

<b>DOCKETED</b>	
<b>Docket Number:</b>	19-BSTD-06
<b>Project Title:</b>	Local Ordinances Exceeding the 2019 Energy Code
<b>TN #:</b>	234553-3
<b>Document Title:</b>	City of Burlingame 2019 Local Ordinances
<b>Description:</b>	Plain text of City of Burlingame 2019 local ordinances #1979, #1980 and #1981
<b>Filer:</b>	Danuta Drozdowicz
<b>Organization:</b>	California Energy Commission
<b>Submitter Role:</b>	Commission Staff
<b>Submission Date:</b>	9/2/2020 10:07:07 AM
<b>Docketed Date:</b>	9/2/2020

**ORDINANCE NO. 1979**

**AN ORDINANCE OF THE CITY OF BURLINGAME  
ADOPTING AMENDMENTS TO THE MUNICIPAL CODE TO REQUIRE BUILDING  
ELECTRIFICATION, SOLAR ENERGY SYSTEMS, AND ELECTRIC VEHICLE  
INFRASTRUCTURE ON NEWLY CONSTRUCTED SINGLE FAMILY RESIDENCES TO  
REDUCE GREENHOUSE GAS EMISSIONS**

The City Council of the City of Burlingame ordains as follows:

DIVISION 1. Factual Background

WHEREAS, consensus exists among the world's leading climate scientists that climate change caused by greenhouse gas (GHG) emissions from human activities is among the most significant problems facing the world today; and

WHEREAS, the City of Burlingame adopted a Climate Action Plan (CAP) that directs the City in reducing approximately 50,000 tons of GHG emissions by the year 2030 to meet reduction goals consistent with California's GHG targets; and

WHEREAS, measures in the CAP aim to curb the use of fossil fuels, a primary contributor to GHG emissions, in buildings and transportation; and

WHEREAS, reach codes that extend beyond the California building code are being adopted by cities region wide to accelerate GHG reductions from new construction by limiting the use of natural gas, increasing local solar production, and installing electric vehicle (EV) infrastructure to charge a greater number of EV's beyond state code requirements; and

WHEREAS, Peninsula Clean Energy has provided support and technical resources to jurisdictions to adopt a reach code including model ordinances and cost effectiveness studies; and

WHEREAS, Burlingame's reach code ordinance for single family residences is based on Peninsula Clean Energy's model reach code ordinances for building electrification, solar, and EV infrastructure; and

WHEREAS, the assumptions for climate zones, building types, cost effectiveness, and the provisions of the model reach code are applicable to the City of Burlingame; and

WHEREAS the reach code ordinance would implement at least three measures from the City's CAP; and

WHEREAS, the City of Burlingame wishes to adopt the reach code ordinance to enhance building electrification, solar production, and EV infrastructure within the City as part of Title 18 of the Municipal Code.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF BURLINGAME DOES ORDAIN AS FOLLOWS:

DIVISION 2. Amendments

The City of Burlingame adopts the following local amendments to California Energy Code, 2019 Edition, Title 24, Part 6 of the California Code of Regulations: § 100.0 - Scope (e) Sections applicable to Single Family Residences. The proposed Ordinance shows where changes were made to the California Energy Code. Plain text is the State's code; underlined text shows additions; and strikethroughs indicate deletions. The Ordinance will be incorporated as a clean version without edits. TABLE 100.0-A and this subsection list the provisions of Part 6 that are applicable to different types of buildings covered by Section 100.0(a)

1. All buildings. Sections 100.0 through 110.12 apply to all buildings.  
EXCEPTION to Section 100.0(e) 1: Spaces or requirements not listed in TABLE 100.0-A.
2. Newly constructed buildings
  - A All newly constructed buildings. Sections 110.0 through 110.12 apply to all newly constructed buildings within the scope of Section 100.0(a). In addition, newly constructed buildings shall meet the requirements of Subsections B, C, D or E, as applicable; and Single Family Residences shall be All-Electric Buildings as defined in Section 100.1(b). For the purposes of All-Electric Building requirements, newly constructed buildings as defined in Section 100.1 shall include newly constructed additions and improvements in existing buildings where more than 50 percent of the valuation of the existing structure is being remodeled, provided the remodel also includes a new heating, cooling, and ventilation system. The cost calculations for the additions/improvements shall be calculated utilizing current Burlingame average construction cost as determined by the Chief Building Official. Projects that have been submitted to the Planning Division or have been granted entitlements before the effective date of this ordinance are not required to meet the all-electric requirements.

Exception 1: Single Family Residences may contain non-electric indoor and outdoor Cooking Appliances and Fireplaces.

Exception 2: If the applicant established that an all-electric building is infeasible for the project due to exceptional or extraordinary circumstances particular to the project, then the Chief Building Official may grant a modification. The design professional shall submit findings demonstrating a unique reason that makes the technical code impractical, that the modification is in conformity with the intent and purpose of the technical code, the modification shall be as narrow as possible so as to effectuate as much of a reduction in

natural gas as possible, and that such modification does not lessen health, life safety and fire safety requirements or any degree of structural integrity. If the Chief Building Official grants a modification pursuant to this Exception, the applicant shall comply with the pre-wiring provision of Note 1 below.

Note 1: If natural gas appliances are used in any of the above exceptions, natural gas appliance locations must also be electrically pre-wired for future electric appliance installation. This shall include the following:

1. A dedicated circuit, phased appropriately, for each appliance, with a minimum amperage requirement for a comparable electric appliance (see manufacturer's recommendations) with an electrical receptacle or junction box that is connected to the electric panel with conductors of adequate capacity, extending to within 3 feet of the appliance and accessible with no obstructions. Appropriately sized conduit may be installed in lieu of conductors; and
2. Both ends of the conductor or conduit shall be labeled with the words "For Future Electric Appliance" and be electrically isolated; and
3. A circuit breaker shall be installed in the electrical panel for the branch circuit and labeled for each circuit "For Future Electric Range;" and
4. All electrical components, including conductors, receptacles, junction boxes, or blank covers, related to this section shall be installed in accordance with the California Electrical Code.

Note 2: If any of the exceptions are granted, the Chief Building Official shall have the authority to approve alternative materials, design and methods of construction or equipment per CBC 104.

***Section 100.1(b) is modified by adding the following definitions:***

ALL-ELECTRIC BUILDING: a building that has no natural gas or propane plumbing installed within the building, and that uses electricity as the source of energy for its space heating, water heating (including pools and spas), cooking appliances, and clothes drying appliances. All-Electric Buildings may include solar thermal pool heating.

***Section 110.2 is modified as follows:***

SECTION 110.2- MANDATORY REQUIREMENTS FOR SPACE-CONDITIONING EQUIPMENT

Certification by Manufacturers. Any space-conditioning equipment listed in this section, meeting the requirements of Section 100.0 (e)2A, may be installed so long as the manufacturer has certified to the Commission that the equipment complies with all the applicable requirements of this section.

**Section 110.3 is modified as follows:**

SECTION 110.3- MANDATORY REQUIREMENTS FOR SERVICE WATER-HEATING SYSTEMS AND EQUIPMENT

(a) Certification by manufacturers. Any service water-heating system or equipment, meeting the requirements of Section 100.0 (e)2A, may be installed so long as the manufacturer has certified that the system or equipment complies with all of the requirements of this subsection for that system or equipment.

**Section 110.4 is modified as follows:**

SECTION 110.4 - MANDATORY REQUIREMENTS FOR POOL AND SPA SYSTEMS AND EQUIPMENT

(a) Certification by Manufacturers. Any pool or spa heating system or equipment, meeting the requirements of Section 100.0 (e)2A, may be installed so long as the manufacturer has certified that the system or equipment has all of the following:

**Section 110.5 is modified as follows:**

SECTION 110.5- NATURAL GAS CENTRAL FURNACES, COOKING EQUIPMENT, POOL AND SPA HEATERS, AND FIREPLACES: PILOT LIGHTS PROHIBITED

Any natural gas system or equipment, meeting the requirements of Section 100.0 (e)2A, listed below may be installed so long as it does not have a continuously burning pilot light:

**Local Amendments to the Green Building Code**

The proposed Ordinance shows where changes were made to the State Green Building Code. Plain text is the State's code; underlined text show additions; and strikethroughs indicate deletions. The Ordinance will be incorporated as a clean version without edits.

**SECTION 2  
DEFINITIONS**

**EV Capable:** A parking space linked to a listed electrical panel with sufficient capacity to provide at least 110/120 volts and 20 amperes to the parking space. Raceways linking the electrical panel and parking space only need to be installed in spaces that will be inaccessible in the future, either trenched underground or where penetrations to walls, floors, or other partitions would otherwise be required for future installation of branch circuits. Raceways must be at least 1" in diameter and may be sized for multiple circuits as allowed by the California Electrical Code. The panel circuit directory shall identify the overcurrent protective device space(s) reserved for EV charging as "EV CAPABLE." Construction documents shall indicate future completion of raceway from the panel to the parking space, via the installed inaccessible raceways.

