

NOTE:

AN ELECTRONICALLY SIGNED AND REGISTERED INSTALLATION CERTIFICATE(S) (CF-2R) POSTED BY THE INSTALLING CONTRACTOR SHALL BE SUBMITTED TO THE FIELD INSPECTOR DURING CONSTRUCTION AT THE BUILDING SITE. A REGISTERED CF-2R WILL HAVE A UNIQUE 21 DIGIT REGISTRATION NUMBER FOLLOWED BY 4 ZEROES LOCATED AT THE BOTTOM OF EACH PAGE. THE FIRST 12 DIGITS OF THE NUMBER WILL MATCH THE REGISTRATION NUMBER OF THE ASSOCIATED CF-1R CERTIFICATE OF OCCUPANCY WILL NOT BE ISSUED UNTIL FORMS CF-2R IS REVIEWED AND APPROVED.

AN ELECTRONICALLY SIGNED AND REGISTERED CERTIFICATE(S) OF FIELD VERIFICATION AND DIAGNOSTIC TESTING (CF-3R) SHALL BE POSTED AT THE BUILDING SIGNED AND REGISTERED CERTIFICATES OF FIELD VERIFICATION AND DIAGNOSTIC TESTING (CF-3R) SHALL BE POSTED AT THE BUILDING SITE BY A CERTIFIED HERS RATER. A REGISTERED CF-3R WILL HAVE A UNIQUE 25 DIGIT REGISTRATION NUMBER LOCATED AT THE BOTTOM OF EACH PAGE. THE FIRST 20 DIGITS OF THE NUMBER WILL MATCH THE REGISTRATION NUMBER OF THE ASSOCIATED CF-2R. CERTIFICATE OF OCCUPANCY WILL NOT NE ISSUED UNTIL THE CF-3R IS REVIEWED AND APPROVED.

HERS REQUIREMENTS:

REQUIRED SPECIAL FEATURES	
The following are features that must be installed as condition for meeting the modeled energy performance for this computer analysis.	
• PV exception 2: No PV required when minimum PV size (Section 150.1(c)(14) < 1.8 kWdc (0 kW)	
• Northwest Energy Efficiency Alliance (NEEA) rated heat pump water heater, specific brand/model, or equivalent, must be installed	
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	
• Indoor air quality ventilation	
• Kitchen range hood	
• Verified heat pump rated heating capacity	

CONSTRUCTED IMPERVIOUS SURFACE AREA TABLE

SITE ITEM	IMPERVIOUS ITEM	DIMENSION	NEW OR REPLACED	EXISTING AREA
①	NEW HOUSE	PER PLAN	792 S.F.	0 S.F.
②	NEW DRIVE / WALKWAYS	PER PLAN	583 S.F.	0 S.F.
③	NEW GARAGE	PER PLAN	484 S.F.	0 S.F.
TOTAL NEW:			1859 S.F.	

SHEET INDEX		RESERVED FOR COUNTY STAMPS
1	SITE PLAN	
2	FLOOR PLANS / SECTIONS	
3	EXTERIOR ELEVATIONS	
4	FOUNDATION PLAN	
5	FRAMING PLAN	
6	ROOF PLAN	
7	ELECTRICAL / MECHANICAL PLANS	
SN1	STRUCTURAL NOTES	
D-1	DETAILS	
CAL GREEN NOTES 1		
CALGREEN NOTES 2		
T-24(1)	TITLE 24	
T-24(2)	TITLE 24	
CS-1	CONSTRUCTION SPECIFICATIONS	

BMP LEGEND	
PDS 659	BROW DITCH
PDS 659	BERM
DIRECTION OF LOT DRAINAGE	
*MATERIALS & WASTE MANAGEMENT BMPs:	
WM-1	MATERIAL DELIVERY & STORAGE
WM-4	SPILL PREVENTION AND CONTROL
WM-8	CONCRETE WASTE MANAGEMENT
WM-5	SOLID WASTE MANAGEMENT
WM-9	SANITARY WASTE MANAGEMENT
WM-6	HAZARDOUS WASTE MANAGEMENT
*TEMPORARY RUNOFF CONTROL BMPs:	
SS-2	PRESERVATION OF EXISTING VEGETATION
SS-3	BONDED OR STABILIZED FIBER MATRIX (WINTER)
SS-4	HYDROSEEDING (SUMMER)
SS-6	STRAW OR WOOD MULCH
SS-7	PHYSICAL STABILIZATION (WINTER)
SS-10	ENERGY DISSIPATOR
SC-1	SILT FENCE
SC-2	SEDIMENT / DESILTING BASIN
SC-5	FIBER ROLLS
SC-6	GRAVEL OR SAND BAGS
SC-7	STREET SWEEPING AND VACUUMING
SC-10	STORM DRAIN INLET PROTECTION
NS-2	DEWATERING FILTRATION
TC-1	STABILIZED CONSTRUCTION ENTRANCE
TC-2	CONSTRUCTION ROAD STABILIZATION
TC-3	ENTRANCE / EXIT TIRE WASH
*POST-CONSTRUCTION SITE DESIGN BMPs:	
4.3.1	MAINTAIN NATURAL DRAINAGE PATHWAYS AND HYDROLOGIC FEATURES
4.3.2	CONSERVE NATURAL AREAS, SOILS, AND VEGETATION
4.3.3	MINIMIZE IMPERVIOUS AREA
4.3.4	MINIMIZE SOIL COMPACTION
4.3.5	IMPERVIOUS AREA DISPERSION
4.3.6	RUNOFF COLLECTION
4.3.7	LANDSCAPING WITH NATIVE OR DROUGHT TOLERANT SPECIES
4.3.8	HARVESTING AND USING PRECIPITATION
*POST CONSTRUCTION SOURCE CONTROL BMPs:	
4.2.1	PREVENTION OF ILLICIT DISCHARGES INTO THE MS4
4.2.2	STORM DRAIN STENCILING AND POSTING OF SIGNAGE
4.2.3	PROTECTED OUTDOOR MATERIALS STORAGE AREAS
4.2.4	PROTECT MATERIALS STORED IN OUTDOOR WORK AREAS
4.2.5	PROTECT TRASH STORAGE AREAS
4.2.6	*ADDNL BMPs BASED ON POTENTIAL RUNOFF POLLUTANTS:
A	ON-SITE STORM DRAIN INLETS
B	INTERIOR FLOOR DRAINS & ELEVATOR SHAFT SUMPS
C	INTERIOR PARKING GARAGES
D	NEED FOR FUTURE INDOOR & STR. PEST CONTROL
E	LANDSCAPE/OUTDOOR PESTICIDE USE
F	POOLS, SPAS, PONDS, FOUNTAINS, & WATER FEATURES
G	FOOD SERVICE
H	TRASH OR REFUSE AREAS
I	INDUSTRIAL PROCESSES
J	OUTDOOR STORAGE OF EQUIP. OR MATERIALS
K	VEHICLE AND EQUIPMENT CLEANING
L	VEHICLE/EQUIPMENT REPAIR AND MAINTENANCE
M	FUEL DISPENSING AREAS
N	LOADING DOCKS
O	FIRE SPRINKLER TEST WATER
P	MISCELLANEOUS DRAIN OR WASH WATER
Q	PLAZAS, SIDEWALKS, DRIVEWAYS, AND PARKING LOTS

NOTE:

THE ENTIRE SITE IS FUEL MODIFIED.

THIS PROPERTY USES NATURAL GAS.

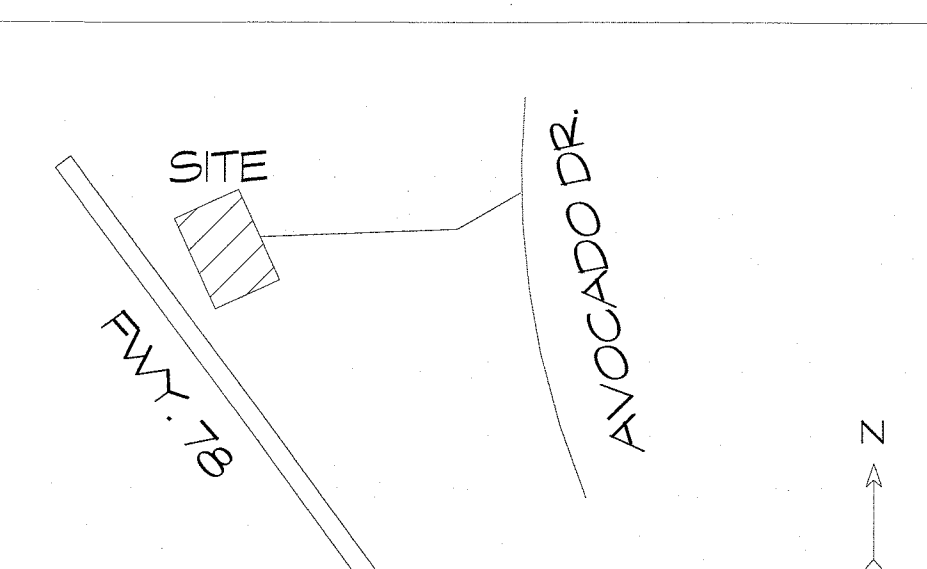
THE PROPERTY IS CONNECTED TO THE ELECTRIC GRID.

AN AUTOMATIC SPRINKLER SYSTEM SHALL BE INSTALLED

SITE PLAN

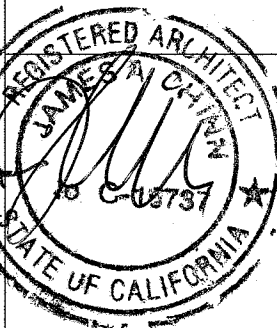
AREA OF DISTURBANCE: 1859 S.F.
NEW IRRIGATED LANDSCAPE AREA: 0 S.F.

ENGINEERING SCALE: 1" = 10'-0"

VICINITY MAP		OWNER INFORMATION		CONTACT INFORMATION		PARCEL INFORMATION		PROJECT INFORMATION		CODE REFERENCES	
		NAME: GEORGE CARPINELLI		NAME: JAMES CHINN, ARCHITECT		APN: 183-340-08-00		SCOPE OF WORK:		SUMMARY TABLE: BUILDING: 792 S.F. RESIDENCE 484 S.F. GARAGE	
		ADDRESS: 4023 CADDEN WAY		ADDRESS: 2120 JIMMY DURANTE BLVD. #114		SITE ADDRESS:		SINGLE FAMILY RESIDENCE W/ DETACHED 2 CAR GARAGE			
		CITY: SAN DIEGO		CITY: DEL MAR		I CERTIFY THAT I HAVE READ ALL ZONING REGULATIONS AND BEST MANAGEMENT PRACTICES (BMPs) NOTES AND THAT I AM THE DESIGNER OF THE PROPOSED PROJECT:  DESIGNER SIGNATURE REQUIRED 11-26-23 DATE		LEGAL DESCRIPTION: PARCEL 'A', TCT2191			
		STATE: CA		STATE: CALIFORNIA				OCCUPANCY: R-3			
		ZIP: 92117		ZIP: 92014				TYPE OF CONSTRUCTION: VB			
		PHONE: 760-586-3600		PHONE: (858) 755-5863				LOT: 13,452 S.F.			
		FAX:		FAX:				ZONE: RS			
		EMAIL: generalgeorgec@gmail.com		EMAIL: jameschinn400@gmail.com							

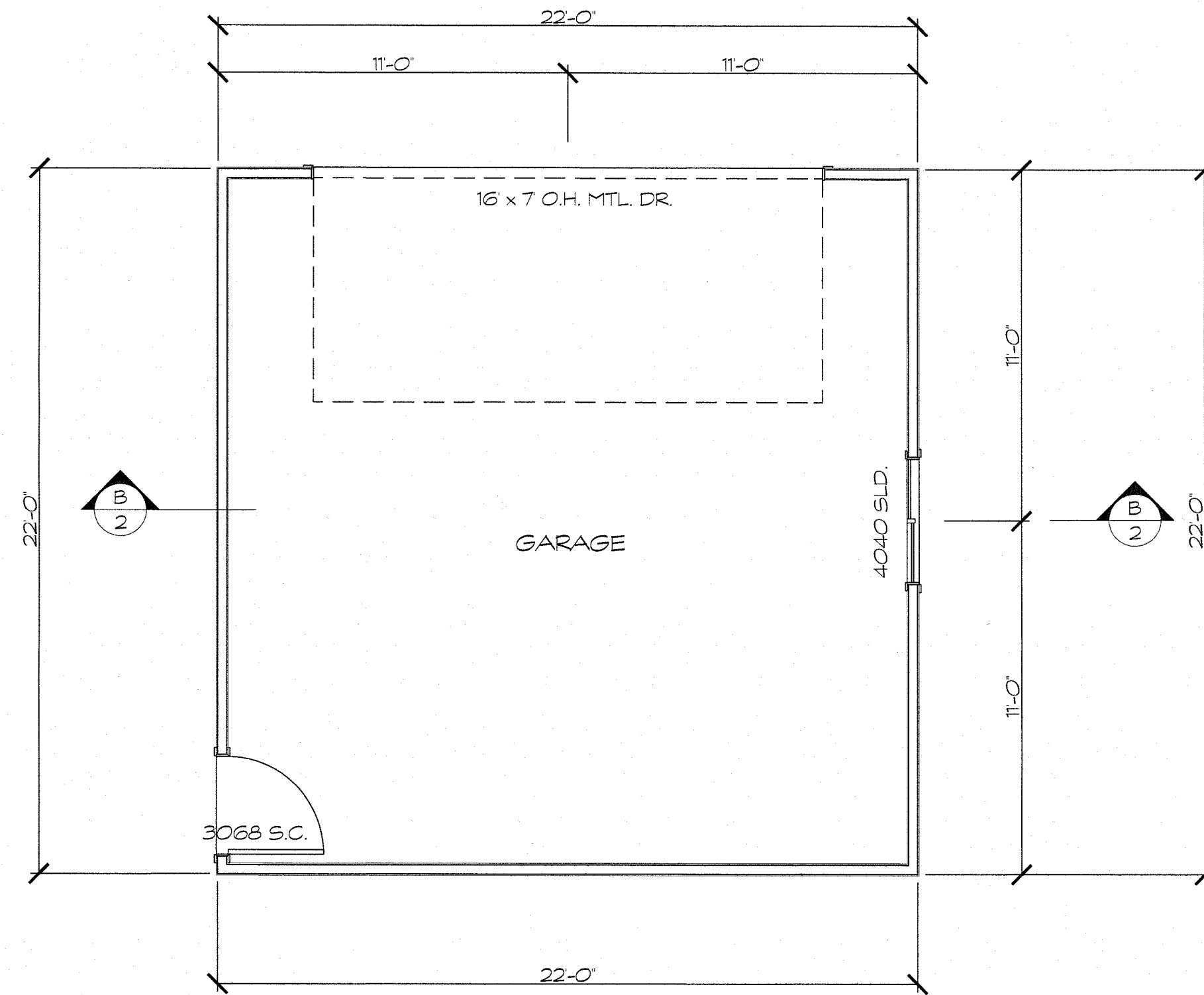
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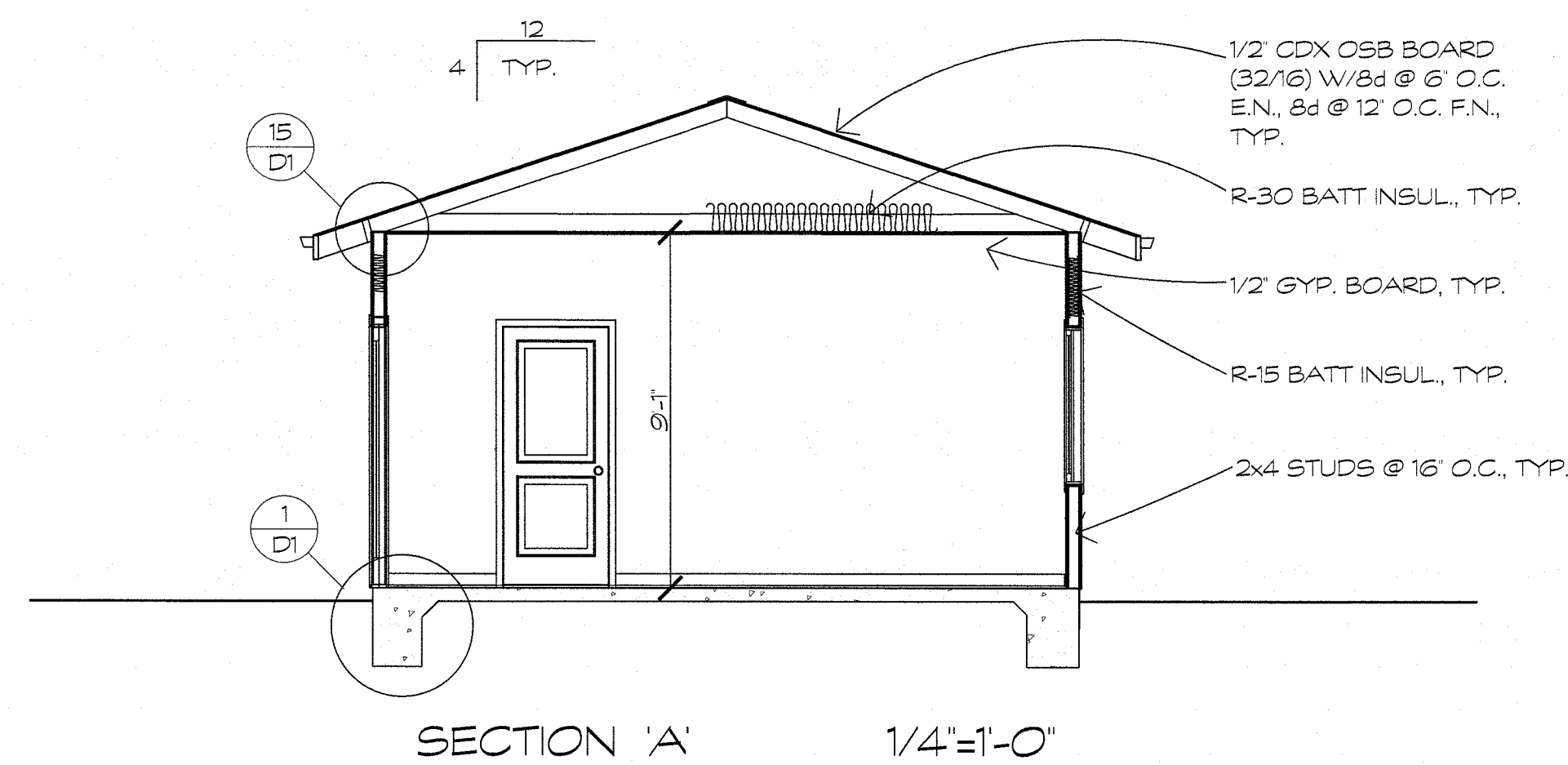
CARPINELLI RESIDENCE
ROLLING HILLS
VISTA, CALIFORNIA

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Drawn	JAC
Job	2023-19
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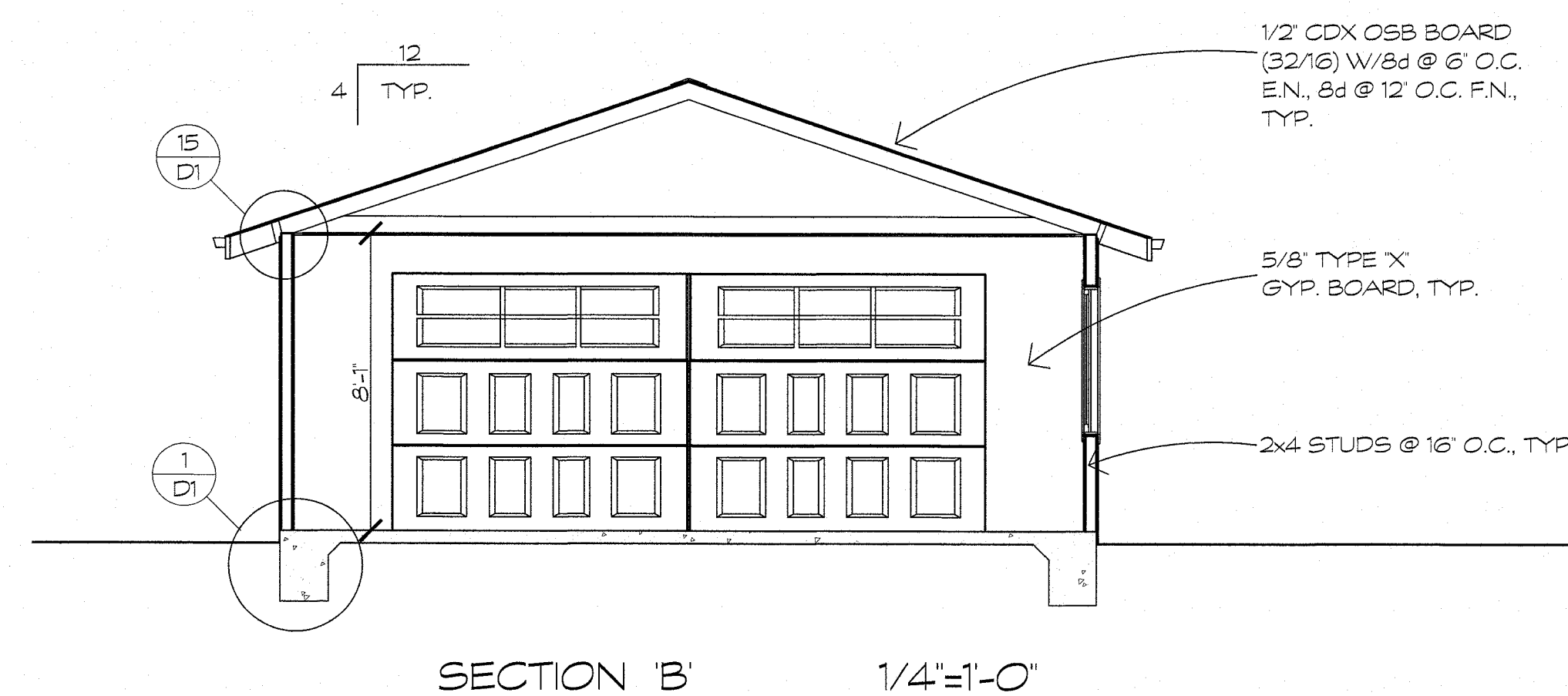


GARAGE FLOOR PLAN 1/4"=1'-0"

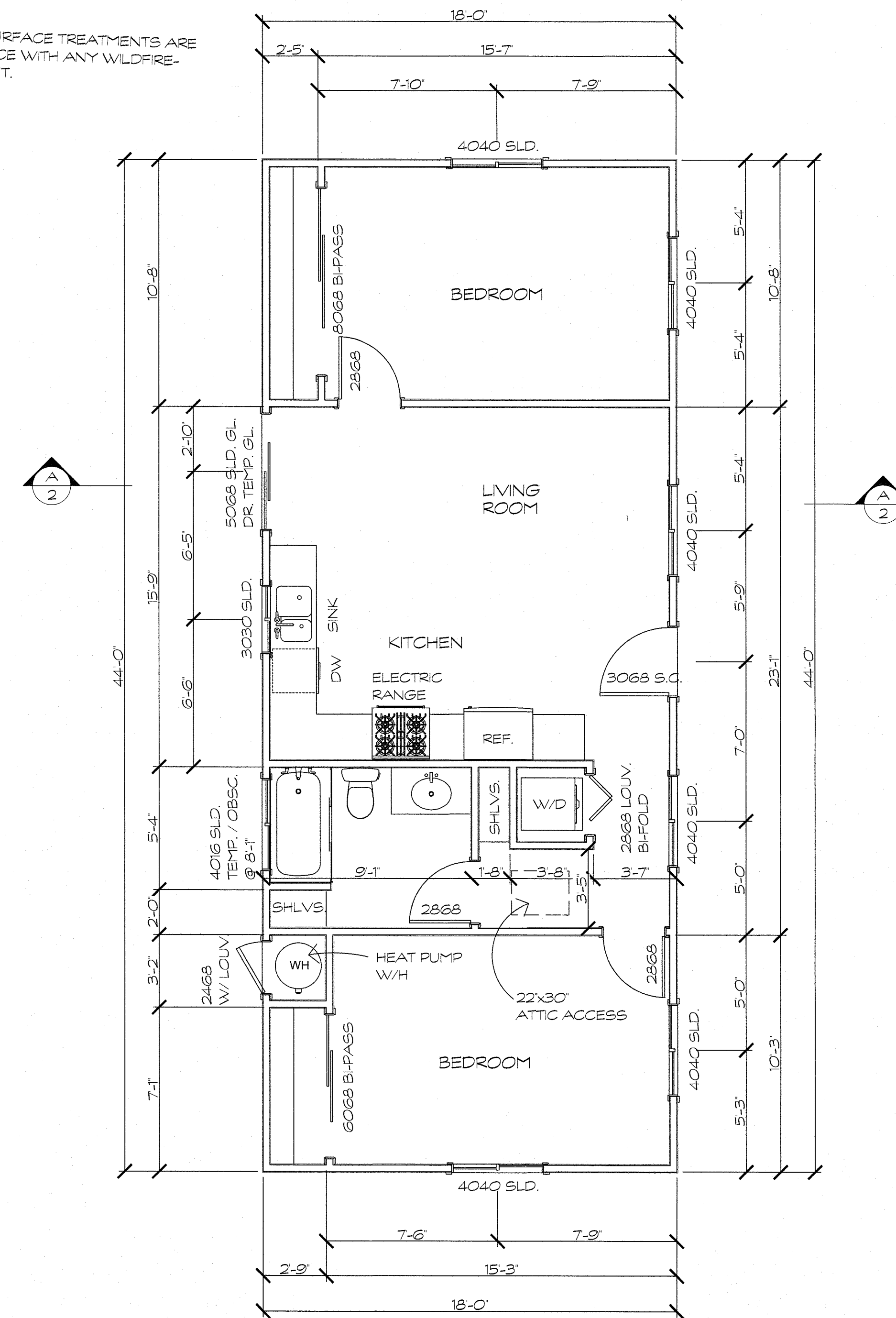
- NOTE:
- EXTERIOR GARAGE DOORS SHALL RESIST THE INTRUSION OF EMBERS INTO THE GARAGE BY LIMITING THE SIZE OF ANY GAPS AT THE BOTTOM, SIDES, AND THE TOP OF THE DOOR TO 1/8" OR LESS BY ONE OF THE FOLLOWING METHODS:
 - WEATHERSTRIPPING PRODUCTS WITH TENSILE STRENGTH AND FLAMMABILITY RATING PER CBC 708A-4.
 - DOOR OVERLAPS ONTO JAMB & HEADERS.
 - GARAGE DOOR JAMBS AND HEADERS COVERED WITH METAL FLASHING.
 - PAINTS, COATINGS, STAINS OR OTHER SURFACE TREATMENTS ARE NOT ACCEPTABLE MEANS OF COMPLIANCE WITH ANY WILDFIRE-RESISTIVE CONSTRUCTION REQUIREMENT.



