

ORDINANCE NO.

BOARD OF SUPERVISORS, COUNTY OF SAN MATEO STATE OF CALIFORNIA

* * * * *

AN ORDINANCE AMENDING SECTIONS 10.44.080 AND 10.44.090 OF CHAPTER 10.44, GREEN BUILDING CODE, OF THE SAN MATEO COUNTY ORDINANCE CODE) TO REMOVE SECTION 4.106.5 (“ALL-ELECTRIC BUILDINGS”) AND SECTION 5.106.13 (“ALL-ELECTRIC BUILDINGS”), AND REPEALING CHAPTER 10.40, ENERGY CODE, OF THE SAN MATEO COUNTY ORDINANCE CODE AND REPLACING IT WITH A NEW CHAPTER 10.40, ENERGY CODE, WITH LOCAL AMENDMENTS TO REQUIRE HIGHER ENERGY EFFICIENCY TARGETS

The Board of Supervisors of the County of San Mateo, State of California,

ORDAINS as follows:

SECTION 1.

WHEREAS, California Health and Safety Code section 17958 requires that cities adopt building regulations that are substantially the same as those adopted by the California Building Standards Commission and contained in the California Building Standards; and

WHEREAS, the California Energy Code is a part of the California Building Standards which implements minimum energy efficiency standards in building through mandatory requirements, prescriptive standards, and performance standards; and

WHEREAS, California Health and Safety Code Sections 17958.5, 17958.7 and 18941.5 provide that the County may make changes or modifications to the building standards contained in the California Building Standards based upon express finding

that such changes or modifications are reasonably necessary because of local climatic, geological or topographical conditions; and

WHEREAS, the San Mateo County Board Supervisors finds that each of the amendment additions and deletions to the California Energy Code contained in this ordinance are reasonably necessary because of local climatic, geological or topographical conditions; and

WHEREAS, Public Resources Code Section 25402.1(h)2 and Section 10-106 of the Building Energy Efficiency Standards (Standards) establish a process which allows local adoption of energy standards that are more stringent than the statewide Standards, provided that such local standards are cost effective and the California Energy Commission finds that the standards will require building to be designed to consume no more energy than permitted by the California Energy Code; and

WHEREAS, on or about September 20, 2016, the State of California enacted Senate Bill (SB) 32, which added Health and Safety Code Section 38566 to require greenhouse gas emissions to be reduced to 40 percent below 1990 levels by no later than December 31, 2030; and

WHEREAS, on October 18, 2022, the Board adopted the Community Climate Action Plan (CCAP) with the goal of achieving a 45 percent reduction of greenhouse

emissions over 1990 levels by 2030 and carbon neutrality within unincorporated areas by 2040; and

WHEREAS, consistent with the CCAP, the local amendments to the 2022 California Building Codes, including the California Green Building Code, establish requirements for single-family (e.g., townhomes), multifamily, and nonresidential structures which will reduce demands for local energy and resources, reduce regional pollution, and promote a lower contribution to greenhouse gases emissions; and

WHEREAS, staff has reviewed the cost effectiveness studies prepared by the California Statewide Codes and Standards Reach Code Program and associated study data and find them sufficient to illustrate compliance with the requirements set forth under California Administrative Code Chapter 10-106; and

WHEREAS, that such modifications will result in designs that consume less energy than they would under the 2022 State Energy Code through the California Statewide Codes and Standards Reach Code Program, which has performed cost effectiveness analyses as required by the California Energy Commission for the local amendments to the California Energy Code contained in this ordinance which is hereby incorporated by reference; and

WHEREAS, based upon these analyses, this Board of Supervisors finds that the local amendments to the California Energy Code contained in this ordinance have at

least one cost effective pathway and will require buildings to be designed to consume no more energy than permitted by the California Energy Code; and

WHEREAS, because of the County's unique local climatic, geologic, and topographic conditions as further described herein, the County desires to make amendment and additions to the California Energy Code.

