE MADE AVAILABLE AT THE JOB SITE.

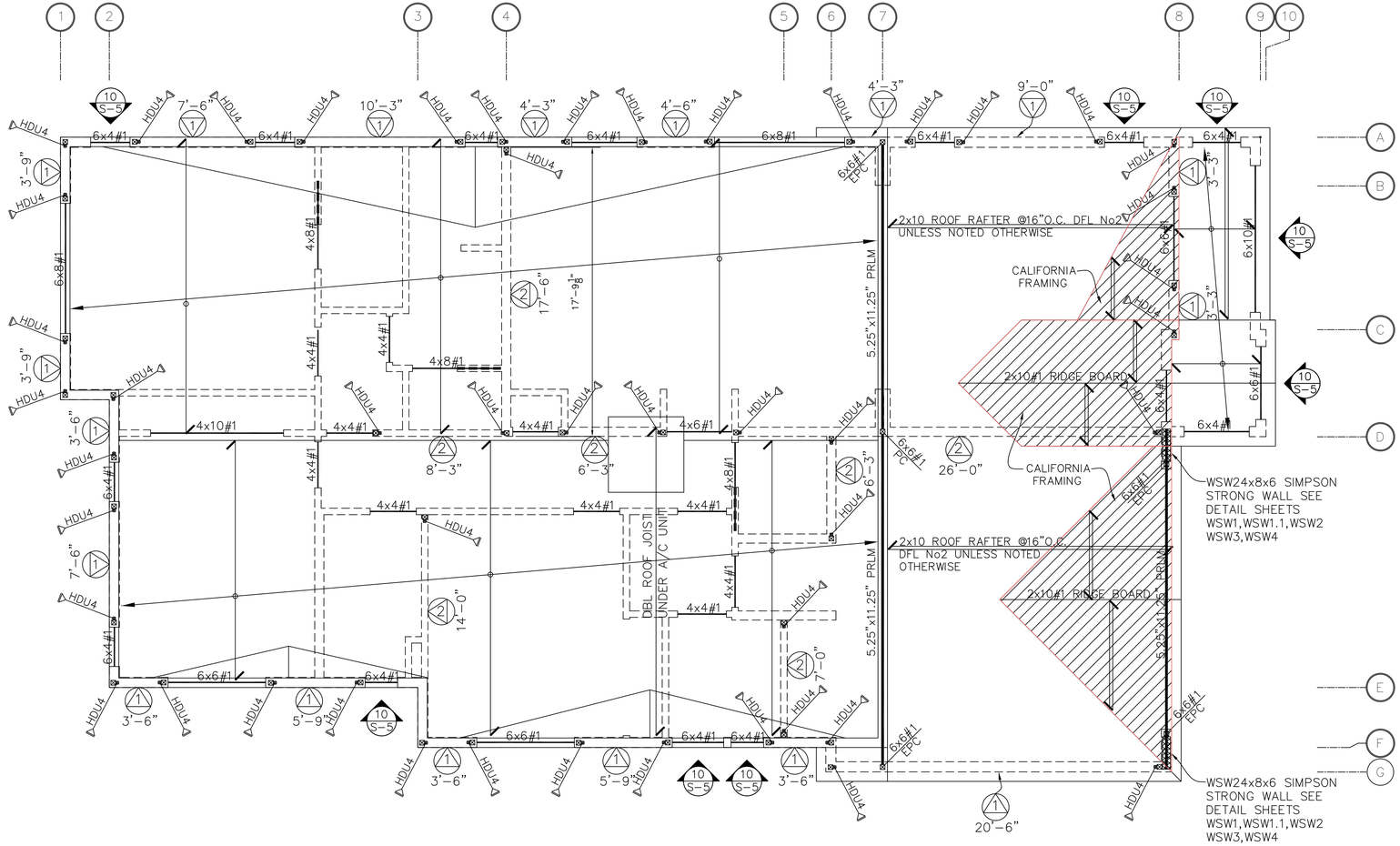
12–HOLD–DOWN CONNECTOR BOLTS INTO WOOD FRAMING REQUIRE APPROVED PLATE WASHERS; AND HOLD–DOWNS SHALL BE FINGER TIGHT AND 1/2 WRENCH TURN JUST PRIOR TO COVERING THE WALL FRAMING. CONNECTOR BOLTS INTO WOOD FRAMING REQUIRE STEEL PLATE WASHERS ON THE POST ON THE OPPOSITE SIDE OF THE ANCHORAGE DEVICE. PLATE SIZE SHALL BE A MINIMUM OF 0.299 INCH BY 3 INCHES.

13–ROOF DIAPHRAGM NAILING TO BE INSPECTED BEFORE COVERING FACE GRAIN OF PLYWOOD SHALL BE PERPENDICULAR TO SUPPORTS. FLOOR SHALL HAVE TONGUE AND GROOVE OR BLOCKED PANEL EDGES PLYWOOD SPANS SHALL CONFORM WITH TABLE 2304.8(1).

14–ALL DIAPHRAGM AND SHEAR WALL NAILING SHALL UTILIZE COMMON NAILS OR GALVANIZED BOX.

15–ALL BOLT HOLES SHALL BE DRILLED 1/32" TO 1/16" OVERSIZED. (12.1.3.2,NDS)

16–HOLD–DOWN HARDWARE MUST BE SECURED IN PLACE PRIOR TO FOUNDATION INSPECTION.



ROOF FRAMING PLAN

SCALE: 1/4"=1'–0"

NOTES:

1. FOR GENERAL NOTES, SPECIFICATIONS, SHEARWALL SCHEDULE, LEGEND & ABBREVIATIONS SEE SHEET S–1.
2. FOR DETAILS, SEE SHEETS S–4, S–5, S–6. & WSW1, WSW1.1, WSW2, WSW3.
3. ALL POSTS SHALL LINE UP VERTICALLY ON ALL LEVELS.
4. CONTRACTOR TO STUDY ALL PLANS PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES ON PLAN.
5. SEE ARCHITECTURAL DRAWINGS FOR EXACT DIMENSIONS. CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION.
6. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LENGTHS OF JOISTS AND BEAMS. CONTRACTOR TO VERIFY THE EXACT DIMENSIONS PRIOR TO ORDERING LUMBER.
7. ALL WALLS PARALLEL TO FLOOR JOIST SHALL BE SUPPORTED BY DOUBLE JOIST OR 4x MEMBER EXCEPT OTHERWISE NOTED ON PLANS.
8. ALL WALLS PERPENDICULAR TO FLOOR JOISTS SHALL BE SUPPORTED BY FULL DEPTH BLOCKING EXCEPT OTHERWISE NOTED ON PLANS.
9. USE SIMPSON HARDWARE FOR TOP AND BOTTOM CONNECTION OF SHEAWALLS PER SHEARWALL SCHEDULE.
10. PROVIDE 1/2" PLYWOOD STR I w/10d NAILS @ (6",6",12") o.c THRU–OUT EXTERIOR OF THE BUILDING UNLESS OTHERWISE NOTED ON SHEARWALL SHEARWALL SCHEDULE.
11. ALL SHEAR WALLS SHALL HAVE DRAG STRUT PER DETAIL 7/S–5
12. USE DETAIL 10/S–5 THRU–OUT THE EXTERIOR OF THE BUILDING WHERE SHEARWALLS ARE LESS THAN 4'–6" IN LENGTH.
13. PROVIDE SIMPSON "HW" OR "HUSTF" HANGERS FOR ALL BEAM TO BEAM CONN. TYP.
14. ALL PLUMBING WALLS TO BE 2x6 @16" O.C. STUDS.
15. EXTEND ALL SHEARWALLS TO UNDERSIDE OF ROOF RAFTERS

DESIGN PARAMETERS:

ROOF DEAD LOAD = 20 PSF FLOOR DEAD LOAD= 25 PSF
ROOF LIVE LOAD = 20 PSF FLOOR LIVE LOAD = 40 PSF
BALCONY LIVE LOAD = 60 PSF

SEISMIC DESIGN:

ASCE / SEI 7–16
EQUIVALENT SEISMIC DESIGN METHOD
OCCUPANCY CATEGORY = II
IMPORTANCE FACTOR = 1
SEISMIC DESIGN CATEGORY = E
SITE CLASS = D–DEFAULT
NUMBER OF STORIES = 2
Ss = 2.22
S1 = 0.73
Sds = 1.57
Sd1 = 1.14
SITE COEFFICIENT, Fa=1.2, Fv=1.7
BASIC SEISMIC FORCE RESISTING SYSTEM = BEARING WALL
SEISMIC RESPONSE MODIFICATION FACTOR, R=6.5 LIGHT FRAME WALLS
SEISMIC RESPONSE COEFFICIENT, Cs = .2732
REDUNDANCY FACTOR USED = 30%
V = .355 W
TOTAL BUILDING WEIGHT = 88.135 KIPS
V = 31.3 KIPS

WIND DESIGN:

ASCE / SEI 7–16 CHAPTER 26, 27 & 28
BASIC WIND SPEED = 110 SECTIONS C26.5–6
OCCUPANCY CATEGORY = II SECTION 1.5.3 & TABLE 1.5–1
IMPORTANCE FACTOR = 1 SECTION 13.1.3 & TABLE 1.5–2
EXPOSURE CATEGORY = C SECTION 26.7.3
BUILDING EXPOSED HEIGHT = 28 FT
VELOCITY PRESSURE EXPOSURE COEFFICIENT=1.04 SECTION 26.7 & TABLE 28.3–1
ENCLOSURE CLASSIFICATION = ENCLOSED
VELOCITY PRESSURE qh = 27.383 PSF
DESIGN WIND LOAD = 16.00 PSF
TOTAL LOAD ON BUILDING = 12.96 KIPS E–W DIRECTION
TOTAL LOAD ON BUILDING = 11.23 KIPS N–S DIRECTION

ROOF SHEATHING PSR 24/0
1/2" PW CDX OR OSB
W/8d NAILS @ (6", 6", 12")o.c.

ROOF DIAPHRAGM NAILING TO BE INSPECTED BY BUILDING & SAFETY INSPECTOR PRIOR TO COVERING

LEGEND:

- 2x8 ROOF RAFTER @16"O.C. DFL No2 UNLESS NOTED OTHERWISE
- 2x10 ROOF JOIST @16"o.c. DFL No2 UNLESS NOTED OTHERWISE
- 2x8 CEILING JOIST @16"o.c. DFL No2 UNLESS NOTED OTHERWISE
- WALL BELOW
- SHEAR WALL UNDER ROOF FRAMING

BY	DATE	REVISIONS
AK	11-21-25	ISSUED FOR PLAN CHECK

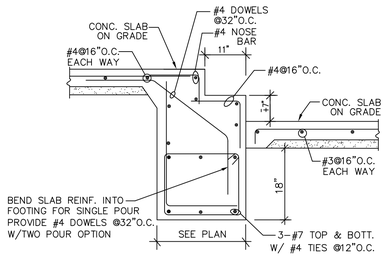
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GLENDALE, CA 91208-2840
TEL. 818-240-8763

