ORDINANCE NO. 750 N.S.

AN ORDINANCE AMENDING CHAPTER 8 OF THE CITY CODE REGARDING REQUIREMENTS FOR ENERGY EFFICIENCY MEASURES, PHOTOVOLTAIC SYSTEMS, AND ALL-ELECTRIC CONSTRUCTION IN NEW OR EXISTING LOW-RISE RESIDENTIAL BUILDINGS

The City Council of the City of Piedmont hereby ordains as follows:

SECTION 1. PURPOSE AND INTENT

It is the purpose and intent of the City Council of the City of Piedmont in adopting this Ordinance to expressly enact local amendments to Residential Code Section R106, Energy Code Sections 100.0, 100.1, 140.1, 150.0 and 150.1, and Electrical Code Sections 210.52 and 220.83 of the 2019 California Building Code applicable to new construction and additions and alterations to existing buildings to provide standards for new and renovated buildings to improve community health and safety while reducing greenhouse gas emissions.

SECTION 2. FINDINGS

Pursuant to Sections 17922, 17958, 17958.5, and 17958.7 of the California Health and Safety Code, the City may make amendments to the provisions of the 2019 California Residential Code, the 2019 California Electrical Code and the 2019 California Energy Code which are reasonably necessary to protect the health, welfare and safety to the residents of Piedmont because of local climatic, geological and topographical conditions.

The City Council hereby makes the following findings with respect to local geological, topographical, and climatic conditions relating to the amendments to the California Building Standards Code for each of the below amendments, to the extent such findings are required:

A. The San Francisco Bay area region is densely populated and located in an area of high seismic activities. The City is bounded by the Hayward and San Andreas faults capable of producing major earthquakes; and

B. Concern for fire-life safety associated with gas appliances and associated piping located in the ground and in the buildings increase the risk of explosion or fire if there is a structural failure due to a seismic event considering the increasing density of buildings in the region; and

C. Severe seismic events could disrupt communications, damage gas mains, cause extensive electrical hazards, and place extreme demands on the limited resources of the Fire Department resulting to meet the fire and life safety needs of the community; and

D. Solar infrastructure on buildings reduces the need for pipelines and electrical transmission lines; and

E. The local geographic, topographic, and climatic conditions pose an increase hazard in acceleration, spread, magnitude and severity of potential fires in the City, and may cause a delayed response from emergency responders, allowing further growth of the fire; and

F. Over the next century, increasing levels of atmospheric greenhouse gas concentrates are expected to result in global temperature increases, and based on scientific literature and studies are likely to cause a variety of local changes, including extreme weather conditions, sea level rise, more frequent heat waves and extended period of drought. Local geographic, topographic and climatic conditions include risk of the following:

   a. Fires. Piedmont is a hillside community and most of the structures are single-family dwellings built on sloping terrain. The 1991 Oakland/Berkeley Hills fire had a devastating impact on those communities in the fire zone which experienced significant loss of life and property. The fire zone of this event crossed into the Piedmont city limits but did not damage any structures. Piedmont has the same climatic and topographical conditions as those areas affected by the nearby 1991 fire. In most areas of Piedmont, the dwelling units are located in close proximity to one another and in many cases are less than 8 feet apart. Fires can easily spread from house-to-house and are more readily spread upslope in the direction of prevailing winds. As referenced by CalFire's Fire and Resource Assessment Program (FRAP), Wildland Urban Interface Map, all of Piedmont is within or immediately adjacent to an Interface or Influence Zone. All areas of Piedmont are located in a Wildland-Urban Interface (WUI) zone, which allows for heightened construction and regulatory standards to mitigate the spread of wildfires. In addition, wildfires located outside the area in 2018 and 2019 created a blanket of toxic smoke over the City, causing the worst air quality on record by the Bay Area Air Quality Management District for two consecutive weeks; and

   b. Landslides. Extreme storms as a result of climate change increases the chance of rainfall-induced landslide; fire and drought may kill vegetation in the City's WUI zone increasing runoff and potential for landslide; and

   c. Heat: Increased heat as a result of climate change can have a local impact on the health, safety and welfare of the City's population, especially those without resources to purchase air conditioning, the elderly, disabled, or those with children; and

G. Failure to address and substantially reduce greenhouse gas emissions creates an increased risk to the health, safety and welfare of the City residents, the City Council considers and adopts as findings the analysis contained in the staff report; and

H. Amendments to the California Codes have been adopted in the past by the City Council based on specific findings of local geographic, topographic and climatic conditions; and the City Council hereby reaffirms such findings and confirms that the facts on which such findings were based continue to exist; and

I. The provisions of this Ordinance establish more restrictive standards than the California Building Standards Code which will better serve to prevent or minimize structural damage and other impacts resulting from such local conditions; and

The City Council hereby also makes the additional following findings with respect to cost effectiveness for each of the below amendments, to the extent findings are required:

A. A March 15, 2019 study prepared by Frontier Energy, Inc. and Misti Bruceri & Associates, LLC, funded by California utility ratepayers, and submitted to the California

Energy Commission – "Cost-effectiveness Study: Low Rise Residential" – found the proposed all-electric new construction amendment to the Building Energy Efficiency Standards to be cost-effective.