WHEREAS, Scientific evidence has established that natural gas combustion, procurement and transportation produce significant greenhouse gas emissions that contribute to global warming and climate change; and

WHEREAS, this Chapter is also reasonably necessary because of health and safety concerns as County residents suffer from asthma and other health conditions associated with poor indoor and outdoor air quality exacerbated by the combustion of natural gas; and

WHEREAS, using electric heating and cooling infrastructure in new buildings fueled by less greenhouse gas-intensive electricity is linked to significantly lower greenhouse gas emissions and is cost competitive because of the cost savings associated with all-electric designs that avoid new gas infrastructure; and

WHEREAS, the most cost-effective time to integrate electrical infrastructure is in the design phase of a building project because building systems and spaces can be designed to optimize the performance of electrical systems and the project can take full

advantage of avoided costs and space requirements from the elimination of natural gas piping and venting for combustion air safety; and

WHEREAS, it is the intent of the Board of Supervisors to reduce natural gas emissions in new buildings by encouraging electric infrastructure where it can be most practicably integrated, thereby reducing the environmental and health hazards produced by the consumption and transportation of natural gas.

WHEREAS, for the purposes of this ordinance, the Board of Supervisors hereby makes the following findings, as required by Sections 13143.5, 17958.5, 17958.7, and 18941.5 of the California Health and Safety Code:

Findings Of Fact

The Board of Supervisors finds and declares that the unique characteristics of the topographic, geologic, and climatic conditions found in San Mateo County make the local amendments to the California Building Standards Code (Title 24 of the California Code of Regulations) reasonable and necessary.

Finding 1: Topographic

Significant elevation changes occur within the County. Highly combustible dry grass, weeds, and brush are common in the hilly and open space areas adjacent to built-up locations six to eight months of each year. When these areas experience wildland fires, they immediately threaten nearby buildings. This condition can be found throughout the County, especially in those developed and developing areas

of the County, which interface and intermix with adjoining wildlands

Development has followed the path of least resistance, creating a meandering pattern. This does not lend itself to a good systematic street and road layout, which would promote easy traffic flow. It has, in fact, resulted in few major cross-town thoroughfares that tend to be heavily congested, primarily during commute hours and seasonal periods of the year. This creates barriers that reduce the response time of fire equipment and other emergency services.

The topography of the County is also challenged by major development patterns. Employment areas are located adjacent to the major thoroughfares within the County. The people who work in these areas have added to the traffic congestion in the County thereby reducing the response time capabilities of the various fire agencies.

Finding 2: Geologic

The majority of the County encompasses areas classified as Seismic Design Category E, which is the most severe earthquake category. Buildings and other structures in Category E can experience major seismic damage. Within San Mateo County are active faults such as San Andreas, San Gregorio, Seal Cove, and other lesser faults. Earthquake activity with nearby epicenters has the potential for inducing landslides which can create situations of reduced emergency response times.

A major earthquake could result in the cutting-off of response routes of fire companies by collapsing buildings, overpasses and bridges throughout the County. Earthquakes of the magnitude experienced locally can cause major damage to both

electrical and gas transmission facilities, which in turn cause power failures while at the same time starting fires throughout the County. The occurrence of multiple fires will quickly disperse existing fire department resources, thereby reducing and/or delaying their response to any given fire.

Finding 3: Climatic

The County is located in Climate Zone 3 as established in the 2022 California Energy Code. Precipitation, in normal years, can range from 15 to 24 inches per year with an average of approximately 20 inches per year. Ninety-six percent (96%) falls during the months of October through April and four percent (4%) from May through September. This is a dry period of at least five months each year. Additionally, the area is subject to frequent periods of drought – indeed, the area recently suffered through an unprecedented seven-year drought. Similar periods of extended drought may be expected locally in the future. Relative humidity remains in the middle range most of the time. It ranges from 45 to 65 percent in the winter, and occasionally falls as low as 15 percent. Temperatures from June through September average above 80° F. Temperatures as high as 110° F have been recorded, and it is not unusual to experience several continuous days with temperatures in the mid to high 90s. Prevailing winds in the area are from the west. However, winds are experienced from virtually every direction at one time or another. Velocities are generally in the 12 miles per hour (MPH) range, gusting to 25 to 35 MPH. Forty (40) MPH winds are experienced and winds up to 55 MPH have been registered locally. Climate change is causing historic droughts, devastating wildfires, torrential storms, extreme heat, property

