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ORDINANCE NO. 1570

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF SAN CARLOS AMENDING SAN CARLOS MUNICIPAL CODE SECTION 15.04.080 – TITLE 24, PART 6, CALIFORNIA ENERGY CODE WITH APPENDICES, AND SECTION 15.04.125 – TITLE 24, PART 11, CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN), TO MEET GREENHOUSE GAS EMISSION REDUCTION GOALS.

WHEREAS, the State of California adopted Senate Bill ("SB") 100, which requires a 100% clean electric grid by 2045; and

WHEREAS, the City of San Carlos seeks to pass a reach code that will enable the State of California to work toward achieving carbon neutrality by 2045; and

WHEREAS, reducing or eliminating natural gas usage in the building sector is an important component of climate mitigation to achieve the State of California's goal of carbon neutrality by 2045; and

WHEREAS, the City Council seeks to meet the climate action goals set by the City of San Carlos, San Mateo County, and the State of California.

IT IS ORDAINED, by the City Council of the City of San Carlos as follows:

SECTION 1: Findings of Fact. For the purposes of this Ordinance, the City Council 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. The City Council finds and declares that the unique characteristics of the topographic, geologic, and climatic conditions found in San Mateo County make the local amendments to Title 24, Part 6, of the California Energy Code, and Title 24, Part 11, of the California Green Building Standards Code, reasonable and necessary.

Finding 1: Topographic
Significant elevation changes occur within San Mateo 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 San Mateo County, especially in those developed and developing areas that interface and intermix with adjoining open space wildlands. The threat of wildland fires could be compounded by above-ground electrical power transmission lines suspended on poles and towers that exist throughout the county. Many power line poles are located adjacent to streets and roads, and many of the transmission wires are suspended above large areas of dry vegetation and near untreated wood shake or shingle roofs. Older development has followed the path of least resistance, creating a meandering pattern, particularly in the hillside areas. This does not lend itself to a good systematic street and road layout, which would otherwise promote easy traffic flow. It has resulted in a 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, thereby reducing the response time capabilities of various fire agencies. The conditions within the county create hazardous conditions for which departure from California Energy Code and California Green

Building Standards Code is warranted.

Finding 2: Geologic
The majority of San Mateo 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 the 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 and restoration of power utilities. Earthquakes of the magnitude experienced locally can cause major damage to electrical transmission facilities and natural gas infrastructure, which in turn cause power failures while at the same time starting fires or gas explosions throughout the county. There is a need to reduce dependence on the natural gas infrastructure to reduce harms and increase energy resiliency in the event of an earthquake. The modifications and changes cited herein are designed to reduce natural gas hazards in buildings and encourage energy resiliency through increased installation of solar and battery-type storage systems.

Finding 3: Climatic
San Mateo County is located in Climate Zone 3, as established in the 2019 California Energy Code. Climate Zone 3 incorporates mostly coastal communities from Marin County to southern Monterey County, including San Francisco. San Mateo County experiences precipitation ranging from 15 to 24 inches per year, with an average of approximately 20 inches per year. 96% of precipitation falls during the months of November through April, and 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, having recently suffered through an unprecedented seven-year drought. Similar periods of extended drought can be expected in the future. Relative humidity remains in the middle range most of the time. It ranges from 45% to 65% in the winter, and occasionally falls as low as 15%. Temperatures from June through September average above 80 degrees Fahrenheit. Temperatures as high as 110 degrees Fahrenheit 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 MPH range, gusting from 25 MPH to 35 MPH. 40 MPH winds are experienced, and winds up to 55 MPH have been registered locally. Climate change is causing historic draughts, devastating wildfires, torrential storms, extreme heat, property damage, and threats to human health and food supplies. The State of California has outlined specific steps to reduce greenhouse gas emissions to prevent these negative impacts of changing climate, including moving the State to 100% clean energy by 2045. This gives local governments the opportunity to achieve greenhouse gas emission reductions with a climate positive impact by powering buildings with 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 2019 California Building Code.

