APPROVED BY THE CALIFORNIA BUILDING STANDARDS COMMISSION

DECEMBER 17, 2024

# FINAL EXPRESS TERMSFOR PROPOSED BUILDING STANDARDSOF THE CALIFORNIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT REGARDING THE 2025 CALIFORNIA MECHANICAL CODE, CALIFORNIA CODE OF REGULATIONS TITLE 24, PART 4(HCD 02/24)

The state agency shall draft the regulations in plain, straightforward language, avoiding technical terms as much as possible and using a coherent and easily readable style. The agency shall draft the regulation in plain English. A notation shall follow the express terms of each regulation listing the specific statutes authorizing the adoption and listing specific statutes being implemented, interpreted, or made specific (Government Code Section 11346.2(a)(1)).

If using assistive technology, please adjust your settings to recognize underline, strikeout, italic and ellipsis.

## LEGEND for EXPRESS TERMS (Based on model codes - Parts 2, 2.5, 3, 4, 5, 9, 10)

* Model Code language appears upright
* Existing California amendments appear in *italic*
* Amended model code or new California amendments appear *underlined & italic*
* Repealed model code language appears ~~upright and in strikeout~~
* Repealed California amendments appear in *~~italic and strikeout~~*
* Ellipses ( …) indicate existing text remains unchanged

## FINAL EXPRESS TERMS

### ITEM 1Chapter 1 Division I California Administration

HCD proposes to bring forward existing California amendments in Chapter 1, Division 1, from the 2022 California Mechanical Code (CMC) for adoption into the 2025 CMC with modifications as follows:

**Note:** Chapter 1, Division 1, is comprised entirely of California amendments. Therefore, only detailed text of proposed changes, repeals and new amendments are shown.

**ADMINISTRATION**

**DIVISION I**

**CALIFORNIA ADMINISTRATION**

***1.1.1 Title.*** *These regulations shall be known as the California Mechanical Code, may be cited as such and will be referred to herein as “this code.” The California Mechanical Code is Part 4 of thirteen parts of the official compilation and publication of the adoption, amendment, and repeal of mechanical regulations to the California Code of Regulations, Title 24, also referred to as the California Building Standards Code. This part incorporates by adoption the ~~2021~~ 2024 Uniform Mechanical Code of the International Association of Plumbing and Mechanical Officials with necessary California amendments.*

**Notation:**

Authority: Health and Safety Code Sections 17040, 17920.9, 17921, 17921.5, 17921.6, 17921.10, 17922, 17922.6, 17922.14, 17926, 17927, 17928, 17958.12, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1 through 18873.5, 18938.3, 18944.11 and 19990; and Government Code Sections 12955.1 and 12955.1.1.

Reference(s): Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, 18938.6, 18941, 18941.5, 19890, 19891, 19892 and 19960 through 19997; Civil Code Section 5551; Government Code Sections 12955.1, 129551.1 and 65852.2.

### ITEM 2Chapter 1 Division II Administration

HCD proposes to adopt Chapter 1, Division II, section 104.2 only, from the 2024 Uniform Mechanical Code (UMC) into the 2025 CMC without amendment.

**DIVISION II** **ADMINISTRATION**

**Notation:**

Authority: Health and Safety Code Sections 17040, 17920.9, 17921, 17922, 17958.12, 18552, 18620, 18690, 18865, 18871.3, 18873, 18873.4, 18938.3, and 19990; and Government Code Sections 12955.1 and 12955.1.1

Reference(s): Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, 18938.3 and 19960 through 19997; and Government Code Section 65852.2

### ITEM 3Chapter 2 Definitions

HCD proposes to adopt Chapter 2 from the 2024 UMC and bring forward existing California amendments from the 2022 CMC into the 2025 CMC without modification.

**CHAPTER 2** **DEFINITIONS**

**Notation:**

Authority: Health and Safety Code Sections 17040, 17920.9, 17921, 17922, 17958.12, 18552, 18620, 18690, 18865, 18871.3, 18873, 18873.4, 18938.3, and 19990; and Government Code Sections 12955.1 and 12955.1.1

Reference(s): Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, 18938.3 and 19960 through 19997; and Government Code Section 65852.2

### ITEM 4Chapter 3 General Regulations

HCD proposes to adopt Chapter 3 from the 2024 UMC and bring forward existing California amendments from the 2022 CMC into the 2025 CMC without modification.

