AS AMENDED DECEMBER 9, 2025
IN THE COMMUNITY AND ECONOMIC DEVELOPMENT COMMITEE

ATTACHMENT A

Chapter 15.12 OAKLAND FIRE CODE

15.12.010 2025 California Fire Code is adopted and amended.

A. The 2025 California Fire Code, including referenced National Fire Protection Association Standards and other standards as adopted by the California State Fire Marshal, is hereby adopted and made a part of this chapter as though fully set forth herein, subject to the modifications thereto set forth in this Chapter.

B. This Chapter shall be known as the "Oakland Fire Code" and shall be referred to in this chapter as "this Chapter," "this Code" or "the Oakland Fire Code."

C. To the extent permitted by law, the Fire Chief may, at his/her sole discretion, revise requirements set forth in the Oakland Fire Code in specific instances due to climatic, geographic or topographic conditions.

D. A copy of this Code is on file in the office of the City Clerk of the City of Oakland.

15.12.020 Fire Prevention Bureau.

A. Oakland Municipal Code Section 2.29.030 established the Fire Prevention Bureau within the Oakland Fire Department under the direction of the Fire Chief. The function of the Fire Prevention Bureau is to assist the Fire Chief in the administration and enforcement of the provisions of this Code.

B. References to the "Fire Marshal" or "Fire Code Official" in the California Fire Code shall mean the person in charge of the Fire Prevention Bureau as appointed by the Fire Chief.

15.12.030 Oakland Amendments to the 2025 California Fire Code.

The following sections of the 2025 California Fire Code as adopted herein are hereby revised as noted by italicized terms including, but not limited to, *add, amend* or *delete,* as follows:

CHAPTER 1 - DIVISION II ADMINISTRATION
PART 1 - GENERAL PROVISIONS

Section 101. Scope and General Requirements - *Amend Section 101 as follows:*

Amend: 101.1 Title. This Section 15.12.020 of Oakland Municipal Code Chapter 15.12 shall be known as the "Oakland Amendments to the 2025 California Fire Code," may be cited as such and will be referred to herein as "this Chapter," "this Code," or the "Oakland Fire Code."

Amend: 101.2 Scope. This code establishes regulations affecting or relating to structures, processes, premises and safeguards regarding:

1. The hazard of fire and explosion arising from the storage, handling or use of structures, materials or devices;

2. Conditions hazardous to life, property or public welfare in the occupancy of structures or premises;

3. Fire hazards in the structure or on the premises from occupancy or operation;

4. Matters related to the construction, extension, repair, alteration or removal of fire suppression or alarm systems; and

5. Conditions affecting the safety of fire fighters and emergency responders during emergency operations.

Amend: 101.2.1 Appendices. The following Appendices of the 2022 California Fire Code are adopted by the City of Oakland and made a part of the Oakland Fire Code.

Appendix	Title
Appendix - Chapter 4	Special Detailed Requirements Based on Use and Occupancy
Appendix B	Fire-Flow Requirements for Buildings
Appendix BB	Fire-Flow Requirements for Buildings
Appendix C	Fire Hydrant Locations and Distribution
Appendix CC	Fire Hydrant Locations and Distribution
Appendix D	Fire Apparatus Access Roads
Appendix E	Hazard Categories
Appendix F	Hazard Ranking
Appendix G	Cryogenic Fluids—Weight and Volume Equivalents
Appendix H	Hazardous Materials Plans and Hazardous Materials Inventory Statements
Appendix I	Fire Protection Systems—Noncompliant Conditions
Appendix K	Construction Requirements for Existing Ambulatory Care Facilities
Appendix M	High Rise Buildings - Retroactive Automatic Sprinkler Requirement
Appendix N	Indoor Trade Shows and Exhibits
Appendix P	Temporary Haunted Houses, Ghost Walks and Similar Amusement Uses

Add: 101.2.2 General Provision. Where any section of the 2025 California Fire Code or any other referenced codes, regulations or standards are amended by this Chapter, all provisions of such original codes, regulations or standards not so specifically amended shall remain in full force and effect. Notwithstanding the foregoing, in the event provisions set forth herein conflict with any section of the 2025 California Fire Code or any other referenced codes, regulations or standards, the provisions of this Code shall prevail and control. Further, in the event that provisions set forth in this code conflict with provisions the City Charter, the City Charter shall prevail and control.

Failure to comply with any of the provisions of this Code, including failure to provide, obtain or maintain valid permits, certifications, tests, listings, affixed labeling, inspection approvals, or other conditions of permit; failure to repair, demolish, remove, abate vegetation hazards in the Wildland-Urban Interface Fire Area, or rehabilitate unsafe materials, appliances, fixtures, equipment or other property; or failure to prevent, restrain, correct, or abate conditions unsafe or hazardous for egress or fire protection or health due to inadequate maintenance, excess loading, dilapidation, or abandonment shall be and is declared to be prima facie evidence of an existing and continuing hazard to life or limb, property or public welfare.

Section 102. Applicability - *Amend Section 102 as follows:*

Amend: 102.1. Construction and design provisions. The construction and design provisions of this Code shall apply to:

1. Structures, facilities and conditions arising after the adoption of this code.

2. Existing structures, facilities and conditions not legally in existence at the time of adoption of this code.

3. Existing structures, facilities and conditions when required in Chapter 11.

4. Existing structures, facilities and conditions which, in the opinion of the Fire Code Official, constitute a distinct hazard to life or property.

2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
INTERNATIONAL CODE COUNCIL Ag—t with ICC. No . RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 by third Single user copyingand networking ANY UNAUIYORIZED License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netwo
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

Add: 5. All materials, assemblies, appliances, fixtures, equipment, and installations thereof; all arrangements of occupancies, exits, aisles, stairs, and doors; all parapet walls, cornices, spires, towers, tanks, statuary, signage, structural members, appendages, and appurtenances thereto in buildings and structures regulated by the 2025 California Fire Code shall be so arranged, assembled, installed, maintained and of sufficient size and so protected as to reduce and minimize all egress, fire, safety, and health hazards.

Add: 6. The quality of all materials, assemblies, appliances, fixtures, and equipment; methods of connection, assembly, and installation; allowable stress, strain, deflection, rate and volume and velocity of flow, pressure, temperature, and opacity; and assumed loads and capacities to be used in the design and construction of all buildings and structures, plumbing and mechanical installations, and electrical systems shall be consistent with requirements of this Code and nationally recognized standards of quality and generally recognized and well-established methods of testing, design, installation, and construction. Testing, listing, and affixed labeling shall be prima facie evidence of conformity with approved standards for safety to life and limb, property, and public welfare.

Amend: 102.3 Change of use or occupancy. Changes shall not be made in the use or occupancy of any structure that would place the structure in a different division of the same group or occupancy or in a different group of occupancies, unless such structure is made to comply with the requirements of 2025 California Fire Code and the California Building Code. Subject to the approval of the Fire Code Official, the use or occupancy of an existing structure shall be allowed to be changed and the structure is allowed to be occupied for purposes in other groups without conforming to all of the requirements of this code and the California Building Code for those groups, provided the new or proposed use is less hazardous, based on life and fire risk, than the existing use.

When a new or proposed use of an existing structure is more hazardous than the existing use, based on life and fire risk, an automatic fire extinguishing system and associated fire protection systems shall be provided in the building or tenant space. Tenant spaces shall be separated from the remaining tenant spaces based on the type of Occupancy/Construction for non-sprinklered construction and in accordance with the CBC.

When a new or proposed use of an existing structure is less hazardous of an existing use, based on life and fire risk an automatic fire extinguishing system and associated fire protection systems shall be provided to the occupancies referenced in Sections 904.1.1 through 904.1.7. of the 2025 International Existing Building Code.

Add: Table 102.3

Relative Hazard	Occupancy Classifications
1 (Highest Hazard)	H
2	I-2, I-3, I-4
3	A, E, 1-1, M, R-1, R-2, R-4
4	B, F-1, R-3, S-1
5 (Lowest Hazard)	F-2, S-2, U

Changes in the same occupancy classification shall be handled by code bulletin

Amend: 102.8. Subjects not regulated by this code. Where no applicable standards or requirements are set forth in this code, or are contained within other laws, codes, regulations, ordinances or bylaws adopted by the jurisdiction, compliance with applicable standards of the National Fire Protection Association or other nationally recognized fire safety standards, as approved, shall be deemed as prima facie evidence of compliance with the intent of this code. Nothing herein shall derogate from the authority of the Fire code official to determine compliance with codes or standards for those activities or installations within the Fire code official's jurisdiction or responsibility. Further, unless expressly stated herein, this code is not intended to amend, repeal, or supersede provisions of any other codes, regulations, ordinances, or the Oakland City Charter, including, but not limited to, the demolition ordinance, earthquake damage abatement ordinance, dangerous building ordinance, creek protection ordinance, Planning Code and Building Maintenance Code.

Section 105. Permits - *Amend Section 105 as follows:*

2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
INTERNATIONAL CODE COUNCIL Ag—t with ICC. No . RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #1020392239 by third Single user copyingand networking ANY UNAUIYORIZED License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netwo
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

Amend: 105.2 Application. Application for a permit required by this code shall be made to the Fire Code Official in such form and detail as prescribed by the Fire Code Official. Applications for permits shall be accompanied by such plans as prescribed by the Fire Code Official. An application for a permit shall be accompanied by a fee established by resolution of the city council.