SECTION 2: Chapter 15.04 (Technical Building Codes), Section 15.04.080, Title 24, Part 6, California Energy Code is hereby amended as follows:

Sec. 9.249 – SECTION 100.0(e) (2) A OF THE ENERGY CODE AMENDED:

Section 100.0(e) (2) A of the Energy Code is amended to read as follows:

> **(e) Sections applicable to particular buildings.** 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 shall be an All-Electric Building 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 a construction project where an alteration includes replacement of over 50% of the existing foundation for purposes other than a repair or reinforcement as defined in California Existing Building Code Section 202; or when over 50% of the existing framing above the sill plate is removed or replaced for purposes other than repair. If either of these criteria are met within a 3-year period, measured from the date of the most recent previously obtained permit final date, that structure is considered new construction and shall be subject to the All-Electric Building requirements. The final determination whether a project meets the definition of substantial reconstruction/alteration shall be made by the designated Building Official.

      Exception 1: Laboratory areas within Non-Residential Buildings may contain non-electric Space Conditioning Systems. To take advantage of this exception, an applicant shall provide third party verification that the All-Electric space heating requirement is not cost effective and feasible.

      Exception 2: If an applicant establishes that there is not an All-Electric prescriptive compliance pathway for the building or space regulated by the Energy Code, and that the building or space is not able to achieve compliance with the Energy Code using the alternative calculation method and using commercially available technology, then the Building Official may grant a modification. If the Building Official grants a modification pursuant to this Exception, an applicant shall comply with the pre-wiring provision of Note 1 below.

      Exception 3: Non-residential buildings containing a for-profit restaurant open to the public or an employee commercial kitchen containing cooking facilities with the purpose of preparing and serving food for employees and visitors may apply to the Building Official for a modification to install gas-fueled cooking appliances. This exception does not apply to typical employee breakrooms or other self-service kitchens. This request must be based on a business-related reason to cook with a flame that cannot be reasonably achieved with an electric fuel source. The Building Official may grant this modification if he or she finds the following:
      1. There is a business-related reason to cook with a flame; and
      2. This need cannot be reasonably achieved with an electric fuel source; and
      3. The applicant has employed reasonable methods to mitigate the greenhouse gas impacts of the gas-fueled appliance; and
      4. The applicant shall comply with the pre-wiring provision of Note 1 below.

Exception 4: All residential buildings except Multi-Unit Residential buildings as defined by the San Carlos Municipal Code 18.40.020 may contain non-electric indoor and outdoor Cooking Appliances and indoor and outdoor Fireplaces.

Exception 5: All-Electric Building requirements shall not apply to projects with planning entitlements approved by the City prior to the effective date of this Ordinance.

Exception 6: If an applicant establishes by substantial evidence that an All-Electric Building is infeasible for the project due to exceptional or extraordinary circumstances particular to the project, then the 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 Building Official grants a modification pursuant to this Exception, the applicant shall comply with the pre-wiring provision of Note 1 below.

A building applicant may appeal the decision of the Building Official to the City Council. The City Council's decision on the appeal shall be final.

Note 1: If natural gas appliances are used in any of the above exceptions 1-6, natural gas appliance locations must also be electrically pre-wired for future electric appliance installation. The pre-wiring shall include the following:

1. A dedicated electrical circuit for each appliance, with a minimum amperage requirement for a comparable electric appliance (see manufacturer's recommendations) with an electrical receptacle that is connected to an electrical overcurrent protection device, extending to within 3 feet of the appliance and accessible without obstructions;

2. Panel and electrical receptacle to be labeled "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 (i.e., "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 1-6 are granted, the Building Official shall have the authority to approve alternate materials, design, and methods of construction or equipment per California Building Code ("CBC") 104 or California Residential Code ("CRC") R104, as applicable.

Note 3: Attached Accessory Dwelling Units and Junior Accessory Dwelling Units as defined by the San Carlos Municipal Code 18.40.020 are not considered new

construction and are not subject to the All-Electric requirements unless the alteration to the existing residence includes replacement of over 50% of the existing foundation for purposes other than a repair or reinforcement as defined in California Existing Building Code Section 202; or when over 50% of the existing framing above the sill plate is removed or replaced for purposes other than repair. If either of these criteria are met within a 3-year period, measured from the date of the most recent previously obtained permit final date, that structure is considered new construction and shall be subject to the All-Electric building requirements.

