



# MEMORANDUM

**DATE:** 09/12/2019

**TO:** Planning Commission

**FROM:** Ken Johnson, Senior Planner via John Swiecki, Community Development Director

**SUBJECT: Discussion of Adoption of the 2019 California Building Code & Reach Codes**

## Introduction

Every three years a new set of construction codes, or California Building Standards Code (CBC), is published by the state. Local adoption of these codes vests the authority to enforce the state codes with the local jurisdiction, as required by state law. The new 2019 CBC will become effective statewide on January 1, 2020. The three year update cycle is also the time for a city to adopt local modifications, or “reach codes”, if desired. Since CBC adoption and reach codes are contained in Title 15 – Buildings and Construction of the Brisbane Municipal Code, they are not subject to the Planning Commission’s purview. However, this report is provided to the Commission to allow opportunity for the Commission to provide input to the City Council when they consider code adoption this fall. The Codes are still under preparation so this memo provides a preliminary overview of key draft provisions for the Commission’s information.

## Background

The California Health and Safety Code allows local jurisdictions to modify the CBC and adopt more stringent requirements or “reach codes”, with the caveats that:

1. The local modifications to the state code must be substantially equivalent to or more stringent than the building standards published in the California Building Standards Code; and
2. The local jurisdiction is required to make specific findings that such changes are reasonably necessary because of local geological, climatic or topographic conditions.
3. Additionally, if a reach code involves energy requirements for a building, jurisdictions need to file an application to the California Energy Commission (CEC) to demonstrate that any local amendments are cost effective and would save more energy than those required by the state. This is done through submitting a cost effectiveness study to the state. Alternatively, a city may use another city’s or county’s CEC approved cost effectiveness study, as long as it is within the same climate zone and the reach code is substantially the same in its requirements.

The last state building code adoption cycle was effective on January 1, 2017, and the City amended Brisbane Municipal Code (BMC) Chapter 15.04 to adopt it as well as local

modifications to the state fire code and waste diversion code. The city also adopted reach provisions pertaining to energy conservation and generation

In summary, the reach codes provided in Title 15 include the following:

- Fire Prevention
- Water Conservation in Landscaping
- Recycling and Diversion from Construction and Demolition
- Green Building Requirements
- Energy Conservation and Generation

In some instances there may be follow up ordinances in the zoning ordinance that accompany reach codes. Any zoning ordinance amendments are subject to Planning Commission review and recommendation to Council. An example is the height exception for rooftop solar energy systems, contained in BMC Section 17.34.060.C which followed the adoption of the energy conservation and generation ordinance, BMC Chapter 15.81, in 2016.

## **Discussion**

Key among the targets for reach codes in the upcoming code cycle are measures that would go beyond the state minimum requirements in reducing greenhouse gas (GHG) emissions. This is consistent with the City's adopted Climate Action Plan (CAP)

<http://brisbaneca.org/sites/default/files/Adopted%20CAP%209-17-15.pdf>. In considering reach codes to address GHG emissions, Brisbane has been working with the County Office of Sustainability and Peninsula Clean Energy and is utilizing their model ordinance as starting point, with some differences.

The City Council will be presented with two reach codes addressing GHG emissions in this adoption cycle. These reach codes are still in development, but the following provides an outline of the key components.

Electric Vehicle (EV) Charging Infrastructure: Vehicles powered by fossil fuel are a primary source of GHG emissions. In our area, vehicle owners are showing an increasing interest in electric vehicles. As reported by San Mateo County, the number of registered plug-in vehicles in the County increased from 2017 to 2018 by 36 percent. By comparison, registrations for vehicles powered by fossil fuels grew by only 2 percent that year. It is widely known that availability of EV charging infrastructure is a critical component to EV adoption. Meanwhile, it is significantly more expensive to retrofit charging infrastructure than to install it in new construction. As such, ensuring that newly constructed residential and non-residential parking has ample EV charging capability will promote EV adoption and decrease transportation-related greenhouse gas emissions while reducing long-term costs of EV infrastructure installation.

While the state's new minimum requirements for EV charging infrastructure are a step forward, it is unlikely that the state's minimum requirements for multi-family dwellings and non-residential buildings will be enough to keep pace with expected EV growth looking towards 2030. New state requirements provide for just 10 percent of the parking space to be capable of supporting future EV charging stations for multifamily developments. Single family dwellings and duplexes are to have a space EV capable. For nonresidential new development,

approximately 8 percent of the parking spaces are to be designated for clean air vehicles. These include low-emitting, fuel-efficient and carpool/van pool vehicles. Only 6 percent of the nonresidential parking must be Level 2 EV capable. Note that draft definitions for EV charging infrastructure is provided with Attachment A.