**Level 1 EV Ready Space:** A parking space served by a complete electric circuit with a minimum of 110/120 volt, 20-ampere capacity including electrical panel capacity, overprotection device, a minimum 1" diameter raceway that may include multiple circuits as allowed by the California Electrical Code, wiring, and either a) a receptacle labelled "Electric Vehicle Outlet" with at least a ½" font adjacent to the parking space, or b) electric vehicle supply equipment (EVSE).

**Level 2 EV Ready Space:** A parking space served by a complete electric circuit with 208/240 volt, 40-ampere capacity including electrical panel capacity, overprotection device, a minimum 1" diameter raceway that may include multiple circuits as allowed by the California Electrical Code, wiring, and either a) a receptacle labelled "Electric Vehicle Outlet" with at least a ½" font adjacent to the parking space, or b) electric vehicle supply equipment (EVSE) with a minimum output of 40 amperes.

**Electric Vehicle Charging Station (EVCS):** A parking space that includes installation of electric vehicle supply equipment (EVSE) with a minimum capacity of 30 amperes connected to a circuit serving a Level 2 EV Ready space. EVCS installation may be used to satisfy a Level 2 EV Ready space requirement.

## SECTION 4 RESIDENTIAL MANDATORY MEASURES

**4.106.4 Electric vehicle (EV) charging for new construction.** New construction shall comply with Sections 4.106.4.1, 4.106.4.2, or 4.106.4.3 to facilitate future installation and use of EV chargers. Electric vehicle supply equipment (EVSE) shall be installed in accordance with the California Electrical Code, Article 625.

**Exceptions:**

1. On a case-by-case basis, where the City has determined EV charging and infrastructure are not feasible based upon one or more of the following conditions:
  - 1.1.1 Where there is no commercial power supply available to the designated parking area.
  - 1.1.2 Where there is evidence substantiating that meeting the requirements will alter the local utility infrastructure design requirements on the utility side of the meter so as to increase the utility side cost to the homeowner or the developer by more than \$400.00 per dwelling unit.
  - 1.1.3 The construction is for an Accessory Dwelling Units (ADU) or Junior Accessory Dwelling Unit (JADU) without additional parking facilities.

**4.106.4.1 New one- and two-family dwellings and townhouses with attached private garages.**

For each dwelling unit, install at least two EV Ready Spaces, including at least one Level 2 EV Ready space as described in Section 2 Definitions. ~~listed raceway to accommodate a dedicated 208/240-volt branch circuit. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). The raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or other enclosure in close proximity to the proposed location of an EV charger. Raceways are required to be continuous at enclosed, inaccessible or concealed areas and spaces. The service panel and/or subpanel shall provide capacity to install a 40-ampere minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit overcurrent protective device.~~

**Exception:** For each dwelling unit with only one parking space, only one Level 2 EV Ready space is required.

**4.106.4.1.1 Identification.** ~~The service panel or sub-panel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging as "Level 2 EV CAPABLE". The raceway termination location shall be permanently and visibly marked as "CAPABLE".~~ "Level 2 EV Ready".

**4.106.4.2.1.1 Electric vehicle charging stations (EVCS).** When EV chargers are installed, EV spaces required by Section 4.106.4.2.2, Item 3, shall comply with at least one of the following options:

1. The EV 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.
2. The EV 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 11 B, are not required to comply with Section 4.106.4.2.1.1 and Section 4.106.4.2.2, Item 3.

**Note:** Electric vehicle charging stations serving public housing are required to comply with the *California Building Code*, Chapter 11 B.

**4.106.4.2.3**—

**Single EV space requirement.** ~~Install a listed raceway capable of accommodating a 208/240-volt dedicated branch circuit. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). The raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or enclosure in close proximity to the proposed location of the EV space. Construction documents shall identify the raceway termination point. The service panel and/or subpanel shall provide capacity to install a 40-ampere minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit overcurrent protective device.~~

4.106.4.2.4—Multiple EV spaces required. Construction raceway termination point and proposed location of future EV spaces and EV chargers. Construction documents shall also provide information on amperage of future EVSE, raceway method(s), wiring schematics and ~~electrical load calculations to verify that the electrical panel service capacity and electrical~~ system, including any on-site distribution transformer(s), have sufficient capacity to simultaneously charge all EVs at all required EV spaces at the full rated amperage of the EVSE. Plan design shall be based upon a 40-ampere minimum branch circuit. Raceways and related components that are planned to be installed underground, enclosed, inaccessible or in concealed areas and spaces shall be installed at the time of original construction.

4.106.4.2.5—Identification. The service panel or sub-panel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging purposes as "EV CAPABLE;" in accordance with the California Electrical Code. Refer to Section 2 Definitions for identification requirements.

DIVISION 3:

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 portions of this Ordinance. The Council 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 be declared invalid.

DIVISION 4:

This Ordinance is exempt from the environmental review requirements of CEQA pursuant to Section 15061 (b)(3) of Title 14 of the California Code of Regulations because it can be seen with certainty that there is no possibility that the provisions contained herein may have a significant effect on the environment. Further, the Ordinance is also exempt from the requirements of CEQA pursuant to CEQA Guidelines Sections 15307 and 15308 of Title 14 of the California Code of Regulations as actions taken by regulatory agencies to assure the maintenance, restoration, enhancement of natural resources, or protection of the environment.

DIVISION 5:

This Ordinance shall be published in a newspaper of general circulation in accordance with California Government Code Section 36933, published, and circulated in the City of Burlingame, and shall be in full force and effect following approval by the California Energy Commission.

DocuSigned by:  
  
DD660758260460

Emily Beach, Mayor

I, Meaghan Hassel-Shearer, City Clerk of the City of Burlingame, certify that the foregoing ordinance was introduced at a public hearing at a regular meeting of the City Council held on



the 6th day of July, 2020, and adopted thereafter at a regular meeting of the City Council held on the 17th day of August 2020, by the following vote:

AYES: Councilmembers: BEACH, BROWNRIGG, COLSON, ORTIZ  
NOES: Councilmembers: O'BRIEN KEIGHRAN  
ABSENT: Councilmembers: NONE

GDocuSigned by

Meaghan Hassel-Shearer, City Clerk

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Meaghan Hassel-Shearer, City Clerk

**ORDINANCE NO. 1980**

**AN ORDINANCE OF THE CITY OF BURLINGAME  
ADOPTING AMENDMENTS TO THE MUNICIPAL CODE TO REQUIRE BUILDING  
ELECTRIFICATION, SOLAR ENERGY SYSTEMS, AND ELECTRIC VEHICLE  
INFRASTRUCTURE ON NEWLY CONSTRUCTED MULTIFAMILY BUILDINGS TO REDUCE  
GREENHOUSE GAS EMISSIONS**

The City Council of the City of Burlingame ordains as follows:

DIVISION 1. Factual Background

WHEREAS, consensus exists among the world's leading climate scientists that climate change caused by greenhouse gas (GHG) emissions from human activities is among the most significant problems facing the world today; and

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WHEREAS, measures in the CAP aim to curb the use of fossil fuels, a primary contributor to GHG emissions, in buildings and transportation; and

WHEREAS, reach codes that extend beyond the California building code are being adopted by cities region wide to accelerate GHG reductions from new construction by limiting the use of natural gas, increasing local solar production, and installing electric vehicle (EV) infrastructure to charge a greater number of EV's beyond state code requirements; and

WHEREAS, Peninsula Clean Energy has provided support and technical resources to jurisdictions to adopt a reach code including model ordinances and cost effectiveness studies; and

WHEREAS, Burlingame's reach code ordinance for multifamily buildings is based on Peninsula Clean Energy's model reach code ordinances for building electrification, solar, and EV infrastructure; and

WHEREAS, the assumptions for climate zones, building types, cost effectiveness, and the provisions of the model reach code are applicable to the City of Burlingame; and

WHEREAS the reach code ordinance would implement at least three measures from the City's CAP; and

WHEREAS, the City of Burlingame wishes to adopt the reach code ordinance to enhance building electrification, solar production, and EV infrastructure within the City as part of Title 18 of the Municipal Code.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF BURLINGAME DOES ORDAIN AS FOLLOWS:

DIVISION 2. Amendments

The City of Burlingame adopts the following local amendments to California Energy Code, 2019 Edition, Title 24, Part 6 of the California Code of Regulations: § 100.0 - Scope (e) Sections applicable to Multifamily Buildings. The proposed Ordinance shows where changes were made to the California Energy Code. Plain text is the State's code; underlined text shows additions; and strikethroughs indicate deletions. The Ordinance will be incorporated as a clean version without edits. TABLE 100.0-A and this subsection list the provisions of Part 6 that are applicable to different types of buildings covered by Section 100.0(a).

