



## STAFF REPORT

### To the Honorable Mayor and City Council From the City Manager

**DATE:** October 24, 2022

#### **SUBJECT**

Ordinances adopting California State Fire and Building Codes by reference and local amendments thereto, including Reach Codes which aim to reduce Greenhouse Gas (GHG) emissions by reducing reliance on natural gas and emphasizing building electrification and other related actions and resolutions

#### **RECOMMENDATION**

1. Waive first reading and introduce the following ordinances:
  - a. Ordinance of the City of Redwood City Repealing Article II of Chapter 12 of the Redwood City Municipal Code and Adding a New Article II to Chapter 12 of the Redwood City Municipal Code Adopting the 2021 International Fire Code along with the 2022 Edition of the California Fire Code, as published by the California Building Standards Commission and the International Code Council;
  - b. Ordinance of the City Council of the City of Redwood City Repealing Articles IV, V, VI, VII, VIII, IX and X of Chapter 9 (Buildings) of the Redwood City Code and Adopting New Articles IV, V, VI, VII, VIII, IX and X of Chapter 9 (Buildings) of the Redwood City Code Adopting Title 24, Parts 2 (Volumes 1 and 2), 2.5, 3, 4, 5, 6, 8, 10 and 11 of the California Code of Regulations, namely the 2022 California Building (all chapters, including Chapter 1, Division I and Division II), Residential, Electrical, Mechanical, Plumbing, Energy, Historical Building, Existing Building, and Green Building Standards Codes, as adopted by the California Building Standards Commission, together with certain amendments, exceptions, modifications and additions thereto, and the 2021 International Property Maintenance Code; and
  - c. Ordinance of the City of Redwood City repealing Article XV of Chapter 9 (Buildings) of the Redwood City Code and Adopting a new Article XV of Chapter 9 (Buildings) to adopt local amendments to the 2022 edition of the California Green Building Standards Code, together with certain amendments, exceptions and additions thereto;
2. Set a Public Hearing on the adoption of these ordinances for November 14, 2022, commencing at 6:00 p.m. (or as soon thereafter as can be heard) in the Council Chambers of the City of Redwood City located at 1017 Middlefield Road, Redwood City, and direct staff to publish the required notice;

3. Adopt a Resolution of the City Council of the City of Redwood City adopting findings of necessity and need for amendments, deletions, and additions to the 2022 California Fire and Building Standards Codes; and
4. Adopt a Resolution of the City Council of the City of Redwood City amending Resolution No. 16046, Exhibit B – Parks Impact Fee Schedule to add a definition for the term Bedroom.

## **STRATEGIC PLAN GUIDING PRINCIPLE**

Public Safety

## **BACKGROUND**

### **Fire and Building Codes**

The fundamental purpose of fire and building codes is to protect public health, safety and general welfare as they relate to the construction and occupancy of buildings and structures. Codes are updated on a three-year cycle. The City last updated its Building and Fire Codes in October 2019 and these codes went into effect on January 1, 2020. New California Building and Fire Codes will become effective on January 1, 2023 and are applicable to the City whether adopted by the City or not. Therefore, if the City wishes to adopt local amendments to the Codes, ordinances containing local amendments must be adopted in a timely manner.

The Building and Fire Codes support one another; therefore, staff has brought both codes for concurrent review by City Council.

On August 17 and September 21, 2022, the Board of Building Review (BOBR) held meetings to review the recommended changes to the Building Codes and Reach Codes. The BOBR meets when required to review updates to the City's regulatory Building Codes including suggested local amendments and provide recommendations to the City Council pertinent to the adoption of such codes.

As noted, the City is adopting the State codes by reference, therefore it is necessary to notice and hold a public hearing prior to the adoption. The public hearing is tentatively scheduled for November 14, 2022. State law also requires the City to make findings that local amendments to the State-adopted codes are necessary due to local climatic, geological, and topographical conditions. Amendments may also be made to administrative sections of the codes without State review. These findings are in the resolution presented for City Council adoption. After the ordinances are adopted, they and the resolution must be submitted to the California Building Standards Commission for review and approval.