REGISTERED PROFESSIONAL ENGINEER
JOHNNIES KAZARIANS
No. C36687
Exp. 06-30-26
CIVIL
STATE OF CALIFORNIA

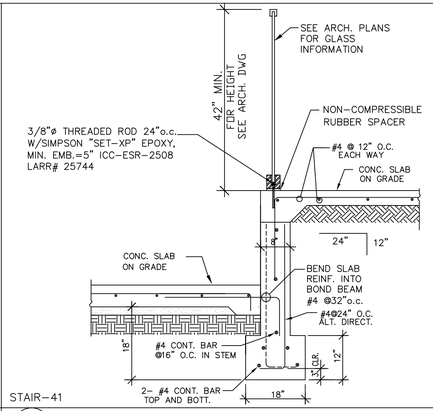
2935 MAIDEN LN., ALTADENA, CA
NEW ONE STORY SFD

DATE: 11-17-25
SCALE: AS SHOWN
DRAWN: VY
DESIGNED: AK
JOB: 25–
SHEET **S-3**



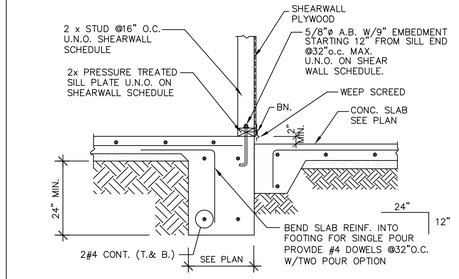
STAIR-18

15 DETAIL



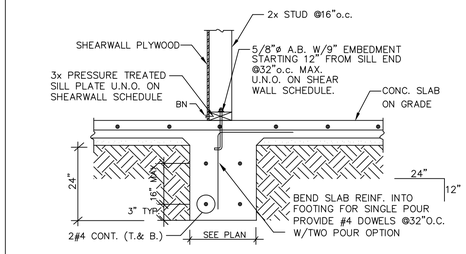
STAIR-41

11 DETAIL



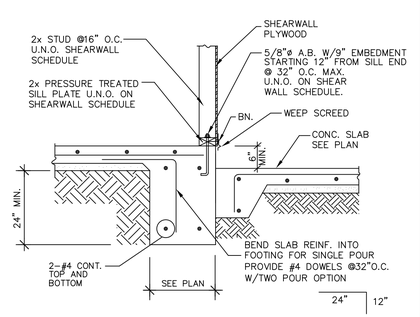
FTG-54

7 DETAIL



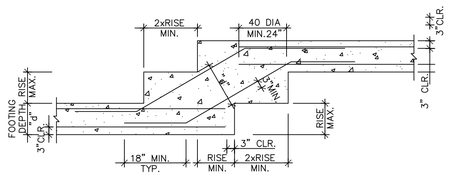
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4 DETAIL

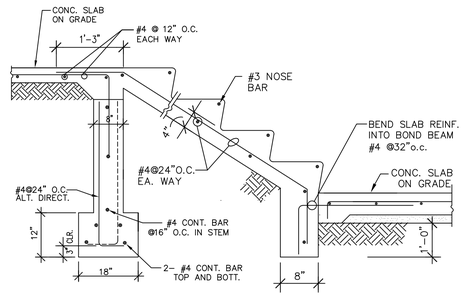


FTG-54

1 DETAIL

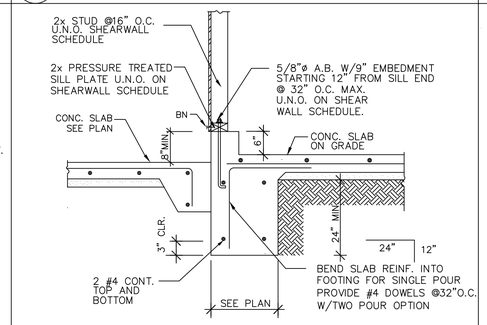


16 DETAIL STEPPED FOOTING



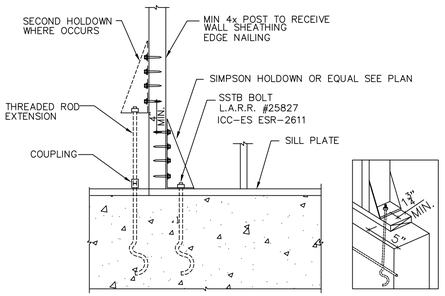
STAIR-1

12 DETAIL



FTG-43

8 DETAIL



HOLDOWN	POST	No OF SDS SCREWS	FLOOR BOLTS
HDU2	4X4 #1	6	SSTB20
HDU4	4X4 #1	10	SSTB24
HDU5	4X4 #1	14	SSTB24
HDU8	4X6 #1	20	SSTB34
HDU11	4X6 #1	30	1"ø ROD L=34" W/ 4" SQ.WASHER
HDU14	4X8 #1	36	1"ø ROD L=34" W/ 4" SQ.WASHER

NOTE:
1. ANCHORS EMBEDMENT AND INSTALLATION PER MANUFACTURER'S SPECIFICATIONS.
2. BOLT HOLES SHALL BE 1/16" MAX. OVERSIZED AT THE CONNECTOR OF THE HOLD DOWN TO THE POST "INSPECTOR TO VERIFY".
3. HOLD-DOWN CONNECTORS SHALL BE RE-TIGHTENED JUST PRIOR TO COVERING THE WALL FRAMING.
4. DEPUTY INSPECTION IS REQUIRED FOR 'SSTB' ANCHOR INSTALLATION.

TIE-19

5 DETAIL

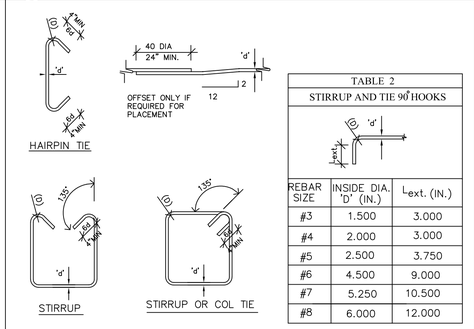
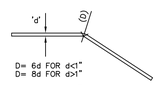


TABLE 2 STIRRUP AND TIE 90° HOOKS		
REBAR SIZE	INSIDE DIA. 'D' (IN.)	$L_{ext.}$ (IN.)
#3	1.500	3.000
#4	2.000	3.000
#5	2.500	3.750
#6	4.500	9.000
#7	5.250	10.500
#8	6.000	12.000

BAR SPLICE

TABLE 1 STANDARD 90° HOOKS FOR LONGITUDINAL BARS		
REBAR SIZE	INSIDE DIA. 'D' (IN.)	$L_{ext.}$ (IN.)
#3	2.250	4.500
#4	3.000	6.000
#5	3.750	7.500
#6	4.500	9.000
#7	5.250	10.500
#8	6.000	12.000
#9	9.000	13.500
#10	10.000	15.000
#11	11.000	16.500
#14	17.500	21.000
#18	22.500	27.000



BEND >90°

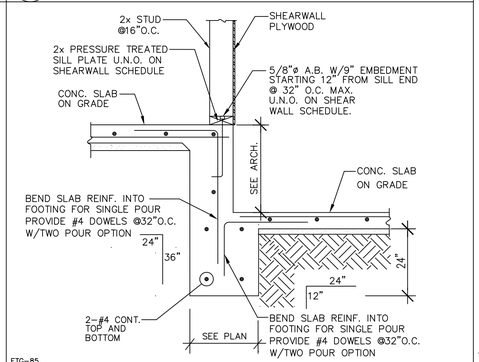
TABLE 3 STIRRUP AND TIE 180° HOOKS		
REBAR SIZE	INSIDE DIA. 'D' (IN.)	$L_{ext.}$ (IN.)
#3	1.500	2.500
#4	2.000	2.500
#5	2.500	2.500
#6	4.500	3.000
#7	5.250	3.500
#8	6.000	4.000

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2 DETAIL REINF. BAR BENDING STANDARD

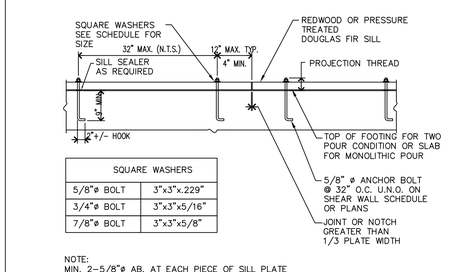
STAIR-1

12 DETAIL



FTG-85

9 DETAIL

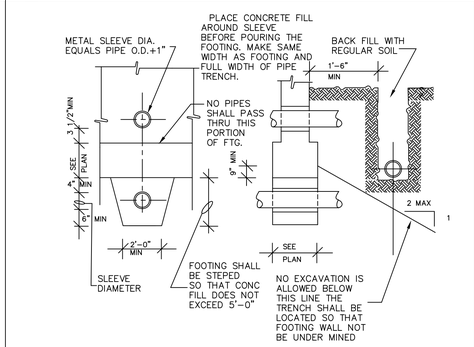


SQUARE WASHERS	
5/8"ø BOLT	3"x3"x.229"
3/4"ø BOLT	3"x3"x5/16"
7/8"ø BOLT	3"x3"x5/8"

NOTE:
MIN. 2-5/8"ø AB. AT EACH PIECE OF SILL PLATE

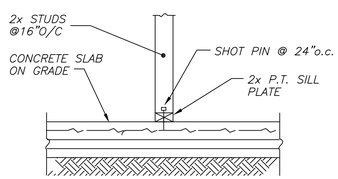
WOOD-09

6 DETAIL



FTS-05

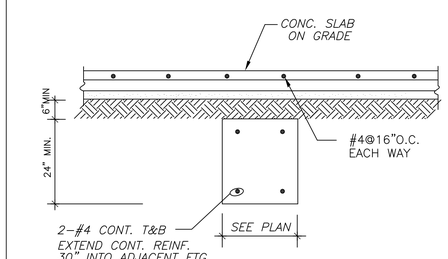
3 DETAIL



NON-BEARING STUD WALL CONNECTION

FTG-113

14 DETAIL



FTG-64

10 DETAIL

17 DETAIL

13 DETAIL

18 DETAIL

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REGISTERED PROFESSIONAL ENGINEER JAMES KAZARIAN No. C36687 Exp. 06-30-26 CIVIL STATE OF CALIFORNIA

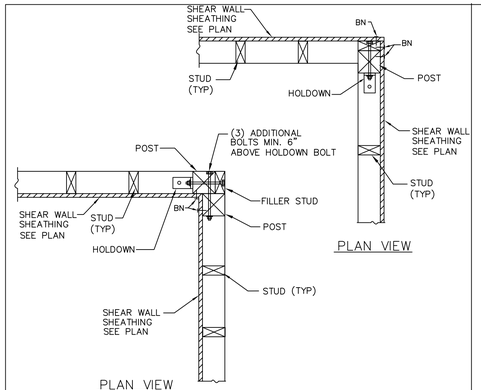
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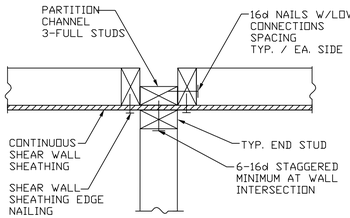
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NEW ONE STORY SFD

DATE:	11-20-25
SCALE:	AS SHOWN
DRAWN:	VY
DESIGNED:	AK
JOB:	25-
SHEET	S-4



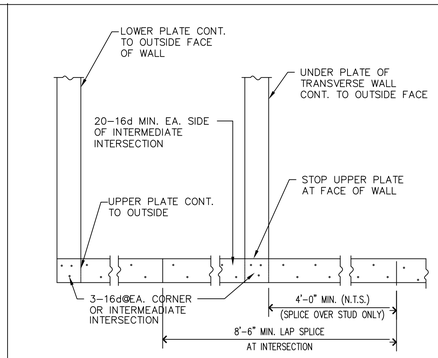
TIE–38

15 DETAIL



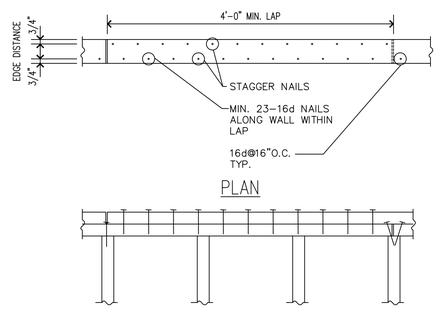
WOOD–10

12 DETAIL



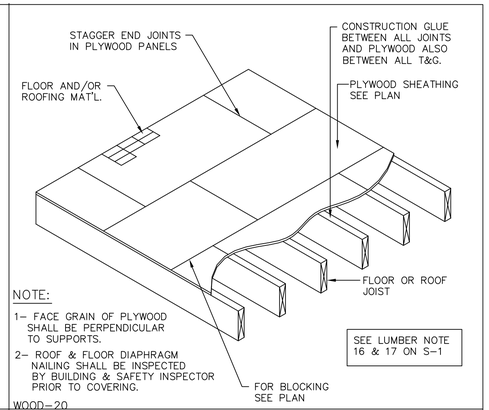
WOOD–06

8 DETAIL



WOOD–07

5 DETAIL



NOTE:

1– FACE GRAIN OF PLYWOOD SHALL BE PERPENDICULAR TO SUPPORTS.