Amend: 105.3.7 Information on the permit. The Fire Code Official shall issue all permits required by this code on an approved form furnished for that purpose. The permit shall contain a general description of the operation or occupancy and its location and any other information required by the Fire Code Official. Issued permits shall bear the signature of the Fire Code Official or other approved legal authorization.

Every permit shall also contain an agreement as follows which shall be executed by the permit holder as a condition of issuance:

> "I hereby agree to save, defend, indemnify and keep harmless the City of Oakland and its officials, officers, employees, representatives, agents and volunteers from all actions, claims, demands, litigation, or proceedings, including those for attorneys' fees, against the City in consequence of the granting of this permit or from the use or occupancy of the public right-of-way, public easement, or any sidewalk, street or sub-sidewalk or otherwise by virtue thereof, and will in all things strictly comply with the conditions under which this permit is granted. I further certify that I am the owner of the property involved in this permit or that I am fully authorized by the owner to access the property and perform the work authorized by this permit."

Amend: 105.5.9 Compressed Gases. An operational permit is required for the storage, use, or handling, at normal temperatures and pressures (NTP), of compressed gases in excess of the amounts listed in Table 105.5.9, to install any piped distribution system for compressed gases, or to install a non-flammable medical gas manifold system. When the compressed gases in use or storage exceed the maximum amounts list in Table 105.5.9, a permit is required to install, repair, abandon, remove, place temporarily out of service, close or substantially modify a compressed gas system.

Amend: 105.5.11 Cryogenic fluids. An operational permit is required to produce, store, transport on site, use, handle or dispense cryogenic fluids in excess of the amounts listed in Table 105.5.11. See also Chapter 55.

Exception: Except where federal or state regulations apply and except for fuel systems of a vehicle a construction permit is required to install a cryogenic vessel or piping system for the storage or distribution of cryogens.

Amend: 105.5.18 Flammable and combustible liquids. An operational permit is required:

Amend: 10. To engage in the dispensing of liquid fuels into the fuel tanks of motor vehicles at commercial, industrial, governmental or manufacturing establishments in accordance with Section 5706.5.4 or to engage in on-demand mobile fueling operations in accordance with Section 5707.

Amend: 11. To utilize a site for the dispensing of liquid fuels from tank vehicles into the fuel tanks of motor vehicles, marine craft and other special equipment at commercial, industrial, governmental or manufacturing establishments in accordance with Section 5706.5.4 or, where required by the fire code official, to utilize a site for on-demand mobile fueling operations in accordance with Section 5707.

Add: 12. To store, handle or use Class HIB liquids with a flashpoint of less than 500 degrees F in excess of 110 gallons.

Add: 13. To install, alter, remove, test, abandon, place temporarily out of service or otherwise dispose of any flammable or combustible liquid tank.

Amend: 105.5.59 Additional operational permits. In addition to the permits required by Section 105.6, the following operational permits shall be obtained from the Fire Code Official: *Add*

4. General use permit. A general use permit for any activity or operation not specifically addressed in this article, which in the judgment of the Fire Code Official, is possible or likely to produce conditions hazardous to life or property.

5. Occupancies, buildings, and uses. An operational permit is required for various occupancies, buildings, and uses as established or modified by the City.

Add: 105.5.60 Fire Alarm or Sprinkler Monitoring System. No person shall install or cause to be installed any fire alarm system device designed to indicate a fire emergency without first obtaining a permit. Application and plans for such permit shall be made to the Fire Code Official in accordance with 106 of this code.

2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
INTERNATIONAL CODE COUNCIL Ag—t with ICC. No . RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 by third Single user copyingand networking ANY UNAUIYORIZED License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netwo
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

Amend: 105.6.3 Compressed gases. When the compressed gases in use or storage exceed the amounts listed in Table 105.5.9, a construction permit is required to install any piped distribution system for compressed gases, or to install a non-flammable medical gas manifold system, repair damage to, abandon, remove, place temporarily out of service, or close or substantially modify a compressed gas system.

Amend: 105.6.7 Fire alarm and detection systems and related equipment A construction permit is required for installation of or modification to fire alarm and detection systems or sprinkler monitoring system and related equipment. Maintenance performed in accordance with this code is not considered a modification.

Section 108. Fees - *Amend Section 108 as follows:*

Amend: 108.4 Work commencing before permit issuance. A person who commences any work, activity or operation regulated by this code before obtaining the necessary permits shall be subject to an additional fee double the amount of the permit fee as established by the applicable governing authority, which shall be in addition to the required permit fees.

Add: 108.7 Fees for services; establishment; review. The Fire Code Official is authorized to collect fees for services established or modified by resolution of the City Council. The Fire Code Official shall review the fees charged for such services at least once annually and may, with the approval of the City Administrator, recommend changes to the council when the costs for such services make it appropriate.

Add: 108.8 False alarms or nuisance alarms. The Fire Code Official is authorized to assess a service charge, as set forth by resolution, against the person owning or responsible for an alarm system when a fire department response occurs per the City of Oakland Master Fee Schedule and for each subsequent false alarm or nuisance alarm thereafter, or against any person who intentionally, or in violation of the law reports, or causes to be reported, a false alarm or nuisance alarm to any department of the City of Oakland.

Section 110. Maintenance - *Amend Section 110 as follows:*

Amend: 110.3 Recordkeeping. Records of all system inspections, tests and maintenance required by the referenced standards shall be maintained on the premises for a minimum of three years or a different period of time where specified in this code or referenced standards and shall be electronically copied to the Fire Code Official by the company that performed the inspection, testing or maintenance in a manner prescribed by the Fire Code Official.

Section 112. Means of Appeals - *Amend Section 112 as follows:*

Amend: 112.1 Appeals. In order to hear and decide appeals of orders, decisions, or determinations made by the Fire Code Official relative to the application and interpretation of non-administrative (technical) requirements of this Code, the property owner may request an administrative hearing or appeal in accordance with law. The request shall be filed in writing with the Fire Code Official and shall be accompanied with a fee as established by the Master Fee Schedule. The request for an administrative hearing or appeal shall contain the information provided under Section 108.4.

Amend: 112.2 Limitations on authority. An application for appeal shall be based on a claim that the intent of this code or rules legally adopted hereunder have been incorrectly interpreted, the provisions of this code do not fully apply, or an equivalent method of protection or safety is proposed. The person(s) hearing the appeal shall not have authority to waive requirements of this code.

Amend: 112.3 Qualifications. No person(s) hearing the appeal shall be an employee of the City of Oakland and shall be qualified by experience and training regarding fire explosions, hazardous conditions or fire protection systems, and building construction and other matters pertaining to the 2025 California Fire Code.

Add: 112.4 Content of Request for Hearing or Appeal. The request for an administrative hearing or appeal shall contain the following information:

1. A brief statement setting forth the legal interest of the party or parties in the real property identified in the order, decision or determination made by the Fire Code Official;

2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
INTERNATIONAL CODE COUNCIL Ag—t with ICC. No . RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #1020392 by third Single user copyingand networking ANY UNAUIYORIZED License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netw
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

2. A brief statement in ordinary and concise language of that (those) specific order(s), decision(s) or determination(s) protested;

3. A brief statement in ordinary and concise language, together with any material facts to support that contention that the intent of this code or the rules legally adopted hereunder have been incorrectly interpreted, the provisions of this code do not fully apply, or an equivalent method of protection or safety is proposed;

5. The signature of the property owner, and their mailing address; and

6. The verification (by declaration under penalty of perjury) of at least one person requesting a hearing as to the truth of the matters stated in the request for hearing.

The written request for an administrative hearing or appeal with the accompanying fee shall be received by the Fire Code Official within fourteen (14) calendar days from the date of the service of such order, decision or determination of the Fire Code Official.

As soon as practicable after receiving the request for administrative hearing, the Fire Code Official shall fix a date, time and place for the administrative hearing. Written notice of the time and place of the hearing shall be given to the appellant at least seven (7) calendar days prior to the date of the hearing.

The failure of the Fire Code Official to serve any person required herein to be served shall not invalidate any proceedings hereunder as to any other person duly served or relieve any such person from any duty or obligation imposed by the provisions of this Section. Only those technical matters or issues specifically raised by the appellant in the Request for Hearing shall be considered.

Add: 112.5 Scope of Hearing. The administrative hearing before a hearing officer shall be an evidentiary hearing. Only those technical matters or issues specifically raised by the appellant in the request for administrative hearing or appeal shall be considered. The appellant and the City may present witnesses and such documentary evidence as are relevant to the issues. The Hearing Officer shall have the power to administer oaths. Upon a showing of good cause by the appellant or the City, the Hearing Officer may request that the City Clerk issues subpoenas under the seal of the City for a witness to appear and testify or to produce documents. Willful failure to appear to testify or to produce documents under subpoena may be punished as an infraction or as an administrative citation. The City has the burden of proof by the preponderance of evidence standard.

Add: 112.6 Hearing Officer Qualifications and Authority. The Hearing Officer shall not be an employee of the City of Oakland and shall be qualified by experience and training to pass on fire safety and other matters pertaining to this Code. The Hearing Officer shall have no authority relative to interpretations of the administrative provisions of this Code and has no authority to waive or otherwise set aside the non-administrative (technical) requirements of this Code.