### **Reach Codes**

Reach Codes are amendments to the Green Building Standards Code, which aim to reduce Greenhouse Gas (GHG) emissions by reducing reliance on natural gas and emphasizing building electrification. Building electrification is a key strategy in the City's [Climate Action Plan](#). The current Reach Codes include eight exceptions that were adopted in the 2019-20 Reach Code process. More information on the previous adoption process can be found in the respective City Council meeting staff reports listed below:

- [October 28, 2019](#)
- [January 13, 2020](#)

- [September 14, 2020](#)
- [September 21, 2020](#)

Current Reach Code Exceptions	
1	Non-residential buildings that will be constructed to Office of Statewide Health Planning and Development (OSHPD) Hospital standards may contain non-electric space-conditioning, water-heating, and process load systems.
2	Buildings containing a Scientific Laboratory Area may contain non-electric space-conditioning and water-heating systems.
3	Non-Residential Buildings containing a kitchen may contain non-electric cooking appliances, including but not limited to stoves, ovens, cooking ranges, and broilers.
4	Non-Residential Buildings containing F or H occupancies, as defined in the California Building Code, or Scientific Laboratory Areas may have gas piping installed for use of natural gas in manufacturing, research, and development.
5	All-Electric Building requirements shall not apply to projects with planning entitlements approved by the City prior to the effective date of the ordinance 2487 (December 9th, 2020)
6	All-Electric Building requirements shall not apply to new residential structures that designate 100% of the dwelling units to be affordable, excluding any onsite manager unit(s), for persons earning 80% or less of the Area Median Income (AMI), as evidenced by instruments recorded against the property that restrict the units as affordable for a period of at least 55 years.
7	All-Electric Building requirements shall not apply to Accessory Dwelling Units, as defined by Section 37.2 of the Redwood City Zoning Ordinance, or to Junior Accessory Dwelling Units, as defined by Government Code Section 65852.22.
8	If an applicant maintains that circumstances exist that make it infeasible for their building to be an all-electric building, the applicant may request an exception in writing. The final determination of infeasibility shall be made by the Building Official, or designee.

Peninsula Clean Energy (PCE) is a joint powers agency established in 2016 to provide clean electricity in San Mateo County. In the previous code cycle, PCE supported jurisdictions in the adoption of Reach Codes to advance renewable energy, building electrification and electric vehicle (EV) readiness. PCE provided cost-effectiveness studies, model ordinances and technical support to staff. This year, PCE, along with their energy consultant TRC, is leading the newly formed Bay Area Reach Codes team to provide this same type of support to local governments. The Bay Area Reach Codes team consists of Peninsula Clean Energy (PCE), Silicon Valley Clean Energy (SVCE), East Bay Community Energy (EBCE), Alameda County, Santa Clara County and the San Mateo County Office of Sustainability (OOS). This group developed model codes for building electrification and EV readiness. This is the model code that Redwood City has used in creating its own Reach Codes. Of note, Reach Codes for solar and battery storage are not a focus since the 2022 State Energy Code now requires solar and battery storage for all types of new construction.

#### **Bedroom Definition in Parks Impact Fee Resolution**

On May 23, 2022 the City Council adopted park impact fees for a variety of residential and non-residential types of developments. Included in the adoption were impact fees for the addition of bedrooms to existing homes or homes under renovation. The addition of a bedroom or bedrooms has the potential to increase the number of people residing within a house and therefore has an impact to park and recreation facilities.

The new park impact fees, including for bedrooms, went into effect on July 22, 2022. There is no definition for bedroom in the City's current codes.

## ANALYSIS

### Fire Code

The California Building Standards Commission, appointed by the Governor, based the new code for this code adoption cycle on the 2021 edition of the International Fire Code. The proposed ordinance adopts the 2022 California Fire Code with local amendments including, but not limited to:

- Defining a substantial remodel, addition, or repair for buildings other than single family and duplex residential structures;
- Defining an appeals process; defining violation penalties;
- Codifying fire protection requirements for car stackers and car puzzler systems;
- Defining fire access and fire lane construction requirements; defining what constitutes a high-rise structure;
- Outlining prohibitions regarding "safe and sane" fireworks. Additionally, the proposed ordinance includes adoption of the State's latest Fire Hazard Severity Zone Maps;
- Changing fire hydrant fire flow requirements;
- Changing emergency responder radio coverage system requirements;
- Establishing a requirement to utilize a third-party inspection reporting system;
- Removing the requirement for limited area fire sprinkler systems in open parking garages located below apartment units in multi-family residential structures;
- Establishing the minimum design criteria for automatic fire sprinkler design in in Type-IV A, B or C Construction Types;
- Establishing a requirement for defensible space for all structures in the City;
- Defining the minimum design criteria for automatic fire sprinkler systems for laboratory buildings; and
- Defining automatic fire sprinkler requirements for existing single family or duplex residential structures.