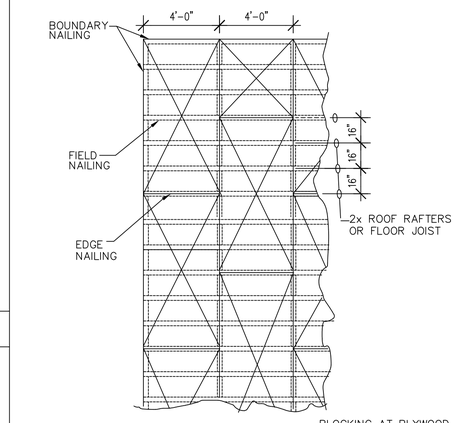
2– ROOF & FLOOR DIAPHRAGM NAILING SHALL BE INSPECTED BY BUILDING & SAFETY INSPECTOR PRIOR TO COVERING.

SEE LUMBER NOTE 16 & 17 ON S–1

WOOD–20

1 DETAIL

16 DETAIL



NOTE:

1_ RUN LONG DIMENSIONS OF PLYWOOD PERPENDICULAR TO JOIST.

2_ STAGGER PLYWOOD EDGES AS SHOWN.

3_ SEE FRAMING PLAN FOR PLYWOOD TYPE AND NAIL SIZE AND SPACING.

4_ NAILS SHALL HAVE MIN.3/8" EDGE DISTANCE

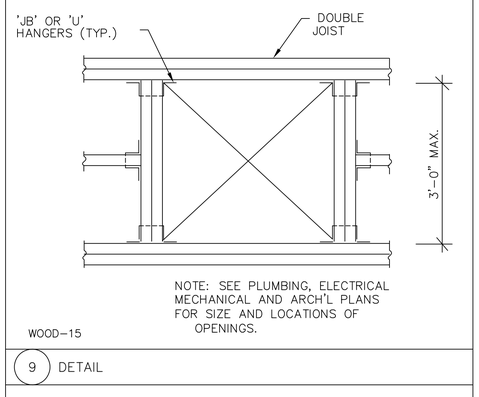
5_ MIN. PLYWOOD SIZE SHALL BE 2'–0"x4'–0"

6_ PLYWOOD NAILING SHALL BE INSPECTED PRIOR TO COVERING.

7_ NAILING PATTERN CALL OUT ON PLAN (a,b,c) IS (BOUNDARY/ EDGE/ FIELD)

WOOD–19

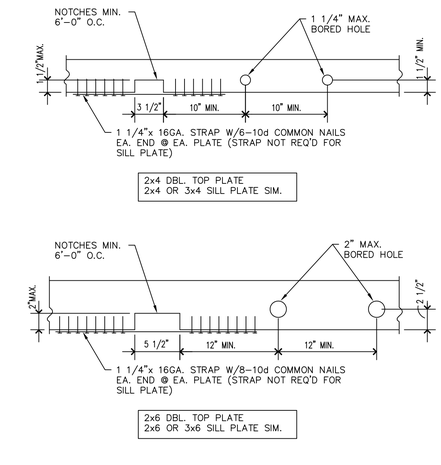
13 DETAIL



NOTE: SEE PLUMBING, ELECTRICAL MECHANICAL AND ARCH'L PLANS FOR SIZE AND LOCATIONS OF OPENINGS.

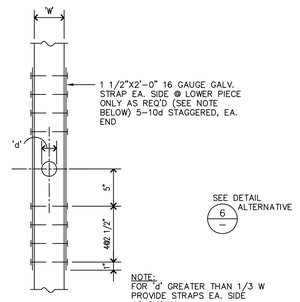
WOOD–15

9 DETAIL



WOOD–08

6 DETAIL



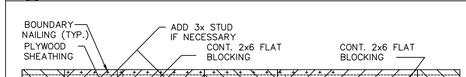
WOOD–01

2 DETAIL

17 DETAIL

BP–09

13 DETAIL

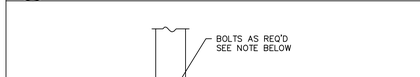


SHWL–10

10 DETAIL

TIE–23

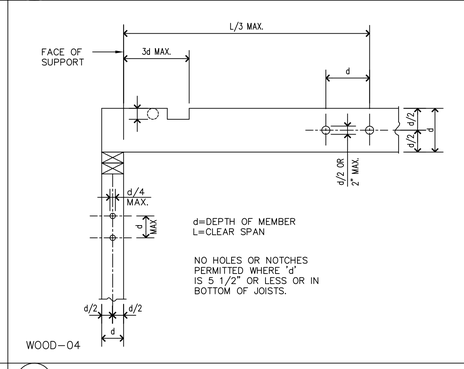
7 DETAIL



WOOD–03

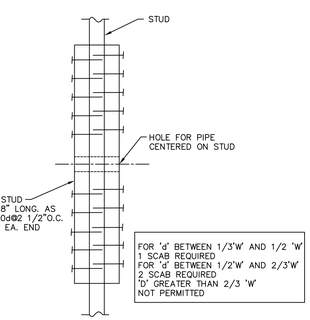
4 DETAIL

18 DETAIL



WOOD–04

11 DETAIL



WOOD–01

2 DETAIL

WOOD–02

3 DETAIL

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BY		AK		
REVISIONS		ISSUED FOR PLAN CHECK		
DATE		11-21-25		

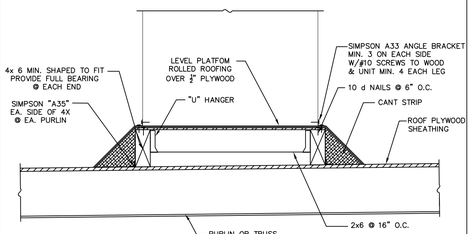
Kazarians Engineering Services, Inc.
CIVIL & STRUCTURAL CONSULTANTS
1528 CANADA BLVD. SUITE 206
GLENDALE , CA 91208-2840
TEL. 818-240-8763

REGISTERED PROFESSIONAL ENGINEER
JAMES KAZARIAN
No. C36687
Exp. 06-30-26
CIVIL
STATE OF CALIFORNIA

2935 MAIDEN LN.,
ALTADENA, CA
NEW ONE STORY SFD

DATE: 11–20–25
SCALE: AS SHOWN
DRAWN: VY
DESIGNED: AK
JOB: 25–

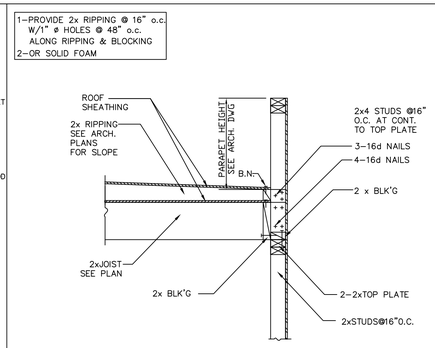
SHEET
S-5



MECHANICAL PLATFORM

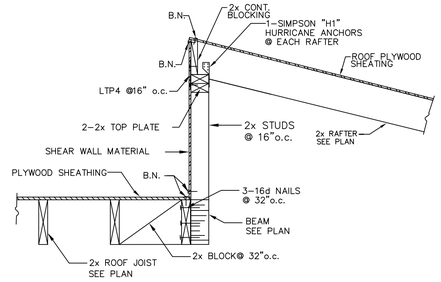
FR-59

17 DETAIL



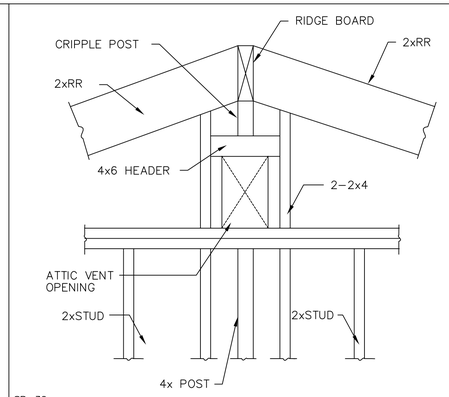
FR-16

13 DETAIL



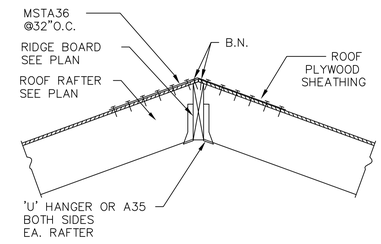
SR-09-2a

9 DETAIL



SR-30

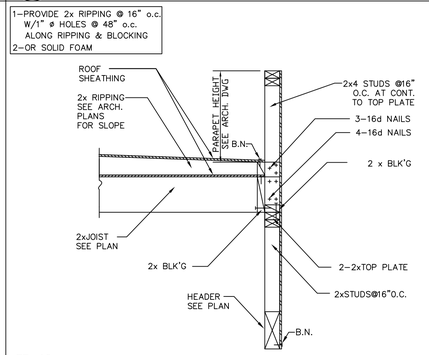
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SR-04

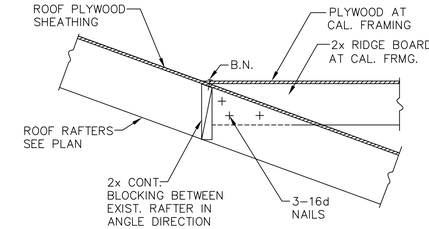
1 DETAIL

18 DETAIL



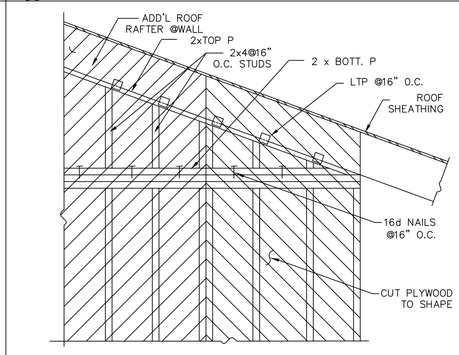
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14 DETAIL



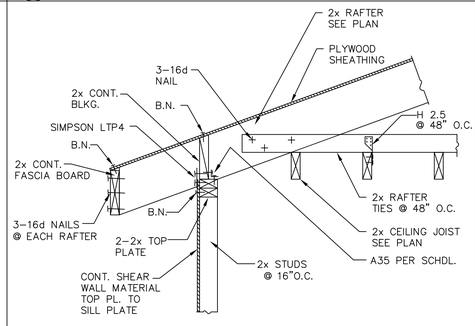
SR-28

10 DETAIL



SR-29

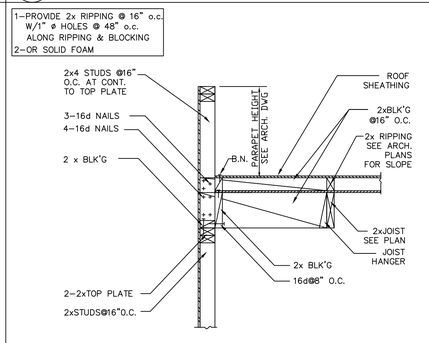
6 DETAIL



SR-02

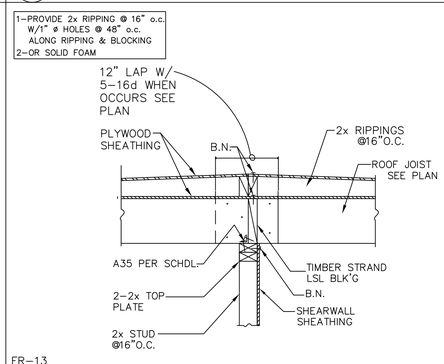
2 DETAIL

19 DETAIL



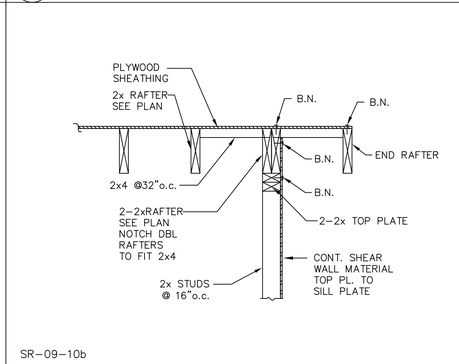
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15 DETAIL