Add: 112.7 Effect of hearing. Decisions on the of the Hearing Officer all instances shall be final and conclusive unless the appellant files an appeal to the Appeals Board, as set forth below.

Add: 112.8 Appeal of Hearing Officer Decision to Appeals Board. The appellant my appeal the Hearing Officer's determination to an Appeals Board as follows:

1. The Appeals Board shall be, at the City 's discretion, either the City Council or an Appeals Board appointed by the City Administrator. Appeals Board members shall not be employees of the City of Oakland.

2. The appellant must file the appeal within 14 calendar days of service of the Hearing Officer's determination. The appellant shall file the appeal on a form, under such procedures, and at such location as may be established by the City Administrator. The appellant must state the basis for the appeal and how the decision of the Hearing Officer was in error. The appellant shall pay a fee established for appeals to the Appeals Board in the Master Fee Schedule.

3. The Appeals Board's consideration shall be limited to the record established by the hearing officer. The Appeals Board shall not consider new evidence unless the proponent shows that the evidence is both newly discovered and material and could not, without reasonable diligence, have been produced at the hearing before the Hearing Officer. If the Appeals Board makes such determination, it may hear the additional evidence at a continued hearing, allowing the opposing party to respond, or may remand the matter to the Hearing Officer to consider the new evidence.

2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
INTERNATIONAL CODE COUNCIL Ag—t with ICC. No . RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #1020392239 by third Single user copyingand networking ANY UNAUIYORIZED License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netwo
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

4. The appellant shall have the burden of demonstrating that there is no substantial evidence in the record to support the Hearing Officer's decision, or that the decision is based on an error of law.

5. The decision of the Appeals Board shall be final. The limitation period provided pursuant to California Code of Civil Procedure Section 1094.6 shall apply to all petitions filed seeking judicial review of administrative determinations made pursuant to Section 109.1

Section 113. Violations - *Amend Section 113 as follows:*

Amend: 113.1 Unlawful acts. It shall be unlawful fora person, firm or corporation to erect, construct, alter, repair, remove, demolish or utilize a building, occupancy, premise(s), or system regulated by this code, or cause a public nuisance, potential fire or health hazard, or cause same to be done, in conflict with or in violation of any of the provisions of this code.

Add: 113.1.2 Blight or hazardous condition. Any commercially or residentially zoned parcel, lot or premise on which flammable or combustible materials as defined by this Code are openly stored or abandoned, causing blight or hazardous conditions, so as to constitute a potential fire or health hazard shall constitute a public nuisance and shall be ordered cleaned by the issuance of an Administrative Citation to the property owner in accordance with Section 113 of this Code.

Add: 113.1.3 Remuneration. In addition to the penalties provided by law, a violator shall be liable for such costs, expenses, disbursements, and attorneys' fees paid or incurred by the City or any of its officials, officers, representatives, employees, agents, volunteers, vendors, or third-party contractors in correction, abatement and prosecution of the violation.

Add: 113.3.3.1 Prosecution of violations. Any violation of this Code is deemed a public nuisance and a misdemeanor, but may be cited or charged, at the election of the enforcing officer or City Attorney or District Attorney, as infractions. Nothing in this Section shall prevent any other remedy at law. Each person shall be guilty of a separate offense for each and every day during a portion of which a violation of any provision of this Code is committed, continued, or permitted by such person.

Amend: 113.3.4 Unauthorized tampering. Signs, tags or seals posted or affixed by the Fire Code Official shall not be mutilated, destroyed or tampered with, or removed, without authorization from the Fire Code Official.

Amend: 113.4 Violation penalties. A person violates a provision of this code by failing to comply with any of the requirements thereof or who erects, installs, alters, repairs, or does work in violation of the approved construction documents or direction of the Fire Code Official or their designee, or of a permit or certificate used under the provisions of this code, is guilty of a misdemeanor offense as set forth in the Oakland Municipal Code. Each day that a violation continues after due notice has been served shall be deemed a separate offense. Cost recovery for this enforcement shall be provided per Section 113.4.3 of this code.

Add: 113.4.2 Powers to Abate. The Fire Code Official or their designee is authorized to abate a fire or life hazard when necessary to protect life or property. This may include, but is not limited to, orders requiring the removal of flammable liquids, fireworks, hazardous electrical wiring, temporary closure of commercial occupancies, the extinguishment of unsafe or illegal fires and any other similar hazards, determining no smoking areas, and ceasing operation of any type apparatus that poses an imminent danger to property or life.

Add: 113.4.3 Cost recovery. In addition to the enforcement and other proceedings referenced in Section 113 of this Code, the costs of any abatement action taken pursuant to this Code may be recovered by the City pursuant to the provisions of this Section and section 116. After performing the abatement work on the property in question, the City shall cause to be recorded with the County Recorder, a "prospective Notice of Special Assessment Lien." Such notice shall summarize the work performed, the cost and date of completion. The costs shall be imposed as a lien in conformance with Section 108 of this Code. The City may proceed to recover such costs in a civil lawsuit.

Add: 113.4.3.1 Notice of abatement orders, notices and actions. If notice has not already been given pursuant to Section 113.3, the Office of the Fire Code Official shall personally serve, or shall send one copy of the official notice to abate by regular mail, postage prepaid, to the person owning the parcel, including undeveloped land, on which the fire or dangerous condition is located, or to any person in control of said parcel, as such person's name and address appear on the current Office of the County Assessor, County of Alameda, State of California assessment roll. If such address is unknown to the City then notice shall be affected by physically posting such notice on the property itself. Service by mail shall be deemed completed at the time of deposit in the United States mail.

2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
INTERNATIONAL CODE COUNCIL Ag—t with ICC. No , RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #1020392239 by third Single user copyingand networking ANY UNAUIYORIZED License
arther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netwo
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

Section 115. Unsafe Structures or Equipment - *Amend Section 115 as follows:*

Add: Section 115.2.1 Unauthorized re-occupancy of unsafe buildings. No person shall reoccupy any building, which has been posted as specified in this subsection except for the purpose of securing same or making the required repairs or demolishing the building or structure, nor shall any person remove or deface any such notice so posted until the hazard/s has been abated.

Section 116. Judgment and Liens — *Add Section 116 as follows:*

Add: 116.1 Authority to lien. The cost incurred pursuant to Sections 104 and 108 of this Code in obtaining Real Property Ownership Reports and in razing or demolishing any fire or securing or cleaning any parcel and abating its associated fire hazard, or instituting a fire watch by action of the Fire Code Official or their designee, shall be a proper charge against the City Treasury and shall be paid from such. Re-inspections and administrative fees to ascertain Code compliance for overdue abatement of previously noticed or cited violations shall be charged against the owner. Fees shall be in the amount as currently described in the Master Fee Schedule. The Fire Code Official or their designee shall give the owner or other interested party of such premises a written notice and statement showing the itemized cost of such abatement, and requesting payment thereof. Alternatively, said charges may be directly collected in a civil lawsuit or by the filing and foreclosure of a lien.

Add: 116.2 Notice of hearing on lien. If the City chooses to pursue the cost recovery method outlined in Section 113.4.3, and the amount of such expenses as shown in such statement is not paid within ten (10) days after such notice, the City shall present written notice of those persons against whose property the City intends to file a lien to the City Council. The City Council shall forthwith, by resolution, fix a time and place for a public hearing on such notice. The City shall cause a copy of such notice to be served on the owner of the property not less than ten (10) days prior to the time fixed for such hearing. Mailing a copy of such notice to the owner of the property at the address listed in the most recent property ownership records provided to the City by the Office of the County Assessor, County of Alameda, State of California, as of the date the City causes notice to be mailed shall comprise proper service. Service shall be deemed complete at the time of deposit in the United States mail.

At the public hearing as scheduled, the City Council will hear all noticed or affected property owners who would be obligated to pay the abatement and related costs incurred by the City. The City Council shall confirm the appropriateness of persons to be held responsible for the noticed abatement charges and report to the City its final determinations of liability concerning the affected parties. Charges confirmed by the City Council and not paid within five (5) days of the public hearing date will be subject to lien and collection procedures and civil lawsuit as provided below.

The City shall record in the Office of the County Recorder of the County of Alameda, State of California, and a certificate substantially in the following form:

NOTICE OF SPECIAL ASSESSMENT LIEN

Pursuant to authority vested in me by the Fire Code of the City of Oakland, California, I did on the day of 20 cause a condition to be abated or chargeable action to occur on the hereinafter-described real property at the expenses of the owner thereof, in the amount of $_____ and that said amount has not been paid nor any part thereof, and the City of Oakland does hereby claim a lien upon the hereinafter-described real property in said amount; the same shall be a lien upon the said real property until said sum, with interest thereon from the date of recordation of this lien in the Office of the County Recorder of the County of Alameda, State of California, and such other charges as may be applied from the City of Oakland Master Fee Schedule, has been paid in full. The real property hereinabove mentioned and upon which a lien is claimed is that certain parcel of land lying and being in the City of Oakland, County of Alameda, State of California, and particularly described as follows:

Assessor's Parcel Number:

Dated this _____ day of _____, 20___.

