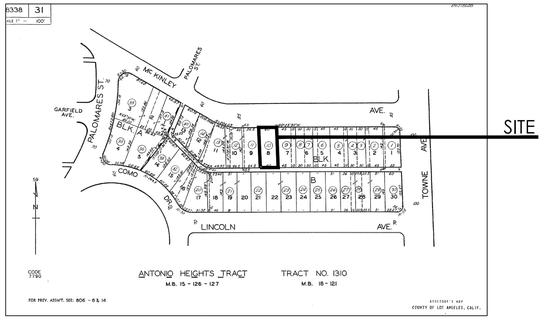
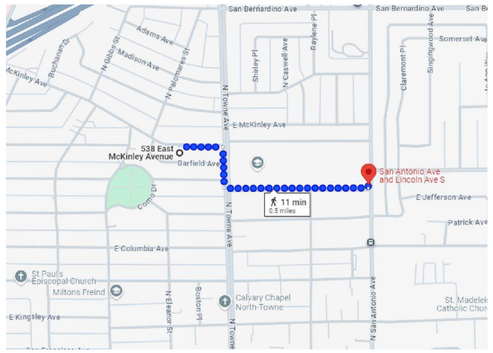
# 540 E MCKINLEY AVE
# POMONA CA 91767
# DETACHED ADU




0.5 MILES FROM THE NEAREST BUS STOP

APPLICABLE CODES:
2022 CALIFORNIA BUILDING CODE, VOLUMES 1 & 2.
2022 CALIFORNIA RESIDENTIAL CODE (TITLE 24, PART 2.5)
2022 CALIFORNIA FIRE CODE
2022 CALIFORNIA MECHANICAL CODE
2022 CALIFORNIA ELECTRICAL CODE
2022 CALIFORNIA PLUMBING CODE
2022 CALIFORNIA BUILDING ENERGY EFFICIENCY STANDARDS
2022 CALIFORNIA GREEN BUILDING STANDARDS CODE
2022 CALIFORNIA EXISTING BUILDING CODE
CITY OF POMONA MUNICIPAL CODE

NOTE:
PROPOSED ADU SHALL HAVE A PHOTOVOLTAIC (PV) SYSTEM. PV SOLAR PLANS TO BE DEFERRED SUBMITTAL.
THE PV SYSTEM SHALL BE SUBMITTED AND APPROVED PRIOR TO FINAL INSPECTION.

NOTE:
ALL LOW RISE RESIDENTIAL BUILDINGS SHALL HAVE A PHOTOVOLTAIC (PV) SYSTEM. PV SYSTEM SHALL BE A DEFERRED SUBMITTAL.
THE FUTURE INSTALLATION OF THE PHOTOVOLTAIC SYSTEM SHALL COMPLY WITH THE SIZE REQUIREMENTS OF THE ENERGY COMPLIANCE.

APPLICATIONS FOR WHICH NO PERMIT IS ISSUED WITHIN 180 DAYS FOLLOWING THE DATE OF APPLICATION SHALL AUTOMATICALLY EXPIRE.

EVERY PERMIT ISSUED SHALL BECOME INVALID UNLESS WORK AUTHORIZED COMMENCES WITHIN 180 DAYS AFTER ITS ISSUANCE OR IF THE WORK AUTHORIZED IS SUSPENDED OR ABANDONED FOR A PERIOD OF 180 DAYS. A SUCCESSFUL INSPECTION MUST BE OBTAINED WITHIN 180 DAYS.

## RESIDENTIAL PLAN GENERAL NOTES REQUIREMENTS

**SECURITY REQUIREMENTS**

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

**CONSTRUCTION REQUIREMENTS**

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

**GLAZING REQUIREMENTS**

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

**MECHANICAL/PLUMBING/ELECTRICAL CODE REQUIREMENTS**

16. Dwelling shall be provided with comfort heating facilities capable of maintaining a room temperature of 68 degrees F at 3 feet above the floor and 2 feet from exterior walls. (R303.10)
17. The following are required for central heating furnaces and low-pressure boilers in a compartment:
   a. Listed appliances shall be installed with clearances in accordance with the terms of their listings and the manufacturer's installation instructions. (MC 904.2(1))
   b. Unlisted appliances shall meet both the clearances in Table 904.2, and the clearances allowed by the manufacturer's installation instructions. (MC 904.2(2))
   c. When combustion air is taken from inside, the area of combustion air openings shall be 1 sq. inch per 1,000 BTU (100 sq. inch minimum) per opening. One Opening shall be within 12 inches of the ceiling and the second shall be within 12 inches of the bottom of the enclosure. The dimension shall not be less than 3 inches. (MC 701.5(1))
   d. 1/4 inch screens are required at openings where combustion air is taken from the outside. (MC 701.10(2))
   e. Separate ducts shall be used for upper and lower combustion air openings, and maintained to the source of combustion air. (MC 701.11(4))
18. The following are required for appliances installed in an attic:
   a. An opening and passageway shall not be less than 22 inches by 30 inches, or less than the size of the largest piece of equipment. (MC 904.10)
   b. Where the passageway height is less than 6 feet, the distance from access to the appliance shall not exceed 20 feet, as measured along the centerline. (MC 904.10.1)
   c. Passageway shall be unobstructed and shall have solid flooring not less than 24 inches wide from entrance to appliance. (MC 904.10.2)
   d. A level working platform not less than 30 inches by 30 inches is required in front of the service side of the appliance. (MC 904.10.3)
   e. A permanent 120V receptacle outlet and a lighting fixture shall be installed near the appliance. Light switch shall be located at the entrance to the passageway. (MC 904.10.4)
   f. A type B or L gas vent shall terminate not less than 5 feet above the highest connected appliance flue collar or draft hood. (MC 802.6.2.1)
   g. Appliance installation shall meet all listed clearances. (MC 303.2)
19. Clothes dryer moisture exhaust duct shall terminate on the outside of the building and shall be equipped with a back-draft damper. Screens shall not be used and the exhaust duct may not extend into or through ducts and plenums. (MC 504.3)
20. Clothes dryer moisture exhaust duct shall be 4 inches in diameter and length is limited to 14 feet with two elbows from the clothes dryer to point of termination. Duct length shall be reduced by 2 feet for every elbow in excess of two. (MC 504.3.1 & 504.3.1.2)
21. Heating appliances (water heater, furnace, etc.) located in the garage, which create a glow, spark or flame, shall be installed at least 18 inches above the floor. (MC 308.1)
22. Ducts shall be sized per Chapter 6 of the Mechanical Code.
23. The effective flush volume of all water closets shall not exceed 1.28gpf. Urinals shall be 0.5gpf maximum. (GC 4.303.1.1)
24. Single shower heads shall have a maximum flow rate or 1.8gpm at 80psi. Multiple shower heads serving one shower shall have a combined flow rate of 2.0gpm at 80psi, or the shower shall be designed to allow only one shower outlet to be in operation at a time. (GC 4.303.1.3)
25. Lavatory faucets shall not exceed 1.2gpm at 60psi. The minimum flow rate shall not be less than 0.8gpm at 20psi. (GC 4.303.1.4)
26. Kitchen faucets shall not exceed 1.8gpm at 60psi. The faucet may temporarily increase to above this rate, but not to exceed 2.2gpm at 60psi, and must default to the maximum flow rate of 1.8gpm at 60psi. (GC 4.303.1.4)
27. ABS and PVC DWV piping installations are limited to not more than two stories of areas. (PC 701.1(2))
28. All showers and tub-showers shall have a pressure balance, thermostatic mixing valve, or a combination pressure balance/thermostatic mixing type valve. (PC 418)
29. All new, replacement and existing water heaters shall be strapped to the wall in two places. One on the upper 1/3 of the tank, and one on the lower 1/3 of the tank. The lower point shall be a minimum of 4 inches above the controls. (PC 508.2)
30. Plumbing plan check and approval are required for 2 inch or larger gas lines and/or water lines.
31. Ground-fault circuit-interruption (GFCI) for personnel shall be provided per EC section 210.8(A), and installed in a readily accessible location.
32. Arc-fault circuit-interruption shall be installed to provide protection of the branch circuit. (EC 210.12)
33. Tamper-resistant receptacles shall be installed in all areas specified in 210.52, all nonlocking-type 12-volt, 15- and 20-ampere receptacles shall be listed tamper-resistant receptacles. (EC 406.12)
34. Where NM Cable (Romex) is run across the top of ceiling joists and/or where the attic is not accessible by permanent stairs or ladders, protection within 6 feet of the nearest edge of the scuttle or attic entrance shall be provided. (EC 334.23, 320.23(A))

