

**ORDINANCE NO.**

**AN ORDINANCE OF THE SAN RAFAEL CITY COUNCIL AMENDING TITLE 12 (BUILDING REGULATIONS) OF THE SAN RAFAEL MUNICIPAL CODE, BY AMENDING THE CALIFORNIA ENERGY CODE, THE 2022 CALIFORNIA GREEN BUILDING STANDARDS CODE FOR ELECTRIC VEHICLE CHARGERS, THE 2022 CALIFORNIA MECHANICAL CODE, AND THE 2022 CALIFORNIA PLUMBING CODE; ADDING A NEW CHAPTER 12.360 WITH ADMINISTRATIVE AND PROGRAM REGULATIONS ON MODEL REACH CODES; AND ADOPTING FINDINGS OF FACT SUPPORTING THE AMENDMENTS TO THE CODES.**

**THE CITY COUNCIL OF THE CITY OF SAN RAFAEL DOES ORDAIN AS FOLLOWS:**

**DIVISION 1. AMENDMENTS TO TITLE 12 OF THE MUNICIPAL CODE.**

**Section 1. Repeal Ordinance No. 2022**

*Ordinance No. 2022 of the San Rafael City Council amending Chapters 12.235, 12.245, and 12.250 of Title 12 of the San Rafael Municipal Code is hereby repealed.*

**Section 2. Adoption of and Amendments to Construction Codes**

*Chapters 12.220, 12.235, 12.245, and 12.250 of the San Rafael Municipal Code are hereby amended to read as follows:*

**CHAPTER 12.220 – CALIFORNIA ENERGY CODE AMENDMENTS**

**12.220.010 General.** For purpose of this Chapter:

Deleted language from the base code has been ~~stricken through~~.  
Replacement language to the base code has been underlined.

**12.220.020 Amendments.** The 2022 California Energy Code is amended or modified as follows:

*Amend Section 150.0 to read as follows:*

Single-family residential buildings shall comply with the applicable requirements of Sections 150(a) through 150.0(v); in addition, Covered Single Family Projects shall comply with the applicable requirements of Section 12.360 of the SRMC.

NOTE: The requirements of Sections 150.0(a) through 150.0(v) apply to newly constructed buildings. Sections 150.2(a) and 150.2(b) specify which requirements of Sections 150.0(a) through 150.0(v) also apply to additions or alterations, with the exception that Covered Single Family Projects shall also be required to comply with Section 12.360 of the SRMC.

**CHAPTER 12.235 - CALIFORNIA GREEN BUILDING STANDARDS CODE AMENDMENTS**

**12.235.010 General.** For purpose of this Chapter:

Deleted language from the base code has been ~~stricken through~~.  
Replacement language to the base code has been underlined.

**12.235.020 Amendments.** The 2022 California Green Building Standards Code is amended or modified as follows:

*Delete Section 4.106.4.1 and replace in its entirety to read as follows:*

**4.106.4.1 New One- And Two-Family Dwellings and Town-Houses.** For each dwelling unit, install a 40 ampere 208/240 volt dedicated EV branch circuit, capable of supporting Level 2 EVSE, terminating with a receptacle or an EV charger in close proximity to the vehicle charging area.

*Delete Subsection 4.106.4.1.1 in its entirety.*

*Subsection 4.106.4.2 [unchanged].*

*Amend Subsection 4.106.4.2.2 item 1(b) to read as follows (other subsections remains unchanged):*

**b. Multifamily parking facilities.** ~~Forty (40)~~ Eighty-five (85) 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)~~ eighty-five (85) percent of total number of assigned parking spaces provided on 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.