_____
City Administrator or Designee

City of Oakland

A notary Public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
INTERNATIONAL CODE COUNCIL Ag—t with ICC. No . RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #1020392239 by third Single user copyingand networking ANY UNAUIYORIZED License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netw
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

A notary Public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

The same shall be a lien against the property described therein until the amount thereof, plus accrued interest, has been paid in full. The amount of such lien shall draw interest thereon at a rate as established in the City of Oakland Master Fee Schedule from and after the date of the recording of said notice of the contents thereof.

Add: 116.3 Method of collection: additional amount of costs to tax bill procedure With the confirmation of the report by the City Council, the nuisance abatement charges contained therein that remain unpaid by the owner of the subject property shall constitute a special assessment against said property as it has received the special benefit of City abatement services. Such charges shall be collected, along with City administrative and reinspection fees at such time as is established by the Office of the County Assessor, County of Alameda, State of California for inclusion on the next property tax roll.

The City shall turnover to the Office of the County Assessor, County of Alameda, State of California for inclusion in the next property tax assessment the total sum of unpaid nuisance abatement charges consisting of the abatement costs, administrative and reinspection fees, fines, penalties, interest, and collection fees from the date of recordation of the lien, at the rate established and as described in the master fee schedule.

Thereafter, said assessment may be collected at the same time and in the same manner as ordinary municipal taxes are collected and shall be subject to the same penalties and the same procedure of sale as provided for ordinary delinquent municipal taxes. The special assessment shall be on parity and the same priority as general property taxes.

Add: 116.4 Judgment liens. A copy of every judgment imposing a fine or cost or both upon any owner of any real property for a violation of this Code thereon shall, upon the entry of judgment, be filed forthwith by the City in the Office of the Recorder of Alameda County. The County Recorder shall index it immediately upon receiving it in the index of mechanics' liens. The fine, charges or administrative costs shall be a lien upon the real property from the time the certified copy of the judgment is filed in the Office of the Recorder, subject only to taxes, assessments, and water charges, and to mortgage and mechanics' liens existing on the real property prior to the filing.

Section 117. Oakland Municipal Code, Article 15, Chapter 15.64 Bedroom Window Security Bars and Smoke Detector Permit Requirements - *Add Section 117 as follows:*

Add: Section 117.1 Administration and Enforcement of Oakland Municipal Code, Title 15, Chapter 15.64 Bedroom Window Security Bars and Smoke Detector Permit Requirements. The City Administrator delegates to the Fire Code Official of the Fire Department the authority to enforce and administer the provisions of Oakland Municipal Code, Title 15, Chapter 15.64, entitled "Bedroom Window Security Bars and Grills." All City employees designated by the Fire Code Official are authorized to make necessary inspections and take any actions on behalf of the Fire Code Official as may be required to enforce and administer the provisions of Title 15 of the Oakland Municipal Code.

Title 15 of the Oakland Municipal Code will be administered and enforced in accordance with the powers vested in the Fire Code Official by applicable law, including but not limited to the 2025 California Fire Code and the provisions of Oakland Municipal Code.

Section 118. Declaration of Public Nuisance - Substandard - *Add Section 118 as follows:*

Add: 118.1 Any violations of the Oakland Fire Code deemed to be substandard and a public nuisance by the Fire Code Official or Building Official shall be subject to the enforcement and other proceedings set forth in the Oakland Building Code, Oakland Municipal Code Chapter 15.08 and 2025 California Fire Code.

Add: 118.2. Fire Hazard. Any residential or nonresidential building or structure or property, portion thereof, device, apparatus, equipment, combustible waste or vegetation which, in the opinion of the Fire Code Official, is in such a condition as to cause a fire or explosion or provide a ready fuel to augment the spread and intensity of fire or explosion arising from any cause shall be considered Substandard and a Public Nuisance.

Add: 118.3 Faulty Materials of Construction. The use of materials of construction, except those which are specifically allowed or approved by this Code and the Oakland Building Code, and which have not been adequately maintained in good and safe condition, shall cause a residential or nonresidential building or structure to be Substandard and a Public Nuisance.

2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
INTERNATIONAL CODE COUNCIL Ag—t with ICC. No , RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #1020392 by third Single user copyingand networking ANY UNAUIYORIZED License
arther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netwo
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

Add: 118.4 Inadequate Exits. Except for those buildings or structures or portions thereof which have been provided with adequate exit facilities conforming to the provisions of this Code, residential and nonresidential buildings or structures or portions thereof whose existing facilities where installed in violation of code requirements in effect at the time of their construction or whose exit facilities have not been increased in number or width in relation to any increase in occupant load due to alterations, additions or change in use or occupancy subsequent to the time of construction shall be considered Substandard and a Public Nuisance.

Notwithstanding compliance with code requirements in effect at the time of their construction, residential and nonresidential buildings or structures or portions thereof shall be considered Substandard and a Public Nuisance when the Fire Code Official or the Building Official finds that an unsafe condition exists through an improper location of or length of travel to required exits, or a lack of an adequate number of width of required exits, or when other conditions exist which are dangerous to human life including, but not limited to, lack of or unapproved or improperly installed or improperly maintained illumination of required exits, directional signage to required exits, door and window release and security devices, and other obstructions to or within the exiting path of travel or emergency escape.

Add: 118.5 Inadequate Fire Protection or Firefighting Equipment. Residential and nonresidential buildings or structures or portions thereof shall be considered Substandard and a Public Nuisance when they are not provided with the fire-resistive construction or fire-extinguishing systems or equipment required by this Code, except those buildings or structures or portions thereof which conformed with all applicable laws at the time of their construction and whose fire-resistive integrity and fire-extinguishing systems or equipment have been adequately maintained and improved in relation to any increase in occupant load, alteration or addition, or any change in occupancy.

CHAPTER 2 - DEFINITIONS

Section 202. General Definitions - *Amend Section 202 as follows:*

Add: ABANDONED shall mean tanks out of service and not being monitored in accordance with this Article and the provisions of the California Health and Safety Code shall be considered abandoned.

Add: CALIFORNIA FIRE CODE shall mean the International Building Code as amended and adopted by the State of California and is another name for the body of regulations known as the California Code of Regulations (C.C.R.), Title 24, Part 9; a portion of the "California Building Standards Code," as defined in the "California Building Standards Law" commencing with Section 18901 of the Health and Safety Code.

Add: CALIFORNIA ELECTRIC CODE shall mean the National Electric Code as amended and adopted by the State of California and is another name for the body of regulations known as the California Code of Regulations (C.C.R.), Title 24, Part 3; a portion of the "California Building Standards Code," as defined in the "California Building Standards Law" commencing with Section 18901 of the Health and Safety Code.

Add: CALIFORNIA MECHANICAL CODE shall mean the International Mechanical Code as amended and adopted by the State of California and is another name for the body of regulations known as the California Code of Regulations (C.C.R.), Title 24, Part 4; a portion of the "California Building Standards Code," as defined in the "California Building Standards Law" commencing with Section 18901 of the Health and Safety Code.

Add: CALIFORNIA PLUMBING CODE shall mean the International Plumbing Code as amended and adopted by the State of California and is another name for the body of regulations known as the California Code of Regulations (C.C.R.), Title 24, Part 5; a portion of the "California Building Standards Code," as defined in the "California Building Standards Law" commencing with Section 18901 of the Health and Safety Code.

Add: COMBINATION PERMIT allows the performance of building electrical, plumbing, and mechanical work under a single permit and may be issued for certain types of work which the Building Official has identified as being appropriate for such consideration. Fees shall be assessed as established in the Master Fee Schedule.

Add: COMBUSTIBLE MATERIAL is any material that, in the form in which it is used, stored, disposed and under the conditions anticipated, will ignite and burn or will add appreciable heat to an ambient fire.

Add: CONTINUOUS GAS DETECTION SYSTEM is an approved gas detection system where the analytical instrument is maintained in continuous operation and sampling is performed without interruption. Analysis is allowed to be performed on a cyclical basis at intervals not to exceed 5 minutes.

2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
INTERNATIONAL CODE COUNCIL Ag—t with ICC. No , RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #1020392 by third Single user copyingand networking ANY UNAUIYORIZED License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netw
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

Add: CORROSIVE LIQUID is a liquid which, when in contact with living tissue, will cause destruction or irreversible alteration of such tissue by chemical action. Examples include acidic, alkaline or caustic materials. Such material will be considered prima facie corrosive when the pH is 2 or less or 12.5 or more, except for foodstuffs or medicine. This includes materials classified by DOT and Title 22 as corrosives.

Add: CURRENT CODE shall mean the edition of the California Building Code published by the International Code Council as adopted by the City of Oakland under California Health and Safety Code Section 18941.5. The edition to be applied shall be that edition in effect at the time damage occurs.

Add: DEPARTMENT HAVING JURISDICTION wherever reference is made in this Code to "Department Having Jurisdiction," it shall mean the Oakland Fire Department, and its successor in Title.

Add: ENGINEERING EVALUATION means an evaluation of a suspected damaged building or structure, performed under the direction of a fire protection engineer, structural engineer, civil engineer or architect retained by the owner of the building or structure. Engineering evaluations shall, at a minimum, contain recommendations for repair with an appropriate estimate of the construction cost for those repairs.

Add: ESSENTIAL SERVICE FACILITY shall mean that building or structure which has been designated by the City Council to house facilities that are necessary for emergency operations.