It also replaces the repealed Fire Safety First program which required the installation of automatic fire sprinkler systems in all existing multi-family residential buildings that contain four or more apartments with no precipitating factor, with a requirement for the installation of automatic fire sprinkler systems when a substantial remodel, addition, or repair impacts 50% or more of the original square footage of the floor area of a structure within any five-year period.

The City Council passed the Fire Safety First ordinance in 2015. The Fire Safety First ordinance required all existing un-sprinklered multi-family apartment buildings with four or more units to be retrofitted with automatic fire sprinklers by July 1, 2020, later extended to July 1, 2022 due to noncompliance. The ordinance was repealed on [October 25, 2021](#) with the direction to staff to develop additional fire protection measures with the next Fire Code cycle. It is the intention of the Fire Department by virtue of taking over the existing 50% rule from the Building Department, to replace the Fire Safety First requirement of requiring the installation of automatic fire sprinklers in all un-sprinklered apartment buildings with a program that would require the installation of fire sprinklers when the building is remodeled. The 50% rule would require the installation of automatic fire sprinklers when the building

undergoes a substantial remodel, addition, or repair that impacts more than 50% of the existing square footage of the structure over a five-year period.

### ***Community Outreach***

On October 4, 2022, the City held a community meeting on the updates for the 2023 code cycle. Community members posed questions asking for clarification on the applicability of the proposed amendments regarding when the sprinkler requirements for laboratory space is triggered in the tenant improvement (TI) permitting process and when the defensible space requirements are assessed. There was no opposition expressed, only requests for more information. Additional community outreach specifically for Reach Codes is discussed later in this report.

### ***Equity Lens – Fire Code***

Requiring fire sprinklers for substantial remodel, addition, or repair of multi-family properties benefits renters in multi-family homes and the communities surrounding these homes by reducing fire risk. Buildings that are impacted by this requirement are older, as State law required any built after 1989 to have fire sprinklers installed.

### **Building Code**

Every three years, the California State Building Codes (State Codes) are updated to address new building technology, increase safety requirements, and resolve issues with clarity of language. Local jurisdictions are allowed to modify the State Codes to account for regional conditions. Unless these local amendments are adopted prior to the effective date of the new State Codes, on January 1, 2023, all existing local amendments become void and new local amendments will not be effective until they have been approved by the City Council and the state’s Building Standards Commission. Staff has reviewed previous amendments and has compared them against current construction practices and the updated State Codes. Staff recommends several additions and minor updates to the existing City amendments. As with the previous code adoption, the BOBR has reviewed and provided input on staff recommendations. The BOBR supports the updates proposed by staff and the continued adoption of local amendments that are reasonably necessary due to local climatic, geological, and topographical conditions in the City.

Staff propose to add and amend articles in Chapter 9 (Buildings). These ordinances are included to address specific situations experienced in the last few years. Staff recommends the following:

- Remove the current 50% rule requiring the installation of fire sprinklers, fire alarms, Emergency Responder Radio Communications Systems (ERRCS), etc. within existing buildings from Chapter 9 of the Municipal Code and add to Chapter 12 to replace the Fire Safety First program. The intent of this rule is to obtain a higher level of fire protection in existing buildings undergoing substantial renovations. As such, the amendment should be included with the Fire Code amendments in Chapter 12 of the Municipal Code. Staff believes this will allow for better administration of this requirement.
- Change an existing amendment to clarify the process for weekend work requests and include reference to the existing noise ordinance in Chapter 24 of the Municipal Code.
- Add an amendment to specify the maximum amount available to be refunded for permits cancelled when construction has not begun and the City has not performed any inspections, in the amount of 80% of the permit issuance fees.
- Require a site survey for new buildings, including accessory dwelling units (ADUs), and for additions within 4’ of the property line.

- Require a geotechnical soils report for new structures and any addition greater than or equal to 500 sq. ft.

The amendments and additions recommended above are necessary to address local climatic, geographical, and topographical conditions in Redwood City. The California Building Code provides authority for local building officials to require a geotechnical soils report to identify any additional structural concerns. Since Redwood City is located in an area prone to severe seismic activity, soil liquefaction, and excessive settling, this requirement is necessary. Multiple jurisdictions within San Mateo County have this requirement.