Sec. 9.250 – SECTION 100.1(b) OF THE ENERGY CODE AMENDED:

Section 100.1(b) of the Energy Code is amended to add definitions for "All-Electric Building" and "Laboratory" to read as follows:

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, cooking appliances, and clothes drying appliances. All-Electric Buildings may include solar thermal pool heating, or fossil fuels for backup power generation.

LABORATORY: is a building or area where research, experiments, and measurements in medical and life sciences are performed and/or stored requiring examination. The building may include workbenches, countertops, scientific instruments, and supporting offices.

Sec. 9.251 – SECTION 110.2 "Certification by manufacturers" OF THE ENERGY CODE AMENDED:

Section 110.2 "Certification by manufacturers" of the Energy Code is amended to read 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 applicable requirements of this section.

Sec. 9.252. – SECTION 110.3(a) OF THE ENERGY CODE AMENDED:

Section 110.3(a) of the Energy Code is amended to read 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.

Sec. 9.253. – SECTION 110.4(a) OF THE ENERGY CODE AMENDED:

Section 110.4(a) of the Energy Code is amended to read as follows:

SECTION 110.4(a) – 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:

1. **Efficiency.** A thermal efficiency that complies with the Appliance Efficiency Regulations; and
2. **On-off switch.** A readily accessible on-off switch, mounted on the outside of the heater that allows shutting off the heater without adjusting the thermostat setting; and
3. **Instructions.** A permanent, easily readable, and weatherproof plate or card that gives instruction for the energy efficient operation of the pool or spa heater and for the proper care of pool or spa water when a cover is used; and
4. **Electric resistance heating. No electric resistance heating.**
   Exception 1 to Section 110.4(a)4: Listed package units with fully insulated enclosures, and with tightfitting covers that are insulated to at least R-6.
   Exception 2 to Section 110.4(a)4: Pools or spas deriving at least 60 percent of the annual heating energy from site solar energy or recovered energy.

Sec. 9.254 – SECTION 110.5 OF THE ENERGY CODE AMENDED:

Section 110.5 of the Energy Code is amended to read as follows:

SECTION 110.5 – COOKING EQUIPMENT, POOL AND SPA HEATERS, AND FIREPLACES

Any system or equipment listed below may be installed only if it meets the requirements of *Section 100.0 (e)2A*:

(a) Cooking equipment
(b) Pool heaters
(c) Spa heaters
(d) Indoor and outdoor fireplaces

Sec. 9.255. SECTION 110.10 OF THE ENERGY CODE AMENDED:

Section 110.10 of the Energy Code is amended to read 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 new subdivisions with ten or more single family residences and where the application for a tentative

subdivision map for the residences has been deemed complete or 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 Multi-family 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 Multi-family Buildings.** Hotel/motel occupancies and high-rise multi-family buildings with ten habitable stories or fewer shall comply with the requirements of Section 110.10(b) through 110.10(d). The minimum solar photovoltaic system required is 2 watts per square foot of the building footprint or right-sized PV system shall be installed.
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). The minimum solar photovoltaic system required is 2 watts per square foot of the building footprint or right-sized PV system shall be installed.

(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 5 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 2,000 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 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 Multi-family 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 permitted 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 Multi-family 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)1B: High-rise multi-family 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 110.10(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 multi-family buildings with thermostats in each dwelling unit that are demand response controls in compliance 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. Comply with Title 24, Part 11, Section A4.106.8.2 requirements for electric vehicle charging spaces.

Exception 5 to Section 110.10(b)1B: 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)1B: Performance equivalency approved by the 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)1B. When determined by the Building Official that conditions exist where excessive shading occurs and solar zones cannot be met, a performance equivalency approved by the 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 bus bar 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".