## PROPERTY INFORMATION:

A.P.N. 8338-031-010
TRACT # 1310 LOT 8 BLK B

| | |
|---|---|
| ZONE: | RND1-H |
| USE TYPE: | RESIDENTIAL |
| CONSTRUCTION TYPE: | V-B |
| OCCUPANCY GROUP: | R3 |

## SCOPE OF WORK:

PROPOSE NEW DETACHED ADU 1,200 SQ FT

## AREA SUMMARY

| | |
|---|---|
| TOTAL LOT AREA: | 8,580 SQ FT |
| EXISTING MAIN HOUSE AREA: | 1,298 SQ FT<br>5B 2B |
| NUMBER OF MAIN HOUSE STORY: | 1 |
| EXISTING GARAGE AREA: | 302 SQ FT |
| PROPOSE NEW DETACHED ADU AREA: | 1,200 SQ FT<br>3B 2B |
| NUMBER OF ADU STORY: | 1 |
| INSTALL FIRE SPRINKLER SYSTEM: | YES |

PRIMARY ADDRESS: 538 E MCKINLEY AVE, POMONA CA 91767
ADU ADDRESS: 540 E MCKINLEY AVE, POMONA CA 91767

HISTORIC DISTRICT: LINCOLN PARK HISTORIC DISTRICT
ARCHITECTURE STYLE OF PRIMARY: CRAFTSMAN BUNGALOW

LOT COVERAGE CALCULATION: 1,298+302+1,200=2,800/8,580=32.63% < 35%
IMPERVIOUS CALCULATION: 1,298+302+1,200+1,450=4,250/8,580=49.53%
LANDSCAPE CALCULATION: 4,330/8,580=50.47%

## OTHER PROJECT INFO

| | |
|---|---|
| OAK TREE: | NO |
| EASEMENT: | NO |
| ANY SLOPE 3:1 | NO |
| EXISTING FIRE SPRINKLER IN MAIN HOUSE: | NO |
| SWIMMING POOL: | NO |
| NEW LANDSCAPE 500 SQ FT OR LARGER: | NO |

PUBLIC WORKS GENERAL NOTES:
IT IS THE OWNER'S AND THE CONTRACTOR'S RESPONSIBILITY TO REPAIR ALL DAMAGE TO THE EXISTING PUBLIC IMPROVEMENTS DUE TO THE PROPOSED CONSTRUCTION ACTIVITIES AND TO ADDRESS ALL REPAIRS REQUESTED BY THE PUBLIC WORKS INSPECTOR BASED ON THE INSPECTOR'S REVIEW OF THE CURRENT CONDITION OF THE SAID PUBLIC IMPROVEMENTS.
UNDERGROUNDING OF ALL EXISTING AND PROPOSED UTILITY LINES IS REQUIRED AS PER CITY OF POMONA MUNICIPAL CODE SECTION 62-31(B)(1).
THE PARKWAY LANDSCAPING SHALL BE MAINTAINED BY THE PROPERTY OWNER PER CITY OF POMONA MUNICIPAL CODE SECTION 46-496.
THE PROPERTY ABUTTING SIDEWALK, PARKWAY AND ALLEY, AS APPLICABLE, SHALL BE MAINTAINED FREE OF WEEDS, RUBBISH AND REFUSE BY THE PROPERTY OWNER, AS REQUIRED BY THE CITY'S MUNICIPAL CODE SECTION 18-261.

## SHEET INDEX:



## ALL CONSULTANTS:


ARCHITECT:
YANG ARCHITECT INC.
YANGARCHITECTINC@GMAIL.COM
2060 HUNTINGTON DR, UNIT #10
SAN MARINO CA, 91108
(626)866-0234

STRUCTURAL ENGINEER:
JIANFENG GAO
NB ENGINEERING INC.
19119 COLIMA RD, UNIT #111
ROWLAND HEIGHTS, CA 91748
INFO@NBENGINEERING.NET
(626)269-9321

MECHANICAL ENGINEER:
PATRICK HOU
7353 ELLENA W
RANCHO CUCAMONGA, CA 91730
(626)265-9244



YANG ARCHITECT

WWW.YANGARCHITECT.COM
YANGARCHITECTINC@GMAIL.COM
(626)866-0234




JOB ADDRESS:
540 E MCKINLEY AVE
POMONA CA 91767

OWNER:
ZHAOHUI FANG
(415)819-6218
SUSANFANG88@HOTMAIL.COM

STAMP:

LICENSED ARCHITECT
YANG WANG
C-35954
REN.08/31/2027
STATE OF CALIFORNIA

REVISIONS:

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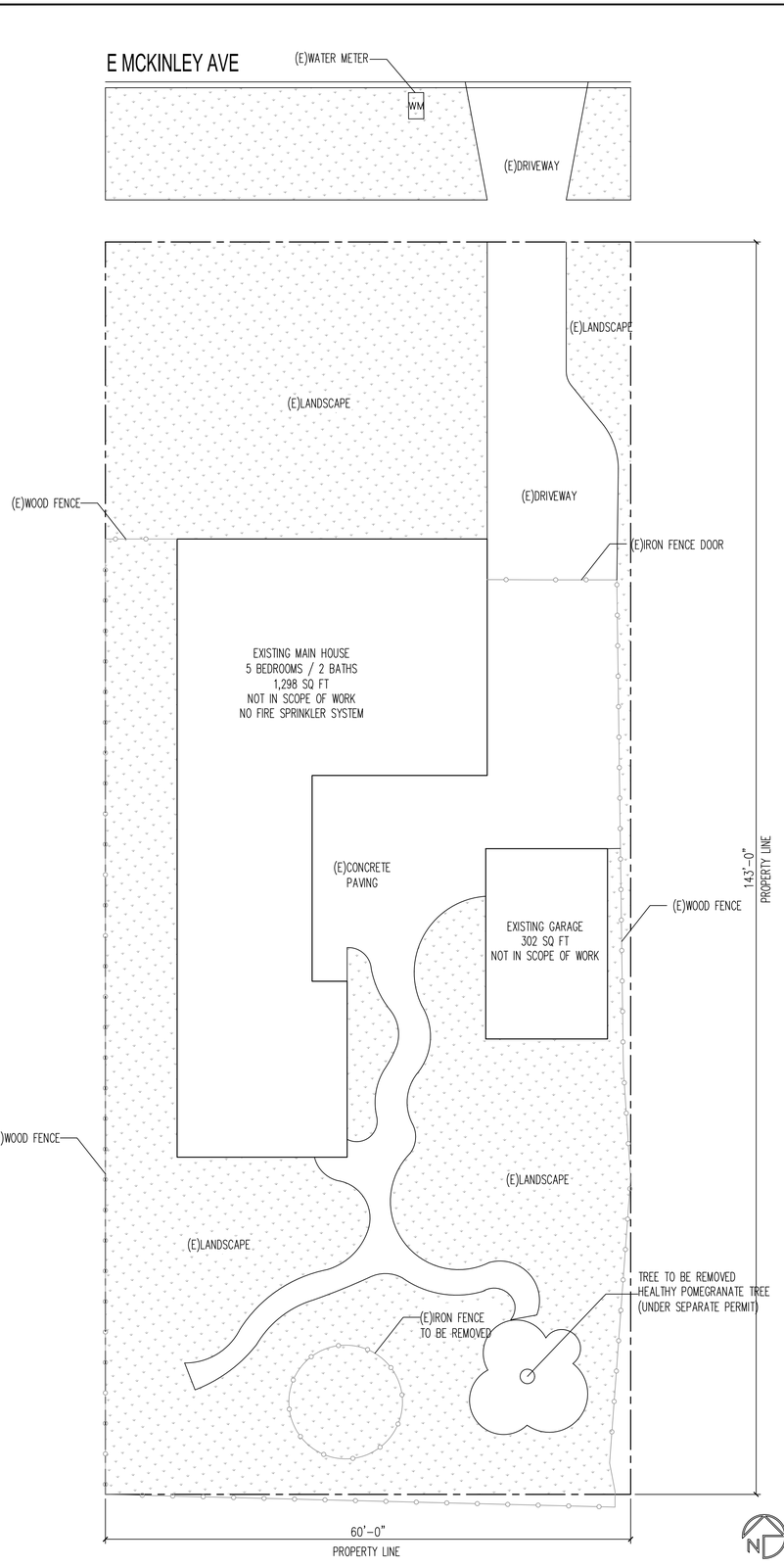
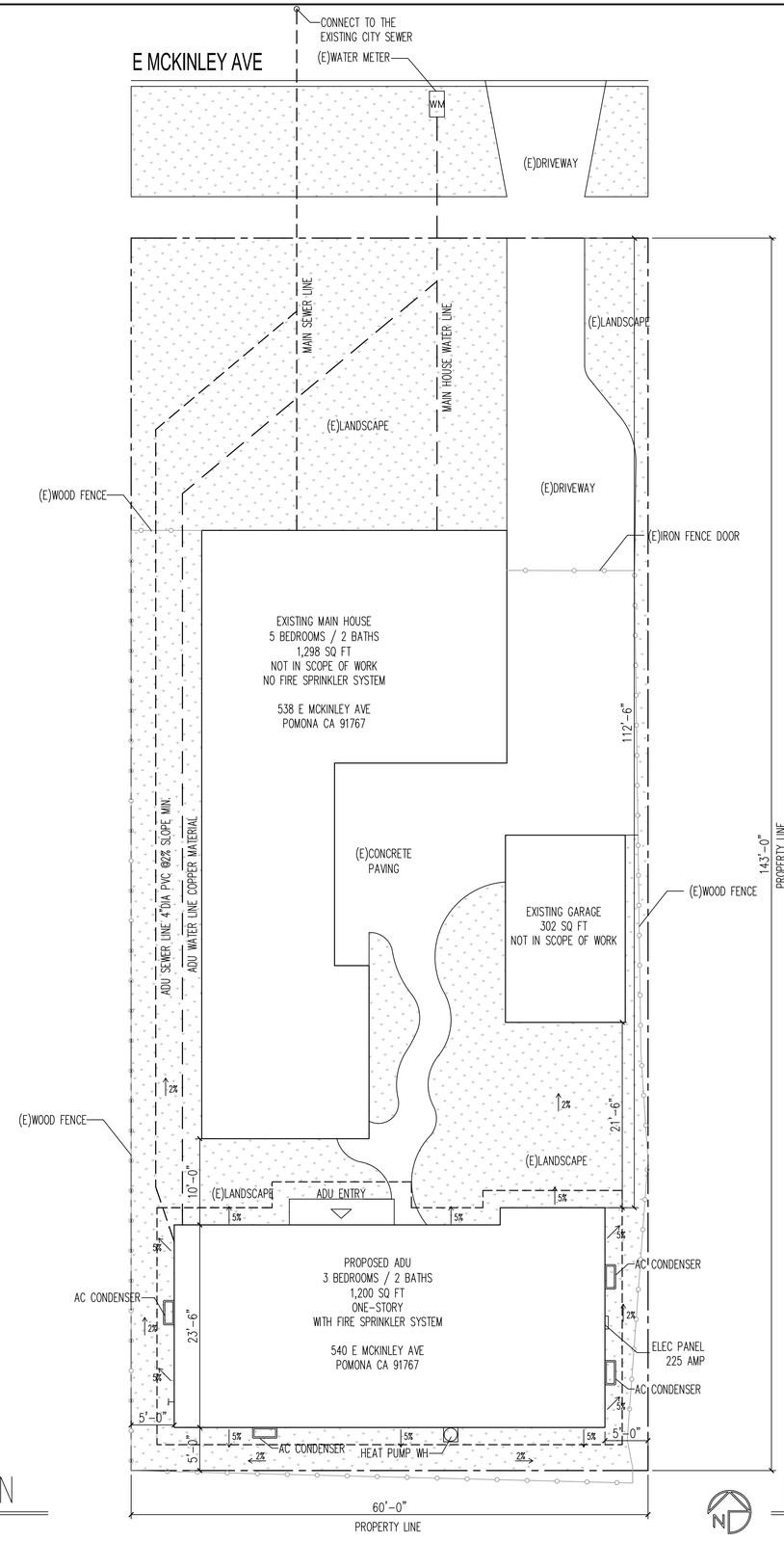
SHEET TITLE:
GENERAL NOTE