Throughout the City, residential property lines are marked by fence lines. In many cases, residential additions and new houses have led to disputes over the true property line location. Proximity to the true property line also affects fire separation requirements, fire department access, along with other building and fire code requirements. Adding this section will help ensure accuracy for new buildings and additions near the property line.

The other amendments proposed are intended to clarify existing Community Development and Transportation Department (CDT) Building Division administrative policies.

### ***Board of Building Review***

The BOBR met on September 21, 2022 to review final staff recommendations. Generally, board members were in favor of the changes staff recommended above for the Building Code, except for the below:

- Addition of a definition for Bedroom: BOBR expressed concern that this definition should be in the Zoning Code or Parks Impact Fee Ordinance. In response, staff recommends that the Bedroom definition be added to the Parks Impact Fee Resolution rather than the Building Code, see section below.
- Permit Canceled Refund requirement: BOBR approved, but suggested putting in Master Fee Schedule instead.

### ***Equity Lens – Building Code***

These changes to the Building Code are intended to enhance safety and to align with changes to State codes. There are potentially significant costs to property owners associated with site surveys and geotechnical soils reports; however, cities in the region are shifting to this requirement to mitigate safety risks prior to the construction process, which may disproportionately affect lower income communities. Currently, there are not any State programs or resources to mitigate the costs for site surveys and geotechnical soils reports, but these items allow the Building Division, designers and property owners to prevent costly and time-consuming problems (property line disputes, structural collapse or settlement) in the future.

### **Bedroom Definition in Parks Impact Fee Resolution**

To address BOBR feedback, the definition for a Bedroom needed for the Parks Impact Fee implementation will be added to the Parks Impact Fee Resolution rather than to the Building Code. This definition will clarify what constitutes as a bedroom as there is no current definition for the term. A definition will help Building staff explain to applicants when the fee is required.

The proposed definition is as follows: “Bedroom. An enclosed habitable room planned and intended for sleeping, separated from other rooms by a door of less than 5 feet wide and accessible without crossing

another bedroom, closet space, or bathroom. Includes studio units. A bedroom will have a built-in closet, emergency escape and rescue opening(s), and a minimum floor area of 70 square feet, exclusive of a closet.”

### **Reach Codes**

In considering changes to existing Reach Codes for this code cycle, staff met with the City Council’s Climate Action Sub-Committee, the BOBR, conducted outreach to local stakeholders (residents, developers, businesses), conducted a community survey, worked with the Bay Area Reach Codes team, and met with energy code technical consultants from PCE and their consultant TRC. Since the original implementation of Reach Codes in 2020, technology has advanced and more data has been examined to support the City’s electric goals and its [Climate Action Plan](#). Therefore, staff recommends the following to City Council:

- ***New Construction:*** Staff recommends adoption of the Bay Area Reach Codes model ordinance with respect to new construction. Staff also recommends removing all the current Redwood City exceptions, except for Technical Infeasibility (Exception 8 in the Current Reach Code Exceptions Table on Page 3).
- ***New Construction - Electric Vehicle Charging Infrastructure:*** Continue to require EV charging infrastructure with new construction as outlined in the Bay Area Reach Codes model ordinance.
- ***Existing Construction:*** At this time, staff does not recommend adding requirements for additions or remodels of existing construction to the Reach Codes. PCE and TRC support this staff recommendation as there is no updated cost effectiveness study for existing construction and there is need for additional community feedback. Staff recommends focusing on education and promoting local incentives for existing construction. Should the City Council desire to include certain aspects of existing construction (i.e. heat pump water heaters installed when water heaters are replaced), the proposed ordinance would need to be revised and brought back for Council consideration or considered in the next year.

### ***New Construction – All-Electric Reach Codes***

The Bay Area Reach Codes team’s electrification model ordinance for new construction requires that new construction of all building types be all-electric. Statewide cost-effectiveness studies used to determine cost-effectiveness of all-electric construction compared to gas construction are directed by the California Statewide Codes & Standards Program to help local governments adopt Reach Codes.

These cost-effectiveness studies found that new all-electric construction is cost-effective for all building types. TRC supports including an exception for technical infeasibility if there may be a technical barrier to all-electric construction. For example, if site constraints prevent the installation of a transformer large enough to supply the building, it physically cannot be built as all-electric. 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 applicant’s design professional must 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 an exception is granted, the building must still be built “electric ready” to accommodate future electrification of the building.

Staff examined permits approved for new construction since Reach Codes were first adopted to understand the impacts to date. With the previously adopted exceptions, Reach Codes have applied to 27 new construction projects over the last two years, with Single Family Residences and Multi-Family buildings being the bulk of those projects. New construction Accessory Dwelling Units (ADUs) represent the largest exempt category.