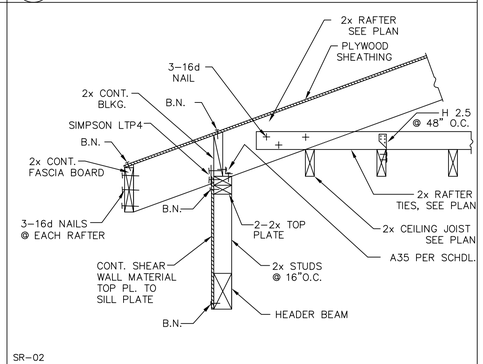
FR-13

11 DETAIL



SR-09-10b

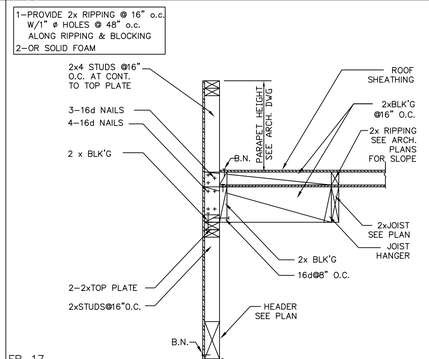
7 DETAIL



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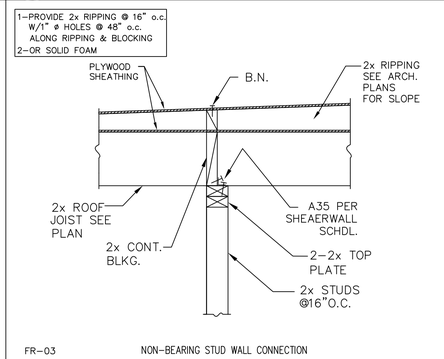
3 DETAIL

20 DETAIL



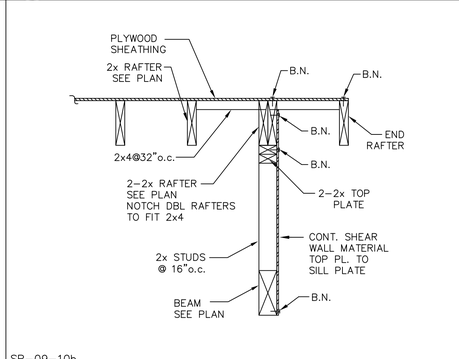
FR-17

16 DETAIL



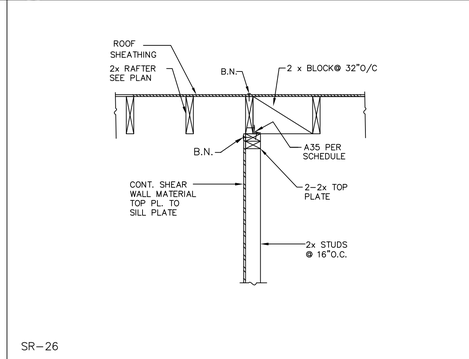
FR-03 NON-BEARING STUD WALL CONNECTION

12 DETAIL



SR-09-10b

8 DETAIL



SR-26

4 DETAIL

THE ABOVE DRAWING AND SPECIFICATIONS ARE AND SHALL REMAIN THE PROPERTY OF KAZARIANS ENGINEERING SERVICES, INC. AND ARE NOT TO BE USED IN WHOLE OR IN PART, OR COPIED, DISCLOSED TO OTHERS OR USED IN CONNECTION WITH ANY WORK OTHER THAN THE SPECIFIED PROJECT FOR WHICH THEY HAVE BEEN PREPARED AND DEVELOPED WITHOUT THE WRITTEN CONSENT OF KAZARIANS ENGINEERING SERVICES, INC. VISUAL CONTACT WITH THESE DRAWINGS OR SPECIFICATIONS SHALL CONSTITUTE CONCLUSIVE EVIDENCE OF ACCEPTANCE OF THESE RESTRICTIONS.
THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND CONDITIONS ON THE JOB AND REPORT ANY DISCREPANCIES TO THIS OFFICE BEFORE PROCEEDING WITH THE WORK. DO NOT SCALE DRAWINGS.

BY	DATE	REVISIONS
AK	11-21-25	ISSUED FOR PLANCHECK

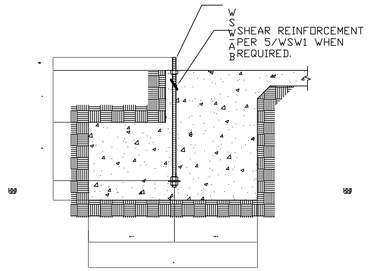
Kazarians Engineering Services, Inc.
CIVIL & STRUCTURAL CONSULTANTS
1528 CANADA BLVD. SUITE 206
GLENDALE, CA 91208-2840
TEL. 818-240-8763

REGISTERED PROFESSIONAL ENGINEER JAMES KAZARIANS No. C36687 Exp. 06-30-26 CIVIL STATE OF CALIFORNIA

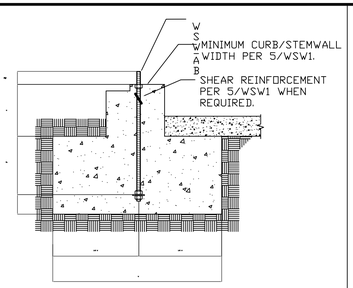
2935 MAIDEN LN., ALTADENA, CA
NEW ONE STORY SFD

DATE: 11-20-25
SCALE: AS SHOWN
DRAWN:
DESIGNED: AK
JOB: 25-

SHEET **S-6**



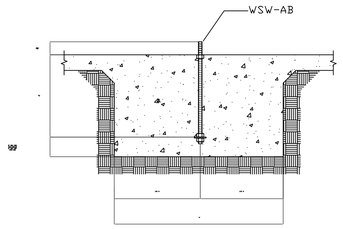
SLAB ON GRADE FOUNDATION



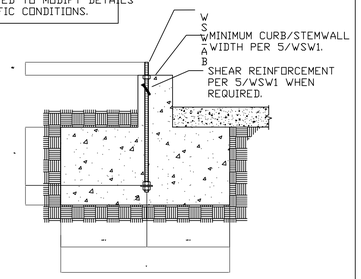
BRICK LEDGE FOUNDATION

NOTES:
1. SEE 2/WSW1 FOR DIMENSIONS AND ADDITIONAL NOTES.
2. SEE 5/WSW1 FOR SHEAR REINFORCEMENT WHEN REQUIRED.
3. MAXIMUM H = l_e - d_e. SEE 3/WSW1 AND 4/WSW1 FOR SPECIFIC CONDITIONS.

REGISTERED DESIGN PROFESSIONAL IS PERMITTED TO MODIFY DETAILS FOR SPECIFIC CONDITIONS.

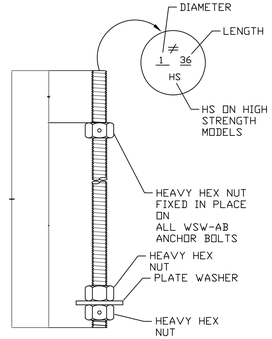


INTERIOR FOUNDATION



CURB OR STEMWALL FOUNDATION

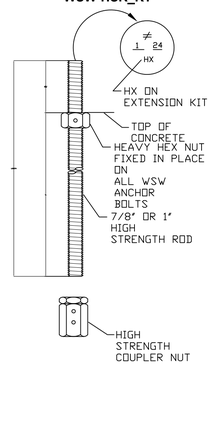
STRONG-WALL® WSW ANCHORAGE - TYPICAL SECTIONS | 1



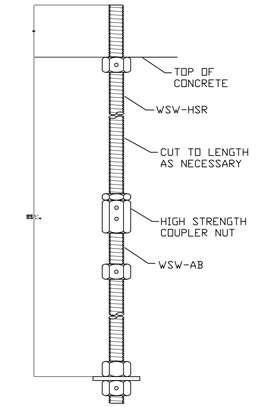
WSW PANEL MODEL	MODEL NO.	DIAMETER	LENGTH	l_e
WSW12 AND WSW18	WSW-AB7/8x24	7/8"	24"	20"
	WSW-AB7/8x24HS	7/8"	24"	20"
	WSW-AB7/8x30	7/8"	30"	26"
	WSW-AB7/8x30HS	7/8"	30"	26"
	WSW-AB7/8x36HS	7/8"	36"	32"
WSW24	WSW-AB1x24	1"	24"	20"
	WSW-AB1x24HS	1"	24"	20"
	WSW-AB1x30	1"	30"	26"
	WSW-AB1x30HS	1"	30"	26"
	WSW-AB1x36HS	1"	36"	32"

WSW ANCHOR BOLTS | 3

WSW-HSR_KT



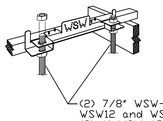
WSW-HSR AND WSW-AB ASSEMBLY



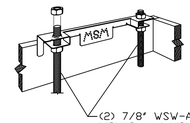
WSW PANEL MODEL	MODEL NO.	DIAMETER	LENGTH	l_e
WSW12 AND WSW18	WSW-HSR7/8x24KT	7/8"	24"	22"
	WSW-HSR7/8x36KT	7/8"	36"	34"
WSW24	WSW-HSR1x24KT	1"	24"	22"
	WSW-HSR1x36KT	1"	36"	34"

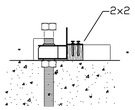
WSW ANCHOR BOLT EXTENSION | 4

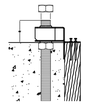
WSW-RT INTERIOR INSTALLATION



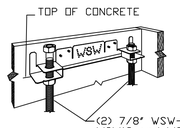
WSW-RT EXTERIOR INSTALLATION







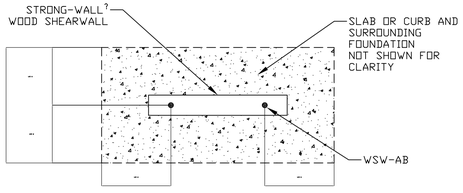
WSW-RTPF PANEL FORM INSTALLATION



WSW-RTBL BRICK LEDGE INSTALLATION



WSW ANCHOR BOLT TEMPLATES | 6



FOUNDATION PLAN VIEW

WSW ANCHORAGE SOLUTIONS FOR 2500 PSI CONCRETE

DESIGN CRITERIA	CONCRETE CONDITION	ANCHOR STRENGTH	WSW-AB7/8 ANCHOR BOLT ASD ALLOWABLE TENSION (lb.)	WSW-AB7/8 W (in.)	WSW-AB7/8 d_e (in.)	WSW-AB1 ANCHOR BOLT ASD ALLOWABLE TENSION (lb.)	WSW-AB1 W (in.)	WSW-AB1 d_e (in.)
SEISMIC	CRACKED	STANDARD	11,900	27	9	16,100	33	11
			13,100	29	10	17,100	35	12
		HIGH STRENGTH	24,900	43	15	33,000	51	17
			27,100	46	16	35,300	54	18
	UNCRACKED	STANDARD	12,500	24	8	15,700	28	10
			13,100	25	9	17,100	30	10
		HIGH STRENGTH	25,300	38	13	32,300	44	15
			27,100	40	14	35,300	47	16
WIND	CRACKED	STANDARD	5,100	14	6	6,200	16	6
			8,700	20	7	11,400	24	8
			13,100	27	9	17,100	32	11
		HIGH STRENGTH	15,900	30	10	21,100	36	12
			18,400	33	11	27,300	42	14
			23,100	38	13	31,800	46	16
			27,100	42	14	35,300	50	17
	UNCRACKED	STANDARD	5,000	12	6	6,400	14	6
			9,300	18	6	12,500	22	8
			13,100	23	8	17,100	28	10
		HIGH STRENGTH	15,200	25	9	21,900	32	11
			19,900	30	10	26,400	36	12
			24,000	34	12	31,500	40	14
			27,100	37	13	35,300	43	15

NOTES:
1. ANCHORAGE DESIGNS CONFORM TO ACI 318-11 APPENDIX D AND ACI 318-14 WITH NO SUPPLEMENTARY REINFORCEMENT FOR CRACKED OR UNCRACKED CONCRETE AS NOTED.
2. ANCHOR STRENGTH INDICATES REQUIRED GRADE OF WSW-AB ANCHOR BOLT. STANDARD (ASTM F1554 GRADE 36) OR HIGH STRENGTH (HS) (ASTM A449).
3. SEISMIC INDICATES SEISMIC DESIGN CATEGORY C - F. DETACHED 1 AND 2 FAMILY DWELLINGS IN SDC C MAY USE WIND ANCHORAGE SOLUTIONS. SEISMIC ANCHORAGE DESIGNS CONFORM TO ACI 318-11 SECTION D.3.3.4.3 AND ACI 318-14 SECTION 17.2.3.4.3.
4. WIND INCLUDES SEISMIC DESIGN CATEGORY A AND B AND DETACHED 1 AND 2 FAMILY DWELLINGS IN SDC C.
5. FOUNDATION DIMENSIONS ARE FOR ANCHORAGE ONLY. FOUNDATION DESIGN (SIZE AND REINFORCEMENT) BY OTHERS. THE REGISTERED DESIGN PROFESSIONAL MAY SPECIFY ALTERNATE EMBEDMENT, FOOTING SIZE OR ANCHOR BOLT.
6. REFER TO 1/WSW1 FOR d_e.