SECTION 'A' 1/4"=1'-0"



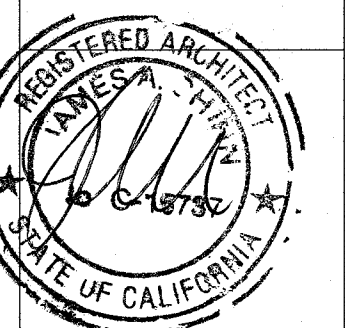
SECTION 'B' 1/4"=1'-0"



FLOOR PLAN 1/4"=1'-0"
LIVING AREA
142 SQ FT

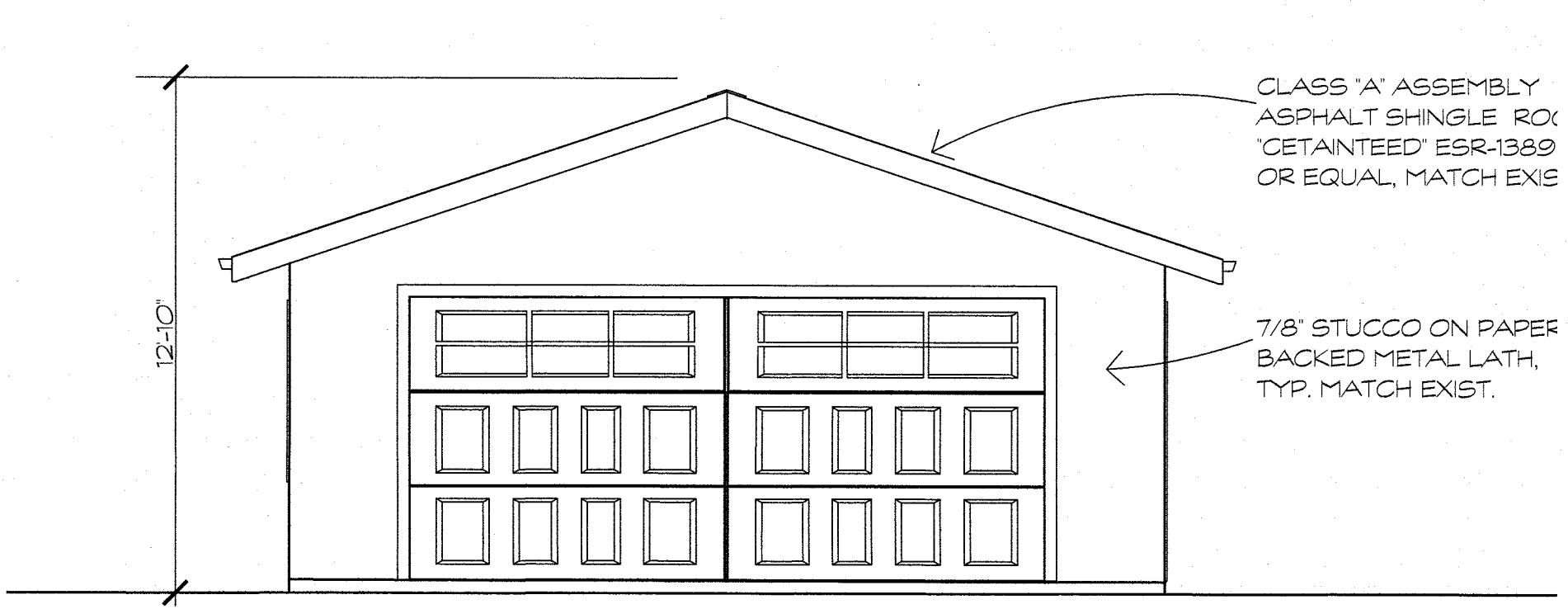
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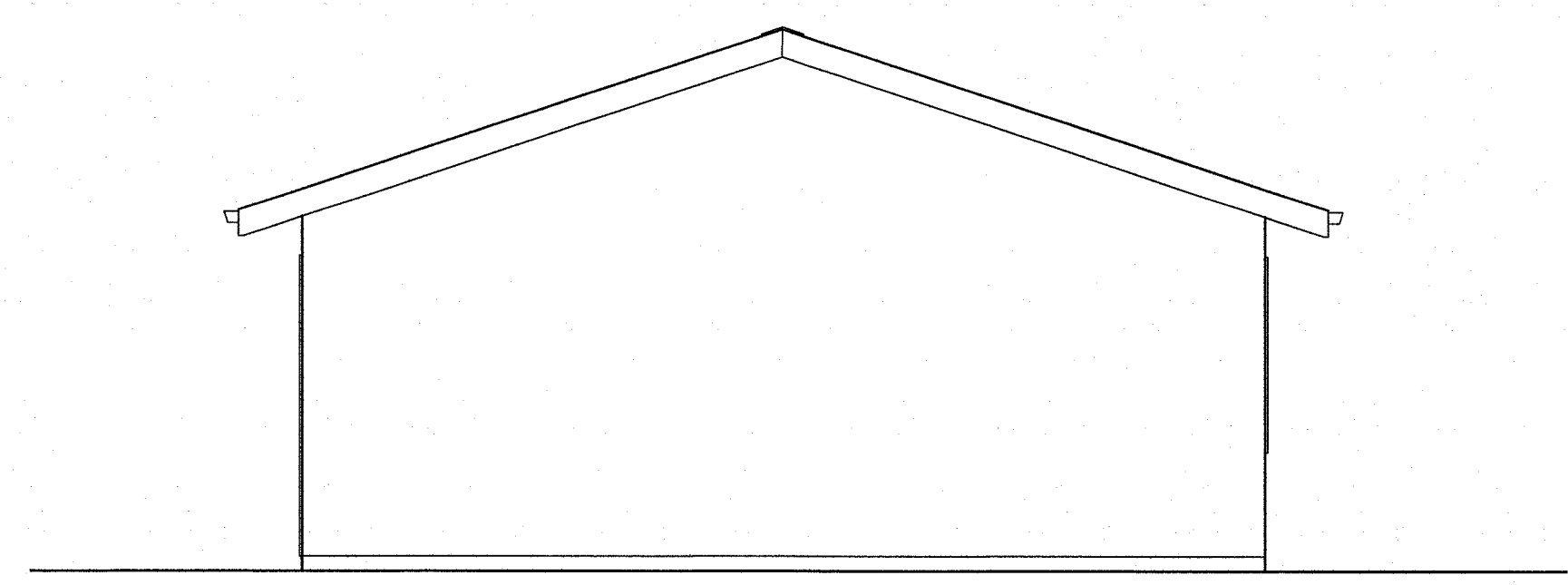


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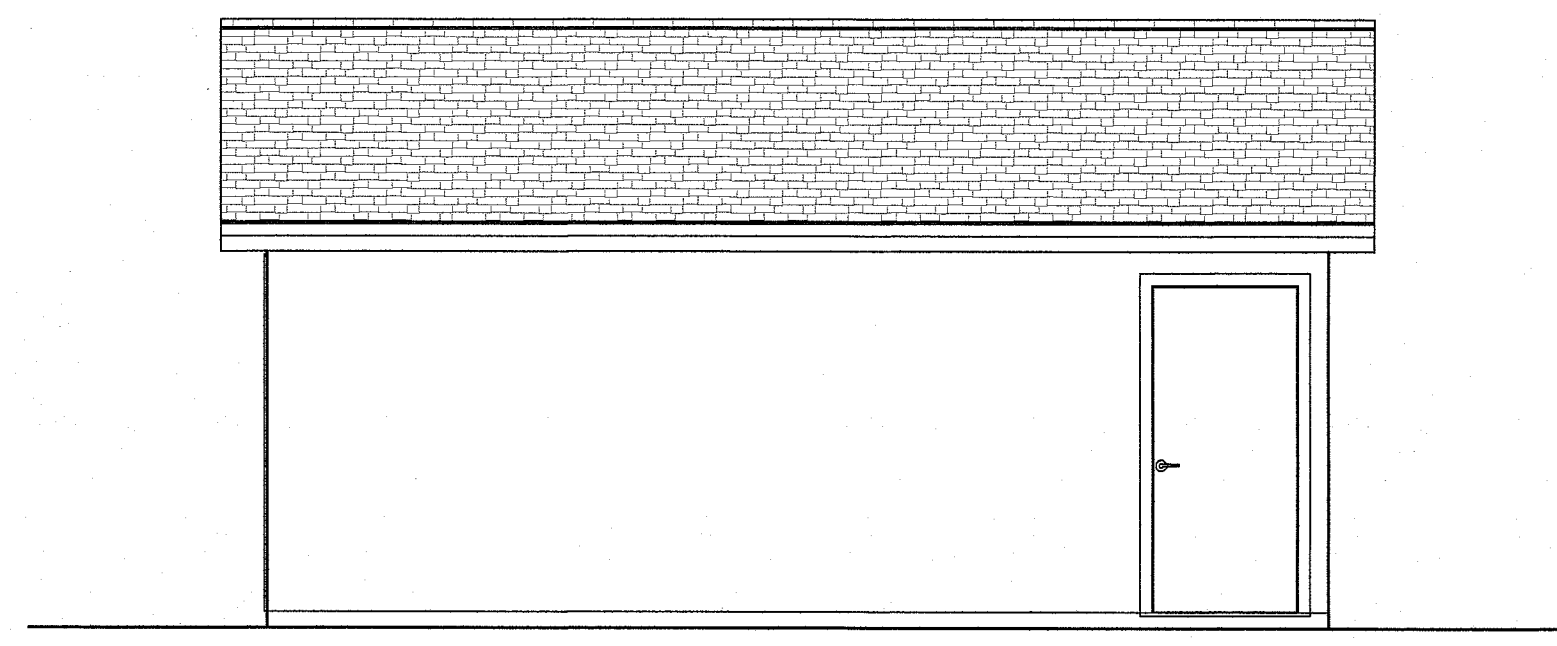
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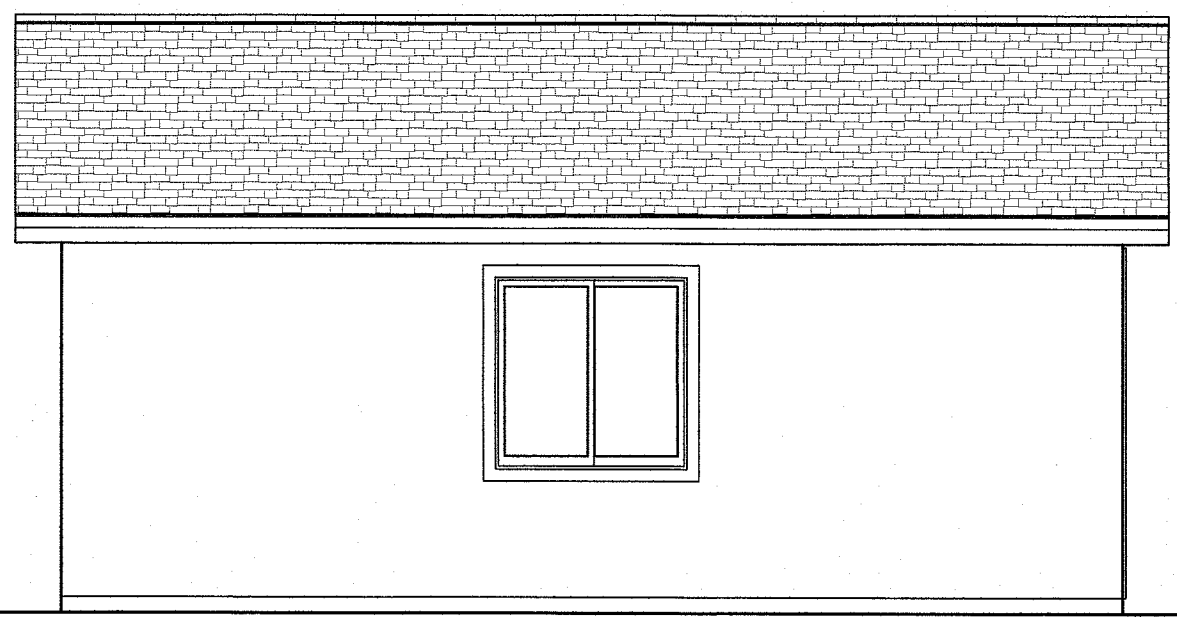
NORTH ELEVATION
(GARAGE) 1/4"=1'-0"



SOUTH ELEVATION
(GARAGE) 1/4"=1'-0"



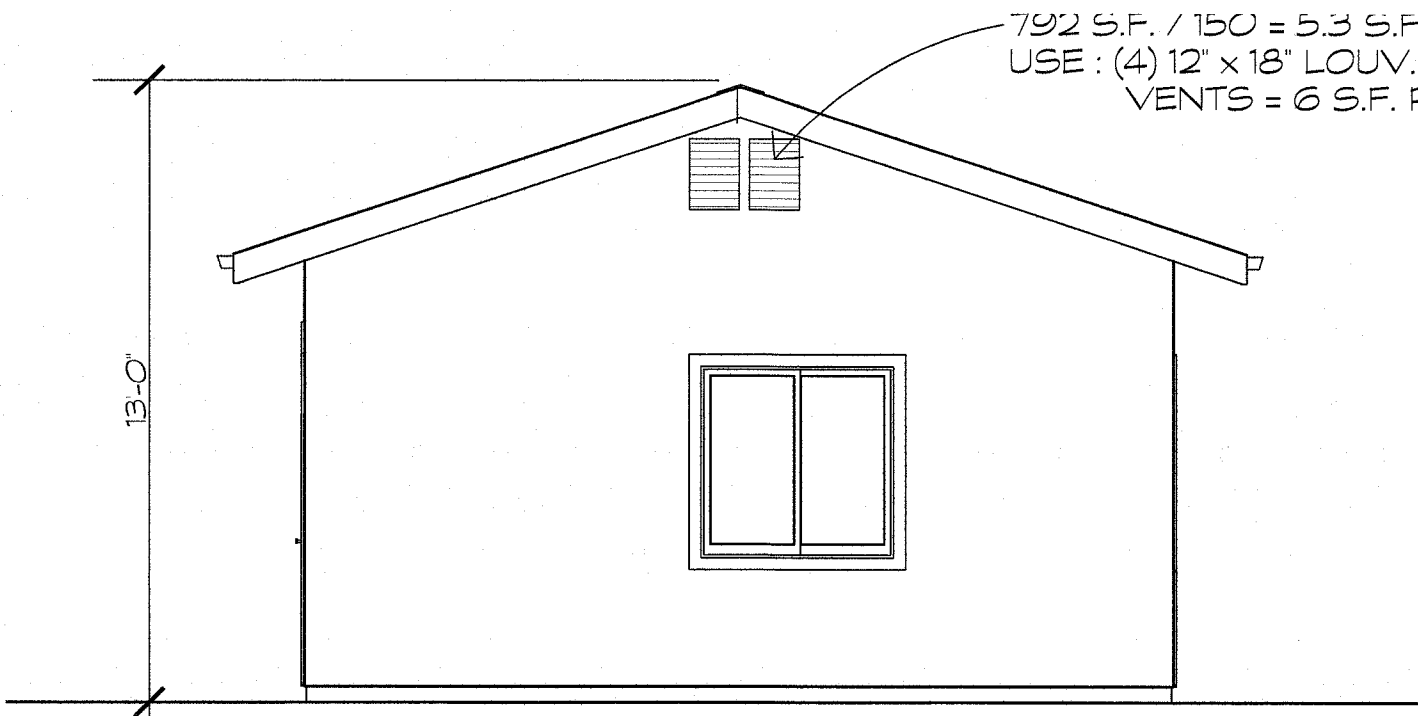
WEST ELEVATION
(GARAGE) 1/4"=1'-0"



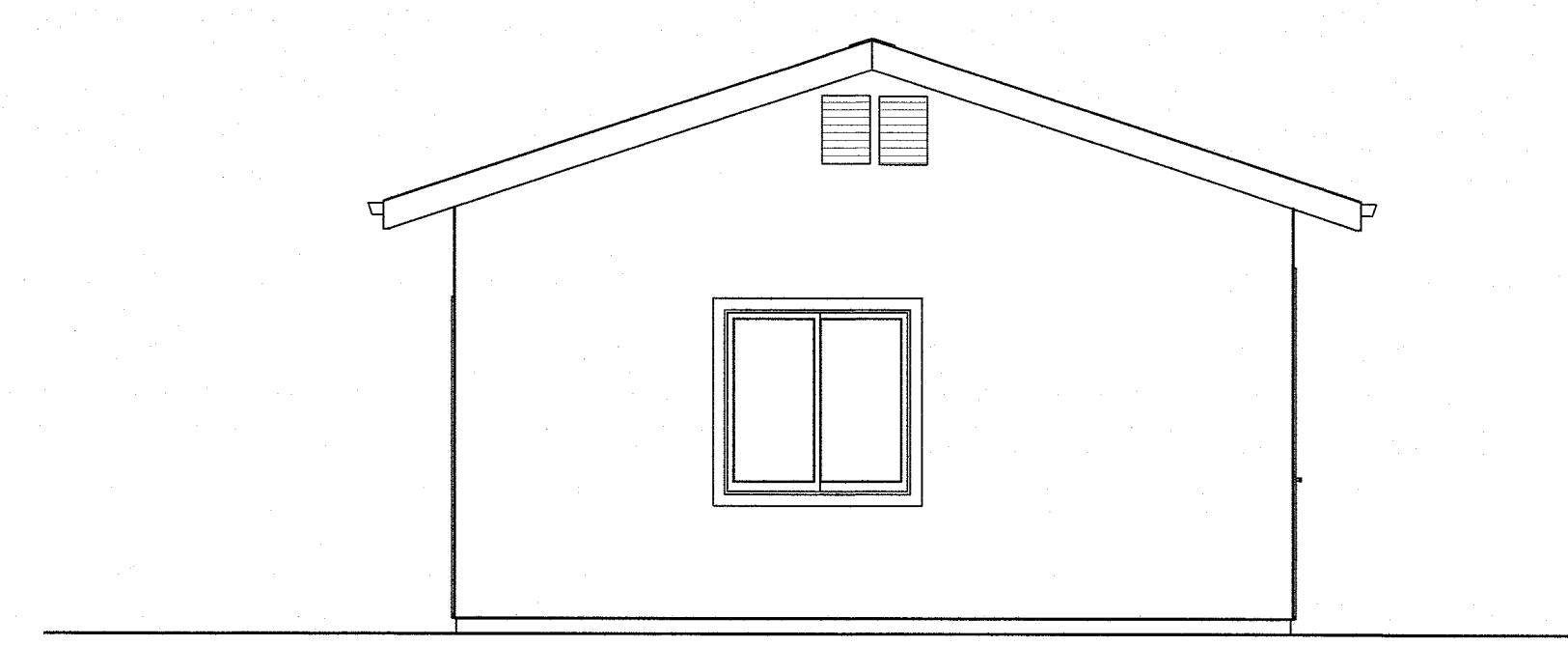
EAST ELEVATION
(GARAGE) 1/4"=1'-0"



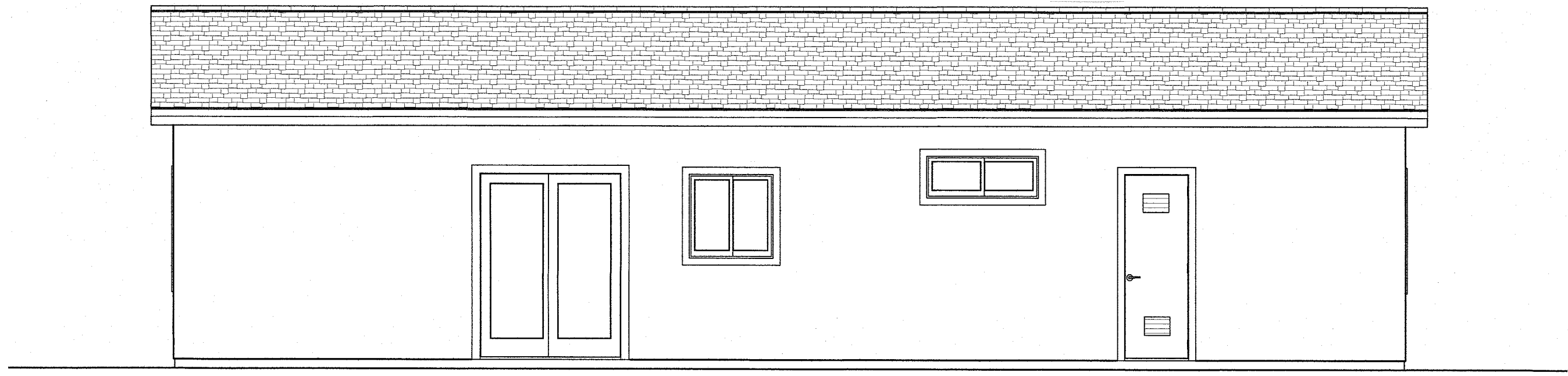
NORTH ELEVATION 1/4"=1'-0"



WEST ELEVATION 1/4"=1'-0"



EAST ELEVATION 1/4"=1'-0"



SOUTH ELEVATION 1/4"=1'-0"

FIRE NOTES:

1. PAPER FACED INSULATION IS NOT PERMITTED IN ATTICS OR OTHER VENTILATED SPACES
2. ATTIC VENTILATION SHALL NOT BE PERMITTED IN SOFFITS RAKES OR EAVE OVERHANGS.
3. GUTTERS AND DOWNSPOUTS SHALL BE CONSTRUCTED OF NON-COMBUSTIBLE MATERIAL AND DESIGNED TO REDUCE ACCUMULATION OF LEAF LITTER AND DEBRIS.
4. VENTS SHALL NOT BE INSTALLED IN EAVES, EAVE OVERHANGS, SOFFITS, OR CORNICES. GABLE END VENTS WILL BE ALLOWED IF THE VENTS ARE LOCATED A MIN. OF 12" BELOW THE LOWEST EAVE/ RAKE PROJECTIONS.
5. EXTERIOR WINDOWS, WINDOW WALLS, GLAZED DOORS AND GLAZED OPENINGS WITHIN DOORS SHALL BE DUAL GLAZED UNITS WITH A MINIMUM OF ONE TEMPERED PANE OR SHALL BE GLASS BLOCK UNITS OR SHALL HAVE A FIRE RATING OF NOT LESS THAN 20 MINUTES. GLAZING FRAMES MADE OF VINYL SHALL HAVE WELDED CORNERS, METAL REINFORCED IN THE INTERLOCK AREA, AND BE CERTIFIED TO ANSI/AAMA/WDMA/CSA 101/11.5.2/A440-17 STRUCTURAL REQUIREMENTS.
6. EXTERIOR SURFACES MUST BE NON-COMBUSTIBLE (STUCCO, MASONRY, CEMENT FIBER BOARD, ECT.) PLYWOOD OR 3/4" DROP SIDING MAY BE USED IF WITH AN UNDERLAYMENT OF 1/2" FIRE RATED GYP-BOARD.
7. ALL VENTS (ROOF, FOUNDATION, COMBUSTION AIR, ECT) SHALL RESIST THE INTRUSION OF FLAMES AND EMBERS OR SHALL BE PROTECTED BY LOUVERS AND 1/8" NON-COMBUSTIBLE, CORROSION-RESISTANT MESH. TURBINE ATTIC VENTS SHALL BE EQUIPPED TO ALLOW ROTATION IN ONLY ONE DIRECTION.
8. THE FIRST FIVE FEET OF FENCES AND OTHER ITEMS ATTACHED TO THE STRUCTURE SHALL BE CONSTRUCTED OF NON-COMBUSTIBLE MATERIAL OR MUST MEET THE SAME FIRE RESISTANT STANDARDS OF THE EXTERIOR WALLS OF THE STRUCTURE.
9. IN ROOF COVERINGS WHERE THE PROFILE ALLOWS A SPACE BETWEEN THE ROOF COVERING AND THE ROOF DECKING, THE SPACE AT THE EAVE ENDS SHALL BE FIRE STOPPED TO PRECLUDE ENTRY OF FLAMES OR EMBERS.
10. WINDOWS TO BE "MILGUARD" OR EQUAL.
11. EXPOSED VALLEY FLASHINGS SHALL BE AT LEAST NO. 26 GAUGE CORROSION RESISTANT METAL INSTALLED OVER A MINIMUM 36" WIDE UNDERLAYMENT CONSISTING OF ONE LAYER OF NO. 72 ASTM CAP SHEET RUNNING THE FULL LENGTH OF THE VALLEY.
12. EXTERIOR DOORS SHALL BE APPROVED NON-COMBUSTIBLE CONSTRUCTION OR OF SOLID CORE WOOD NOT LESS THAN 1 3/8" THICK OR 20 MINUTE FIRE RATED.
13. PROJECTIONS SUCH AS DECKS, CARPORTS, BALCONIES, PATIO COVERS, TRELLISES, ETC. SHALL BE OF NON-COMBUSTIBLE MATERIAL OR ONE-HOUR FIRE SENSITIVE MATERIAL OR APPROVED EXTERIOR FIRE RETARDANT TREATED WOOD OR MODIFIED HEAVY TIMBER CONSTRUCTION CONSISTING OF ROOF FRAMING WITH A MINIMUM 2x T&G DECKING, 4x6 RAFTERS, 6x6 COLUMNS / POSTS AND / OR FLOOR FRAMING WITH A MINIMUM 3x DECKING, 4x10 BEAMS OR 6x8 BEAMS, 4x8 JOISTS, 6x6 COLUMNS / POSTS.
14. FOR ROOF COVERINGS WHERE THE PROFILE CREATES SPACE BETWEEN THE ROOF COVERING AND THE COMBUSTIBLE DECK SHALL BE PROTECTED BY EITHER FIRE STOPPING W/ APPROVED MATERIALS OR ONE LAYER OF NO. 72 ASTM CAP SHEET INSTALLED OVER COMBUSTIBLE DECKING.
15. ANY ROOF GUTTERS SHALL BE PROVIDED WITH MEANS TO PREVENT ACCUMULATION OF LEAVES AND DEBRIS.

DECK SHALL BE OF NON-COMBUSTIBLE MATERIAL OR ONE-HOUR FIRE SENSITIVE MATERIAL OR APPROVED EXTERIOR FIRE RETARDANT TREATED WOOD OR MODIFIED HEAVY TIMBER CONSTRUCTION CONSISTING WITH A MIN. 6x6 COLUMNS / POSTS AND / OR FLOOR FRAMING WITH A MINIMUM 3x DECKING, 4x10 BEAMS OR 6x8 BEAMS, 4x8 JOISTS.

DOOR / WINDOW NOTES:

- NEW EXTERIOR DOORS INCLUDING GARAGE DOORS SHALL BE EITHER:
- A. EXTERIOR SURFACE OR CLADDING OF NONCOMBUSTIBLE OR IGNITION-RESISTANT MATERIAL, OR
 - B. SOLID CORE WOOD WITH MINIMUM 1 3/8" THICK COMPLYING WITH THE FOLLOWING:
 - C. MINIMUM 20 MINUTE FIRE-RESISTANCE RATED WHEN TESTED PER NFPA 252.

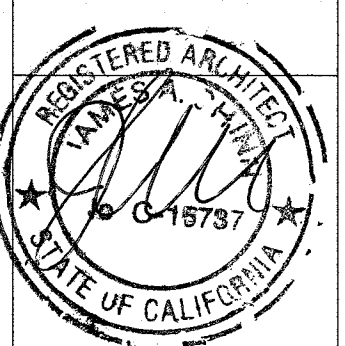
NOTE:
ALL ROOF VENTS TO BE "BRANDGUARD" OR "OHAGIN FIRE & ICE", TYP.

ALL VENTS SHALL COMPLY W/ THE FOLLOWING:

1. THERE SHALL BE NO FLAMING IGNITION OF THE COTTON MATERIAL DURING THE EMBER INTRUSION TEST.
2. THERE SHALL BE NO FLAMING IGNITION DURING THE INTEGRITY TEST PORTION OF THE FLAME INTRUSION TEST.
3. THE MAXIMUM TEMPERATURE OF THE UNEXPOSED SIDE OF THE VENT SHALL NOT EXCEED 662 DEGREES FAHRENHEIT. (350 DEGREES CELSIUS).