SHEET NUMBER:
A-1




## EXISTING SITE PLAN

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




## PROPOSED SITE PLAN

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


YANG
ARCHITECT

WWW.YANGARCHITECT.COM
YANGARCHITECTINC@GMAIL.COM
(626)866-0234

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540 E MCKINLEY AVE
POMONA CA 91767

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REVISIONS:

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SHEET TITLE:

EXISTING SITE PLAN
PROPOSED SITE PLAN

SHEET NUMBER:

A-2

FLOOR PLAN NOTES:

FINISH MATERIALS INCLUDING ADHESIVES, SEALANTS, CAULK, PAINTS & COATINGS, CARPET SYSTEMS, ETC. SHALL MEET THE (VOC) EMISSION LIMITS PER LACGBSC CHAPTER 4.

WALL COVERING IN THE BATHROOMS SHALL BE CEMENT PLASTER, TILE OR APPROVED EQUAL TO 72" ABOVE THE DRAIN INLET AT SHOWERS OR TUB WITH SHOWERS. MATERIALS OTHER THAT STRUCTURAL ELEMENTS TO BE MOISTURE RESISTANT.

AT ALL SLEEPING ROOMS PROVIDE AT LEAST ONE OPENABLE ESCAPE WINDOW OR DOOR MEETING ALL THE FOLLOWING.

AN OPENABLE AREA OF NOT LESS THAN 5.7 SQ FT (5 SQ FT AT GRADE LEVEL) A MINIMUM CLEAR 24 INCH HEIGHT AN OR 20 INCH WIDTH, AND A SILL HEIGHT NOT OVER 44 INCHES ABOVE THE FLOOR.

EVERY SPACE INTENDED FOR HUMAN OCCUPANCY SHALL BE PROVIDED WITH NATURAL LIGHT BY MEANS OF EXTERIOR GLAZED OPENINGS IN ACCORDANCE WITH SECTION 1205.2 OR SHALL BE PROVIDED WITH ARTIFICIAL LIGHT THAT IS ADEQUATE TO PROVIDE AN AVERAGE ILLUMINATION OF 10 FOOT-CANDLES OVER THE AREA OF THE ROOM AT A HEIGHT OF 30 INCHES ABOVE THE FLOOR LEVEL.

LIGHT AND VENTILATION CALCULATION

| | | |
|---|---|---|
| PROPOSED KITCHEN | = | 147 SQ FT |
| LIGHT | | |
| 147 SQ FT x .08 | = | 11.76 SQ FT NEEDED |
| | | 12.0 SQ FT > 11.76 SQ FT (OK) |
| VENTILATION | | |
| 147 SQ FT x .04 | = | 5.88 SQ FT NEEDED |
| | | 6.0 SQ FT > 5.88 SQ FT (OK) |

FLOOR PLAN NOTES:

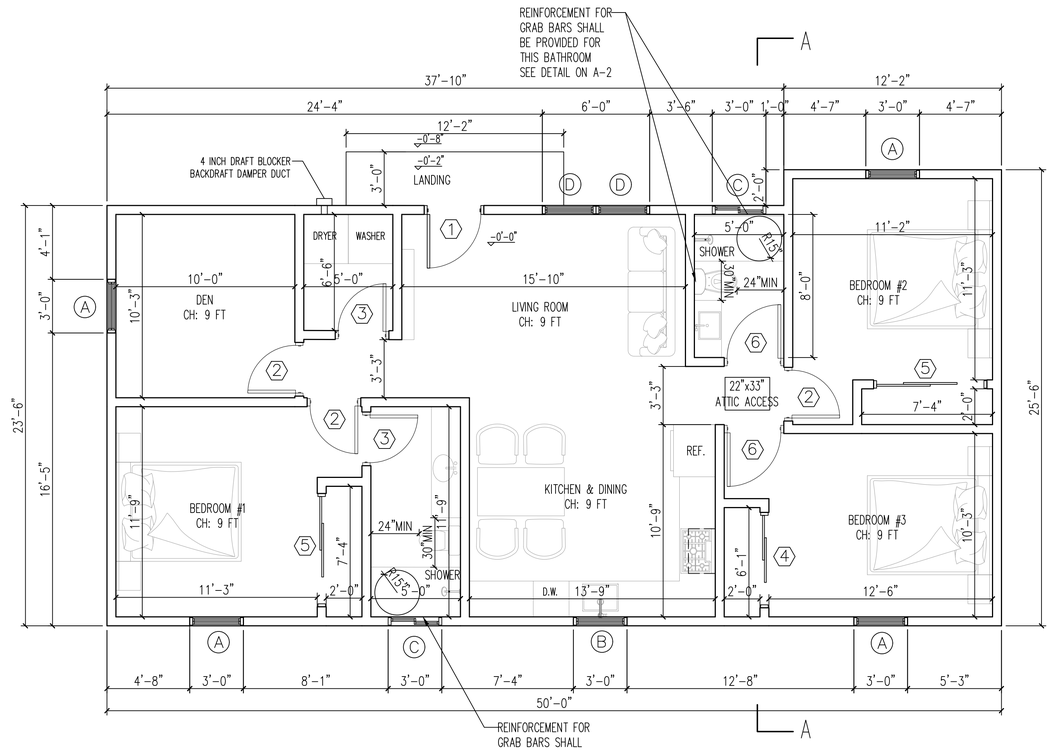
WATER CLOSET REINFORCEMENT SHALL BE INSTALLED ON BOTH SIDE WALLS OF THE FIXTURE, OR ON ONE SIDE WALL AND THE BACK WALL. PLEASE SEE THE REINFORCEMENT DETAIL ON THE SHEET A-3.