1. All buildings. Sections 100.0 through 110.12 apply to all buildings.  
EXCEPTION to Section 100.0(e) 1: Spaces or requirements not listed in TABLE 100.0-A.
2. Newly constructed buildings
  - A All newly constructed buildings. Sections 110.0 through 110.12 apply to all newly constructed buildings within the scope of Section 100.0(a). In addition, newly constructed buildings shall meet the requirements of Subsections B, C, D or E, as applicable; and Multifamily Buildings shall be All-Electric Buildings as defined in Section 100.1(b). Projects that have been submitted to the Planning Division or have been granted entitlements before the effective date of this ordinance are not required to meet the all-electric requirements.

Exception 1: If the applicant established that an all-electric building is infeasible for the project due to exceptional or extraordinary circumstances particular to the project, then the Chief Building Official may grant a modification. The design professional shall submit findings demonstrating a unique reason that makes the technical code impractical, that the modification is in conformity with the intent and purpose of the technical code, the modification shall be as narrow as possible so as to effectuate as much of a reduction in natural gas as possible, and that such modification does not lessen health, life safety and fire safety requirements or any degree of structural integrity. If the Chief Building Official grants a modification pursuant to this Exception, the applicant shall comply with the pre-wiring provision of Note 1 below.

Note 1: If natural gas appliances are used in any of the above exceptions, natural gas appliance locations must also be electrically pre-wired for future electric appliance installation. This shall include the following:

1. A dedicated circuit phased appropriately, for each appliance, with a minimum amperage requirement for a comparable electric appliance (see manufacturer's recommendations) with an electrical receptacle or junction box that is connected to the electric panel with conductors of adequate capacity, extending to within 3 feet of the appliance and accessible with no obstructions. Appropriately sized conduit may be installed in lieu of conductors; and

2. Both ends of the conductor or conduit shall be labeled with the words "For Future Electric Appliance" and be electrically isolated; and

3. A circuit breaker shall be installed in the electrical panel for the branch circuit and labeled for each circuit "For Future Electric Range;" and

4. All electrical components, including conductors, receptacles, junction boxes, or blank covers, related to this section shall be installed in accordance with the California Electrical Code.

Note 2: If any of the exceptions are granted, the Chief Building Official shall have the authority to approve alternative materials, design and methods of construction or equipment per CBC 104.

***Section 100.1(b) is modified by adding the following definitions:***

ALL-ELECTRIC BUILDING: is a building that has no natural gas or propane plumbing installed within the building, and that uses electricity as the source of energy for its space heating, water heating (including pools and spas), cooking appliances, and clothes drying appliances. All-Electric Buildings may include solar thermal pool heating.

***Section 110.2 is modified as follows:***

SECTION 110.2 - MANDATORY REQUIREMENTS FOR SPACE-CONDITIONING EQUIPMENT

Certification by Manufacturers. Any space-conditioning equipment listed in this section, meeting the requirements of Section 100.0 (e)2A, may be installed so long as the manufacturer has certified to the Commission that the equipment complies with all the applicable requirements of this section.

***Section 110.3 is modified as follows:***

SECTION 110.3- MANDATORY REQUIREMENTS FOR SERVICE WATER-HEATING SYSTEMS AND EQUIPMENT

(a) Certification by manufacturers. Any service water-heating system or equipment meeting the requirements of Section 100.0 (e)2A, may be installed so long as the manufacturer has certified that the system or equipment complies with all of the requirements of this subsection for that system or equipment.

**Section 110.4 is modified as follows:**

**SECTION 110.4 - MANDATORY REQUIREMENTS FOR POOL AND SPA SYSTEMS AND EQUIPMENT**

(a) Certification by Manufacturers. Any pool or spa heating system or equipment, meeting the requirements of Section 100.0 (e)2A, may be installed so long as the manufacturer has certified that the system or equipment has all of the following:

**Section 110.5 is modified as follows:**

**SECTION 110.5 - NATURAL GAS CENTRAL FURNACES, COOKING EQUIPMENT, POOL AND SPA HEATERS, AND FIREPLACES: PILOT LIGHTS PROHIBITED**

Any natural gas system or equipment, meeting the requirements of Section 100.0 (e)2A, listed below may be installed so long as it does not have a continuously burning pilot light:

**Section 110.10 is modified as follows:**

**SECTION 110.10- MANDATORY REQUIREMENTS FOR SOLAR READY BUILDINGS AND SOLAR PANEL SYSTEM REQUIREMENTS FOR NEW BUILDINGS**

(a) Covered Occupancies.

1. Single Family Residences. Single family residences located in subdivisions with ten or more single family residences and where the application for a tentative subdivision map for the residences has been deemed complete approved by the City, which do not have a photovoltaic system installed, shall comply with the requirements of Section 110.10(b) through 110.10(e).
2. Low-rise Multifamily Buildings. Low-rise multi-family buildings that do not have a photovoltaic system installed shall comply with the requirements of Section 110.10(b) through 110.10(d).
3. Hotel/Motel Occupancies and High-rise Multifamily Buildings. Hotel/motel occupancies and high-rise multifamily buildings with ten habitable stories or fewer shall comply with the requirements of Section 110.10(b) through 110.10(d) and Table 110.10-A.
4. Nonresidential Buildings. Nonresidential buildings with three habitable stories or fewer, other than healthcare facilities, shall comply with the requirements of Section 110.10(b)through 110.10(d).

**Table 110.10-A: Solar panel requirements for all high rise residential buildings**

Square footage of building	Size of panel
Less than 10,000 sq. ft.	Minimum of 3-kilowatt PV system
Greater than or equal to 10,000 sq. ft.	Minimum of 5-kilowatt PV system

EXCEPTION: As an alternative to a solar PV system, the building type may provide a solar hot water system (solar thermal) with a minimum collector area of 40 square feet, additional to any other solar thermal equipment otherwise required for compliance with Part 6\_

(b) Solar Zone.

1. Minimum Solar Zone Area. The solar zone shall have a minimum total area as described below. The solar zone shall comply with access, pathway, smoke ventilation, and spacing requirements as specified in Title 24, Part 9 or other Parts of Title 24 or in any requirements adopted by a local jurisdiction. The solar zone total area shall be comprised of areas that have no dimension less than five feet and are no less than 80 square feet each for buildings with roof areas less than or equal to 10,000 square feet or no less than 160 square feet each for buildings with roof areas greater than 10,000 square feet.

A Single Family Residences. The solar zone shall be located on the roof or overhang of the building and have a total area no less than 250 square feet.

Exception 1 to Section 110.10(b)1A: Single family residences with a permanently installed domestic solar water-heating system meeting the installation criteria specified in the Reference Residential Appendix RA4 and with a minimum solar savings fraction of 0.50.

Exception 2 to Section 110.10(b)1A: Single family residences with three habitable stories or more and with a total floor area less than or equal to 2000 square feet and having a solar zone total area no less than 150 square feet.

Exception 3 to Section 110.10(b)1A: Single family residences located in the Wildland-Urban Interface Fire Area as defined in Title 24, Part 2 and having a whole house fan and having a solar zone total area no less than 150 square feet.

Exception 4 to Section 110.10(b)1A: Buildings with a designated solar zone area that is no less than 50 percent of the potential solar zone area. The potential solar zone area is the total area of any low-sloped roofs where the annual solar access is 70 percent or greater and any steep-sloped roofs oriented between 90 degrees and 300 degrees of true north where the annual solar access is 70 percent or greater. Solar access is the ratio of solar insolation including shade to the solar insolation without shade. Shading from obstructions located on the roof or any other part of the building shall not be included in the determination of annual solar access.

Exception 5 to Section 110.10(b)1A: Single family residences having a solar zone total area no less than 150 square feet and where all thermostats are demand responsive controls and comply with Section 110.12(a), and are capable of receiving and responding to Demand Response Signals prior to granting of an occupancy permit by the City.