damage, and threats to human health and food supplies. The State of California has outlined specified steps to reduce greenhouse gas emissions to prevent these negative impacts of changing climate including moving the State to 100 percent clean energy by 2045. This gives local governments the opportunity to achieve greenhouse gas emission reductions with a climate positive impact by powering buildings from clean electricity. These climatic conditions along with the greenhouse emissions generated from structures in both the residential and nonresidential sectors requires exceeding the energy standards for building construction established in the 2022 California Buildings Standards Code.

SECTION 2.

Sections 10.44.080 and 10.44.090 of Chapter 10.44, Green Building Code, of the San Mateo County Ordinance Code are amended to remove Section 4.106.5 (“All-Electric Buildings”) and Section 5.106.13 (“All-Electric Buildings”).

SECTION 3.

Chapter 10.40, Energy Code, of the San Mateo County Ordinance Code is hereby repealed in its entirety and replaced with California Building Energy Efficiency Standards, 2022 Edition, Title 24, Part 6 of the California Code of Regulations in its full form with the following local amendments, to be codified as Chapter 10.40, Energy Code, of the San Mateo County Building Regulations:

CHAPTER 10.40. ENERGY CODE.

SECTION 10.40.010. ADOPTION OF 2022 CALIFORNIA ENERGY CODE.

The latest adopted edition of the 2022 California Energy Code, Title 24, Part 6, is hereby adopted and incorporated by reference within the referenced code above and all amendments, errata, and/or emergency supplements are also adopted during this triennial California Building Standards Code cycle. A copy of the “California Energy Code” is on file at the San Mateo County Building Inspection Section.

SECTION 10.40.020. SUBCHAPTER 1. ALL OCCUPANCIES – GENERAL PROVISIONS

§100.1(b). Definitions and Rules of Construction. [Amended]:

ELECTRIC HEATING APPLIANCE is a device that produces heat energy to create a warm environment by the application of electric power to resistance elements, refrigerant compressors, or dissimilar material junctions, as defined in the California Mechanical Code. **[Added]**

KITCHEN, INSTITUTIONAL COMMERCIAL is a kitchen dedicated to a foodservice establishment that provides meals at institutions including schools, colleges and

universities, hospitals, correctional facilities, private cafeterias, nursing homes, and other buildings or structures in which care or supervision is provided to occupants.

[Added]

KITCHEN, QUICK-SERVICE COMMERCIAL is a kitchen dedicated to an establishment primarily engaged in providing fast food, fast casual, or limited services. Food and drink may be consumed on premises, taken out, or delivered to the customer's location.

[Added]

NET FREE AREA (NFA) is the total unobstructed area of the air gaps between louver and grille slats in a vent through which air can pass. The narrowest distance between two slats, perpendicular to the surface of both slats is the air gap height. The narrowest width of the gap is the air gap width. The NFA is the air gap height multiplied by the air gap width multiplied by the total number of air gaps between slats in the vent. **[Added]**

**SECTION 10.40.030. SUBCHAPTER 3. NONRESIDENTIAL. HOTEL/MOTEL
OCCUPANCIES. AND COVERED PROCESSES – MANDATORY REQUIREMENTS**

[Amended]

§120.2 – REQUIRED CONTROLS FOR SPACE-CONDITIONING SYSTEMS [Added]

Subchapter 3 is amended to add Section 120.2(l) to read as follows:

(l) HVAC Hot Water Temperature. Zones that use hot water for space heating shall be designed for a hot water supply temperature of no greater than 130 °F.

§120.6 – GENERAL [Added]

Subchapter 3 is amended to add Section 120.6(k) to read as follows:

(k) Mandatory requirements for commercial kitchens. Electric Readiness for

Newly Constructed Commercial Kitchens shall meet the following requirements:

1. Quick-service commercial kitchens and institutional commercial kitchens shall include a dedicated branch circuit wiring and outlet that would be accessible to cookline appliances and shall meet all of the following requirements:

a. The branch circuit conductors shall be rated at 50 amps minimum.

b. The electrical service shall have a minimum capacity of 800 connected amps.