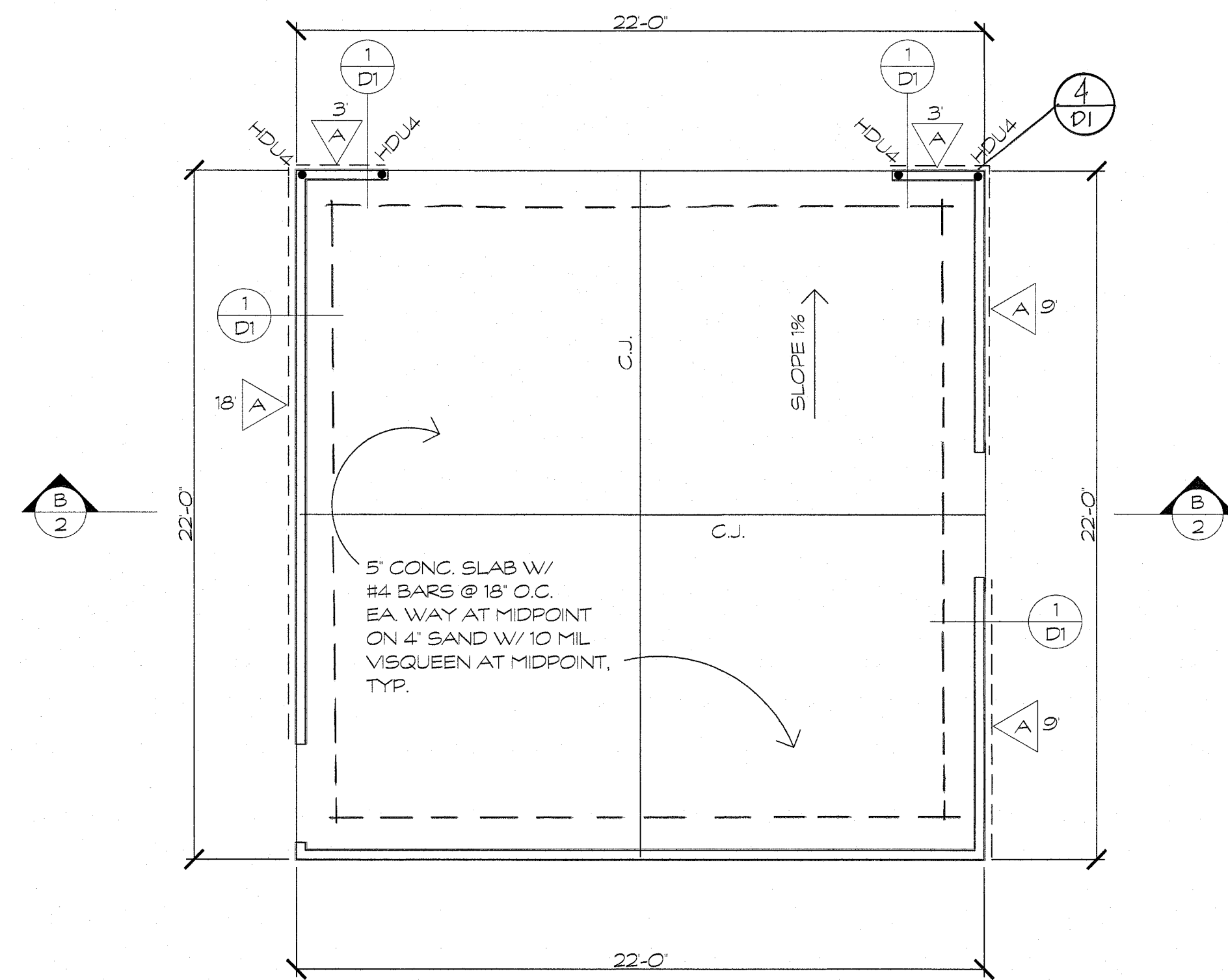
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CARPINELLI RESIDENCE
ROLLING HILLS
VISTA, CALIFORNIA

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GARAGE FOUNDATION PLAN 1/4"=1'-0"

FOUNDATION NOTES:

STEEL PLATE WASHERS TO BE A MINIMUM OF 3"x3"x0.225" USED ON EACH BOLT OVER THE FULL LENGTH OF REQUIRED BRACED WALL LINES. PROPERLY SIZED CUT WASHERS SHALL BE PERMITTED FOR ANCHOR BOLTS IN WALLS NOT CONTAINING BRACED WALL PANELS.

INTERIOR BRACED WALL PLATES SHALL HAVE ANCHOR BOLTS SPACED AT NOT MORE THAN 6 FEET ON CENTER AND LOCATED WITHIN 12 INCHES OF THE ENDS OF EACH PLATE SECTION WHEN SUPPORTED ON A CONTINUOUS FOUNDATION.

INTERIOR BEARING WALL SOLE PLATES SHALL HAVE ANCHOR BOLTS SPACED AT NOT MORE THAN 6 FEET ON CENTER AND LOCATED WITHIN 12 INCHES OF THE ENDS OF EACH PLATE SECTION WHEN SUPPORTED ON A CONTINUOUS FOUNDATION.

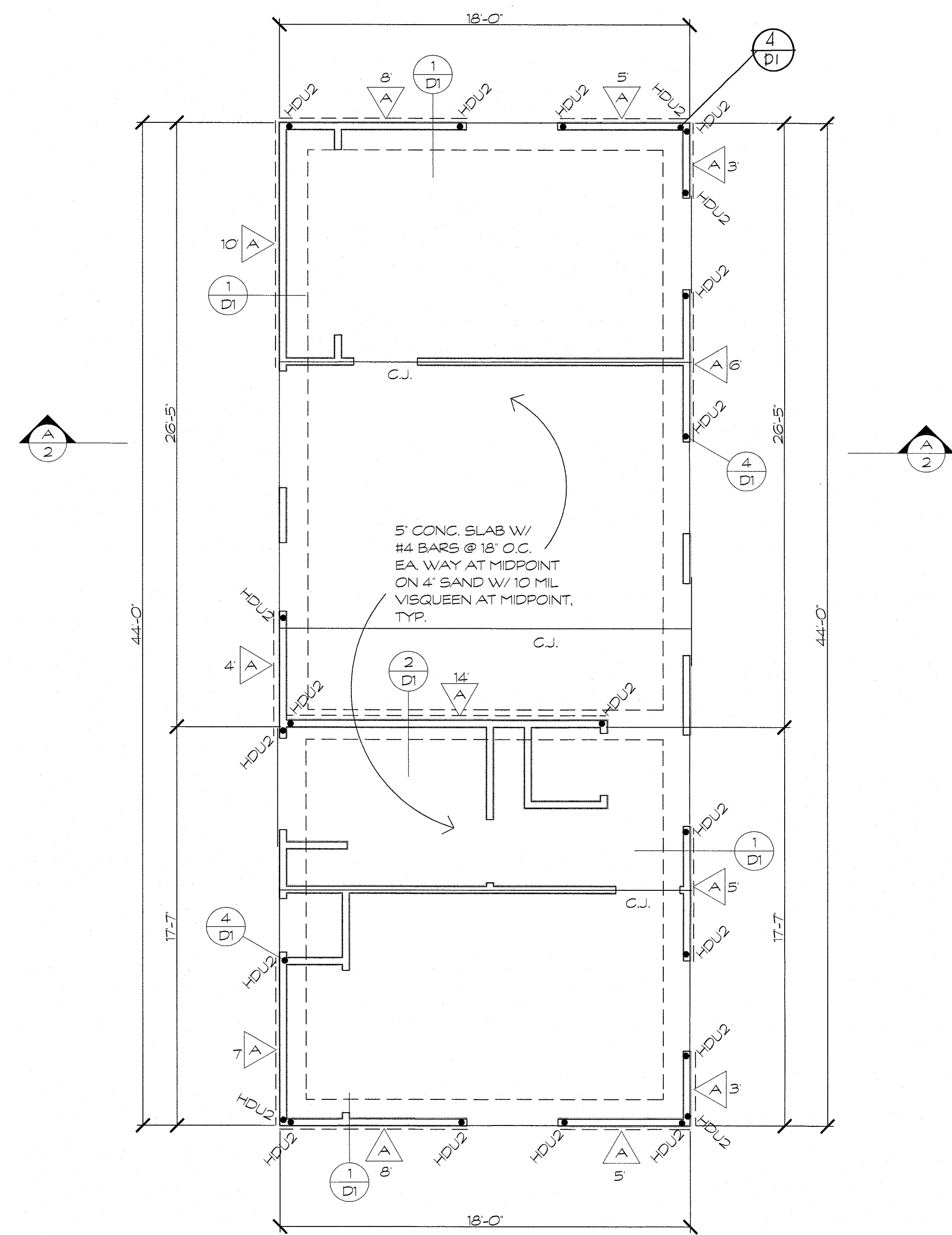
ALL ANCHOR BOLTS TO BE MIN. 5/8" DIA.

ALL HOLD-DOWNS MUST BE TIED IN PLACE PRIOR TO FOUNDATION INSPECTION.

MINIMUM 2 BOLTS PER PIECE WITH ONE BOLT NOT MORE THAN 12" AND MINIMUM 7 BOLT DIAMETERS FROM EACH END OF SECTION.
BOLTS LOCATED IN THE MIDDLE THIRD OF THE BILL PLATE WIDTH.

MIN. 7" EMBEDMENT INTO CONCRETE OR MASONRY & NOT MORE THAN 6'-0" SPACING.

THE FOLLOWING LOCATIONS SHALL REQUIRE THE USE OF PRESSURE PRESERVATIVE TREATED WOOD:
1. WOOD JOISTS OR THE BOTTOM OF A WOOD STRUCTURAL FLOOR WHEN CLOSER THAN 18" (OR WOOD GIRDERS CLOSER THAN 12" TO EXPOSED GROUND.)
2. ALL BILL PLATES THAT REST ON CONCRETE OR MASONRY EXTERIOR WALLS AND ARE LESS THAN 8" ABOVE EXPOSED GROUND.
3. SILLS AND SLEEPERS ON A CONCRETE OR MASONRY SLAB THAT IS IN DIRECT CONTACT WITH THE GROUND (UNLESS SEPARATED FROM SUCH SLAB BY AN IMPERVIOUS MOISTURE BARRIER).



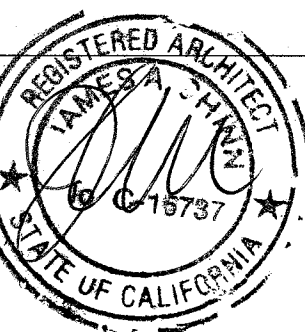
FOUNDATION PLAN 1/4"=1'-0"

NOTE:

- ALL FASTENERS INCLUDING NUTS & WASHERS FOR PRESERVATIVE TREATED WOOD (IN ALL APPLICATIONS) AND FIRE RETARDANT TREATED WOOD (IN EXTERIOR APPLICATIONS) SHALL BE HOT DIPPED ZINC COATED GALVANIZED STEEL, STAINLESS STEEL, SILICON BRONZE OR COPPER.
- PAINTS, COATINGS, STAINS OR OTHER SURFACE TREATMENTS ARE NOT ACCEPTABLE MEANS OF COMPLIANCE WITH ANY WILDFIRE-RESISTIVE CONSTRUCTION REQUIREMENT.

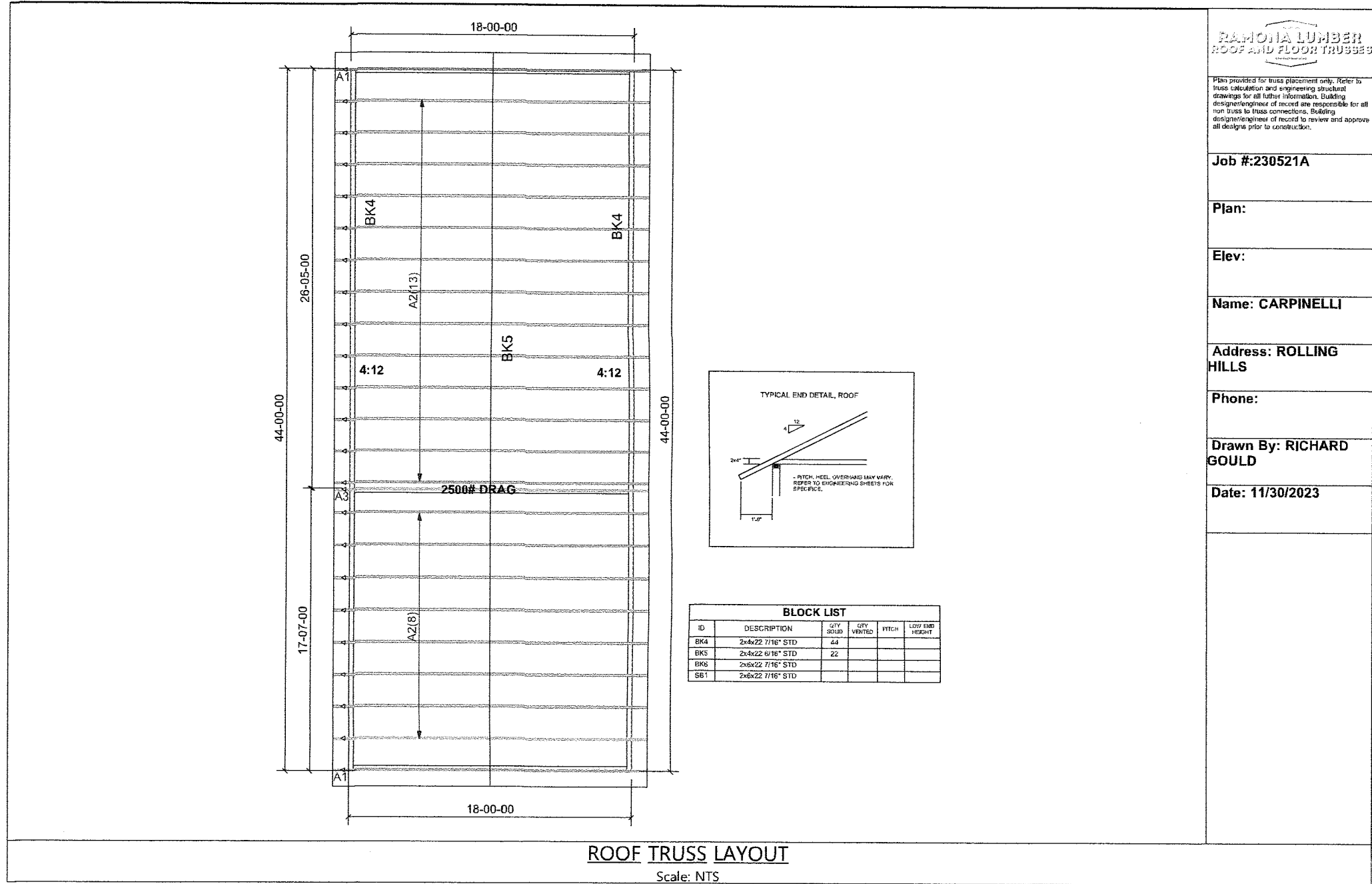
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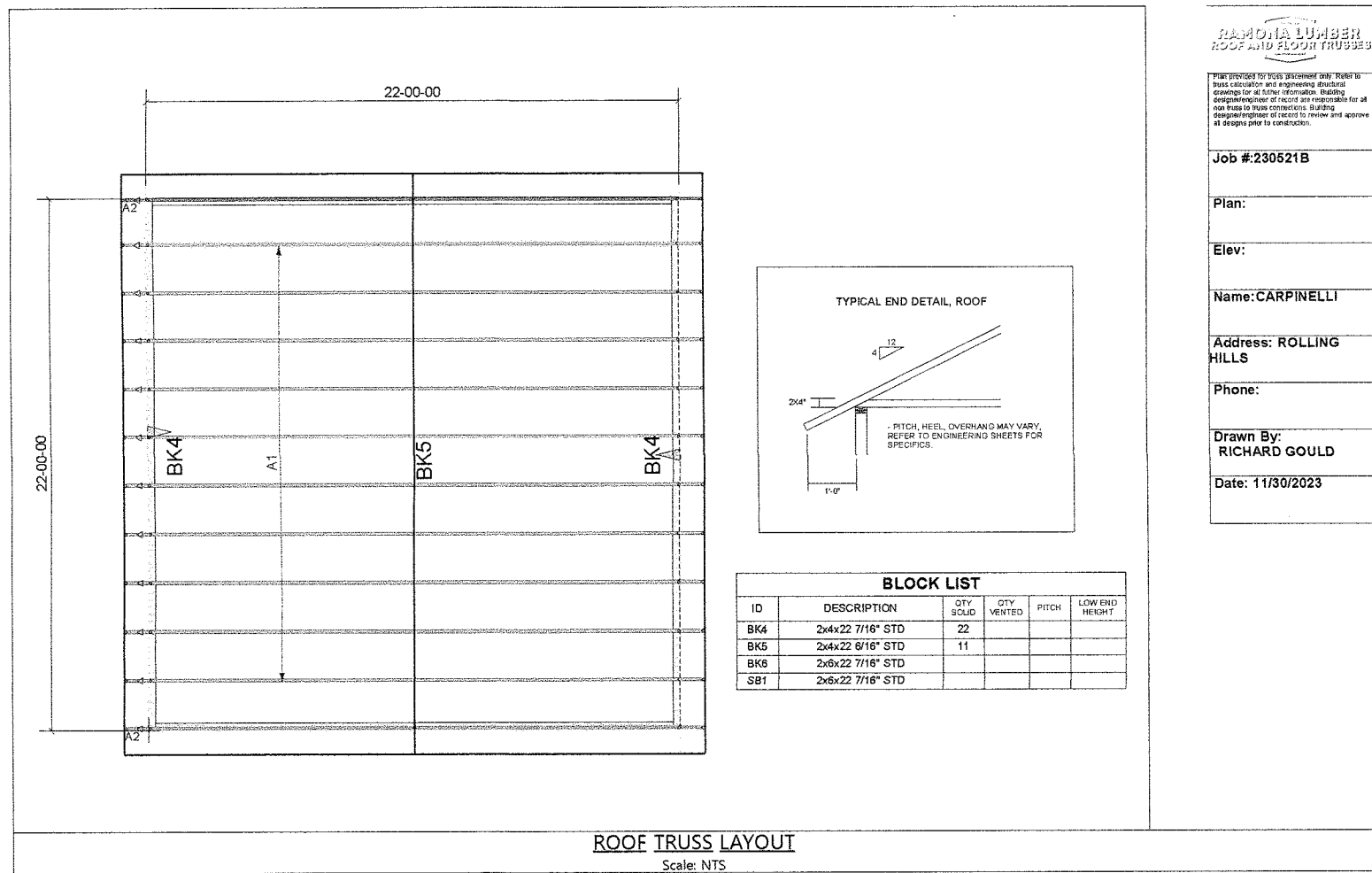


CARPINELLI RESIDENCE
ROLLING HILLS
VISTA, CALIFORNIA

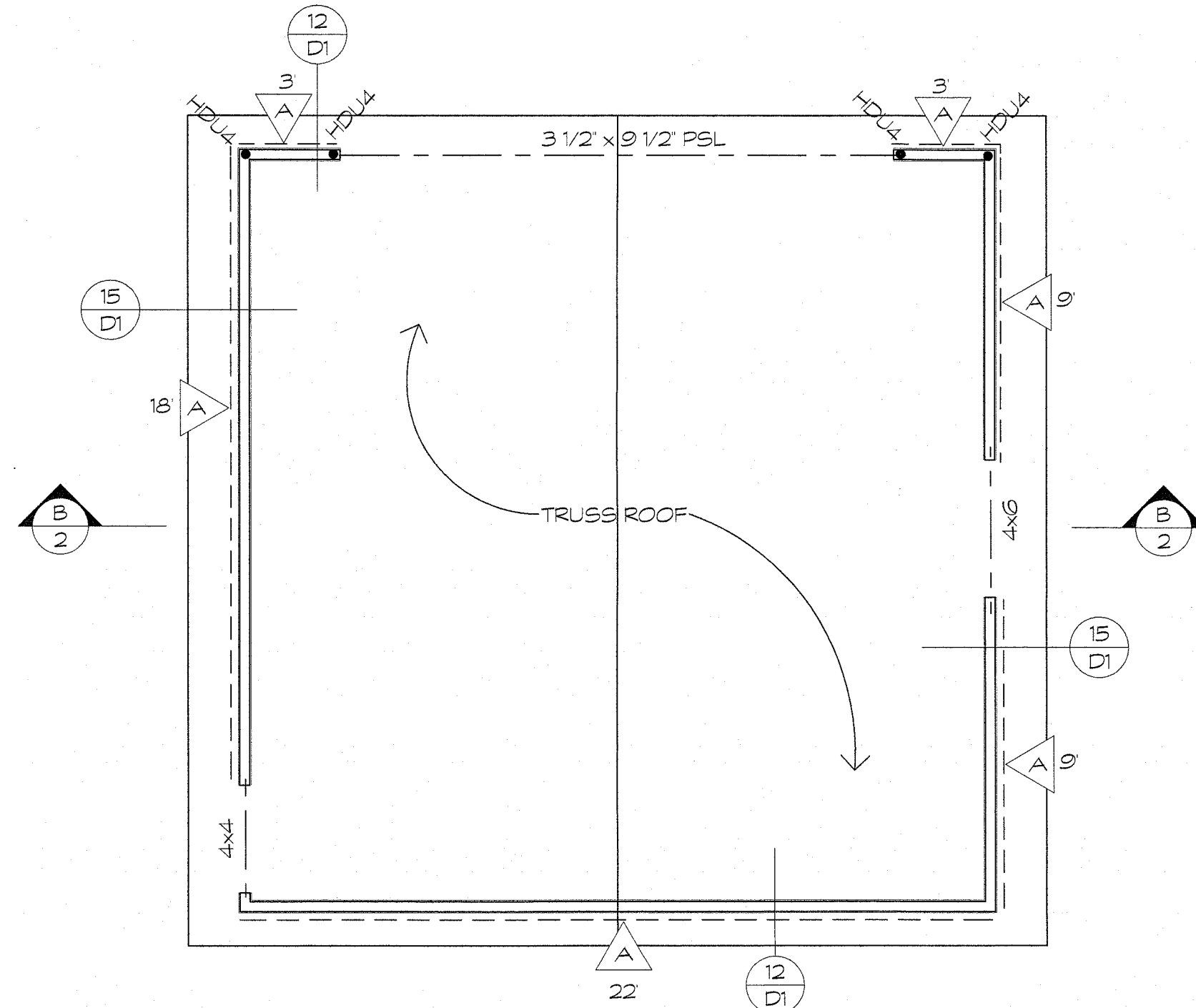
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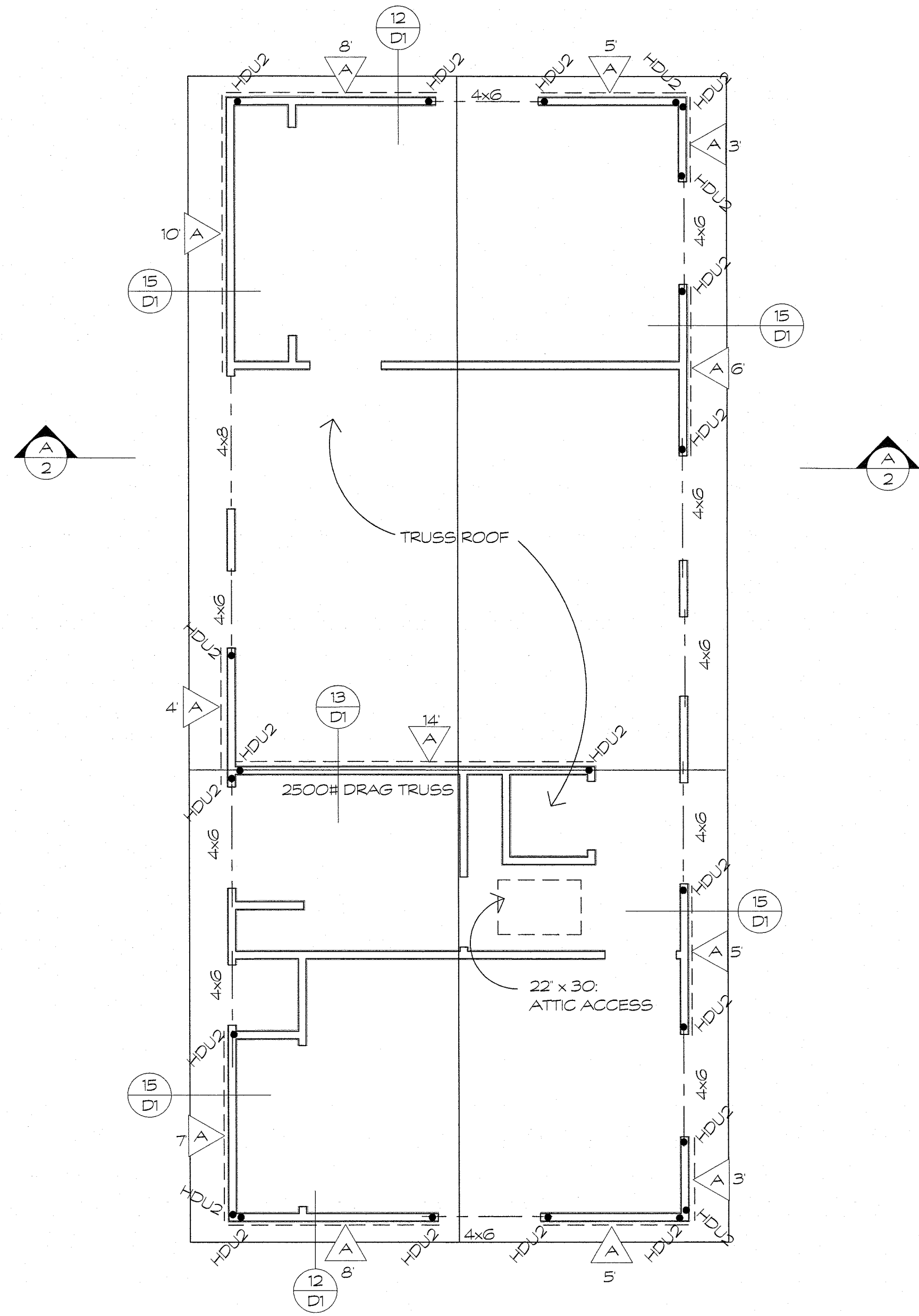
230521A
Job #230521A
Plan:
Elev:
Name: CARPINELLI
Address: ROLLING HILLS
Phone:
Drawn By: RICHARD GOULD
Date: 11/30/2023



230531B
Job #230531B
Plan:
Elev:
Name: CARPINELLI
Address: ROLLING HILLS
Phone:
Drawn By: RICHARD GOULD
Date: 11/30/2023



GARAGE FRAMING PLAN 1/4"=1'-0"

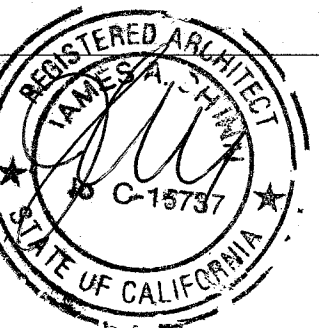


ROOF FRAMING PLAN 1/4"=1'-0"

NOTE:
STRUCTURE MEETS THE
PERSCRIPTIVE PACKAGE
FOR LATERAL BRACING.