B. A February 6, 2020 study prepared by Frontier Energy, Inc. and Misti Bruceri & Associates, LLC, funded by California utility ratepayers, and submitted to the California Energy Commission – "2019 Cost-Effectiveness Study: Existing Low-Rise Residential Building Efficiency Upgrade" – found the proposed list items related to insulation are cost effective. This study also found that a requirement for non-high efficacy internal lights be replaced with high efficacy internal lights, with motion sensors, was cost-effective.

C. A June 19, 2020 Addendum to the original study for low-rise residential buildings, prepared by Frontier Energy, Inc. and Misti Bruceri & Associates, LLC, funded by California utility ratepayers, and submitted to the California Energy Commission, found that the proposed solar installation requirement, and the proposed external lighting element to the lighting electrification list item, were also cost-effective.

D. Based on the foregoing studies, staff reports, and testimony of staff, the Ordinance's amendments to the Building Energy Efficiency Standards are cost-effective; and

E. The Department of Energy sets the minimum efficiency standards for equipment and appliances; none of the provisions in this Ordinance change minimum efficiency standards or regulations for covered products under the Energy Policy and Conservation Act, and therefore this Ordinance is not preempted by federal appliance regulations; and

F. This Ordinance's amendments to the Building Energy Efficiency standards will require buildings to achieve increased energy reductions.

SECTION 3. AMENDMENT TO SECTION 8.02.020

Section 8.02.060 of the Piedmont City Code is hereby amended to add the following as subsection D, with the existing subsection D to be renumbered as subsection E and all subsequent subsections to be renumbered sequentially:

D. Section R106 – Construction Documents. Section R106 is amended to add the following subsection R106.6:

"R106.6 Renovation Energy Efficiency Upgrades
A renovation of a low-rise residential building, with a stated project value of $25,000 or more, is required to submit documentation that one item from the following list of energy efficient measures is included in the scope of work. A housing renovation of a low-rise residential building with a stated project value of $100,000 or more shall require the inclusion of two items from the energy efficient measures below in the scope of work.

Energy Efficient Measures:

A. Install R-38 attic insulation, and apply air sealing practices in all accessible areas of the building. Seal ducts to meet the requirements of Section 150.2(b)1E of the 2019 California Energy Code.

B. Install R-19 insulation at raised floor assemblies meeting standards of 2019 California Energy Code Section 150.0(d).
C. Install R-3 insulation on all accessible hot water piping. Install low flow water fixtures meeting standards set forth in the 2019 Green Building Standards Code, Section 403.3.
D. Replace all screw in incandescent and CFL lamps with screw in LED lamps in all light fixtures. Install manual on vacancy sensors in all locations per 2019 California Energy Code Section 110.9(b)4.
E. Replace Fuel Gas furnace with an electric heat pump system meeting the Requirements of the 2019 California Energy Code Section 150.2(b)C or with other high efficiency electric space heating system per approval of the Building Official.
F. Replace Fuel gas water heater with a heat pump water heater meeting the requirements of 2019 California Energy Code Section 150.2Hiii(b) or 150.2Hii(c), or with other high efficiency electric water heating system per approval of the Building Official.
G. Implement one or more recommendations specified in a Home Energy Score or Home Energy Audit report that has been completed within five years and that is submitted with the application for a building permit, with the approval of such recommendation by the Building Official.

Exceptions:

1. A Home Energy Score Report for the low-rise building, completed within 5 years, demonstrating that the building already has a minimum Home Energy Score of 7, is submitted to the Building Official.

2. In accordance with Section R104.10 Modifications, the Building Official shall not require the installation of R 106.6 Energy Efficient Measures E. and/or F. if one or more of the following conditions apply:

    a. The unique features of the construction of the low-rise residential structure, including, but not limited to existing heating and/or cooling system(s) that are not configured for conversion to forced air systems preclude installation of those measures.
    b. The installation of the measures is not commensurate with the project's scope and budget, as determined by the Building Official, because the cost of those measures would exceed 20% of the total project cost or require substantial construction in areas of the residential structure that would otherwise not be part of the project."

SECTION 4. AMENDMENT TO SECTION 8.02.060

Section 8.02.060 of the Piedmont City Code, subsection G (as renumbered from subsection F by Section 3 of this Ordinance) is hereby amended to read as follows:

"G. Section R202 – Definitions. Section R202 – Definitions is amended to replace the definition of crawlspace with the following, and add the following definition of Home Energy Score:

"CRAWL SPACE. An underfloor space with a maximum height of 5 feet that is not a basement.