DOOR SCHEDULE:

| NO. | SIZE | MATERIAL | TYPE | REMARKS |
|---|---|---|---|---|
| 1 | 3'-0"x 7'-0" | FIBERGLASS/STEEL/WOOD | SOLID @ EXTERIOR 1 3/4" | |
| 2 | 2'-8"x 7'-0" | WOOD | HOLLOW CORE 1 3/8" | |
| 3 | 2'-6"x 7'-0" | WOOD | HOLLOW CORE 1 3/8" | |
| 4 | 5'-0"x 7'-0" | WOOD | CLOSET SLIDING DOOR | |
| 5 | 6'-0"x 7'-0" | WOOD | CLOSET SLIDING DOOR | |
| 6 | 3'-0"x 7'-0" | WOOD | HOLLOW CORE 1 3/8" | |

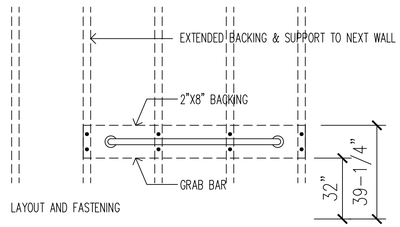
WINDOW SCHEDULE:

| NO. | SIZE | SILL HEIGHT | U-FACTOR | SHGC | MATERIAL | TYPE | REMARKS |
|---|---|---|---|---|---|---|---|
| A | 3'-0" x 5'-0" | 2'-0" | 0.3 | 0.23 | WOOD | SINGLE-HUNG | EMERGENCY ESCAPE/RESCUE WINDOW |
| B | 3'-0" x 3'-0" | 4'-0" | 0.3 | 0.23 | WOOD | SINGLE-HUNG | |
| C | 3'-0" x 1'-0" | 6'-0" | 0.3 | 0.23 | WOOD | AWNING | TEMPERED GLASS |
| D | 3'-0" x 4'-0" | 3'-0" | 0.3 | 0.23 | WOOD | SINGLE-HUNG | |



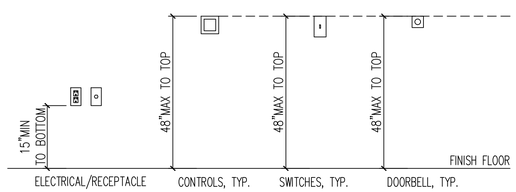

## ADU FLOOR PLAN

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




## GRAB BARS REINFORCEMENT DETAIL

NTS

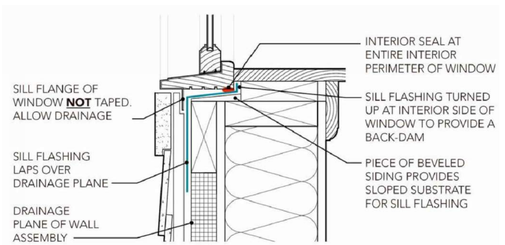


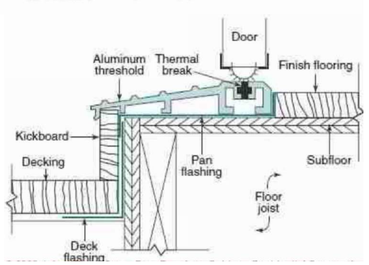

EXCEPTIONS:

DEDICATED RECEPTACLE OUTLETS; FLOOR RECEPTACLE OUTLETS; CONTROLS MOUNTED ON CEILING FANS AND CEILING LIGHTS; AND CONTROLS LOCATED ON APPLIANCES.
RECEPTACLE OUTLETS REQUIRED BY THE CALIFORNIA ELECTRICAL CODE ON A WALL SPACE WHERE THE DISTANCE BETWEEN THE FINISHED FLOOR AND A BUILT-IN FEATURE ABOVE THE FINISH FLOOR, SUCH AS A WINDOW, IS LESS THAN 15 INCHES.

## TYPICAL RECEPTACLE OUTLETS, SWITCH, CONTROL AND DOORBELL DETAIL

NTS




## WINDOW/DOOR FLASHING DETAIL

NTS

YANG ARCHITECT

WWW.YANGARCHITECT.COM
YANGARCHITECTINC@GMAIL.COM
(626)866-0234



JOB ADDRESS:

540 E MCKINLEY AVE
POMONA CA 91767

STAMP:

LICENSED ARCHITECT YANG WANG C-35954 REN.08/31/2027 STATE OF CALIFORNIA

REVISIONS:

SHEET TITLE:

ADU FLOOR PLAN

SHEET NUMBER:

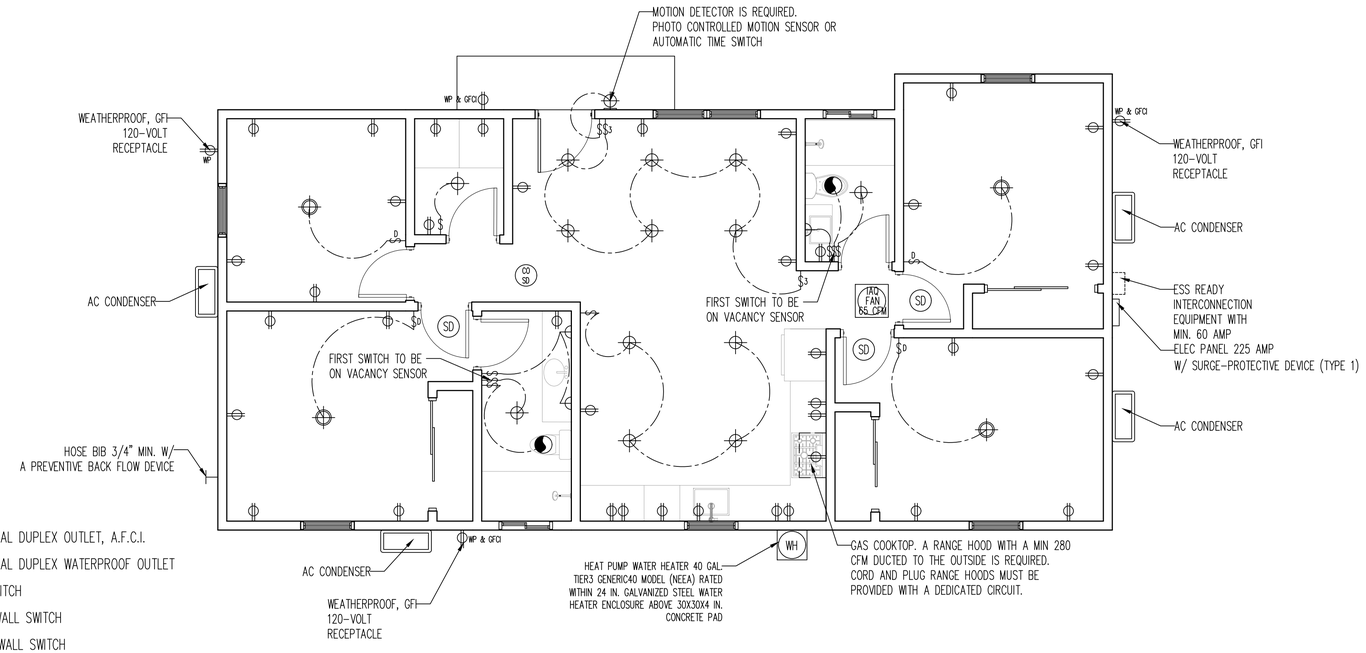
A-3

MEP NOTE:

1. KITCHEN MUST BE SUPPLIED WITH 20 AMP SMALL APPLIANCE CIRCUITS.
2. ALL RECEPTACLE OUTLETS SHOULD BE AT LEAST AFCI.
3. A MINIMUM OF ONE 20-AMP CIRCUIT IS REQUIRED FOR THE RECEPTACLES IN THE BATHROOMS. THIS CIRCUIT CAN HAVE NO OTHER OUTLETS, INCLUDING LIGHTS. IF A 20-AMP CIRCUIT SERVES ONLY ONE BATHROOM, LIGHTS AND FANS CAN BE ON THE SAME CIRCUIT WITH THE RECEPTACLES IN THAT BATHROOM.
4. PROVIDE A MINIMUM 280 CFM RANGE HOOD FOR KITCHEN. INDIVIDUAL BRACH CIRCUIT REQUIRED WHERE CORD AND PLUG CONNECTED.
5. ALL PERMANENTLY INSTALLED LIGHTING FIXTURES SHALL BE HIGH-EFFICACY LUMINAIRES IN ACCORDANCE WITH TABLE 150.0-A OF THE CALIFORNIA ENERGY CODE. ALL LUMINARIES SHALL EITHER BE HIGH EFFICACY INCLUDING THE FAN LIGHTS OR SHALL BE CONTROLLED BY A VACANCY SENSOR.
6. ALL EXTERIOR DOORS HAVE A SWITCH-CONTROLLED EXTERIOR LIGHT AND THAT THE SWITCHES HAVE A PHOTO CONTROLLED MOTION SENSOR OR AUTOMATIC TIME SWITCH.
7. ALL BRANCH CIRCUITS THAT SUPPLY 125-VOLT, SINGLE-PHASE, 15- AND 20-AMPERE RECEPTACLES SHALL BE PROTECTED BY COMBINATION TYPE AN ARC-FAULT CIRCUIT INTERRUPTERS. THIS REQUIREMENT IS FOR ENTIRE CIRCUIT, NOT JUST THE OUTLETS.
8. THE LAUNDRY MUST HAVE A DEDICATED 20-AMP OUTLET.
9. OUTDOOR RECEPTACLE OUTLETS MUST BE GFCI PROTECTED AND PROVIDE WITH A WEATHERPROOF COVER.
10. KITCHEN COUNTER-TOP, BATHROOM AND LAUNDRY RECEPTACLE OUTLETS ARE REQUIRED TO BE BOTH GFCI AND AFCI PROTECTED.
11. A COMPRESSOR OR CONDENSING UNIT SUPPORTED FROM THE GROUND SHALL REST ON A CONCRETE OR OTHER APPROVED BASE EXTENDING NOT LESS THAN THREE INCHES ABOVE THE ADJOINING GROUND LEVEL.
12. DRYER IS GAS. DRYERS WITH GAS HOOKUPS: REQUIRES 240-VOLT/30-AMP FEED FOR FUTURE INSTALLATION OF AN ELECTRIC DRYER.
13. WATER PIPING MATERIALS WITHIN A BUILDING SHALL BE IN ACCORDANCE WITH SEC. 604.1 OF THE CALIFORNIA PLUMBING CODE. PEX, CPVC AND OTHER PLASTIC WATER PIPING SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF SEC. 604 OF THE CPC, INSTALLATION STANDARDS OF APPENDIX I OF THE CPC AND MANUFACTURERS RECOMMENDED INSTALLATION STANDARDS. CPVC WATER PIPING REQUIRES A CERTIFICATION OF COMPLIANCE AS SPECIFIED IN SEC 604.1.1(D) OF THE CPC PRIOR TO PERMIT ISSUANCE. WATER PIPE MATERIAL IS HARD DRAWN COPPER TYPE "K" OR "L" FOR THE UNDERGROUND AND TYPE "L" FOR ABOVE GROUND.
14. MINIMUM SEWER SLOPE TO BE 2% PLASTIC AND COPPER PIPING RUN THROUGH FRAMING MEMBERS TO WITHIN ONE INCH OF THE EXPOSED FRAMING SHALL BE PROTECTED BY STEEL NAIL PLATES NOT LESS THAN 18 GAUGE.
15. WATER HEATERS SHALL HAVE STRAPS LOCATED IN THE UPPER AND LOWER 1/3 OF ITS VERTICAL DIMENSION. AT THE LOWER POINT, A MINIMUM DISTANCE OF 4 INCHES SHALL BE MAINTAINED ABOVE THE CONTROLS WITH THE STRAPPING. (507.2 CPC)

ROOF VENTILATION CALCULATION

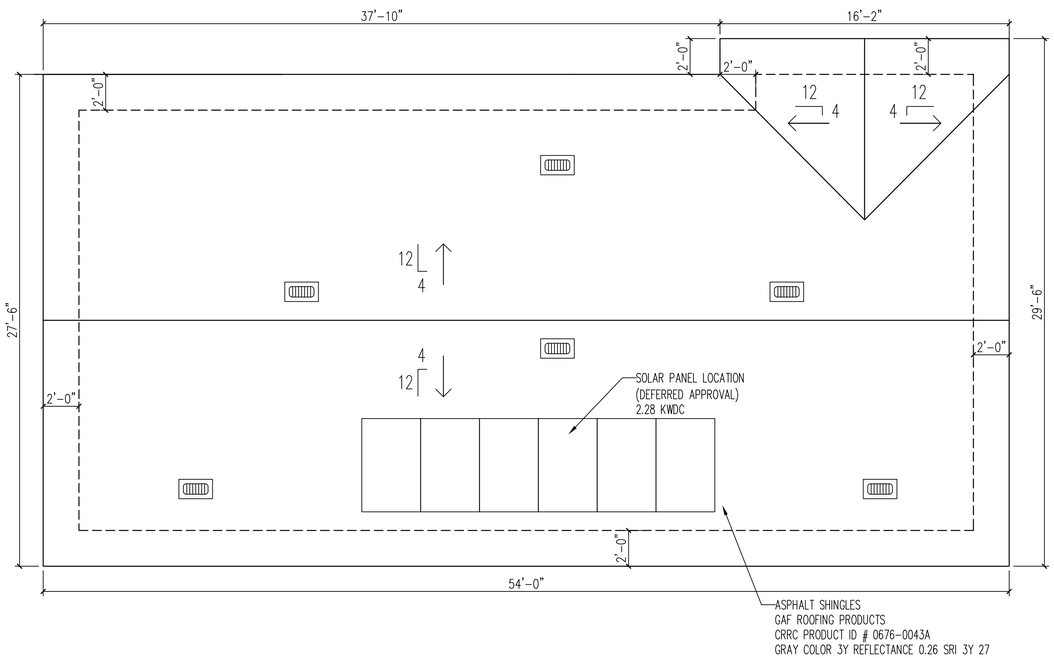
PROPOSED ATTIC SPACE = 1,200 SQ FT
REQUIRED NET FREE VENTILATING AREA SHALL NOT BE LESS THAN 1/300 OF THE ATTIC SPACE
REQUIRED ROOF VENTILATION = 1,200 X 1/300 = 4 SQ FT = 576 SQ IN
(6) O'HAGIN LOW PROFILE ASPHALT SHINGLE ROOF VENT PRODUCT: (NET VENTING 97.5 SQ IN EACH) = 487.5 SQ IN
TOTAL PROPOSED VENTILATION: 585 SQ IN > 576 SQ IN (OK)




ADU ELECTRICAL PLAN

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

- ELECTRICAL DUPLEX OUTLET, A.F.C.I.
- ELECTRICAL DUPLEX WATERPROOF OUTLET
- WALL SWITCH
- 3 WAY WALL SWITCH
- DIMMER WALL SWITCH
- RECESSED DOWN LIGHT FIXTURE
- CEILING MOUNTED LIGHT FIXTURE
- BATHROOM WALL MOUNTED LIGHT FIXTURE (MOTION DETECTOR IS REQUIRED)
- EXTERIOR WALL MOUNTED LIGHT FIXTURE (MOTION DETECTOR IS REQUIRED. PHOTO CONTROLLED MOTION SENSOR OR AUTOMATIC TIME SWITCH)




ADU FLOOR PLAN

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

- EXHAUST FAN "ENERGY STAR RATED" MINIMUM 50 CFM INTERMITTENT (DIRECTLY VENTED TO OUTSIDE) EQUIPPED WITH READILY ACCESSIBLE HUMIDISTAT 4" ALUMINUM DUCT MOISTURE EXHAUST DUCTS SHALL BE OF METAL AND HAVE A SMOOTH INTERIOR SURFACE NO SCREWS INTO AIRFLOW CMC 504.3.1
- (SD) INTERCONNECTED HARD WIRED SMOKE DETECTOR WITH BATTERY BACKUP (A.F.C.I.)
- (CO SD) INTERCONNECTED HARD WIRED SMOKE / CARBON MONOXIDE DETECTOR COMBO WITH BATTERY BACKUP (A.F.C.I.) THE EXISTING HOUSE IS EQUIPPED WITH SMOKE AND CARBON MONOXIDE ALARMS.

MINIMUM 3 FT CLEARANCE REQUIRED FROM HVAC SUPPLIES, RETURN, BATHROOMS WITH TUBS OR SHOWERS AND CEILING FANS.
MINIMUM 10 FT CLEAR FROM STOVES AND RANGES REQUIRED.