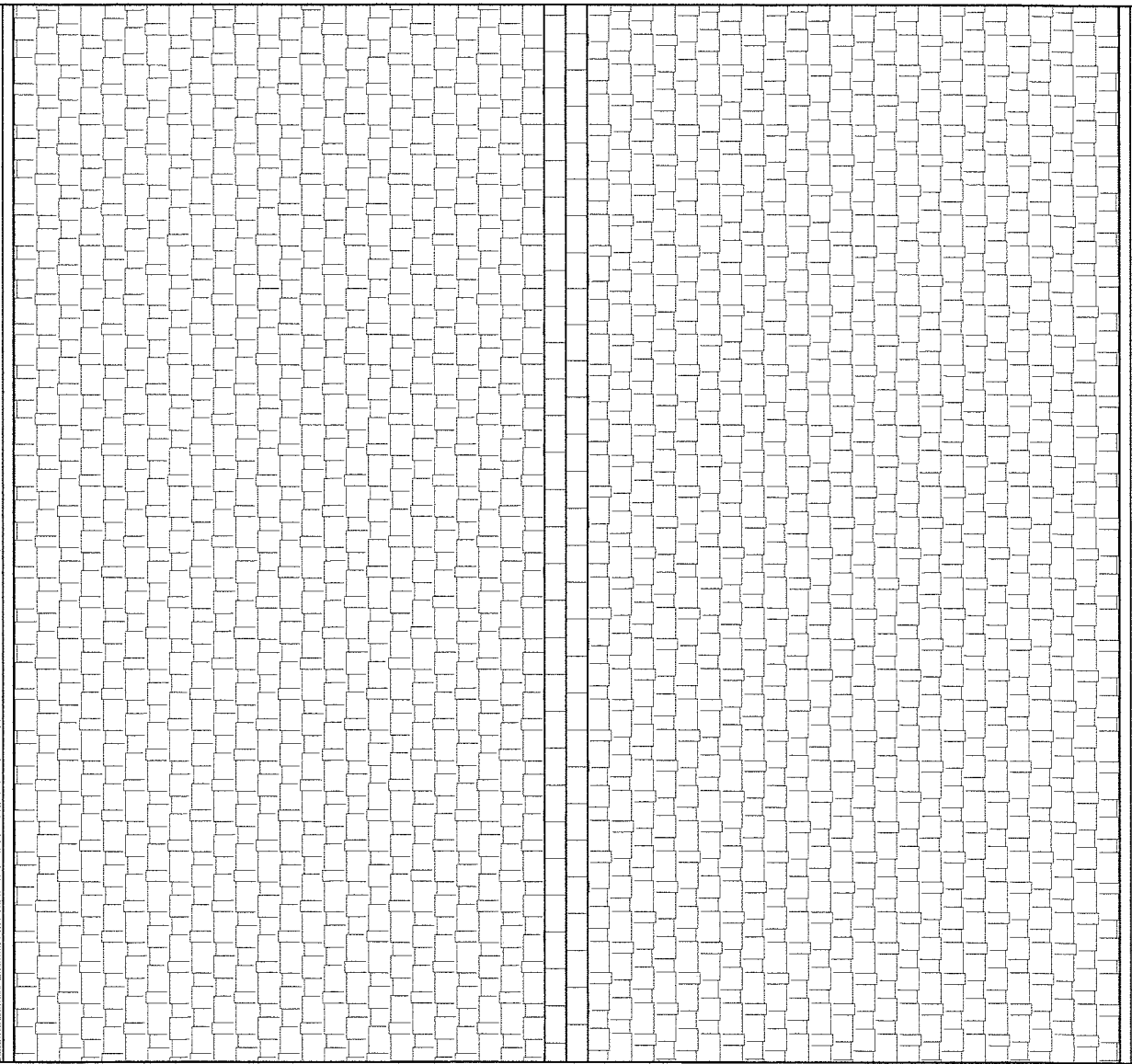
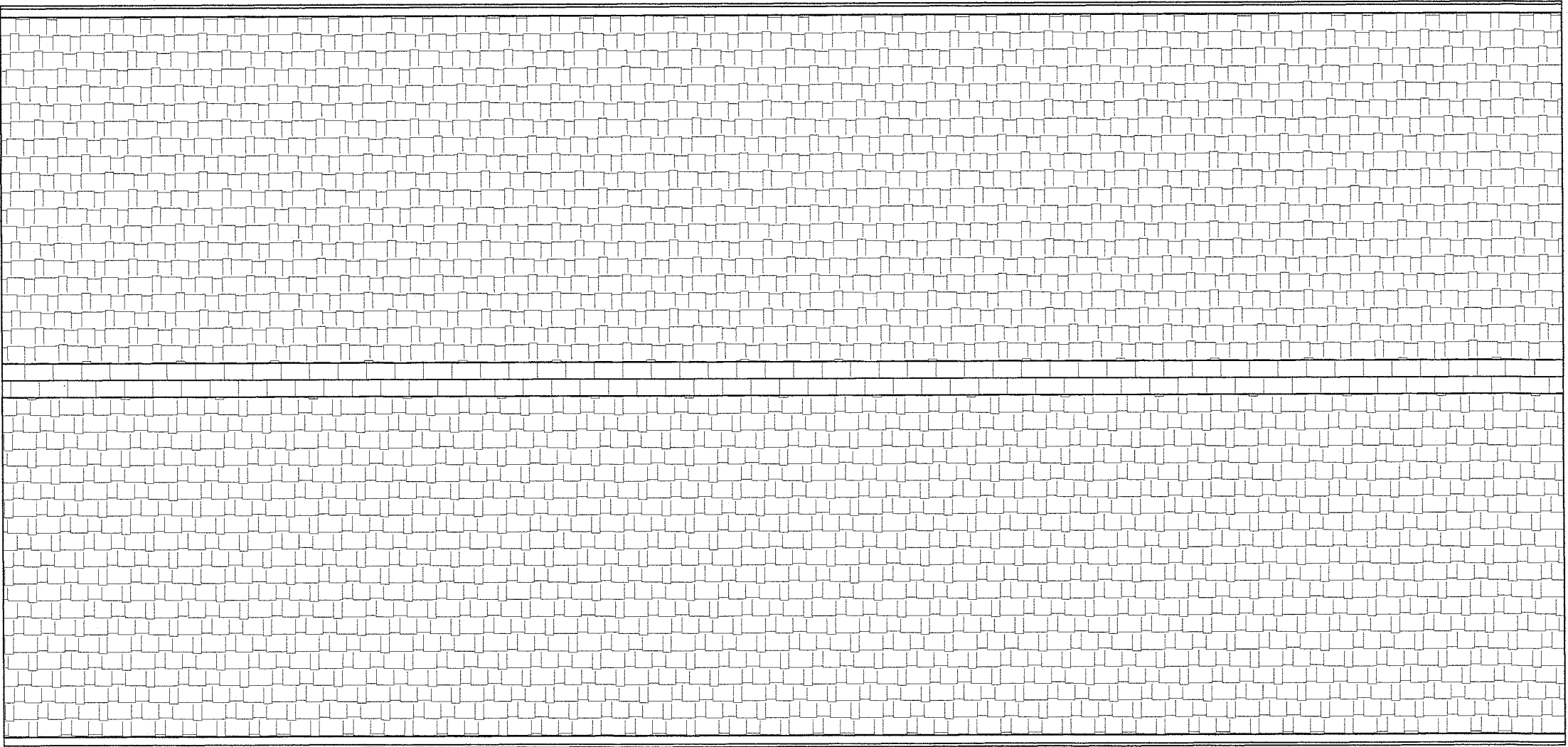
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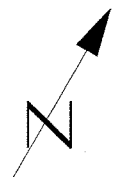
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VISTA, CALIFORNIA

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Of	Sheets



ROOF PLAN

1/4"=1'-0"



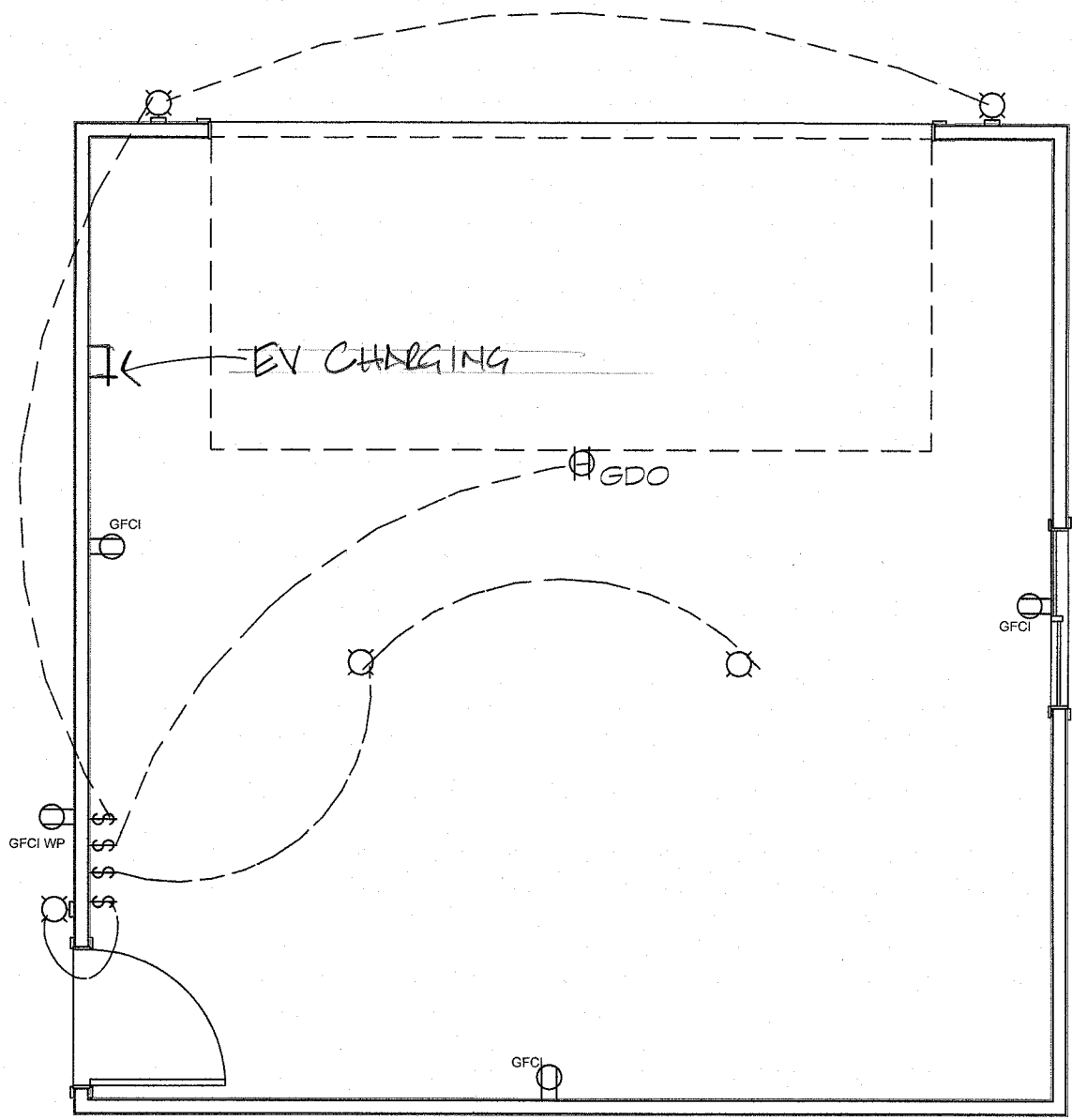
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ENERGY EFFICIENCY REQUIREMENTS:

1. A MECHANICAL EXHAUST VENTILATION SYSTEM, SUPPLY VENTILATION SYSTEM, OR COMBINATION THEREOF SHALL BE INSTALLED FOR EACH DWELLING UNIT TO PROVIDE WHOLE-BUILDING VENTILATION WITH OUTDOOR AIR IN COMPLIANCE WITH ASHRAE STANDARD 62.2 AS ADOPTED BY THE CALIFORNIA ENERGY COMMISSION.
2. HERS VERIFICATION REQUIRED TO CONFIRM WHOLE-BUILDING VENTILATION AIR FLOW.
3. AN INTERMITTENTLY OR CONTINUOUS LOCAL MECHANICAL EXHAUST VENTILATION SYSTEM SHALL BE INSTALLED IN EACH BATHROOM WITH A BATHTUB, SHOWER OR SIMILAR MOISTURE SOURCE AND IN EACH KITCHEN IN COMPLIANCE WITH ASHRAE STANDARD 62.2 AS ADOPTED BY THE CALIFORNIA ENERGY COMMISSION. INTERMITTENT LOCAL EXHAUST VENTILATION AIRFLOW RATES SHALL BE 50 CFM IN BATHROOMS AND 100CFM IN KITCHENS. CONTINUOUS LOCAL EXHAUST VENTILATION AIRFLOW RATES SHALL BE 20 CFM IN BATHROOMS AND 5 AIR CHANGES PER HOUR IN KITCHENS BASED ON KITCHEN VOLUME.
4. ALL LUMINAIRES SHALL BE HIGH-EFFICACY IN ACCORDANCE WITH CBEES TABLE 150.0-A.
5. ALL LED LUMINAIRES AND LAMPS SHALL BE MARKED "JA8-2019-E" AND LISTED IN THE CALIFORNIA ENERGY COMMISSION DATABASE AT [HTTPS://CACEERTAPPLIANCES.ENERGY.CA.GOV/PAGES/APPLIANCESSearch.aspx](https://caceertappliances.energy.ca.gov/pages/appliancesearch.aspx).
6. ALL RECESSED DOWNLIGHT AND ENCLOSED LUMINAIRES SHALL BE MARKED "JA8-2019-E" AND LISTED IN THE CALIFORNIA ENERGY COMMISSION DATABASE AT [HTTPS://CACEERTAPPLIANCES.ENERGY.CA.GOV/PAGES/APPLIANCESSearch.aspx](https://caceertappliances.energy.ca.gov/pages/appliancesearch.aspx).
7. RECESSED DOWNLIGHT LUMINAIRES IN CEILINGS SHALL NOT BE SCREWED - BASED.
8. BATHROOMS, GARAGES, LAUNDRY ROOMS AND UTILITY ROOMS: AT LEAST ONE LUMINAIRE IN EACH SPACE SHALL BE CONTROLLED BY A VACANCY SENSOR.
9. ALL LUMINAIRES REQUIRING "JA8-2019" OR "JA8-2019-E" MARKING SHALL BE CONTROLLED BY A DIMMER OR VACANCY SENSOR. EXCEPTION: CLOSETS LESS THAN 70 S.F. & HALLWAYS.
10. OUTDOOR LIGHTING PERMANENTLY MOUNTED TO BUILDING SHALL BE CONTROLLED BY ONE OF THE FOLLOWING:
 - A. PHOTOCONTROL AND MOTION SENSOR
 - B. PHOTOCONTROL AND AUTOMATIC TIME-SWITCH CONTROL
 - C. ASTRONOMICAL TIME CLOCK
 - D. ENERGY MANAGEMENT CONTROL SYSTEM PER CBEES 150.0(K)3A(1).

COUNTY SOLAR NOTES:

1. THE MAIN ELECTRICAL SERVICE PANEL SHALL NOT BE THE TYPE WITH A CENTER-FED MAIN CIRCUIT BREAKER AND SHALL INCLUDE A RESERVED SPACE ALLOWING FOR INSTALLATION OF DOUBLE-POLE CIRCUIT BREAKERS FOR A FUTURE SOLAR PHOTOVOLTAIC SYSTEM. SUCH RESERVED SPACE SHALL BE POSITIONED AT THE OPPOSITE (LOAD) END FROM THE INPUT FEEDER OR MAIN CIRCUIT BREAKER LOCATION. THE RESERVED SPACE SHALL BE PERMANENTLY AND VISIBLY MARKED "FOR FUTURE SOLAR PHOTOVOLTAIC".
2. FOR FUTURE ROOF MOUNTED SOLAR PHOTOVOLTAIC SYSTEM:
 - A. APPROVED 4" SQUARE ELECTRICAL JUNCTION BOX LOCATED WITHIN 72 INCHES HORIZONTALLY AND 12" VERTICALLY OF MAIN ELECTRICAL SERVICE PANEL.
 - B. MINIMUM 1" DIAMETER LISTED ELECTRICAL METALLIC RACEWAY ORIGINATING AT READILY ACCESSIBLE ATTIC LOCATION WITH PROXIMITY TO SOLAR ZONE AND TERMINATING AT THE REQUIRED JUNCTION BOX.
 - C. MINIMUM 1" DIAMETER LISTED ELECTRICAL METALLIC RACEWAY ORIGINATING AT REQUIRED ELECTRICAL JUNCTION BOX AND TERMINATING AT THE MAIN ELECTRICAL SERVICE PANEL.
 - D. ELECTRICAL JUNCTION BOX AND SEGMENT OF METALLIC RACEWAY IN ATTIC SHALL BE PERMANENTLY MARKED "FOR FUTURE SOLAR PHOTOVOLTAIC".



GARAGE ELECTRICAL PLAN 1/4"=1'-0"

ELECTRIC VEHICLE CHARGING:

NEWLY CONSTRUCTED SINGLE FAMILY DWELLINGS WITH ATTACHED GARAGES AND NEWLY CONSTRUCTED DETACHED GARAGES WITH ELECTRICAL SERVICE SHALL COMPLY WITH THE FOLLOWING ELECTRIC VEHICLE READY MEASURES:

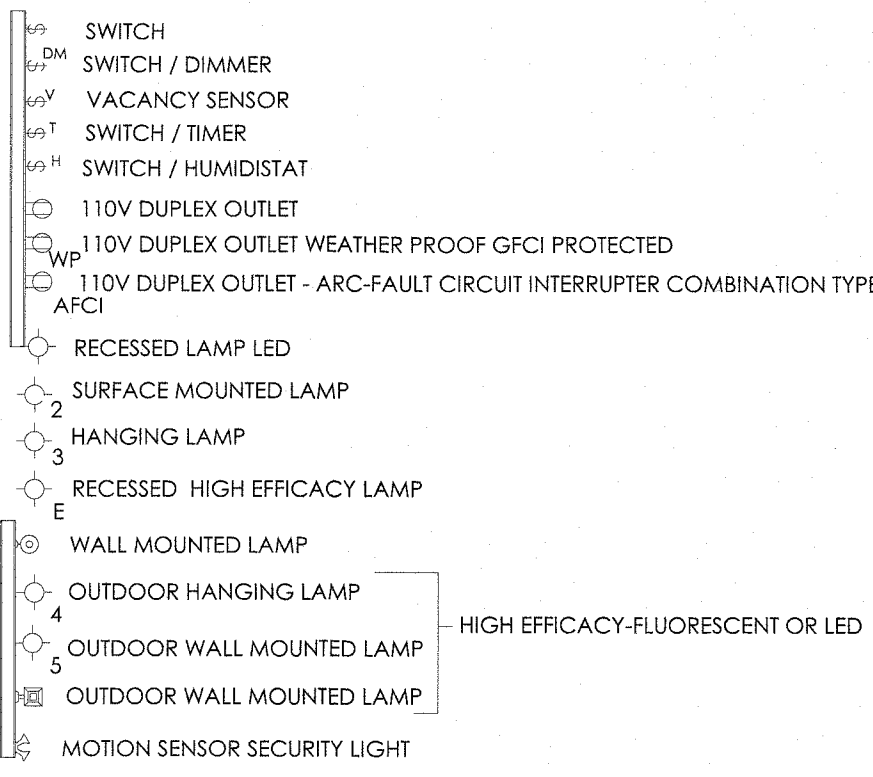
THE MAIN ELECTRICAL SERVICE PANEL SHALL INCLUDE RESERVED SPACE ALLOWING FOR INSTALLATION OF A CIRCUIT BREAKER FOR A FUTURE ELECTRIC VEHICLE CHARGING SYSTEM. THE RESERVED SPACE SHALL BE PERMANENTLY AND VISIBLY MARKED AS "EV CAPABLE".

GARAGE TO HAVE:

1. APPROVED MINIMUM 4 INCH SQUARE ELECTRICAL JUNCTION BOX LOCATED ON THE INTERIOR OF THE GARAGE AT A MINIMUM 30" AND MAXIMUM 48" ABOVE THE FLOOR.
2. MINIMUM 1 INCH DIAMETER LISTED ELECTRICAL METALLIC RACEWAY ORIGINATING AT THE MAIN ELECTRICAL SERVICE PANEL AND TERMINATING AT THE REQUIRED ELECTRICAL JUNCTION BOX.
3. ELECTRICAL JUNCTION BOX SHALL BE PERMANENTLY AND VISIBLY MARKED AS FOR "FUTURE ELECTRIC VEHICLE CHARGING".

ELECTRIC VEHICLE SUPPLY EQUIPMENT (EVSE) ROUGH IN ONLY IS REQUIRED IN ONE AND TWO FAMILY DWELLINGS AND TOWNHOMES WITH ATTACHED GARAGES. THE EVSE ROUGH IN CONSISTS OF A MINIMUM 1" CONDUIT EXTENDING FROM THE MAIN PANEL TO A JUNCTION BOX WHERE THE EVSE RECEPTACLE BOX WILL BE PROVIDED. THE MAIN SERVICE PANEL MUST BE SIZED TO ACCOMMODATE A FUTURE 208 / 240 VOLT 40 AMPERE DEDICATED BRANCH CIRCUIT.

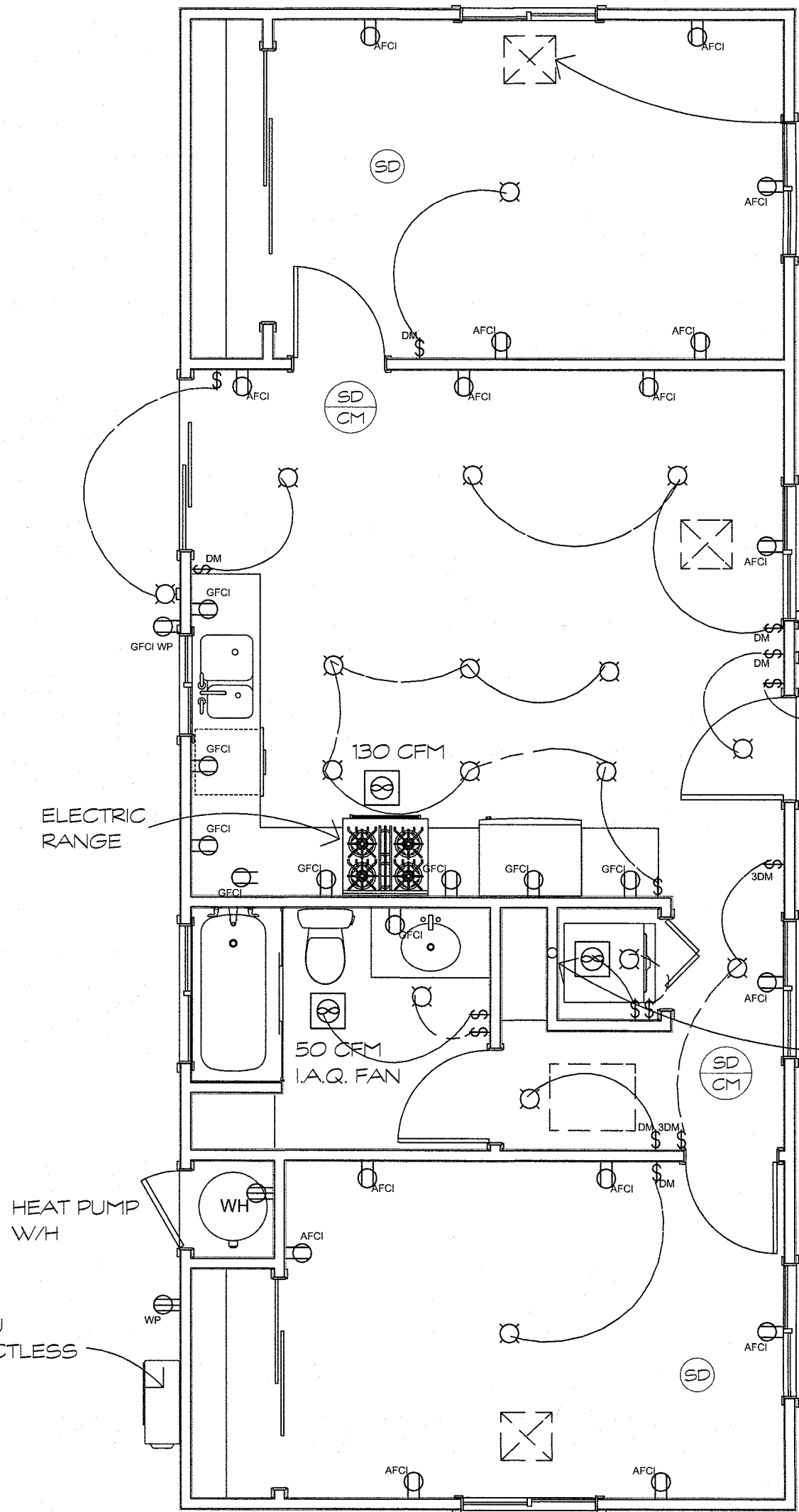
ELECTRICAL LEGEND:



- SWITCH
- SWITCH / DIMMER
- VACANCY SENSOR
- SWITCH / TIMER
- SWITCH / HUMIDISTAT
- 110V DUPLEX OUTLET
- 110V DUPLEX OUTLET WEATHER PROOF GFCI PROTECTED
- 110V DUPLEX OUTLET - ARC-FAULT CIRCUIT INTERRUPTER COMBINATION TYPE AFCI
- RECESSED LAMP LED
- SURFACE MOUNTED LAMP
- HANGING LAMP
- RECESSED HIGH EFFICACY LAMP
- WALL MOUNTED LAMP
- OUTDOOR HANGING LAMP
- OUTDOOR WALL MOUNTED LAMP
- OUTDOOR WALL MOUNTED LAMP
- MOTION SENSOR SECURITY LIGHT
- VANITY LIGHT
- CEILING MOUNTED FLUORESCENT (HIGH EFFICACY LAMP)
- EXHAUST FAN
- CABLE TV JACK
- TELEPHONE JACK
- ETHERNET JACK
- THERMOSTAT
- SMOKE DETECTOR
- COMBINATION CARBON MONOXIDE ALARM / SMOKE DETECTOR
- 110V SMOKE DETECTOR AND/ OR CARBON MONOXIDE ALARM W/ BATTERY BACK-UP ALARM SHALL BE AUDIBLE IN ALL ROOMS. SMOKE ALARMS ARE TO BE INTERCONNECTED IN SUCH A MANNER THAT THE ACTIVATION OF ONE ALARM WILL ACTIVATE ALL ALARMS.
- SMOKE AND CARBON MONOXIDE ALARMS IN EXISTING AREAS NEED NOT BE INTERCONNECTED OR HARD WIRED WHERE THE ALTERATIONS OR REPAIRS DO NOT RESULT IN THE REMOVAL OF INTERIOR WALLS OR CEILING FINISHES EXPOSING THE STRUCTURE. UNLESS THERE IS AN ATTIC CRAWLS SPACE OR BASEMENT AVAILABLE WHICH COULD PROVIDE ACCESS FOR HARD WIRING AND INTERCONNECTION WITHOUT THE REMOVAL OF INTERIOR FINISHES.
- ANY EXISTING SMOKE DETECTORS OVER 10 YEARS OLD MUST BE REPLACED W/ NEW DETECTORS
- GAS OUTLET

NOTES:

1. FLUORESCENT FIXTURES ARE TO BE OF THE BALLAST TYPE THAT ONLY ACCEPT FLUORESCENT BULBS WITH A MINIMUM EFFICACY OF 40 LUMENS/WATT.
2. RECEPTICAL OUTLET LOCATIONS SHALL COMPLY WITH 2022 CEC
3. COUNTERTOP RECEPTICAL OUTLETS SHALL COMPLY WITH 2022 CEC
4. BATHROOM CIRCUITING SHALL BE EITHER:
 - a) A 20 AMPERE CIRCUIT DEDICATED TO EACH BATHROOM OR
 - b) AT LEAST ONE 20 AMPERE CIRCUIT SUPPLYING ONLY BATHROOM RECEPTICAL OUTLETS
5. IN BATHROOMS, GARAGES, LAUNDRY ROOMS, UTILITY ROOMS AT LEAST ONE LUMINAIRE SHALL CONTROLLED BY A VACANCY SENSOR.
6. OUTDOOR LIGHTING FIXTURES THAT ARE ATTACHED TO THE BUILDING ARE REQUIRED TO HAVE BE HIGH EFFICACY, BE MANUALLY CONTROLLED, AND HAVE BOTH MOTION SENSOR AND PHOTO CELL CONTROL. SEE ES 150.0(K) 3 FOR ADDITIONAL CONTROL OPTIONS.
7. ALL KITCHEN COUNTER GENERAL APPLIANCE RECEPTACLES SHALL HAVE GFCI PROTECTION.
8. KITCHEN GENERAL APPLIANCE RECEPTACLES SHALL BE ON A MINIMUM OF 2-20 AMP CIRCUITS.
9. ALL NEW 125 VOLT, 15 AND 20 AMPERE RECEPTACLES SHALL BE LISTED TAMPER-RESISTANT RECEPTACLES
10. ALL NEW OUTLETS IN FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, DENS, BEDROOMS, SUNROOMS, RECREATION ROOMS, HALLWAYS OR SIMILAR ROOMS OR AREAS SHALL BE ARC-FAULT CIRCUIT INTERRUPTER COMBINATION TYPE
11. SINGLE AND MULTIPLE-STATION CARBON MONOXIDE ALARMS SHALL BE LISTED AS COMPLYING WITH THE REQUIREMENTS OF UL 2304. CARBON MONOXIDE DETECTORS SHALL BE LISTED AS COMPLYING WITH THE REQUIREMENTS OF UL 2075.
12. FOR NEW BUILDINGS: MECHANICAL EXHAUST FANS FROM BATHROOMS SHALL COMPLY WITH THE FOLLOWING (CALGreen 40.507); ENERGY STAR COMPLIANT AND DUCTED TO TERMINATE OUTSIDE BUILDING, CONTROLLED BY READILY ACCESSIBLE HUMIDISTAT - UNLESS FAN FUNCTIONS AS COMPONENT OF WHOLE-HOUSE VENTILATION SYSTEM WITH CONTROLS CAPABLE OF ADJUSTMENTS BETWEEN RELATIVE HUMIDITY RANGE OF 50% TO 80%
13. ALL INSTALLED LUMINAIRES SHALL BE HIGH EFFICACY IN ACCORDANCE WITH ES TABLE 150.0-A. LIGHT SOURCES THAT ARE NOT MARKED "JA8-2019-E" SHALL NOT BE INSTALLED IN ENCLOSED LUMINAIRES
14. DIMMERS OF VACANCY SENSORS SHALL CONTROL ALL LED STYLE LUMINAIRES. TWO EXCEPTIONS: FIXTURES INSTALLED IN HALLWAYS OR CLOSETS UNDER 70sf
15. RECESSED CAN LIGHT LIGHT FIXTURES SHALL BE IC LISTED, AIR TIGHT LABELED, AND NOT BE EQUIPPED A STANDARD MEDIUM BASE SCREW SHELL LAMP HOLDER.



