REACH CODE CHECKLIST

FOR NEW HIGH-RISE RESIDENTIAL (more than 3 habitable stories and 3 or more units per building)
AND NEW HOTEL/MOTEL BUILDINGS (any number of stories)

The Reach Code is a local ordinance adopted in Hayward which modifies the CA Energy Code to reduce natural gas use in new construction. The Reach Code also amends CalGreen to expand the requirements for Electric Vehicle (EV) ready parking spaces. For new residential buildings 3 stories or less, please use the Reach Code Checklist for New Residential Buildings 3 Stories or Less. For other commercial buildings, please use the Reach Code Checklist for Commercial Buildings. For checklists, background information and the full text of the Reach Code, please see the City of Hayward website here: https://www.hayward-ca.gov/reach-code

PART A: HIGH-RISE RESIDENTIAL (MORE THAN 3 HABITABLE STORIES) AND HOTEL / MOTEL BUILDINGS (ANY NUMBER OF STORIES)

The Reach Code requirements for these types of buildings offer two different approaches. One is an all-electric design and the other is a mixed fuel design. With the all-electric design, there is only a performance approach. Following the mixed fuel design, there are performance and prescriptive options. The checklists for each option are below. **Choose one option per building**. The first approach is the least complicated option.

CHECKLIST 1A – ALL ELECTRIC APPROACH

- ☐ The energy report for the new building shall be completed using the Performance Method with the current software approved by the CA Energy Commission.
- ☐ The project complies if the Proposed Design Building has an energy budget no greater than the Standard Design Building.
- ☐ No further requirements in Part A. **Continue to Part B for EV parking requirements.**

CHECKLIST 2A – MIXED FUEL – PERFORMANCE OPTION

- ☐ The entire solar zone (see CEC section 110.10) shall have a solar PV system installed.
  **exception: The PV system may be sized to cover less than the solar zone provided that the system is sized to generate annual electrical output equal to the building's modelled annual electric load.*
- ☐ The energy report for the new building shall be completed using the Performance Method with the current software approved by the CA Energy Commission.
- ☐ The energy budget shall have a compliance margin of at least 10%* better than the Standard Design Building.

**exception: If the Certificate of Compliance is prepared by and signed by a Certified Energy Analyst and the energy budget for the Proposed design is no greater than the Standard Design Building, the required compliance margin can be reduced to 9%.*

☐ **Continue to Part B for EV charging requirements.**

CHECKLIST 3A – MIXED FUEL – PRESCRIPTIVE OPTION

☐ The entire solar zone (see CEC section 110.10) shall have a solar PV system installed.
**exception: The PV system may be sized to cover less than the solar zone provided that the system is sized to generate annual electrical output equal to the building's modelled annual electric load.*

☐ The energy report for the new building shall be completed using the Prescriptive Method. The building shall have constructed and installed systems and components meeting the applicable requirements of Sections 140.3 through 140.9 and additionally the following measures as applicable intended to exceed the remaining prescriptive requirements:

1. Install fenestration with a solar heat gain coefficient no less than 0.45 in both common spaces and guest rooms.
2. Design VAV box minimum airflows to be equal to the zone ventilation minimums.
3. Include economizers and staged fan control in air handlers with a mechanical cooling capacity ≥ 33,000 Btu/h.
4. Reduce lighting power density (watts/ft2) by 10% from that required from Table 140.6-C.
5. In common areas, improve lighting without claiming any Power Adjustment Factor credits:
   a. Control daylight dimming plus off per Section 140.6(a)2.H
   b. Perform Institutional Tuning per Section 140.6(a)2.J
6. Install one drain water heat recovery device per every three guest rooms that is field verified as specified in the Reference Appendix RA3.6.9.

☐ **Continue to Part B for EV charging requirements.**

PART B: EV CHARGING READINESS

CHECKLIST 1B – RESIDENTIAL BUILDINGS WITH 3 to 20 UNITS

- **ONE PARKING SPACE PER DWELLING UNIT SHALL BE A LEVEL 2 EV READY SPACE.** For example, if a dwelling unit has a 2-car garage, only one space must be Level 2 EV Ready. LEVEL 2 EV Ready Spaces shall include the following:

☐ Provide a complete electric circuit with 208/240 volt, 40-ampre capacity with an overprotection device.