2. The electrical service panel shall be sized to accommodate an additional either 208V or 240V 50-amp breaker.

EXCEPTION 1 to Section 120.6(k): healthcare facilities.

EXCEPTION 2 to Section 120.6(k): all-electric commercial kitchens.

SECTION 10.40.040. SUBCHAPTER 4. NONRESIDENTIAL. HOTEL/MOTEL OCCUPANCIES – MANDATORY REQUIREMENTS FOR LIGHTING SYSTEMS AND EQUIPMENT, AND ELECTRICAL POWER DISTRIBUTION SYSTEMS

[Amended]

§130.0 – LIGHTING SYSTEMS AND EQUIPMENT, AND ELECTRICAL POWER DISTRIBUTION SYSTEMS —GENERAL [Amended]

- a. The design and installation of all lighting systems and equipment in nonresidential and hotel/motel buildings, outdoor lighting, and electrical power distribution systems within the scope of Section 100.0(a), shall comply with the applicable provisions of Sections 130.0 through ~~130.5~~130.6.

NOTE: The requirements of Sections 130.0 through ~~130.5~~130.6 apply to newly constructed buildings. Section 141.0 specifies which requirements of Sections

130.0 through ~~130.5~~130.6 also apply to additions and alterations to existing buildings.

§130.6 – ELECTRIC READINESS REQUIREMENTS FOR SYSTEMS USING GAS OR PROPANE [Added]

130.6 Electric Readiness Requirements for Systems Using Gas or Propane

Where nonresidential systems using gas or propane are installed, the construction drawings shall indicate electrical infrastructure and physical space accommodating the future installation of an electric heating appliance in the following ways, as certified by a registered design professional or licensed electrical contractor.

- a) Branch circuit wiring, electrically isolated and designed to serve all electric heating appliances in accordance with manufacturer requirements and the California Electrical Code, including the appropriate voltage, phase, minimum amperage, and an electrical receptacle or junction box within five feet of the appliance that is accessible with no obstructions. Appropriately sized conduit may be installed in lieu of conductors; and
- b) Labeling of both ends of the unused conductors or conduit shall be with “For Future Electrical Appliance”; and
- c) Reserved circuit breakers in the electrical panel for each branch circuit, appropriately labeled (e.g. “Reserved for Future Electric Range”), and positioned on the opposite end of the panel supply conductor connection; and
- d) Connected subpanels, panelboards, switchboards, busbars, and transformers shall be sized to serve the future electric heating appliances. The electrical capacity requirements shall be adjusted for demand factors in accordance with the California Electric Code; and
- e) Physical space for future electric heating appliances, including equipment footprint, and if needed a pathway reserved for routing of ductwork to heat pump evaporator(s), shall be depicted on the construction drawings. The footprint necessary for future electric heating appliances may overlap with non-structural partitions and with the location of currently designed combustion equipment.

SECTION 10.40.050. SUBCHAPTER 5. NONRESIDENTIAL, HOTEL/MOTEL OCCUPANCIES – PERFORMANCE AND PRESCRIPTIVE COMPLIANCE APPROACHES FOR ACHIEVING ENERGY EFFICIENCY [Amended]

§140.0 – PERFORMANCE AND PRESCRIPTIVE COMPLIANCE APPROACHES [Amended]

Nonresidential and hotel/motel buildings shall comply with all of the following:

- a) The requirements of Sections 100.0 through 110.12 applicable to the building project (mandatory measures for all buildings).

- b) The requirements of Sections 120.0 through 130.56 (mandatory measures for nonresidential and high-rise residential and hotel/motel buildings).
- c) Either the performance compliance approach (energy budgets) specified in Section 140.1 or the prescriptive compliance approach specified in Section 140.2 for the Climate Zone in which the building will be located. Climate zones are shown in FIGURE 100.1-A.