Amend: FALSE ALARM is the willful and knowing initiation or transmission of a signal, message or other notification of an event of fire when no such danger exists, or the activation of any fire alarm system due to malfunction, mechanical or electrical defect, improper operation or procedure by any person, or a false oral or written report to any department of the City of Oakland that an emergency exists requiring immediate or emergency response by the Oakland Fire Department

Amend: HIGHLY TOXIC.

Add: 4. A chemical that has a health hazard ranking of 4 in accordance with NFPA Standard 704.

Add: INDEX SHEET is a sheet located within the 1st or 2nd sheet of the plan set that lists all drawings and sheet numbers and a description of each drawing that is part of the plan set or other submittal document.

Amend: JURISDICTION means the City of Oakland.

Add: LOCAL FIRE ALARM shall mean a fire alarm system provided for notification and evacuation of occupants. It shall have more than one notification appliance on each and every floor. The system may notify a monitoring company at the discretion of the Fire Code Official.

Add: NON-PROFESSIONAL is a person that is not licensed or certified by the State of California but is not prohibited by state law from providing a certain service to others or performing certain work for oneself.

Add: OAKLAND BUILDING CONSTRUCTION CODE shall mean the compiled editions of the California Building Standards Codes, California Code of Regulations (CCR), Title 24, Part 2 (Building), Part 3 (Electrical), Part 4 (Mechanical), and Part 5 (Plumbing), and the Uniform Swimming Pool Spa and Hot Tub Code, with local amendments thereto as adopted by the Council of the City of Oakland.

Add: READILY ACCESSIBLE has the same definition as it is defined in the California Plumbing and Mechanical Codes.

Add: REMOVAL means the removal of tanks abandoned or permanently out of service from the ground which may require removal of all levels of containment, foundations, structures, or similar items which would obstruct soil sampling or cleanup of contaminated soil.

Add: REPLACEMENT VALUE is the dollar value, as determined by the building official based upon the square footage and the guidelines used in establishing the valuation of new construction, of replacing the damaged structure with a new structure of the same size, construction material and occupancy on the same site.

Add: SEALED (STAMPED) means the plan(s) is/are sealed, as required by California Business & Professions Code Sections 5536.1 and 5536.2, with originally applied ink applied to the print or copy of the plans or other submittal documents submitted with an application for permit. Information provided on the seal (stamp) shall be in accordance with California Business & Professions Code Section 5536.1 and Title 16, Section 136 of the California Code of Regulations.

2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
INTERNATIONAL CODE COUNCIL Ag—t with ICC. No , RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #1020392239 by third Single user copyingand networking ANY UNAUIYORIZED License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netwo
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

Amend: SECONDARY CONTAINMENT is that level of containment that is external to and separate from primary containment and is capable of safely and securely containing the material, without discharge, for a period of time reasonably necessary to ensure detection and remedy of the primary containment failure.

Add: SEGREGATED is storage in the same room or area, but physically separated by distance and independent secondary containment from incompatible materials.

Add: SEMICONDUCTOR FABRICATION FACILITY OR COMPARABLE MANUFACTURING, RESEARCH AND DEVELOPMENT AREAS is a building or portion of a building classified as a Group H Occupancy in which electrical circuits or similarly manufactured devices are created.

Add: SIGNED shall mean the copies of a plan(s) that were previously "wet" signed (and sealed), and the image of such signing is apparent on the copies of the originals submitted with an application for permit. Also refer to the definition of "wet" signed.

Add: SPECULATIVE WAREHOUSING is a building constructed without a specific use, occupancy hazard designation, or tenant. Buildings that do not have a designed fire sprinkler system for a specific use (occupancy) or storage commodity classification.

Add: STORAGE OR USE FACILITY is a building, portion of a building, or exterior area used for the storage, use, or handling of hazardous materials where the quantity of hazardous materials is equal to or greater than the permit amounts specified in Appendix Chapter 1, Section 105.

Add: STORAGE OR USE SYSTEM is any one or combination of tanks, sumps, waste treatment facilities, pipes, vaults or other portable or fixed containers, and their secondary containment systems which are used, or designed to be used, for the storage, use, or handling of hazardous materials at a storage or use facility. For purposes of this code, a workstation having limited quantities of hazardous materials shall not be treated as a storage system.

Add: TEMPORARY INSTALLATIONS shall mean those that do not exceed one year.

Amend: TOXIC shall mean a chemical that has a health hazard rating of 3 in accordance with NFPA Standard 704.

Add: VALUE OF REPAIR is the dollar value, as determined by the building official, of making the necessary repairs to a damaged structure.

Add: VOLATILE SOLVENT means volatile organic compounds, including: (1) explosive gases, such as Butane, Propane, Xylene, Styrene, Gasoline, Kerosene, 02 or H2; and (2) dangerous poisons, toxins, or carcinogens, such as Methanol, Iso-propyl Alcohol, Methylene Chloride, Acetone, Benzene, Toluene, and Tri-chlor-ethylene.

Add: WASTE OIL is a Class Ill-B waste liquid resulting from the use of Class Ill-B combustible liquids such as waste motor oil, hydraulic oil, lubricating oil, brake fluids and transmission fluids.

Add: "WET" SIGNED shall mean the original plan(s) signed (and sealed) with originally applied ink to the plan(s) or other submittal documents submitted with an application for permit. Also refer to the definition of "signed."

Add: WILDLAND-URBAN INTERFACE FIRE AREA is all of that area within the City as defined by the Fire Code Official of the City of Oakland, including, but not limited to, the area north and east of the following boundaries:

BEGINNING at the MacArthur Freeway at the San Leandro border to Foothill Boulevard; west on Foothill Boulevard to Stanley; west on Stanley to 98th Avenue; south on 98th Avenue to Stearns Avenue; west on Stearns to Burr Street; west on Burr Street to Thermal; west on Thermal to 8500 Thermal; south at 8500 Thermal to MacArthur Boulevard; west on MacArthur Boulevard to 82nd Avenue; north on 82nd Avenue to Utah Street; west on Utah Street to Partridge Avenue; south on Partridge Avenue to Outlook Avenue; west on Outlook Avenue to Seminary Avenue; south on Seminary Avenue to MacArthur Boulevard; west on MacArthur Boulevard to Buell Street; north on Buell Street to Tompkins Avenue; west on Tompkins Avenue to End; straight line from Tompkins Avenue to Wisconsin Street; west on Wisconsin Street to Carlsen Street; west on Carlsen Street to Maple Avenue; south on Maple Avenue to Morgan Avenue; west on Morgan Avenue to Barner; south on Barner to Morgan Avenue; west on Morgan Avenue to Coolidge Avenue; North on Coolidge Avenue to Alida Street; west on Alida Street to Lincoln Avenue; south on Lincoln Avenue to Tiffin Road; west on Tiffin Road to Whittle Avenue; west on Whittle Avenue to Fruitvale Avenue (Dimond Park); follow the southern and western boundary of Dimond Park to El Centro Road; west on El Centro Road to Dolores; west on Dolores to Park Boulevard; north on Park Boulevard to Piedmont boundary; Piedmont boundary to Mt. View Cemetery; northern boundary of Mt. View Cemetery to

2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
INTERNATIONAL CODE COUNCIL Ag—t with ICC. No , RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #1020392239 by third Single user copyingand networking ANY UNAUIYORIZED License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netw
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

Clarewood Drive; west on Clarewood Drive to Broadway Terrace; south on Broadway Terrace to Margarido Drive; west on Margarido Drive to Lawton; west on Lawton to Broadway; north on Broadway to Keith Avenue; west on Keith Avenue to College Avenue; and north on College Avenue to the corporate limits of the City of Berkeley.

Amend: WORKSTATION is a defined space or independent principal piece of equipment using hazardous materials where a specific function, laboratory procedure or research activity occurs. Approved or listed hazardous materials storage cabinets, flammable liquid storage cabinets or gas cabinets serving a workstation are included as part of the workstation. A workstation is allowed to contain ventilation equipment, fire protection devices, electrical devices, and other processing and scientific equipment.

CHAPTER 3 - GENERAL REQUIREMENTS

Section 307. Open Burning, Recreational Fires and Portable Outdoor Fireplaces - *Amend Section 307 as follows:*

Amend: 307.4.3 Portable outdoor fireplaces. Portable outdoor fireplaces shall be used in accordance with the manufacturer's instructions and shall not be operated within 15 feet (3048 mm) of a structure or combustible material.

Exceptions:

1. Portable outdoor fireplaces used at one and two-family dwellings located outside of a wildland-urban interface fire area, when used in accordance with the manufacturer's instructions.
2. Portable outdoor fireplaces used at one- and two-family dwellings located within a wildland-urban interface fire area shall be located at least 15 feet (4572 mm) from a structure, combustible material or vegetation. Such outdoor fireplaces shall be used in accordance with the manufacturer's instructions.

Add: 307.4.4 "Red-flag" and other high fire risk conditions. Open burning, including recreational fires and fires within portable outdoor fireplaces, shall not be permitted on "red-flag" or other days which pose a high fire risk as determined by the Fire Code Official.