Only four of the eight existing exceptions have been utilized in the time that Reach Codes have been active. Exceptions for OSHPD, scientific laboratories, F or H occupancies, and infeasibility have never been utilized. Therefore, these are not represented below.

**Reach Codes Data - December 2020 through September 2022:**

<b>Reach Codes - Apply</b>	
Single Family Residences (SFR)	23
Multi Family Buildings	3
Commercial	1
<b>Reach Code Projects</b>	<b>27</b>

<b>Reach Codes – Do Not Apply Based on Exceptions</b>	
Affordable Housing	1
Restaurant	1
Planning Entitlement	15
ADU	108
<b>Reach Codes Do Not Apply</b>	<b>125</b>

**Other Jurisdictions**

Many other local jurisdictions may remove exceptions to new construction all-electric Reach Codes. These communities include Burlingame, Menlo Park, Mountain View, Palo Alto, San Carlos, San Mateo, and South San Francisco. More details on other local jurisdiction Reach Codes can be found in Attachment E.

Of note, most jurisdictions are also moving towards removing exceptions for ADUs. The Bay Area Reach Codes Team has found that all-electric detached ADUs can achieve energy efficient standards and be built cost effectively in all climate zones. The Bay Area Reach Code Team recommends all-electric requirements for new construction detached ADUs.

**Stakeholder Outreach**

Staff performed Reach Codes stakeholder outreach to groups directly impacted by the potential removal of exceptions: hospitals, affordable housing developers, life sciences and laboratory developers, ADU builders, the general development community, and to residents. Specific examples are below:

- Hospital representatives expressed their preference for keeping the exception for hospitals, due to their concerns for building all-electric backup power and space conditioning. Reach Codes do not apply to external backup generators required elsewhere in the Code for hospitals, high-rises,



etc., but other components could be addressed case by case using the technical infeasibility exception.

- Affordable Housing developers generally expressed their support for removing the exceptions for new construction. Staff spoke with representatives from Alta Housing, Habitat for Humanity Greater San Francisco, HIP Housing and Midpen and all expressed support for building all-electric new construction affordable housing. Many new affordable housing projects are already being built all-electric, including the Elco Yards affordable housing building (HIP Housing - 1304 El Camino Real) as well as all of Midpen's future new construction projects. Affordable housing representatives supported keeping the technical infeasibility exception to address specific infeasible components, such as water heaters for tall residential buildings.
- Life Sciences Developers generally still support exceptions for life sciences, but are more concerned about all-electric requirements for existing construction and tenant improvements. As noted earlier, it is the stance of the PCE, their consultant TRC and the Bay Area Reach Codes Team that most projects can be built all electric and life sciences/laboratory space is not an exception. The proposed Redwood Life project, for example, that includes research and development life sciences space, intends for their project (if approved) to be built all-electric. A technical infeasibility exception would address individual situations where gas is required. Further stakeholder outreach is ongoing and additional feedback will be presented in the City Council presentation on October 24, 2022, specifically feedback from life sciences and laboratory developers.

#### ***Equity Lens – Reach Codes for New Construction***

Staff considered equity implications when preparing Reach Codes for new construction. These changes are intended to align with the City's climate action commitments to reduce GHG emissions. The burden of costs to build all-electric new construction lies on the developer of the new building. The community as a whole benefits from this policy, as it reduces greenhouse gas emissions in the long-run. PCE and PG&E anticipate residents will also benefit as electric energy is more stable over time, while natural gas prices are volatile and will raise over time. This is especially true in California, as the State is developing energy policies to reduce natural gas usage and incentivize electricity.

#### ***New Construction – Electric Vehicle (EV) Charging***

Currently, Redwood City Reach Codes require enhanced EV charging infrastructure for single-family homes, duplexes, townhomes, multi-family, and non-residential buildings. The City's current Reach Codes for EV infrastructure require new construction to install EV charging equipment to meet anticipated future demands for EV charging.

Staff recommends the following as suggested by the Bay Area Reach Codes Team and TRC for new construction as this is a growing need in the community. The proposed Reach Codes increase the number of required EV chargers by an average of 10-15% for multi-family and commercial buildings, require new single-family and duplexes with attached private garages to provide a Level 2 EV Ready parking space (defined below) rather than an EV capable parking, and require an additional Level 1 EV Ready space for single-family and duplexes with a second parking space. The State projects that California will need 1.2 million more EV chargers by 2030 to support EV fueling needs. In San Mateo County, one in four new vehicles purchased in 2021 was an EV.