NOTE to Section 140.0(c): The Commission periodically updates, publishes and makes available to interested persons and local enforcement agencies precise descriptions of the Climate Zones, which is available by zip code boundaries depicted in the Reference Joint Appendices along with a list of the communities in each zone.

NOTE to Section 140.0: The requirements of Sections 140.1 through 140.9 apply to newly constructed buildings. Section 141.0 specifies which requirements of Section 140.1 through 140.9 also apply to additions or alterations to existing buildings.

§140.1 - PERFORMANCE APPROACH: ENERGY BUDGETS [Amended]

A building complies with the performance approach if provided that:

1. The time-dependent valuation (TDV) energy budget calculated for the Proposed Design Building under Subsection (b) is no greater than the TDV energy budget calculated for the Standard Design Building under Subsection (a), and
2. The source energy budget calculated for the proposed design building under Subsection (b) has a source energy compliance margin, relative to the energy budget calculated for the standard design building under Subsection (a), of at least 7 percent for all nonresidential occupancies.

EXCEPTION 1 to 140.1 item 2. A source energy compliance margin of 0 percent or greater is required when nonresidential occupancies are designed with single zone space-conditioning systems complying with Section 140.4(a)2.

(a) – (c) Subsections 140.1 (a) – (c) are adopted without modification.

SECTION 10.40.060. SUBCHAPTER 7. SINGLE-FAMILY RESIDENTIAL BUILDINGS

– MANDATORY FEATURES AND DEVICES [Amended]

§150.0 - MANDATORY FEATURES AND DEVICES [Amended]

Single-family residential buildings shall comply with the applicable requirements of Sections 150(a) through 150.0(v).

NOTE: The requirements of Sections 150.0 (a) through (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(r) also apply to additions or

alterations. The amendments to sections 150.0 (t) do not apply to additions or alterations.

(a) – (s): Subsections 150.0(a) – (s) are adopted without modification.

(t) Heat pump space heater ready. Systems using gas or propane furnace to serve individual dwelling units shall include the following:

1. A dedicated 240 volt branch circuit wiring shall be installed within 3 feet from the furnace and accessible to the furnace with no obstructions. The branch circuit conductors shall be rated at 30 amps minimum. The blank cover shall be identified as “240V ready.” All electrical components shall be installed in accordance with the California Electrical Code.

2. The main electrical service panel shall have a reserved space to allow for the installation of a double pole circuit breaker for a future heat pump space heater installation. The reserved space shall be permanently marked as “For Future 240V use.”

3. A designated exterior location for a future heat pump compressor unit with either a drain or natural drainage for condensate.

(u) – (v): Subsections 150.0(u) – (v) are adopted without modification.

SECTION 10.40.070. SUBCHAPTER 8. SINGLE-FAMILY RESIDENTIAL BUILDINGS – PERFORMANCE AND PRESCRIPTIVE COMPLIANCE APPROACHES [Amended]

§150.1 - PERFORMANCE AND PRESCRIPTIVE COMPLIANCE APPROACHES FOR SINGLE FAMILY RESIDENTIAL BUILDINGS [Amended]

(a) Section (a) is adopted without modification

(b) Performance Standards. A building complies with the performance standards if the energy consumption calculated for the proposed design building is no greater than the energy budget calculated for the standard design building using Commission-certified compliance software as specified by the Alternative Calculation Methods Approval Manual, as specified in sub-sections 1, 2 and 3 below.

1. Newly Constructed Buildings. The Energy Budget for newly constructed buildings is expressed in terms of the Energy Design Ratings, which are based on source energy and time-dependent valuation (TDV) energy. The Energy Design Rating 1 (EDR1) is based on source energy. The Energy Design Rating 2 (EDR2) is based on TDV energy and has two components, the Energy Efficiency Design Rating, and the Solar Electric

Generation and Demand Flexibility Design Rating. The total Energy Design Rating shall account for both the Energy Efficiency Design Rating and the Solar Electric Generation and Demand Flexibility Design Rating. The proposed building shall separately comply with the Source Energy Design Rating, Energy Efficiency Design Rating and the Total Energy Design Rating. A building complies with the performance approach if the TDV energy budget calculated for the proposed design building is no greater than the TDV energy budget calculated for the Standard Design Building AND Source Energy compliance margin of at least 9, relative to the Source Energy Design Rating 1 calculated for the Standard Design building.