**CHAPTER 3** **GENERAL REGULATIONS**

**Notation:**

Authority: Health and Safety Code Sections 17040, 17920.9, 17921, 17922, 17958.12, 18552, 18620, 18690, 18865, 18871.3, 18873, 18873.4, 18938.3, and 19990; and Government Code Sections 12955.1 and 12955.1.1

Reference(s): Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, 18938.3 and 19960 through 19997; and Government Code Section 65852.2

### ITEM 5Chapter 4 Ventilation Air

HCD proposes to adopt Chapter 4 from the 2024 UMC and bring forward existing California amendments from the 2022 CMC into the 2025 CMC without modification.

**CHAPTER 4** **VENTILATION AIR**

**Notation:**

Authority: Health and Safety Code Sections 17040, 17920.9, 17921, 17922, 17958.12, 18552, 18620, 18690, 18865, 18871.3, 18873, 18873.4, 18938.3, and 19990; and Government Code Sections 12955.1 and 12955.1.1

Reference(s): Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, 18938.3 and 19960 through 19997; and Government Code Section 65852.2

### ITEM 6Chapter 5 Exhaust Systems

HCD proposes to adopt Chapter 5 from the 2024 UMC into the 2025 CMC without amendment.

**CHAPTER 5****EXHAUST SYSTEMS**

**Notation:**

Authority: Health and Safety Code Sections 17040, 17920.9, 17921, 17922, 17958.12, 18552, 18620, 18690, 18865, 18871.3, 18873, 18873.4, 18938.3, and 19990; and Government Code Sections 12955.1 and 12955.1.1

Reference(s): Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, 18938.3 and 19960 through 19997; and Government Code Section 65852.2

### ITEM 7Chapter 6 Duct Systems

HCD proposes to adopt Chapter 6 (except Section 603.9.2) from the 2024 UMCand bring forward existing California amendments from the 2022 CMC into the 2025 CMC without modification.

**CHAPTER 6** **DUCT SYSTEMS**

**Notation:**

Authority: Health and Safety Code Sections 17040, 17920.9, 17921, 17922, 17958.12, 18552, 18620, 18690, 18865, 18871.3, 18873, 18873.4, 18938.3, and 19990; and Government Code Sections 12955.1 and 12955.1.1

Reference(s): Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, 18938.3 and 19960 through 19997; and Government Code Section 65852.2

### ITEM 8Chapter 7 Combustion Air

HCD proposes to adopt Chapter 7 from the 2024 UMC into the 2025 CMC without amendment.

**CHAPTER 7** **COMBUSTION AIR**

**Notation:**

Authority: Health and Safety Code Sections 17040, 17920.9, 17921, 17922, 17958.12, 18552, 18620, 18690, 18865, 18871.3, 18873, 18873.4, 18938.3, and 19990; and Government Code Sections 12955.1 and 12955.1.1

Reference(s): Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, 18938.3 and 19960 through 19997; and Government Code Section 65852.2

### ITEM 9Chapter 8 Chimneys and Vents

HCD proposes to adopt Chapter 8 from the 2024 UMC into the 2025 CMC without amendment.

**CHAPTER 8** **CHIMNEYS AND VENTS**

**Notation:**

Authority: Health and Safety Code Sections 17040, 17920.9, 17921, 17922, 17958.12, 18552, 18620, 18690, 18865, 18871.3, 18873, 18873.4, 18938.3, and 19990; and Government Code Sections 12955.1 and 12955.1.1*.*

Reference(s): Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, 18938.3 and 19960 through 19997; and Government Code Section 65852.2

### ITEM 10Chapter 9 Installation of Specific Appliances

HCD proposes to adopt Chapter 9 from the 2024 UMC (except Sections 929.0 and 929.1) and bring forward existing California amendments from the 2022 CMC into the 2025 CMC without modification.

