

BUSHELL RESIDENCE

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SANTA CLARA, CA 95051

ABBREVIATIONS		PROJECT GENERAL NOTES		PROJECT DATA		SHEET INDEX																																																		
<p>A.B. ANCHOR BOLT ABV. ABOVE AC AIR CONDITIONING ACOUS. ACoustical ADJ. ADJACENT ADJ. ADJUSTABLE AL. ALUMINUM ALT. ALTERNATE AMP. AMPERAGE AVG. AVERAGE BD. BOARD BLOG. BUILDING BLOCKING BLOCKING BLT-IN BUILT-IN BM. BEAM BN. BOUNDARY NAILING BRG. BEARING B.S. BAR SINK CABT. CABINET CALC. CALCULATION CMBR. CAMBER C.H.C. CEILING HEIGHT CHANGE CHANGE C.I. CAST IRON C.L. CENTER LINE CL. CLEAR CLR. COUNTER CONTRP. CONCRETE C.O. CASED OPENING C.P. CONT. JOINT CONT. CONTIGUOUS C.R. CASEMENT WINDOW C.T. CERAMIC TILE D.T. DOUBLE D.F. DOUGLAS FIR DA, OR Ø DIAMETER DM. DIMENSION DN. DOWNSPROUT DRP. DRAIN D.S. DETAIL D.W. DOWEL DWC. DRAWING DWR. DRAWER EA. EACH ELECT. ELECTRICAL ELEV. ELEVATION EDGE EDGE NAILING EQ. EQUAL EW. EXHAUST EXT. EXTERIOR EX. EACH WAY FAU. FORGED AIR UNIT F.G. FINISH GRADE F.G. FUEL GAS F.N. FINISH F.N.FL. FINISH FLOOR F.J. FLOOR JOIST FL. FLOOR FLOR. FLOODEST F.L. FLOOR MATERIAL CHANGE CHANGE F.M. FIELD NAILING FOUN. FOUNDATION F.O.C. FACE OF CURB F.O.M. FACE OF MASONRY F.O.S. FACE OF STUDS F.F. FRENCH DOOR FTG. FOOTING</p>	<p>GA. GAUGE GALV. GALVANIZED G.D. GYPSUM BOARD G.D. GARBAGE DISPOSAL GAUGE DOOR GAUGE DOOR OP. OPERATOR G.F.I. GROUND-FAULT INTERRUPTER INTERRUPTER GL. GALVANIZED IRON GRD. GRADE GRND. GROUND GYP. GYPSUM G.L.B. GLEUELAMINATED BEAM BEAM H.T. HOLLOW TRUSS H.C. HOLLOW CORE H.D. HOLD DOWN ANCHOR HDR. HEADER HET. HANGER HNGR. HANGER INSUL. INSULATION INT. INTERIOR LAV. LAVATORY LAM. LAMINATED L.F. LINEAL FEETFOOT L.L. LOG LIGHTER LUM. LUMINOUS LVR. LAMBER MAR. MARBLE M.C. MAXIMUM M.B. MACHINE BOLT M.C. MEDICINE CABINET MFR. MANUFACTURER MIN. MINIMUM M.L. MICRO LAM M.D. MASONRY OPENING M.TD. MOUNTED MTL. METAL N.G. NATURAL GRADE NOT IN CONTRACT NOT IN CONTRACT NOM. NOMINAL N.T.S. NOT TO SCALE O. OVER O.A. OVER ALL Ø OVER OSB. OSB/CORC O.C. OR TO CENTER O.H. OVERHEAD OPENING OPENING OSA. OUTSIDE AIR GRAINATED STRAND GRAINATED STRAND BOARD BOARD P.S.B. PUSH BUTTON P.C. PORTLAND CEMENT P.C. FULL CHAIN P.C. PECE PH. PHONE P.L.T. PLASTER PL. PLASTER PLYWD. PLYWOOD PAIR PAIR POUNDS/SQUARE FOOT POUNDS/SQUARE FOOT PSF POUNDS/SQUARE INCH PARALLAM PARALLAM P.T.D.F. PRESSURE TREATED TREATED DOUGLAS FIR DOUGLAS FIR PVC POLY VINYL CHLORIDE</p>	<p>R. RISER RAD. RADIAL/RADIUS RALS. RETURN AIR GRILLE RECFPT. RECEPTACLE REF. REFERENCE REFR. REFRIGERATOR REIN. REINFORCING RES. RE-SAWN REV. REVISION R.V. ROOF JOIST ROUN. ROUGH ROOF OPENING ROOF JOIST R.O.S. ROUGH SAWS R.R. ROOF RAFTER RWD. REDWOOD S. SINK S.C. SOLID CORE SCHEDULE SCHEDULE SCRND. SCREENED SEC. SECTION SEL. SELECT SEL.STR. SELECT SER. SERVICE SINGLE HUNG SINGLE HUNG SHT. SHEET SHTNG. SHEATHING SHWR. SHOWER SL. SLIDING SPN. SPLASH SPL. SILL PLATE NAILING S.P.F. SERVICE SINK S.S. SERVICE SINK STD. STANDARD S.V. STREET VINYL STRUCT. STRUCTURAL SW. SWITCH T.B. TOP & BOTTOM T.C. TEMPERED GLASS TEMPERED GL. TEMPERED GLASS T.G.G. TONGUE & GROOVE T.O.C. TOP OF CURB T.O.M. TOP OF MASONRY T.O.W. TOP OF WALL TV. TELEVISION UNFIN. UNFINISHED UNRNL. UNLESS NOTED UNLESS NOTED UNLESS NOTED OTHERWISE OTHERWISE VAN. VANITY VEN. VENER VERT. VERTICAL V.P. VERTICAL GRAIN V.B. VAPOR BARRIER V.P. VAPORPROOF W. WASHER W. WITH W.C. WATER CLOSET WOOD WOOD WINDOW WINDOW W.H. WATER HEATER W.P. WEATHER PROOF WIRE WIRE WT. WEIGHT</p>	<p>REGULATORY REQUIREMENTS: 1. ALL WORK AND MATERIALS SHALL COMPLY WITH ALL REQUIREMENTS OF ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES, LAWS AND REGULATIONS GOVERNING CONSTRUCTION, BUILDING ACCESS, AND THE USE OF FACILITIES. THIS INCLUDES THE 2022 CALIFORNIA BUILDING CODE & ALL CODES, ORDINANCES AND LAWS ADOPTED BY THE CITY OF SANTA CLARA, CA. 2. THE GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION (AIA DOCUMENT A201 2007 EDITION), GOVERNS THIS WORK U.O.N. 3. THE CONTRACTOR IS RESPONSIBLE FOR EXAMINING ALL CONTRACT DOCUMENTS AND FIELD CONDITIONS AND SHALL BE RESPONSIBLE FOR NOTIFYING THE OWNER OF ANY EXISTING CONDITIONS. SUBMIT WRITTEN EXCEPTIONS OR OBJECTIONS, WITH ANALYSIS AND RECOMMENDATIONS TO THE OWNER PRIOR TO SUBMITTING BID COSTS. 4. ALL MECHANICAL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE 2022 CALIFORNIA MECHANICAL CODE OR OVERRIDING LOCAL MECHANICAL CODES. 5. ALL PLUMBING CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE 2022 CALIFORNIA PLUMBING CODE OR OVERRIDING LOCAL PLUMBING CODES. 6. ALL ELECTRICAL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE 2022 CALIFORNIA ELECTRICAL CODE OR OVERRIDING LOCAL ELECTRICAL CODES. 7. ALL SHEET METAL WORK AND FLASHING SHALL CONFORM TO S.M.A.C.N.A. STANDARDS. 8. CITY AMENDMENTS: CITY OF SANTA CLARA CODE 9. ALL BUILDING STANDARDS CONSTRUCTION MATERIALS AND PRODUCTS SHALL CONFORM TO THE MOST CURRENT STANDARDS AND DETAILS AS OUTLINED IN THE SPECIFICATIONS, EXCEPT AS EXPLICITLY SUPERSEDED HEREIN.</p> <p>SUBSTITUTIONS: 1. REQUEST FOR SUBSTITUTION WILL BE RECEIVED FROM THE GENERAL CONTRACTOR ONLY. 2. PRODUCTS IN THE CONSTRUCTION DOCUMENTS IDENTIFIED BY NAME, BRAND OR MODEL OF A MANUFACTURER'S ARTICLE SHALL BE PROVIDED UNLESS A WRITTEN REQUEST FOR SUBSTITUTION IS ACCEPTED BY THE ARCHITECT. IN THE EVENT THAT THE CONTRACTOR MAKES A SUBSTITUTION WITHOUT PRIOR APPROVAL FROM THE ARCHITECT, THE CONTRACTOR SHALL BE REQUIRED TO REMOVE THE SUBSTITUTION AND REPLACE IT PER SPECIFICATIONS WITHOUT ANY ADJUSTMENT TO THE CONTRACT AMOUNT OR TIME. 3. THE PRODUCTS DESCRIBED IN THE CONSTRUCTION DOCUMENTS ESTABLISH A STANDARD OF REQUIRED FUNCTION, DIMENSION, APPEARANCE, AND QUALITY TO BE MET BY ANY PROPOSED SUBSTITUTION. THE BURDEN OF PROOF OF THE MERIT OF THE PROPOSED SUBSTITUTION IS UPON THE PROPOSER. THE OWNER'S DECISION OF THE APPROVAL OR DISAPPROVAL SHALL BE FINAL. 4. THE REQUEST SHALL INCLUDE ANY CHANGE REQUIRED IN OTHER ELEMENTS OF THE WORK DUE TO THE SUBSTITUTION.</p> <p>SUBMITTALS: 1. SCHEDULE SUBMITTALS TO EXPEDITE PROJECT; AS TO CAUSE NO DELAY IN THE WORK OR IN THE WORK OF THE OWNER OR ANY SEPARATE CONTRACTOR. SUBMITTALS NOT SPECIFICALLY REQUESTED SHALL BE RETURNED WITHOUT REVIEW. 2. SHOP DRAWINGS SHALL BE DRAWN AT A SCALE SUFFICIENT FOR CLARITY AND COORDINATION AND SHALL SHOW NECESSARY WORKING AND ERECTION DIMENSIONS. 3. CIRCLE ALL DEVIATIONS FROM THE CONSTRUCTION DOCUMENTS AND PROVIDE A BRIEF WRITTEN EXPLANATION TO CLARIFY AND SUPPORT REASONS FOR PROPOSED DEVIATION. 4. THE CONTRACTOR SHALL PROVIDE THE OWNER A PROJECT SCHEDULE OUTLINING THE WORK TO OCCUR, AND THE MATERIALS BEING ORDERED ON A PROJECT BASIS PRIOR TO BEGINNING THE PROJECT. 5. THE CONTRACTOR SHALL ALLOW 5 DAYS FOR ARCHITECT AND OWNER TO REVIEW SUBMITTALS. 6. ALL SUBMITTALS SHALL BE ACCOMPANIED BY A SUBMITTAL COVER SHEET. ALL SUBMITTALS SHALL BE REVIEWED AND APPROVED BY GENERAL CONTRACTOR PRIOR TO BEING SEND TO ARCHITECT AND OWNER FOR REVIEW. 7. SUBMITTALS SENT FOR ARCHITECT AND OWNER REVIEW THAT DO NOT HAVE THE STAMP OF THE GENERAL CONTRACTOR WILL BE RETURNED WITHOUT REVIEW.</p> <p>PROTECTIONS: 1. BY ACCEPTING THESE DRAWINGS THE CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE SAFETY CONDITIONS FOR ALL PERSONS AND PROPERTY. CONTINUOUSLY DURING CONSTRUCTION OF THIS PROJECT, AND NOT LIMITED TO NORMAL WORKING HOURS. 2. THE CONTRACTOR SHALL PROTECT NEW AND EXISTING WORK, EQUIPMENT, MATERIALS AND FINISHES. DAMAGED ITEMS SHALL BE REPAIRED OR REPLACED AT THE EXPENSE OF THE GENERAL CONTRACTOR. 