EXCEPTION 1 to Section 150.1(b)1. A community shared solar electric generation system, or other renewable electric generation system, and/or community shared battery storage system, which provides dedicated power, utility energy reduction credits, or payments for energy bill reductions, to the permitted building and is approved by the Energy Commission as specified in Title 24, Part 1, Section 10-115, may offset part or all of the solar electric generation system Energy Design Rating required to comply with the Standards, as calculated according to methods established by the Commission in the Residential ACM Reference Manual.

EXCEPTION 2 to Section 150.1(b)1. A newly constructed building with a conditioned floor area less than 1,500 square feet shall achieve a Source Energy compliance margin of 4 or greater, relative to the Source Energy Design Rating 1 calculated for the Standard Design building.

EXCEPTION 3 to Section 150.1(b)1. If a newly constructed building with a conditioned floor area less than 625 square feet demonstrates that due to conditions specific to the project it is technically infeasible to achieve compliance, the Building Official may reduce the compliance margin to between 0 and 4.

2. Additions and Alterations to Existing Buildings. The Energy Budget for additions and alterations is expressed in terms of TDV energy.
3. Section (b)(3) is adopted without modification.

(c) Section (c) is adopted without modification.

10.40.080. SUBCHAPTER 10, MULTIFAMILY BUILDINGS-MANDATORY REQUIREMENTS [Amended]

**§160.4 MANDATORY REQUIREMENTS FOR WATER HEATING SYSTEMS
[Rescinded]**

Section 160.4 is amended to remove subsection (a) as follows:

- (a) Reserved. ~~Systems using gas or propane water heaters to serve individual dwelling units shall include the following components:~~
- ~~1. A dedicated 125 volt, 20 amp electrical receptacle that is connected to the electric panel with a 120/240 volt 3 conductor, 10 AWG copper branch circuit, within 3 feet from the water heater and accessible to the water heater with no obstructions. In addition, all of the following:~~
 - ~~A. Both ends of the unused conductor shall be labeled with the word "spare" and be electrically isolated; and~~
 - ~~B. A reserved single pole circuit breaker space in the electrical panel adjacent to the circuit breaker for the branch circuit in A above and labeled with the words "Future 240V Use"; and~~
 - ~~2. A Category III or IV vent, or a Type B vent with straight pipe between the outside termination and the space where the water heater is installed; and~~
 - ~~3. A condensate drain that is no more than 2 inches higher than the base of the installed water heater, and allows natural draining without pump assistance; and~~
 - ~~4. A gas supply line with a capacity of at least 200,000 Btu/hr.~~

Sections (b) to (f) are adopted without amendments.

**§160.9 MANDATORY REQUIREMENTS FOR ELECTRIC READY BUILDINGS
[Added]**

Section 160.9 Sections (a) to (c) are adopted without amendments. Sections (d) through (f) are added as follows:

- (d) Individual Heat Pump Water Heater Ready. Systems using gas or propane water heaters to serve individual dwelling units shall include the following components and shall meet the requirements of Section 160.9(f):
1. A dedicated 125 volt, 20 amp electrical receptacle that is connected to the electric panel with a 120/240 volt 3 conductor, copper branch circuit rated to 30 amps, within 3 feet from the water heater and accessible to the water

heater with no obstructions. In addition, all of the following:

- A. Both ends of the unused conductor shall be labeled with the word "spare" and be electrically isolated; and
 - B. A reserved single pole circuit breaker space in the electrical panel adjacent to the circuit breaker for the branch circuit in A above and labeled with the words "Future 240V Use";
2. A condensate drain that is no more than 2 inches higher than the base of the installed water heater, and allows natural draining without pump assistance,
 3. The construction drawings shall indicate the location of the future heat pump water heater. The reserved location shall have minimum interior dimensions of 39"x39"x96"
 4. A ventilation method meeting one of the following:
 - A. The designed space reserved for the future heat pump water heater shall have a minimum volume of 700 cubic feet; or
 - B. The designed space reserved for the future heat pump water heater shall vent to a communicating space in the same pressure boundary via permanent openings with a minimum total net free area of 250 square inches so that the total combined volume connected via permanent openings is 700 cu. ft. or larger. The permanent openings shall be:
 - i. Fully louvered doors with fixed louvers consisting of a single layer of fixed flat slats; or
 - ii. Two permanent fixed openings, consisting of a single layer of fixed flat slat louvers or grilles, one commencing within 12 inches from the top of the enclosure and one commencing within 12 inches from the bottom of the enclosure.
 - C. The designed space reserved for the future heat pump water heater shall include two 8" capped ducts, venting to the building exterior:
 - i. All ducts, connections and building penetrations shall be sealed.
 - ii. Exhaust air ducts and all ducts which cross pressure boundaries shall be insulated to a minimum insulation level of R-6
 - iii. Airflow from termination points shall be diverted away from each other.

(e) **Central Heat Pump Water Heater Electric Ready.** Central water heating systems using gas or propane to serve multiple dwelling units shall include the following:

1. The system input capacity of the gas or propane water heating system shall be determined as the sum of the input gas or propane capacity of all water heating devices associated with each gas or propane water heating system.
2. Space reserved shall include:
 - A. Heat Pump. The minimum space reserved shall include space for service clearances and air flow clearances and shall meet one of

the following:

- i. If the system input capacity of the gas water heating system is less than 200,000 BTU per hour, the minimum space reserved for the heat pump shall be 2.0 square feet per input 10,000 BTU per hour of the gas or propane water heating system, and the minimum linear dimension of the space reserved shall be 48 linear inches.
 - ii. If the system input capacity of the gas water heating system is greater than or equal to 200,000 BTU per hour, the minimum space reserved for the heat pump shall be 3.6 square feet per input 10,000 BTU per hour of the gas or propane water heating system, and the minimum linear dimension of the space reserved shall be 84 linear inches.
 - iii. The space reserved shall be the space required for a heat pump water heater system that meets the total building hot water demand as calculated and documented by the responsible person associated with the project.
 - B. Tanks. The minimum space reserved shall include space for service clearances and shall meet one of the following:
 - i. If the system input capacity of the gas water heating system is less than 200,000 BTU per hour, the minimum space reserved for the storage and temperature maintenance tanks shall be 4.4 square feet per input 10,000 BTU per hour of the gas or propane water heating system.
 - ii. If the system input capacity of the gas water heating system is greater than or equal to 200,000 BTU per hour, the minimum physical space reserved for the storage and temperature maintenance tanks shall be 3.1 square feet per input 10,000 BTU per hour of the gas or propane water heating system.
 - iii. The space reserved shall be the space required for a heat pump water heater system that meets the total building hot water demand as calculated and documented by the responsible person associated with the project.
3. Ventilation shall be provided by meeting one of the following:
- A. Physical space reserved for the heat pump shall be located outside, or
 - B. A pathway shall be reserved for future routing of supply and exhaust air via ductwork from the reserved heat pump location to an appropriate outdoor location. Penetrations through the building envelope for louvers and ducts shall be planned and identified for future use. The reserved pathway and penetrations through the building envelope shall be sized to meet one of the following:
 - i. If the system input capacity of the gas water heating system is less than 200,000 BTU per hour, the minimum air flow rate shall be 70 CFM per input 10,000 BTU per hour of the gas or

propane water heating system and the total external static pressure drop of ductwork and louvers shall not exceed 0.17 inch when the future heat pump water heater is installed.