ELECTRICAL / MECHANICAL PLAN 1/4"=1'-0"

NOTE:
VERIFY ALL ELECTRICAL WITH OWNER.

SMOKE DETECTOR / CARBON MONOXIDE DETECTOR NOTES:

- SMOKE ALARMS WITH BATTERY BACKUP SHALL BE LOCATED:
1. WITHIN EACH BEDROOM (SLEEPING ROOM).
 2. OUTSIDE EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS.
 3. ON EACH STORY OF THE DWELLING, INCLUDING BASEMENTS.
 4. SMOKE ALARMS SHALL NOT BE LESS THAN 3' FROM THE DOOR OPENING OF A BATHROOM.
 5. SMOKE ALARMS SHALL BE AT LEAST 20' FROM A COOKING APPLIANCE.
 6. SMOKE ALARMS SHALL BE AT LEAST 3' FROM SUPPLY REGISTERS OF HEATING AND COOLING SYSTEMS.
 7. SMOKE ALARMS SHALL BE AT LEAST 3' FROM THE TIP OF THE BLADE OF A CEILING MOUNTED FAN.
 8. SMOKE ALARMS SHALL BE HARD WIRED AND SHALL BE EQUIPPED WITH BATTERY BACK UP AND BE INTERCONNECTED IN ALL NEW CONSTRUCTION.

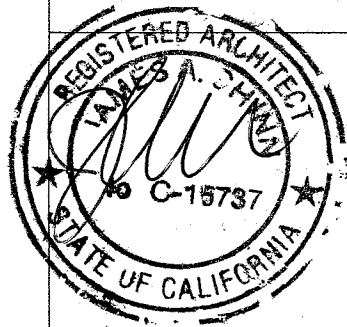
- CARBON MONOXIDE ALARMS SHALL BE LOCATED:
1. OUTSIDE EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS.
 2. ON EACH FLOOR, INCLUDING BASEMENTS.
 3. IN ANY BEDROOM WITH A FUEL BURNING APPLIANCE LOCATED WITHIN THAT BEDROOM OR ITS ATTACHED BATHROOM.

NOTE: WHEN MORE THAN ONE SMOKE ALARM OR CO ALARM IS REQUIRED TO BE INSTALLED, THE ALARM DEVICES SHALL BE INTERCONNECTED IN SUCH A MANNER THAT THE ACTUATION OF ONE ALARM WILL ACTIVATE ALL THE ALARMS IN THE UNIT. SMOKE DETECTORS & CARBON MONOXIDE DETECTORS SHALL BE HARD-WIRED WITH BATTERY BACK-UP PER CRC 315.

INSTALLATION OF SMOKE ALARMS SHALL COMPLY WITH UL 2034 & 217. CO ALARMS SHALL COMPLY WITH UL 2034, UL 2075 AND/ OR NFPA 720.

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GENERAL

1) ALL DESIGN, CONSTRUCTION, AND WORKMANSHIP SHALL CONFORM TO:
2019 EDITION OF THE CALIFORNIA BUILDING CODE (CBC), AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE)
7-16 CALIFORNIA MECHANICAL CODE (CMC), CALIFORNIA PLUMBING CODE, AND ALL LOCAL ORDINANCES AND REQUIREMENTS.

2) THE APPROVED CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION.

3) IT SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING AND SHORING FOR LOADS DUE TO CONSTRUCTION EQUIPMENT, ETC. THE METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, SUPERVISION, AND INSTALLATION OF ALL TEMPORARY BRACING AND SHORING SHOULD ENSURE THE SAFETY OF THE WORK. BRACING AND SHORING IS TO BE INSTALLED PER THE LATEST OSHA STANDARDS. ALL BRACING AND/OR SHORING SHALL STAY IN PLACE UNTIL ALL WORK HAS BEEN SUITABLY COMPLETED.

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

5) DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALES ON DRAWINGS. NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS.

6) IT SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO ENSURE THAT ALL APPLICABLE SAFETY LAWS ARE STRICTLY ENFORCED AND TO MAINTAIN A SAFE CONSTRUCTION PROJECT.

7) IT SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO PROVIDE SUPERVISION OF THE CONSTRUCTION WORK TO ENSURE THAT IT IS BUILT IN CONFORMANCE WITH THE APPROVED PLANS AND SPECIFICATIONS. THE ENGINEER WILL PROVIDE ONLY OBSERVATION OF THE WORK DURING CONSTRUCTION.

8) THE APPROVED SET OF CONSTRUCTION DOCUMENTS, INCLUDING ALL APPROVED REVISIONS, SHALL BE PRESENT AT THE JOB SITE AT ALL TIMES.

9) CONSTRUCTION MATERIALS SHALL BE SPREAD OUT IF PLACED ON FRAMED FLOORS OR ROOFS. LOADS SHALL NOT EXCEED THE DESIGN LOADS FOR THE SUPPORTING MEMBERS.

10) NO CHANGES IN THE PLANS WILL BE MADE AND NO EXTRA WORK PERFORMED UNLESS SO APPROVED BY THE OWNER, CIVIL/STRUCTURAL ENGINEER, SOILS ENGINEER/GEOTECHNIST, COUNTY/CITY INSPECTOR AND BUILDING OFFICIALS.

11) A CLAIM FOR EXTRAS WILL BE CONSIDERED IF A CONDITION ARISES WHICH WAS CHANGED BY DESIGN BY OTHERS, UNFORESEEN OR HAS NOT BEEN SHOWN ON THE PLANS. SUCH CLAIMS FOR EXTRAS WILL NOT BE ALLOWED UNLESS THE CONTRACTOR HAS NOTIFIED THE OWNER AND SUPERVISING ENGINEER IN WRITING, INCLUDING AN AGREED-TO REIMBURSEMENT SCHEDULE, PRIOR TO PERFORMING THE EXTRA WORK.

INTENT OF THE DOCUMENTS

IT IS THE INTENT OF THE DRAWINGS AND THE SPECIFICATIONS TO REQUIRE THE COMPLETION OF THE WORK IN A THOROUGH AND WORKMANLIKE MANNER IN EVERY RESPECT.

DESCRIPTION OF WORK

THE CONTRACTOR SHALL FURNISH PERMITS, LICENSES, FEES, MATERIAL, LABOR, TOOLS, PLANT, SUPPLIES, EQUIPMENT, TRANSPORTATION, SUPERINTENDENCE, TEMPORARY CONSTRUCTION OF EVERY NATURE, INSURANCE, TAXES, CONTRIBUTIONS, AND ALL OTHER SERVICES AND FACILITIES, UNLESS SPECIFICALLY EXCEPTED NECESSARY TO COMPLETE THIS PROJECT.

LIABILITY AND COMPENSATION INSURANCE

THE CONTRACTOR SHALL MAINTAIN AT ALL TIMES, MIN. AND UNLIMITED WORKMAN'S COMPENSATION INSURANCE IN ACCORDANCE WITH THE LABOR CODE OF THE STATE OF CALIFORNIA, AND SHALL CARRY PUBLIC CONTINENT LIABILITY OF INSURANCE IN AMOUNTS SATISFACTORY TO AND IN COMPANIES SELECTED WITH THE CONSENT OF THE OWNER.

PERMITS

THE CONTRACTOR SHALL OBTAIN THE BUILDING PERMIT, AND ALL OTHER CERTIFICATIONS, INSPECTION REPORTS, RELEASES, URBANIZATION SETTLEMENTS, NOTICES, RECEIPTS FOR FEE PAYMENTS, JUDGMENTS, AND SIMILAR DOCUMENTS, CORRESPONDENCE AND RECORDS IN COLLECTION.

SUBCONTRACTOR'S STATUS

EVERY ITEM MENTIONED IN THE SPECIFICATIONS IS INTENDED TO REPRESENT THE QUALITY OF MATERIALS THAT WILL BE DEMANDED. SHOULD THE SUBCONTRACTOR WISH TO SUGGEST ANY SUBSTITUTES THAT HE CONSIDERS EQUAL IN VALUE AND EFFICIENCY WITH THE ONE SPECIFIED, HE SHALL STATE WHAT THE ITEM SUGGESTED IS, AND THE DIFFERENCE IN COST, IF ANY.

IF SUBSTITUTES OF MATERIALS (EQUIVALLY GOOD) ARE OFFERED AT THE TIME BIDS ARE SUBMITTED, THEY WILL BE CONSIDERED. IN THE EVENT THE OWNER WISHES TO ACCEPT THE SUBSTITUTE, ARRANGEMENTS WILL BE MADE FOR THE CHANGE BEFORE ENTERING INTO A CONTRACT.

IF NO ITEMS ARE SUGGESTED AS A SUBSTITUTE AT THE TIME THE BIDS ARE SUBMITTED, THEN NO DEVATION WILL BE ALLOWED FROM THE MATERIALS SPECIFIED WITHOUT FIRST SECURING THE APPROVAL OF THE OWNER.

WORKMAN SAFETY-EXCAVATIONS

ALL REGULATIONS OF THE STATE OR FEDERAL OSHA SHOULD BE FOLLOWED BEFORE ALLOWING WORKMEN IN A TRENCH OR OTHER EXCAVATION.

IF EXCAVATIONS ARE TO BE MADE DURING THE RAINY SEASON PARTICULAR CARE SHOULD BE GIVEN TO INSURE THAT PERMS OR OTHER DEVICES PREVENT SURFACE WATER FROM FLOWING OVER THE TOP OF THE EXCAVATION OR PAVING AT THE TOP OF THE EXCAVATIONS.

NO TRENCHES OR EXCAVATIONS SHALL BE 5' OR MORE IN DEPTH INTO WHICH A PERSON IS REQUIRED TO DESCEND, OR OBTAIN NECESSARY PERMIT FROM THE STATE OF CALIFORNIA DIVISION OF INDUSTRIAL SAFETY PRIOR TO ISSUANCE OF A BUILDING OR GRADING PERMIT.

WRAP AND PROTECT ALL UTILITY LINES IN WAY OF CONSTRUCTION PER STANDARD CONSTRUCTION PRACTICES.

TIMBER

1) ALL TIMBER DESIGN AND CONSTRUCTION SHALL BE PER CBC CHAPTER 23 AND NATIONAL DESIGN SPECIFICATION (NDS). ALL SAWN LUMBER SHALL BE GRADED BY EITHER WMPA OR NALB.

2) UNJO. ALL WOOD SILL PLATES AND LEBBERS BEARING ON CONCRETE OR MASONRY SHALL BE PRESSURE TREATED DOUGLAS FIR-LARCH NO. 2 OR BETTER. ANCHOR BOLTS SHALL BE 5/8" DIAMETER SPACED A MINIMUM 4'-0" O.C. AND WITHIN 12" AND GREATER THAN SEVEN (7) DIAMETERS FROM EACH END OF A SILL FROM A HOLE, OR FROM A NOTCH GREATER THAN 1/3 THE WIDTH OF THE SILL. SEE SHEARWALL SCHEDULE FOR OTHER REQUIREMENTS.

3) ALL WALL BRACING AND MATCHING OF STUDS SHALL CONFORM TO SECTION 230833 OF THE 2016 CALIFORNIA BUILDING CODE.

4) UNLESS NOTED OTHERWISE ON FRAMING PLANS:

ROOF SHEATHING SHALL BE 15/32" OX APA-RATED SHEATHING, EXPOSURE 1, MIN. SPAN RATING 24/0, NAILED WITH 8d COMMON @ 6" O.C. EDGES & BOUNDARIES AND 12" O.C. AT INTERMEDIATE FRAMING MEMBERS.

FLOOR SHEATHING SHALL BE 23/32" OX APA-RATED STURD-FLOOR, T&G, EXPOSURE 1, MIN. SPAN RATING 24" O.C. NAILED WITH 10d COMMON @ 6" O.C. AT EDGES & BOUNDARIES AND 12" O.C. AT INTERMEDIATE FRAMING MEMBERS.

SHEARWALL SHEATHING SHALL BE APA STRUCTURAL 1" RATED, EXPOSURE 1, GROUP 1. NAILING PER SHEARWALL SCHEDULE.

ALL WOOD STRUCTURAL PANEL SHEATHING SHALL BE GRAD MARKED BY APA, T&G, OR PTL AND SHALL CONFORM TO PS 1-3, PS 2-3, OR FRF-108.

TRASH REMOVAL

THE CONTRACTOR SHALL PROMPTLY REMOVE FROM THE BUILDING, LOT, SIDEWALKS, AND STREETS - ALL RUBBISH AND DIRT, AS IT ACCUMULATES, DUE TO THE WORK DONE UNDER THIS CONTRACT.

ALL COMBUSTIBLE DEBRIS SHALL BE REMOVED FROM THE BUILDING ON A DAILY BASIS.

FOUNDATION

1) CONCRETE SHALL HAVE A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS FOR Poured-IN-PLACE CONTINUOUS AND SPREAD FOOTINGS, AND 3000 PSI (SPECIAL NSF. REQ'D) AT 28 DAYS FOR GRADE BEAMS.

2) PORTLAND CEMENT SHALL BE TYPE I PER ASTM C 150. AGGREGATES SHALL BE PER ASTM C29 WITH MAXIMUM SIZE OF 1/2" FOR FOOTINGS AND 1" FOR ALL OTHER WORK.

3) REINFORCING STEEL SHALL BE ASTM A63, GRADE 60, CLEAN AND RUST FREE. LAPS AT SPICES AND FOUR LINES TO BE 40 BAR DIAMETERS (2'-0" MINIMUM) UNLESS NOTED OTHERWISE ON PLANS.

4) UNJO. SLABS ON GRADE SHALL BE 4" THICK WITH 10# BARS @ 16" O.C. EACH WAY WITH 2 INCH COVER AT BOTTOM. 4" CLEAN SAND SHALL BE PLACED BELOW THE SLAB WITH A 10 MIL PLASTIC VAPOR BARRIER PER ASTM E94 & ASTM E1415 PLACED AT MID-HEIGHT. BARS SHALL BE LAPPED 20". SEE SOILS REPORT (IF AVAILABLE) FOR OTHER REQUIREMENTS.

5) ALL NEW SILL PLATE ANCHOR BOLTS TO BE INSTALLED IN FRESH CONCRETE SHALL BE 5/8" DIAMETER, 180" L. BOLTS SPACED PER PLAN AND SHEARWALL SCHEDULE WITH MINIMUM 1" EMBEDMENT. MAXIMUM ANCHOR BOLT SPACING SHALL BE 4'-0" O.C. ANCHOR BOLTS AT ENDS OF WALL PANELS SHALL BE LOCATED WITHIN 12" AND GREATER THAN 7 BOLT DIAMETERS FROM THE END OF SILL PLATE. THERE SHALL BE A MINIMUM OF TWO ANCHOR BOLTS PER WALL PANEL. (ANCHOR BOLTS TO EXISTING FOOTINGS PER NOTE #3 BELOW). PLATE WASHERS A MINIMUM 9"X10"X235" THICK SHALL BE USED ON EACH DOLT. ALL CONNECTORS AND METAL HARDWARE IN CONTACT WITH PRESSURE TREATED TIMBER SHALL HAVE CORROSION RESISTANT COATINGS OR PROTECTION, SUCH AS "ZINC", HOT DIPPED GALVANIZED, OR BE STAINLESS STEEL.

6) IF NO SOILS REPORT IS PROVIDED, ASSUME ALLOWABLE SOIL BEARING PRESSURE (ASBP) SHALL BE 3000 PSF (PER SOIL SITE CLASS D) & BORED FOOTINGS A MINIMUM OF 12" INTO COMPETENT SOIL.

7) REINFORCEMENT CLEARANCES FOR FOOTINGS AND GRADE BEAMS, (UNJO):
a) PAIRED AGAINST EARTH - 5"
b) FORMED SURFACE - 2"

8) REMOVAL OF FORMS:
a) SUPPORTING VERTICAL SURFACES - 2 DAYS MINIMUM
b) SUPPORTING BEAMS & OTHERS - 15 DAYS MINIMUM

9) REINFORCING SHALL BE CONTINUOUS AROUND CORNERS AND THROUGH INTERSECTIONS.

10) DOWEL ANY NEW FOOTINGS TO EXISTING FOOTINGS WITH (1) #4 x 2'-0" BARS TOP AND BOTTOM WITH 6" EMBEDMENT IN 1/2" DIAMETER CORED HOLES IN APPROVED NON-SHRINK GROUT MATERIAL (e.g. EMBECC 404, FOR-KROC, etc.).

11) ALL HOLD DOWNS INTO EXISTING FOOTINGS TO BE INSTALLED WITH SAMPSON SET ADHESIVE EPOXY, KCC-ESR-171/LARX-125. CONTRACTOR TO INSTALL PER MANUFACTURER'S SPECIFICATIONS AND OBTAIN FIELD INSPECTOR.

12) UNLESS NOTED OTHERWISE, DOWEL ANY NEW SLABS TO EXISTING FOOTINGS WITH (1) #4 x 2'-0" BARS SPACED @ 3' O.C. WITH 6" EMBEDMENT IN 5/8" DIAMETER CORED HOLES IN SAMPSON SET EPOXY (KCC-ESR-171 / LARX-125).

13) ALL NEW SILL PLATE ANCHOR BOLTS TO BE INSTALLED INTO EXISTING FOOTINGS SHALL BE SAMPSON TITAN 10 ANCHOR (KCC-ESR-106/LARX-125/60).

14) CONSTRUCTION JOINTS SHALL BE PREPARED BY WIRE BRUSHING, CLEANING AND BRUSHING IN A MINIMUM 2" DEPT. COARSE MATERIAL IMMEDIATELY PRIOR TO POURING. LOCATION OF CONSTRUCTION JOINT SHALL BE APPROVED BY THE PROJECT STRUCTURAL ENGINEER.

15) ALL CONNECTORS AND METAL HARDWARE IN CONTACT WITH PRESSURE TREATED TIMBER SHALL HAVE CORROSION RESISTANT COATINGS OR PROTECTION, SUCH AS "ZINC", HOT DIPPED GALVANIZED, OR BE STAINLESS STEEL.

16) PRIOR TO POURING INTERIOR CONCRETE FLOOR SLABS, ALL SOIL BELOW FLOOR SHALL BE COMPACTED TO REQUIRED DENSITY AND MOISTENED TO A DEPTH NOT LESS THAN 18" PER SOILS REPORT.

17) DEEPEN NEW FOOTINGS AS NECESSARY TO OBTAIN REQUIRED EMBEDMENT FOR ALL NEW HOLD DOWN BOLTS. ALL HOLD DOWN BOLTS TO HAVE A MINIMUM OF 9" OF CONCRETE COVER TO SOIL & BOTTOM.

FRAMING

15/32" APA RATED SHEATHING (MIN), EXPOSURE 1 24/0 MAX SPAN RATING, w/ 8d COMMON NAILS @ 6" O.C. AT BOUNDARY & PANEL EDGE NAILING (EN), AND 12" O.C. AT INTERMEDIATE FRAMING MEMBERS.

FLOOR DIAPHRAGM

23/32" APA STURD-FLOOR, EXPOSURE 1, TONGUE AND GROOVE, w/ 10d COMMON NAILS @ 6" O.C. AT BOUNDARY & PANEL EDGE NAILING (EN), AND 12" O.C. AT INTERMEDIATE FRAMING MEMBERS.

FRAMING

• BUILT-UP WOOD FRAMING MEMBERS SHALL NOT BE SUBSTITUTED FOR 4x AND WIDER BEAMS UNLESS NOTED BY ENGINEER.
• ALL (3) 2x ROOF & FLOOR FRAMING TO HAVE MIN. 16d @ 12" O.C. T&G, STAGGERED.
• ALL (3) 2x FRAMING TO HAVE MIN. 1/2" DIAMETER BOLTS AT 12" O.C. T&G, STAGGERED.
• 2x SOLD BLOCKING REQUIRED AT POINTS OF SUPPORT FOR ALL HORIZONTAL FRAMING MEMBERS. IN ADDITION, ALL 2x10 AND LARGER MEMBERS SHALL HAVE SOLD FULL DEPTH BLOCKING OR BRIDGINS AT MAX 8'-0" O.C.
• ALL WOOD POSTS AT UPPER FLOORS TO CONTINUE TO BEAM OR FOUNDATION.
• UNLESS DETAILED OTHERWISE, ALL RIDGE / HP / VALLEY CONNECTIONS TO HAVE A SAMPSON A55 CONNECTOR AT EACH CORNER WITH A 2x HOOKER TO BEARING WALL.
• ALL NEW TO EXISTING TOP PLATES TO HAVE SAMPSON STAG26 STRAP.
• AT ROOF-TO-WALL FRAMING, PROVIDE A55 FRAMING ANCHORS PER SHEARWALL SCHEDULE OR AT MAX 48" O.C. FROM PLATES TO RAFTERS AND RAFTER BLOCKING AROUND PERIMETER OF BUILDING AND AT DRAG LINES AS INDICATED ON PLANS (SEE PLANS WHERE OTHER REQUIREMENTS MAY OCCUR).

• AT FIRST FLOOR AND SUBTERRANEAN LEVEL, PROVIDE A55S PER SHEARWALL SCHEDULE OR AT 92" O.C. MAX. FROM PLATES TO FLOOR JOISTS AND BLOCKING AROUND PERIMETER OF BUILDING AND AT DRAG LINES AS INDICATED ON PLANS (SEE PLANS WHERE OTHER REQUIREMENTS MAY OCCUR).

• WHEN SHEAR WALLS ARE SUPPORTED BY WOOD JOISTS THAT ARE PERPENDICULAR TO THE SHEAR WALL, ATTACH SOLD 4x BLOCKING UNDER SHEAR WALLS BETWEEN JOISTS. PROVIDE 2x SOLD BLOCKING UNDER NON-SHEAR WALLS PERPENDICULAR TO FLOOR JOISTS. SEE PLANS AND DETAILS FOR ANY ADDITIONAL REQUIREMENTS.

• ATTACH MIN 2x SOLD BLOCKING AND EDGE NAIL THE PERIMETER OF ALL OPENINGS OVER 12" IN WIDTH OR LENGTH IN ALL SHEAR PANELS AND DIAPHRAGMS. SEE DETAILS WHERE OTHER REQUIREMENTS MAY OCCUR.

• PROVIDE A MINIMUM 2x4 OR 2x6 @ 16" FOR ALL STUD WALLS SUPPORTING TWO OR THREE FLOORS WITH 10# MAX PLATE HEIGHTS.

• ALL CONNECTORS AND METAL HARDWARE IN CONTACT WITH PRESSURE TREATED TIMBER SHALL HAVE CORROSION RESISTANT COATINGS OR PROTECTION, SUCH AS "ZINC", HOT DIPPED GALVANIZED, OR BE STAINLESS STEEL.

REINFORCING STEEL

ALL PRIMARY REINFORCEMENT SHALL CONFORM TO ASTM A-63, GRADE 60 KSI STEEL.

ALL TIES AND STIRRUPS SHALL CONFORM TO ASTM A-63, GRADE 40 KSI STEEL.

SPICES OF REINFORCING SHALL BE LAPPED A MINIMUM OF 40 BAR DIAMETERS UNLESS SPECIFIED ON PLANS AND SECURELY WIED TOGETHER USING A MINIMUM OF 16 GA WIRE. SPICES OF ADJACENT REINFORCING BARS SHALL BE STAGGERED WHEREVER POSSIBLE.

TIMBER (CONTINUED)

5) HORIZONTAL WOOD STRUCTURAL PANELS SHALL BE LAD WITH THE LONG DIMENSION AND FACE GRAIN PERPENDICULAR TO THE RAFTERS OR JOISTS, AND THE SHEETS SHALL BE STAGGERED AS SHOWN IN 2309 CBC TABLE 2309.23 (CASES 1 AND 3). EACH SHEET SHALL CONTAIN A MINIMUM OF 8 SQUARE FEET AND EXTEND 10" TO SUPPORTS. 1/8" SPACERS BETWEEN PANEL EDGES AND EDGES IS REQUIRED. ALL WOOD STRUCTURAL PANEL DIAPHRAGMS SHALL BE REVIEWED BY CONTRACTOR FOR COMPLIANCE WITH NAILING AND PANEL REQUIREMENTS BEFORE FINISH IS APPLIED.

6) UNJO. ALL 2x ROOF RAFTER AND FLOOR JOIST FRAMING MEMBERS SHALL BE MINIMUM GRADE DOUGLAS FIR-LARCH NO. 2 OR BETTER. FLOOR MEMBERS, AND POSTS SHALL BE MINIMUM DOUGLAS FIR-LARCH NO. 1 OR BETTER. ALL VERTICAL WALL FRAMING MEMBERS SHALL BE DOUGLAS FIR-LARCH NO. 2 OR BETTER.

7) ALL PSL AND LVL ENGINEERED FRAMING MEMBERS SHOWN ON PLANS TO BE 2.0E PARALLAL (E=3000 ksi) AND 1.0E MCGRAM BEAMS (E=3000 ksi), RESPECTIVELY, AS DESCRIBED IN KCC-ESR-109 & KCC-ESR-106. ALL WOOD 1-JOIST MEMBERS SHOWN ON PLANS TO BE AS DESCRIBED IN KCC-109.

8) MOISTURE CONTENT OF SAWN LUMBER AT TIME OF INSTALLATION SHALL NOT EXCEED 19%.

9) ALL DOLT HEADS AND NUTS BEARING ON WOOD SHALL HAVE WASHERS. HOLES IN WOOD FOR BOLTS SHALL BE DRILLED MAX 1/16" LARGER THAN NOMINAL DOLT SIZE.

10) NOTCHING OR DRILLING HOLES IN BEAMS OR JOISTS SHALL BE ONLY AS DETAILED PER ENGINEER AND SHALL COMPLY WITH 2309 CBC SECTION 2308.310 & 2308.311.

11) ALL SAWN LUMBER (2x, 4x, 6x) RAFTERS, FLOOR JOISTS, AND BEAMS SHALL HAVE SOLD WOOD BLOCKING AT ALL POINTS OF SUPPORT. MEMBERS WITH NOMINAL DEPTH 12" OR GREATER SHALL HAVE 2x FULL DEPTH SOLD BLOCKING OR CROSS BRIDGINS SPACED AT 8'-0" FOR MAXIMUM.

12) UNJO. ALL FRAMING CONNECTION HARDWARE SHALL BE AS MANUFACTURED BY THE SAMPSON STRONG-TIE COMPANY AND SHALL BE REFERENCED AS SHOWN IN THEIR LATEST CATALOG. ALL CONNECTOR NAILS AND BOLTS SHALL BE AS DESIGNATED PER MANUFACTURER. ALTERNATE MANUFACTURER CONNECTOR HARDWARE MAY BE USED PROVIDED ENGINEER'S WRITTEN APPROVAL IS OBTAINED BY CONTRACTOR AND KCC APPROVAL IS PROVIDED.

13) TOP PLATES SHALL LUP LAMER PLATES AT CORNERS, AND BREAKS AT PLATE SHALL BE LAPPED A MINIMUM OF 4'-0", WITH 2x-16d NAILS ON EACH SIDE.

14) ALL BEAMS SHALL BE SUPPORTED BY POSTS OR OTHERS. FOR 4x8 AND SMALLER BEAMS A MINIMUM (2)-20x D.T. #2 POST SHALL BE USED. UNJO. FOR 4x10 AND LARGER BEAMS A MINIMUM 4x4 D.T. #1 POST SHALL BE USED. UNJO. ALL POSTS SHALL PROVIDE FULL BEARING WITH THE BEAM, UNJO.