"HOME ENERGY SCORE. Home Energy Score means the score provided by a Home Energy Score Certified Assessor following an assessment of a property, using the Home Energy Score Scoring Methodology developed by the U.S. Department of Energy."

SECTION 5. AMENDMENT TO SECTION 8.02.060

The following subsections are hereby added to Section 8.02.060 of the Piedmont City Code.

"B. Subsection 210.52(F) Laundry Areas. Section 210.52(F) is replaced in its entirety as follows:

"(F) Laundry Areas. In dwelling units, at least one receptacle outlet shall be installed in areas designated for the installation of laundry equipment. At least one 120/240v, 30 ampere circuit shall be installed within 6 feet of appliance location in accordance with Section 210.50(C).

Exception No. 1: A receptacle for laundry equipment shall not be required in a dwelling unit of a multifamily building where laundry facilities are provided on the premises for use by all building occupants.

Exception No. 2: A receptacle for laundry equipment shall not be required in other than one-family dwellings where laundry facilities are not to be installed or permitted."

C. Section 210.52 Dwelling Unit Receptacle Outlets. Section 210.52 is amended to add the subsection:

"(J) Kitchen Cooking Appliances. At least one 240v 50 ampere circuit shall be installed within 6 ft. of the appliance location, in accordance with Section 210.50(C)."

D. Section 220.83 Existing Dwelling Unit. Section 220.83 is replaced in its entirety as follows:

"220.83 Existing Dwelling Unit. This section shall be used to determine if the existing service or feeder is of sufficient capacity to serve additional loads. Where the dwelling unit is served by a 120/240-volt or 208Y/120-volt, 3-wire service, calculate the total load in accordance with Section 220.83(B).

(A) **Where Additional Air Conditioning Equipment or Electric Space-Heating Equipment Is Not to Be Installed.** *This section is deleted in its entirety*.

(B) **Where Additional Air Conditioning Equipment or Electric Space Heating Equipment Is to Be Installed.** The following percentages shall be used for existing and additional new loads. The larger connected load of air-conditioning or space-heating, but not both, shall be used.

Load	Percent of Load
Air-conditioning equipment	100
Central electric space heating	100
Less than four separately controlled space-heating units	100
First 8 kVA of all other loads	100
Remainder of all other loads	40

Other loads shall include the following:

(1) General lighting and general-use receptacles at 33 volt-amperes/m^ or 3 volt-amperes/ft^ as determined by 220.12

(2) 1500 volt-amperes for each 2-wire, 20-ampere small appliance branch circuit and each laundry branch circuit covered in 210.11(C)(1) and (C)(2)

(3) The nameplate rating of the following:
   a. All appliances that are fastened in place, permanently connected, or located to be on a specific circuit
   b. Wall-mounted ovens, counter-mounted cooking units
   c. Water heaters

(4) One 30 ampere circuit for clothes dryers per Section 210.52(F)

(5) One 50 ampere circuit for induction range per Section 210.52 (J).""

SECTION 6. AMENDMENT TO SECTION 8.02.070

Section 8.02.070 of the Piedmont City Code is hereby amended in its entirety to read as follows:

"**8.02.070 2019 California Energy Code – Amendments**

This section amends the 2019 California Energy Code as adopted in Section 8.02.010, as set forth below.

A. Section 100.0 – Scope. Section 100.0(e)(2)(D) is amended to add a new subsection section (ii) as follows:

"(ii) New construction low-rise residential buildings shall be an All-Electric Building or All Electric Design as defined in Section 100.1(b)."

B. Section 100.1(b) – All Occupancies – General Provisions. Section 100.1(b) is amended to include the following definition:

"**ALL-ELECTRIC BUILDING** or **ALL-ELECTRIC DESIGN** is a building or building design that uses a permanent supply of electricity as the only source of energy for space conditioning (including heating and cooling), water heating (including pools and spas), cooking appliances, and clothes drying appliances, and has no natural gas or propane plumbing installed at the building."

C. Section 140.1 – Performance Approach: Energy Budgets. Section 140.1 is amended to add the following sentence after the first paragraph:

"A newly constructed All-Electric Building complies with the performance approach if the energy budget calculated for the Proposed Design Building under Subsection (b) is no greater than the energy budget calculated for the Standard Design Building under Subsection (a)."

D. Section 150.0 – Mandatory Features and Devices. Section 150.0 is amended to replace the introductory sentence and note in their entirety as follows:

"Low-rise residential buildings shall comply with the applicable requirements of Sections 150(a) through 150(s).