*Amend Subsection 4.106.4.2.2 item 2(b) to read as follows (other subsections remains unchanged):*

**b. Multifamily parking facilities.** ~~Ten (10)~~ Fifteen (15) 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.

## **CHAPTER 12.245 - CALIFORNIA MECHANICAL CODE AMENDMENTS**

**12.245.010 No amendments.** The 2022 California Mechanical Code is not amended or modified.

## **CHAPTER 12.250 - CALIFORNIA PLUMBING CODE AMENDMENTS**

**12.250.010 No amendments.** The 2022 California Plumbing Code is not amended or modified.

**Section 3. Addition of new Chapter 12.360 with administrative and program regulations on Model Reach Code.**

Chapter 12.360 of the San Rafael Municipal Code is hereby added to read as follows:

**CHAPTER 12.360 – SINGLE FAMILY MODEL REACH CODE - FLEXPATH**

**12.360.010 Purpose.** The purpose of this chapter is to specify additional energy efficiency and renewable energy measures for additions, alterations and remodels of Covered Single Family Projects.

**12.360.020 Definitions.** For the purpose of this chapter, the following definitions shall apply:

1. "Single Family Building" shall mean any of the following:
  - a. Residential building of Occupancy Group R-3 or under the California Residential Code with two or fewer dwellings.
  - b. A townhouse.
  - c. A building of Occupancy Group R-3.1, or
  - d. A building of Occupancy Group U when located on a residential site.
  - e. JADUs or ADUs that are not part of multifamily.
  
2. "Covered Single Family Project" shall mean the addition, alteration, or remodel of a Single Family Building originally permitted for construction before 2011 that affects a floor area which exceeds 500 square feet of existing floor area and/or new floor area. When any changes are made in the building, such as walls, columns, beams or girders, floor or ceiling joists and coverings (subfloor and drywall), roof rafters, roof diaphragms, foundations, piles or retaining walls or similar components, the floor area of all rooms affected by such changes shall be included in computing floor areas for purposes of applying this definition.

This definition does not apply to project scopes that are solely limited to any of the following: the replacement and upgrading of residential roof coverings, exterior wall finishes and/or floor finishes; alterations that add no more than 75 square feet of fenestration; alterations that add no more than 16 square feet of skylight area with a maximum U-factor of 0.55 and a maximum SHGC of 0.30; alterations that are limited to providing access for persons with disabilities; or voluntary state seismic retrofit program. A Covered Single Family Project shall not include a project that is considered to be a newly constructed building under the California Energy Code, Title 24, Part 6.

**12.360.020 Scope.** In addition to all requirements of the California Energy Code applicable to Single Family Building additions and alterations, the provision of this chapter shall apply to all Covered Single Family Projects.

**12.360.020 Requirements.** A Covered Single Family Project shall install a set of measures based on the building vintage from the Measure Menu in Table 12.360B, to achieve a total Measure Point Score that is equal to or greater than the Target Score in Table 12.360A. In addition, all mandatory measures listed in Table 12.360B shall be installed. Installed measures shall meet the specifications in Table 12.360C.

Building vintage is the year in which (1) a building permit for construction of the structure was submitted, as documented by building department records, or (2) a building permit was issued for an addition or alteration that satisfied the Performance Standards (California Energy Code, Title 24, Part 6, Section 150.1(b)) in effect at time of building permit issuance, whichever is later. Unless otherwise specified, the requirements shall apply to the entire dwelling unit, not just the additional or altered portion. Measures from the Measure Menu table that already exist in the home may be counted towards compliance with these requirements. Measures from the Measure Menu table that are to be installed to satisfy requirements under the California Energy Code, Title 24, Part 6, may not count towards compliance with these requirements. Where these requirements conflict with other California Energy Code requirements, the stricter requirements shall prevail.