15) ALL POSTS SHALL BE CONTINUED BETWEEN FLOORS WITH SOLD FULL WIDTH BLOCKING AND A POST OF EQUAL OR GREATER SIZE BELOW, UNTIL A BEAM OR FOUNDATION IS ENCOUNTERED. ALL POSTS INSIDE WALLS MAY BEAR ON THE SOIL OR SILL PLATE, UNJO. ISOLATED POSTS SHALL BE SEATED IN POST OR COLUMN BASES PER PLAN.

16) ALL WALLS HIGHER THAN 12'-0" SHALL BE 2x6 OR 2x6 STUDS @ 16" O.C. UNLESS SPECIFICALLY DESIGNED OTHERWISE BY ENGINEER. ALL WALLS CONTAINING MECHANICAL PIPING 2" IN DIAMETER OR LARGER SHALL BE FRAMED WITH 2x6 STUDS @ 16" O.C.

17) CUTTING, NOTCHING, OR BORING HOLES IN STUDS SHALL COMPLY WITH 2309 CBC SECTION 2308.310 & 2308.311.

18) FRAMING AND NAILING NOT SPECIFICALLY DETAILED ON THE PLANS ARE TO CONFORM TO CBC TABLE 2309.23. COMMON NAILS ARE REQUIRED FOR ALL SHEARWALL, FLOOR AND ROOF DIAPHRAGMS. USE DOUBLE STUDS UNDER PARALLEL PARTITIONS, UNJO. DOUBLED HORIZONTAL MEMBERS SHALL BE STITCH-NAILED TOGETHER WITH TWO ROWS OF 16d NAILS @ 12" O.C. STAGGERED, UNLESS OTHERWISE DETAILED. TRIPLED HORIZONTAL MEMBERS SHALL HAVE MIN. 1/2" DIAMETER BOLTS AT 12" O.C. T&G, STAGGERED.

19) ANCHOR BOLTS TO SILL AND SOLE PLATES SHALL HAVE NUTS DRIVEN FLUSH WITH SQUARE PLATE WASHERS IN ACCORDANCE WITH THE FOLLOWING SCHEDULE:

DOLT DIAMETER
5/8"
3/4"
1"
1 1/2"

PLATE SIZE
0135" x 5" x 5"
5/16" x 5" x 5"
5/16" x 5" x 5"
3/8" x 5 1/2" x 5 1/2"

THE ABOVE SCHEDULE ALSO APPLIES TO LAG SCREWS DRIVEN INTO SOLE PLATES FOR RAISED FLOOR AND UPPER STORY CONNECTIONS.

20) LAG SCREWS SHALL BE INSTALLED IN PRE-DRILLED HOLES. THE CLEARANCE HOLE FOR THE SHANK PORTION SHALL HAVE THE SAME DIAMETER, AND DEPTH AS THE LEAD HOLE FOR THE THREADED PORTION SHALL HAVE A DIAMETER EQUAL TO 40%-100% OF THE SHANK DIAMETER. FOR ALL 16d-PR LARCH MEMBERS, LAG SCREWS ARE TO BE INSTALLED WITH THE TURN OF A WRENCH DRIVING, AS WITH A HAMMER, IS NOT PERMITTED.

21) MINIMUM NAILING SHALL BE PER TABLE 2309.23 OF THE CBC.

22) ALL CONNECTORS AND METAL HARDWARE IN CONTACT WITH PRESSURE TREATED TIMBER SHALL HAVE CORROSION RESISTANT COATINGS OR PROTECTION, SUCH AS "ZINC", HOT DIPPED GALVANIZED, OR BE STAINLESS STEEL.

STRUCTURAL STEEL

1) ALL STRUCTURAL STEEL SHALL CONFORM TO SECTION 2309.1 - CBC.

W-WIDE FLANGE SHAPES: ASTM A992, Fy = 50-60 KSI
PLATES, ANGLES, CHANNELS: ASTM A572, Fy = 50 KSI
HOLLOW TUBE SHAPES: ASTM A500, GRADE B, Fy = 46 KSI
ROUND PIPE SHAPES: ASTM A53, GRADE B, Fy = 35 KSI

2) ALL STRUCTURAL STEEL SHALL BE FABRICATED IN A SHOP APPROVED BY THE LOCAL MUNICIPAL BUILDING DEPARTMENT.

3) STRUCTURAL SHOP DRAWINGS SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION.

4) ALL STRUCTURAL STEEL SHALL BE IDENTIFIED PER CBC DESIGN OF STEEL MEMBERS SHALL BE PER A55 PROVISIONS IN THE CBC SECTION 2309.1 & 2309.2.

5) STRUCTURAL STEEL SHALL HAVE A SHOP CONT OF RED-OXIDE PRIMER.

6) AFTER ERECTION, ALL FIELD CONNECTIONS, BOLTS, WELDS, AND ALL EXPOSED PLACES ON THE SHOP PAINT SHALL BE TOUCHED UP WITH THE SAME TYPE OF PAINT AS THE SHOP COAT.

7) FIELD AND SHOP WELDING SHALL BE DONE BY A FULLY CERTIFIED WELDER USING LOW-HYDROGEN E70-T6 ELECTRODE RODS, UNLESS NOTED OTHERWISE. CONTINUOUS INSPECTION BY A REGISTERED INSPECTOR IS REQUIRED FOR FIELD WELDING. ALL WELDING SHALL BE PER AWS, LATEST EDITION, AND AISC SPECIFICATIONS.

8) BOLTS SHALL BE OF A507 QUALITY WITH WASHERS, UNLESS OTHERWISE SPECIFIED ON PLANS. ANY HIGH STRENGTH A505 OR A502 BOLTS SHALL HAVE SPECIAL INSPECTION, UNLESS NOTED OTHERWISE.

9) STEEL ERECTOR SHALL PROVIDE ALL ERECTION DRAGGING REQUIRED TO MAINTAIN STRUCTURE PLUMB AND PROPERLY BRACED DURING CONSTRUCTION.

10) ALL STRUCTURAL STEEL SHALL BE DESIGNED BASED UPON THE ALLOWABLE STRESS DESIGN METHOD PER AISC 360.

CONCRETE

1) ALL PHASES OF WORK PERTAINING TO CONCRETE CONSTRUCTION SHALL CONFORM TO CBC CHAPTER 19 (BASED ON ACI-308, LATEST ADOPTED EDITION) FOR REINFORCED CONCRETE.

2) MINIMUM ULTIMATE COMPRESSIVE CONCRETE STRENGTHS (F'c) SHALL BE:
SLAB ON GRADE: 3000 PSI @ 28 DAYS
STRUCTURAL DECK: 3000 PSI @ 28 DAYS
ALL WOOD STRUCTURAL PANEL DIAPHRAGMS SHALL BE REVIEWED BY CONTRACTOR FOR COMPLIANCE WITH NAILING AND PANEL REQUIREMENTS BEFORE FINISH IS APPLIED.

3) CONTINUOUS INSPECTION BY AN APPROVED DEPUTY INSPECTOR IS REQUIRED FOR CAISSONS, GRADE BEAMS, STRUCTURAL SLABS, AND OTHER CONCRETE MEMBERS WHERE DESIGN COMPRESSIVE STRENGTH VALUE EXCEEDS 3000 PSI.

4) CEMENT SHALL BE TYPE II, LOW ALKALI, CONFORMING TO ASTM C-150.

5) ALL PRIMARY REINFORCEMENT SHALL BE PER ASTM A-63, GRADE 60 KSI STEEL. ALL TIES AND STIRRUPS SHALL CONFORM TO ASTM A-63, GRADE 40 KSI STEEL.

6) UNLESS NOTED OTHERWISE, SPICES OF REINFORCING SHALL BE LAPPED A MINIMUM OF 40 BAR DIAMETERS AND SECURELY WIED TOGETHER USING A MINIMUM OF 16 GA WIRE. SPICES OF ADJACENT REINFORCING BARS SHALL BE STAGGERED WHEREVER POSSIBLE. WELDS SPECIFICALLY CALLED OUT, WELDING OF REINFORCING BARS SHALL BE PERFORMED BY A CERTIFIED WELDER USING E60 SERIES ELECTRODES PER AWS, LATEST EDITION.

7) INTERIOR CONCRETE SLABS ON GRADE SHALL HAVE A STEEL TRAVEL FINISH. DRIVEWAYS, WALKS, AND GRADE SLABS SHALL HAVE A BROAN FINISH AND SHALL BE PATCHED TO SUEE WATER.

8) PRIOR TO POURING INTERIOR CONCRETE FLOOR SLABS, ALL SOIL BELOW FLOOR SHALL BE COMPACTED TO REQUIRED DENSITY AND MOISTENED TO A DEPTH NOT LESS THAN 18" PER SOILS REPORT.

9) CLEAR COVERAGE OF CONCRETE OVER REINFORCING BARS, ANCHOR BOLTS, AND ALL OTHER CONCRETE INSERTS, UNLESS OTHERWISE SPECIFIED, SHALL BE AS FOLLOWS:
PAIRED AGAINST EARTH: 5" CLEAR
FORMED CONCRETE: 2" CLEAR

10) FORMS FOR CONCRETE SHALL BE LAD OUT AND CONSTRUCTED TO PROVIDE THE SPECIFIED CAMBERS SHOWN ON THE DRAWINGS. DECK CAMBERING SHOWN ON PLANS IS INTENDED TO PROVIDE A LEVEL DECK. ANY SHORING FOR FRAMING SHALL BE ADDED OR SUBTRACTED FROM CAMBERING AS APPROPRIATE. THE DECK THICKNESS SHALL NOT BE REDUCED IN ORDER TO ACHIEVE DECK SLATES.

11) DRYPACK UNDER DIAPHRAGMS, ALL PLATES, AND WHERE OTHERWISE NOTED ON DRAWINGS SHALL CONSIST OF APPROVED NON-SHRINK HIGH STRENGTH GROUT. WHEN SPACE BETWEEN TWO SURFACES REQUIRES DRYPACK, IT SHALL BE PACKED BY TAMPING OR RAMMING WITH A BAR OR ROD UNTIL THE VOIDS ARE COMPLETELY FILLED.

12) PLACEMENT OF CONCRETE SHALL CONFORM TO ALL LATEST STANDARD AND PROJECT SPECIFICATIONS. WIRE BRUSH OR SANDBLAST ALL CONCRETE SURFACES AGAINST WHICH CONCRETE IS TO BE PLACED.

13) IF COLUMNS AND WALLS ARE PLACED WITH FLOORS, MINIMUM TIME OF TWO HOURS MUST ELAPSE BETWEEN END OF COLUMN OR WALL POUR AND BEGINNING OF FLOOR POUR.

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

15) COVER TO BEAM REINFORCEMENT TO BE 2" MINIMUM FRESH CONCRETE & 3" MINIMUM AGAINST EARTH, UNLESS NOTED OTHERWISE.

16) ARCHITECTURAL DRAWINGS TO BE REFERRED TO FOR DECK SLATES, DRAINAGE, PLUMBING, FRAMING AND ELECTRICAL HARDWARE & ALL DIMENSIONS.

17) REINFORCEMENT CALLED OUT IN DETAILS SHALL BE IN ADDITION TO THAT SHOWN ON PLANS (UNJO). REINFORCING METHODS SHOWN IN DETAILS SHALL BE USED AS APPLICABLE.

18) WHEN A MANULATING POUR IS NOT POSSIBLE, CONSTRUCTION JOINTS SHALL BE APPROVED BY THE PROJECT STRUCTURAL ENGINEER.

19) SHORING SHALL NOT BE REMOVED UNTIL CONCRETE HAS ACHIEVED MINIMUM 28 DAY COMPRESSIVE STRENGTH. FIFTEEN DAYS AFTER CONCRETE POUR IS COMPLETED THE PROJECT STRUCTURAL ENGINEER MAY RETENRE, BASED ON COMPRESSION TESTS, IF SHORING MAY BE REMOVED.

20) ALL DECK SURFACES EXPOSED TO WEATHER SHALL BE WATERPROOFED. SEE ARCHITECTURAL DOCUMENTS FOR SPECIFICATIONS.

21) CONCRETE SHALL BE THOROUGHLY CONSOLIDATED IN A MANNER THAT WILL ELIMINATE THE REINFORCEMENT AND INSERTS. ALL THE FORMS AND PRODUCE A SURFACE OF UNIFORM TEXTURE FREE OF ROCK PROJECTIONS AND EXCESSIVE VOIDS. CONCRETE SHALL BE CONSOLIDATED BY MEANS OF HIGH FREQUENCY INTERNAL VIBRATORS, WITHOUT CAUSING WATER OR CEMENT PASTE TO FLUSH TO THE SURFACE. INTERNAL VIBRATOR TYPE, SIZE, AND NUMBER SHALL BE APPROVED BY THE ENGINEER.

22) CONCRETE MIXING COMPANY SHALL PROVIDE TEST RECORDS AND STANDARD DEVIATION PER SECTION 1905 OF 2019 CBC.

SHEAR WALL

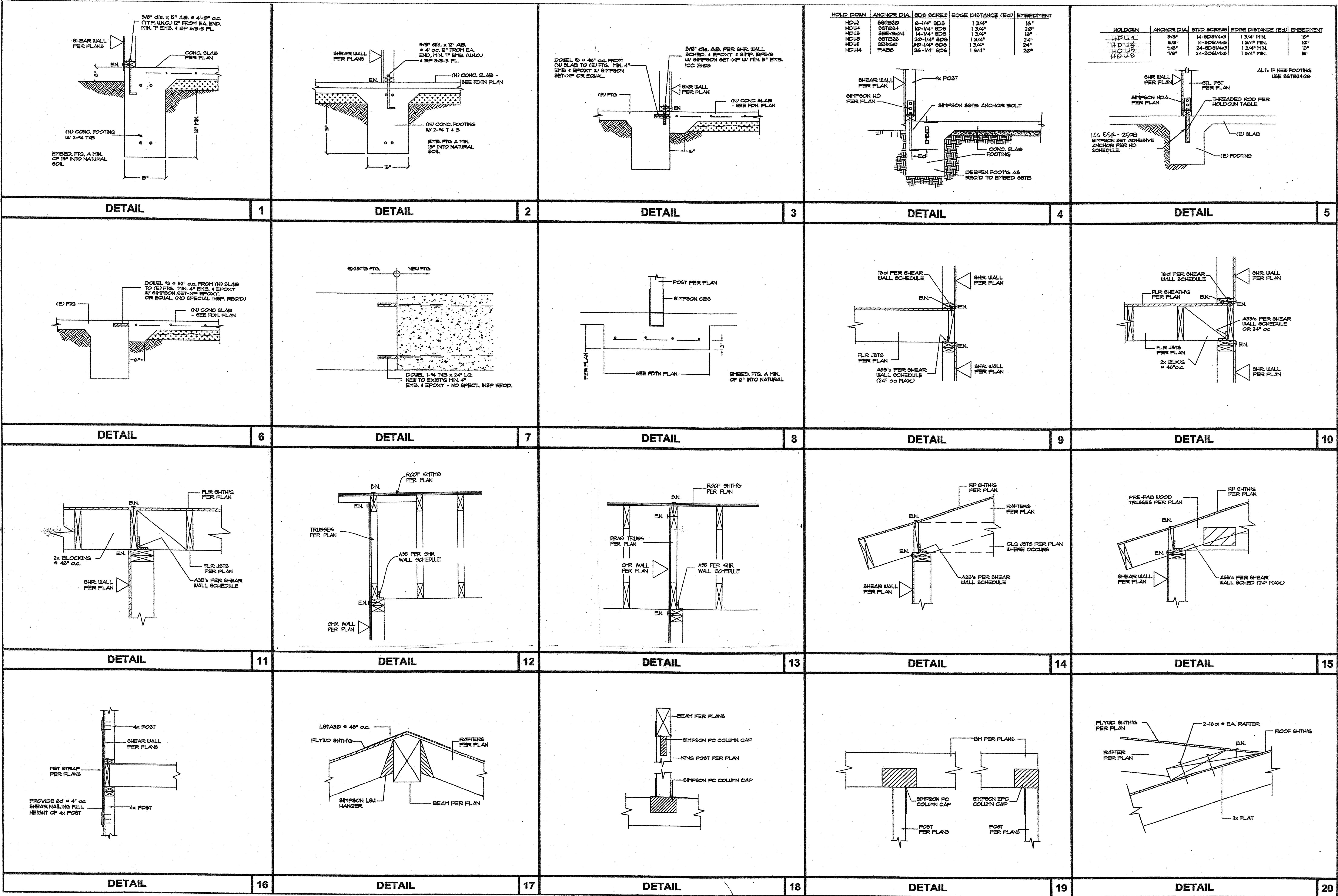
1) ONLY COMMON NAILS OR GALVANIZED BOX NAILS SHALL BE PERMITTED FOR REQUIRED NAILING AT VERTICAL SHEAR PANELS AND HORIZONTAL DIAPHRAGMS (ROOF AND FLOOR).

2) ALL SHEARWALLS WITH AN ALLOWABLE SHEAR CAPACITY GREATER THAN 350 P.I. REQUIRE 3x MEMBERS AT THE FOUNDATION SILL PLATE AND AT ADJACENT PANEL EDGES. A MINIMUM OF 1/2" EDGE DISTANCE FROM THE PANEL EDGE TO THE CENTER OF THE NAIL IS REQUIRED FOR THESE 3x MEMBERS.

3) ALL HOLD DOWN CONNECTORS SHALL BE TIGHTENED JUST PRIOR TO COVERING THE WALL FRAMING. BOLT HOLES FOR HOLD DOWN CONNECTION TO POST SHALL BE 1/16" (MAX) OVERSIZE. INSPECTOR TO VERIFY HOLD DOWN CONNECTIONS.

4) PROVIDE MINIMUM 4x4 POSTS FOR ALL HOLD DOWNS ENDS OF SHEARWALL.

5) APPROVED PLATE WASHERS SHALL BE PROVIDED FOR ALL WOOD STRUCTURAL PANEL SHEAR WALL



REVISIONS

BY

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DEL MAR, CA 92014

(657) 755-5963

REGISTERED ARCHITECT

STATE OF CALIFORNIA

NO. 10157

CARPINELLI RESIDENCE

ROLLING HILLS

VISTA, CALIFORNIA

Date

Scale AS NOTED

Drawn JAC

Job

Sheet

D-1

Of Sheets



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

REGISTERED ARCHITECT
JAMES A. SHANTZ
No. C-16737
STATE OF CALIFORNIA

DIVISION 4.5 ENVIRONMENTAL QUALITY

SECTION 4.501 GENERAL

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 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.

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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: Carpinelli Residence
Calculation Date/Time: 2023-11-28T09:09:50-08:00
Calculation Description: Res
Input File Name: CarpinelliResidence.rbd22

CF1R-PRF-01E

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GENERAL INFORMATION									
01	Project Name: Carpinelli Residence								
02	Run Title: Res								
03	Project Location: Rolling Hills Rd near Avocado Dr								
04	City: Vista		05	Standards Version: 2022					
06	Zip code: 92083		07	Software Version: CBECC-Res 2022.3.0					
08	Climate Zone: 7		09	Front Orientation (deg/ Cardinal): 315					
10	Building Type: Single family		11	Number of Dwelling Units: 1					
12	Project Scope: Newly Constructed		13	Number of Bedrooms: 2					
14	Addition Cond. Floor Area (ft²): 0		15	Number of Stories: 1					
16	Existing Cond. Floor Area (ft²): n/a		17	Fenestration Average U-factor: 0.3					
18	Total Cond. Floor Area (ft²): 792		19	Glazing Percentage (%): 18.18%					
20	ADU Bedroom Count: n/a		21	ADU Conditioned Floor Area: n/a					
22	Fuel Type: All electric		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

Registration Number: 423-P010213712A-000-000-0000000-0000
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CA Building Energy Efficiency Standards - 2022 Residential Compliance
Registration Date/Time: 11/28/2023 09:11
Report Version: 2022.0.000
Schema Version: rev 20220901
HERS Provider: CHEERS
Report Generated: 2023-11-28 09:10:11

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: Carpinelli Residence
Calculation Date/Time: 2023-11-28T09:09:50-08:00
Calculation Description: Res
Input File Name: CarpinelliResidence.rbd22

CF1R-PRF-01E

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ENERGY USE INTENSITY					
	Standard Design (kBtu/ft² · yr)	Proposed Design (kBtu/ft² · yr)	Compliance Margin (kBtu/ft² · yr)	Margin Percentage	
Gross EUI ¹	21.14	20.86	0.28	1.32	
Net EUI ²	21.14	20.86	0.28	1.32	

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	Array Angle (deg)	Tilt: (x in 12)	Inverter Eff. (%)	Annual Solar Access (%)
0		Standard (14-17%)	Fixed	none	true	n/a	n/a	n/a	n/a	n/a	

REQUIRED SPECIAL FEATURES
The following are features that must be installed as condition for meeting the modeled energy performance for this computer analysis.
• PV exception 2: No PV required when minimum PV size (Section 150.1(c)(14) < 1.8 kWdc (0 kW)
• Northwest Energy Efficiency Alliance (NEEA) rated heat pump water heater; specific brand/model, or equivalent, must be installed

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
• Indoor air quality ventilation
• Kitchen range hood
• Verified heat pump rated heating capacity

Registration Number: 423-P010213712A-000-000-0000000-0000
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CA Building Energy Efficiency Standards - 2022 Residential Compliance
Registration Date/Time: 11/28/2023 09:11
Report Version: 2022.0.000
Schema Version: rev 20220901
HERS Provider: CHEERS
Report Generated: 2023-11-28 09:10:11

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

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Calculation Description: Res
Input File Name: CarpinelliResidence.rbd22

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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
2x4 R15	Exterior Walls	Wood Framed Wall	2x4 @ 16 in. O. C.	R-15	None / None	0.095	Inside Finish: Gypsum Board Cavity / Frame: R-15 / 2x4 Exterior Finish: 3 Coat Stucco
Asphalt Roof	Attic Roofs	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-0	None / None	0.644	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/Sheathing/Joistking Cavity / Frame: no insul. / 2x4
R30 Ceiling below attic	Ceilings (below attic)	Wood Framed Ceiling	2x4 Bottom Chord of Truss @ 24 in. O. C.	R-30	None / None	0.032	Over Ceiling Joists: R-20.9 insul. Cavity / Frame: R-0.1 / 2x4 Btm Chord 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
Not Required	Not Required	N/A	n/a	n/a

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 (#)
DHW1	Domestic Hot Water (DHW)	Standard	Rheem XE50T10H545U0	1	n/a	None	n/a	Rheem XE50T10H545U0 (1)

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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: Carpinelli Residence
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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	40.5	45.7	67.8			
Proposed Design	40.2	43.8	67.1	0.3	1.9	0.7
RESULT ³ : PASS						
¹ Efficiency EDR includes improvements like a better building envelope and more efficient equipment. ² Total EDR includes efficiency and demand response measures such as photovoltaic (PV) system and batteries. ³ 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: 0.00 kWdc						

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BUILDING - FEATURES INFORMATION						
01	02	03	04	05	06	07
Project Name	Conditioned Floor Area (ft²)	Number of Dwelling Units	Number of Bedrooms	Number of Zones	Number of Ventilation Cooling Systems	Number of Water Heating Systems
Carpinelli Residence	792	1	2	1	0	1

ZONE INFORMATION						
01	02	03	04	05	06	07
Zone Name	Zone Type	HVAC System Name	Zone Floor Area (ft²)	Avg. Ceiling Height	Water Heating System 1	Status
res	Conditioned	HVAC System ductless mshp	792	9	DHW1	New

OPAQUE SURFACES							
01	02	03	04	05	06	07	08
Name	Zone	Construction	Azimuth	Orientation	Gross Area (ft²)	Window and Door Area (ft²)	Tilt (deg)
Front	res	2x4 R15	315	Front	396	84	90
Left	res	2x4 R15	45	Left	162	16	90
Back	res	2x4 R15	135	Back	396	48	90
Right	res	2x4 R15	225	Right	162	16	90
Ceiling (below attic)	res	R30 Ceiling below attic	n/a	n/a	792	n/a	n/a

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	Asphalt Roof	Ventilated	4	0.08	0.75	No	No

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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
Rheem XE50T10H545U0	1	50	Rheem	XE50T30H545U0 (50 gal, AL3)	Outside	Outside	Outside

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
DHW1 - 1/1	Not Required	Not Required	Not Required	None	Not Required	Not Required

SPACE CONDITIONING SYSTEMS								
01	02	03	04	05	06	07	08	09
Name	System Type	Heating Unit Name	Heating Equipment Count	Cooling Unit Name	Cooling Equipment Count	Fan Name	Distribution Name	Required Thermostat Type
HVAC System ductless mshp	Heat pump heating cooling	LG LHMU300HV	1	LG LHMU300HHV	1	n/a	n/a	Setback

HVAC - HEAT PUMPS												
01	02	03	04	05	06	07	08	09	10	11	12	13
Name	System Type	Number of Units	Heating			Cooling			Zonally Controlled	Compressor Type	HERS Verification	
			Heating Efficiency Type	HSPF/HSPF2/COP	Cap 47	Cooling Efficiency Type	SEER/SEER2	EER/EEER2/CEER				
LG LHMU300HHV	Ductless MiniSplit HP	1	HSPF2	7.5	28000	17000	EEER2SEER2	14.3	11.7	Not Zonal	Single Speed	LG LHMU300HHV-hers-HPump

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ENERGY USE SUMMARY						
Energy Use	Standard Design Source Energy (EDR1) (kBtu/ft² · yr)	Standard Design TDV Energy (EDR2) (kTOD/ft² · yr)	Proposed Design Source Energy (EDR1) (kBtu/ft² · yr)	Proposed Design TDV Energy (EDR2) (kTOD/ft² · yr)	Compliance Margin (EDR1)	Compliance Margin (EDR2)
Space Heating	0.19	0.89	0.57	3.98	-0.38	-3.09
Space Cooling	0.66	14.47	0.7	15.35	-0.04	-0.88
IAQ Ventilation	0.45	4.78	0.45	4.78	0	0
Water Heating	2.31	25.72	1.81	19.91	0.5	5.81
Self Utilization/Flexibility Credit				0		0
Efficiency Compliance Total	3.61	45.86	3.53	44.02	0.08	1.84
Photovoltaics	0	0	0	0		
Battery			0	0		
Flexibility						
Indoor Lighting	0.94	9.68	0.94	9.68		
Appl. & Cooking	4.73	58.17	4.7	57.98		
Plug Loads	5.72	60.38	5.72	60.38		
Outdoor Lighting	0.21	1.96	0.21	1.96		
TOTAL COMPLIANCE	15.21	176.05	15.1	174.02		

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Calculation Description: Res

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DOCUMENTATION AUTHOR'S DECLARATION STATEMENT	
I, I certify that this Certificate of Compliance documentation is accurate and complete.	
Documentation Author Name: Mark Gallant	Documentation Author Signature: <i>Mark Gallant</i>
Company: Gallant Energy Consulting	Signature Date: 11/28/2023
Address: 508 W. Mission Avenue	CA/ HERS Certification Identification (if applicable):
City/State/Zip: Escondido, CA 92025	Phone: 760-743-5408
RESPONSIBLE PERSON'S DECLARATION STATEMENT	
I certify the following under penalty of perjury under the laws of the State of California:	
- 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. - 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. - 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: James Chinn	Responsible Designer Signature: <i>James Chinn</i>
Company: James A. Chinn Architect	Date Signed: 11/28/2023
Address: 2120 Jimmy Durante Blvd #114	License:
City/State/Zip: Del Mar, CA 92014	Phone: (858) 755-6863

Digitally signed by California Home Energy Efficiency Rating Services (CHERS). This digital signature is provided in order to assure the content of this registered document, and in no way implies Registration Provider responsibility for the accuracy of the information.

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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 1011.5.2/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-stopped.
§ 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 stopped.
§ 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 CFR.
§ 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.
§ 110.8(k):	Roof Deck, Ceiling and Rafter Roof Insulation. Roof decks in newly constructed attached climate zones 4 and 5-16 are weighted average U-factor not exceeding U-0.194. 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(h):	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(a)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(a)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 light-fitting damper or combustion-air control device.
§ 150.0(a)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 6.6 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 shutting the water heater when the valves are closed.