Exception 6 to Section 110.10(b)1A: Single family residences meeting each of the following conditions:

- A. All thermostats are demand responsive controls that comply with Section 110.12(a), and are capable of receiving and responding to Demand Response Signals prior to granting of an occupancy permit by the City; and
- B. A minimum of one of the following measures:
  - i. Install a dishwasher that meets or exceeds the ENERGY STAR Program requirements with a refrigerator that meets or exceeds the ENERGY STAR Program requirements, a whole house fan driven by an electronically commutated motor, or an SAE J1772 Level 2 Electric Vehicle Supply Equipment (EVSE or EV Charger) with a minimum of 40 amperes; or
  - ii. Install a home automation system capable of, at a minimum, controlling the appliances and lighting of the dwelling and responding to demand response signals; or
  - iii. Install alternative plumbing piping to permit the discharge from the clothes washer and all showers and bathtubs to be used for an irrigation system in compliance with the California Plumbing Code and any applicable local ordinances; or
  - iv. Install a rainwater catchment system designed to comply with the California Plumbing Code and any applicable local ordinances, and that uses rainwater flowing from at least 65 percent of the available roof area.

B. Low-rise and High-rise Multifamily Buildings, Hotel/Motel Occupancies, and Nonresidential Buildings. The solar zone shall be located on the roof or overhang of the building or on the roof or overhang of another structure located within 250 feet of the building or on covered parking installed with the building project, and shall have a total area no less than 15 percent of the total roof area of the building excluding any skylight area. The solar zone requirement is applicable to the entire building, including mixed occupancy.

Exception 1 to Section 110.10(b)1B: High-rise Multifamily Buildings, Hotel/Motel Occupancies, and Nonresidential Buildings with a permanently installed solar electric system having a nameplate DC power rating, measured under Standard Test Conditions, of no less than one watt per square foot of roof area.

Exception 2 to Section 110.10(b)1 B: High-rise multifamily buildings, hotel/motel occupancies with a permanently installed domestic solar water-heating system

complying with Section 150.1(c)8Biii., and which provide an additional collector area of 40 square feet.

Exception 3 to Section 110.10(b)1B: Buildings with a designated solar zone area that is no less than 50 percent of the potential solar zone area. The potential solar zone area is the total area of any low-sloped roofs where the annual solar access is 70 percent or greater and any steep-sloped roofs oriented between 90 degrees and 300 degrees of true north where the annual solar access is 70 percent or greater. Solar access is the ratio of solar insolation including shade to the solar insolation without shade. Shading from obstructions located on the roof or any other part of the building shall not be included in the determination of annual solar access.

Exception 4 to Section 110.10(b)1B: Low-rise and high-rise multifamily buildings in which all thermostats in each dwelling unit include demand response controls that comply with Section 110.12(a), and are capable of receiving and responding to Demand Response Signals prior to granting of an occupancy permit by the City. In addition, those applying for this exception must also satisfy either A or B below:

- A. In each dwelling unit, comply with one of the following measures:
  - i. Install a dishwasher that meets or exceeds the ENERGY STAR Program requirements with either a refrigerator that meets or exceeds the ENERGY STAR Program requirements or a whole house fan driven by an electronically commutated motor; or
  - ii. Install a home automation system that complies with Section 110.12(a) and is capable of, at a minimum, controlling the appliances and lighting of the dwelling and responding to demand response signals; or
  - iii. Install alternative plumbing piping to permit the discharge from the clothes washer and all showers and bathtubs to be used for an irrigation system in compliance with the California Plumbing Code and any applicable local ordinances; or
  - iv. Install a rainwater catchment system designed to comply with the California Plumbing Code and any applicable local ordinances, and that uses rainwater flowing from at least 65 percent of the available roof area.
  
- B. Meet the Title 24, Part 11, Section A4.106.8.2 requirements for electric vehicle charging spaces.

EXCEPTION 5 to Section 110.10(b)1 B: Buildings where the roof is designed and approved to be used for vehicular traffic or parking or for a heliport.



Exception 6 to Section 110.10(b)1B: Vegetative roofs covering 35 percent of the roof area or greater, meeting all relevant code requirements including considerations for wind, fire, and structural loads.

Exception 7 to Section 110.10(b)1 B: Performance equivalency approved by the Chief Building Official.

2. Azimuth. All sections of the solar zone located on steep-sloped roofs shall be oriented between 90 degrees and 300 degrees of true north.

3. Shading.

A. No obstructions, including but not limited to, vents, chimneys, architectural features, and roof mounted equipment, shall be located in the solar zone.

B. Any obstruction, located on the roof or any other part of the building that projects above a solar zone shall be located at least twice the distance, measured in the horizontal plane, of the height difference between the highest point of the obstruction and the horizontal projection of the nearest point of the solar zone, measured in the vertical plane.

EXCEPTION to Section 110.10(b)3: Any roof obstruction, located on the roof or any other part of the building, that is oriented north of all points on the solar zone.

C. The solar zone needs to account for shading from obstructions that may impact the area required in 110.10(b)1 B. When the Chief Building Official determines that conditions exist where excessive shading occurs and solar zones cannot be met, a performance equivalency approved by the Chief Building Official may be used as an alternative.

4. Structural Design Loads on Construction Documents. For areas of the roof designated as solar zone, the structural design loads for roof dead load and roof live load shall be clearly indicated on the construction documents.

NOTE: Section 110.10(b)4 does not require the inclusion of any collateral loads for future solar energy systems.

(c) Interconnection Pathways.

1. The construction documents shall indicate a location reserved for inverters and metering equipment and a pathway reserved for routing of conduit from the solar zone to the point of interconnection with the electrical service.

2. For single family residences and central water-heating systems, the construction documents shall indicate a pathway for routing of plumbing from the solar zone to the water-heating system.

(d) Documentation. A copy of the construction documents or a comparable document indicating the information from Sections 110.10(b) through 110.10(c) shall be provided to the occupant.

(e) Main Electrical Service Panel.

1. The main electrical service panel shall have a minimum busbar rating of 200 amps.
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 solar electric installation. The reserved space shall be permanently marked as "For Future Solar Electric".

### **Local Amendments to the Green Building Code**

The proposed Ordinance shows where changes were made to the State Green Building Code. Plain text is the State's code; underlined text show additions; and strikethroughs indicate deletions. The Ordinance will be incorporated as a clean version without edits.

## **SECTION 2 DEFINITIONS**

**EV Capable:** A parking space linked to a listed electrical panel with sufficient capacity to provide at least 110/120 volts and 20 amperes to the parking space. Raceways linking the electrical panel and parking space only need to be installed in spaces that will be inaccessible in the future. either trenched underground or where penetrations to walls, floors, or other partitions would otherwise be required for future installation of branch circuits. Raceways must be at least 1" in diameter and may be sized for multiple circuits as allowed by the California Electrical Code. The panel circuit directory shall identify the overcurrent protective device space(s) reserved for EV charging as "EV CAPABLE." Construction documents shall indicate future completion of raceway from the panel to the parking space. via the installed inaccessible raceways.

**Level 1 EV Ready Space:** A parking space served by a complete electric circuit with a minimum of 110/120 volt, 20-ampere capacity including electrical panel capacity, overprotection device. a minimum 1" diameter raceway that may include multiple circuits as allowed by the California Electrical Code, wiring, and either a) a receptacle labelled "Electric Vehicle Outlet" with at least a ½" font adjacent to the parking space. or b) electric vehicle supply equipment (EVSE).

**Level 2 EV Ready Space:** A parking space served by a complete electric circuit with 208/240 volt, 40-ampere capacity including electrical panel capacity, overprotection device. a minimum 1" diameter raceway that may include multiple circuits as allowed by the California Electrical Code, wiring, and either a) a receptacle labelled "Electric Vehicle Outlet" with at least a ½" font adjacent to the parking space, or b) electric vehicle supply equipment (EVSE) with a minimum output of 40 amperes.

**Electric Vehicle Charging Station (EVCS):** A parking space that includes installation of electric vehicle supply equipment (EVSE) with a minimum capacity of 30 amperes connected to a circuit serving a Level 2 EV Ready space. EVCS installation may be used to satisfy a Level 2 EV Ready space requirement.

**Automatic Load Management Systems (ALMS):** (ALMS) A control system that allows multiple EV chargers or EV Ready electric vehicle outlets to share a circuit or panel and automatically reduce power at each charger, providing the opportunity to reduce electrical infrastructure costs and/or provide demand response capability. ALMS systems must be designed to deliver at least 1.4kW to each EV Capable, EV Ready or EVCS space served by the ALMS.

## SECTION 4 RESIDENTIAL MANDATORY MEASURES

**4.106.4 Electric vehicle (EV) charging for new construction.** New construction shall comply with Sections 4.106.4.1, 4.106.4.2, or 4.106.4.3 to facilitate future installation and use of EV chargers. Electric vehicle supply equipment (EVSE) shall be installed in accordance with the California Electrical Code, Article 625.