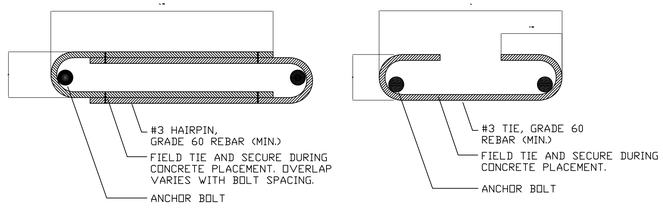
WSW ANCHORAGE SOLUTIONS FOR 3000 PSI CONCRETE

DESIGN CRITERIA	CONCRETE CONDITION	ANCHOR STRENGTH	WSW-AB7/8 ANCHOR BOLT ASD ALLOWABLE TENSION (lb.)	WSW-AB7/8 W (in.)	WSW-AB7/8 d_e (in.)	WSW-AB1 ANCHOR BOLT ASD ALLOWABLE TENSION (lb.)	WSW-AB1 W (in.)	WSW-AB1 d_e (in.)
SEISMIC	CRACKED	STANDARD	12,300	26	9	16,000	31	11
			13,100	28	10	17,100	33	11
		HIGH STRENGTH	25,200	41	14	32,700	48	16
			27,100	43	15	35,300	51	17
	UNCRACKED	STANDARD	12,000	22	8	16,300	27	9
			13,100	24	8	17,100	28	10
		HIGH STRENGTH	25,300	36	12	32,700	42	14
			27,100	38	13	35,300	44	15
WIND	CRACKED	STANDARD	5,000	13	6	5,600	14	6
			8,800	19	7	10,200	21	7
			13,100	25	9	17,100	30	10
		HIGH STRENGTH	15,700	28	10	20,100	33	11
			19,200	32	11	25,300	38	13
			23,200	36	12	32,300	44	15
			27,100	40	14	35,300	47	16
	UNCRACKED	STANDARD	5,500	12	6	6,200	13	6
			8,500	16	6	12,800	21	7
			13,100	22	8	17,100	26	9
		HIGH STRENGTH	16,600	25	9	21,800	30	10
			19,700	28	10	25,200	33	11
			24,000	32	11	31,700	38	13
			27,100	35	12	35,300	41	14

WSW ANCHORAGE SOLUTIONS FOR 4500 PSI CONCRETE

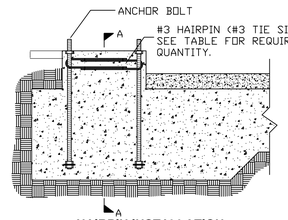
DESIGN CRITERIA	CONCRETE CONDITION	ANCHOR STRENGTH	WSW-AB7/8 ANCHOR BOLT ASD ALLOWABLE TENSION (lb.)	WSW-AB7/8 W (in.)	WSW-AB7/8 d_e (in.)	WSW-AB1 ANCHOR BOLT ASD ALLOWABLE TENSION (lb.)	WSW-AB1 W (in.)	WSW-AB1 d_e (in.)
SEISMIC	CRACKED	STANDARD	12,600	23	8	16,000	27	9
			13,100	24	8	17,100	29	10
		HIGH STRENGTH	24,800	36	12	32,100	42	14
			27,100	38	13	35,300	45	15
	UNCRACKED	STANDARD	12,700	20	7	15,700	23	8
			13,100	21	7	17,100	25	9
		HIGH STRENGTH	24,600	31	11	32,500	37	13
			27,100	34	12	35,300	39	13
WIND	CRACKED	STANDARD	5,400	12	6	6,800	14	6
			8,300	16	6	11,600	20	7
			13,100	22	8	17,100	26	9
		HIGH STRENGTH	15,300	24	8	21,400	30	10
			19,300	28	10	25,800	34	12
			23,600	32	11	31,000	38	13
			27,100	36	12	35,300	42	14
	UNCRACKED	STANDARD	6,800	12	6	6,800	12	6
			9,400	15	6	12,400	18	6
			13,100	19	7	17,100	23	8
		HIGH STRENGTH	16,800	22	8	21,600	26	9
			20,300	25	9	26,700	30	10
			24,100	28	10	32,200	34	12
			27,100	31	11	35,300	36	12

STRONG-WALL® WOOD SHEARWALL TENSION ANCHORAGE SCHEDULE 2,500, 3,000 AND 4,500 PSI | 2

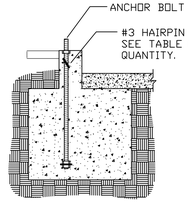


HAIRPIN SHEAR REINFORCEMENT

TIE SHEAR REINFORCEMENT



HAIRPIN INSTALLATION
(GARAGE CURB SHOWN. OTHER FOOTING TYPES SIMILAR.)



SECTION A-A

STRONG-WALL® WOOD SHEARWALL SHEAR ANCHORAGE

MODEL	L_{ER} (in.)	SEISMIC [3] SHEAR REINFORCEMENT	SEISMIC [3] MINIMUM CURB/ STEMWALL WIDTH (in.)	WIND [4] SHEAR REINFORCEMENT	WIND [4] MINIMUM CURB/ STEMWALL WIDTH (in.)	WIND [4] ASD ALLOWABLE SHEAR LOAD, V (lb.) [6] UNCRACKED	WIND [4] ASD ALLOWABLE SHEAR LOAD, V (lb.) [6] CRACKED
WSW12	10¼	(1) #3 HAIRPIN	8[5]	SEE NOTE 6	6	1,035	740
WSW18	15	(1) #3 HAIRPIN	8[5]	(1) #3 HAIRPIN	6	HAIRPIN REINFORCEMENT ACHIEVES MAXIMUM ALLOWABLE SHEAR LOAD OF THE WSW	
WSW24	19	(2) #3 HAIRPINS	8[5]	(1) #3 HAIRPIN	6		

NOTES:
1. SHEAR ANCHORAGE DESIGNS CONFORM TO ACI 318-11 AND ACI 318-14 AND ASSUME MINIMUM 2,500 PSI CONCRETE.
2. SHEAR REINFORCEMENT IS NOT REQUIRED FOR INTERIOR FOUNDATION APPLICATIONS (PANEL INSTALLED AWAY FROM EDGE OF CONCRETE), OR BRACED WALL PANEL APPLICATIONS.
3. SEISMIC INDICATES SEISMIC DESIGN CATEGORY C THROUGH F. DETACHED 1 AND 2 FAMILY DWELLINGS IN SDC C MAY USE WIND ANCHORAGE SOLUTIONS.
4. WIND INCLUDES SEISMIC DESIGN CATEGORY A AND B AND DETACHED 1 AND 2 FAMILY DWELLINGS IN SDC C.
5. WHERE NOTED, MINIMUM CURB/STEMWALL WIDTH IS 6 INCHES WHEN STANDARD STRENGTH ANCHOR BOLT IS USED.
6. USE (1) #3 TIE FOR WSW12 WHEN PANEL DESIGN SHEAR FORCE EXCEEDS TABULATED ANCHORAGE ALLOWABLE SHEAR LOAD.
7. #4 GRADE 40 SHEAR REINFORCEMENT MAY BE SUBSTITUTED FOR WSW SHEAR ANCHORAGE SOLUTIONS.

STRONG-WALL® WSW SHEAR ANCHORAGE SCHEDULE AND DETAILS | 5

2935 MAIDEN LN.,
ALTADENA, CA
NEW ONE STORY SFD

REGISTERED DESIGN PROFESSIONAL IS PERMITTED TO MODIFY DETAILS FOR SPECIFIC CONDITIONS.

NO.	DATE	REVISIONS
0	12-26-2023	ISSUED FOR PLANCHECK
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REGISTERED PROFESSIONAL ENGINEER
CHARLES KNAUSS
No. C36687
Exp. 06-30-26
STATE OF CALIFORNIA

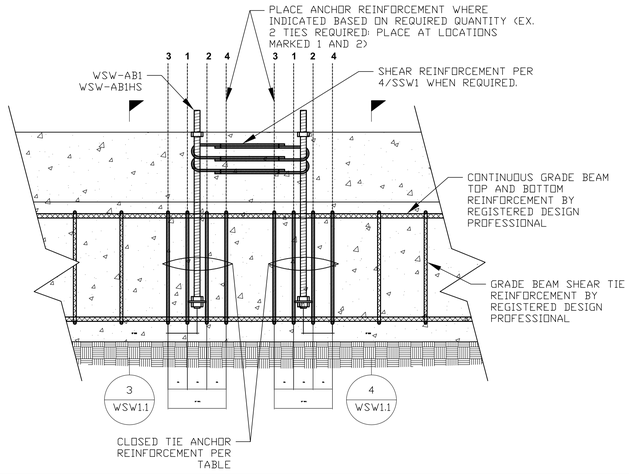
SIMPSON STRONG-TIE COMPANY, INC.
HOME OFFICE:
5956 W. LAS POSITAS BLVD.
PLEASANTON, CA 94588
TEL: (800) 999-5099

SIMPSON Strong-Tie® THERE IS NO EQUAL.

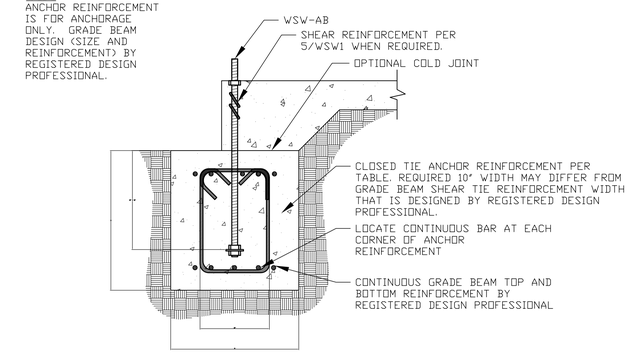
STRONG-WALL® WSW
ANCHORAGE DETAILS
ENGINEERED DESIGNS

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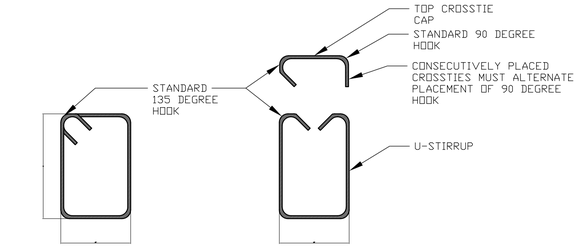
NAME	
DATE	12-22-2023
SCALE	N.T.S.
CHECKED	
SHEET	WSW1
	OF SHEETS
JOB NO.	23-43



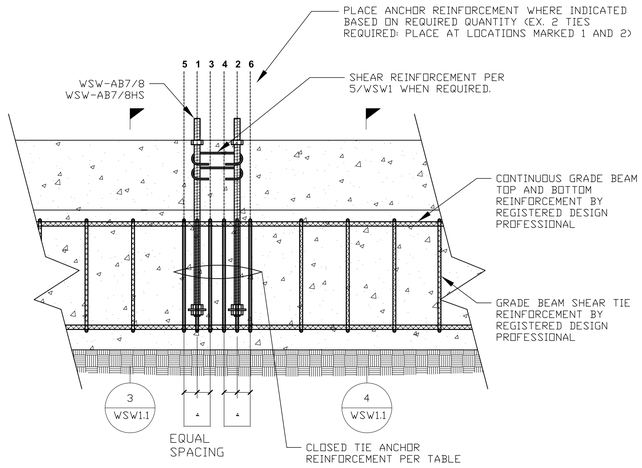
GRADE BEAM ELEVATION AT 24" WALL MODEL | 1