Section 308. Open Flames - *Amend Section 308 as follows:*

Amend: 308.1.4 Location near combustibles. Open flames such as from candles, lanterns, kerosene heaters and, gas-fired heaters, barbecues, fire-pits and similar devices shall not be located, on or near decorative material or, on or near similar combustible materials or within 10 feet (3048 mm) of combustible construction.

Exceptions:

1. Open-flame cooking devices complying with section 308.1.4 of this code shall be permitted provided a minimum separation of 10 feet (3048 mm) from vegetation is maintained.
2. Approved open-flame heating devices shall be permitted for one- and two-family dwellings provided a minimum separation of 10 feet (3048 mm) from vegetation is maintained.

CHAPTER 5 - FIRE SERVICE FEATURES

Section 503. Fire Apparatus Access Roads – *Adopt and Amend Section 503 as follows:*

Add: 503.1.4 Access to Open Spaces. When existing access to open land or space, or to fire trail systems maintained for public or private use, is obstructed by new development of any kind, the developer shall provide an alternate means of access into the area that is sufficient to allow access for fire personnel and apparatus. The alternate means of access must be approved by the Fire Code official.

Amend: 503.4 Obstruction of fire apparatus access roads. Fire apparatus access roads shall not be obstructed in any manner, which includes parking of vehicles. The minimum width and clearances established by Sections 503.2.1 and 503.2.2, or as applicable, Appendix Section D105, shall be maintained at all times.

2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
INTERNATIONAL CODE COUNCIL Ag—t with ICC. No , RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 by third Single user copyingand networking ANY UNAUIYORIZED License
arther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netw
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

Add: 503.6.1 Automatic security gates, infrared receiver. Where permitted, an automatic security gates that crosses fire department access roadways, shall be equipped with an approved infrared receiver and key override switch approved by the Fire Code Official.

Add: 503.6.2 Manual security gates, key box. Manual security gates shall be equipped with an approved key box.

Section 504. Access to Building Openings and Roofs - *Amend Section 504 as follows:*

Add: 504.5 Access Control Devices. When access control devices including bars, grates, gates, electric or magnetic locks or similar devices, which would inhibit rapid fire department emergency access to the Fire Department, are installed, such devices shall be approved by the Fire Code Official. All access control devices shall be provided with an approved means for deactivation or unlocking by the fire department. Access control devices shall also comply with Chapter 10 Egress.

Add: 504.6 Roof Guardrails at Interior Courts. Roof openings into interior courts that are bounded on all sides by fire resistive construction shall be protected with guardrails. The top of the guardrail shall not be less than 42 inches in height above the adjacent roof surface that can be walked on. Intermediate rails shall be designed and spaced such that a 4-inch diameter sphere cannot pass through.

Exception: Where the roof opening is greater than 600 square feet in area.

Add: 504.7 Door signage. When required by the Fire Code Official, interior and exterior doors shall be provided with permanent signs to facilitate fire department emergency access. Signage shall be approved by the Fire Code Official.

Section 506. Key Boxes - *Amend Section 506 as follows:*

Add: 506.3 Emergency information boxes. When an occupancy contains storage of hazardous materials that exceed the exempt amounts listed in Chapter 50 of the California Fire Code, or the occupancy is required by the Fire Code Official to have available on site pre-fire plans, the Fire Code Official may require an approved emergency information box be installed on the premises for the storage of such information. The emergency information box shall be installed in an approved location and the enclosed information shall be updated, annually or as changes dictate, by the occupant.

Section 507. Fire Protection Water Supplies - *Amend Section 507 is as follows:*

Amend: 507.5.1 Where required. Fire hydrants shall be nominally spaced every 500 linear feet in residential areas comprised of single-family dwellings. In commercial or industrial areas, or in residential areas containing condominiums, townhouses, or apartments, fire hydrants shall be nominally spaced every 300 feet. The Fire Code Official may require that fire hydrants be placed at closer intervals to conform to street intersections, unusual street curvatures, or fire-flow requirements. Divided streets shall have hydrants on both sides of the street and shall, where applicable, be installed in alternate or staggered positions so that hydrants will not be directly across from each other.

Exceptions: Delete

Add: 507.5.7 Hydrants. The Fire Code Official is authorized to determine the types of hydrants acceptable for installation. In areas where public or private water mains are not available for the provision of required fire flow, the Fire Code Official may require that water supply for firefighting is provided in accordance with the most current addition of NFPA Standard #1142, (Standard on Water Supplies for Suburban and Rural Fire Fighting).

Add: 507.5.8 Hydrant Identification. All fire hydrants shall be identified with a reflective, raised, blue pavement marker installed in the centerline of public and private roadways perpendicular to the location of the hydrant. Fire hydrants shall also be painted in accordance with the standard detail issued by the City of Oakland. Public and private hydrant shall be periodically painted to maintain rust protection and visibility.

Section 508. Fire Command Center - *Amend Section 508 as follows:*

Amend: 508.1 General. Where required by other sections of this code and in all buildings four (4) or more stories in height or having 45,000 square feet or more total building area and all buildings classified as high-rise buildings by the California

2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
INTERNATIONAL CODE COUNCIL Ag—t with ICC. No , RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #1020392239 by third Single user copyingand networking ANY UNAUIYORIZED License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netw
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

Building Code and Group I-2 occupancies having occupied floors located more than 75 feet above the lowest level of fire department vehicle access, a fire command center for fire department operations shall be provided and shall comply with Sections 508.1.1 through 508.1.9.

Add: 508.1.3.1 Size for Buildings Other than high-rise buildings. In buildings four (4) or more stories in height with 45,000 square feet or more total building area but not classified as a "high-rise" by the California Building Code, the fire command center shall be a minimum of 96 square feet (9 m^2) with a minimum dimension of 8 feet (2438mm).

Add: 508.1.9 Building Evacuation Floor Map Signs. Buildings two (2) or more stories in height and all buildings classified as high-rise buildings by the California Building Code shall post a floor plan sign which provide emergency procedures at every exit access stairway, elevator landing, and immediately inside all public entrances to the building. Information contained in the floor plan signs shall include, but not be limited to the following:

1. Location of exits and fire alarm initiating stations;
2. Description of fire alarm sounds and appearance;
3. Fire Department emergency telephone number 911;
4. Prohibition of the use of elevators during emergencies;
5. Instructions to be followed by ambulatory, non-ambulatory, and disabled persons in the event of an emergency;
6. Notation "you are here" or other readily understandable marking specifying the location on the floor plan sign;
7. Floor plan signs shall be printed in non-decorative lettering which shall not be less than three-sixteenths of an inch (3/16") in height and shall provide a sharp contrast with the background. The information shall accurately depict the layout of the floor where the sign is located.

Section 510. Emergency Responder Communications Enhancement Systems - *Amend Section 510.1 as follows*

Amend: 510.1

Exception 2 Where the fire code official has determined that the 800 MHZ and 700 MHz frequencies for the radio coverage system within the building are not needed.

CHAPTER 6 - BUILDING SERVICES AND SYSTEMS

Section 603. Electrical Equipment, Wiring, and Hazards - *Amend Section 603 as follows:*

Add: 603.1.3 Immersion Heaters. All electrical immersion heaters used in dip tanks, sinks, vats and similar operations shall be provided with approved over-temperature controls and low liquid level electrical disconnects. Manual reset of required protection devices shall be provided.

Section 605. Fuel Fire Appliances - *Amend Section 605 as follows:*

Add: 605.5.3 Portable Unvented Heaters. Portable unvented fuel fired heating equipment shall be prohibited in occupancies in Groups A, E, I, R-1, R-2, R-2.1, R-3, R-3.1 and R-4 and ambulatory care facilities. Use of portable unvented heaters at any outside location shall be approved by the Fire Code Official.

CHAPTER 7 – FIRE AND SMOKE PROTECTION FEATURES

Section 706. Duct and Air Transfer Openings – *Amend Section 706 as follows:*

Amend: 706.1 Maintaining Protection. Dampers protecting ducts and air transfer openings shall be inspected and maintained in accordance with NFPA 80, NFPA 105, and Section 909 Subsection 909.23. Other products of materials used to protect the openings for ducts and air transfer openings shall be securely attached to or bonded to the construction containing the duct or air transfer opening, without visible openings through or into the cavity of the construction. Any damaged products or materials protecting duct and air transfer openings shall be repaired, restored or replaced.

2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
INTERNATIONAL CODE COUNCIL Ag—t with ICC. No , RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 by third Single user copyingand networking ANY UNAUIYORIZED License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netwo
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

CHAPTER 9 - FIRE PROTECTION SYSTEMS

Section 903. Automatic Sprinkler Systems - *Amend Section 903 as follows:*

Amend: 903.2 Where required. Approved automatic sprinkler systems in new buildings and structures shall be provided in the locations described in this Section.

Exceptions:

(a) Automatic fire sprinkler protection for fixed guideway transit systems shall be as per Section 903.2.17.

(b) Canopies over motor vehicle fuel dispensing facilities when constructed in accordance with Section 406.7.2 of the 2025 California Building Code.

(c) Temporary construction trailers, less than 1,650 sq ft, on-site less than one year and 20' from property lines, building, structures and combustibles.

(d) The following detached Group U occupancies: Barns, fences more than 6 feet high, grain silos accessory to residential occupancies, green houses, gazebos or similar structures accessory to residential occupancies, livestock shelters, retaining walls, tool or storage sheds, stables, tanks, towers.