### **Exceptions**

1. If the applicant demonstrates that the Energy Budget of the building under the proposed project would be less than or equal to the Energy Budget of the building under the proposed project if it included any set of measures that would achieve compliance under this chapter 12.360. For purposes of this section “Energy Budget” shall have that meaning set forth in CBC section 100.1(b), as that section may be amended.
2. Mobile Homes, Manufactured Housing, or Factory-built Housing as defined in Division 13 of the California Health and Safety Code (commencing with Section 17000 of the Health and Safety Code).
3. Due to conditions specific to the project, if it is technically or economically infeasible to achieve compliance, the Building Official may reduce the Target Score and/or waive some or all of the mandatory requirements.
4. A measure that is necessary for compliance is prohibited because of a covenant or other deed restriction on the property, such as a homeowners association covenant.
5. The Building Official may reclassify the vintage of the building based on existing conditions.
6. An applicant who resides in the dwelling unit and qualifies as a low-income utility customer, or is the owner of the dwelling unit which is occupied by a dependent who qualifies as a low-income utility customer, may comply by either a) installing the duct sealing measure, the lighting measure and water heating package, or b) installing at least 1 kW of solar PV that meets the requirements of 2022 Title 24 Reference Appendix JA11. A low-income utility customer is anyone who is eligible for the California Alternative Rates for Energy (CARE) or Family Electric Rate Assistance Program (FERA) program. A Covered Single Family Project that consists solely of medically necessary improvements or solely of seismic safety improvements.
7. Nothing in this ordinance shall be construed so as to prohibit any one appliance covered by the Energy Policy and Conservation Act (EPCA) (42 U.S.C. 6292(a).) Should an applicant establish that this ordinance, as applied, prohibits a covered appliance in the applicant’s project, the Building Official shall waive that portion of the ordinance causing such prohibition.

**Table 12.360A  
Target Scores, Climate Zone 2**

<b>Building Vintage</b>	<b>Pre-1978</b>	<b>1978-1991</b>	<b>1992-2010</b>
Target Score	12	8	4

**Table 12.360B  
Measure Menu, Climate Zone 2**

<b>ID</b>	<b>Measure</b>	<b>Building Vintage</b>		
		<b>Pre-1978</b>	<b>1978-1991</b>	<b>1992-2010</b>
E1	Lighting Measures	Mandatory		
E2	Water Heating Package	1	1	1
E3	Air Sealing	2	2	1
E4	Attic Insulation (R-38)	6	2	1
E5	Duct Sealing	6	4	1
E6	New Ducts + Duct Sealing	9	6	2
E7	Windows	5	3	3
E8	Wall Insulation (R-13)	7	--	--
E10	Raised floor insulation (R-19)/(R-30)	8/10	8/9	--
FS1	Heat Pump Water Heater Replacing Gas	12	12	12
FS2	High Eff. Heat Pump Water Heater Replacing Gas	14	14	14
FS3	Heat Pump Water Heater Replacing Electric	4	4	4
FS4	High Eff. Heat Pump Water Heater Replacing Electric	6	6	6
FS5	Heat Pump Space Heater	23	18	15
FS6	High Eff. Heat Pump Space Heater	25	19	17
FS7	Dual Fuel Heat Pump Space Heater	20	15	14
FS8	Heat Pump Clothes Dryer	2	2	2
FS9	Induction Cooktop	1	1	1
PV	Solar PV	16	15	13

The measures in the Measure Menu shall conform to the specifications in Table 12.360C.