- (IAQ FAN) IAQ VENT FAN – 46 CFM PROVIDE PLACARD AT THE SWITCH THAT STATES: "THIS FAN TO REMAIN ON DURING ALL HOURS THE HOUSE IS OCCUPIED"

16. RECESSED DOWNLIGHT LUMINAIRES IN CEILINGS: (A) RECESSED FIXTURES SHALL NOT CONTAIN SCREW-BASED SOCKETS. (B) MEET THE CLEARANCE AND INSTALLATION REQUIREMENTS OF THE CEC 410.116.(C) BE MARKED "JA8-2016-E",JA8-2022-E", INDICATING THEY ARE CERTIFIED AS MEETING THE ELEVATED TEMPERATURE REQUIREMENTS OF JA8. (D) WHEN INSTALLED IN INSULATED CEILINGS AND NOTE MARKED FOR USE IN FIRE-RATED INSTALLATION SHALL HAVE: 1. A ZERO-CLEARANCE INSULATION COVER CONTACT AND AIRTIGHT CAN (ICAT) EXCEPT WHEN EXHAUST FAN HOUSING HAS INTEGRAL LIGHTING. 2. GASKET OR CAULKING SEALING BETWEEN THE LUMINAIRE'S HOUSING AND CEILING FOR ALL AIR LEAK PATHWAYS BETWEEN CONDITIONED AND UNCONDITIONED SPACES.
17. CLOTHES DRYERS AND ELECTRIC RANGES SHALL HAVE A 4-WIRE GROUNDED ELECTRICAL OUTLET PER CEC 250.140.
18. ALL DWELLING UNIT RECEPTACLE OUTLETS SHALL BE LISTED "TAMPER-RESISTANT" RECEPTACLES.
19. INTERNALLY ILLUMINATED ADDRESS SIGNS MUST MEET RESIDENTIAL SIGN LIGHTING POWER REQUIREMENTS IN §140.8 OR USE NO MORE THAN 5 WATTS.
20. ELECTRIC READY: COOKTOP: REQUIRES A 240-VOLT/50-AMP FEED FOR FUTURE COOKTOP.
21. SMOKE ALARMS OR SMOKE DETECTORS SHALL BE INSTALLED A MINIMUM OF 20 FEET HORIZONTAL DISTANCE FROM A PERMANENTLY INSTALLED COOKING APPLIANCE. EXCEPTION: IONIZATION SMOKE ALARMS WITH AN ALARM SILENCING SWITCH OR PHOTOELECTRIC SMOKE ALARMS SHALL BE PERMITTED TO BE INSTALLED 10 FEET OR GREATER FROM A PERMANENTLY INSTALLED COOKING APPLIANCE.
22. KITCHEN HOOD REQUIRES A HERS RATED INSPECTION AS PER CF-1R.
23. ADU ELECTRICAL SERVICE 225 AMPS – NO. 4 COPPER. PROVIDE UFER OR OTHER APPROVED GROUND PER CEC250. ALL NEW SERVICES SUPPLYING THE DWELLING UNIT SHALL BE PROVIDED WITH A SURGE-PROTECTIVE DEVICE (TYPE 1) UNDER THE ELECTRICAL PANEL.
24. SPACE HEATING (FURNACE): REQUIRES A 240-VOLT/30-AMP ELECTRICAL FEED TO THE FURNACE FOR FUTURE HEAT PUMP. 25. GAS APPLIANCE INCLUDES GAS COOKTOP (18,000 BTU/H) AND GAS DRYER (20,000 BTU/H). GAS PIPE LENGTH OF SEGMENT IS 18 FT. TOTAL PIPE LENGTH IS 103 FT.


YANG ARCHITECT

WWW.YANGARCHITECT.COM
YANGARCHITECTINC@GMAIL.COM
(626)866-0234




JOB ADDRESS:

540 E MCKINLEY AVE
POMONA CA 91767

STAMP:

LICENSED ARCHITECT
YANG WANG
C-35954
REN.08/31/2027
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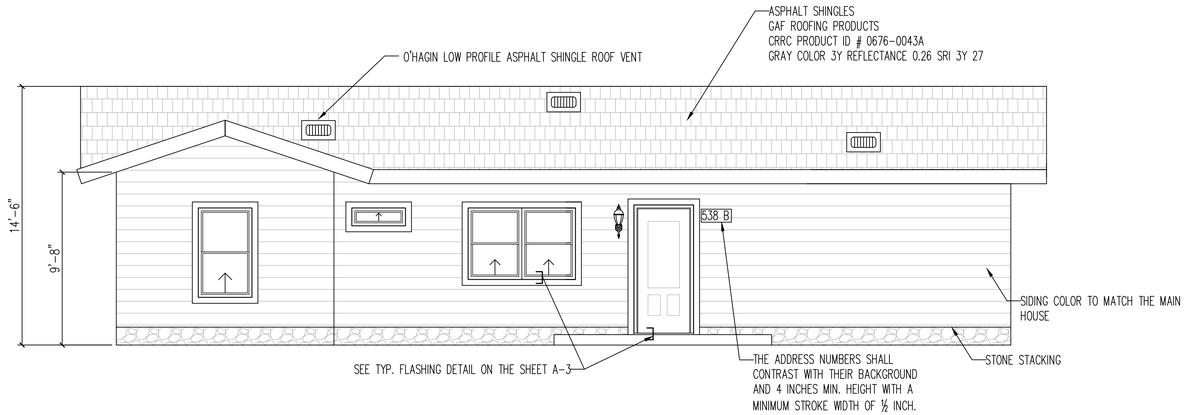
SHEET TITLE:

ADU ROOF PLAN
ADU ELECTRICAL PLAN

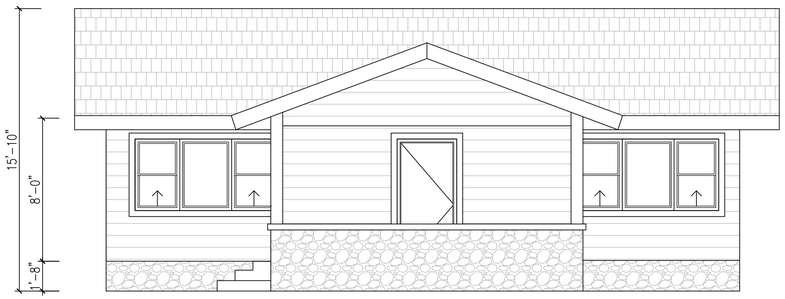
SHEET NUMBER:

A-4



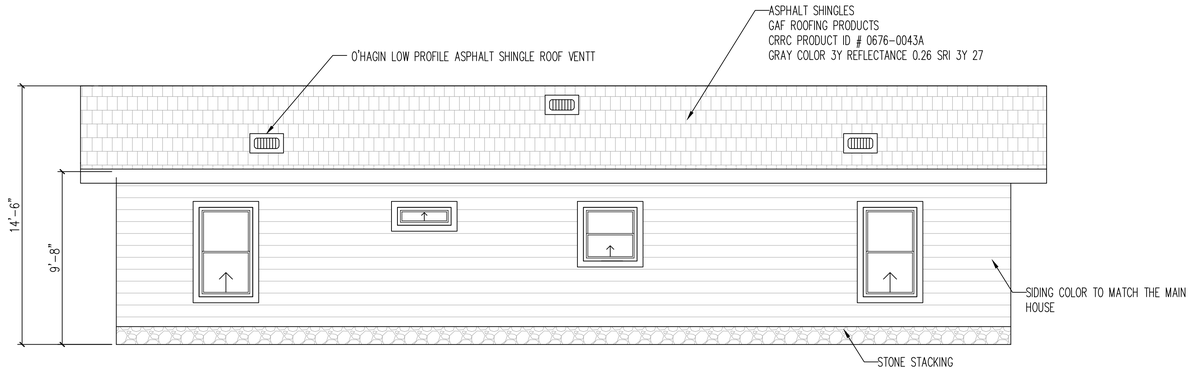

## NORTH ELEVATION

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



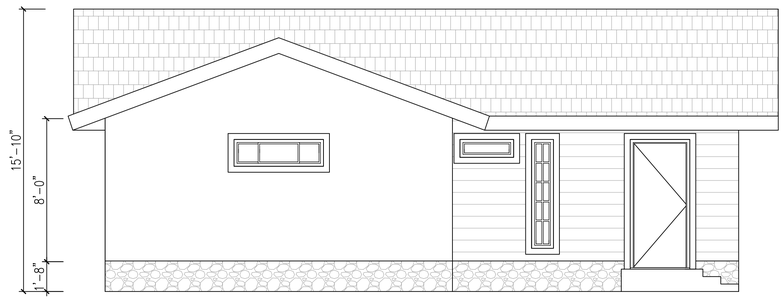

## NORTH ELEVATION-MAIN HOUSE

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




## SOUTH ELEVATION

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




## SOUTH ELEVATION-MAIN HOUSE

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

NOTE:

EXTERIOR COLORS AND MATERIALS OF THE PROPOSED ADU, INCLUDING WALLS, ROOF, AND WINDOWS MUST MATCH THE EXISTING MAIN HOUSE.
PROVIDE 2 LAYERS OF GRADE D PAPER WATER-RESISTIVE BARRIER FOR THE STUCCO EXTERIOR APPLICATION WHEN APPLIED TO WOOD-BASED SHEATHING ON THE ELEVATIONS.