**CHAPTER 9** **INSTALLATION OF SPECIFIC APPLIANCES**

**Notation:**

Authority: Health and Safety Code Sections 17040, 17920.9, 17921, 17922, 17958.12, 18552, 18620, 18690, 18865, 18871.3, 18873, 18873.4, 18938.3, and 19990; and Government Code Sections 12955.1 and 12955.1.1

Reference(s): Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, 18938.3 and 19960 through 19997; and Government Code Section 65852.2

### ITEM 11Chapter 10 Boilers and Pressure Vessels

HCD proposes to adopt Chapter 10 from the 2024 UMC and bring forward existing California amendments from the 2022 CMC into the 2025 CMC without modification.

**CHAPTER 10** **BOILERS AND PRESSURE VESSELS**

**Notation:**

Authority: Health and Safety Code Sections 17040, 17920.9, 17921, 17922, 17958.12, 18552, 18620, 18690, 18865, 18871.3, 18873, 18873.4, 18938.3, and 19990; and Government Code Sections 12955.1 and 12955.1.1

Reference(s): Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, 18938.3 and 19960 through 19997; and Government Code Section 65852.2

### ITEM 12Chapter 11 Refrigeration

HCD proposes to adopt Chapter 11 from the 2024 UMC into the 2025 CMC without amendment.

**CHAPTER 11** **REFRIGERATION**

**Notation:**

Authority: Health and Safety Code Sections 17040, 17920.9, 17921, 17922, 17958.12, 18552, 18620, 18690, 18865, 18871.3, 18873, 18873.4, 18938.3, and 19990; and Government Code Sections 12955.1 and 12955.1.1

Reference(s): Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, 18938.3 and 19960 through 19997; and Government Code Section 65852.2

### ITEM 13Chapter 12 Hydronics

HCD proposes to adopt Chapter 12 from the 2024 UMC and bring forward existing California amendments from the 2022 CMC into the 2025 CMC without modification.

**CHAPTER 12** **HYDRONICS**

**Notation:**

Authority: Health and Safety Code Sections 17040, 17920.9, 17921, 17922, 17958.12, 18552, 18620, 18690, 18865, 18871.3, 18873, 18873.4, 18938.3, and 19990; and Government Code Sections 12955.1 and 12955.1.1

Reference(s): Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, 18938.3 and 19960 through 19997; and Government Code Section 65852.2

### ITEM 14Chapter 13 Fuel Gas Piping

HCD proposes to adopt Chapter 13 from the 2024 UMC into the 2025 CMC without amendment.

**CHAPTER 13** **FUEL GAS PIPING**

**Notation:**

Authority: Health and Safety Code Sections 17040, 17920.9, 17921, 17922, 17958.12, 18552, 18620, 18690, 18865, 18871.3, 18873, 18873.4, 18938.3, and 19990; and Government Code Sections 12955.1 and 12955.1.1

Reference(s): Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, 18938.3 and 19960 through 19997; and Government Code Section 65852.2

### ITEM 15Chapter 14 Process Piping

HCD proposes to not adopt Chapter 14 from the 2024 UMC.

**CHAPTER 14** **PROCESS PIPING**

**Notation:**

Authority: Health and Safety Code Sections 17040, 17920.9, 17921, 17922, 17958.12, 18552, 18620, 18690, 18865, 18871.3, 18873, 18873.4, 18938.3, and 19990; and Government Code Sections 12955.1 and 12955.1.1

Reference(s): Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, 18938.3 and 19960 through 19997; and Government Code Section 65852.2

### ITEM 16Chapter 15 Solar Energy Systems

HCD proposes to adopt Chapter 15 from the 2024 UMC and bring forward existing California amendments from the 2022 CMC into the 2025 CMC without modification.

**CHAPTER 15** **SOLAR ENERGY SYSTEMS**

**Notation:**

Authority: Health and Safety Code Sections 17040, 17920.9, 17921, 17922, 17958.12, 18552, 18620, 18690, 18865, 18871.3, 18873, 18873.4, 18938.3, and 19990; and Government Code Sections 12955.1 and 12955.1.1

Reference(s): Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, 18938.3 and 19960 through 19997; and Government Code Section 65852.2

### ITEM 17Chapter 16 Stationary Power Plants

HCD proposes to adopt Chapter 16 from the 2024 UMC into the 2025 CMC without amendment.