Electric Vehicle (EV) charging requirements in California can generally be broken into three categories:

- **EV Charging Station:** All supply equipment is installed at a parking space, such that an EV can be charged without additional equipment.
- **EV Ready:** Parking space is provided with all power supply and associated outlet, such that a driver-provided supply equipment can be plugged in and a vehicle can charge.
- **EV Capable:** Conduit is installed to the parking space and building electrical panel and transformers have reserved capacity to serve future load. An electrician would be required to complete the circuit and/or increase the gauge of upstream wiring before charging is possible.

EV charging capacity can be summarized as three categories:

- **Level 1:** Capable of charging at 110/120V, 16A. This is equivalent to a standard home outlet.
- **Level 2:** Installation of a 208/240V, 40A circuit or 208/240V, 20A circuit for low-power. This is the service capacity typically used for larger appliance loads in homes.
- **Level 3 (Direct Current (DC) Fast Charging):** Capable of charging at 20-400kW. This is the type of charger used for Tesla Superchargers and DC Fast Chargers at some supermarkets.

The 2022 California Green Building Code update (Title 24, Part 11) also increased requirements for electric vehicle charging infrastructure in new construction; including:

- New one- and two-family dwellings and townhouses with attached private garages: must be Level 2 EV-capable
- Multi-family dwellings (3 units or more)
  - 10% of parking spaces must be Level 2 EV Capable,
  - 25% must be Low Power Level 2 EV Ready, and
  - 5% must be Level 2 EV Charging Stations
- Non-residential:
  - 15% of parking spaces must be Level 2 EV Capable, and
  - 5% must have Level 2 EV Charging Stations

### **Existing Construction**

Requiring electrification for additions or remodels of existing construction through Reach Codes is a relatively new approach and only a few California cities have Reach Code requirements for electrification in building renovations. Existing building electrification is more complex, higher cost, and has more equitable deployment considerations than new construction electrification. At this time, staff does not recommend that the City pursue the addition of Reach Codes applicable to existing construction due to the lack of a completed cost effectiveness study, advice from TRC, and the need for more community outreach on this specific issue.

The Bay Area Reach Codes team anticipates the completion of an updated cost effectiveness study for existing construction in the next 1-2 years. Staff recommends addressing existing construction Reach Codes after the updated cost effectiveness study has been completed. In the interim, staff will continue to do community outreach and education regarding resources, incentives, and rebates available for residents and business owners to move towards all electric renovations and replacements.

Currently, only San Mateo is moving forward with adding existing construction to their Reach Codes. On October 17, 2022, San Mateo approved a first reading of Reach Codes that include all-electric requirements for some home renovations. These include electric readiness (increased electric panel capacity, additional outlets installed) and heat pump air conditioning and water heater replacements to be required when a permit is issued for home renovations. More details can be found in Attachment E. Attachment E has been updated as of October 19, 2022 and represents the most up to date information

available on local jurisdictions as of that date. As previously noted, staff is also seeking City Council input if there are certain existing construction components they would like to consider. Inclusion of any components for existing construction would need to come back to Council for a new first reading and introduction of the ordinance as revised.

Listed below are incremental options available for all-electric requirements for existing construction. These suggestions were received from TRC regarding possible partial all-electric upgrades in existing buildings. Staff will provide community education on these options and will recommend (but not require) that property owners consider these options during the permit application process:

- 2-way air conditioning (A/C) - Replace air conditioners with heat pumps. PCE is releasing a \$3,500 incentive in January 2023 to offset the cost of these systems for homeowners.
- Heat pump hot water - Heat pump water heaters installed when water heaters are replaced. PCE will be offering a \$3,000 incentive in January 2023, which can be combined with BayREN's existing \$1,000 incentive to total \$4,000 in rebates for heat pump water heaters. There are certain instances where this may be a challenge due to spatial limitations or time limitations due to emergency replacement.
- New pools, outdoor firepits or barbeque equipment at existing homes – Using electric instead of gas lines to new equipment in existing homes.
- Panel capacity during electric panel upgrades - Recommend electric panel capacity be increased to enable full home electrification in the future. BayREN's heat pump incentive includes additional bonus incentives of \$750-\$1,500 if a panel upgrade is needed.