3. THE CONTRACTOR SHALL AT ALL TIMES DURING THE COURSE OF THE CONTRACT KEEP THE BUILDING, THE OWNER'S PREMISES AND THE ADJOINING PREMISES, INCLUDING STREETS AND OTHER AREAS ASSIGNED TO, OR USED BY THE CONTRACTOR, FROM ACCUMULATIONS OF WASTE, MATERIALS AND RUBBISH CAUSED BY HIS EMPLOYEES. SUBCONTRACTORS OR THEIR WORK. 4. CONTRACTOR SHALL VERIFY LOCATION OF TRANSFORMERS AND UNDERGROUND UTILITIES WITH APPLICABLE UTILITY COMPANIES. 5. CONTRACTOR SHALL PROTECT FROM DAMAGE AND KEEP CLEAN ALL COMMON AREAS OF THE PROJECT.</p> <p>PERFORMANCE REQUIREMENTS: 1. DO NOT SCALE DRAWINGS. 2. ALL DIMENSIONS AND CONDITIONS SHALL BE VERIFIED AND CHECKED BY THE GENERAL CONTRACTOR AND THE SUBCONTRACTORS PRIOR TO BEGINNING WORK AND PRIOR TO ORDERING ANY MATERIALS, ANY ERRORS, OMISSIONS OR DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND THE GENERAL CONTRACTOR. SHOULD THERE BE ANY DISCREPANCIES, ERRORS OR OMISSIONS IN THESE DRAWINGS OR SPECIFICATIONS, THE CONTRACTOR SHALL NOTIFY THE OWNER AND WANT TO RECEIVE WRITTEN INSTRUCTIONS BEFORE PROCEEDING WITH THAT PORTION OF THE WORK. 3. THESE DRAWINGS AND SPECIFICATIONS ARE DIVIDED INTO SECTIONS FOR CONVENIENCE ONLY. CONTRACTORS, SUBCONTRACTORS, AND MATERIAL SUPPLIERS SHALL REFER TO ALL RELEVANT SECTIONS IN BIDDING AND PERFORMING THEIR WORK, AND SHALL BE RESPONSIBLE FOR ALL ASPECTS OF THEIR WORK REGARDLESS OF WHERE THE INFORMATION OCCURS ON THE DRAWINGS. 4. SUBCONTRACTORS SHALL BE RESPONSIBLE FOR COORDINATION OF THEIR WORK WITH THE WORK OF OTHER SUBCONTRACTORS. SUBCONTRACTORS SHALL VERIFY THAT ANY WORK RELATED TO THEM, WHICH MUST BE PROVIDED BY OTHERS, HAS BEEN COMPLETED AND IS ADEQUATE PRIOR TO COMMENCING THEIR WORK. 5. PROVIDE STRUCTURAL BRACING FOR ALL WALL MOUNTED EQUIPMENT. 6. CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN, COORDINATION, AND EXECUTION OF CONSTRUCTION MEANS, METHODS AND PROCEDURES. 7. PATCH AND REPAIR ALL DISTURBED AREAS TO MATCH ADJACENT SYSTEMS, MATERIALS, AND FINISHES, UNLESS OTHERWISE NOTED. 8. INSTALL ALL MATERIALS AND EQUIPMENT AS PER MANUFACTURERS WRITTEN RECOMMENDATIONS. 9. ALL INTERIOR DIMENSIONS SHOWN IN FLOOR PLANS ARE FACE OF FINISH U.O.N. 10. ALL EXTERIOR DIMENSIONS ARE SHOW FACE OF FRAMING, U.O.N. 11. DETAILS SHOWN ARE TYPICAL. SIMILAR DETAILS APPLY IN SIMILAR CONDITIONS. 12. ALL GLAZING SUBJECT TO HUMAN CONTACT SHALL BE 1/4" TEMPERED GLASS UNLESS OTHERWISE NOTED. 13. CONTRACTOR SHALL FURNISH AND INSTALL ALL DOORS COMPLETE WITH ALL HARDWARE AS REQUIRED BY CODE AND/OR SPECIFIC INSTALLATION. 14. FIRE EXTINGUISHERS SHALL BE LOCATED ACCORDING TO CODE REQUIREMENTS AND MEET ALL APPLICABLE CODES. 15. WHERE NEW WALLS ADJACENT TO EXISTING WALLS, RESULTANT WALL SURFACES SHALL FORM A SMOOTH AND CONTINUOUS PLANE. 16. AT THE COMPLETION OF THE WORK THE CONTRACTOR SHALL REMOVE ALL EXCESS MATERIALS AND DEBRIS, AND CLEAN ALL NEW WORK TO THE OWNER'S SATISFACTION, INCLUDING BUT NOT LIMITED TO CLEANING INTERIOR GLASS, CLEANING ALL MILLWORK, INSIDE AND OUTSIDE OF CABINETS, AND CLEANING AND WAXING FLOORS. 17. ALL BUILDING MATERIALS SHALL BE THE MOST NONTOXIC AND THE LOWEST POLLUTING AVAILABLE. THE BUILDING SHALL BE VENTILATED DURING CONSTRUCTION. 18. NAIL UP ALL BOXES FOR REVIEW PRIOR TO WIRING. VERIFY ALL LOCATIONS OF POWER OUTLETS, PHONE JACKS, TV, LIGHT FIXTURES AND SWITCHES W/ OWNER PRIOR TO WIRING. 19. CONTRACTOR SHALL PROVIDE SAMPLES OF ALL MATERIALS (INCLUDING BUT NOT LIMITED TO: TILE, TILE TRIM, PAINT, ROOFING, SIDING, WOOD TRIM, WOOD BASE, COUNTERTOPS AND HARDWARE) TO THE OWNER FOR APPROVAL PRIOR TO ORDERING MATERIALS. 20. THE CONTRACTOR SHALL VERIFY THESE WEIGHS PRIOR TO COVER UP OF THE SPECIAL WIRING REQUIREMENTS SUCH AS ALARMS AND STEREO SYSTEMS. 21. ALL MECHANICAL, ELECTRICAL, AND PLUMBING SHALL BE DESIGN BUILT BASED ON INFORMATION PROVIDED BY THE CONSTRUCTION DOCUMENTS. 22. A MINIMUM OF 80 PERCENT OF THE CONSTRUCTION WASTE GENERATED AT THE SITE IS DIVERTED TO RECYCLE OR SALVAGE. 23. AN OPERATION AND MAINTENANCE MANUAL SHALL BE PROVIDED TO THE BUILDING OCCUPANT OR OWNER. DEFINITIONS: "TYPICAL" MEANS IDENTICAL FOR ALL SIMILAR CONDITIONS. U.O.N. "SIMILAR" MEANS COMPARABLE CHARACTERISTICS FOR THE CONDITIONS NOTED. "ALIG" MEANS TO ACCURATELY LOCATE FINISHES IN THE SAME PLANE. 24. BUILDING ADDRESS: TO BE POSTED IN A CONSPICUOUS PLACE AND LIGHTED EXTERNALLY. NUMBERS SHALL BE OF CONTRASTING COLOR TO BACKGROUND COLOR.</p>	<p>LOCAL JURISDICTION: CITY OF SANTA CLARA, CA ASSESSOR'S PARCEL NUMBER: 294-31-004 PROJECT ADDRESS: 462 MURIEL COURT SANTA CLARA, CA 95051 ZONING: R1-4L - SINGLE FAMILY OCCUPANCY GROUP: R-1 SINGLE FAMILY RESIDENTIAL CONSTRUCTION TYPE: TYPE V-B (NON-SPRINKLERED) NO. OF STORES: EXISTING - 2 STORY PROPOSED - 2 STORY AREA: LOT SIZE / AREA: 10,248 SF EXISTING #1 FIRST FLOOR 1,638 SF #2 SECOND FLOOR 774 SF #3 GARAGE 458 SF 2,869 SF PROPOSED FIRST FLOOR 2,229 SF SECOND FLOOR 1,045 SF 2,248 GARAGE 458 SF 3,732 SF FAR EXISTING HOUSE: 28% FAR PROPOSED HOUSE: 36.4%</p>	<p>DEVELOPMENT REVIEW 4/14/2023</p> <p>ARCHITECTURAL</p> <table border="1"> <thead> <tr> <th>NO.</th> <th>PROJECT DATA AND INFORMATION</th> <th></th> </tr> </thead> <tbody> <tr> <td>A0.1</td> <td>PROJECT DATA AND INFORMATION</td> <td>X</td> </tr> <tr> <td>A0.2</td> <td>CAL GREEN REQUIREMENTS</td> <td>X</td> </tr> <tr> <td>A0.3</td> <td>CAL GREEN REQUIREMENTS</td> <td>X</td> </tr> <tr> <td>A0.4</td> <td>MF-1R MANDATORY RESIDENTIAL</td> <td>X</td> </tr> <tr> <td>A1.1</td> <td>EXISTING SITE PLAN</td> <td>X</td> </tr> <tr> <td>A1.2</td> <td>PROPOSED SITE PLAN</td> <td>X</td> </tr> <tr> <td>A1.3</td> <td>EXISTING AREA VS. 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<p>JOB SITE CONDITIONS</p> <p>SAFETY: THE GENERAL CONTRACTOR IS RESPONSIBLE FOR ALL SAFETY PRECAUTIONS OR SAFETY PROGRAMS USED TO PROVIDE A SAFE WORKING ENVIRONMENT ON THE JOB SITE.</p> <p>CONSTRUCTION EXECUTION: EACH CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, TOOLS, TRANSPORTATION, AND EQUIPMENT NECESSARY TO PERFORM ALL WORK UNDER HIS TRADE IN FULL ACCORDANCE WITH THE WORKING DRAWINGS, SPECIFICATIONS AND CONTRACTS.</p> <p>JOB SITE CONDITIONS: EACH CONTRACTOR SHALL CLEAN UP AND REMOVE ALL DEBRIS RESULTING FROM HIS WORK PRIOR TO SUBMITTING REQUEST FOR PROGRESS PAYMENT. NO CASES WILL FINAL PAYMENT BE ISSUED TO EITHER THE PRIME CONTRACTOR OR ANY SUB-CONTRACTOR UNTIL ALL DEBRIS AND EQUIPMENT OWNED BY SAID CONTRACTORS, HAS BEEN REMOVED FROM THIS PROJECT SITE OR UNTIL OWNER APPROVAL HAS BEEN GRANTED.</p> <p>THE RESPONSIBLE PARTY: EITHER THE PROJECT OWNER OR THIS SIGNED DESIGNER, SHALL BE NOTIFIED OF ERRORS OR OMISSIONS FOR CORRECTIONS BEFORE PROCEEDING WITH THE WORK.</p> <p>STORAGE: MATERIALS STORED ON SITE SHALL BE PROTECTED FROM DAMAGE BY MOISTURE, WIND, SUN, ABUSE OR ANY OTHER HARMFUL AFFECTS.</p> <p>CHANGES: ANY MINOR OR REQUIRED CHANGES OR MODIFICATIONS TO THIS PLAN DO NOT REDUCE OR VOID THE COPYRIGHTS COVERING THIS SET OF PLANS IN ANY WAY. MODIFICATIONS TO THIS PLAN FOR ANY REASON, SHOULD BE ATTEMPTED BY AND ARCHITECT OR ENGINEER ONLY. DESIGNER ACCEPTS NO RESPONSIBILITY FOR THE QUALITY AND COMPLETENESS OF ANY CHANGES ATTEMPTED.</p> <p>MATERIALS: ALL MATERIALS, SUPPLIES AND EQUIPMENT SHALL BE INSTALLED PER MANUFACTURERS RECOMMENDATIONS AND PER APPLICABLE CODES AND REQUIREMENTS. THE DESIGNER SHALL HAVE NO CONTROL, OR CHANGE OF AND SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNOLOGIES, SEQUENCES, OR PROCEDURES IN CONNECTION WITH THE WORK, FOR THE ACTS OR OMISSIONS OF THE CONTRACTOR, SUB-CONTRACTOR, OR ANY OTHER PERSON PERFORMING ANY OF THE WORK, OR FOR THE FAILURE OF ANY OF THEM TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.</p>																																																								
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2022 CALIFORNIA GREEN BUILDING STANDARDS CODE