**Exceptions:**

1. On a case-by-case basis, where the City has determined EV charging and infrastructure are not feasible based upon one or more of the following conditions:
  - 1.1 Where there is no commercial power supply available to the designated parking area.  
~~VI/here-there-is-evidence-substantiating-that-meeting-the-requirements-1,will-alter the-local-utility-infra-structure-design-requirements-on-the-utility-side-of-the-meter so-as-to-increase-the-utility-side-cost-to-the-homeowner-or-the-developer-by-more than-\$400:00-per-dwelling-unit.~~
  - 1.2 Spaces accessible only by automated mechanical car parking systems are excepted from providing EV charging infrastructure.
2. The construction is for an Accessory Dwelling Units (ADU) or Junior Accessory Dwelling Unit (JADU) without additional parking facilities.

**4.106.4.1.1 Identification.** ~~The service panel or sub-panel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging as "Level 2 -EV CAPABLE". The raceway termination location shall be permanently and visibly marked as a~~ **CAPABLE". "Level 2 EV Ready".**

**4.106.4.2 New multifamily dwellings.** ~~If residential parking is available, ten (10) percent in 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 EVSE. Calculations for the required number of EV spaces shall be rounded up to the nearest whole number. The following requirements apply to all new multifamily dwellings:~~

1. 10 percent of the dwelling units with parking space(s) shall be provided with at least one Level 2 EV Ready space. Calculations for the required minimum number of Level 2 EV Ready spaces shall be rounded up to the nearest whole number.

2. The remaining dwelling units with parking space(s) shall be provided with at least one Level 1 EV Ready space and have conduit installed to accommodate potential future Level 2 charging demands. One Level 1 EV Ready outlet may be shared between two units.

**Notes:**

- 1.—Construction documents are intended to demonstrate the project's capability and capacity for facilitating future EV charging.
- 2.—There is no requirement for EV spaces to be constructed or available until EV chargers are installed for use.
1. ALMS may be installed to decrease electrical service and transformer costs associated with EV Charging Equipment subject to review by the Chief Building Official.
2. Installation of Level 2 EV Ready spaces above the minimum number required level will offset the minimum number of Level 1 EV Ready spaces required on a 1:1 basis.
3. The requirements apply to multifamily buildings with parking spaces including: a) assigned or leased to individual dwelling units, and b) unassigned residential parking.
4. The Chief Building Official may consider allowing exceptions, on a case by case basis, if a building permit applicant provides documentation detailing that the increased cost of utility service or on-site transformer capacity would exceed an average of \$4,500 among parking spaces with Level 2 EV Ready spaces and Level 1 EV Ready spaces. If costs are found to exceed this level, the applicant shall provide EV infrastructure up to a level that would not exceed this cost for utility service or on-site transformer capacity.
5. In order to adhere to accessibility requirements in accordance with California Building Code Chapters 11A and/or 11 B, it is recommended that all accessible parking spaces for covered newly constructed multifamily dwellings are provided with Level 1 or Level 2 EV Ready spaces.

**4.106.4.2.1.1 Electric vehicle charging stations (EVCS).** When EV chargers are installed, EV spaces required by Section 4.106.4.2.2, Item 3, shall comply with at least one of the following options:

1. The EV 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.
2. The EV 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 11 B, are not required to comply with Section 4.106.4.2.1.1 and Section 4.106.4.2.2, Item 3.

**Note:** Electric vehicle charging stations serving public housing are required to comply with the *California Building Code*, Chapter 11 B.

**4.106.4.2.2 Electric vehicle charging space (EV space) dimensions.** The EV spaces shall be designed to comply with the following:

1. The minimum length of each EV space shall be 18 feet (5486 mm).
2. The minimum width of each EV space shall be 9 feet (2743 mm).
3. One in every 25 EV spaces, but not less than one, shall also have an 8-foot (2438 mm) wide minimum aisle. A 5-foot (1524 mm) wide minimum aisle shall be permitted provided the minimum width of the EV space is 12 feet (3658 mm).
  - a) Surface slope for this EV space and the aisle shall not exceed 1 unit vertical in 48 units horizontal (2.083 percent slope) in any direction.
4. New construction shall meet the minimum EV spaces dimensions required by the California Building Codes and comply with 2019 CBC Section 11 B-812 and Table 11 B-228.3.2.1. The dimensions for additional charging spaces shall be governed by the Burlingame Municipal Code and Zoning Ordinance.

**4.106.4.2.3** —

~~**Single EV space required.** Install a listed raceway capable of accommodating a 208/240-volt dedicated branch circuit. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). The raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or enclosure in close proximity to the proposed location of the EV spaces. Construction documents shall identify the raceway termination point. The service panel and/or subpanel shall provide capacity to install a 40-ampere minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit over-current protective device.~~

~~**4.106.4.2.4 — Multiple EV spaces required.** Construction raceway termination point and proposed location of future EV spaces and EV chargers. Construction documents shall also provide information on amperage of future EVSE, raceway method(s), wiring schematics and electrical load calculations to verify that the electrical panel service capacity and electrical system, including any on-site distribution transformer(s), have sufficient capacity to simultaneously charge all EVs at all required EV spaces at the full-rated amperage of the EVSE. Plan design shall be based upon a 40-ampere minimum branch circuit. Raceways and related components that are planned to be installed underground, enclosed, inaccessible or in concealed areas and spaces shall be installed at the time of original construction.~~

~~**4.106.4.2.5 — Identification.** The service panel or sub-panel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging purposes as "EV CAPABLE" in accordance with the California Electrical Code. Refer to Section 2 Definitions for identification requirements.~~

### DIVISION 3

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 portions of this

Ordinance. The Council 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 be declared invalid,

DIVISION 4:

This Ordinance is exempt from the environmental review requirements of CEQA pursuant to Section 15061 (b)(3) of Title 14 of the California Code of Regulations because it can be seen with certainty that there is no possibility that the provisions contained hereih may have a significant effect on the environment. Further, the Ordinance is also exempt from the requirements of CEQA pursuant to CEQA Guidelines Sections 15307 and 15308 of Title 14 of the California Code of Regulations as actions taken by regulatory agencies to assure the maintenance, restoration, enhancement of natural resources, or protection of the environment.

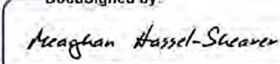
DIVISION 5:

This Ordinance shall be published in a newspaper of general circulation in accordance with California Government Code Section 36933, published, and circulated in the City of Burlingame, and shall be in full force and effect following approval by the California Energy Commission.

DocuSigned by:  
  
D068C125928D48D  
Emily Beach, Mayor

I, Meaghan Hassel-Shearer, City Clerk of the City of Burlingame, certify that the foregoing ordinance was introduced at a public hearing at a regular meeting of the City Council held on the 6th day of July, 2020, and adopted thereafter at a regular meeting of the City Council held on the 17th day of August 2020, by the following vote:

- AYES: Councilmembers: BEACH, BROWNRIGG, COLSON, ORTIZ
- NOES: Councilmembers: O'BRIEN KEIGHRAN
- ABSENT: Councilmembers: NONE

DocuSigned by:  
  
8D484C3D80E7449...  
Meaghan Hassel-Shearer, City Clerk

**ORDINANCE NO. 1981**

**AN ORDINANCE OF THE CITY OF BURLINGAME  
ADOPTING AMENDMENTS TO THE MUNICIPAL CODE TO REQUIRE BUILDING  
ELECTRIFICATION, SOLAR ENERGY SYSTEMS, AND ELECTRIC VEHICLE  
INFRASTRUCTURE ON NEWLY CONSTRUCTED NONRESIDENTIAL BUILDINGS TO  
REDUCE GREENHOUSE GAS EMISSIONS**

The City Council of the City of Burlingame ordains as follows:

DIVISION 1. Factual Background

WHEREAS, consensus exists among the world's leading climate scientists that climate change caused by greenhouse gas (GHG) emissions from human activities is among the most significant problems facing the world today; and

WHEREAS, the City of Burlingame adopted a Climate Action Plan (CAP) that directs the City in reducing approximately 50,000 tons of GHG emissions by the year 2030 to meet reduction goals consistent with California's GHG targets; and

WHEREAS, measures in the CAP aim to curb the use of fossil fuels, a primary contributor to GHG emissions, in buildings and transportation; and

WHEREAS, reach codes that extend beyond the California building code are being adopted by cities region wide to accelerate GHG reductions from new construction by limiting the use of natural gas, increasing local solar production, and installing electric vehicle (EV) infrastructure to charge a greater number of EV's beyond state code requirements; and

WHEREAS, Peninsula Clean Energy has provided support and technical resources to jurisdictions to adopt a reach code including model ordinances and cost-effectiveness studies; and

WHEREAS, Burlingame's reach code ordinance for nonresidential buildings is based on Peninsula Clean Energy's model reach code ordinances for building electrification, solar, and EV infrastructure; and

WHEREAS, the assumptions for climate zones, building types, cost effectiveness, and the provisions of the model reach code are applicable to the City of Burlingame; and

WHEREAS the reach code ordinance would implement at least three measures from the City's CAP; and

WHEREAS, the City of Burlingame wishes to adopt the reach code ordinance to enhance building electrification, solar production, and EV infrastructure within the city as part of Title 18 of the Municipal Code.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF BURLINGAME DOES ORDAIN AS FOLLOWS:

DIVISION 2. Amendments

The City of Burlingame adopts the following local amendments to California Energy Code, 2019 Edition, Title 24, Part 6 of the California Code of Regulations: § 100.0 - Scope (e) Sections applicable to Nonresidential Buildings. The proposed Ordinance shows where changes were made to the California Energy Code. Plain text is the State's code; underlined text shows additions; and strikethroughs indicate deletions. The Ordinance will be incorporated as a clean version without edits. TABLE 100.0-A and this subsection list the provisions of Part 6 that are applicable to different types of buildings covered by Section 100.0(a).