**Table 12.360C  
Measure Specifications**

ID	Energy Measure Specification
<b>Energy Measures</b>	
E1	Mandatory - Lighting Measures – Replace all interior and exterior screw-in incandescent, halogen, and compact fluorescent lamps with LED lamps. Install photocell controls on all exterior lighting luminaires.
E2	<p>Water Heating Package: Insulate all accessible hot water pipes with pipe insulation a minimum of ¾ inch thick. This includes insulating the supply pipe leaving the water heater, piping to faucets underneath sinks, and accessible pipes in attic spaces or crawlspaces. Upgrade fittings in sinks and showers to meet current California Green Building Standards Code (Title 24, Part 11) Section 4.303 water efficiency requirements.</p> <p>Exception: Upgraded fixtures are not required if existing fixtures have rated or measured flow rates of no more than ten percent greater than 2022 California Green Building Standards Code (Title 24, Part 11) Section 4.303 water efficiency requirements.</p>
E3	<p>Air Sealing: Seal all accessible cracks, holes, and gaps in the building envelope at walls, floors, and ceilings. Pay special attention to penetrations including plumbing, electrical, and mechanical vents, recessed can light luminaires, and windows. Weather-strip doors if not already present. Verification shall be conducted following a prescriptive checklist that outlines which building aspects need to be addressed by the permit applicant and verified by an inspector. Compliance can also be demonstrated with blower door testing conducted by a certified HERS Rater no more than three years prior to the permit application date that either: a) shows at least a 30 percent reduction from pre-retrofit conditions; or b) shows that the number of air changes per hour at 50 Pascals pressure difference (ACH50) does not exceed ten for Pre-1978 vintage buildings, seven for 1978 to 1991 vintage buildings and five for 1992-2010 vintage buildings. If combustion appliances are located within the pressure boundary of the building, conduct a combustion safety test by a professional certified by the Building Performance Institute in accordance with the ANSI/BPI-1200-S-2017 Standard Practice for Basic Analysis of Buildings, the Whole House Combustion Appliance Safety Test Procedure for the Comfortable Home Rebates Program 2020 or the California Community Services and Development Combustion Appliance Safety Testing Protocol.</p>
E4	<p>R-38 Attic Insulation: Attic insulation shall be installed to achieve a weighted assembly U-factor of 0.025 or insulation installed at the ceiling level shall have a thermal resistance of R-38 or greater for the insulation alone. Recessed downlight luminaires in the ceiling shall be covered with insulation to the same depth as the rest of the ceiling. Luminaires not rated for insulation contact must be replaced or fitted with a fire-proof cover that allows for insulation to be installed directly over the cover.</p> <p>Exception: In buildings where existing R-30 is present and existing recessed downlight luminaires are not rated for insulation contact, insulation is not required to be installed over the luminaires.</p>
E5	<p>Duct Sealing: Air seal all space conditioning ductwork to meet the requirements of the California Energy Code 150.2(b)1E. The duct system must be tested by a HERS Rater no more than three years prior to the Covered Single Family Project permit application date to verify the duct sealing and confirm that the requirements have been met. This measure may not be combined with the New Ducts and Duct Sealing measure in this Table.</p>

	Exception: Buildings without ductwork or where the ducts are in conditioned space.
E6	New Ducts, R-6 insulation + Duct Sealing: Replace existing space conditioning ductwork with new R-6 ducts that meet the requirements of 2022 Title 24 Section 150.0(m)11. This measure may not be combined with the Duct Sealing measure in this Table. To qualify, a preexisting measure must have been installed no more than three years before the Covered Single Family Project permit application date.
E7	Windows: Replace at least 50% of existing windows with high performance windows with an area-weighted average U-factor no greater than 0.30.
E8	R-13 Wall Insulation: Install wall insulation in all exterior walls to achieve a weighted U-factor of 0.102 or install wall insulation in all exterior wall cavities that shall result in an installed thermal resistance of R-13 or greater for the insulation alone.
E9	Reserved for future use
E10	R-19 / R-30 Floor Insulation: Raised-floors shall be insulated such that the floor assembly has an assembly U-factor equal to or less than U-0.037 / U-0.034 or shall be insulated between wood framing with insulation having an R-value equal to or greater than R-19 / R30.
<b>Fuel Substitution Measures</b>	
FS1	Heat Pump Water Heater (HPWH) Replacing Gas: Replace existing natural gas water heater with a heat pump water heater.
FS2	High Efficiency Heat Pump Water Heater (HPWH) Replacing Gas: Replace existing natural gas water heater with heat pump water heater with a Northwest Energy Efficiency Alliance (NEEA) Tier 3 or higher rating.
FS3	Heat Pump Water Heater (HPWH) Replacing Electric: Replace existing electric resistance water heater with a heat pump water heater.
FS4	High Efficiency Heat Pump Water Heater (HPWH) Replacing Electric: Replace existing electric resistance water heater with heat pump water heater with a Northwest Energy Efficiency Alliance (NEEA) Tier 3 or higher rating.
FS5	Heat Pump Space Heater: Replace all existing gas and electric resistance primary space heating systems with an electric-only heat pump system.
FS6	High Efficiency Heat Pump Space Heater: Replace all existing gas and electric resistance primary space heating systems with one of the following: A. A ducted electric-only heat pump system with a SEER2 rating of 16.5 or greater, an EER2 rating of 12.48 or greater and an HSPF2 rating of 9.5 or greater; or B. A ductless mini-split heat pump system with a SEER2 rating of 14.3 or greater, an EER2 rating of 11.7 or greater and an HSPF2 rating of 7.5 or greater
FS7	Dual Fuel Heat Pump Space Heater: Either A. Replace all existing gas and electric resistance primary heating systems with a hybrid gas and electric heat pump system, or B. Install an electric-heat pump system in tandem with a gas furnace and install controls to operate the heat pump to use the existing gas furnace for backup heat only.
FS8	Heat Pump Clothes Dryer: Replace existing electric resistance clothes dryer with heat pump dryer with no resistance element and cap gas line.
FS9	Induction Cooktop: Replace all existing gas and electric resistance stove tops with inductive stove top and cap the gas line.
<b>Solar PV and Electric-Readiness Measures</b>	
PV	Solar PV + Electric Ready Pre-Wire: Install a solar PV system that meets the requirements of California Energy Code Section 150.1(c)14. In addition, upgrade the