Regarding overall construction conversion cost, in conversations with industry stakeholders, concerns were expressed about the barriers to all-electric requirements for existing construction. It was the collective view that cost is a primary hinderance to all-electric retrofitting, especially in older buildings. As previously noted, currently there is no updated cost effectiveness study for existing construction, therefore staff and TRC cannot make an assessment as to the affordability and cost-effectiveness of all-electric existing construction requirements at this time, as is possible with new construction.

It is also important to consider potential challenges with enforcement. Reach Codes are enforced when a permit is issued from the City and the City relies on the building permit and inspection processes to ensure gas and electric equipment are installed safely to protect the health and safety of the community. If Reach Codes impose restrictions that community members or contractors find too challenging or costly to comply with, this could result in improvements being done without permits.

#### ***Equity Lens – Reach Codes for Existing Construction***

Finally, staff also considered the costs to the property owner and the equity impacts of the policy. Requiring electric equipment may increase upfront project costs and may also have a long-term impact on operational/utility costs. Upfront costs to convert to new technology and electric equipment are often the primary barrier for electrification of existing construction in underserved communities. Homeowners and building owners facing energy insecurity (the inability to pay for energy bills without a significant trade-off) are not able to prioritize electrification. The State has not yet provided a cost effectiveness study to clarify the associated costs.

The City will need to be thoughtful about Reach Code requirements to prevent negative impacts to marginalized communities in the future. There is a high cost of living in Redwood City and homeowners

of varying income levels are challenged with housing costs and lack the discretionary income for increased costs of equipment replacement and ongoing increases on monthly utility bills.

### ***Board of Building Review (BOBR)***

The BOBR met on September 21, 2022 to give feedback on the staff recommendations for the Building and Reach Codes. Board members expressed concern about logistical issues of converting existing buildings to all electric, PG&E electric supply concerns, space constraints in transition from gas to electric (electric appliances may require more space), cost to rehabilitate existing buildings for all-electric, and the availability of technology due to supply chain issues. They were also concerned with commercial kitchen equipment and backup power elements for hospital/lab buildings.

Board members were in favor of removing Reach Codes exceptions for new construction for ADUs and Affordable Housing

Board members advised staff to continue to monitor community and stakeholder feedback to determine which exceptions to retain:

- Non-residential buildings that will be constructed to Office of Statewide Health Planning and Development (OSHPD) Hospital standards may contain non-electric space-conditioning, water-heating, and process load systems.
- Buildings containing a Scientific Laboratory Area may contain non-electric space-conditioning and water-heating systems.
- Non-Residential Buildings containing a kitchen may contain non-electric cooking appliances, including but not limited to stoves, ovens, cooking ranges, and broilers.
- Non-Residential Buildings containing F or H occupancies, as defined in the California Building Code, or Scientific Laboratory Areas may have gas piping installed for use of natural gas in manufacturing, research, and development.
- Technical Infeasibility

Generally, the BOBR also agreed that the concerns they raised for new construction could be covered by a technical infeasibility exception, though they were not in support of Reach Codes for existing construction. As described above, staff recommends retaining only the technical infeasibility exception.

The BOBR also suggested that any removed exceptions could be given a one-year grace period after the ordinance effectiveness date. Staff does not recommend including a grace period, and this is not included in the proposed ordinance. Reach codes have been in use for two years and most developers in planning stages are already planning to build all-electric. Staff believe the technical infeasibility exception will cover areas where exceptions are needed.

### ***City Council Climate Action Sub-Committee***

Staff also received feedback on Reach Codes at the City Council Climate Action Sub-Committee Meeting on September 15, 2022. Committee members generally supported staff recommendations to remove most exceptions to the Reach Codes for new construction. Members encouraged staff to investigate options to apply Reach Codes to existing construction.

Public comments at the Climate Action Sub-Committee meeting raised concerns regarding Reach Codes implementation, including the below:

- The ability of PG&E to support all-electric construction

- Supply chain interruptions affecting availability of all-electric appliances
- Impacts to ADUs
- Ability for affordable housing to be built all-electric

### ***Community Survey***

Staff published an online survey on August 5, 2022 to receive community feedback on proposed changes to existing Reach Codes. As of October 5, 2022, 184 responses had been collected. Survey results as of October 5, 2022 are included in Attachment F.