NOTE: The requirements of Sections 150.0 (a) through (s) apply to newly constructed buildings. Sections 150.2(a) and 150.2(b) specify which requirements of Sections 150.0(a) through 150.0(r) also apply to additions or alterations."

E. Section 150.0(e) – Installation of fireplaces, decorative gas appliances and gas logs. Section 150.0(e) is amended to add the following sentence to the beginning of the section:

"In any low rise residential building required to be an All-Electric Building or All Electric Design under this code, fireplaces shall be electric, not fueled by Fuel Gas."

F. Section 150.0(h) – Space-conditioning equipment. Section 150.0(h) is amended to add the following sentence to the beginning of the section:

"In any low rise residential building required to be an All-Electric Building or All Electric Design under this code, construction space-conditioning equipment shall be electric, not fueled by Fuel Gas."

G. Section 150.0(n) – Water heating system. Section 150.0(n) is amended to add the following sentence to the beginning of the subsection:

"In any low rise residential building required to be an All-Electric Building or All Electric Design under this code, heating systems and equipment shall be electric, not fueled by Fuel Gas."

H. Section 150.0(s) – Clothes Drying and Cooking Appliances. Section 150.0 is amended to add a new subsection (s):

"(s) **Clothes Dryers and Cooking Appliances.**
1. Clothes Dryers. Clothes dryers shall be electric, not fueled by Fuel Gas.
2. Cooking Appliances. Cooking appliances shall be electric, not fueled by Fuel Gas."

I. Subsection 150.2(a) – Additions. Section 150.2(a) is amended to add the following language after the first sentence:

"Requirements for installation of all-electric water heating systems, space conditioning equipment, fireplaces and decorative gas appliances, and clothes drying appliances, and cooking appliances as specified for new construction in Sections 150.0(e), 150.0(h), 150.0(n), and 150.0(s) do not apply to additions."

J. Section 150.2(a) – Additions. Section 150.2(a) is amended to replace Exception 7 in its entirety as follows:

"**Exception 7 to Section 150.2(a):** Photovoltaic systems, as specified in Section 150.1(c)14 including the exceptions listed therein, are not required for additions, except that additions of an entirely new upper level or that increase the building's total roof area by thirty percent (30%) or more shall meet the photovoltaic requirements of Section 150.1(c)14."

K. Section 150.2(b) – Alterations. Section 150.2(b) is amended to add the following language after the first sentence:

"Requirements for installation of all-electric water heating systems, space conditioning equipment, fireplaces and decorative gas appliances, and clothes drying appliances, and cooking appliances as specified for new construction in Sections 150.0(e), 150.0(h), 150.0(n), and 150.0(s) do not apply to alterations.""

SECTION 7. CALIFORNIA ENVIRONMENTAL QUALITY ACT

The City Council finds that the adoption of this Ordinance is not a project under the requirements of the California Environmental Quality Act, together with related State CEQA Guidelines (collectively, "CEQA") because it has no potential for resulting in a physical change to the environment. In the event that this Ordinance is found to be a project under CEQA, it is subject to the CEQA exemption contained in CEQA Guidelines section 15061(b)(3) because it can be seen with certainty to have no possibility that the action approved may have a significant effect on the environment. CEQA applies only to actions which have the potential for causing a significant effect on the environment. Where it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment, the activity is not subject to CEQA. In this circumstance, the proposed action would have no or only a de minimis effect on the environment. The Ordinance is also exempt from CEQA under CEQA Guidelines section 15308, because it is a regulatory action for the protection of the environment. The foregoing determination is made by the City Council in its independent judgment. Staff shall prepare and file a notice of exemption in accordance with this determination and the requirements of CEQA.

SECTION 8. SEVERABILITY

The provisions of this Ordinance are severable and if any provision, clause, sentence, word or part of it is held illegal, invalid, unconstitutional, or inapplicable to any person or circumstances, the illegality, invalidity, unconstitutionality, or inapplicability will not affect or impair any of the remaining provisions, clauses, sentences, sections, words or parts of the Ordinance or their applicability to other persons or circumstances.

SECTION 9. POSTING, FILING, AND EFFECTIVE DATE

This Ordinance shall be posted at City Hall after its second reading by the City Council for at least 30 days and shall become effective on the later of (i) June 1, 2021, or (ii) upon the date that the amendments reflected in this Ordinance are approved by the California Energy Commission. The City Clerk shall cause a copy of this Ordinance to be filed with the California Energy Commission and the California Building Standards Commission in the manner required by law.

I certify that the foregoing ordinance was passed and adopted by Resolution 04-2021 at the regular meeting of the City Council of the City of Piedmont on February 1, 2021, by the following vote:

Ayes:	Andersen, Cavenaugh, King, McCarthy, Rood
Noes:	None
Absent:	None

Attest: _____
John O. Tulloch, City Clerk