1. All buildings. Sections 100.0 through 110.12 apply to all buildings.  
EXCEPTION to Section 100.0(e) 1: Spaces or requirements not listed in TABLE 100.0-A.
2. Newly constructed non-residential buildings
  - A All newly constructed buildings. Sections 110.0 through 110.12 apply to all newly constructed buildings within the scope of Section 100.0(a). In addition, newly constructed buildings shall meet the requirements of Subsections B, C, D or E, as applicable; and Nonresidential Buildings shall be All-Electric Buildings as defined in Section 100.Hb).

Exception 1: Projects that have been submitted to the Planning Division or have been granted entitlements before the effective date of this ordinance are not required to meet the all-electric requirements. If the Chief Building Official grants a modification pursuant to this Exception, the applicant shall comply with the pre-wiring provision of Note 1 below.

Exception 2: Non-residential buildings containing a for-profit restaurant open to the public or a commercial kitchen may install non-electric cooking appliances.

Exception 3: If the applicant established that an all-electric building is infeasible for the project due to outstanding circumstances, then the Chief Building Official may grant a modification. The design professional shall submit findings demonstrating a unique reason that makes the technical code impractical, and that the modification is in conformity with the intent and purpose of the technical code, and that such modification does not lessen health, life safety and fire safety requirements or any degree of structural integrity. If the Chief Building Official grants a modification pursuant to this Exception, the applicant shall comply with the pre-wiring provision of Note 1 below.



Note 1: If natural gas appliances are used in any of the above exceptions, natural gas appliance locations must also be electrically pre-wired for future electric appliance installation. These locations shall include the following:

1. A dedicated circuit, phased appropriately, for each appliance, with a minimum amperage requirement for a comparable electric appliance (see manufacturer's recommendations) with an electrical receptacle or junction box that is connected to the electric panel with conductors of adequate capacity, extending to within 3 feet of the appliance and accessible with no obstructions. Appropriately sized conduit may be installed in lieu of conductors:
2. Both ends of the conductor or conduit shall be labeled with the words "For Future Electric Appliance" and be electrically isolated:
3. A circuit breaker shall be installed in the electrical panel for the branch circuit and labeled for each circuit: an example is as follows: "For Future Electric Range;" and
4. All electrical components, including conductors, receptacles, junction boxes, or blank covers, related to this section shall be installed in accordance with the California Electrical Code.

Note 2: If any of the exceptions are granted, the Chief Building Official shall have the authority to approve alternative materials, design and methods of construction or equipment per CBC 104.

***Section 100.1(b) is modified to add the following definition:***

ALL-ELECTRIC BUILDING: a building that has no natural gas or propane plumbing installed within the building, and that uses electricity as the source of energy for its space heating, water heating (including pools and spas), cooking appliances, and clothes drying appliances. All-Electric Buildings may include solar thermal pool heating.

***Section 110.2 is modified as follows:***

SECTION 110.2- MANDATORY REQUIREMENTS FOR SPACE-CONDITIONING EQUIPMENT

Certification by manufacturers. Any space-conditioning equipment listed in this section, meeting the requirements of Section 100.0 (e)2A, may be installed only if the manufacturer has certified to the Commission that the equipment complies with all the applicable requirements of this section.

***Section 110.3 is modified as follows:***

SECTION 110.3 - MANDATORY REQUIREMENTS FOR SERVICE WATER-HEATING SYSTEMS AND EQUIPMENT

(a) Certification by manufacturers. Any service water-heating system or equipment, meeting the requirements of Section 100.0 (e)2A, may be installed only if the manufacturer has certified that the system or equipment complies with all of the requirements of this subsection for that system or equipment.

**Section 110.4 is modified as follows:**

SECTION 110.4- MANDATORY REQUIREMENTS FOR POOL AND SPA SYSTEMS AND EQUIPMENT

(a) Certification by manufacturers. Any pool or spa heating system or equipment, meeting the requirements of Section 100.0 (e)2A, may be installed only if the manufacturer has certified that the system or equipment has all of the following:

**Section 110.5 is modified as follows:**

SECTION 110.5 - NATURAL GAS CENTRAL FURNACES, COOKING EQUIPMENT, POOL AND SPA HEATERS, AND FIREPLACES: PILOT LIGHTS PROHIBITED

Any natural gas system or equipment, meeting the requirements of Section 100.0 (e)2A, listed below may be installed only if it does not have a continuously burning pilot light:

**Section 110.10 is modified as follows:**

SECTION 110.10- MANDATORY REQUIREMENTS FOR SOLAR READY BUILDINGS AND SOLAR PANEL SYSTEM REQUIREMENTS FOR NON-RESIDENTIAL NEW BUILDINGS

(a) Covered Occupancies.

1. Single Family Residences. Single family residences located in subdivisions with ten or more single family residences and where the application for a tentative subdivision map for the residences has been deemed complete approved by the enforcement agency, which do not have a photovoltaic system installed, shall comply with the requirements of Section 110.10(b) through 110.10(e).
2. Low-rise Multifamily Buildings. Low-rise multi-family buildings that do not have a photovoltaic system installed shall comply with the requirements of Section 110.10(b) through 110.10(d).
3. Hotel/Motel Occupancies and High-rise Multifamily Buildings. Hotel/motel occupancies and high-rise multifamily buildings with ten habitable stories or fewer shall comply with the requirements of Section 110.10(b) through 110.10(d).
4. Nonresidential Buildings. Nonresidential buildings with three habitable stories or fewer, other than healthcare facilities, shall comply with the requirements of Section 110.10(b) through 110.10(d) and Table 110.10-A.

**Table 110.10-A: Solar panel requirements for all new nonresidential buildings**

Square footage of building	Size of panel
Less than 10,000 sq. ft.	Minimum of 3-kilowatt PV system
Greater than or equal to 10,000 sq. ft.	Minimum of 5-kilowatt PV system

EXCEPTION: As an alternative to a solar PV system, the building type may provide a solar hot water system (solar thermal) with a minimum collector area of 40 square feet. additional to any other solar thermal equipment otherwise required for compliance with Part 6.

## (b) Solar Zone.

1. Minimum Solar Zone Area. The solar zone shall have a minimum total area as described below. The solar zone shall comply with access, pathway, smoke ventilation, and spacing requirements as specified in Title 24, Part 9 or other Parts of Title 24 or in any requirements adopted by a local jurisdiction. The solar zone total area shall be comprised of areas that have no dimension less than five feet and are no less than 80 square feet each for buildings with roof areas less than or equal to 10,000 square feet or no less than 160 square feet each for buildings with roof areas greater than 10,000 square feet.

A. Single Family Residences. The solar zone shall be located on the roof or overhang of the building and have a total area no less than 250 square feet.

Exception 1 to Section 110.10(b)1A: Single family residences with a permanently installed domestic solar water-heating system meeting the installation criteria specified in the Reference Residential Appendix RA4 and with a minimum solar savings fraction of 0.50.

Exception 2 to Section 110.10(b)1A: Single family residences with three habitable stories or more and with a total floor area less than or equal to 2000 square feet and having a solar zone total area no less than 150 square feet.

Exception 3 to Section 110.10(b)1A: Single family residences located in the Wildland-Urban Interface Fire Area as defined in Title 24, Part 2 and having a whole house fan and having a solar zone total area no less than 150 square feet.

Exception 4 to Section 110.10(b)1A: Buildings with a designated solar zone area that is no less than 50 percent of the potential solar zone area. The potential

solar zone area is the total area of any low-slope roofs where the annual solar access is 70 percent or greater and any steep-sloped roofs oriented between 90 degrees and 300 degrees of true north where the annual solar access is 70 percent or greater. Solar access is the ratio of solar insolation including shade to the solar insolation without shade. Shading from obstructions located on the roof or any other part of the building shall not be included in the determination of annual solar access.