RESIDENTIAL MANDATORY MEASURES, SHEET 1 (January 2023)



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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 applicable sections of this code. Voluntary green building measures shall also be included in application checklists and be included in the design and construction of structures covered by this code, but not required unless adopted by a city, county, or other 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, misting and repainting or maintaining existing light fixtures are not considered alterations for the purpose of this section.

Note: On and after January 1, 2024, 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 11011, et seq., for the definition of a noncompliant plumbing fixture, types of residential buildings affected and other important exemptions.

301.1.2 LOW-RISE AND HIGH-RISE RESIDENTIAL BUILDINGS. [HCD] The provisions of individual sections of CALGreen may apply to either low-rise residential buildings, or both. Individual sections will designate by the letters to indicate where the section applies specifically to low-rise only (LR), to high-rise only (HR), or 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.

Exception:

- (HCD) Accessory structures and accessory occupancies serving residential buildings shall comply with Chapter 4 and Appendix AA, as applicable.
- (HCD) For purposes of CALGreen, low-rise units complying with Section 419 of the California Building Code shall not be considered mixed occupancy. Live/work units shall comply with Section 4 and Appendix AA, as applicable.

DIVISION 4.1 PLANNING AND DESIGN ABBREVIATION DEFINITIONS:

HCD: Department of Housing and Community Development
BSC: California Building Standards Commission
CESA-03: California Earthquake Safety Act of 2003
OSHPD: Office of Statewide Health Planning and Development
LR: Low Rise
HR: High Rise
NA: 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, lava or other depressed area, usually filled with rock, gravel, fragments of lava, or similar pervious material used to collect or channel drainage or runoff water.

WATERS. Wastes are used to reduce sediment in runoff. Wastes are often constructed of natural plant materials such as hay, straw or similar material stacked in the form of bales and placed on a protective slope. Wastes are also used for perimeter and inlet controls.

4.102.2 STORM WATER DEVELOPMENT

4.102.2.1 Stormwater management shall be based on the use of available natural resources that be accomplished through evaluation and careful planning to minimize negative effects on the site and adjacent areas. Preservation of slopes, management of stormwater drainage and erosion controls shall comply with this section.

4.102.2.2 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 stormwater drainage during construction. In order to manage stormwater 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 from the site:

- Retention basins of sufficient size shall be utilized to retain storm water on the site.
- 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 siltar system, wattle or other method approved by the enforcing agency.
- Completion with carefully eroded storm water management components.

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, or (Website: https://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.htm)

4.106.1 GRADING AND PAVING. Construction plans shall indicate 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:

- Swales
- Water collection and disposal systems
- French drains
- Water retention gardens
- Other water management systems which keep surface water away from buildings and aid in groundwater recharge.

Exception: Additions and alterations not altering the drainage path.

4.106.1.1 Electric vehicle (EV) charging for new construction. New construction shall comply with Sections 4.106.1.2 through 4.106.1.4 including the use of EV chargers. Electric vehicle supply equipment (EVSE) shall be installed in accordance with the California Electrical Code, Article 625.

Exception:

- 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:
 - Where there is no local utility power supply or the local utility is unable to supply adequate power.
 - 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 4.106.1, have adversely impacted the construction cost of the project.
- Accessory Dwelling Units (ADU) and Junior Accessory Dwelling Units (JADU) without additional parking facilities.

4.106.1.1.1 New one- and two-family dwellings and townhouses with attached private garages. For each dwelling a listed roadway is accessible to a minimum 2082-volt dedicated EV branch circuit. The roadway shall not be less than trade size 1 (nominal 1 1/8 inch inside diameter). The roadway shall originate at the main service disconnect and shall terminate into a listed cabinet, box or enclosure in close proximity to the proposed location of an EV charger. Roadways are required to be continuous, accessible, non-sloped, and shall be installed in accordance with the California Electrical Code, Article 625. The roadway shall have a 40-ampere minimum dedicated branch circuit and (speak) shall be protected by a branch circuit overcurrent protective device.

Exception: A roadway is not required if a minimum 40-ampere 2082-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.

4.106.1.1.2 Identification. The service panel or subpanel circuit directory shall identify the overcurrent protective device (speak) reserved for future EV charging as "EV CAPABLE". The roadway termination point shall be permanently and visibly marked as "EV CAPABLE".

4.106.1.2 New multifamily dwellings, hotels and motels and new residential parking facilities. When parking is provided, parking spaces for new multifamily dwellings, hotels and motels shall meet the requirements of Sections 4.106.2.1 and 4.106.2.2. Calculators for spaces shall be rounded up to the nearest whole number. A parking space reserved for electric vehicle supply equipment or designed as a future EV charging space shall count as at least one standard automobile parking space only for the purpose of complying with any applicable minimum parking space requirements established by a local jurisdiction. See California Code of Regulations 916.1 for further details.

4.106.1.2.1 Multifamily development projects with less than 20 dwelling units, and hotels and motels with less than 20 sleeping units or guest rooms.

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

Exception:

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

Notes:

- A construction documents are intended to demonstrate the project's capability and capacity for facilitating future EV charging.
- There is no requirement for EV spaces to be constructed or available until EV chargers are installed for use.

4.106.1.2.2 Multifamily development projects with 20 or more dwelling units, hotels and motels with 20 or more sleeping units or guest rooms.

The number of dwelling units, sleeping units or guest rooms shall be based on a project site subject to this section.

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

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

Exception:

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

Notes:

- A construction documents are intended to demonstrate the project's capability and capacity for facilitating future EV charging.
- There is no requirement for EV spaces to be constructed or available until receptacles for EV charging or EV chargers are installed for use.

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

Exception: Areas of parking facilities served by parking lifts.

4.106.2.2 Multifamily development projects with 20 or more dwelling units, hotels and motels with 20 or more sleeping units or guest rooms.

The number of dwelling units, sleeping units or guest rooms shall be based on a project site subject to this section.

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

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

Exception: When EV chargers (Level 2 EVSE) are installed in a number greater than five (5) percent of parking spaces required by Section 4.106.2.2.2, Item 3, the number of EV capable spaces required may be reduced by a number equal to the number of EV chargers installed.

Notes:

- A construction documents shall show locations of future EV spaces.
- There is no requirement for EV spaces to be constructed or available until receptacles for EV charging or EV chargers are installed for use.

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

Exception: Areas of parking facilities served by parking lifts.

4.106.2.2 Multifamily development projects with 20 or more dwelling units, hotels and motels with 20 or more sleeping units or guest rooms.

The number of dwelling units, sleeping units or guest rooms shall be based on a project site subject to this section.

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

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

Exception: When EV chargers (Level 2 EVSE) are installed in a number greater than five (5) percent of parking spaces required by Section 4.106.2.2.2, Item 3, the number of EV capable spaces required may be reduced by a number equal to the number of EV chargers installed.

Notes:

- A construction documents shall show locations of future EV spaces.
- There is no requirement for EV spaces to be constructed or available until receptacles for EV charging or EV chargers are installed for use.

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

Exception: Areas of parking facilities served by parking lifts.

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

When low power Level 2 EV charging receptacles or Level 2 EVSE are installed beyond the minimum required, an automatic load management system (ALMS) may be used to reduce the maximum required electrical capacity to each space served by the ALMS. The electrical system and any on-site distribution transformers following shall have sufficient capacity to deliver at least 3.0 MW simultaneously to each EV charging station (EVCS) served by the ALMS. The service panel shall have a minimum capacity of 40 amperes, and installed EVCS shall have a capacity of not less than 30 amperes. ALMS shall not be used to reduce the minimum required electrical capacity to the required EV capable spaces.

4.106.2.2.1 Electric vehicle charging stations (EVCS).

4.106.2.2.1.1 Electric vehicle charging stations shall be installed in accordance with Section 4.106.4.2.2.1. Standards for electric vehicle charging stations required by Section 4.106.4.2.2.1, Item 3, shall comply with Section 4.106.4.2.2.1, Item 3.

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.

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

- The charging space shall be located adjacent to an accessible parking space meeting the requirements of the California Building Code, Chapter 11A, to allow use of the EV charger from the accessible parking space.
- The charging space shall be located on an accessible route, as defined in the California Building Code, Chapter 2, to the building.

Exception: Electric vehicle charging stations designed and constructed in compliance with the California Building Code, Chapter 11B, are not required to comply with Section 4.106.2.2.1.2, Item 1 and Section 4.106.4.2.2.1, Item 3.