	panelboard to meet the requirements of Item ER1 in this Table and install any one other measures from Item ER2.
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**DIVISION 2. FINDINGS.**

The San Rafael City Council finds that the scientific evidence has established that natural gas combustion as well as leakage occurring during natural gas procurement, transportation, storage, and distribution produce significant greenhouse gas emissions that contribute to global warming, climate change and sea level rise.

California Health and Safety Code Sections 17958.5, 17958.7, and 18941.5 require that findings be made in order to change or modify building standards found in the California Building Standards Code based on local climatic, geologic, or topographic conditions. Therefore, the San Rafael City Council hereby finds that these changes or modifications to the California Green Building Standards Code, the California Plumbing Code and the California Mechanical Code as adopted in Chapter 12.200 of the San Rafael Municipal Code are reasonably necessary because of the following local climatic, geological, and topographical conditions:

I. Climatic conditions:

- a) Most of the annual rainfall in San Rafael occurs during the winter, it receives no measurable precipitation between May and October. During this time, temperatures average between 70 and 90 degrees. These conditions eliminate most of the moisture in the natural vegetation and heavily wooded hillsides. The area also suffers periodic droughts that can extend the dry periods to other months of the year. These conditions can be further exacerbated by occasional off-shore hot, dry, Santa-Ana winds; all of which contribute to an elevated fire hazard. Further, global warming due to climate change is making these conditions worse, extending the dry period by a full month in the spring and summer and exacerbating drought conditions.
- b) The seasonal climatic conditions during the late summer and fall create severe fire hazards to the public health and welfare in the City. The hot, dry weather can result in wildland fires on the brush covered slopes adjacent to the majority of neighborhoods west of highway 101.
- c) Local amendments to the municipal code pursuant to this ordinance are reasonably necessary to achieve greenhouse gas emission reductions that reduces the risks of climate shocks such as wildfires and drought, which will then reduce risks of physical damage to critical infrastructure, property loss, and loss of life. In addition, reducing electricity demand and encouraging on-site renewable energy and emergency backup reduces fire potential and reduces health and safety impacts to residents during public safety power shut offs.
- d) Most of the annual rainfall in San Rafael occurs during the winter, and some portions of San Rafael are subject to tidal influences, thus there are times that flooding conditions occur in low-lying areas. Much of San Rafael from downtown to the Canal, along San Pedro Road and south to the Richmond San Rafael Bridge



are lower than high tide and susceptible to flooding and sea level rise caused by climate change. San Rafael is expected to experience one foot of additional sea level rise in the coming decades. Local amendments to the municipal code pursuant to this ordinance are reasonably necessary to achieve greenhouse gas emission reductions that reduces the risks of flooding due to sea level rise, which will then reduce risks of physical damage to critical infrastructure, property loss, and loss of life.