Exception 5 to Section 110.10(b)1A: Single family residences having a solar zone total area no less than 150 square feet and where all thermostats are demand responsive controls and comply with Section 110.12(a), and are capable of receiving and responding to Demand Response Signals prior to granting of an occupancy permit by the enforcing agency.

Exception 6 to Section 110.10(b)1A: Single family residences meeting the following conditions:

- A All thermostats are demand responsive controls that comply with Section 110.12(a), and are capable of receiving and responding to Demand Response Signals prior to granting of an occupancy permit by the enforcing agency.
- B. Comply with one of the following measures:
  - i. Install a dishwasher that meets or exceeds the ENERGY STAR Program requirements with a refrigerator that meets or exceeds the ENERGY STAR Program requirements, a whole house fan driven by an electronically commutated motor, or an SAE J1772 Level 2 Electric Vehicle Supply Equipment (EVSE or EV Charger) with a minimum of 40 amperes; or
  - ii. Install a home automation system capable of, at a minimum, controlling the appliances and lighting of the dwelling and responding to demand response signals; or
  - iii. Install alternative plumbing piping to permit the discharge from the clothes washer and all showers and bathtubs to be used for an irrigation system in compliance with the California Plumbing Code and any applicable local ordinances; or
  - iv. Install a rainwater catchment system designed to comply with the California Plumbing Code and any applicable local ordinances, and that uses rainwater flowing from at least 65 percent of the available roof area.

B. Low-rise and High-rise Multifamily Buildings, Hotel/Motel Occupancies, and Nonresidential Buildings. The solar zone shall be located on the roof or overhang of the

building or on the roof or overhang of another structure located within 250 feet of the building or on covered parking installed with the building project, and shall have a total area no less than 15 percent of the total roof area of the building excluding any skylight area. The solar zone requirement is applicable to the entire building, including mixed occupancy.

Exception 1 to Section 110.1 0(b)1 B: High-rise Multifamily Buildings, Hotel/Motel Occupancies, and Nonresidential Buildings with a permanently installed solar electric system having a nameplate DC power rating, measured under Standard Test Conditions, of no less than one watt per square foot of roof area.

Exception 2 to Section 110.1 0(b)1 B: High-rise multifamily buildings, hotel/motel occupancies with a permanently installed domestic solar water-heating system complying with Section 150.1 (c)8Biii., and an additional collector area of 40 square feet.

Exception 3 to Section 110.1 0(b)1 B: Buildings with a designated solar zone area that is no less than 50 percent of the potential solar zone area. The potential solar zone area is the total area of any low-sloped roofs where the annual solar access is 70 percent or greater and any steep-sloped roofs oriented between 90 degrees and 300 degrees of true north where the annual solar access is 70 percent or greater. Solar access is the ratio of solar insolation including shade to the solar insolation without shade. Shading from obstructions located on the roof or any other part of the building shall not be included in the determination of annual solar access.

Exception 4 to Section 110.1 0(b)1 B: Low-rise and high-rise multifamily buildings with all thermostats in each dwelling unit are demand response controls that comply with Section 110.12(a), and are capable of receiving and responding to Demand Response Signals prior to granting of an occupancy permit by the enforcing agency. In addition, either A or B below:

- A. In each dwelling unit, comply with one of the following measures:
- i. Install a dishwasher that meets or exceeds the ENERGY STAR® Program requirements with either a refrigerator that meets or exceeds the ENERGY STAR® Program requirements or a whole house fan driven by an electronically commutated motor; or
  - ii. Install a home automation system that complies with Section 110.12(a) and is capable of, at a minimum, controlling the appliances and lighting of the dwelling and responding to demand response signals; or
  - iii. Install alternative plumbing piping to permit the discharge from the clothes washer and all showers and bathtubs to be used for an irrigation system in compliance with the California Plumbing Code and any applicable local ordinances; or

iv. Install a rainwater catchment system designed to comply with the California Plumbing Code and any applicable local ordinances, and that uses rainwater flowing from at least 65 percent of the available roof area.

B. Meet the Title 24, Part 11, Section A4.106.8.2 requirements for electric vehicle charging spaces.

EXCEPTION 5 to Section 110.10(b)1 B: Buildings where the roof is designed and approved to be used for vehicular traffic or parking or for a heliport.

Exception 6 to Section 110.10(b)1 B: Vegetative roofs covering 35 percent of the roof area or greater, meeting all relevant code requirements including considerations for wind, fire, and structural loads.

Exception 7 to Section 110.10(b)1 B: Performance equivalency approved by the Chief Building Official.

2. Azimuth. All sections of the solar zone located on steep-sloped roofs shall be oriented between 90 degrees and 300 degrees of true north.

3. Shading.

A. No obstructions, including but not limited to, vents, chimneys, architectural features, and roof mounted equipment, shall be located in the solar zone.

B. Any obstruction, located on the roof or any other part of the building that projects above a solar zone shall be located at least twice the distance, measured in the horizontal plane, of the height difference between the highest point of the obstruction and the horizontal projection of the nearest point of the solar zone, measured in the vertical plane.

EXCEPTION to Section 110.10(b)3: Any roof obstruction, located on the roof or any other part of the building, that is oriented north of all points on the solar zone.

C. The solar zone shall account for shading from obstructions that impact the area required in 110.10(b)1 B. When determined by the Chief Building Official that conditions exist where excessive shading occurs and solar zones cannot be met, the Building Official may approve a performance equivalency as an alternative.

4. Structural Design Loads on Construction Documents. For areas of the roof designated as solar zone, the structural design loads for roof dead load and roof live load shall be clearly indicated on the construction documents.

NOTE: Section 110.10(b)4 does not require the inclusion of any collateral loads for future solar energy systems.

(c) Interconnection Pathways.

1. The construction documents shall indicate a location reserved for inverters and metering equipment and a pathway reserved for routing of conduit from the solar zone to the point of interconnection with the electrical service.

2. For single family residences and central water-heating systems, the construction documents shall indicate a pathway for routing of plumbing from the solar zone to the water-heating system.

(d) Documentation. A copy of the construction documents or a comparable document indicating the information from Sections 110.10(b) through 110.10(c) shall be provided to the occupant.

(e) Main Electrical Service Panel.

1. The main electrical service panel shall have a minimum busbar rating of 200 amps.

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 solar electric installation. The reserved space shall be permanently marked as "For Future Solar Electric".

## Local Amendments to the Green Building Code

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## SECTION 2 DEFINITIONS

**EV Capable:** A parking space linked to a listed electrical panel with sufficient capacity to provide at least 110/120 volts and 20 amperes to the parking space. Raceways linking the electrical panel and parking space only need to be installed in spaces that will be inaccessible in the future, either trenched underground or where penetrations to walls, floors, or other partitions would otherwise be required for future installation of branch circuits. Raceways must be at least 1" in diameter and may be sized for multiple circuits as allowed by the California Electrical Code. The panel circuit directory shall identify the overcurrent protective device space(s) reserved for EV charging as "EV CAPABLE." Construction documents shall indicate future completion of raceway from the panel to the parking space, via the installed inaccessible raceways.

**Level 1 EV Ready Space:** A parking space served by a complete electric circuit with a minimum of 110/120 volt, 20-ampere capacity including electrical panel capacity, overprotection device, a minimum 1" diameter raceway that may include multiple circuits as allowed by the California Electrical Code, wiring, and either a) a receptacle labelled "Electric Vehicle Outlet" with at least a ½" font adjacent to the parking space, or b) electric vehicle supply equipment (EVSE).

**Level 2 EV Ready Space:** A parking space served by a complete electric circuit with 208/240 volt, 40-ampere capacity including electrical panel capacity, overprotection device, a minimum 1" diameter raceway that may include multiple circuits as allowed by the California Electrical Code, wiring, and either a) a receptacle labelled "Electric Vehicle Outlet" with at least a ½" font adjacent to the parking space, or b) electric vehicle supply equipment (EVSE) with a minimum output of 40 amperes.

**Electric Vehicle Charging Station (EVCS):** A parking space that includes installation of electric vehicle supply equipment (EVSE) with a minimum capacity of 30 amperes connected to a circuit serving a Level 2 EV Ready space. EVCS installation may be used to satisfy a Level 2 EV Ready space requirement.

**Automatic Load Management Systems (ALMS):** (ALMS) A control system that allows multiple EV chargers or EV Ready electric vehicle outlets to share a circuit or panel and automatically reduce power at each charger, providing the opportunity to reduce electrical infrastructure costs and/or provide demand response capability. ALMS systems must be designed to deliver at least 1.4kW to each EV Capable, EV Ready or EVCS space served by the ALMS.