(e) Detached Group U occupancies housing dumpsters or refuse containers with floor areas of 500 sq. ft. or less are exempt from installation of automatic fire extinguishing systems.

(f) Detached one-story Group U occupancies housing dumpsters or refuse containers with floor area up to 1500 sq ft are exempt from installation of automatic fire extinguishing systems provided all of the following requirements are met:

a. Building is constructed to Type IV, Type V1-Hour, or a higher fire-resistive construction, and

b. Minimum five-foot setback to property line and ten-foot setback to any other building on the site is maintained.

(g) Airport Control Towers (see 914.8.2).

(h) Parking shade structures or solar trellises when constructed of non-combustible materials, set back from property lines and separated from buildings in accordance with the California Building Code.

Amend: 903.2.1 Group A. An automatic sprinkler system shall be provided throughout buildings and portions thereof used as Group A occupancies.

Amend: 903.2.1.1 Group A-1. An automatic sprinkler system shall be provided throughout Group A-1 occupancies.

Amend: 903.2.1.2 Group A-2. An automatic sprinkler system shall be provided throughout Group A-2 occupancies.

Amend: 903.2.1.3 Group A-3. An automatic sprinkler system shall be provided throughout Group A-3 occupancies.

Amend: 903.2.1.4 Group A-4. An automatic sprinkler system shall be provided throughout Group A-4 occupancies.

Amend: 903.2.1.5 Group A-5. An automatic sprinkler system shall be provided throughout Group A-5 occupancies.

Amend: 903.2.1.6. Assembly occupancies on roofs. Where an occupied roof has an assembly occupancy, all floors between the occupied roof and the level of exit discharge shall be equipped with an automatic sprinkler system in accordance with section 903.3.1.1 or 903.3.1.2.

Exception: Deleted.

Amend: 903.2.2.1 Ambulatory care facilities. An automatic sprinkler system shall be provided throughout Ambulatory care facilities.

Amend: 903.2.3 Group E. Except as provided for in Sections 903.2.20 for a new public school campus and 907.2.29 (fire alarm and detection) for modernization of an existing public school campus building(s), an automatic sprinkler system shall be provided for Group E occupancies.

2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
INTERNATIONAL CODE COUNCIL Ag—t with ICC. No , RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 by third Single user copyingand networking ANY UNAUIYORIZED License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netw
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

Amend: 903.2.4 Group F. An automatic sprinkler system shall be provided throughout all buildings containing Group F occupancies.

Amend: 903.2.5 Group H. An automatic sprinkler system shall be provided throughout all buildings containing Group H occupancies.

Amend: 903.2.5.3 Pyroxylin plastics. An automatic sprinkler system shall be provided throughout all buildings, portions thereof, where cellulose nitrate film or pyroxylin plastics are manufactured, stored or handled in quantities exceeding 100 pounds (45kg).

Amend: 903.2.6 Group 1. An automatic sprinkler system shall be provided throughout buildings with a Group I fire area.

Amend: 903.2.7 Group M. An automatic sprinkler system shall be provided throughout buildings containing a Group M occupancy.

Amend: 903.2.8 Group R. An automatic sprinkler system installed in accordance with Section 903.3 shall be provided throughout all buildings with a Group R fire area.

Amend: 903.2.9 Group S-1. An automatic sprinkler system shall be provided throughout all buildings containing a Group S-1 occupancy.

Amend: 903.2.10 Group S-2. An automatic sprinkler system shall be provided throughout buildings classified as parking garages in accordance with Section 406.4 of the California Building Code or where located beneath other groups.

Amend: 903.2.10.1 Commercial Parking Garages. An automatic sprinkler system shall be provided throughout buildings used for the storage of commercial trucks, buses, and cars.

Amend: 903.2.11 Specific building areas and hazards. In all occupancies, an automatic sprinkler system shall be installed for building design or hazards in the locations set forth in Sections 903.2.11.1 through 903.2.11.6.

Amend: 903.2.11.1 Stories without openings. An automatic sprinkler system shall be installed throughout every story or basement without openings.

Amend: 903.2.18 Group U private garages and carports accessory to Group R-3 occupancies.

Carports and attached garages, accessory to Group R-3 occupancies, shall be protected by residential fire sprinklers in accordance with this Section. Residential fire sprinklers shall be connected to, and installed in accordance with, an automatic residential fire sprinkler system that complies with section R313 of the California Residential Code or with NFPA 13-D. Fire sprinklers shall be residential or quick response sprinklers, designed to provide a minimum density of .05 gpm/ft2 over the area of the garage and/or carport, but not to exceed two sprinklers for hydraulic calculation purposes. Garage doors shall not be considered obstructions with respect to sprinkler placement.

Deleted: Exception.

Add: 903.2.22 Additions to Group A, B, E, F, H, I, L, M, R, S, and certain miscellaneous group U occupancies. For additions to existing Group A, B, E, F, H, I, L, M, R, S, and U occupancies not exempted in 903.2, an automatic fire extinguishing system (AFES) shall be required throughout the entire building when one of the following thresholds is exceeded. For purposes of floor area calculations, Group U (private garages or similar) occupancies shall be included in the floor area calculation.

1. The combined floor area of the existing building plus the addition exceeds 3,600 square feet, or
2. The addition exceeds 500 square feet, or
3. The addition increases the floor area of the existing building by 50%. The increase in floor area shall be calculated cumulatively from July 1,1999.

Exception: The existing portion of a one or two story building with no basement does not require automatic fire extinguishing systems when all the following conditions are met:

(a) The addition is protected by an AFES.

(b) The addition and the existing structure are separated with fire walls, have required protection, and fire rated openings and construction is in accordance with the California Building Code based on Type of Occupancy and Construction type.

2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
INTERNATIONAL CODE COUNCIL Ag—t with ICC. No . RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 by third Single user copyingand networking ANY UNAUIYORIZED License
arther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netw
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

(c) Assembly, Education, Institutional and Multi-Family Residential occupancies install an underwriter laboratory certified and National Fire Protection Association Standard 72 compliant fire alarm system.

Add: 903.2.23 Additions to existing R-3 occupancies. For additions to R-3 occupancies, an automatic fire sprinkling system shall be required throughout the entire building when one of the following thresholds is exceeded. For purposes of floor area calculations, Group U (private garages or similar) occupancies shall be included in the floor area calculation:

1. The combined floor area of the existing building plus the addition exceeds 3,600 square feet, or
2. The addition exceeds 500 square feet; or 3.
3. The addition increases the floor area of the existing structure by 50%.

Consistent with the State Fire Marshal Information Bulletin 17-001, also referenced in State Fire Marshal Guideline Bulletin 21-005, the Department Having Jurisdiction requires an automatic residential sprinkler system when the square footage exceeds the prescribed amounts listed above in this section. Also consistent with State Fire Marshal Information Bulletin 17-001, new detached accessory dwelling units are required to comply with the standards for fire protection such as water supply and/or fire department access. Automatic residential sprinkler systems provide construction options for the owner by providing different ways of complying with the fire protection requirements.

Exception: The entire residence including the addition does not require an AFES when the following conditions are met:

(a) The approved addition is greater than 500 square feet and the cumulative floor area is 3,600 square feet or less and an approved local, hard wired or similarly configured, alarm system are installed throughout the existing structure and the addition,

(b) No Planning or Building Department variances or exceptions are needed to accommodate the addition,

(c) Exception (a) may be used only once for the first addition or conversion of existing space to habitable space occurring after January 1, 2008,

(d) The addition or modification meets the city requirements for detached secondary/accessory dwelling units, or

(e) The addition or modification meets the city requirements for attached secondary/accessory dwelling units.

Add: 903.2.24 Repair/Retrofit. All occupancies except Group U occupancies exempted in 903.2 damaged during a fire or natural disaster shall require an automatic fire-extinguishing system to be installed in the entire structure. Retrofit criteria shall be as follows:

1. All installations of automatic fire extinguishing systems and signaling devices shall comply with the then current code.
2. Any occupancy that has been damaged as a result of a fire or natural disaster, except as otherwise noted, shall be retrofitted with an automatic fire extinguishing system to the entire building and structure in accordance with the following criteria:
    a. When the estimated value of repair is less than 50 percent (50%) of the replacement value of the structure, the damaged portion(s) may be restored to their pre-damaged condition.
    b. When the estimated value of repair is 50 percent (50%) or more of the replacement value of the structure, the entire building shall be retrofitted with an automatic fire extinguishing system.

Add: 903.2.25 Retrofit for Essential Services Facilities. When the estimated value of repair contained in the engineering evaluation is more than thirty percent (30%) of the replacement value of the structure, the entire building shall be retrofitted with an automatic fire extinguishing system.

Add: 903.2.26 Retrofit for Historic Buildings or Structures. The minimum criteria for retrofit of Historic Buildings or Structures shall be in accordance with the California Code of Regulations and the State of California Historic Building Code, shall apply.

Where conflicts exist between the standards contained herein and the State of California Historic Building Code, the Historic Building Code shall govern.

2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
INTERNATIONAL CODE COUNCIL Ag—t with ICC. No . RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #1020392239 by third Single user copyingand networking ANY UNAUIYORIZED License
arther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netwo
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

Amend: 903.3.1.2 NFPA 13R in Group R Occupancies. Automatic sprinkler system in group R occupancies up to and including 4 stories in height shall be permitted to be installed throughout in accordance with NFPA 13R as amended in Chapter 80 and as follows.