The proposed reach code would require the installation of electric vehicle charging infrastructure as part of new development projects as specified below:

*Residential Uses:* New residential developments would have the following requirements:

- New Single family homes- Level 2 EV Ready circuits to allow for easy installation of EV chargers as needed.
- Multifamily dwellings- one Level 2 EV ready space per unit and 50 percent of required guest spaces shall be Electric Vehicle Charging Station (EVCS) Parking Spaces.

*Non-residential uses:* For non-residential new development, the ordinance would distinguish between high and low parking turnover uses.

Low turnover uses, such as administrative offices, would have the following requirements:

- A total of 50% of the parking spaces required per the City's parking ordinance, BMC Chapter 17.34, would be EV, as follows:
  - ✓ When 10 or more parking spaces are required to be constructed, 15% of the required parking spaces on site would need to be equipped with Level 2 Electric Vehicle Charging Stations (EVCS);
  - ✓ An additional 10% would be provided with at least Level 2 EV Ready Circuits; and
  - ✓ An additional 25% shall be at least Level 1 EV Capable.

High turnover uses, such as retail and restaurant uses, would have

- A total of 25% of the parking spaces required per Chapter 17.34 would be EV, as follows:
  - ✓ When 10 or more parking spaces are required to be constructed, 15% of the required parking spaces on would be equipped with Level 2 EVCS;
  - ✓ An additional 10% would be at least Level 1 EV Ready.
  - ✓ Installation of Direct Current Fast Charger with the capacity to provide at least 80 kW output may substitute for a certain number of the Level 2 EVCS and EV Ready spaces.

Exceptions to the code could be approved by the Building Official, based on demonstration that the provisions of the code would render the development project infeasible due to associated utility costs.

Fossil Fuel Use-Buildings: Another primary source of GHG emissions is fossil fuel use from building systems.

To reduce GHG emissions in building systems, there are a couple different approaches. One is to use a performance approach, with buildings being required to be a certain percentage more energy efficient than the basic state building requirements. The other is a prescriptive approach in which certain systems would be required to be electric powered, versus powered by natural gas. Note the state would not prohibit the use of natural gas in building systems in the 2019 CBC. Key advantages to a prescriptive approach, limiting the use of natural gas, are that the code requirements are simpler for applicants to understand and for the City to implement, and would generally result in lower GHG emissions. The City of Menlo Park is in the process of adopting a prescriptive ordinance that would limit the use of natural gas and serves as a reasonable model to follow. Some of the key provisions that are also intended for Brisbane's reach code are outlined as follows:

*New Residential Buildings – 3 Stories or Less:* New low-rise residential buildings would be required to be all electric, except cooking appliances and gas fireplaces. Cooking appliances would need to have electric infrastructure installed to allow easy change over from gas to electric in the future. .


*New mid-to-high rise Residential and All Non-residential Buildings:* These buildings would be required to be all-electric, except life science buildings may use natural gas for space heating.

In the Menlo Park model, there are also requirements for solar energy production on new buildings, which goes hand-in-hand with the electric requirements for buildings. Solar provisions were addressed Brisbane's 2016 reach code. However, this will be updated for consistency with new state provisions and to provide the CEC with a complete building energy code for their approval in this code cycle. CEC review follows City Council adoption of the code.

Finally, as part of the code adoption, staff will be reviewing other areas of the BMC for consistency with the 2019 CBC. This includes, but is not limited to the Fire Department's review of the local Fire Code.



Ken Johnson, Senior Planner



John Swiecki, Community Development Director

## Attachment A

### Draft Definitions for Electric Vehicle Charging Infrastructure

- A. EV Capable Parking Space:** “EV Capable Parking Space” means 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. Where, following construction, a parking space would not otherwise be readily linked (or accessible) to the electrical panel, raceways linking the electrical panel and the parking space shall be required in order to be considered EV capable. Inaccessibility generally includes such cases as, where underground trenching would be required or where penetrations to walls, floors, or other partitions would be required for future installation of branch circuits. The panel circuit directory shall identify the overcurrent protective device space(s) reserved for EV charging as “EV CAPABLE.”
- B. Level 1 EV Ready Circuit Parking Space:** “Level 1 EV Ready Circuit Parking Space” means 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.
- C. Level 2 EV Ready Circuit Parking Space:** “Level 2 EV Ready Circuit Parking Space” means a parking space served by a complete electric circuit with 208/240 volt, 40-ampere capacity including electrical panel capacity, overprotection device.
- D. Electric Vehicle Charging Station (EVCS):** “Electric Vehicle Charging Station (EVCS)” means a parking space that includes installation of electric vehicle supply equipment (EVSE) with a minimum output of 30 amperes connected to a Level 2 EV Ready Circuit. EVCS installation may be used to satisfy a Level 2 EV Ready Circuit requirement.