4.106.2.2.1.2 Electric vehicle charging stations (EVCS) dimensions.

The charging spaces shall be designed to comply with the following:

- The minimum length of each EV space shall be 14 feet (5486 mm).
- The minimum width of each EV space shall be 9 feet (2743 mm).
- 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:
 - Where there is no local utility power supply or the local utility is unable to supply adequate power.
 - 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 4.106.1, have adversely impacted the construction cost of the project.
- Surface slope for the EV space and the aisle shall not exceed 1 unit vertical in 48 units horizontal (2.083 percent slope) in any direction.

4.106.2.2.1.3 Accessible EV spaces.

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

4.106.2.2.2 EV space requirements.

1. Single EV space required. A listed roadway capable of accommodating a 2082-volt dedicated branch circuit. The roadway shall not be less than trade size 1 (nominal 1 1/8 inch inside diameter). The roadway shall originate at the main service disconnect and shall terminate into a listed cabinet, box or enclosure in close proximity to the proposed location of an EV charger. Roadways are required to be continuous, accessible, non-sloped, and shall be installed in accordance with the California Electrical Code, Article 625. The roadway shall have a 40-ampere minimum dedicated branch circuit and (speak) shall be protected by a branch circuit overcurrent protective device.

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

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

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

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

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

DIVISION 4.2 ENERGY EFFICIENCY

4.201 GENERAL

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

DIVISION 4.3 WATER EFFICIENCY AND CONSERVATION

4.303 INDOOR WATER USE

4.303.1 WATER USE PLUMBING FIXTURES AND FITTINGS. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with Sections 4.303.1.1, 4.303.1.2, 4.303.1.3, and 4.303.1.4.

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 11011, et seq., for the definition of a noncompliant plumbing fixture, types of residential buildings affected and other important exemptions.

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

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

4.303.1.2 Urinals. The effective flush volume of wall mounted urinals shall not exceed 1.25 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 Showerheads. Showerheads shall have a maximum flow rate of not more than 1.8 gallons per minute at 80 psi. Showerheads shall be certified to the performance criteria of the U.S. EPA, WaterSense Specification for Showerheads.

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

Note: A hand-held showerhead 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 80 psi. The minimum flow rate of residential lavatory faucets shall not be less than 0.2 gallons per minute at 60 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 one gallon per minute at 80 psi.

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

4.303.1.4.4 Kitchen Faucets. The maximum flow rate of kitchen faucets shall not exceed 1.8 gallons per minute at 80 psi. Kitchen faucets may temporarily increase the flow above the maximum rate but not to exceed 2.2 gallons per minute at 80 psi, and not to exceed 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 wands. When installed, shall meet the requirements in the California Code of Regulations, Title 20 (Appliance Efficiency Regulations), Sections 1005.1 (0)(1), Table H-2, Section 1005.2 (0)(4)(A), and Section 607 (0)(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 1005.1 (0)(1)(A) and Section 1005.3 (0)(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 5.8 ozf)	1.20
Product Class 3 (8.0 ozf)	1.28

The 20 Section 1005.3 (0)(4)(A) Commercial pre-rinse spray valves manufactured on or after January 1, 2008, shall have a minimum spray force of not less than 4.0 ounces-force (ozf) (113 grams-force)(g)

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

4.303.3 Standards for plumbing fixtures and fittings. Plumbing fixtures and fittings shall be installed in accordance with the California Plumbing Code, and shall meet the applicable standards reprinted in Table 1001.1 of the California Plumbing Code.

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

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

4.304 OUTDOOR WATER USE

4.304.1 OUTDOOR POTABLE WATER IN LANDSCAPE AREAS. Residential development 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:

- The Model Water Efficient Landscape Ordinance (MWELO) is located in the California Code of Regulations, Title 23, Chapter 27, Division 2 (MWELO) and supporting documents, including water budget calculator, are available at: <https://www.water.ca.gov/>

DIVISION 4.4 MATERIAL CONSERVATION AND RESOURCE EFFICIENCY

4.406 ENHANCED DURABILITY AND REDUCED MAINTENANCE

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

4.406 CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING

4.406.1 CONSTRUCTION WASTE MANAGEMENT. Projects and/or owners for a new construction of 40 percent of the non-hazardous construction and demolition waste in accordance with either Section 4.406.2, 4.406.3 or 4.406.4, must have a more stringent local construction and demolition waste management ordinance.

Exceptions:

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

4.406.2 CONSTRUCTION WASTE MANAGEMENT PLAN. Submit a construction waste management plan in compliance 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.

- Identify the construction and demolition waste materials to be diverted from disposal by recycling, reuse on the project or storage for future use or sale.
- Specify if construction and demolition waste materials will be sorted on-site (separate) or off-site (mixed single stream).
- Identify diversion facilities where the construction and demolition waste material collected will be sent.
- 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 both.

4.406.3 WASTE MANAGEMENT COMPLIANCE. Utilize a waste management company, approved by the enforcing agency, which can provide verifiable documentation that the percentage of construction and demolition waste materials diverted from the landfill complies with Section 4.406.1.

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

4.406.4 WASTE STREAM REDUCTION ALTERNATIVE [R]. 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 4.406.1.

4.406.4.1 WASTE STREAM REDUCTION ALTERNATIVE. Projects that generate a total combined weight of construction and demolition waste disposed of in landfills, which do not exceed 2.0 pounds per square foot of the building area, shall meet the minimum 65% construction waste reduction requirement in Section 4.406.1.

4.406.5 DOCUMENTATION. Documentation shall be provided to the enforcing agency which demonstrates compliance with Section 4.406.2, Items 1 through 5, Section 4.406.3 or Section 4.406.4 and 4.406.4.1.

Notes:

- Sample forms found in "A Guide to the California Green Building Standards Code (CALGreen)" located at www.water.ca.gov/CALGreen.htm may be used to assist in documentation.
- Mixed construction and demolition waste (C/D) processes can be located at 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, impact disc, video, web-based reference or other media accessible to the enforcing agency which include all of the following shall be placed in the building:

- Directions to the owner or occupant that the 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 systems, photovoltaic systems, electric vehicle chargers, 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 on local utility water and waste recovery programs or 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.
- Information on required outdoor maintenance measures, including, but not limited to, caulking, painting, grading and maintaining the building, etc.
- Information about state safety and incentive programs available.
- A copy of all specific maintenance instructions required by the enforcing agency or this code.
- Information from the Department of Forestry and Fire Protection on maintenance of defensible space around residential structures.
- Information on other drawings identifying the location of grab bar reinforcements.

4.410.2 RECYCLING BY OCCUPANTS. Where one or more multifamily dwelling units are constructed on a building site, projects shall meet the following conditions: (a) separate bins shall be provided for the separating, storage and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals, or more fully educated local recycling contractors, 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 not 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 apply to the quality of air contaminants that are odorous, irritating and/or harmful to the comfort and well being of a building's residents, occupants and neighbors.

SECTION 4.502 DEFINITIONS

4.502.1 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 laminated fiberboard not considered building elements.

COMPOSITE WOOD PRODUCTS. Composite wood products include hardwood plywood, particleboard and medium density fiberboard. "Composite wood products" does not include hardwood, structural plywood, structural panels, oriented strand board, glued laminated timber, prefabricated wood joists or finger-jointed lumber, all as specified in California Code of Regulations (CCR), Title 7, Section 01012.

DIRECTS EMISSION 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.

2022 CALIFORNIA GREEN BUILDING STANDARDS CODE

RESIDENTIAL MANDATORY MEASURES, SHEET 2 (January 2023)



SECTION PART	DESCRIPTION
	MAXIMUM INCREMENTAL REACTIVITY (MIR). The maximum change in weight of ozone formed by adding a compound to the "Base Reactant Organic Gas (ROG) Mixture" per weight of compound added, expressed to hundredths of a gram (g) per (g) ROG. Note: MIR values for individual compounds and hydrocarbon solvents are specified in CCR, Title 17, Sections 94700 and 94810.
	MOISTURE CONTENT. The weight of the water in wood expressed as percentage of the weight of the oven-dry wood.
	PRODUCT-WEIGHTED MIR (PWMIIR). The sum of all weighted-MIR for all ingredients in a product subject to this article. The PWMIIR is the total product reactivity expressed to hundredths of a gram of ozone formed per gram of product (excluding container and packaging). Note: PWMIIR 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. Available 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 94500(a).
	4.503 FIRE PLACES
	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 fireplace shall 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 installation in 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 face, 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 caulk used on the project shall meet the requirements of the following standards unless more stringent local or regional air quality management district rules apply: 1. Adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers and caulks shall comply with the following Suggested Control Measures, as shown in Table 4.504.3, unless more stringent local rules apply, as applicable or SCAQMD Rule 1168 VOC limits, as shown in Table 4.504.1 or 4.504.2, as applicable. Such products shall comply with the Rule 1168 prohibition on the use of certain toxic compounds (bisphenol, ethylene dichloride, methylene chloride, perchloroethylene and polyurethanes) except for approved products, as specified in Table 4.504.3. 2. Approved 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 50% solids) 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 AIR RESOURCES Suggested Control Measures, as shown in Table 4.504.3, unless more stringent local rules apply. The VOC content limit for coatings that do not meet the definitions for 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 Measures, 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 ROG in Section 94520(a) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances, in Sections 94520(b)(1) and (f)(1) of California Code of Regulations, Title 17, commencing with Section 94520, and in areas under the jurisdiction of the Bay Area Air Quality Management District additionally comply with the percentVOC by weight of product limits of Regulation 4.2 in Part 4.
	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 LIMITS (Less Water and Less Exempt Compounds in Grams per Liter)
	ARCHITECTURAL APPLICATIONS
	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 100
	ABS WELDING 325
	PLASTIC CEMENT WELDING 250
	ADHESIVE PRIMER FOR PLASTIC 500
	CONTACT ADHESIVE 80
	SPECIAL PURPOSE CONTACT ADHESIVE 250
	STRUCTURAL WOOD MEMBER ADHESIVE 140
	TOP & TRIM ADHESIVE 250
	SUBSTRATE SPECIFIC APPLICATIONS
	METAL TO METAL 50
	PLASTIC FOAMS 50
	POROUS MATERIAL (EXCEPT WOOD) 50
	WOOD 30
	FIBERGLASS 80
	* 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.

SECTION PART	DESCRIPTION
	TABLE 4.504.2 - SEALANT VOC LIMIT (Less Water and Less Exempt Compounds in Grams per Liter)
	SEALANTS
	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 (GRAMS OF VOC PER LITER OF COATING, LESS WATER & LESS EXEMPT COMPOUNDS)
	COATING CATEGORY
	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 GFO 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- 120
	MAGNETITE 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 730
	CLEAR 550
	OPAQUE 550
	SPECIALTY PRIMERS, SEALERS & UNDERCOATERS
	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.