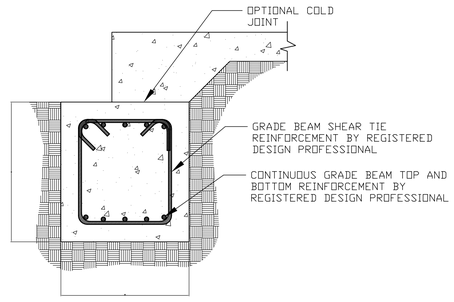
GRADE BEAM SECTION AT ANCHOR REINFORCEMENT | 3



CLOSED TIE ANCHOR REINFORCEMENT | 6



GRADE BEAM ELEVATION AT 12" AND 18" WALL MODELS | 2



GRADE BEAM SECTION AWAY FROM ANCHOR REINFORCEMENT | 4

WSW GRADE BEAM ANCHOR REINFORCEMENT

STRONG-WALL WOOD SHEARWALL WIDTH (in.)	ANCHOR MODEL NO.	ANCHOR DIAMETER (in.)	ANCHOR REINFORCEMENT FOR WIND AND SEISMIC [3,8,9]		AMPLIFIED LRFD APPLIED DESIGN SEISMIC MOMENT (ft.-lbs.) [4,5,6,7]	
			STANDARD STRENGTH WSW-AB	HIGH STRENGTH (HS) WSW-AB	STANDARD STRENGTH WSW-AB	HIGH STRENGTH (HS) WSW-AB
12" MODEL	WSW-AB7/8 WSW-AB7/8HS	7/8	4- #4 CLOSED TIES (D5/W1)	6- #4 CLOSED TIES (D5/W1)	24,700	24,700
18" MODEL					44,100	50,600
24" MODEL	WSW-AB1 WSW-AB1HS	1	2- #4 CLOSED TIES (D4/W1)	4- #4 CLOSED TIES (D4/W1)	75,600	93,600

NOTES:
1. ANCHOR REINFORCEMENT CONFORMS TO ACI 318-14 SECTION 17.4.2.9 AND ACI 318-11 SECTION D.5.2.9. FULL-SCALE TESTING WAS USED TO VALIDATE ANCHOR REINFORCEMENT CONFIGURATION AND PLACEMENT.
2. MINIMUM CONCRETE COMPRESSIVE STRENGTH, f'c = 2500 psi.
3. CLOSED TIE ANCHOR REINFORCEMENT TO BE ASTM A615 GRADE 60 (MIN) #4 REBAR.
4. GRADE BEAM LONGITUDINAL AND TIE REINFORCEMENT SHALL BE SPECIFIED BY THE REGISTERED DESIGN PROFESSIONAL FOR FLEXURE AND SHEAR LOADING. DESIGN SHOULD CONSIDER PROJECT SPECIFIC DESIGN LOADS AND ALLOWABLE SOIL PRESSURE.
5. SIMPSON STRONG-TIE RECOMMENDS USING THE TABULATED MINIMUM AMPLIFIED LRFD APPLIED SEISMIC DESIGN MOMENT TO ENSURE GRADE BEAM DESIGN FLEXURE AND SHEAR STRENGTH IS ADEQUATE TO PREVENT PLASTIC HINGE FORMATION UNDER DEMANDS ASSOCIATED WITH ANCHORAGE FORCES CORRESPONDING TO ACI 318-14 SECTION 17.2.3.4.3 AND ACI 318-11 SECTION D.3.3.4.3.
6. DESIGNER MAY USE REDUCED MOMENT DUE TO APPLIED WSW LATERAL LOAD. MINIMUM MOMENT SHALL BE THE LESSER OF THE TABULATED MOMENT OR THE AMPLIFIED LRFD DESIGN MOMENT FOR SEISMIC: (ASD DESIGN DEMAND SHEAR/0.7) $\times$ Ω_o $\times$ WSW WALL HEIGHT FOR GRADE BEAM DESIGN.
7. MINIMUM GRADE BEAM DESIGN MOMENT FOR WIND AND SEISMIC IN SEISMIC DESIGN CATEGORY A AND B AND DETACHED 1 AND 2 FAMILY DWELLINGS IN SDC C: (ASD DESIGN DEMAND SHEAR/0.6) $\times$ WSW WALL HEIGHT.
8. CLOSED TIE MAY BE SINGLE PIECE HOOP OR TWO PIECE ASSEMBLY WITH A U-STIRRUP WITH STANDARD 135 DEGREE HOOKS AND A TOP CROSS TIE CAP. SEE DETAIL 6/WSW1.1.
9. SEE DETAILS FOR GRADE BEAM ANCHOR REINFORCEMENT PLACEMENT, INSTALLATION AND SPACING REQUIREMENTS. CLOSED TIE ANCHOR REINFORCEMENT QUANTITY IS PER WALL FOR THE 12" AND 18" WALL MODELS, AND PER ANCHOR FOR THE 24" MODEL.

WSW-AB ANCHOR GRADE BEAM REINFORCEMENT AND DESIGN MOMENTS | 5

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NEW ONE STORY SFD

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REGISTERED PROFESSIONAL ENGINEER — CHRISTOPHER JAMES KNAPP — No. C36687 — Exp. 06-30-26 — STATE OF CALIFORNIA

SIMPSON STRONG-TIE COMPANY, INC.
HOME OFFICE:
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PLEASANTON, CA 94588
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SIMPSON StrongTie — THERE IS NO EQUAL

STRONG-WALL® WSW
ALTERNATE ANCHORAGE DETAILS
ENGINEERED DESIGNS

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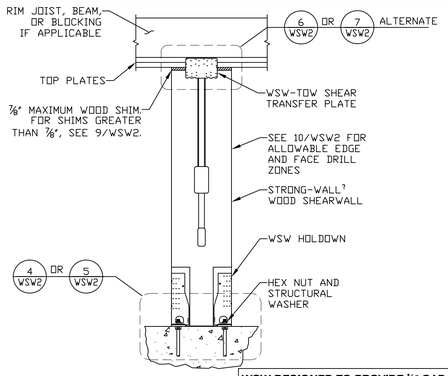
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SHEET	WSW1.1
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STRONG-WALL® WOOD SHEARWALL MODELS

MODEL NO.	W (in.)	H (in.)	ANCHOR BOLTS		TOTAL WALL WEIGHT (lb.)
			QUANTITY	DIA. (in.)	
WSW12x7	12	78	2	7/8	100
WSW18x7	18	78	2	7/8	145
WSW12x7.5	12	85 1/2	2	7/8	110
WSW18x7.5	18	85 1/2	2	7/8	155
WSW12x8	12	93 1/4	2	7/8	115
WSW18x8	18	93 1/4	2	7/8	165
WSW24x8	24	93 1/4	2	1	225
WSW12x9	12	105 1/4	2	7/8	130
WSW18x9	18	105 1/4	2	7/8	185
WSW24x9	24	105 1/4	2	1	245
WSW12x10	12	117 1/4	2	7/8	140
WSW18x10	18	117 1/4	2	7/8	205
WSW24x10	24	117 1/4	2	1	270
WSW12x11	12	129 1/4	2	7/8	150
WSW18x11	18	129 1/4	2	7/8	220
WSW24x11	24	129 1/4	2	1	295
WSW12x12	12	141 1/4	2	7/8	165
WSW18x12	18	141 1/4	2	7/8	240
WSW24x12	24	141 1/4	2	1	320
WSW18x13	18	153 1/4	2	7/8	255
WSW24x13	24	153 1/4	2	1	345
WSW24x14	24	168	2	1	375
WSW24x16	24	192	2	1	425
WSW18x20	18	240	2	7/8	385
WSW24x20	24	240	2	1	520

NOTES:
1. FOR HEIGHTS NOT LISTED, ORDER THE NEXT TALLEST PANEL AND TRIM TO FIT. MINIMUM TRIMMED HEIGHT FOR ALL PANELS IS 74¼".
2. ALL PANELS COME WITH TWO PRE-ATTACHED HOLDOWNS, TWO STANDARD HEX NUTS, TWO STRUCTURAL WASHERS, TWO WSW-TOW PLATES AND INSTALLATION INSTRUCTIONS.
3. ALL PANELS ARE 3½" THICK.

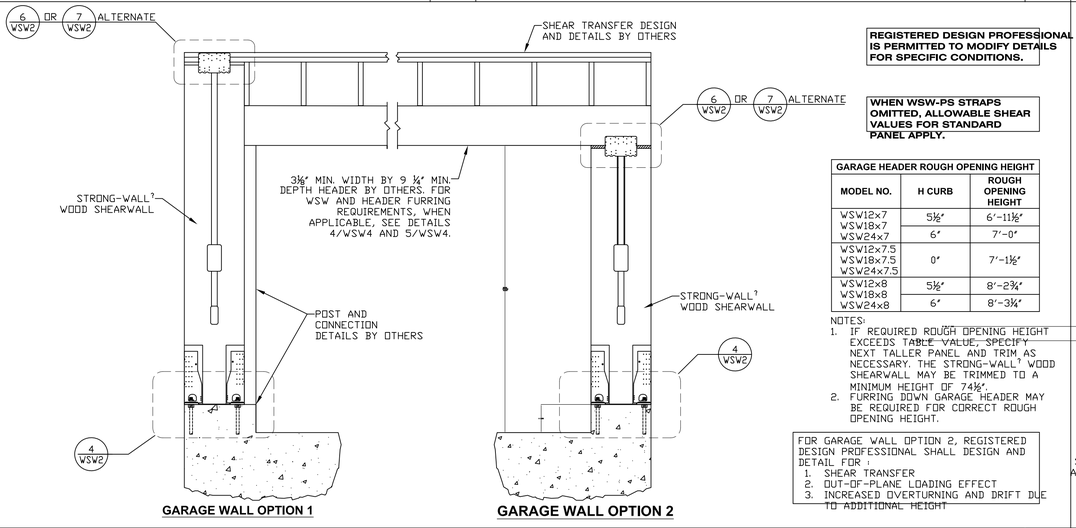
STRONG-WALL® WSW MODELS 1



REGISTERED DESIGN PROFESSIONAL IS PERMITTED TO MODIFY DETAILS FOR SPECIFIC CONDITIONS.

WSW DESIGNED TO PROVIDE ¼" GAP BETWEEN LSL AT BASE OF WSW AND CONCRETE. ENSURE CONCRETE IS LEVEL AND SMOOTH BENEATH PANEL. GRIND OR FILL AS NECESSARY.

SINGLE STORY WSW ON CONCRETE 2



GARAGE WALL OPTION 1 GARAGE WALL OPTION 2

REGISTERED DESIGN PROFESSIONAL IS PERMITTED TO MODIFY DETAILS FOR SPECIFIC CONDITIONS.

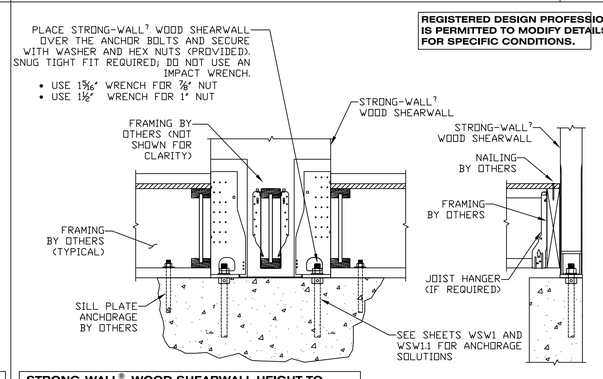
WHEN WSW-PS STRAPS OMITTED, ALLOWABLE SHEAR VALUES FOR STANDARD PANEL APPLY.

GARAGE HEADER ROUGH OPENING HEIGHT		
MODEL NO.	H CURB	ROUGH OPENING HEIGHT
WSW12x7 WSW18x7 WSW24x7	5½"	6'-11½"
	6"	7'-0"
WSW12x7.5 WSW18x7.5 WSW24x7.5	0"	7'-1½"
WSW12x8 WSW18x8	5½"	8'-2¾"
WSW24x8	6"	8'-3¾"

NOTES:
1. IF REQUIRED ROUGH OPENING HEIGHT EXCEEDS TABLE VALUE, SPECIFY NEXT TALLER PANEL AND TRIM AS NECESSARY. THE STRONG-WALL® WOOD SHEARWALL MAY BE TRIMMED TO A MINIMUM HEIGHT OF 74½".
2. FURRING DOWN GARAGE HEADER MAY BE REQUIRED FOR CORRECT ROUGH OPENING HEIGHT.