- ☐ Provide a minimum of 1-inch diameter raceway. This raceway may include multiple circuits as allowed by the California Electrical Code.
- ☐ Include electrical single line drawings and/or specifications on the plans.
- ☐ Provide a table on the cover sheet listing the total number of parking spaces and the number of EV ready spaces or spaces with optional electric vehicle supply equipment.

- **ADJACENT TO THE PARKING SPACE, PROVIDE EITHER ONE OF THE FOLLOWING:**
  - ☐ **OPTION A:** Provide an outlet adjacent to the parking space labelled "ELECTRIC VEHICLE OUTLET" with at least 1/2-inch font.
  - ☐ **OPTION B:** Provide electric vehicle supply equipment with a minimum capacity of 30 amperes.

CHECKLIST 2B – RESIDENTIAL BUILDINGS WITH MORE THAN 20 UNITS

- **75% OF THE DWELLING UNITS WITH ONE OR MORE PARKING SPACES 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. LEVEL 2 EV Ready Spaces shall include the following:

  - ☐ Provide a complete electric circuit with 208/240 volt, 40-ampre capacity with an overprotection device.
  - ☐ Provide a minimum of 1-inch diameter raceway. This raceway may include multiple circuits as allowed by the California Electrical Code.
  - ☐ Include electrical single line drawings and/or specifications on the plans.
  - ☐ Provide a table on the cover sheet listing the total number of parking spaces and the number of EV ready spaces or spaces with optional electric vehicle supply equipment.

- **ADJACENT TO THE PARKING SPACE, PROVIDE EITHER ONE OF THE FOLLOWING:**
  - ☐ **OPTION A:** Provide an outlet adjacent to the parking space labelled "ELECTRIC VEHICLE OUTLET" with at least 1/2-inch font.
  - ☐ **OPTION B:** Provide electric vehicle supply equipment with a minimum capacity of 30 amperes.

- **THE REMAINING 25% OF UNITS SHALL BE PROVIDED WITH AT LEAST ONE LEVEL 2 EV CAPABLE SPACE.** EV Capable Circuits include the following:
  - **a.** A parking space linked to an electrical panel with sufficient capacity to provide at least 208/240 volts and 40 amperes to the parking space.
  - **b.** 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 one inch in diameter and may be sized for multiple circuits as allowed by the California Electrical Code.
  - **c.** The panel circuit directory shall identify the overcurrent protective device spaces(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.

ADDITIONAL NOTES AND EXCEPTIONS FOR ALL MULTI-FAMILY BUILDINGS

1. Automatic Load Management Systems (ALMS) may be installed to decrease electrical service and transformer costs associated with EV Charging Equipment subject to review of the authority having jurisdiction.
2. The requirements apply to multifamily buildings with parking spaces including:
   - **a.** Assigned or leased to individual dwelling units, and

b. Unassigned residential parking.

3. In order to adhere to accessibility requirements in accordance with the California Building Code Chapters 11A and/or 11B, it is recommended that all accessible parking spaces for covered newly constructed multifamily dwellings are provided with Level 2 EV Ready Spaces.
4. 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, the applicant shall provide EV infrastructure up to a level that would not exceed this cost for utility service or on-site transformer capacity.

CHECKLIST 3B – NEW HOTEL/MOTEL BUILDINGS

☐ When 10 or more parking spaces are constructed, 15% of the available parking spaces on site shall be equipped with Level 2 EV Ready Spaces. Calculations for the required minimum number of spaces equipped with Level 2 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 15 EV Ready spaces after a minimum of 15 Level 2 EV Ready spaces are installed.**

- LEVEL 2 EV Ready Spaces shall include the following:

☐ Provide a complete electric circuit with 208/240 volt, 40-ampre capacity with an overprotection device.
☐ Provide a minimum of 1-inch diameter raceway. This raceway may include multiple circuits as allowed by the California Electrical Code.
☐ Include electrical single line drawings and/or specifications on the plans.
☐ Provide a table on the cover sheet listing the total number of parking spaces and the number of EV ready spaces or spaces with optional electric vehicle supply equipment.

NOTES:

1. Facilities providing EV charging stations shall comply with CBC Ch. 11A or 11B for disabled access requirements.

2. 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, the applicant shall provide EV infrastructure up to a level that would not exceed this cost for utility service or on-site transformer capacity.

PART C: SIGNATURE LINE

This form has been completed by: _____

_____ _____
Signature Date