In addition to the questions asked, the survey had an open response comment question. These comments have been included in Attachment F for Council consideration. Responses generally fall into the following key word categories of comments:

- Infrastructure is lacking for all-electric construction (26 comments)
- Support all electric building codes (15 comments)
- All electric renovations for existing construction is too costly (15 comments)
- Not in support of all-electric building codes (13 comments)

### ***Other Community Outreach***

As noted above, on October 4, 2022 the City held a community meeting on Redwood City Fire, Reach and Building Code updates for the 2023 code cycle; approximately 20 people attended (in person and virtually). For Reach Codes, architects and developers attending the meeting expressed support for all-electric new construction requirements and expressed concern for requiring all-electric for existing construction. Community members attending the meeting supported continuing to educate the community on incentives and rebates for transitioning to all-electric appliances but expressed concern for requiring all-electric retrofits to existing construction due to cost and technology.

Based on the entirety of feedback provided, staff recommends continuing to apply Reach Codes to new construction and to remove all current exceptions, except technical infeasibility. Projects that comply with the technical infeasibility exception would still be required to be built “electric ready” to facilitate future electrification. The Technical infeasibility exception would be approved by the Building Official or designee.

If a project is considered technically infeasible, infrastructure for future electrification must be installed. Where natural gas piping is permitted in a new building, the requirement for electric readiness provides a clear pathway for the eventual transition to full building electrification. Electric readiness encourages developers to consider electrification for new buildings which qualify for an exception, as the physical requirements for installing all-electric appliances (i.e. conduit, space in the electrical panel, etc.) are required regardless.

Staff does not recommend including existing construction and renovations in Reach Codes at this time. As previously noted, there is no updated cost-effectiveness study for requiring electrification of existing construction, making it difficult to gauge the affordability and accessibility of implementation. Implementing Reach Codes for existing buildings may disproportionately affect low-income residents and discourage property owners from obtaining permits. Staff recommends postponing Reach Codes requirements for existing construction until there is more cost effectiveness information available.

## **EQUITY IMPACT STATEMENT**

Potential equity impacts associated with each of the code update categories are discussed at the end of the Analysis section for Fire Code, Building Code and Reach Codes.

All code changes affect the whole City, so no Healthy Places Index scores are indicated in the analysis section. Redwood City as a whole has an [HPI 3.0](#) score of 85.4 while San Mateo County's average score is 96.4. Many of the City's least healthy or equitable scores are related to housing. Notably, 12.3% of Redwood City low-income homeowners pay more than 50% of their income on housing costs (as compared to 10.8% of low-income homeowners facing severe cost burden across San Mateo County and 11.1% across California). Accordingly, staff considered cost burdens related to housing in the equity analyses for each code.

## **FISCAL IMPACT**

There is no fiscal impact to the City associated with the adoption of these code updates.

## **ENVIRONMENTAL REVIEW**

This activity is not a project under California Environmental Quality Act (CEQA) as defined in CEQA Guidelines, pursuant to Section 15308 because it is an action taken by regulatory agencies, as authorized by state or local ordinance, to assure the maintenance, restoration, enhancement, or protection of the environment where the regulatory process involves procedures for protection of the environment; pursuant to Section 15378(b)(5) because it is an organizational or administrative activity of government that will not result in direct or indirect physical changes in the environment; and pursuant to Section 15061(b) (3) because it can be seen with certainty that adoption of this ordinance will not have a significant effect on the environment.

## **PUBLIC NOTICE**

Public notification was achieved by posting the agenda, with the agenda items being listed, at least 72 hours prior to the meeting.

## **ALTERNATIVES**

1. Do not adopt the local amendments to the State Codes, which will result in Redwood City being regulated by the State Codes as adopted by the State of California.
2. Direct staff to retain some or all exceptions to Reach Codes for new construction.
3. Direct staff to revise the Reach Codes to address existing construction and return to Council for a new introduction of the revised Reach Codes.

4. Direct staff to further revise the proposed ordinances based upon public comments and/or Council feedback and return to the City Council with new recommendations

#### **ATTACHMENTS**

Attachment A – Fire Code Adoption Ordinance

Attachment B – Building Code Adoption Ordinance

Attachment C – Reach Codes Ordinance

Attachment D – Resolution adopting findings of necessity and need for amendments, deletions, and additions to the 2022 California Fire and Building Standards Codes

Attachment E – Table Summarizing Comparable City Reach Codes

Attachment F – 2022 Redwood City Reach Code Community Survey Results

Attachment G – Letter of Support from PG&E

Attachment H – Resolution adding bedroom definition to Parks Impact Fee Schedule

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