## **SECTION 5 NONRESIDENTIAL MANDATORY MEASURES**

**5.106.5.3 Electric vehicle (EV) charging. [N]** New construction shall comply with Section 5.106.5.3.1 or Section 5.106.5.3.2 to facilitate future installation and use of EV chargers, of electric-vehicle-supply-equipment-(EVSE)-When-EVSE(s)-is/are-installed,-it-shall-be-in accordance-with-the-California-81:Jikling-Code,-the-California-EJectricaJ-Code-and-as-follows:

**Exceptions:**

1. Where there is no commercial power supply.
2. Spaces accessible only by automated mechanical car parking systems are excepted from providing EV charging infrastructure.

**5.106.5.3.1 Office buildings:** In nonresidential new construction buildings with 50 percent or greater occupied floor area designated for office use with parking:

1. When 10 or more parking spaces are constructed and designated to the office use, 10 percent of the designated parking spaces shall be equipped with Level 2 EVCS; and
2. An additional 10 percent of the designated spaces shall be provided with at least Level 1 EV Ready spaces.

Calculations for the required minimum number of spaces equipped with Level 2 EVCS, Level 1 EV Ready spaces and EV Capable spaces shall all be rounded up to the nearest whole number.

Construction plans and specifications shall demonstrate that all raceways shall be a minimum of 1" and sufficient for installation of EVCS at all required Level 1 EV Ready and EV Capable



spaces. Electrical calculations shall substantiate the design of the electrical system to include the rating of equipment and any on-site distribution transformers, and have sufficient capacity to simultaneously charge EVs at all required EV spaces including Level 1 EV Ready and EV Capable spaces; and service panel or subpanel(s) shall have sufficient capacity to accommodate the required number of dedicated branch circuit(s) for the future installation of the EVSE.

**Notes:**

1. ALMS may be installed to increase the number of EV chargers or the amperage or voltage beyond the minimum requirements in this code. The option does not allow for installing less electrical panel capacity than would be required without ALMS.

**5.106.5.3.2 Other nonresidential buildings:** In nonresidential new construction buildings that are not designated primarily for office use, such as retail or institutional uses:

1. When 10 or more parking spaces are constructed, 6 percent of the available parking spaces on site shall be equipped with Level 2 EVCS;
2. An additional 5 percent shall be at least Level 1 EV Ready.

Calculations for the required minimum number of spaces equipped with Level 2 EVCS and Level 1 EV Ready spaces shall be rounded up to the nearest whole number

**Exception:** Installation of each Direct Current Fast Charger with the capacity to provide at least 80 kW output may substitute for 6 Level 2 EVCS and 5 EV Ready spaces after a minimum of 6 Level 2 EVCS and 5 Level 1 EV Ready spaces are installed.

**5.106.5.3.3 Clean Air Vehicle Parking Designation.** EVCS qualify as designated parking as described in Section 5.106.5.2 Designated parking for clean air vehicles.

**Notes:**

1. The California Department of Transportation adopts and publishes the California Manual on Uniform Traffic Control Devices (California MUTCD) to provide uniform standards and specifications for all official traffic control devices in California. Zero Emission Vehicle Signs and Pavement Markings can be found in the New Policies & Directives number 13-01. [www.dot.ca.gov/hq/traffops/policy/13-01.pdf](http://www.dot.ca.gov/hq/traffops/policy/13-01.pdf).
2. See Vehicle Code Section 22511 for EV charging spaces signage in off-street parking facilities and for use of EV charging spaces.
3. The Governor's Office of Planning and Research published a Zero-Emission Vehicle Community Readiness Guidebook, which provides helpful information for local governments, residents and businesses. [www.opr.ca.gov/docs/ZEV\\_Guidebook.pdf](http://www.opr.ca.gov/docs/ZEV_Guidebook.pdf).

4. Section 11 B-812 of the California Building Code requires that a facility providing EVCS for public and common use also provide one or more accessible EVCS as specified in Table 11 B-228.3.2.1.

~~5.106.5.3.1—Single-charging-space-requirements.—[N] When only a single charging space is required per Table 5.106.5.3.3, a raceway is required to be installed at the time of construction and shall be installed in accordance with the California Electrical Code. Construction plans and specifications shall include, but are not limited to, the following:~~

- ~~1.—The type and location of the EVSE.~~
- ~~2.—A listed raceway capable of accommodating a 208/240-volt dedicated branch circuit.~~
- ~~3.—The raceway shall not be less than trade size 1."~~
- ~~4.—The raceway shall originate at a service panel or a subpanel serving the area, and shall terminate in close proximity to the proposed location of the charging equipment and into a listed suitable cabinet, box, enclosure or equivalent.~~
- ~~5.—The service panel or subpanel shall have sufficient capacity to accommodate a minimum 40-ampere dedicated branch circuit for the future installation of the EVSE.~~

~~5.106.5.3.2—Multiple-charging-space-requirements.~~

~~When multiple charging spaces are required per Table 5.106.5.3.3, raceway(s) is/are required to be installed at the time of construction and shall be installed in accordance with the California Electrical Code. Construction plans and specifications shall include, but are not limited to, the following:~~

- ~~1.—The type and location of the EVSE.~~
- ~~2.—The raceway(s) shall originate at a service panel or a subpanel(s) serving the area, and shall terminate in close proximity to the proposed location of the charging equipment and into listed suitable cabinet(s), box(es), enclosure(s) or equivalent.~~
- ~~3.—Plan design shall be based upon 40-ampere minimum branch circuits.~~
- ~~4.—Electrical calculations shall substantiate the design of the electrical system, to include the rating of equipment and any on-site distribution~~
- ~~5.—transformers and have sufficient capacity to simultaneously charge all required EVs at its full-rated amperage.~~
- ~~6.—The service panel or subpanel(s) shall have sufficient capacity to accommodate the required number of dedicated branch circuit(s) for the future installation of the EVSE.~~

~~5.106.5.3.3—EV-charging-space-calculation.—[J] Table 5.106.5.3.3 shall be used to determine if single or multiple charging space requirements apply for the future installation of EVSE.~~

~~Exceptions: On a case-by-case basis where the local enforcing agency has determined EV charging and infrastructure is not feasible based upon one or more of the following conditions:~~

- ~~1.—Where there is insufficient electrical supply~~
- ~~2.—Where there is evidence suitable to the local enforcing agency substantiating that additional local utility infrastructure design requirements, directly related to the implementation of Section 5.106.5.3, may adversely impact the construction cost of the project.~~

~~TABLE 5.166.5.3.3~~

TOTAL NUMBER OF ACTUAL PARKING SPACES	NUMBER OF REQUIRED EV CHARGING SPACES
0-9	0
10-25	1
26-50	2
51-75	4
76-100	5
101-150	7
151-200	10
201 and over	6 percent of total <sup>1</sup>

~~I. Calculation for space shall be rounded up to the nearest whole number.~~

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

**5.106.5.3.5 [N]** Future charging spaces qualify as designated parking as described in Section 5.100.5.2 Designated parking for clean air vehicles.

DIVISION 3:

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 portions of this Ordinance. The Council 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 be declared invalid.

DIVISION 4:

This Ordinance is exempt from the environmental review requirements of CEQA pursuant to Section 15061 (b)(3) of Title 14 of the California Code of Regulations because it can be seen with certainty that there is no possibility that the provisions contained herein may have a significant effect on the environment. Further, the Ordinance is also exempt from the requirements of CEQA pursuant to CEQA Guidelines Sections 15307 and 15308 of Title 14 of the California Code of Regulations as actions taken by regulatory agencies to assure the maintenance, restoration, enhancement of natural resources, or protection of the environment.

DIVISION 5:

This Ordinance shall be published in a newspaper of general circulation in accordance with California Government Code Section 36933, published, and circulated in the City of Burlingame, and shall be in full force and effect following approval by the California Energy Commission.

DocuSigned by:

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OFFIC1259280480

Emily Beach, Mayor

I, Meaghan Hassel-Shearer, City Clerk of the City of Burlingame, certify that the foregoing ordinance was introduced at a public hearing at a regular meeting of the City Council held on the 6th day of July, 2020, and adopted thereafter at a regular meeting of the City Council held on the 17th day of August 2020, by the following vote:

AYES: Councilmembers: BEACH, BROWNRIGG, COLSON, ORTIZ  
NOES: Councilmembers: O'BRIEN KEIGHRAN  
ABSENT: Councilmembers: NONE

DocuSigned by:

*Meaghan Hassel-Shearer*

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Meaghan Hassel-Shearer, City Clerk