SECTION PART	DESCRIPTION
	TABLE 4.504.5 - FORMALDEHYDE LIMITS (MAXIMUM FORMALDEHYDE EMISSIONS IN PARTS PER MILLION)
	PRODUCT
	HARDWOOD FLYWOOD KNEER CORE 0.05
	HARDWOOD FLYWOOD COMPOSITE CORE 0.05
	PARTICLE BOARD 0.09
	MEDIUM DENSITY FIBERBOARD 0.11
	THIN MEDIUM DENSITY FIBERBOARD 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 1531. 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. Carpeting interior shall meet the requirements of the California Department of Public Health's "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/CCDC/PID/DCDC/EH/BAQ/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's "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/CCDC/PID/DCDC/EH/BAQ/Pages/VOC.aspx .
	4.504.3.2 Carpet adhesives. All carpet adhesives 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 covering 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/CCDC/PID/DCDC/EH/BAQ/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 building shall meet the requirements for formaldehyde as specified in ASHRAE 62.1 Table C600 Control Measures for Composite Wood (17 CFR 93120.12) 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. Field verification of on-site product containers. 3. Field verification of on-site product containers, including the Composite Wood Products regulation (see CCR, Title 17, Section 93120.12) or: 4. Copies of product certifications as meeting the ASHRAE 62.1 or ASHRAE 62.1 standards of the Engineered Wood Association, the Australian AS/NZS 2269, European EN 338 standards, and Canadian CSA 0121, CSA 0191, CSA 0193 and CSA 0265 standards. 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. The finished floor surface, 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% 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 total 2 feet (610 mm) to 4 feet (1219 mm) from the grade standard 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-applimentation 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 shall be controlled by 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 be 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 purpose of this section, a bathroom is a room which contains a bathtub, shower or lightwater combination. 2. Lighting integral to bathroom exhaust fans shall comply with the California Energy Code.
	4.507 ENVIRONMENTAL COMFORT
	4.507.1 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 Calculations) ASHRAE Handbook 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 as acceptable.

SECTION PART	DESCRIPTION		
	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 [HCO]. 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 education 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 HERI raters, building performance contractors, and home energy auditors. 3. Successful completion of a third party experience 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. HERI 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 education 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 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, specification, 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 identifier applicable checklist.		
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BUSHELL RESIDENCE
 462 MURIEL COURT
 SANTA CLARA, CA 95051



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.

Table with 2 columns: Code Reference and Description. Includes sections for Building Envelope, Air Leakage, Labeling, Insulation, Roofing Products, Rainfall Barriers, Root, Deck, Ceiling and Rafter, Flashing, Vapor Barriers, and Space Conditioning.

5622



2022 Single-Family Residential Mandatory Requirements Summary

Table with 2 columns: Code Reference and Description. Includes sections for Pilot Lights, Building Cooling and Heating Loads, Clearances, Liquid Line Drains, Water Heating, Insulation Protection, Gas or Propane Water Heating Systems, Ducts and Fans, CMC Compliance, Vapor Barriers, and Air Filtration.

5622



2022 Single-Family Residential Mandatory Requirements Summary

Table with 2 columns: Code Reference and Description. Includes sections for Space Conditioning System Airflow Rate and Fan Efficiency, Ventilation and Indoor Air Quality, Central Fan Integrated (CFI) Ventilation Systems, Whole-Dwelling Unit Mechanical Ventilation, Local Mechanical Exhaust, Airflow Measurement and Sound Rating, and Pool and Spa Systems and Equipment.

5622



2022 Single-Family Residential Mandatory Requirements Summary

Table with 2 columns: Code Reference and Description. Includes sections for Energy Storage System (ESS) Ready, Electric Cooktop Ready, Electric Clothes Dryer Ready, and Residential Garage for Eight or More Vehicles.

*Exceptions may apply.



2022 Single-Family Residential Mandatory Requirements Summary

Table with 2 columns: Code Reference and Description. Includes sections for Screw based luminaires, Light Sources in Enclosed Recessed/Luminaires, Light Sources in Drawers, Cabinets, and Linen Closets, Interior Switches and Controls, Accessible Controls, Mandatory Requirements, Automatic Shutoff Controls, Dimming, Independent Controls, and Residential Garage for Eight or More Vehicles.

5622

DERN architecture + development

ARCHITECT DERN ARCHITECTURE + DEVELOPMENT, PC 110 CASA GRANDE LOS GATOS, CA 95032 MICHAEL DERN, AIA PRINCIPAL (415) 307-1283

CLIENT MAYURESH RAJUT 2273 FRUNBERG AVENUE SANTA CLARA, CA 95050 (617) 849-2025



BUSHELL RESIDENCE 4622 MUREL COURT SANTA CLARA, CA 95051

REVISION No. Description Date

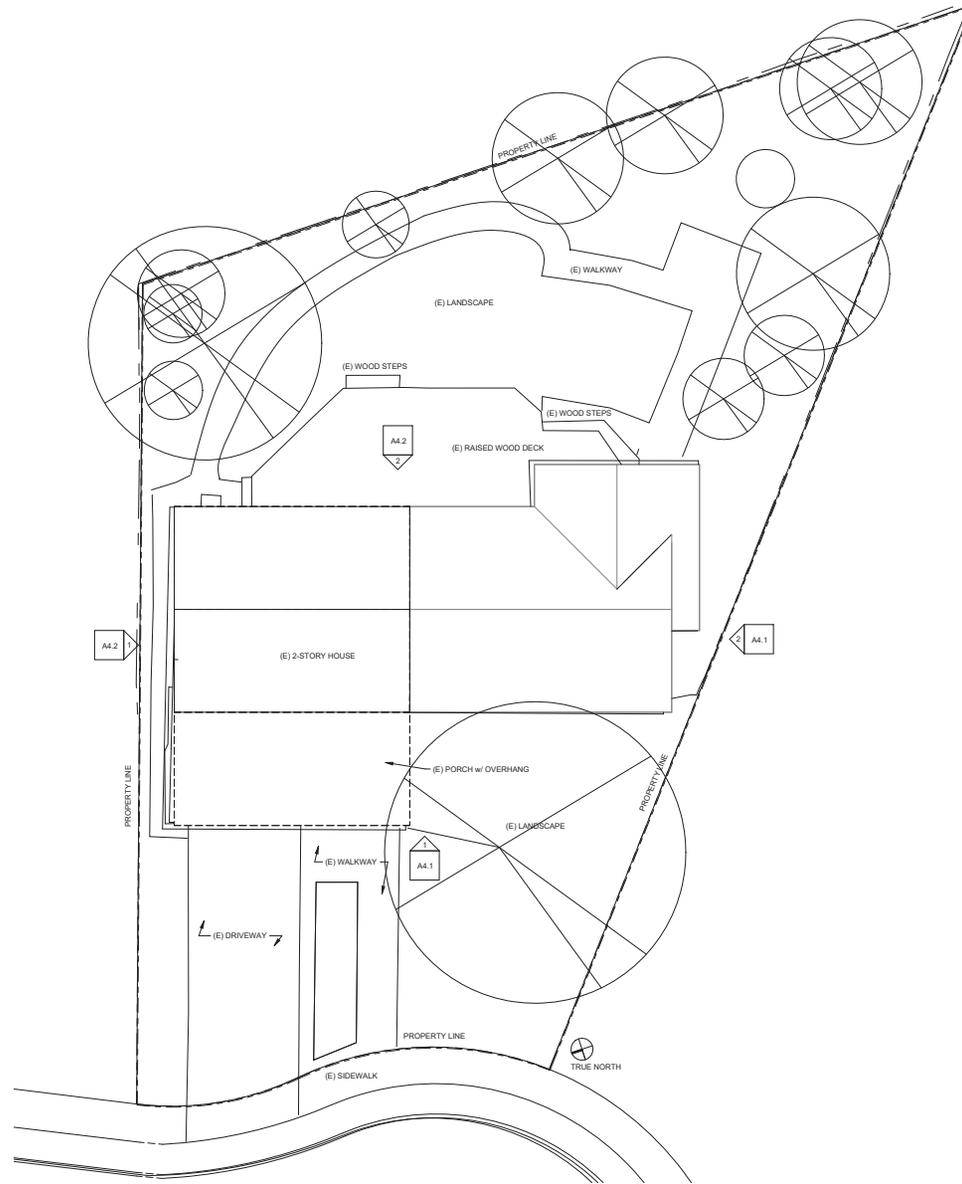
PROJECT 2003

DATE 4/14/2023

ISSUE DEVELOPMENT REVIEW

SHEET TITLE MF-1R MANDATORY RESIDENTIAL

SHEET NO. A0.4



BUSHELL RESIDENCE

462 MURIEL COURT
SANTA CLARA, CA 95051

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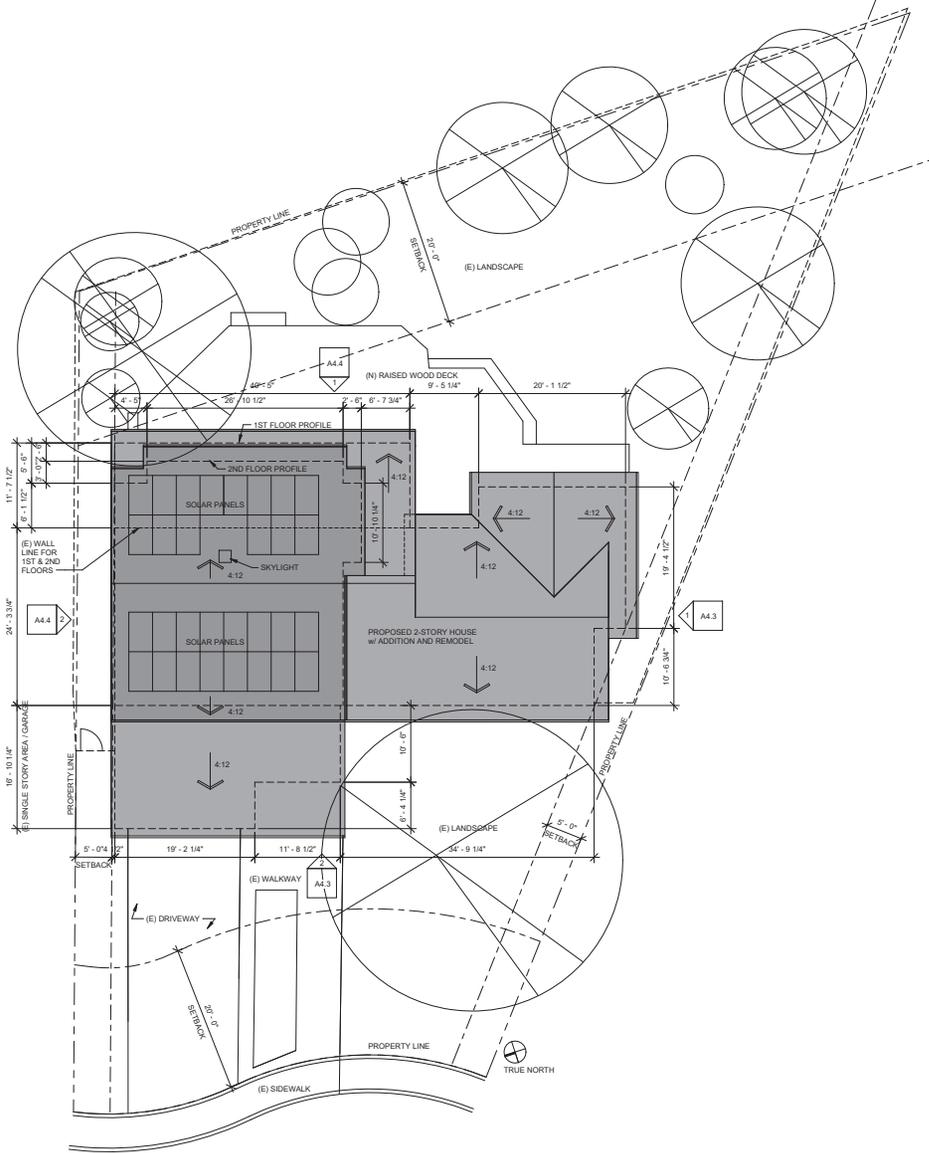
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2003