SECTION 3: San Carlos Municipal Code Section 15.04.125 – Title 24, Part 11, California Green Building Standards, is hereby amended as follows:

Sec. 9.256 – SECTION 202 OF THE GREEN BUILDING STANDARDS CODE AMENDED:

SECTION 202 of the Green Building Standards Code is amended to add definitions for "Electric Vehicle (EV) Capable", "Level 1 Electric Vehicle (EV) Ready Space", "Level 2 Electric Vehicle (EV) Ready Space", "Electric Vehicle Charging Station (EVSC)", and "Automated Load Management System (ALMS)" to read as follows:

ELECTRIC VEHICLE (EV) CAPABLE. A listed electrical panel with sufficient capacity to provide a minimum 20 amperes to a designated charging space. Raceways from the electrical panel to the charging space(s) shall be installed to a charging space(s) only in locations that will be inaccessible in the future, either underground or where penetrations through walls, floors, or other partitions would otherwise be required for future installation of branch circuits. Raceways shall be at least 1" diameter and may be sized for multiple circuits as allowed by the California Electrical Code. The electric panel circuit directory shall identify the overcurrent protection device space(s) reserved for EV charging as "EV CAPABLE." Construction documents shall identify the location of the raceway from the panel to the charging space.

LEVEL 1 ELECTRIC VEHICLE (EV) READY SPACE. A complete electric circuit with a minimum 20-ampere capacity, including electrical panel capacity, overcurrent protection device, a minimum 1" diameter raceway that may include multiple circuits as allowed by the California Electrical Code, conductors, and either a) a receptacle, labelled "Electric Vehicle Outlet" with a minimum ½" font, adjacent to the parking space, or b) electric vehicle supply equipment (EVSE).

LEVEL 2 ELECTRIC VEHICLE (EV) READY SPACE. A complete electric circuit with a minimum 208/240 Volt, 40-ampere capacity, including electrical panel capacity, overcurrent protection device, a minimum 1" diameter raceway that may include multiple circuits as allowed by the California Electrical Code, conductors, and either a) a receptacle, labelled "Electric Vehicle Outlet" with a minimum ½" font, adjacent to the parking space, or b) electric vehicle supply equipment (EVSE) with a minimum output of 30 amperes.

ELECTRIC VEHICLE CHARGING STATION (EVCS). One or more electric vehicle charging spaces that include the installation of electric vehicle supply equipment (EVSE) with a minimum capacity of 30 amperes connected to a circuit serving a Level 2 EV Space. EVCS installation may be used to satisfy a Level 2 EV Ready Space requirement.

AUTOMATIC LOAD MANAGEMENT SYSTEM (ALMS). A control system that allows multiple EV chargers or EV-Ready electric vehicle outlets to share an electrical circuit and automatically reduce power at each charger. ALMS systems must be designed to deliver

at least 1.4kW to each EV Capable, EV Ready, or EVCS space served by the ALMS. The connected amperage on-site shall not be lower than the required connected amperage per Part 11, 2019 California Green Building Code for the relevant building types.

SECTION 4
RESIDENTIAL MANDATORY MEASURES

Sec. 9.257. – SECTION 4.106.4 OF THE GREEN BUILDING STANDARDS CODE AMENDED:

Section 4.106.4 of the Green Building Standards Code is amended to read as follows:

4.106.4 Electric vehicle (EV) charging for new construction. New construction and 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. Where there is no commercial power supply
2. Accessory Dwelling Units (ADU) and Junior Accessory Dwelling Units (JADU)
3. 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 by more than $400 per dwelling unit for residential buildings that entirely consist of either affordable rental units, defined as units rented at an amount consistent with the maximum rent levels for a housing development that receives an allocation of state or federal low-income housing tax credits from the California Tax Credit Allocation Committee. Residential developments meeting the above definition must have Inclusionary Housing Plan that is approved by the Housing Division pursuant to Section 18.37.090. If costs are found to exceed this level, an applicant shall provide EV infrastructure up to a level that would not exceed this cost for utility service or on-site transformer capacity.

Sec. 9.258. – SECTION 4.106.4.1 OF THE GREEN BUILDING STANDARDS CODE AMENDED:

Section 4.106.4.1 of the Green Building Standards Code is amended to read as follows:

4.106.4.1 New one- and two-family dwellings, town houses with attached private garages. For each dwelling unit, install a Level 2 EV Ready Space and Level 1 EV Ready Space.

Exception: For each dwelling unit with only one parking space, install a Level 2 EV Ready Space.

4.106.4.1.1 Identification. The raceway termination location shall be permanently and visibly marked as "Level 2 EV-Ready".