II. Geologic conditions:

- a) San Rafael lies near several earthquake faults, including the very active San Andreas Fault, there are significant potential hazards such as road closures, fires, collapsed buildings, and isolation of residents requiring assistance.
- b) Many areas of the city, including some highly developed industrial and commercial areas, are located on bay alluvial soils which are subject to liquefaction in the event of an earthquake.
- c) The City includes hillsides with narrow and winding access, which makes timely response by fire suppression and emergency response vehicles difficult.
- d) Local amendments to the municipal code are reasonably necessary to reduce natural gas use thereby reducing the potential for leaks as well as the potential for fires caused by leaks during seismic events.

III. Topographic conditions:

- a) Much of San Rafael is located in hilly areas, and many of the residential areas are heavily landscaped, and many exist adjacent to hilly open space areas which are characterized by dry vegetation and have limited access. In addition, the steepness of grades located in the hills and canyons results in narrow and winding roads, and limited water supply, making timely access, rescue and firefighting activities by emergency providers difficult.
- b) The major arterial route between San Francisco and Marin and Sonoma County areas, Highway 101, bisects the City of San Rafael; should that highway become impassable, alternative routes via surface streets in San Rafael may cause heavy traffic congestion, limiting emergency access.

More specifically, the above modified building standards are listed below with the corresponding climatic, geological, or topographical condition which necessitates the modification.

CEgC Section Numbers 150.0.	Climatic, geological and topographical condition <i>1a, 1b, 11c, 111a,</i>
CalGreen Section Numbers 4.106.4.1. 4.106.4.2.2 1(b) 4.106.4.2.2. 2(b)	<i>1a, 1b, 11c, 111a, 1a, 1b, 11c, 111a, 1a, 1b, 11c, 111a,</i>
Title 12 Municipal Code 12.360	<i>1a, 1b, 11c, 111a,</i>

**DIVISION 3. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)**

This Ordinance is exempt from the California Environmental Quality Act (CEQA), pursuant to 14 CCR Section 15061(b)(3), since it can be seen with certainty that the adoption of this Ordinance would not have potential for causing a significant effect on the environment. (14 Cal. Code Regs. Section 15061(b)(3), 'general rule' provision). The Ordinance is also exempt from the requirements of CEQA pursuant to CEQA Guidelines sections 15307 and 15308 as an action by a regulatory agency taken to protect the environment and natural resources.

**DIVISION 4. SEVERABILITY.**

If any section, subsection, sentence, clause or phrase of this Ordinance is for any reason held to be invalid, such decision shall not affect the validity of the remaining portion of this Ordinance. The City Council of the City of San Rafael hereby declares that it would have adopted the Ordinance and each section, subsection, sentence, clause or phrase thereof, irrespective of the fact that any one or more sections, subsections, sentences, clauses or phrases shall be declared invalid.

**DIVISION 5. EFFECTIVE DATE OF ORDINANCE.**

This Ordinance shall be published once, in full or in summary form, before its final passage, in a newspaper of general circulation, published and circulated in the City of San Rafael and shall be in full force and effective thirty (30) days after its adoption, upon approval of the California Energy Commission or the date of the California Building Standards Commission (CBSC) accepts the ordinance for filing, whichever is later. If published in summary form, the summary shall also be published within fifteen (15) days after the adoption, together with the names of those Council members voting for or against same, in a newspaper of general circulation published and circulated in the City of San Rafael, County of Marin, State of California.

THE FOREGOING ORDINANCE was first read and introduced at a regular meeting of the San Rafael City Council on the 20th day of May 2024, and was passed and adopted at a regular meeting of the San Rafael City Council on the 3<sup>rd</sup> day of June 2024 by the following vote, to wit:

AYES:           COUNCILMEMBERS:  
NOES:           COUNCILMEMBERS:  
ABSENT:        COUNCILMEMBERS:

\_\_\_\_\_  
Kate Colin, Mayor

Attest:

\_\_\_\_\_  
LINDSAY LARA, City Clerk