DATE
4/14/2023

ISSUE
DEVELOPMENT REVIEW

SHEET TITLE
EXISTING SITE PLAN

SHEET NO.
A1.1



BUSHELL RESIDENCE

462 MUIREL COURT
SANTA CLARA, CA 95051

REVISION No.	Description	Date

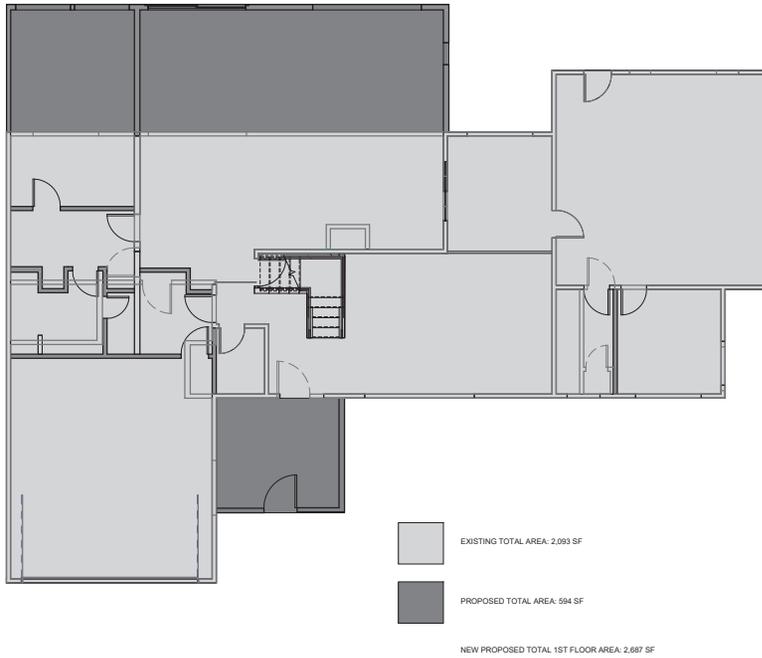
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DATE
4/14/2023

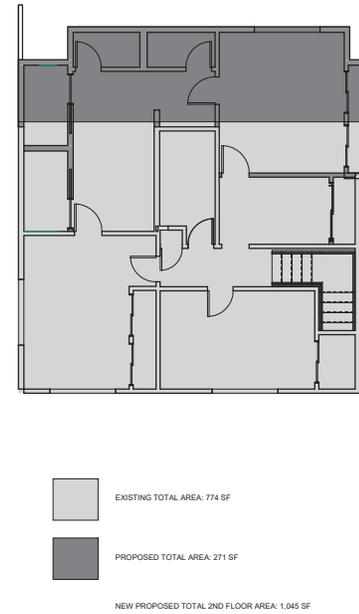
ISSUE
DEVELOPMENT REVIEW

SHEET TITLE
PROPOSED SITE PLAN

SHEET NO.
A1.2



EXISTING VS. PROPOSED AREA - LEVEL
①
3/16" = 1'-0"



EXISTING VS. PROPOSED AREA - LEVEL
②
3/16" = 1'-0"

BUSHELL RESIDENCE

462 MURIEL COURT
SANTA CLARA, CA 95051

REVISION No.	Description	Date

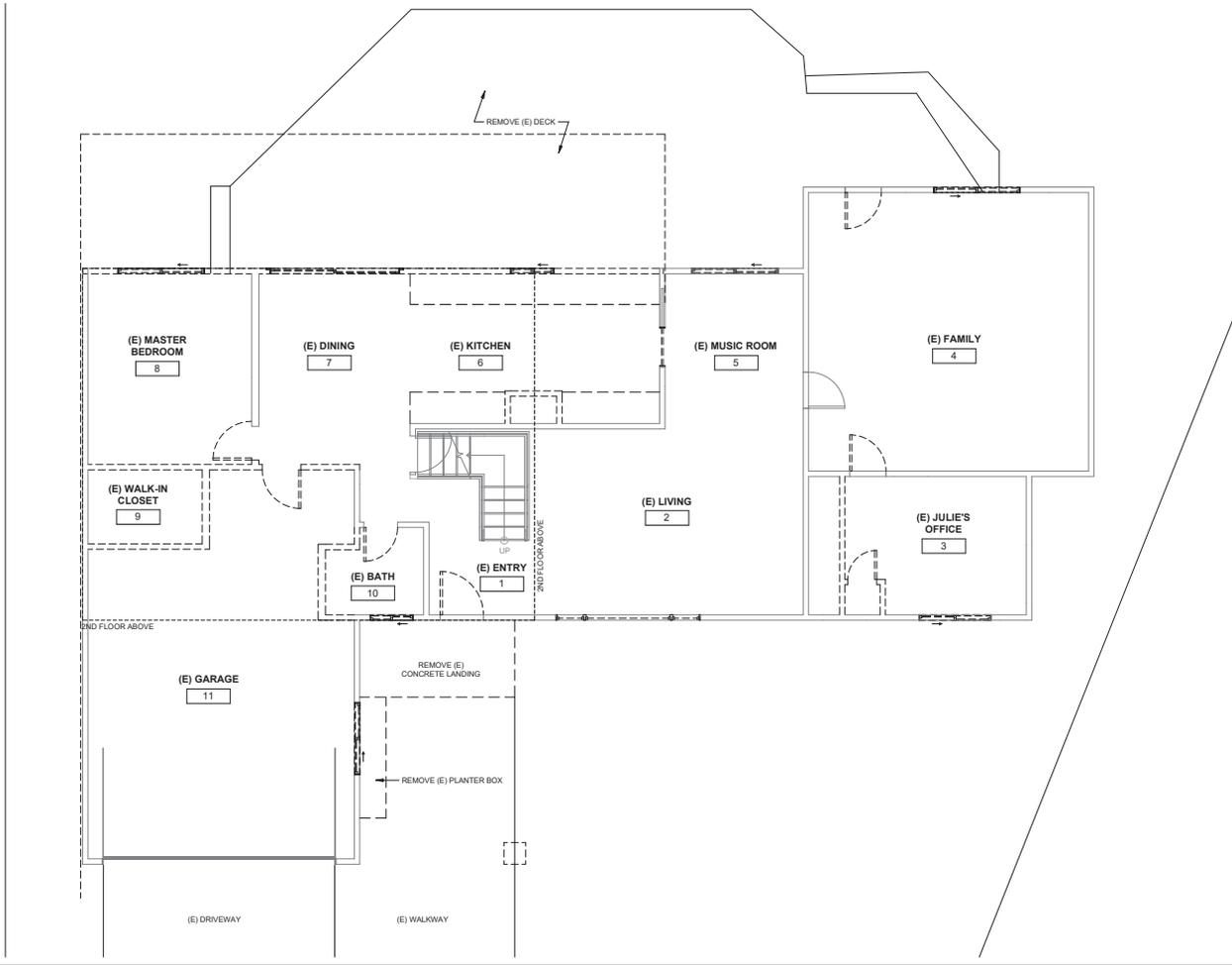
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2003

DATE
4/14/2023

ISSUE
DEVELOPMENT REVIEW

SHEET TITLE
EXISTING AREA VS.
PROPOSED AREA

SHEET NO.
A1.3



LEVEL 1
1/4" = 1'-0"

BUSHELL RESIDENCE

462 MURIEL COURT
SANTA CLARA, CA 95051

REVISION No.	Description	Date

DAVID PROJECT NUMBER
2003

DATE
4/14/2023

ISSUE
DEVELOPMENT REVIEW

SHEET TITLE
EXISTING FIRST FLOOR

SHEET NO.
A2.1



BUSHELL RESIDENCE

462 MUIREL COURT
SANTA CLARA, CA 95051

REVISION No.	Description	Date

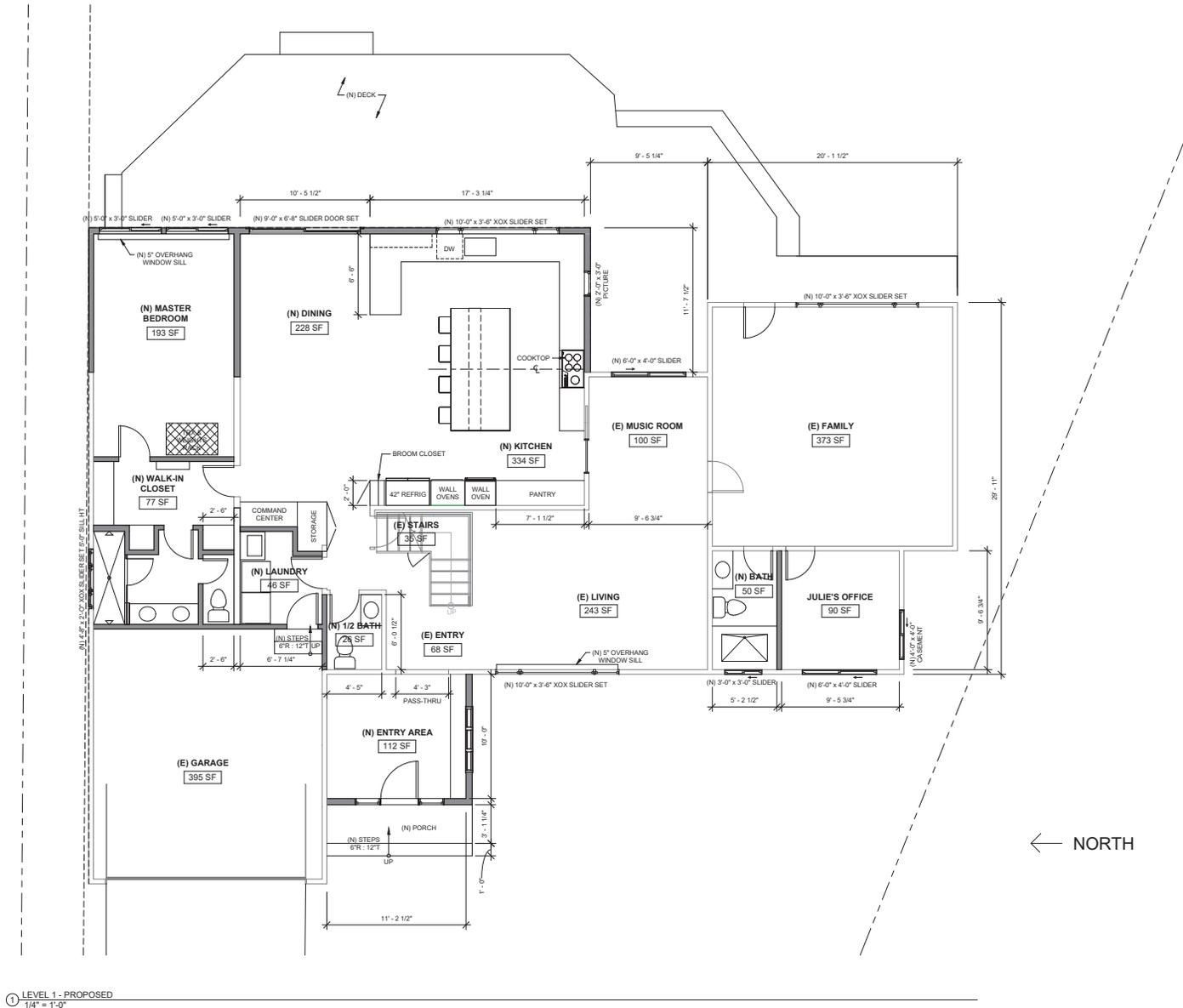
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DATE
4/14/2023