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 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(k)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(k)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(g)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.
§ 110.8(g)3:	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.B) 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 1/2". 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 damper in all openings to the outside, except combustion inlet and outlet air openings and elevator shaft vents.
§ 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 to sunlight, 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. *



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



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 furnaceair handlers and ≤ 0.58 watts per CFM for oil handlers. 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 and/or controlled per §150.0(o)1Bili.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)1C-ii.
§ 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)1Gii. 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)1Gvi 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 MAEDIS; 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 the pump 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).

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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:	
§ 110.0(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 6 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:

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A. General

Applicable codes. All projects will comply with the following building codes and associated County of San Diego amendment.
2022 California Building Code (CBC) and/or California Residential Code (CRC)
2022 California Green Building Standards Code (CALGreen)
2022 California Electrical Code (CEC)
2022 California Mechanical Code (CMC)
2022 California Plumbing Code (CPC)
2022 California Fire Code (CFC)
2022 California Building Energy Efficiency Standards (CBEES)

B. Electrical, Plumbing, and Mechanical

- Exterior lighting.** All projects shall comply with the County of San Diego lighting ordinance.
- GFCI outlets.** Ground Fault Circuit Interrupter (GFCI) outlets are required in bathrooms, at kitchen countertops, at laundry and wet bar sinks, in garages, in crawlspaces, in unfinished basements, and outdoors. (CEC 210.6)
- AFCI outlets.** Electrical circuits in bedrooms, living rooms, dining rooms, dens, closets, hallways, or similar rooms must be protected by Arc Fault Circuit Interrupters (AFCI). (CEC 210.12)
- Luminaire requirements.** Installed luminaires shall meet the efficacy and fixture requirements of CBEES 150.0(k).
- Smoke detectors in building remodels.** Smoke detectors are required in each existing sleeping room, outside each separate sleeping area in the immediate vicinity of sleeping rooms, and on each story of a dwelling including basements. Battery-operated detectors are acceptable in existing areas with no construction taking place and in alterations not resulting in removal of interior wall or ceiling finishes and without access via an attic, crawl space, or basement. (CRC R314.3)
- Carbon monoxide detectors in building remodels.** Carbon monoxide detectors are required outside each separate sleeping area in the immediate vicinity of sleeping rooms and on each story of a dwelling including basements. Battery-operated detectors are acceptable in existing areas with no construction taking place and in alterations not resulting in removal of interior wall or ceiling finishes and without access via an attic, crawl space, or basement. (CRC R315.3)
- Water heater seismic strapping.** Minimum two 3/4-inch-by-24-gauge straps required around water heaters, with 14-inch-by-3-inch lag bolts attached directly to framing. Straps shall be at points within top third and lower third of water heater vertical dimension. Lower connection shall occur minimum 4 inches above coils. (CPC 507.2)
- Gas appliances in garages.** Water heaters and heating/cooling equipment capable of igniting flammable vapors shall be placed on minimum 18-inch-high platform unless listing report number provides showing ignition-resistant appliance. (CPC 507.13 and CMC 305.1)
- Impact protection of appliances.** Water heaters and heating/cooling equipment subject to vehicular impact shall be protected by bollards or an equivalent measure. (CPC 507.13.1 and CMC 305.1.1)
- Water closet clearance.** Minimum 30-inch-wide by 24-inch-deep clearance required at front of water closets. (CRC 402.5)
- Shower size.** Shower compartments shall have minimum area of 1024 square inches and be able to encompass a 30-inch-diameter circle. Shower doors shall have a minimum 22-inch unobstructed width. (CPC 408.5 and CPC 408.6)
- Fireplace appliances.** Fireplaces with gas appliances are required to have the flue damper permanently fixed in the open position and fireplaces with LPG appliances are to have no pit or lump configurations. (CMC 303.2.1)
- Chimney clearance.** Minimum 2-foot chimney clearance required above building within 10-foot horizontality of chimney. The chimney shall extend minimum 3 feet above highest point where chimney passes through roof. (CRC R1003.9)

C. Mechanical Ventilation and Indoor Air Quality (ASHRAE 62.2-2010)

- Transfer air.** Ventilation air shall be provided directly from the outdoors and not as transfer air from adjacent dwelling units or other spaces, such as garages, unconditioned crawlspaces, or unconditioned attics. (CBEES 150.0(o))
 - Instructions and labeling.** Ventilation system controls shall be labeled, and the homeowner shall be provided with instructions on how to operate the system. (CBEES 150.0(o))
 - Combustion and solid-fuel burning appliances.** Combustion appliances shall be properly vented and air systems shall be designed to prevent back drafting. (CBEES 150.0(o))
 - Gargases.** The wall and openings between occupiable spaces and the garage shall be sealed. HVAC systems that include air handlers or return ducts located in garages shall have total air leakage of no more than 6% of total face flow when measured at 0.1 in. w.c. using California Title 24 or equivalents. (CBEES 150.0(o))
 - Minimum filtration.** Mechanical systems supplying air to occupiable space through ductwork shall be provided with a filter having a minimum efficiency of MERV 6 or better. (CBEES 150.0(o))
 - Air inlets.** Air inlets (not exhaust) shall be located away from known contaminants. (CBEES 150.0(o))
 - Air moving equipment.** Air moving equipment used to meet either the whole-building ventilation requirement or the local ventilation exhaust requirement shall be rated in terms of airflow and sound. (CBEES 150.0(o))
- a. All continuously operating fans shall be rated at a maximum of 1.0 sone.
b. Intermittently operated whole-building ventilation fans shall be rated at a maximum of 1.0 sone.
c. Intermittently operated local exhaust fans shall be rated at maximum of 3.0 sone.
d. Remotely located air-moving equipment (mounted outside of habitable spaces) need not meet sound requirements if at least 4 feet of ductwork between fan and intake grill.

D. Foundation and Underfloor

- Foundation reinforcement.** Continuous footings and stem walls shall be provided with a minimum two longitudinal No. 4 bars, one at the top and one at the bottom of the footing. (CRC R403.1.3.3)
- Shear wall foundation support.** Shear walls shall be supported by continuous foundations. (CRC 403.1.2)
- Concrete slabs-on-grade.** Slabs-on-grade shall be minimum 3-1/2-inches thick. (CRC R506.1)
- Vapor retarder.** A 10-mil polyethylene or approved vapor retarder with joints lapped minimum 6 inches shall be placed between a concrete slab-on-grade and the base course or subgrade. (CRC 506.2.3)
- Anchor bolts and sills.** Foundation plates or sills shall be bolted or anchored to the foundation or foundation wall per the following (CRC R403.1.6 and CRC R602.11.1):
 - Minimum 1/2-inch-diameter steel bolts
 - Bolts embedded at least 7 inches into concrete or masonry
 - Bolts spaced maximum 6 feet on center
 - Minimum two bolts per plate/sill piece with one bolt located maximum 12 inches and minimum 7 bolt diameters from each end of each sill plate/plate
 - Minimum 3-inch by 3-inch by 0.299-inch steel plate washer between sill and nut on each bolt
- Hold-downs.** All hold-downs must be tied in place prior to foundation inspection.
- Protection of wood against decay.** Naturally durable or preservative-treated wood shall be provided in the following locations (CRC R317.1):
 - All wood in contact with ground, embedded in concrete in direct contact with ground, or embedded in concrete exposed to weather
 - Wood joists within 18 inches and wood girders within 12 inches of the exposed ground in crawl spaces shall be of naturally durable or preservative-treated wood
 - Wood framing members that rest on concrete or masonry exterior foundation walls and are less than 8 inches from exposed earth shall be of naturally durable or preservative-treated wood
- Wood framing sheathing.** Sheathing on the exterior of the building and hyving clearance between 6 inches from the exposed ground or less than 2 inches vertically from concrete steps, porch slabs, patio slabs, and similar horizontal surface exposed to weather
- Sills and sleepers on concrete or masonry slab in direct contact with ground** unless separated from such slab by impervious moisture barrier
- Ends of wood girders entering masonry or concrete walls with clearances less than 1/2 inch on top, sides, and ends**
- Wood structural members supporting moisture-permeable floors or roofs exposed to weather,** such as concrete or masonry slabs, unless separated from floors or roofs by an impervious moisture barrier

- Underfloor ventilation.** Underfloor areas shall have ventilation openings through foundation walls or exterior walls, with minimum net area of ventilation openings of 1 square foot for each 150 square feet of underfloor area. On such ventilating opening shall be within 3 feet of each corner of the building. (CRC R408.1)
- Underfloor access.** Underfloor areas shall be provided with a minimum 18-inch by 24-inch access opening. (CRC R408.4)

E. Wood Framing

- Fastener requirements.** The number, size, and spacing of fasteners connecting wood members/elements shall not be less than that set forth in CRC Table R602.3(1), CRC R502.9, CRC R602.3, and CRC R602.2
- Stud size, height, and spacing.** The size, height, and spacing of studs shall be in accordance with CRC Table R602.3(5), (CRC R602.3.1)

E. Wood Framing (Continued)

- Sill plate.** Studs shall have full bearing on nominal 2-inch thick or larger sill plate with width at least equal to stud width. (CRC R602.3.4)
- Bearing studs.** Where joists, trusses, or rafters are spaced more than 16 inches on center and the bearing studs below are spaced 24 inches on center, such members shall bear within 5 inches of the studs beneath. (CRC R602.2.5)
- Drilling and notching of studs.** Any stud in an exterior wall or bearing partition may be cut or notched to a depth not exceeding 25% of its width. Studs in nonbearing partitions may be notched to a depth not exceeding 40% of a single stud width. Any stud may be bored or drilled, provided the diameter of the resulting hole is no more than 60% of the stud width, the edge of the hole is no more than 6/8 inch to the edge of the stud, and the hole is not located in the end section as a cut or notch. Studs located in exterior wall or bearing partitions drilled over 40% and up to 60% shall also be doubled with no more than two successive studs bored. (CRC R602.2.6)
- Top plate.** Wood stud walls shall be capped with a double top plate installed to provide overlapping at corners and at intersections with other partitions. End joints in double top plates shall be offset at least 24 inches. Joints in plates need not occur over studs. Plates shall be minimum nominal 2 inches thick and have width at least equal to width of studs. (CRC R602.2.3)
- Top plate splice.** Top plate splice shall be face-nailed with minimum 8 16d nails on each side of splice. (CRC R602.10.8.1)
- Drilling and notching of top plate.** When piping or ductwork is placed in or partly in an exterior wall or interior load-bearing wall, necessitating cutting, drilling, or notching of the top plate by more than 50% of its width, a galvanized metal tie not less than 0.054-inch thick and 1-1/2 inches wide shall be fastened across and to the plate at each side of the opening with not less than 8 10d nails having a minimum length of 1-1/2 inches at each side or equivalent. The metal tie must extend minimum 6 inches past the opening. (CRC R602.6.1)
- Cripple walls.** Foundation cripple walls shall be framed of studs not less in size than the studs above. Cripple walls more than 4 feet in height shall have studs sized as required for an additional story. Cripple walls with stud height less than 14 inches shall be sheathed on at least one side with a wood structural panel fastened to both the top and bottom plates in accordance with Table R602.3(1), or the cripple walls shall be constructed of solid blocking. Cripple walls shall be supported on continuous foundations. (CRC R602.9)
- Wall bracing.** Buildings shall be braced in accordance with the methods allowed per CRC R602.10.2, CRC R602.10.4, and/or CRC R602.10.5
- Braced wall line spacing.** Spacing between braced wall lines shall not exceed 20 feet or alternate provisions of CRC R602.10.1.3.
- Shear wall cumulative length.** The cumulative length of shear walls within each braced wall line shall meet the provisions of Table R602.10.3(1) for wind loads and CRC Table R602.10.3(2) for seismic loads. (CRC R602.10.1.1)
- Shear wall spacing.** Shear walls shall be located not more than 25 feet on center. (CRC R602.10.2.2)
- Shear wall offset.** Shear walls may be offset out-of-plane not more than 4 feet from the designated braced wall line and not more than 8 feet from any other offset wall considered part of water closets. (CRC 402.5)
- Shear wall location.** Shear walls shall be located at the ends of each braced wall line or meet the alternate provisions of CRC R602.10.2.2.
- Individual shear wall length.** Shear walls shall meet minimum length requirements of CRC R602.10.6.5.1.
- Cripple wall bracing.** Cripple walls shall be braced per CRC R602.10.11.
- Shear wall and diaphragm nailing.** All shear walls, roof diaphragms, and floor diaphragms shall be nailed to supporting construction per CRC Table R602.3(1), (CRC R604.3)
- Shear wall joints.** All vertical joints in shear wall sheathing shall occur over, and be fastened to, common studs. Horizontal joints in shear walls shall occur over, and be fastened to, 1-1/2-inch-thick blocking. (CRC R602.10.10)
- Framing over openings.** Headers, double joists, or trusses of adequate size to transfer loads to vertical members shall be provided over window and door openings in load-bearing walls and partitions. (CRC 2304.2.2)
- Joists under bearing partitions.** Joists under parallel bearing partitions shall be of adequate size to support the load. Double joists, sized to adequately support the load, that are separated to permit the installation of piping or vents shall be full-depth solid-blocked with minimum 2-inch nominal lumber spaced at maximum 4 feet on center. Bearing partitions perpendicular to joists shall not be offset from supporting girders, walls, or partitions more than the joint depth unless such joists are of sufficient size to carry the additional load. (CRC R502.4)
- Joists above or below shear walls.** Where joists are perpendicular to a shear wall above or below, a rim joist, band joist, or blocking shall be provided along the entire length of the shear wall. Where joists are parallel to a shear wall above or below, a rim joist, band joist, or other parallel framing shall be provided directly above and/or below the shear wall. Where a parallel framing member cannot be located above and/or below the shear wall, full-depth blocking shall be provided with a filter having a minimum efficiency of MERV 6 or better. (CBEES 150.0(o))
- Floor member blocking.** The ends of each floor joist, beam, or girder shall have minimum 1-1/2 inches of bearing on wood or metal and minimum 3 inches of bearing on masonry or concrete except where supported on a 1-inch-by-4-inch nominal strip nail and nailed to the adjoining stud or by the use of approved joist hangers. (CRC R502.6)
- Floor joist lap.** Floor joists framing opposite sides over a bearing support shall lap minimum 3 inches and shall be nailed together within minimum 3 10d face nails. A wood or metal splice with strength equal to or greater than that provided by the lap is permitted. (CRC R502.6.1)
- Floor joist-to-girder support.** Floor joists framing into the side of a wood girder shall be supported by approved framing anchors or on ledger strips minimum nominal 2 inches by 2 inches. (CRC R502.6.2)
- Floor joist lateral restraint.** Floor joists shall be supported laterally at ends and each intermediate support by minimum 2-inch full-depth blocking, by attachment to full-depth header, band joist, or rim joist, to an adjoining stud, or shall be otherwise provided with lateral support to prevent rotation. (CRC R502.7)
- Floor joist blocking.** Floor joists exceeding nominal 2 inches by 12 inches shall be supported laterally by solid blocking, diagonal bridging (wood or metal), or a continuous 1-inch-by-3-inch strip nailed across the bottom of joists perpendicular to joists at maximum 8-foot intervals. (CRC R502.7.1)
- Framing of floor openings.** Openings in floor framing shall be framed with a header and trimmer joists. When the header joist span does not exceed 4 feet, the header joist may be a single member the same size as the floor joist. Single trimmer joists may be used to carry a single header joist located within 3 feet of the trimmer joist bearing. When the header joist span exceeds 4 feet, the trimmer joists and header joist shall be doubled and of sufficient cross section to support the floor joists framing into the header. Approved hangers shall be used for the header-joist-to-trimmer-joist connections when the header joist span exceeds 6 feet. Tail joists over 12 feet long shall be supported at the header by framing anchors or on ledger strips minimum 2 inches by 2 inches. (CRC R502.10)
- Girders.** Girders for single-story construction or girders supporting loads from a single floor shall not be less than 4 inches by 6 inches for spans 6 feet or less, provided that girders are spaced not more than 8 feet on center. Other girders shall be designed to support the loads specified in the CBC. Girders and joists shall be completed and available on the job site. The construction of adequate tie shall be provided. The ends of beams or girders supported on masonry or concrete shall not have less than 3 inches of bearing. (CRC R200.7)
- Ridge, hips, and valleys.** Rafters shall be framed to a ridge board or to each other with a gusset plate as a tie. Ridge boards shall be minimum 1-inch nominal thickness and not less in depth than the cut end of the rafter. At all valleys and hips, there shall be a valley or hip rafter not less than 2-inch nominal thickness and not less in depth than the cut end of the rafter. Hip and valley rafters shall be supported at the ridge by a brace to a bearing partition or be designed to carry and distribute the specific load at that point. Where the roof pitch is less than 3:12 slope (25% gradient), structural members that support rafters and ceilings joists, such as ridges, hips, and valleys, shall be designed as beams. (CRC R802.3)
- Ceiling joist and rafter connections.** Ceiling joists and rafters shall be nailed to each other per CRC Table R602.5.1(9), and the rafter shall be nailed to the wall top plate per CRC Table R602.3(1). Ceiling joists shall be continuous or securely joined per CRC Table R602.5.1(9) where they meet over interior partitions and are nailed to adjacent rafters to provide a continuous tie across the building when such joists are parallel to rafters. Where ceiling joists are connected to the rafters at the wall top plate, joists connected higher in the attic shall be installed as rafter ties, or rafter ties shall be installed to provide a continuous tie. Where ceiling joists are not parallel to rafters, rafter ties shall be installed. Rafter ties shall be minimum 2-inch by 4 inches nominal, installed per CRC Table R602.5.1(9), or connections of equivalent capacities shall be provided. Where ceiling joists or rafter ties are not provided, the ridge formed by these rafters shall be supported by a wall or engineer-designed girder. (CRC R602.3.1)
- Ceiling joists lapped.** Ends of ceiling joists shall be lapped minimum 3 inches or butted overlapping partitions or beams and toenailed to the bearing element. Where ceiling joists provide resistance to rafter thrust, lapped joists shall be nailed together per CRC Table R602.3(1) and butted joists shall be tied together in a manner to resist such thrust. (CRC R602.3.2)
- Collar ties.** Collar ties or ridge straps to resist wind uplift shall be connected in the upper third of the attic space. Collar ties shall be a minimum 1 inch by 4 inches nominal and spaced at maximum 4 feet on center. (CRC R602.3.1)
- Purlins.** Purlins installed to reduce the span of rafters shall be sized not less than the required size of the rafters they support. Purlins shall be continuous and shall be supported 2-inch-by-4-inch nominal braces installed to bearing walls at a minimum 45-degree slope from horizontal. The braces shall be spaced maximum 4 feet on center with a maximum 8-foot unbraced length. (CRC R602.5.1)
- Roofdecking member bearing.** The ends of each rafter or ceiling joist shall have not less than 1-1/2 inches of bearing on wood or metal and not less than 3 inches of bearing on masonry or concrete. (CRC R602.6)
- Roofdecking bridging.** Rafters and ceiling joists with a nominal depth-to-thickness ratio exceeding 8:1 shall be supported laterally by solid blocking, diagonal bridging (wood or metal), or a continuous 1-inch-by-3-inch wood strip nailed across the rafters or ceiling joists at maximum 8-foot intervals. (CRC R602.8.1)

E. Wood Framing (Continued)

- Framing of roofceiling openings.** Openings in roof and ceiling framing shall be framed with a header and trimmer joists. When the header joist span does not exceed 4 feet, the header joist may be a single member the same size as the ceiling joist or rafter. Single trimmer joists may be used to carry a single header joist located within 3 feet of the trimmer joist bearing. When the header joist span exceeds 4 feet, the trimmer joists and header joist shall be doubled and of sufficient cross section to support the ceiling joists or rafters framing into the header. Approved hangers shall be used for the header-joist-to-trimmer-joist connections when the header joist span exceeds 6 feet. Tail joists over 12 feet long shall be supported at the header by framing anchors or on ledger strips minimum 2 inches by 2 inches. (CRC R502.10)
- Roof framing above shear walls.** Rafters or roof trusses shall be connected to top plates of shear walls with blocking between the rafters or trusses. (CRC R602.10.8)
- Roof diaphragm under fill framing.** Roof plywood shall be continuous under California fill framing. (CRC R602.8)
- Roof diaphragm at ridges.** Minimum 2-inch nominal blocking required for roof diaphragm nailing at ridges.
- Blocking of roof trusses.** Minimum 2-inch nominal blocking required between trusses at ridge lines and at points of bearing at exterior walls.
- Truss clearance.** Minimum 1/2-inch clearance required between top plates of interior nonbearing partitions and bottom chords of trusses.
- Drilling, cutting, and notching of roof/ceiling framing.** Notches in solid lumber joists, rafters, blocking, and beams shall not exceed one-sixth the member depth, shall be not longer than one-third the member depth, and shall not be located in the middle one-third of the span. Notches at member ends shall not exceed one-fourth the member depth. The tension side of members in critical areas shall not be notched except at member ends. The tension side of members at member ends shall not be notched except at member ends. The tension side of members at member ends shall not be notched except at member ends. The diameter of holes bored or cut into members shall not exceed one-third the member depth. Holes shall not be closer than 2 inches to the top or bottom of the member or to any other hole located in the member. Where the member is also notched, the hole shall not be closer than 2 inches to the notch. (CRC R602.9)
- Exterior landings, decks, balconies, and stairs.** Such elements shall be positively anchored to the primary structure to resist both vertical and lateral forces and shall be designed to be self-supporting. Attachment shall not be accomplished by use of toenails or nails subject to pull-out. (CRC R301.3.3)
- Fireblocking.** Fireblocking shall be provided in the following locations (CRC R302.11 and CRC R1003.19):
 - In concealed spaces of stud walls and partitions, including furred spaces, and parallel rows of studs or staggered studs, as follows:
 - Vertically at the ceiling and floor levels
 - Horizontally at intervals not exceeding 10 feet
 - At all interconnections between concealed vertical and horizontal spaces such as occur at soffits, drop ceilings, and cove ceilings
 - In concealed spaces between stair stringers at the top and bottom of the run
 - At openings around vents, pipes, ducts, cables and wires at ceiling and floor level, with an approved material to prevent the free passage of flame and products of combustion
 - At chimneys and fireplaces per Item E.49
 - Cornices of a two-family dwelling at the line of dwelling-unit separation
- Fireblocking materials.** Except as otherwise specified in Items E.48 and E.49, fireblocking shall consist of the following materials with the integrity maintained (CRC R302.11.1):
 - Two-inch nominal lumber
 - Two thicknesses of one-inch nominal lumber with broken lap joints
 - One thickness of 2x32-inch wood structural panel with joints backed by 2x32-inch wood structural panel
 - One thickness of 3/4-inch particleboard with joints backed by 3/4-inch particleboard
 - 1/2-inch gypsum board
 - 1/4-inch cement-based millboard
- Batts or blankets of mineral or glass fiber of other approved materials installed in such a manner as to be securely retained in place. Batts or blankets of mineral or glass fiber or other approved solid rigid material shall be permitted for compliance with the 10-foot horizontal fireblocking in walls constructed using parallel rows of studs or staggered studs. Unfaced fiberglass batt insulation used as fireblocking shall fill the entire cross-section of the wall cavity to a minimum height of 16 inches above the ceiling, and the piping, conduit, or similar obstructions are encountered, the insulation shall be packed tightly around the obstruction. Loose-fill insulation material shall not be used as a fireblock unless specifically tested in the form of a fireman and intact for use to demonstrate its ability to remain in place and to retard the spread of fire and hot gases.

- Fireblocking at openings around vents, pipes, ducts, cables, and wires at ceiling and floor level.** Such openings shall be fireblocked with an approved material to resist the free passage of flame and products of combustion. (CRC R302.11.1)
- Fireblocking of chimneys and fireplaces.** All spaces between chimneys and floors and between chimneys and walls shall be fireblocked with noncombustible material securely fastened in place. The fireblocking of spaces between chimneys and wood joists, beams, or headers shall be self-supporting or be placed on strips of metal or metal lath laid perpendicular to the spaces between combustible material and the chimney. (CRC R1003.19)
- Draftstopping.** In combustible construction where there is sealable space both above and below the conditioned space of a floor/ceiling assembly, draftstopping shall be installed so that the area of the concealed space does not exceed 1000 square feet. Draftstopping shall divide the concealed space into approximately equal areas. Where the assembly is enclosed by a floor membrane above and a ceiling membrane below, draftstopping shall be provided in floor/ceiling assemblies under the following circumstances (CRC R302.12):
 - Ceiling is suspended under the floor framing
 - Floor framing is constructed of truss-type open-web or perforated members
- Draftstopping materials.** Draftstopping shall not be less than 1/2-inch gypsum board, 3/8-inch wood structural panels, or other approved materials adequately supported. Draftstopping shall be installed parallel to the floor framing members unless otherwise approved by the building official. The integrity of draftstopping shall be maintained. (CRC R302.12.1)
- Combustible insulation clearance.** Combustible insulation shall be separated minimum 3 inches from recessed luminaires, fan motors, and other heat-producing devices. (CRC R302.14)

F. General Material Specifications

- Lumber.** All joists, rafters, beams, and posts 2-inches to 4-inches thick shall be No. 2 grade Douglas Fir-Larch or better. All posts and beams 5 inches and thicker shall be No. 1 grade Douglas Fir-Larch or better. Studs not more than 8 feet long shall be stud-grade Douglas Fir-Larch or better when supporting no more than one floor, roof, and ceiling. Studs longer than 8 feet shall be No. 2 grade Douglas Fir-Larch or better.
- Concrete.** Concrete shall have a minimum compressive strength of 2,500 psi at 28 days and shall consist of 1 part cement, 3 parts sand, and 4 parts 1-inch maximum size rock, and not more than 7-1/2 gallons of water per sack of cement. (CRC R402.2)
- Mortar.** Mortar used in construction of masonry walls, foundation walls, and retaining walls shall conform to ASTM C 270 and shall consist of 1 part portland cement, 2-1/4 to 3 parts sand, and 1/4 to 1/2 part hydrated lime. (CRC R2103.2)
- Grout.** Grout shall conform to ASTM C 476 and shall consist of 1 part portland cement, 1/10 part hydrated lime, 2-1/4 to 3 parts sand, and 1 to 2 parts gravel. Grout shall attain a minimum compressive strength of 3,000 psi at 28 days. (CRC R2103.3)
- Masonry.** Masonry units shall comply with ASTM C 90 for load-bearing concrete masonry units. (CRC R2103.1)
- Reinforcing steel.** Reinforcing steel in construction of reinforced masonry or concrete structures shall be deformed and comply with ASTM A 615. (CRC R2103.4)
- Structural steel.** Steel used as structural shapes such as wide-flange sections, channels, plates, and angles shall comply with ASTM A 36. Pipe columns shall comply with ASTM A53. Structural tubes shall comply with ASTM A500, Grade B.
- Fasteners for preservative-treated wood.** Fasteners for preservative-treated and fire-retardant-treated wood - including nuts and washers - shall be of hot dipped zinc-coated galvanized steel, stainless steel, silicon bronze, or copper. (CRC R317.3.1)
Exception: 1/2-inch diameter or greater steel bolts
- Exception:** Fasteners other than nails and timber rivets may be of mechanically deposited zinc-coated steel with coating weight in accordance with ASTM B 685, Class 55 minimum
- Exception:** Plain carbon steel fasteners acceptable in SBX/DOAT and zinc borate preservative-treated wood in an interior, dry environment
- Fasteners for fire-retardant-treated wood.** Fasteners for fire-retardant-treated wood used in exterior applications or wet or damp locations shall be of hot-dipped zinc-coated galvanized steel, stainless steel, silicon bronze, or copper. (CRC R317.3.3)