FOR GARAGE WALL OPTION 2, REGISTERED DESIGN PROFESSIONAL SHALL DESIGN AND DETAIL FOR :
1. SHEAR TRANSFER
2. OUT-OF-PLANE LOADING EFFECT
3. INCREASED OVERTURNING AND DRIFT DUE TO ADDITIONAL HEIGHT

ALTERNATE WSW GARAGE FRONT OPTIONS 3



REGISTERED DESIGN PROFESSIONAL IS PERMITTED TO MODIFY DETAILS FOR SPECIFIC CONDITIONS.

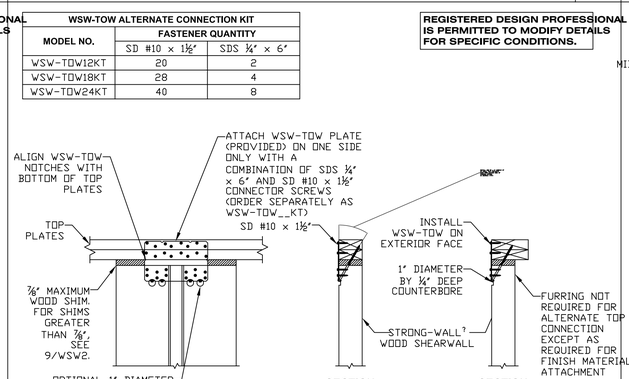
STRONG-WALL® WOOD SHEARWALL HEIGHT TO INCLUDE THE DEPTH OF THE FLOOR SYSTEM AND SHALL BE INSTALLED DIRECTLY ON THE FOUNDATION. SPECIFY PANEL HEIGHT FROM TOP OF FOUNDATION TO UNDERSIDE OF TOP PLATES OR BEAM.

STANDARD INSTALLATION BASE CONNECTION 4

SECTION

STRONG-WALL® WOOD SHEARWALL HEIGHT TO INCLUDE THE DEPTH OF THE FLOOR SYSTEM AND SHALL BE INSTALLED DIRECTLY ON THE FOUNDATION. SPECIFY PANEL HEIGHT FROM TOP OF FOUNDATION TO UNDERSIDE OF TOP PLATES OR BEAM.

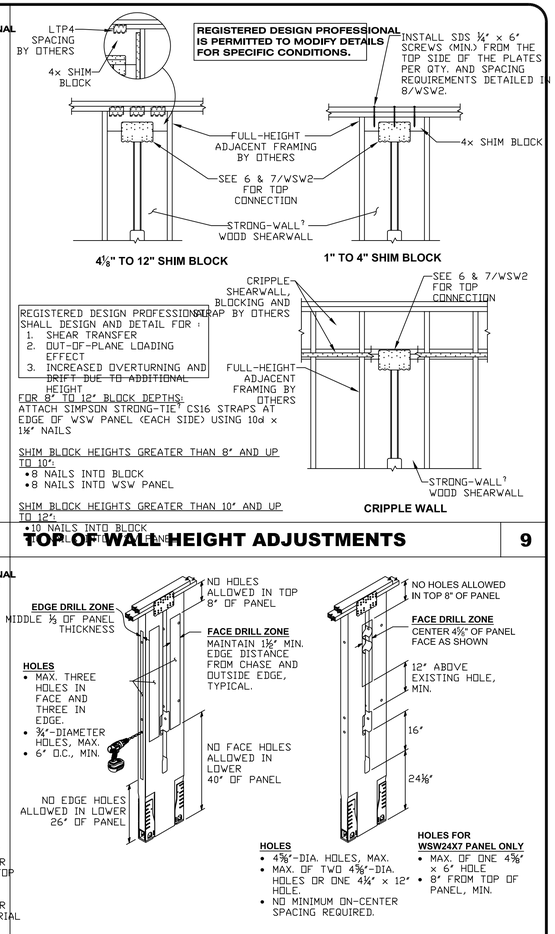
WOOD FLOOR SYSTEM BASE CONNECTION 5



REGISTERED DESIGN PROFESSIONAL IS PERMITTED TO MODIFY DETAILS FOR SPECIFIC CONDITIONS.

FOR 5⅛"-5½" FRAMING, ATTACH DFL, SP OR SCL WOOD FURRING BLOCK BETWEEN WSW PANEL AND WSW-TOW WITH SDS ¼" x 3½" SCREWS (MIN.) OR 16d COMMON NAILS (8 TOTAL FASTENERS FOR WSW12, 10 FOR WSW18 AND 14 FOR WSW24). MINIMUM BLOCK SIZE IS 1¾" x 11⅞" x WSW PANEL WIDTH.

STANDARD TOP CONNECTION 6



REGISTERED DESIGN PROFESSIONAL SHALL DESIGN AND DETAIL FOR :
1. SHEAR TRANSFER
2. OUT-OF-PLANE LOADING EFFECT
3. INCREASED OVERTURNING AND ~~DRIFT DUE TO ADDITIONAL~~ HEIGHT

FOR 8" TO 12" BLOCK DEPTHS:
ATTACH SIMPSON STRONG-TIE® CS16 STRAPS AT EDGE OF WSW PANEL (EACH SIDE) USING 10d x 1½" NAILS

~~SHIM~~ BLOCK HEIGHTS GREATER THAN 8" AND UP TO 10":
• 8 NAILS INTO BLOCK
• 8 NAILS INTO WSW PANEL

~~SHIM~~ BLOCK HEIGHTS GREATER THAN 10" AND UP TO 12":
• 10 NAILS INTO BLOCK
• 10 NAILS INTO WSW PANEL

CRIPPLE WALL

TOP OF WALL HEIGHT ADJUSTMENTS 9

REGISTERED DESIGN PROFESSIONAL IS PERMITTED TO MODIFY DETAILS FOR SPECIFIC CONDITIONS.

WSW-TOW ALTERNATE CONNECTION KIT		
MODEL NO.	FASTENER QUANTITY	
	SD #10 x 1½"	SDS ¼" x 6"
WSW-TOW12KT	20	2
WSW-TOW18KT	28	4
WSW-TOW24KT	40	8

REGISTERED DESIGN PROFESSIONAL IS PERMITTED TO MODIFY DETAILS FOR SPECIFIC CONDITIONS.

ALTERNATE TOP CONNECTION 7

ALLOWABLE SMALL HOLES FACE AND EDGE DRILL ZONES

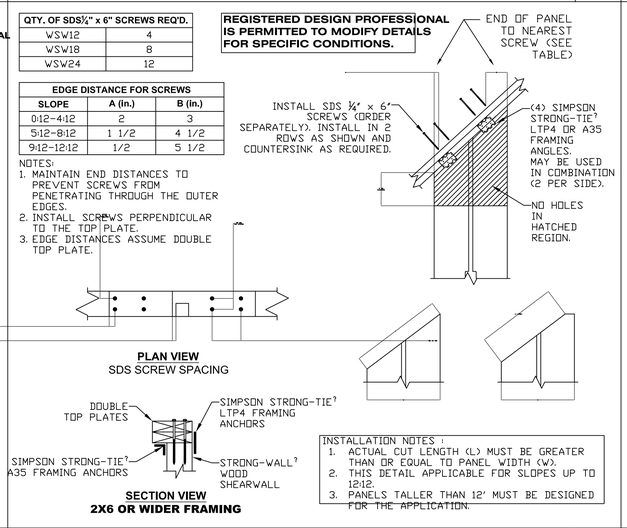
ALLOWABLE LARGE HOLES IN ADDITION TO ALLOWABLE SMALL HOLES

TRIM ZONE AND ALLOWABLE HOLES 10

QTY. OF SDS¼" x 6" SCREWS REQ'D.	
WSW12	4
WSW18	8
WSW24	12

EDGE DISTANCE FOR SCREWS		
SLOPE	A (in.)	B (in.)
0:12-4:12	2	3
5:12-8:12	1 1/2	4 1/2
9:12-12:12	1/2	5 1/2

NOTES:
1. MAINTAIN END DISTANCES TO PREVENT SCREWS FROM PENETRATING THROUGH THE OUTER EDGES.
2. INSTALL SCREWS PERPENDICULAR TO THE TOP PLATE.
3. EDGE DISTANCES ASSUME DOUBLE TOP PLATE.



INSTALLATION NOTES :
1. ACTUAL CUT LENGTH (L) MUST BE GREATER THAN OR EQUAL TO PANEL WIDTH (W).
2. THIS DETAIL APPLICABLE FOR SLOPES UP TO 12:12.
3. PANELS TALLER THAN 12' MUST BE DESIGNED FOR THE APPLICATION.

RAKE WALL 8

1. STRONG-WALL WOOD SHEARWALL IS MANUFACTURED AND TRADEMARKED BY "SIMPSON STRONG-TIE COMPANY INC."HOME OFFICE: 5956 W. LAS POSITAS BLVD. , PLEASANTON, CA 94588 TEL: (800) 999-5099, FAX: (925) 847-1597. "SIMPSON STRONG-TIE COMPANY INC." IS AN ISO 9001-2008 REGISTERED COMPANY.
2. USE OF THIS PRODUCT IS SUBJECT TO THE APPROVAL OF THE LOCAL BUILDING DEPARTMENT.
3. THIS PRODUCT IS PART OF THE OVERALL LATERAL FORCE RESISTING SYSTEM OF THE STRUCTURE. DESIGN OF THE BUILDING'S LATERAL FORCE RESISTING SYSTEM, INCLUDING THE LOAD PATH TO TRANSFER LATERAL FORCES FROM THE STRUCTURE TO THE GROUND, IS THE RESPONSIBILITY OF THE DESIGNER.
4. ENGINEER OF RECORD IS PERMITTED TO MODIFY DETAILS FOR SPECIFIC CONDITIONS.
5. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, CONDITIONS, ELEVATIONS, ETC. PRIOR TO INSTALLATION OF ANY COMPONENTS FOR THE STRONG-WALL SB SYSTEM. IF ANY DISCREPANCIES ARE FOUND, THEY SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGNER FOR CLARIFICATION PRIOR TO CONSTRUCTION.
6. INSTALLATION OF PRODUCT SHALL BE DONE IN CONFORMANCE TO THESE DRAWINGS. THE PERFORMANCE OF MODIFIED PRODUCTS OR ALTERED INSTALLATION PROCEDURES ARE THE SOLE RESPONSIBILITY OF THE DESIGNER.
7. SIMPSON STRONG-TIE COMPANY INC. RESERVES THE RIGHT TO CHANGE SPECIFICATIONS, DESIGNS, AND MODELS WITHOUT NOTICE OR LIABILITY FOR SUCH CHANGES.
8. ALL HARDWARE CALLED OUT IS SIMPSON STRONG-TIE.
9. SEE ICC-ES ESR-2652 OR CITY OF LOS ANGELES RR25730 AS APPLICABLE FOR ADDITIONAL INFORMATION.