Sec. 9.259. – SECTION 4.106.4.2 OF THE GREEN BUILDING STANDARDS CODE AMENDED:

4.106.4.2 New multi-family dwellings. The following requirements apply to all new multi-family dwellings. Up to, and no more than, two dwelling unit parking spaces shall share access to one EV Ready Circuit that is within 3 feet of each parking space:

1. 10% 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. In addition, each of the remaining dwelling units with parking space(s) shall be provided with at least a Level 1 EV Ready Space.
3. Mechanical parking systems shall have sufficient panel capacity to support 1.4kW to 50% of the mechanical parking stalls with pre-wiring to the mechanical parking system from the panel.

Notes:

1. ALMS may be installed to decrease electrical services and transformer capacity associated with EV Charging Equipment subject to review of the authority having jurisdiction.
2. Installation of Level 2 EV Ready Spaces above the minimum number required level may offset the minimum number Level 1 EV Ready Spaces required on a 1:1 basis.
3. The requirements apply to multi-family buildings with parking spaces including: a) assigned or leased to individual dwelling units, and b) unassigned residential parking.
4. The City of San Carlos may consider allowing exceptions, on a case by case basis, if a building permit applicant provides documentation detailing that an increased cost of utility service or on-site transformer capacity would exceed an average of $4,500 among charging 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.

Sec. 9.260. – SECTION 4.106.4.2.2 OF THE GREEN BUILDING STANDARDS CODE AMENDED:

Section 4.106.4.2.2 of the Green Building Standards Code is amended to read as follows:

4.106.4.2.2 Electric vehicle charging space (EV space) dimensions. Refer to the City of San Carlos Planning and Building Department Zoning Regulations for parking space dimension requirements.

SECTION 5
NONRESIDENTIAL MANDATORY MEASURES

Sec. 9.261. – SECTION 5.106.5.3 OF THE GREEN BUILDING STANDARDS CODE AMENDED:

Section 5.106.5.3 of the Green Building Standards Code is amended to read as follows:

5.106.5.3 Electric Vehicle (EV) charging. [N] 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 Building Code,* the *California Electrical 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 designated primarily for office use with parking:

1. When 10 or more parking spaces are constructed, 10% of the available parking spaces on site shall be equipped with Level 2 EVCS;
2. An additional 10% shall be provided with at least Level 1 EV Ready Spaces; and
3. An additional 30% shall be at least EV Capable.

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.

Note:
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% of the available parking spaces on site shall be equipped with Level 2 EVCS;
2. An additional 5% 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.
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 that provides helpful information for local governments, residents, and businesses. www.opr.ca.gov/ docs/ZEV_Guidebook.pdf.
4. Section 11B-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 11B-228.3.2.1.
5. It is encouraged that for shared parking, EV Ready Spaces are designated as "EV preferred."
   5.106.5.3.4 [N] Identification. The raceway termination location shall be permanently and visibly marked as "EV Ready".

SECTION 4: Severability. If any section, subsection, sentence, clause, phrase or portion of this Ordinance is for any reason held to be invalid or unconstitutional by the decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of this Ordinance. The City Council hereby declares that it would have passed this Ordinance sentence by sentence, paragraph by paragraph, and section by section, and does hereby declare that any provisions on this Ordinance are severable and, if for any reason any sentence, paragraph or section of this Ordinance shall be held invalid, such decision shall not affect the validity of the remaining parts of this Ordinance.

SECTION 5: Effective. Pursuant to Section 36937 of the Government Code of the State of California, this Ordinance shall take effect and be in full force and effect thirty (30) days after its final passage and upon approval by the California Energy Commission, whichever is later.

SECTION 6: Publication. The City Clerk shall cause this Ordinance to be published and posted in accordance with the requirements of Section 36933 of the Government Code of the State of California.

* * * *

I, City Clerk Crystal Mui, hereby certify that the foregoing Ordinance was introduced by the City Council of the City of San Carlos on the 25th day of January, 2021 and passed and adopted at a regular meeting thereof held on 22nd day of February, 2021, by the following vote:

AYES, COUNCILMEMBERS:	COLLINS, DUGAN, MCDOWELL, RAK, PARMER-LOHAN
NOES, COUNCILMEMBERS:	NONE
ABSENT, COUNCILMEMBERS:	NONE
ABSTAIN, COUNCILMEMBERS:	NONE

CITY CLERK of the City of San Carlos

APPROVED:

MAYOR of the City of San Carlos