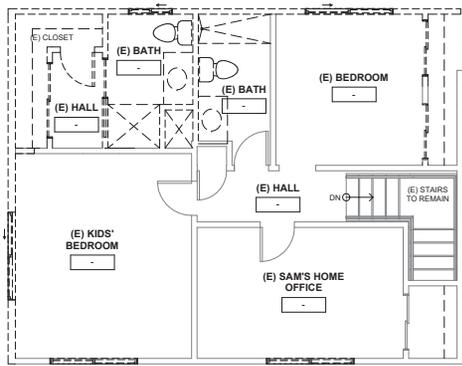
ISSUE
DEVELOPMENT REVIEW

SHEET TITLE
PROPOSED FIRST FLOOR

SHEET NO.
A2.2



① LEVEL 1 - PROPOSED
1/4" = 1'-0"



LEVEL 2 - EXISTING
1/4" = 1'-0"

BUSHELL RESIDENCE

462 MURIEL COURT
SANTA CLARA, CA 95051

REVISION No.	Description	Date

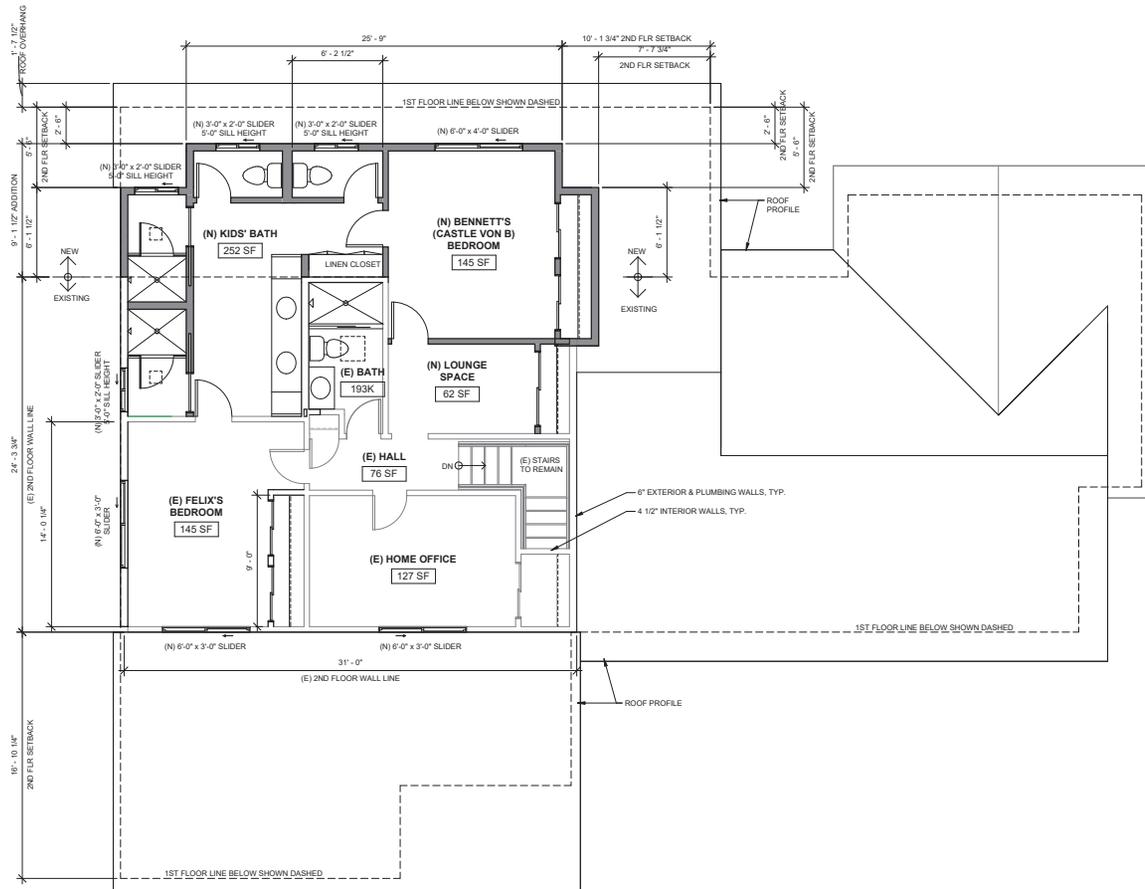
DAWG PROJECT NUMBER
2003

DATE
4/14/2023

ISSUE
DEVELOPMENT REVIEW

SHEET TITLE
EXISTING SECOND FLOOR

SHEET NO.
A2.3



① LEVEL 2
1/4" = 1'-0"

BUSHELL RESIDENCE

462 MURIEL COURT
SANTA CLARA, CA 95051

REVISION No.	Description	Date

SHO PROJECT NUMBER
2003

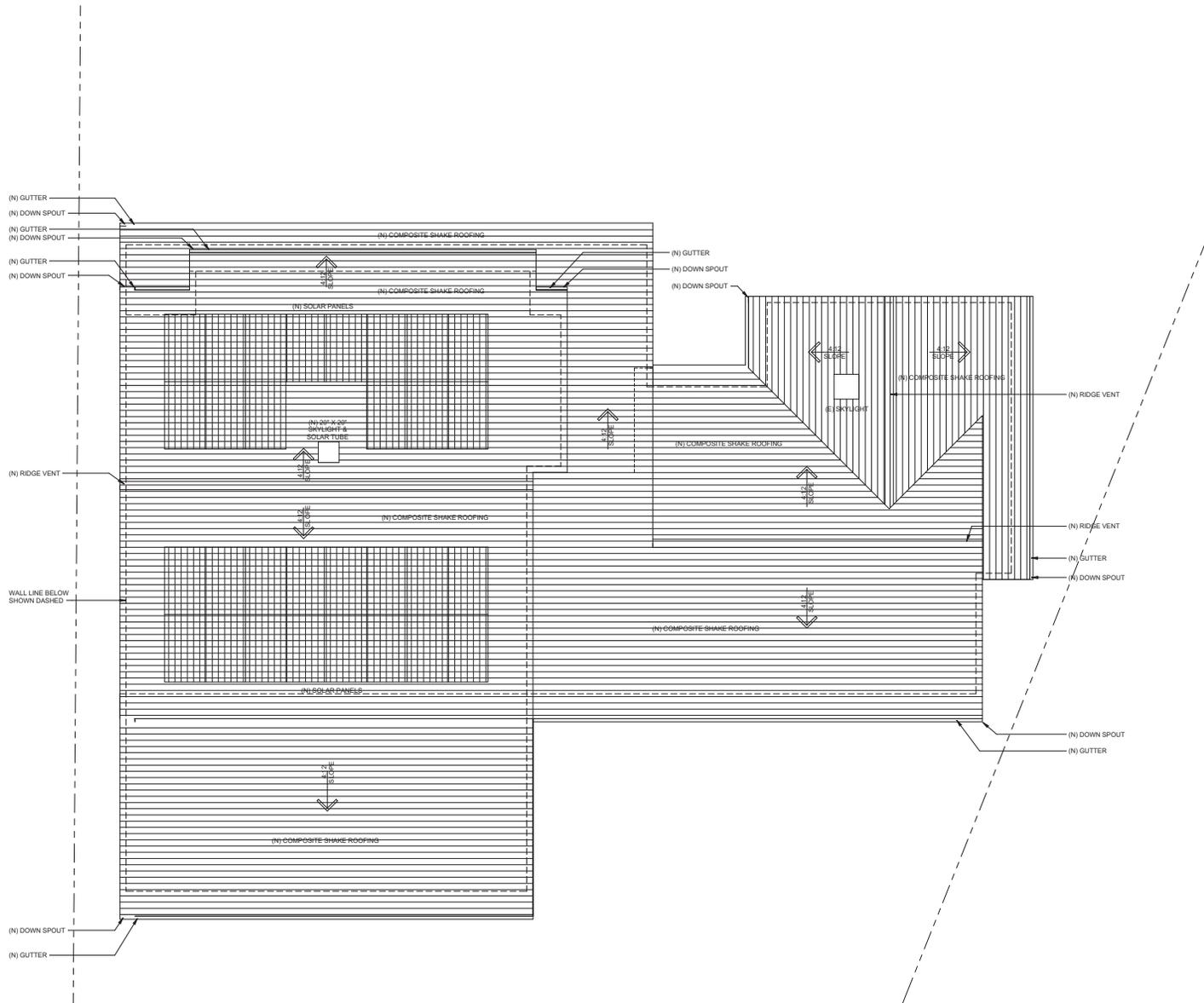
DATE
4/14/2023

ISSUE
DEVELOPMENT REVIEW

SHEET TITLE
PROPOSED SECOND FLOOR

SHEET NO.