G. Roofing and Weatherproofing

- Roof covering.** All roof covering shall be installed per applicable requirements of CRC 1507. Roof coverings shall be at least Class A rated in accordance with ASTM E 108 or UL 790. (County Building Code Section 12.1.1505.1)
- Roof flashing.** Flashing shall be installed at wall and roof intersections, at gutters, wherever there is a change in slope or direction, and around roof openings. Where flashing is of metal, the metal shall be corrosion-resistant with a thickness of not less than 0.019 inch (No. 26 galvanized sheet). (CRC R903.2.1)
- Crickets and saddles.** A cricket or saddle shall be installed on the ridge side of any chimney or penetration more than 30 inches wide as measured perpendicular to the slope. Cricket or saddle covering shall be sheet metal or the same material as the roof covering. (CRC R903.2.2)

G. Roofing and Weatherproofing (Continued)

- Water-resistive barrier.** A minimum of one layer of No. 15 asphalt felt shall be attached to studs or sheathing of all exterior walls. Such felt or material shall be applied horizontally, with the upper layer lapped over the lower layer minimum 2 inches. Where joints occur, felt shall be lapped minimum 6 inches. The felt shall have a minimum 5 feet of the trimmer joist bearing. When the header joist span exceeds 4 feet, the trimmer joists and header joist shall be doubled and of sufficient cross section to support the ceiling joists or rafters framing into the header. Approved hangers shall be used for the header-joist-to-trimmer-joist connections when the header joist span exceeds 6 feet. Tail joists over 12 feet long shall be supported at the header by framing anchors or on ledger strips minimum 2 inches by 2 inches. (CRC R703.8)
- Wall flashing.** Approved corrosion-resistant flashing shall be applied single flashage at the following locations to prevent entry of water into the wall cavity or penetration of water to the building structural framing components (CRC R703.8):
 - Exterior door and window openings, extending to the surface of the exterior wall finish or to the water-resistive barrier for subsequent drainage
 - At the intersection of chimneys or other masonry construction with frame or stucco walls, with projecting joists on both sides under stucco copings
 - Under and at the ends of masonry, wood, or metal copings and sills
 - Continuously above all projecting wood trim
 - Where exterior porches, decks, or stairs attach to a wall or floor assembly of wood-frame construction
 - At wall and roof intersections
 - At built-in gutters
- Damp proofing.** Damp proofing materials for foundation walls enclosing usable space below grade shall be installed on the exterior face of the wall and shall extend from the top of the footing to finished grade. (CRC R406.1)
- Weep screed.** A minimum 0.019-inch (No. 26 galvanized sheet) gauge, corrosion-resistant weep screed or plastic weep screed with a minimum vertical attachment flange of 3-1/2 inches shall be provided at or below the bottom of the floor plan on exterior stud walls in accordance with ASTM C 632. The weep screed shall be placed a minimum 4 inches above the earth or 2 inches above paved areas and shall be of a type allowing trapped water to drain to the exterior of the building. (CRC R703.7.2.1)

H. Grading and soils

- Grading permit.** Grading permit required if volume of earth moved exceeds 200 cubic yards or if any cuts or fills exceed 8 feet in height/depth. (County Grading Ordinance 2002)
- Compaction report.** Compaction report required for fill material 12 inches or more in depth. (CRC R803.5.8)

I. Green Building Standards Code (CALGreen) Requirements

- Applicability. CALGreen residential mandatory measures shall apply to every newly constructed building or structure and within any addition or alteration increasing a building's conditioned area, volume, or size. (CALGreen 101.1, CALGreen 101.1.1.1)
- Exception:** All residential buildings undergoing permitted alterations, additions, or improvements that do not increase the floor area, volume, or size of the building shall comply with the following per CALGreen 301.1.1 and CALGreen 4.303.1:
 - Water conserving plumbing fixtures and fittings. Plumbing fixtures and fittings shall comply with the following per CALGreen 4.303.1:
 - Water closets: Maximum 128 gallons per flush
 - Urinals: Maximum 0.5 gallons per flush
 - Single showertubs: Maximum flow rate of 1.8 gallons per minute at 60 psi
 - Multiple showertubs serving one shower: Maximum combined flow rate of 1.8 gallons per minute at 60 psi
 - Lavatory faucets: Maximum flow rate of 1.2 gallons per minute at 60 psi, minimum flow rate of 0.8 gallons per minute at 20 psi
 - Kitchen faucets: Maximum flow rate of 1.5 gallons per minute at 60 psi (County Green Building Code 97.1.4.303.1.4)
 - Exception:** Temporary increases allowed to maximum 2.2 gallons per minute at 60 psi if faucet defaults back to maximum 1.5 gallons per minute at 60 psi
- Appliances: At least one qualified ENERGY STAR dishwasher or clothes washer shall be installed in each dwelling unit. (County Green Building Code 97.1.4.303.3)
- Outdoor potable water uses in landscape areas.** Residential developments shall comply with local water efficient landscape ordinance or the current California Department of Water Resources Model Water Efficient Landscape Ordinance (MVELCO), whichever is more stringent. (CALGreen 4.304.1)
- Joints and openings.** Openings in the building envelope separating conditioned space from unconditioned space needed to accommodate utility and other penetrations must be sealed in compliance with the California Energy Code. (CALGreen 4.406.1)
Exception: Annual spaces around pipes, electric cables, conduits or other openings in plates at exterior walls shall be protected against the passage of rodents by closing such opening with cement mortar, concrete masonry or a similar method acceptable to the enforcing agency.
- Construction waste reduction, disposal, and recycling.** Recycle and/or salvage for reuse a minimum of 65 percent of the nonhazardous construction and demolition waste in accordance with either Section 4.408.2, 4.403.3, or 4.408.4, or meet a more stringent local construction and demolition waste management ordinance. (CALGreen 4.408.1)
- Excavated soil and land-clearing debris.**
Exception: 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. The County of San Diego, Department of Public Works, Construction & Demolition (CSD) Facilities Guide is online at: https://www.sandiegocounty.gov/content/dam/sdcpd/wsolid/WASTE_PLANNING_and_RECYCLING/UpdatedCDResources/CDFacility_GuideQuick.pdf
- Exception:** The enforcing agency may make exceptions to the requirements of this section when isolated jobsites are located in areas beyond the local boundaries of the diversion facility.

- Construction waste management plan.** A construction waste management plan in conformance with Items 1-5 shall be completed and available on the job site. The construction waste management plan shall be updated as necessary and shall be available during construction for examination by the enforcing agency. (CALGreen 4.408.2)
- 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.
- Specify if construction and demolition waste materials will be sorted on-site (source-separated) or bulk mixed (single stream).
- Identify diversion facilities where the construction and demolition waste materials will be taken.
- Identify construction methods employed to reduce the amount of construction and demolition waste generated.
- Specify that the amount of construction and demolition waste materials diverted shall be calculated by weight or volume, but not by both.
- 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. (CALGreen 4.408.3)

- 4.408.4.1 Waste stream reduction alternative.** Projects that generate a total combined weight of construction and demolition waste disposed in landfills, which do not exceed 2 pounds per square foot of the building area shall meet the 65 percent construction waste reduction requirement in Section 4.408.1. (CALGreen 4.408.4)

- 4.408.4.2 Waste stream reduction alternative.** Projects that generate a total combined weight of construction and demolition waste disposed in landfills, which do not exceed 2 pounds per square foot of the building area shall meet the 65 percent construction waste reduction requirement in Section 4.408.1. (CALGreen 4.408.4)

- Documentation.** Documentation shall be provided to the enforcing agency which demonstrates compliance with Section 4.408.2, Items 1-5, Section 4.408.3, or Section 4.408.4.
- Operation and maintenance manual.** Prior to final inspection, a manual, compact disc, web-based reference, or other acceptable media which includes all of the following shall be placed in the building (CALGreen 4.410.1):
 - Directions to owner or occupant that manual shall remain with the building throughout the life cycle of the structure.
 - Operation and maintenance instructions for the following:
 - Equipment and appliances, including water-saving devices and systems, HVAC system, photovoltaic systems, water-heating systems and other major appliances and equipment.
 - Roof and yard drainage, including gutters and downspouts.
 - Space conditioning systems, including condensers and air filters.
 - Landscape irrigation systems.
 - Water reuse systems.
 - Information from local utility, water, and waste recovery providers on methods to further reduce resource consumption, including recycle programs and locations.
 - Public transportation and/or carpool options available in the area.
 - 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.
 - Information about water-conserving landscape and irrigation design and controllers which conserve water.
- Instructions for maintaining gutters and downspouts and the importance of diverting water at least 5 feet away from the foundation.

I. (CalGreen) Requirements (Continued)

- Information on required routine maintenance measures, including, but not limited to, caulking, painting, grading around the building, etc.
- Information about state solar energy and incentive programs available.
- A copy of all special inspection verifications required by the enforcing agency or code.
- Information from the Department of Forestry and Fire Protection on maintenance of defensible space around residential structures.
- Information and/or drawings identifying the location of grab bar reinforcements.
- Covering of cut openings and protection of mechanical equipment during construction.** At the time of rough installation or during storage on the construction site and until final startup of the heating and cooling equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, Sheetrock or other methods acceptable to the enforcing agency to reduce the amount of dust or debris which may collect in the system. (CALGreen 4.504.1)
- Adhesives, sealants, caulks, paints, and coatings pollutants control.** Adhesives (including carpet adhesives), sealants, caulks, paints, and coatings shall comply with VOC limits per CALGreen 4.504.2. Verification of compliance shall be provided at the request of the enforcing agency. (CALGreen 4.504.2.1)
- Carpet systems.** All carpet installed in the building interior shall meet the testing and product requirements of one of the following (CALGreen 4.504.3):
 - Carpet and Rug Institute's Green Label Plus Program (all carpet cushions must meet the requirements of this program).
 - California Department of Public Health Standard Practice for the

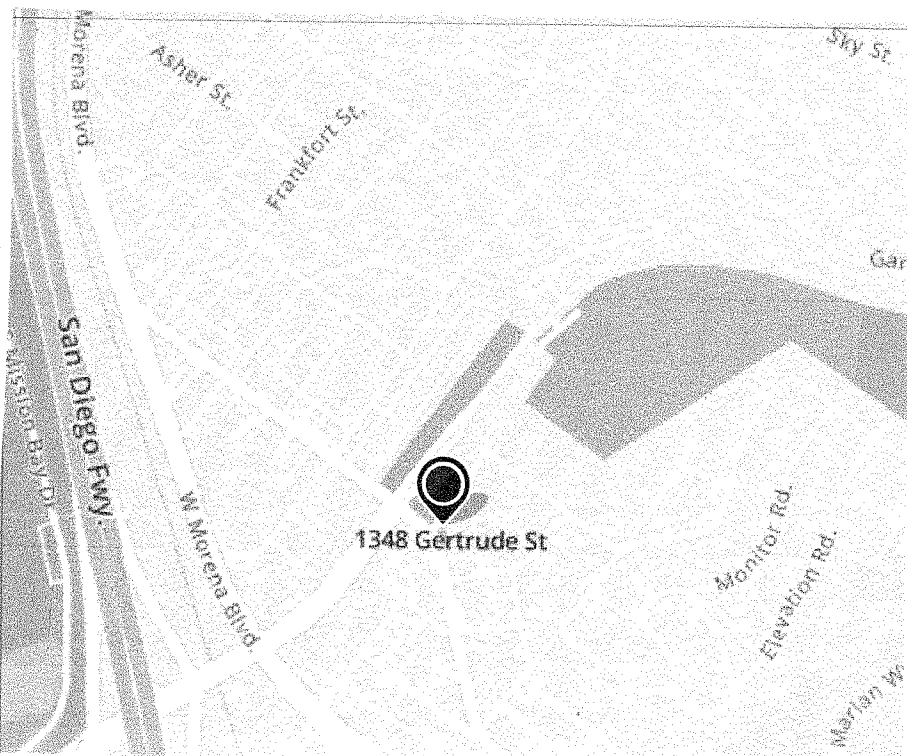
Construction BMP General Notes

- PRIOR TO ANY SOIL DISTURBANCE, TEMPORARY SEDIMENT CONTROLS SHALL BE INSTALLED BY THE CONTRACTOR OR QUALIFIED PERSON(S) AS INDICATED BELOW:
- ALL REQUIREMENTS OF THE CITY OF SAN DIEGO STORM WATER STANDARDS MANUAL* MUST BE INCORPORATED INTO THE DESIGN AND CONSTRUCTION OF THE PROPOSED GRADING/IMPROVEMENTS CONSISTENT WITH THE APPROVED STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AND/OR WATER POLLUTION CONTROL PLAN (WPCP) FOR CONSTRUCTION LEVEL BMPs AND, IF APPLICABLE, THE STORM WATER QUALITY MANAGEMENT PLAN (SWQMP) FOR POST-CONSTRUCTION BMPs.
 - THE CONTRACTOR SHALL INSTALL AND MAINTAIN ALL STORM DRAIN INLET PROTECTION, INLET PROTECTION IN THE PUBLIC RIGHT-OF-WAY MUST BE TEMPORARILY REMOVED PRIOR TO A RAIN EVENT TO ENSURE NO FLOODING OCCURS AND REINSTALLED AFTER RAIN IS OVER.
 - ALL CONSTRUCTION BMPs SHALL BE INSTALLED AND PROPERLY MAINTAINED THROUGHOUT THE DURATION OF CONSTRUCTION.
 - THE CONTRACTOR SHALL ONLY GRADE, INCLUDING CLEARING AND GRUBBING, AREAS FOR WHICH THE CONTRACTOR OR QUALIFIED CONTACT PERSON CAN PROVIDE EROSION AND SEDIMENT CONTROL MEASURES.
 - THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL SUB-CONTRACTORS AND SUPPLIERS ARE AWARE OF ALL STORM WATER BMPs AND IMPLEMENT SUCH MEASURES. FAILURE TO COMPLY WITH THE APPROVED SWPPP/WPCP WILL RESULT IN THE ISSUANCE OF CORRECTION NOTICES, CITATIONS, CIVIL PENALTIES, AND/OR STOP WORK NOTICES.
 - THE CONTRACTOR OR QUALIFIED CONTACT PERSON SHALL BE RESPONSIBLE FOR CLEANUP OF ALL SILT, DEBRIS, AND MUD ON AFFECTED AND ADJACENT STREETS AND WITHIN STORM DRAIN SYSTEM DUE TO CONSTRUCTION VEHICLES/EQUIPMENT AND CONSTRUCTION ACTIVITY AT THE END OF EACH WORK DAY.
 - THE CONTRACTOR SHALL PROTECT NEW AND EXISTING STORM WATER CONVEYANCE SYSTEMS FROM SEDIMENTATION, CONCRETE RINGS, OR OTHER CONSTRUCTION-RELATED DEBRIS AND DISCHARGES WITH THE APPROPRIATE BMPs THAT ARE ACCEPTABLE TO THE CITY RESIDENT ENGINEER AND AS INDICATED IN THE SWPPP/WPCP.
 - THE CONTRACTOR OR QUALIFIED CONTACT PERSON SHALL CLEAR DEBRIS, SILT, AND MUD FROM ALL DITCHES AND SHALLOWS PRIOR TO AND WITHIN 3 BUSINESS DAYS AFTER EACH RAIN EVENT OR PRIOR TO THE NEXT RAIN EVENT, WHICHEVER IS SOONER.
 - IF A NON-STORM WATER DISCHARGE LEAVES THE SITE, THE CONTRACTOR SHALL IMMEDIATELY STOP THE ACTIVITY AND REPAIR THE DAMAGES. THE CONTRACTOR SHALL NOTIFY THE CITY RESIDENT ENGINEER OF THE DISCHARGE, PRIOR TO RESUMING CONSTRUCTION ACTIVITY. ANY AND ALL WASTE MATERIAL, SEDIMENT, AND DEBRIS FROM EACH NON-STORM WATER DISCHARGE SHALL BE REMOVED FROM THE STORM DRAIN CONVEYANCE SYSTEM AND PROPERLY DISPOSED OF BY THE CONTRACTOR.
 - EQUIPMENT AND WORKERS FOR EMERGENCY WORK SHALL BE MADE AVAILABLE AT ALL TIMES. ALL NECESSARY MATERIALS SHALL BE STOCKPILED ON-SITE AT CONVENIENT LOCATIONS TO FACILITATE RAPID DEPLOYMENT OF CONSTRUCTION BMPs WHEN RAIN IS IMMINENT.
 - THE CONTRACTOR SHALL RESTORE AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL BMPs TO WORKING ORDER YEAR ROUND.
 - THE CONTRACTOR SHALL INSTALL ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES DUE TO UNFORESEEN CIRCUMSTANCES TO PREVENT NON-STORM WATER AND SEDIMENT-LOADED DISCHARGES.
 - THE CONTRACTOR SHALL BE RESPONSIBLE AND SHALL TAKE NECESSARY PRECAUTIONS TO PREVENT PUBLIC TRESPASS ONTO AREAS WHERE IMPOUNDED WATERS CREATE A HAZARDOUS CONDITION.
 - ALL EROSION AND SEDIMENT CONTROL MEASURES PROVIDED PER THE APPROVED SWPPP/WPCP SHALL BE INSTALLED AND MAINTAINED. ALL EROSION AND SEDIMENT CONTROLS FOR INTERIM CONDITIONS SHALL BE PROPERLY DOCUMENTED AND INSTALLED TO THE SATISFACTION OF THE CITY RESIDENT ENGINEER.
 - AS NECESSARY, THE CITY RESIDENT ENGINEER SHALL SCHEDULE MEETINGS FOR THE PROJECT TEAM (GENERAL CONTRACTOR, QUALIFIED CONTACT PERSON, EROSION CONTROL SUBCONTRACTOR IF ANY, ENGINEER OF WORK, OWNER/DEVELOPER, AND THE CITY RESIDENT ENGINEER) TO EVALUATE THE ADEQUACY OF THE EROSION AND SEDIMENT CONTROL MEASURES AND OTHER BMPs RELATIVE TO ANTICIPATED CONSTRUCTION ACTIVITIES.
 - THE CONTRACTOR OR QUALIFIED CONTACT PERSON SHALL CONDUCT VISUAL INSPECTIONS AND MAINTAIN ALL BMPs DAILY AND AS NEEDED. VISUAL INSPECTIONS AND MAINTENANCE OF ALL BMPs SHALL BE CONDUCTED BEFORE, DURING, AND AFTER EVERY RAIN EVENT AND EVERY 24 HOURS DURING ANY PROLONGED RAIN EVENT. THE CONTRACTOR SHALL MAINTAIN AND REPAIR ALL BMPs AS SOON AS POSSIBLE AS SAFETY ALLOWS.
 - CONSTRUCTION ENTRANCE AND EXIT AREA: TEMPORARY CONSTRUCTION ENTRANCE AND EXITS SHALL BE CONSTRUCTED IN ACCORDANCE WITH CASQA FACT SHEET TC-10R CALTRANS FACT SHEET TC-01 TO PREVENT TRACKING OF SEDIMENT AND OTHER POTENTIAL POLLUTANTS ONTO PAVED SURFACES AND TRAVELED WAYS. WIDTH SHALL BE 10' OR THE MINIMUM NECESSARY TO ACCOMMODATE VEHICLES AND EQUIPMENT WITHOUT BY-PASSING THE ENTRANCE.
(a) NON-STORM WATER DISCHARGES SHALL BE EFFECTIVELY MANAGED PER THE SAN DIEGO MUNICIPAL CODE CHAPTER 4, ARTICLE 3, DIVISION 3 "STORM WATER MANAGEMENT AND DISCHARGE CONTROL."

NOTE:

AN ELECTRONICALLY SIGNED AND REGISTERED INSTALLATION CERTIFICATE(S) (CF-2R) POSTED BY THE INSTALLING CONTRACTOR SHALL BE SUBMITTED TO THE FIELD INSPECTOR DURING CONSTRUCTION AT THE BUILDING SITE. A REGISTERED CF-2R WILL HAVE A UNIQUE 21 DIGIT REGISTRATION NUMBER FOLLOWED BY 4 ZEROS LOCATED AT THE BOTTOM OF EACH PAGE. THE FIRST 12 DIGITS OF THE NUMBER WILL MATCH THE REGISTRATION NUMBER OF THE ASSOCIATED CF-1R. CERTIFICATE OF OCCUPANCY WILL NOT BE ISSUED UNTIL FORMS CF-2R IS REVIEWED AND APPROVED.

AN ELECTRONICALLY SIGNED AND REGISTERED CERTIFICATE(S) OF FIELD VERIFICATION AND DIAGNOSTIC TESTING (CF-3R) SHALL BE POSTED AT THE BUILDING SIGNED AND REGISTERED CERTIFICATES OF FIELD VERIFICATION AND DIAGNOSTIC TESTING (CF-3R) SHALL BE POSTED AT THE BUILDING SITE BY A CERTIFIED HERS RATER. A REGISTERED CF-3R WILL HAVE A UNIQUE 25 DIGIT REGISTRATION NUMBER LOCATED AT THE BOTTOM OF EACH PAGE. THE FIRST 20 DIGITS OF THE NUMBER WILL MATCH THE REGISTRATION NUMBER OF THE ASSOCIATED CF-2R. CERTIFICATE OF OCCUPANCY WILL NOT NE ISSUED UNTIL THE CF-3R IS REVIEWED AND APPROVED.



VICINITY MAP

N.S.

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EARTHWORK

The project proposed to export 0 cubic yards of material from this site. All export material shall be discharged to a legal disposal site. The approval of this project does not allow processing and sale of the material, all such activities require a separate Conditional Use Permit.

Cut Quantities (cyd):	0
Fill Quantities (cyd):	0
Import/Export (cyd):	0
Max cut depth (ft):	1.5'
Max Fill Depth (ft):	1.5'

Total Disturbance Area	1824 S.F.
Existing amount of Impervious area	1904 S.F.
Proposed amount of Impervious area	904 S.F.
Total Impervious area	2808 S.F.
Impervious % Increase	46%

NOTE: Impervious area shall include: roof, sidewalk, parking area, walkways, pools, pool decks, etc.

NOTE:

OUTDOOR LIGHTING: ALL LUMINAIRES MOUNTED TO THE BUILDING ON THE SAME LOT SHALL BE HIGH EFFICACY LUMINAIRES OR MUST BE CONTROLLED BY A MOTION SENSOR AND CONTROLLED BY ONE OF THESE: PHOTOCONTROL OR ASTRONOMICAL TIME CLOCK OR ENERGY MANAGEMENT CONTROL SYSTEM (EMCS).

ALL LUMINAIRES SHALL BE EITHER HIGH EFFICIENCY OR CONTROLLED BY AN OCCUPANT SENSOR OR DIMMER.

THIS STRUCTURE WILL BE ENTIRELY LOCATED ON UNDISTURBED NATIVE SOIL.

7-22-23

IF THE BUILDING INSPECTOR SUSPECTS FLU, EXPANSIVE SOILS OR ANY GEOLOGIC INSTABILITY BASED UPON OBSERVATION OF THE FOUNDATION EXCAVATION, A SOILS OR GEOLOGICAL REPORT, AND RESUBMITTAL OF THE PLANS TO PLAN CHECK TO VERIFY THAT REPORT RECOMMENDATIONS HAVE BEEN INCORPORATED, MAY BE REQUIRED.

7-22-23

GOVERNING CODES:
2022 CALIFORNIA RESIDENTIAL CODE
(WHICH ADOPTS THE 2022 CBC, 2022 CMG, 2022 CPC AND THE 2022 CEC).
2022 CALIFORNIA ELECTRICAL CODE
2022 CALIFORNIA PLUMBING CODE
2022 CALIFORNIA MECHANICAL CODE
2022 CALIFORNIA FIRE CODE
2022 CALIFORNIA GREEN BUILDING STANDARDS CODE
2022 CALIFORNIA ENERGY CODE
2022 CALIFORNIA HISTORICAL BUILDING CODE
2022 CALIFORNIA EXISTING BUILDING CODE
2022 CALIFORNIA REFERENCED STANDARDS CODE
2022 CALIFORNIA BUILDING CODE

BMP LEGEND

Source Control Requirement
4.2.1 Prevention of Illicit Discharges into the MS4
4.2.2 Storm Drain Stenciling or Signage
4.2.3 Protect Outdoor Materials Storage Areas from Rainfall, Run-On, Runoff, and Wind Dispersal
4.2.4 Protect Materials Stored in Outdoor Work Areas from Rainfall, Run-On, Runoff, and Wind Dispersal
4.2.5 Protect Trash Storage Areas from Rainfall, Run-On, Runoff, and Wind Dispersal
Site Design Requirement
4.3.1 Maintain Natural Drainage Pathways and Hydrologic Features
4.3.2 Conserve Natural Areas, Soils, and Vegetation
4.3.3 Minimize Impervious Area
4.3.4 Minimize Soil Compaction
4.3.5 Impervious Area Dispersion
4.3.6 Runoff Collection
4.3.7 Landscaping with Native or Drought Tolerant Species
4.3.8 Harvest and Use Precipitation

NOTE:

AN A.D.U. OR J.A.D.U. SHALL NOT BE USED FOR A RENTAL TERM OF LESS THAN 31 CONSECUTIVE DAYS.

AN A.D.U. MAY NOT BE SOLD OR CONVEYED SEPARATELY FROM THE PRIMARY DWELLING UNIT.

PROJECT DATA

A.P.N. : 436-211-07-00
LEGAL : LOTS 15 & 16, MAP 1628, BLOCK 'A' BOULEVARD HEIGHTS
ADDRESS : 1348 GERTRUDE STREET (MAIN HOUSE) 1350 GERTRUDE ST. (A.D.U.) SAN DIEGO, CALIFORNIA 92110
OWNER : JOSEPH RUZZI / CHRISTINE ADKINS (410) 900-4610
EXISTING HOUSE : 600 S.F. LIVING SPACE, 260 S.F. GARAGE
ZONE : RS-1-7
YEAR BUILT : 2000
LOT SIZE : 7312 S.F.
CONSTRUCTION : V-B
OCCUPANCY : R-3
SPRINKLERS : NO, THE EXISTING HOUSE DOES NOT HAVE SPRINKLERS
STORIES : 1
DEVELOPMENT PERMITS REQUIRED : NONE
SCOPE OF WORK : 904 S.F. A.D.U. & 530 S.F. DECK

FAR : .25 (1861 S.F. / 7312 S.F.) .57 ALLOWED
600 S.F. EXIST. LIVING
397 S.F. EXIST. GARAGE
904 S.F. NEW A.D.U.
1861 S.F. TOTAL

NOTE:
PER CITY OF SAN DIEGO MUNICIPAL CODE SECTIONS 12.0104, 43.010, 129.0104(a)(4), AND 142.0220, PERMITS ARE REQUIRED TO BE INSPECTED BY CITY INSPECTION STAFF TO ENSURE COMPLIANCE WITH ISSUED CONSTRUCTION PERMIT. THIS INCLUDES, BUT NOT LIMITED TO, STORMWATER COMPLIANCE INSPECTION REQUIREMENTS ASSOCIATED WITH EACH PERMIT.

ALL STORMWATER RUNOFF FROM PROPOSED AND OR REPLACED IMPERVIOUS AREAS SHALL BE ROUTED TO PERVIOUS SURFACES OR LANDSCAPING PRIOR TO REACHING THE PUBLIC DRAIN SYSTEM.

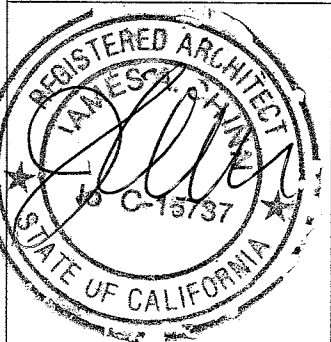
NO WORK WILL BE PERFORMED IN THE RIGHT-OF-WAY.

SHEET INDEX

A1	SITE PLAN
A2	ROOF PLAN
A3	FLOOR PLAN / SECTION
A4	EXTERIOR ELEVATIONS
A5	CALGREEN NOTES
A6	CALGREEN NOTES
E1	ELECTRICAL / MECHANICAL PLANS
SNO	STRUCTURAL NOTES
S01	DETAILS
S2	FOUNDATION / ROOF FRAMING PLANS
T1	TITLE 24
T2	TITLE 24

REVISIONS	BY

JAMES A. CHINN, ARCHITECT
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DEL MAR, CALIFORNIA 92014
(956) 755-5863



RUZZI A.D.U.
1350 GERTRUDE STREET
SAN DIEGO, CALIFORNIA

Date 9/20/23
Scale AS NOTED
Drawn JAC
Job 2023-10

A1