Planning, Development & Transportation Services
Community Development & Neighborhood Services

To: Fort Collins Stakeholders

From: Marcus Coldiron, CBO
Chief Building Official

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File: Code Interpretation

Title: **Total Electric Heating**

Code Edition: **21' International Residential Code (IRC), 21' International Mechanical Code (IMC)**

Sections: **Local amendments M1402.4 (IRC) and 918.1.2 (IMC)**

Purpose: To provide clarification on how and where electric resistance heat can be utilized in existing buildings.

Code requirements:

(IRC) M1402.4 Total Electric Heating. Primary indoor central heating systems utilizing only electric heat shall utilize a ground source heat pump system(s) or cold climate heat pump system(s) specifically designed to heat in cold climates and at the Winter Outdoor, Design Dry-Bulb temp defined in IECC Section C301.5. The heat pump system shall not be gas or propane fuel fired. Electric resistance strip heat shall only serve as emergency back-up heat or supplemental heat at outdoor temperatures below 15 Degrees F as necessary.

(IMC) 918.1.2 Total Electric Heating. Primary indoor central heating systems utilizing only electric heat shall utilize a ground source heat pump system(s) or cold climate heat pump system(s) specifically designed to heat in cold climates and at the Winter Outdoor, Design Dry-Bulb temp defined in IECC Section C301.5. The heat pump system shall not be gas or propane fuel fired. Electric resistance strip heat shall only serve as emergency back-up heat or supplemental heat at outdoor temperatures below 15 Degrees F as necessary.

Exceptions:

1. Where the heating load is less than or equal to 6.0 Btu/h/ft2 at design temperature, electric resistance heating shall be permitted.
2. Where conduit w/ pull string sized to accommodate future heating electrical requirements is installed.

Code interpretation:

The intent of this local amendment applied to new buildings and/or newly established and installed primary indoor central heating systems. Existing buildings that already utilize electric resistance heat as the primary heating system, and do not plan to replace the system in its entirety, are able to maintain and/or extend the existing system.

Examples where electric resistance heat is allowed:

- Extending an existing electric resistance heating system for a basement finish or addition.
- Repairing an existing electric resistance heating system where the system is not replaced in its entirety.
- Commercial building vestibules, electrical & mechanical rooms, fire riser rooms, utility closets, restrooms, etc. where the electric resistance heat is supplementary to the primary heating system for the building, or the heating load is less than or equal to 6.0 Btu/h/ft2.

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