NOTES 11

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REGISTERED PROFESSIONAL ENGINEER — No. C36687 — Exp. 06-30-26 — CIVIL — STATE OF CALIFORNIA

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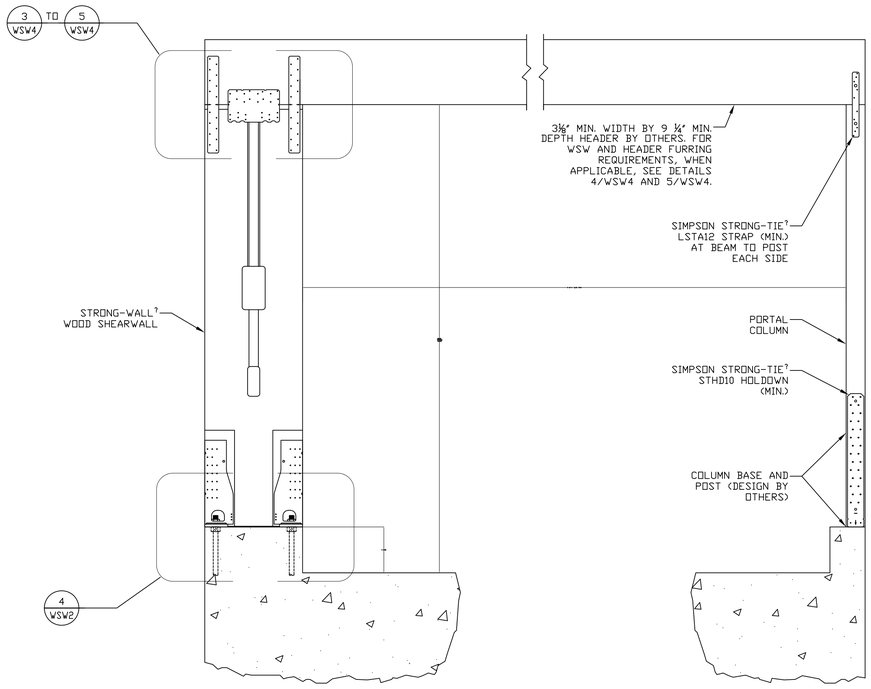
SIMPSON Strong-Tie® THERE IS NO EQUAL

STRONG-WALL® WSW
FRAMING DETAILS
ENGINEERED DESIGNS

SIMPSON Strong-Tie® THERE IS NO EQUAL

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2935 MAIDEN LN.,
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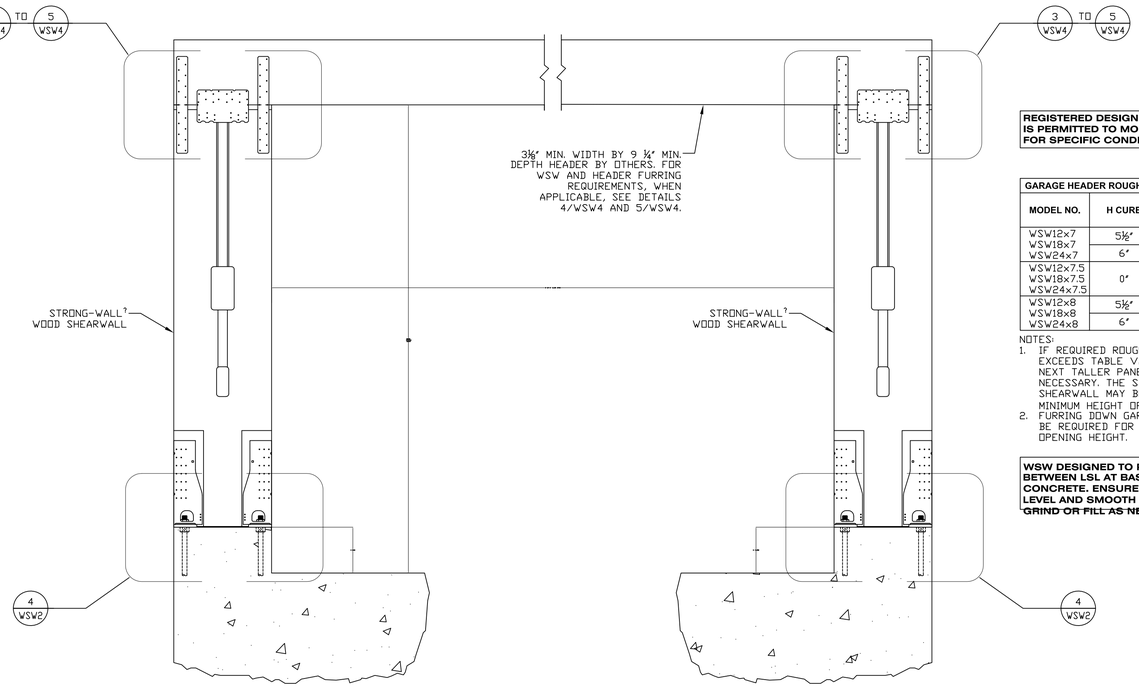
GARAGE HEADER ROUGH OPENING HEIGHT		
MODEL NO.	H CURB	ROUGH OPENING HEIGHT
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	6"	7'-0"
WSW12x7.5 WSW18x7.5 WSW24x7.5	0"	7'-1½"
WSW12x8 WSW18x8 WSW24x8	5½"	8'-2¾"
	6"	8'-3¾"

NOTES:
1. IF REQUIRED ROUGH OPENING HEIGHT EXCEEDS TABLE VALUE, SPECIFY NEXT TALLER PANEL AND TRIM AS NECESSARY. THE STRONG-WALL® WOOD SHEARWALL MAY BE TRIMMED TO A MINIMUM HEIGHT OF 7'4½".
2. FURRING DOWN GARAGE HEADER MAY BE REQUIRED FOR CORRECT ROUGH OPENING HEIGHT.

REGISTERED DESIGN PROFESSIONAL IS PERMITTED TO MODIFY DETAILS FOR SPECIFIC CONDITIONS.

WSW DESIGNED TO PROVIDE ⅛" GAP BETWEEN LSL AT BASE OF WSW AND CONCRETE. ENSURE CONCRETE IS LEVEL AND SMOOTH BENEATH PANEL. GRIND OR FILL AS NECESSARY.

STRONG-WALL WOOD SHEARWALL SINGLE PORTAL ASSEMBLY | 1



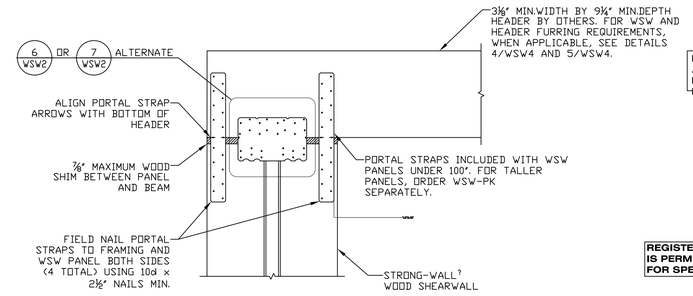
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GARAGE HEADER ROUGH OPENING HEIGHT		
MODEL NO.	H CURB	ROUGH OPENING HEIGHT
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	6"	7'-0"
WSW12x7.5 WSW18x7.5 WSW24x7.5	0"	7'-1½"
WSW12x8 WSW18x8 WSW24x8	5½"	8'-2¾"
	6"	8'-3¾"

NOTES:
1. IF REQUIRED ROUGH OPENING HEIGHT EXCEEDS TABLE VALUE, SPECIFY NEXT TALLER PANEL AND TRIM AS NECESSARY. THE STRONG-WALL® WOOD SHEARWALL MAY BE TRIMMED TO A MINIMUM HEIGHT OF 7'4½".
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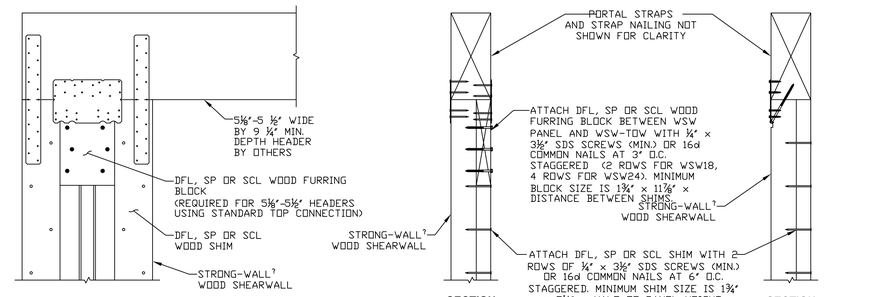
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STRONG-WALL WOOD SHEARWALL DOUBLE PORTAL ASSEMBLY | 2



REGISTERED DESIGN PROFESSIONAL IS PERMITTED TO MODIFY DETAILS FOR SPECIFIC CONDITIONS.

PORTAL TOP CONNECTION | 3

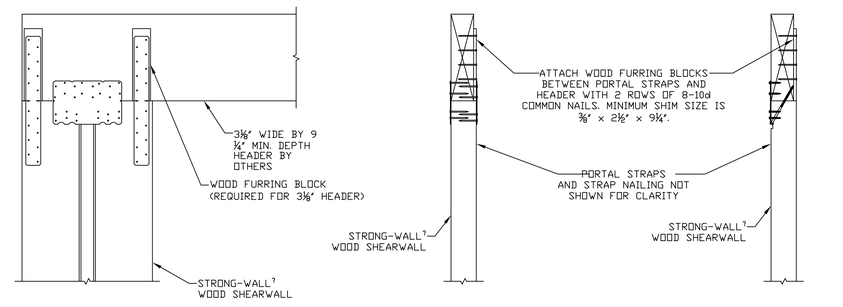


REGISTERED DESIGN PROFESSIONAL IS PERMITTED TO MODIFY DETAILS FOR SPECIFIC CONDITIONS.

SECTION
STANDARD TOP CONNECTION (FURRING BLOCK NOT REQUIRED FOR WSW12)

SECTION
ALTERNATE TOP CONNECTION (BLOCK NOT REQUIRED)

FURRING FOR 5 1/8" TO 5 1/2" HEADER | 4



REGISTERED DESIGN PROFESSIONAL IS PERMITTED TO MODIFY DETAILS FOR SPECIFIC CONDITIONS.

SECTION
STANDARD TOP CONNECTION

SECTION
ALTERNATE TOP CONNECTION

FURRING FOR 3 1/8" HEADER | 5

1. STRONG-WALL WOOD SHEARWALL IS MANUFACTURED AND TRADEMARKED BY "SIMPSON STRONG-TIE COMPANY INC."HOME OFFICE: 5956 W. LAS POSITAS BLVD. , PLEASANTON, CA 94588 TEL: (800) 999-5099, FAX: (925) 847-1597. "SIMPSON STRONG-TIE COMPANY INC." IS AN ISO 9001-2008 REGISTERED COMPANY.
2. USE OF THIS PRODUCT IS SUBJECT TO THE APPROVAL OF THE LOCAL BUILDING DEPARTMENT.
3. THIS PRODUCT IS PART OF THE OVERALL LATERAL FORCE RESISTING SYSTEM OF THE STRUCTURE. DESIGN OF THE BUILDING'S LATERAL FORCE RESISTING SYSTEM, INCLUDING THE LOAD PATH TO TRANSFER LATERAL FORCES FROM THE STRUCTURE TO THE GROUND, IS THE RESPONSIBILITY OF THE DESIGNER.
4. ENGINEER OF RECORD IS PERMITTED TO MODIFY DETAILS FOR SPECIFIC CONDITIONS.
5. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, CONDITIONS, ELEVATIONS, ETC. PRIOR TO INSTALLATION OF ANY COMPONENTS FOR THE STRONG-WALL SB SYSTEM. IF ANY DISCREPANCIES ARE FOUND, THEY SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGNER FOR CLARIFICATION PRIOR TO CONSTRUCTION.
6. INSTALLATION OF PRODUCT SHALL BE DONE IN CONFORMANCE TO THESE DRAWINGS. THE PERFORMANCE OF MODIFIED PRODUCTS OR ALTERED INSTALLATION PROCEDURES ARE THE SOLE RESPONSIBILITY OF THE DESIGNER.
7. SIMPSON STRONG-TIE COMPANY INC. RESERVES THE RIGHT TO CHANGE SPECIFICATIONS, DESIGNS, AND MODELS WITHOUT NOTICE OR LIABILITY FOR SUCH CHANGES.
8. ALL HARDWARE CALLED OUT IS SIMPSON STRONG-TIE.
9. SEE ICC-ES ESR-2652 OR CITY OF LOS ANGELES RR25730 AS APPLICABLE FOR ADDITIONAL INFORMATION.

NOTES | 6

2935 MAIDEN LN.,
ALTADENA, CA
NEW ONE STORY SFD

NO.	DATE	REVISIONS
0	12-26-2023	ISSUED FOR PLANCHECK
	09-04-25	ISSUED FOR PERMIT

REGISTERED PROFESSIONAL ENGINEER JAMES KNAPP
No. C36687
Exp. 06-30-26
STATE OF CALIFORNIA

SIMPSON STRONG-TIE COMPANY, INC.
HOME OFFICE:
5956 W. LAS POSITAS BLVD.
PLEASANTON, CA 94588
TEL: (800) 999-5099

SIMPSON Strong-Tie® THERE IS NO EQUAL

STRONG-WALL® WSW
PORTAL SYSTEM FRAMING DETAILS ENGINEERED DESIGNS

SIMPSON Strong-Tie® THERE IS NO EQUAL

NAME	
DATE	12-22-2023
SCALE	N.T.S.
CHECKED	
SHEET	WSW3
	OF SHEETS
JOB NO.	23-43