**CHAPTER 16** **STATIONARY POWER PLANTS**

**Notation:**

Authority: Health and Safety Code Sections 17040, 17920.9, 17921, 17922, 17958.12, 18552, 18620, 18690, 18865, 18871.3, 18873, 18873.4, 18938.3, and 19990; and Government Code Sections 12955.1 and 12955.1.1

Reference(s): Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, 18938.3 and 19960 through 19997; and Government Code Section 65852.2

### ITEM 18Chapter 17 Geothermal Energy Systems and Ambient Temperature Loops

HCD proposes to adopt Chapter 17 from the 2024 UMC into the 2025 CMC without amendment.

**CHAPTER 17** **GEOTHERMAL ENERGY SYSTEMS AND AMBIENT TEMPERATURE LOOPS**

**Notation:**

Authority: Health and Safety Code Sections 17040, 17920.9, 17921, 17922, 17958.12, 18552, 18620, 18690, 18865, 18871.3, 18873, 18873.4, 18938.3, and 19990; and Government Code Sections 12955.1 and 12955.1.1

Reference(s): Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, 18938.3 and 19960 through 19997; and Government Code Section 65852.2

### ITEM 19Chapter 18 Referenced Standards

HCD proposes to adopt Chapter 18 from the 2024 UMC into the 2025 CMC without amendment.

**CHAPTER 18
REFERENCED STANDARDS**

**Notation:**

Authority: Health and Safety Code Sections 17040, 17920.9, 17921, 17922, 17958.12, 18552, 18620, 18690, 18865, 18871.3, 18873, 18873.4, 18938.3, and 19990; and Government Code Sections 12955.1 and 12955.1.1

Reference(s): Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, 18938.3 and 19960 through 19997; and Government Code Section 65852.2

### ITEM 20Appendix A Residential Plans Examiner Review Form for HVAC System Design

HCD proposes to not adopt Appendix A from the 2024 UMC.

**APPENDIX A** **RESIDENTIAL PLANS EXAMINER REVIEW FORM FOR HVAC SYSTEM DESIGN**

**Notation:**

Authority: Health and Safety Code Sections 17040, 17920.9, 17921, 17922, 17958.12, 18552, 18620, 18690, 18865, 18871.3, 18873, 18873.4, 18938.3, and 19990; and Government Code Sections 12955.1 and 12955.1.1

Reference(s): Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, 18938.3 and 19960 through 19997; and Government Code Section 65852.2

### ITEM 21Appendix B Procedures to be Followed to Place Gas Equipment In Operation

HCD proposes to not adopt Appendix B from the 2024 UMC.

**APPENDIX B** **PROCEDURES TO BE FOLLOWED TO PLACE GAS EQUIPMENT IN OPERATION**

**Notation:**

Authority: Health and Safety Code Sections 17040, 17920.9, 17921, 17922, 17958.12, 18552, 18620, 18690, 18865, 18871.3, 18873, 18873.4, 18938.3, and 19990; and Government Code Sections 12955.1 and 12955.1.1

Reference(s): Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, 18938.3 and 19960 through 19997; and Government Code Section 65852.2

### ITEM 22Appendix C Installation and Testing of Oil (Liquid) Fuel-Fired Equipment

HCD proposes to not adopt Appendix C from the 2024 UMC.

**APPENDIX C** **INSTALLATION AND TESTING OF OIL (LIQUID) FUEL-FIRED EQUIPMENT**

**Notation:**

Authority: Health and Safety Code Sections 17040, 17920.9, 17921, 17922, 17958.12, 18552, 18620, 18690, 18865, 18871.3, 18873, 18873.4, 18938.3, and 19990; and Government Code Sections 12955.1 and 12955.1.1

Reference(s): Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, 18938.3 and 19960 through 19997; and Government Code Section 65852.2

### ITEM 23Appendix D Fuel Supply: Manufactured/Mobilehome Parks and Recreational Vehicle Parks

HCD proposes to not adopt Appendix D from the 2024 UMC.