A2.4



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



BUSHELL RESIDENCE

462 MURIEL COURT
SANTA CLARA, CA 95051

REVISION No.	Description	Date

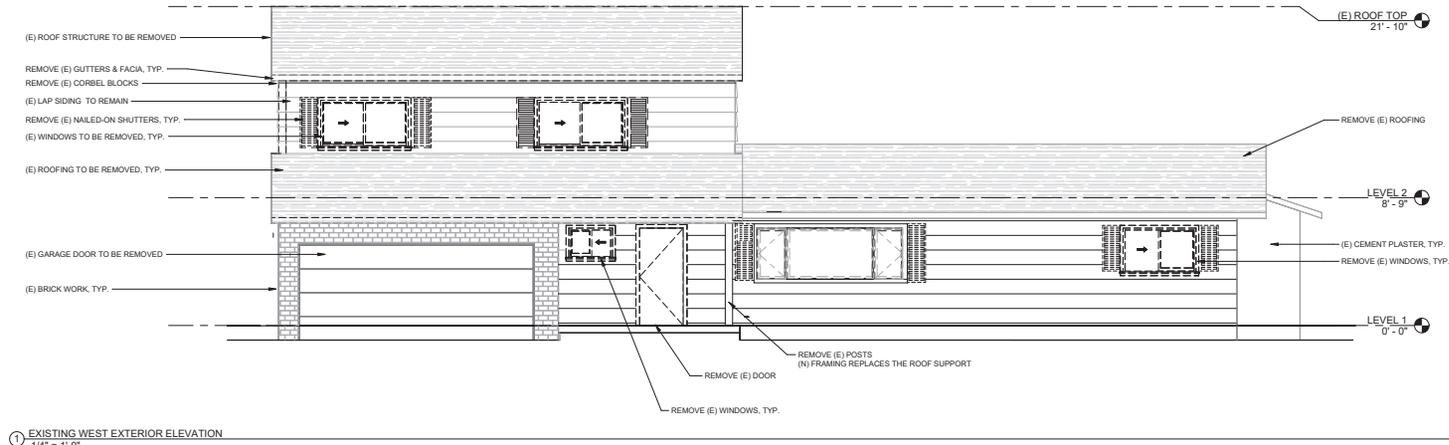
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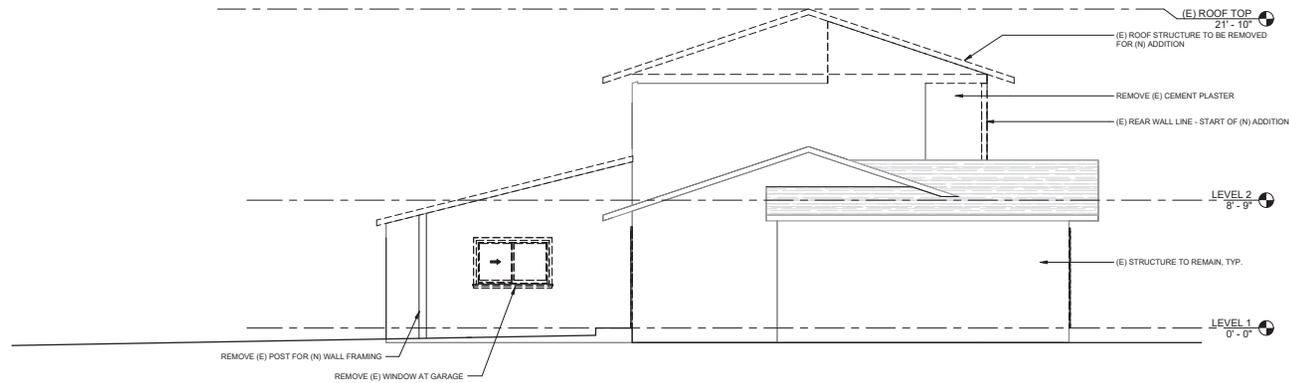
ISSUE
DEVELOPMENT REVIEW

SHEET TITLE
PROPOSED ROOF PLAN

SHEET NO.
A3.2



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



② EXISTING SOUTH EXTERIOR ELEVATION
1/4" = 1'-0"

BUSHELL RESIDENCE

462 MURIEL COURT
SANTA CLARA, CA 95051

REVISION No.	Description	Date

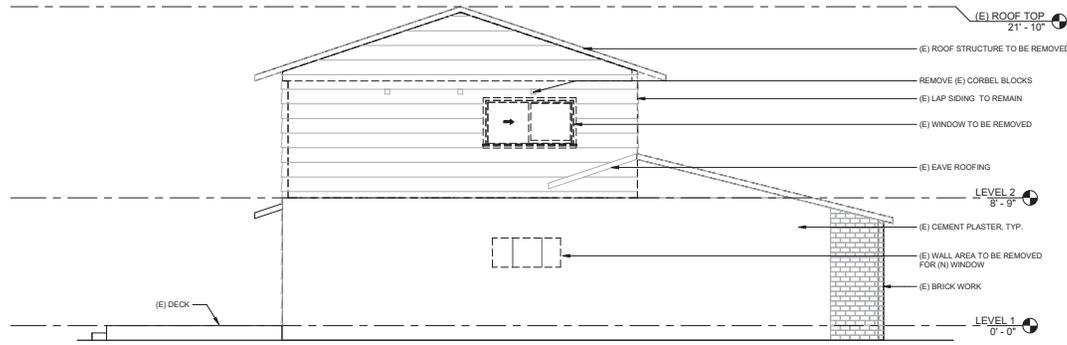
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2003

DATE
4/14/2023

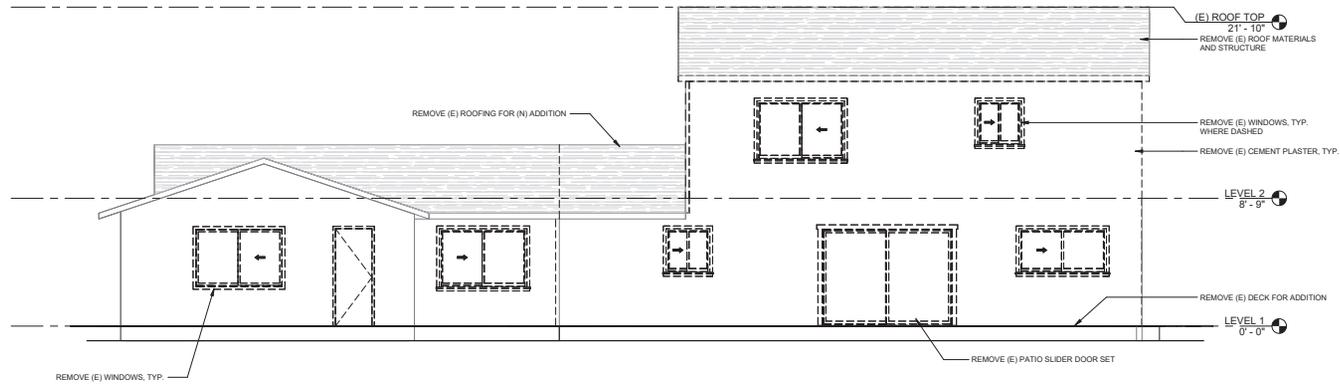
ISSUE
DEVELOPMENT REVIEW

SHEET TITLE
EXISTING EXTERIOR ELEVATIONS

SHEET NO.
A4.1



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



② EXISTING EAST EXTERIOR ELEVATION
1/4" = 1'-0"

BUSHELL RESIDENCE

462 MURIEL COURT
SANTA CLARA, CA 95051

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2003

DATE
4/14/2023

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SHEET TITLE
EXISTING EXTERIOR ELEVATIONS

SHEET NO.

A4.2



BUSHELL RESIDENCE

462 MURIEL COURT
SANTA CLARA, CA 95051

REVISION No.	Description	Date

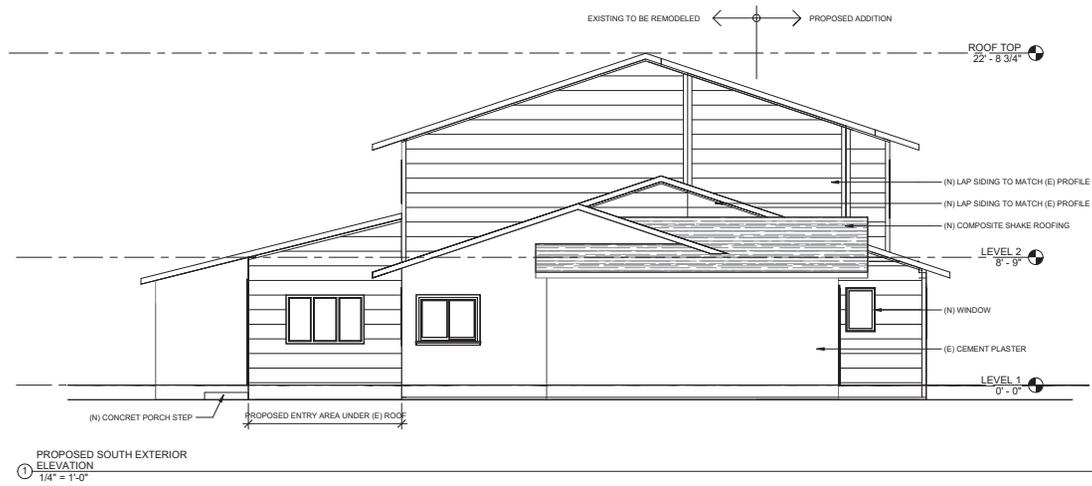
DAVID PROJECT NUMBER
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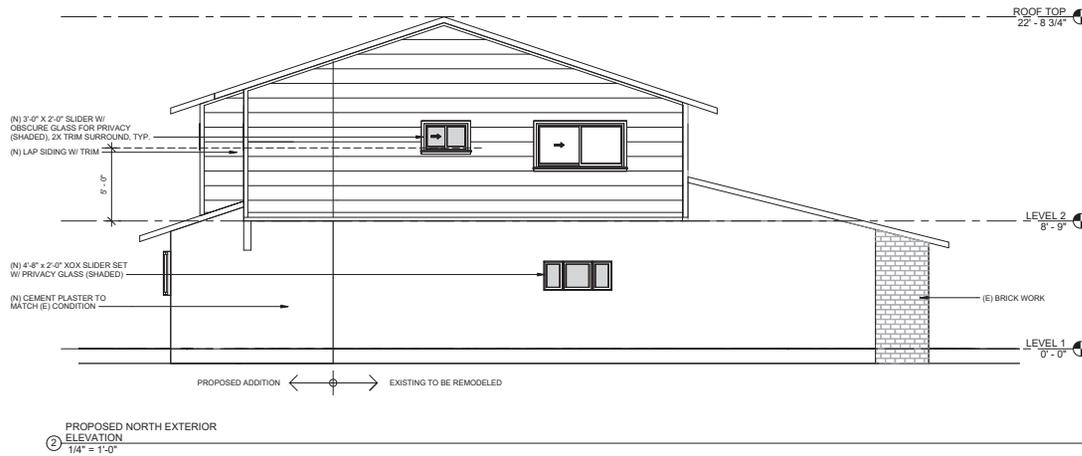
DATE
4/14/2023

ISSUE
DEVELOPMENT REVIEW

SHEET TITLE
PROPOSED EXTERIOR ELEVATIONS

SHEET NO.
A4.3





BUSHELL RESIDENCE

462 MUIREL COURT
SANTA CLARA, CA 95051

REVISION No.	Description	Date

DATE PROJECT NUMBER
2003

DATE
4/14/2023

ISSUE
DEVELOPMENT REVIEW

SHEET TITLE
PROPOSED EXTERIOR ELEVATIONS

SHEET NO.
A4.4