YANG
ARCHITECT

WWW.YANGARCHITECT.COM
YANGARCHITECTINC@GMAIL.COM
(626)866-0234



JOB ADDRESS:

540 E MCKINLEY AVE
POMONA CA 91767

STAMP:

LICENSED ARCHITECT
YANG WANG
C-35954
REN.08/31/2027
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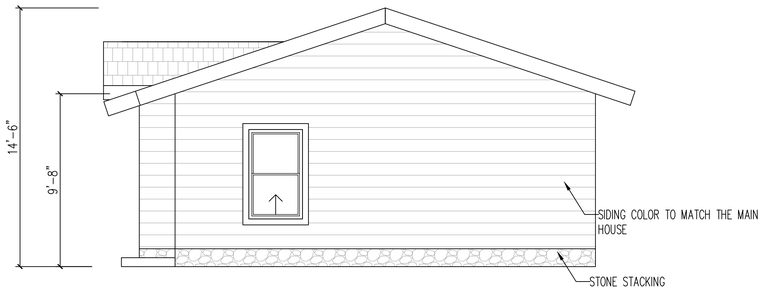
SHEET TITLE:

ELEVATION

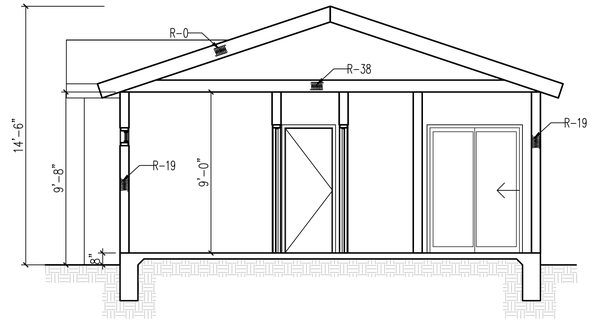
SHEET NUMBER:

A-5



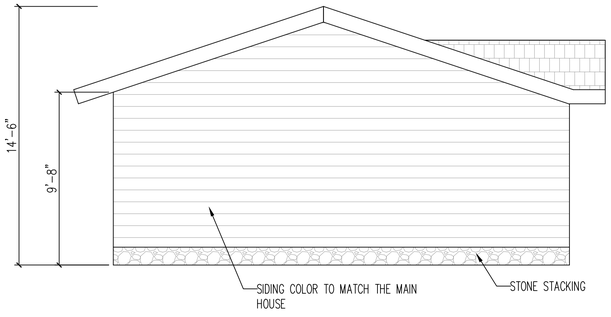

## WEST ELEVATION-ADU

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



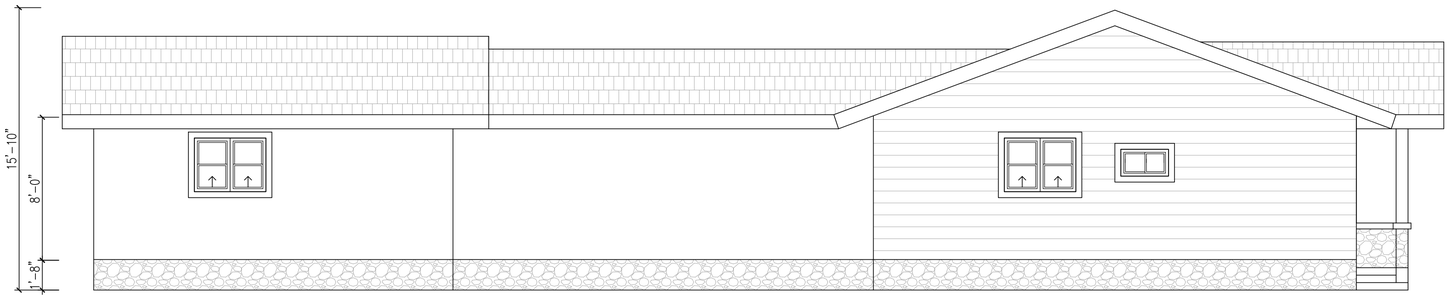

## SECTION A-A

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




## EAST ELEVATION-ADU

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




## EAST ELEVATION-MAIN HOUSE

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

NOTE:

EXTERIOR COLORS AND MATERIALS OF THE PROPOSED ADU, INCLUDING WALLS, ROOF, AND WINDOWS MUST MATCH THE EXISTING MAIN HOUSE.
PROVIDE 2 LAYERS OF GRADE D PAPER WATER-RESISTIVE BARRIER FOR THE STUCCO EXTERIOR APPLICATION WHEN APPLIED TO WOOD-BASED SHEATHING ON THE ELEVATIONS.

YANG
ARCHITECT

WWW.YANGARCHITECT.COM
YANGARCHITECTINC@GMAIL.COM
(626)866-0234



JOB ADDRESS:

540 E MCKINLEY AVE
POMONA CA 91767

STAMP:

LICENSED ARCHITECT
YANG WANG
C-35954
REN.09/30/2027
STATE OF CALIFORNIA

REVISIONS:

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SHEET TITLE:

ELEVATION
SECTION

SHEET NUMBER:

A-6

WINDOW/DOOR WOOD TRIM
WHITE COLOR

WINDOW/DOOR WOOD FRAMING
WHITE COLOR

FASCIA BOARD
WHITE COLOR

ASPHALT SHINGLES
GAF ROOFING PRODUCTS
CRRC PRODUCT ID # 0676-0043A
GRAY COLOR 3Y REFLECTANCE 0.26 SRI 3Y 27

WOOD SIDING
COLOR MATCH TO EXISTING MAIN HOUSE

| Dimensions | |
|---|---|
| Door Height (in.) | 81.688 in |
| Door Thickness (in.) | 1.75 in |
| Door Width (in.) | 37.563 in |
| Jamb Size (in.) | 4-9/16" |
| Nominal Door Height (in.) | 80 in |
| Nominal Door Thickness (in.) | 2 in |
| Nominal Door Width (in.) | 36 in |
| Rough Opening Height (in.) | 82.5 in |
| Rough Opening Width (in.) | 38.5 in |

| Details | |
|---|---|
| Bore Type | Double Bore |
| Color Family | Dark Brown |
| Color/Finish | Dark Chocolate |
| Door Configuration | Single Door |
| Door Glass Insulation | Tempered |
| Door Handing | Right-Hand/Inswing |
| Door Style | Traditional |
| Door Type | Exterior Prehung |
| Features | Glass Panel, Lockset Bore (Double Bore), Weatherstripping |
| Finish Type | Painted |
| Frame Material | Wood |
| Glass Caming Finish | Nickel |
| Glass Layout | 3/4 Lite |
| Glass Shape | Oval Lite |
| Glass Style | Decorative Glass |
| Hinge Finish | Satin Nickel |
| Hinge Type | Ball Bearing |
| Included | Instructions |
| Material | Fiberglass |
| Number of Hinges | 3 |
| Number of Lites | 1 Lite |
| Panel Type | 2 Panel |
| Product Weight (lb.) | 48.33 lb |
| Returnable | 90-Day |
| Suggested Application | Back, Front, Side |

36 IN. X 84 IN. RIGHT-HAND 3/4 OVAL BLAKELY
GLASS CHOCOLATE PAINT FIBERGLASS PREHUNG
FRONT DOOR W/ROT RESISTANT FRAME

SINGLE-HUNG WINDOW
WOOD FRAMING WITH WHITE COLOR

RIVER ROCK FOUNDATION
COLOR MATCH TO EXISTING MAIN HOUSE

YANG
ARCHITECT

WWW.YANGARCHITECT.COM
YANGARCHITECTINC@GMAIL.COM
(626)866-0234



JOB ADDRESS:

540 E MCKINLEY AVE
POMONA CA 91767

STAMP:

LICENSED ARCHITECT
YANG WANG
C-35954
REN.08/31/2027
STATE OF CALIFORNIA

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SHEET TITLE:

MATERIAL BOARD

SHEET NUMBER:

A-7

# 2022 CALIFORNIA GREEN BUILDING STANDARDS CODE
## RESIDENTIAL MANDATORY MEASURES, SHEET 1 (July 2024 Supplement)

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

# CHAPTER 3
# GREEN BUILDING
## SECTION 301 GENERAL

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

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

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

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

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

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

## SECTION 302 MIXED OCCUPANCY BUILDINGS

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

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

## DIVISION 4.1 PLANNING AND DESIGN

### ABBREVIATION DEFINITIONS:

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

# CHAPTER 4
# RESIDENTIAL MANDATORY MEASURES

## SECTION 4.102 DEFINITIONS

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

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

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

## 4.106 SITE DEVELOPMENT

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

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

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

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

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

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

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

**Exception**: Additions and alterations not altering the drainage path.

☐ ☑ **4.106.4 Electric vehicle (EV) charging for new construction.** New construction shall comply with Section 4.106.4.1 or 4.106.4.2. Electric vehicle supply equipment (EVSE) shall comply with the *California Electrical Code*.