- ii. If the system input capacity of the gas water heating system is greater than or equal to 200,000 BTU per hour, the minimum air flow rate shall be 420 CFM per input 10,000 BTU per hour of the gas or propane water heating system and the total external static pressure drop of ductwork and louvers shall not exceed 0.17 inch when the future heat pump water heater is installed.
 - iii. The reserved pathway and penetrations shall be sized to serve a heat pump water heater system that meets the total building hot water demand as calculated and documented by the responsible person associated with the project.
4. Condensate drainage piping. An approved receptacle that is sized in accordance with the California Plumbing Code to receive the condensate drainage shall be installed within 3 feet of the reserved heat pump location, or piping shall be installed from within 3 feet of the reserved heat pump location to an approved discharge location that is sized in accordance with the California Plumbing Code, and meets one of the following:
- A. If the system input capacity of the gas water heating system is less than 200,000 BTU per hour, condensate drainage shall be sized for 0.2 tons of refrigeration capacity per input 10,000 BTU per hour.
 - B. If the system input capacity of the gas water heating system is greater than or equal to 200,000 BTU per hour, condensate drainage shall be sized for 0.7 tons of refrigeration capacity per input 10,000 BTU per hour.
 - C. Condensate drainage shall be sized to serve a heat pump water heater system that meets the total building hot water demand as calculated and documented by the responsible person associated with the project.
5. Electrical.
- A. Physical space shall be reserved on the bus system of the main switchboard or on the bus system of a distribution board to serve the future heat pump water heater system including the heat pump and temperature maintenance tanks. In addition, the physical space reserved shall be capable of providing adequate power to the future heat pump water heater as follows:
 - i. Heat Pump. For the Heat Pump, the physical space reserved shall comply with one of the following:
 - A. If the system input capacity of the gas water heating system is less than 200,000 BTU per hour, provide 0.1 kVA per input 10,000 BTU per hour.
 - B. If the system input capacity of the gas water heating system is greater than or equal to 200,000 BTU per

- hour, provide 1.1 kVA per input 10,000 BTU per hour.
- C. The physical space reserved supplies sufficient electrical power required to power a heat pump water heater system that meets the total building hot water demand as calculated and documented by the responsible person associated with the project.
- ii. Temperature Maintenance Tank. For the Temperature Maintenance Tank, the physical space reserved shall comply with one of the following:
- A. If the system input capacity of the gas water heating system is less than 200,000 BTU per hour, provide 1.0 kVA per input 10,000 BTU per hour.
- B. If the system input capacity of the gas water heating system is greater than or equal to 200,000 BTU per hour, provide 0.6 kVA per input 10,000 BTU per hour.
- C. The physical space reserved supplies sufficient electrical power required to power a heat pump water heater system that meets the total building hot water demand as calculated and documented by the responsible person associated with the project.
- (f) The building electrical system shall be sized to meet the future electric requirements of the electric ready equipment specified in sections 160.9 a – e. To meet this requirement the building main service conduit, the electrical system to the point specified in each subsection, and any on-site distribution transformers shall have sufficient capacity to supply full rated amperage at each electric ready appliance in accordance with the California Electric Code.

10.40.090. SUBCHAPTER 11. MULTIFAMILY BUILDINGS – PERFORMANCE AND PRESCRIPTIVE COMPLIANCE APPROACHES [Amended]

§170.1 - PERFORMANCE APPROACH [Amended]

A building complies with the performance approach if the TDV energy budget calculated for the proposed design building under Subsection (b) is no greater than the TDV energy budget calculated for the Standard Design Building under Subsection (a). Additionally,

1. The energy budget, expressed in terms of source energy, of a newly constructed low-rise multifamily building (three habitable stories or less) shall be at least 10 percent lower than that of the Standard Design Building.
2. Newly Constructed high-rise multifamily buildings (greater than four habitable stories) shall be at least 4 percent lower than that of the Standard Design Building.

Sub-sections (a) to (d) are adopted without amendments.

SECTION 4.

If any portion of this ordinance is for any reason held by any court to be invalid or unconstitutional, that portion shall be deemed a separate, distinct and independent provision and such holding shall not affect the validity of the remaining portion hereof nor other applications of the ordinance which can be given effect without the invalid provision or application, and to this end the provisions of this ordinance are declared to be severable.

SECTION 5.

This ordinance shall take effect thirty (30) days after its adoption by the Board of Supervisors.

* * * * *