**APPENDIX D** **FUEL SUPPLY: MANUFACTURED/MOBILE HOME PARKS AND RECREATIONAL VEHICLE PARKS**

**Notation:**

Authority: Health and Safety Code Sections 17040, 17920.9, 17921, 17922, 17958.12, 18552, 18620, 18690, 18865, 18871.3, 18873, 18873.4, 18938.3, and 19990; and Government Code Sections 12955.1 and 12955.1.1

Reference(s): Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, 18938.3 and 19960 through 19997; and Government Code Section 65852.2

### ITEM 24Appendix E Sustainable Practices

HCD proposes to not adopt Appendix E from the 2024 UMC.

**APPENDIX E** **SUSTAINABLE PRACTICES**

**Notation:**

Authority: Health and Safety Code Sections 17040, 17920.9, 17921, 17922, 17958.12, 18552, 18620, 18690, 18865, 18871.3, 18873, 18873.4, 18938.3, and 19990; and Government Code Sections 12955.1 and 12955.1.1

Reference(s): Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, 18938.3 and 19960 through 19997; and Government Code Section 65852.2

### ITEM 25Appendix F Sizing of Venting Systems and Outdoor Combustion and Ventilation Opening Design

HCD proposes to not adopt Appendix F from the 2024 UMC.

**APPENDIX F
SIZING OF VENTING SYSTEMS AND OUTDOOR COMBUSTION AND VENTILATION OPENING DESIGN**

**Notation:**

Authority: Health and Safety Code Sections 17040, 17920.9, 17921, 17922, 17958.12, 18552, 18620, 18690, 18865, 18871.3, 18873, 18873.4, 18938.3, and 19990; and Government Code Sections 12955.1 and 12955.1.1

Reference(s): Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, 18938.3 and 19960 through 19997; and Government Code Section 65852.2

### ITEM 26Appendix G Example Calculation of Outdoor Air Rate

HCD proposes to not adopt Appendix G from the 2024 UMC.

**APPENDIX G
EXAMPLE CALCULATION OF OUTDOOR AIR RATE.**

**Notation:**

Authority: Health and Safety Code Sections 17040, 17920.9, 17921, 17922, 17958.12, 18552, 18620, 18690, 18865, 18871.3, 18873, 18873.4, 18938.3, and 19990; and Government Code Sections 12955.1 and 12955.1.1

Reference(s): Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, 18938.3 and 19960 through 19997; and Government Code Section 65852.2

### ITEM 27Appendix H Professional Qualifications

HCD proposes to not adopt Appendix H from the 2024 UMC.

**APPENDIX H
PROFESSIONAL QUALIFICATIONS**

**Notation:**

Authority: Health and Safety Code Sections 17040, 17920.9, 17921, 17922, 17958.12, 18552, 18620, 18690, 18865, 18871.3, 18873, 18873.4, 18938.3, and 19990; and Government Code Sections 12955.1 and 12955.1.1

Reference(s): Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, 18938.3 and 19960 through 19997; and Government Code Section 65852.2

### ITEM 28Appendix I Indoor Horticultural Facilities

HCD proposes not to adopt Appendix I from the 2024 UMC.

**APPENDIX I
INDOOR HORTICULTURAL FACILITIES**

**Notation:**

Authority: Health and Safety Code Sections 17040, 17920.9, 17921, 17922, 17958.12, 18552, 18620, 18690, 18865, 18871.3, 18873, 18873.4, 18938.3, and 19990; and Government Code Sections 12955.1 and 12955.1.1

Reference(s): Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, 18938.3 and 19960 through 19997; and Government Code Section 65852.2

### ITEM 29Appendix J Clean Air Delivery

HCD proposes not to adopt Appendix J from the 2024 UMC.

**APPENDIX J
CLEAN AIR DELIVERY**

**Notation:**

Authority: Health and Safety Code Sections 17040, 17920.9, 17921, 17922, 17958.12, 18552, 18620, 18690, 18865, 18871.3, 18873, 18873.4, 18938.3, and 19990; and Government Code Sections 12955.1 and 12955.1.1

Reference(s): Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, 18938.3 and 19960 through 19997; and Government Code Section 65852.2