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

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

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

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

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

**4.106.4.2.1 Reserved.**

☐ ☑ **4.106.4.2.2 Multifamily dwellings, hotels and motels**

**1. EV ready parking spaces with receptacles.**

**a. Hotels and motels.** Forty (40) percent of the total number of parking spaces shall be equipped with low power Level 2 EV charging receptacles.

**b. Multifamily parking facilities.** Forty (40) percent of the total number of parking spaces shall be equipped with low power Level 2 EV charging receptacles. EV charging receptacles required by this section shall be located in at least one assigned parking space per dwelling unit where assigned parking is provided but need not exceed forty (40) percent of the total number of assigned parking spaces provided on the site.

**Exception:** Areas of parking facilities served by parking lifts, including but not limited to automated mechanical-access open parking garages as defined in the *California Building Code*; or parking facilities otherwise incapable of supporting electric vehicle charging.

**c. Receptacle power source**. EV charging receptacles in multifamily parking facilities shall be provided with a dedicated branch circuit connected to the dwelling unit's electrical panel, unless determined as infeasible by the project builder or designer and subject to concurrence of the local enforcing agency.

**Exception:** Areas of parking facilities served by parking lifts, including but not limited to automated mechanical-access open parking garages as defined in the *California Building Code*; or parking facilities otherwise incapable of supporting electric vehicle charging.

**d. Receptacle configurations.** 208/240V EV charging receptacles shall comply with one of the following configurations:

1. For 20-ampere receptacles, NEMA 6-20R
2. For 30-ampere receptacles, NEMA 14-30R
3. For 50-ampere receptacles, NEMA 14-50R

**2. EV ready parking spaces with EV chargers.**

**a. Hotels and motels.** Ten (10) percent of the total number of parking spaces shall be equipped with Level 2 EV chargers. At least fifty (50) percent of the required EV chargers shall be equipped with J1772 connectors.

**b. Multifamily parking facilities.** Ten (10) percent of the total number of parking spaces shall be equipped with Level 2 EV chargers. At least fifty (50) percent of the required EV chargers shall be equipped with J1772 connectors. Where common use parking or unassigned parking is provided, EV chargers shall be located in common use or unassigned parking areas and shall be available for use by all residents or guests.

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

**4.106.4.2.2.1 Electric vehicle charging stations (EVCS).**
Electric vehicle charging stations required by Section 4.106.4.2.2, Item 2, with EV chargers installed shall comply with Section 4.106.4.2.2.1.1.

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

☐ ☑ **4.106.4.2.2.1.1 Electric vehicle charging stations (EVCS) spaces with EV chargers installed; dimensions and location.**

EVCS spaces shall be designed to comply with the following:

1. The minimum length of each EVCS space shall be 18 feet (5486 mm).
2. The minimum width of each EVCS space shall be 9 feet (2743 mm).
3. One in every 25 EVCS spaces, but not less than one, shall also have an 8-foot (2438 mm) wide minimum aisle. A 5-foot (1524 mm) wide minimum aisle shall be permitted provided the minimum width of the EVCS space is 12 feet (3658 mm). Surface slope for this EVCS space and the aisle shall not exceed 1 unit vertical in 48 units horizontal (2.083 percent slope) in any direction. These EVCS spaces shall also comply with at least one of the following:

   a. The EVCS space shall be located adjacent to an accessible parking space meeting the requirements of the *California Building Code*, Chapter 11A, to allow use of the EV charger from the accessible parking space.
   b. The EVCS space shall be located on an accessible route, as defined in the *California Building Code*, Chapter 2, to the building.
   **Exception:** Electric vehicle charging stations designed and constructed in compliance with the *California Building Code*, Chapter 11B, are not required to comply with Section 4.106.4.2.2.1.1.

**4.106.4.2.2.1.2 Accessible electric vehicle charging station spaces.**
In addition to the requirements in Section 4.106.4.2.2.1.1, all EV chargers, where installed, shall comply with the accessibility provisions for EV chargers in the *California Building Code*, Chapter 11B. EV ready spaces and EVCS in multifamily developments shall comply with *California Building Code*, Chapter 11A, Section 1109A.

**4.106.4.2.3 Reserved.**

**4.106.4.2.4 Reserved.**

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

☐ ☑ **4.106.4.3 Electric vehicle charging for additions and alterations of parking facilities serving existing multi-family buildings.**
Where new parking facilities are added, or electrical systems or lighting of existing parking facilities are added or altered and the work requires a building permit, ten (10) percent of the total number of parking spaces added or altered shall be EV capable spaces to support future Level 2 electric vehicle supply equipment. The service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging purposes as "EV CAPABLE."

**Notes:**

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

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

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

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

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

TABLE - MAXIMUM FIXTURE WATER USE

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

## DIVISION 4.2 ENERGY EFFICIENCY

### 4.201 GENERAL

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

## DIVISION 4.3 WATER EFFICIENCY AND CONSERVATION

### 4.303 INDOOR WATER USE

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

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

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

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

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

**4.303.1.3 Showerheads.**

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

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

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

**4.303.1.4 Faucets.**

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

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

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

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

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

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

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

TABLE H-2

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

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

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

Contractor — **4.303.4 OUTDOOR WATER USE**

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

**NOTES:**

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

## DIVISION 4.4 MATERIAL CONSERVATION AND RESOURCE EFFICIENCY

### 4.406 ENHANCED DURABILITY AND REDUCED MAINTENANCE

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

### 4.408 CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING

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

**Exceptions:**

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

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

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

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

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

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

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

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

**Notes**:

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

### 4.410 BUILDING MAINTENANCE AND OPERATION

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

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

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

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

## DIVISION 4.5 ENVIRONMENTAL QUALITY

### SECTION 4.501 GENERAL

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

### SECTION 4.502 DEFINITIONS

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

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

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

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



YANG
ARCHITECT

WWW.YANGARCHITECT.COM
YANGARCHITECTINC@GMAIL.COM
(626)866-0234



JOB ADDRESS:

540 E MCKINLEY AVE
POMONA CA 91767

STAMP:

LICENSED ARCHITECT
YANG WANG
C-35954
REN.08/31/2027
STATE OF CALIFORNIA

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SHEET TITLE:

GREEN STANDARD CODE

SHEET NUMBER:

A-8

# 2022 CALIFORNIA GREEN BUILDING STANDARDS CODE

## RESIDENTIAL MANDATORY MEASURES, SHEET 2 (July 2024 Supplement)

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

**MAXIMUM INCREMENTAL REACTIVITY (MIR).** The maximum change in weight of ozone formed by adding a compound to the "Base Reactive Organic Gas (ROG) Mixture" per weight of compound added, expressed to hundredths of a gram (g $O^3$g ROC).
Note: MIR values for individual compounds and hydrocarbon solvents are specified in CCR, Title 17, Sections 94700 and 94701.

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

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

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

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

### 4.503 FIREPLACES

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

### 4.504 POLLUTANT CONTROL

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

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

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

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

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

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

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

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

TABLE 4.504.1 - ADHESIVE VOC LIMIT[1,2]

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

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

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

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

TABLE 4.504.2 - SEALANT VOC LIMIT

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

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

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

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

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

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

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

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

TABLE 4.504.5 - FORMALDEHYDE LIMITS[1]

MAXIMUM FORMALDEHYDE EMISSIONS IN PARTS PER MILLION

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

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

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

## DIVISION 4.5 ENVIRONMENTAL QUALITY (continued)

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

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

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

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

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

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

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

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

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

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

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

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

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

### 4.505 INTERIOR MOISTURE CONTROL

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

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

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

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

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

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

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

### 4.506 INDOOR AIR QUALITY AND EXHAUST

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

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

**Notes:**

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

### 4.507 ENVIRONMENTAL COMFORT

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

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

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

## CHAPTER 7
## INSTALLER & SPECIAL INSPECTOR QUALIFICATIONS

### 702 QUALIFICATIONS

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

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

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

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

**Notes:**

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

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

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

### 703 VERIFICATIONS

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



YANG
ARCHITECT

WWW.YANGARCHITECT.COM
YANGARCHITECTINC@GMAIL.COM
(626)866-0234



JOB ADDRESS:

540 E MCKINLEY AVE
POMONA CA 91767

STAMP:

LICENSED ARCHITECT
YANG WANG
C-35954
REN.08/31/2027
STATE OF CALIFORNIA

REVISIONS:

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SHEET TITLE:

GREEN STANDARD CODE

SHEET NUMBER:

A-9