The sprinkler system shall include protection in the following areas: garages, carports, bathrooms, concealed spaces, closets, water heater closets, laundry rooms, attic spaces, under walkways, or overhangs, balconies or decks greater than four feet in depth, at each floor under stair landing that is wholly or partially enclosed, and other areas where deemed necessary by the Fire Code Official and the Building Official to protect the public health and safety.

The number of stories of Group R occupancies constructed in accordance with Sections 510.2 and 510.4 of the California Building Code shall be measured from the horizontal assembly creating separate buildings.

Add: 903.3.1.3.1 NFPA 13D in Group R-3 Occupancies. An automatic fire sprinkler system shall be installed in all Group R-3 occupancies including garages, detached garages over 500 square feet, and other attached rooms.

When an Automatic Fire Extinguishing System is required, the system in R-3 occupancies up to 12,000 square feet shall be installed to a modified NFPA 13D standard as follows:

A modified NFPA 13D system shall include areas such as: garages, carports, bathrooms, concealed spaces, closets, water heater closets, laundry rooms and attic spaces, under walkways, overhangs or balconies over four feet in depth, at each floor under stair landing that is wholly or partially enclosed; and meet the following requirements:

1. A one-inch water meter or larger may be required to meet AFES hydraulic calculations.
2. For new residences over 5,000 square feet, hydraulic calculations shall be required for all sprinkler heads in the most remote fire area up to a maximum of four sprinkler heads. For new residences of less than 5,000 square feet, hydraulic calculations shall be required for all sprinkler heads in the most remote area up to a maximum of two sprinkler heads.
3. Fifteen gallons per minute for domestic use shall be added at the domestic and fire water supply split point.
4. In residences with high, sloped, beamed, soffited, cathedral ceilings or smooth flat ceilings greater than nine feet, additional fire sprinkler head discharge calculations may be required.
5. Dielectric fittings shall be provided when using copper with steel riser assemblies.
6. Each system shall have a single control valve arranged to shut off both the domestic and sprinkler systems.
7. In residential sprinkler projects, the Fire Code Official with the concurrence of the building official may grant alternate methods of construction.

Exceptions. This section does not apply to:

(a) Any structure exempt from permit requirements per the currently adopted California Building Code or the California Fire Code is exempt from the requirements for fire sprinklers.

(b) All exterior decks without roof covering adjacent to R-3 occupancies, unless otherwise required by the Fire Code Official or building official. This exemption shall not apply to R-3 occupancies in the Wildland-Urban Interface Area.

Add: 903.3.5.3 Underground water supply. The location of the fire department connection, post indicator valve and the routing of the water supply for multi-building facilities shall be evaluated on an individual basis.

Amend: 903.4.2 Monitoring. Alarm, supervisory and trouble signals shall be distinctly and descriptively different, transmitted to the control panel, local annunciator and automatically transmitted to an approved central station, remote supervising station, or proprietary supervising station as defined in NFPA 72. When approved by the Fire Code Official, signals may sound an audible signal at a constantly attended location.

Amend: 903.4.3 Alarms. Approved audible devices shall be connected to every automatic sprinkler system. Such sprinkler water-flow alarms devices shall be activated by water flow equivalent to the flow of a single sprinkler of the smallest orifice size installed in the system. Alarm devices shall be provided inside each tenant space in a normally occupied area and on the exterior of the building in an approved location. Where afire alarm system is installed, actuation of the automatic sprinkler system shall activate the building fire alarm system.

2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
INTERNATIONAL CODE COUNCIL Ag—t with ICC. No . RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 by third Single user copyingand networking ANY UNAUIYORIZED License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netwo
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

Group R-3 occupancies shall have local alarms. Local alarms shall be of sufficient intensity to be clearly audible in all bedrooms over background noise levels with all intervening doors closed.

1. An exterior alarm bell shall be installed on the front ⅓ of the building facing public or private street access.
2. Interior alarm devices (minimum DCBL rating of 88) may be recessed into the wall, centrally located between sleeping rooms in hallway.
3. Such alarms shall be audible in all sleeping rooms with doors closed.

Add: 903.4.4 Central Station Monitoring. An approved central alarm monitoring company shall mean approved by the State Fire Code Official or a nationally recognized testing laboratory. All alarm transmitting devices and systems shall be installed and maintained in accordance with nationally recognized standards.

Valve supervision, water-flow alarm and trouble signals shall be distinctly different and shall be automatically transmitted to an approved central station, remote station or proprietary supervising station as defined by national standards or, when approved by the building official with the concurrence of the Fire Code Official, sound an audible signal at a consistently attended location.

Exceptions:

(a) Underground key or hub valves in roadway boxes provided by the municipality or public utility need not be supervised.

(b) Monitored systems are not required for Group R-3 occupancies.

Add: 903.7 Underground corrosion protection. A corrosion protection plan, including details and specifications for all ferrous underground piping must be designed and provided by a qualified corrosion engineer.

Exception: underground piping systems with cathodic protection on all ferrous piping.

Add: 903.8 Control Valves. Control valves and flow switches shall be installed on each floor. All control valves shall be monitored by a Central Station.

Exceptions:

1. Control valves per floor not required on single family houses.
2. Existing buildings where T.I. work modifications to a sprinkler system covers less than 20 sprinkler heads need not upgrade to have separately monitored floors.
3. Vertically-separated individual R-2 dwelling units (townhomes) with individual water meters may have dual-service meters when approved by the water purveyor.

Add: 903.9 Stages. All stages shall be provided with an automatic fire extinguishing system. Such systems shall be provided throughout the stage and in dressing rooms, workshops, storerooms and other accessory spaces contiguous to such stages.

Add: 903.10 Stairs. An automatic sprinkler system shall be installed in enclosed usable space below or over a stairway in all occupancies.

Add: 903.11 Speculative Warehousing. The sprinkler system shall be designed to discharge at the following rates:

1. Where clear ceiling heights are 20 feet or less, 0.33 gallons per minute, per square foot, over a minimum area of 3,000 square feet.
2. Where clear ceiling heights are between 20 and 30 feet, 0.495 gallons per minute, per square foot, over a minimum area of 3,000 square feet.
3. Where clear ceiling heights are over 30 feet, 0.60 gallons per minute, per square foot, over a minimum of 3,000 square feet.

Add: 903.12 Modification to existing automatic fire extinguishing system (AFES). All changes or additions to any existing automatic fire sprinkler systems or underground fire lines must comply with all regulations within this Section.

Section 904. Alternative Automatic Fire-Extinguishing Systems — *Amend Section 904 as follows:*

2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
INTERNATIONAL CODE COUNCIL Ag—t with ICC. No , RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 by third Single user copyingand networking ANY UNAUIYORIZED License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netw
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

Add: 904.14.6 Ventilating Hood and Duct Systems and Air Handlers. All buildings with an existing or new fire alarm/sprinkler monitoring control panel shall interconnect all hood and duct systems and air handlers equal or greater than 2000 cfm to the alarm panel. The hood and duct shall report to a central station as a fire condition. Air handlers shall report as a supervisory or trouble condition when the building is provided with fire sprinklers. They shall report as an alarm in buildings without fire sprinklers.

Section 905. Standpipes - *Amend Section 905 as follows:*

Add: 905.1.1 Hose connections. All Class I, II and III standpipe outlets in multi-storied buildings or buildings with basements shall be installed on intermediate landings between floors, unless otherwise approved by fire code official.

Amend: 905.3.2 Group A.

Exceptions: Deleted.

Section 907. Fire Alarm and Detection Systems - *Amend Section 907 as follows:*

Amend: 907.1.3 Equipment. Systems and their components shall be California State Fire Code Official listed and approved for the purpose for which they are installed. The building owner shall provide a serially numbered certificate from an approved nationally recognized testing laboratory for all fire alarm systems indicating that the system has been installed in accordance with the approved plans and specification and meets minimum NFPA Standards. A copy shall be provided to the Fire Code Official's office at no cost to the city. Certification shall be required for all new systems to be installed after January 1, 1996. Existing systems that can no longer be serviced or maintained or those that are deemed problematic shall also be required to obtain this certification within 12 months of notification.

Add: 907.1.3.1 Remote Annunciator Location. All new or existing systems that require a new Fire Alarm Control Panel shall have a remote annunciator at the main entrance. It shall be visible to approaching emergency personnel.

Amend: 907.2 Where required—new buildings and structures. An approved fire alarm system installed in accordance with the provisions of this code and NFPA 72 shall be provided in new buildings and structures in accordance with Sections 907.2. through 907.2.23 and provide occupant notification in accordance with Section 907.5, unless other requirements are provided by another section of this code.

A minimum of one manual fire alarm box shall be provided in an approved location to initiate a fire alarm signal for fire alarm systems employing automatic fire detectors or water-flow detection devices. Where other sections of this code allow elimination of fire alarm boxes due to sprinklers or automatic fire alarm systems, a single fire alarm box shall be installed at a location approved by the enforcing agency.

Exceptions: Deleted.

Add: 907.2.5.2 All new H occupancies, or existing H occupancies that require a new fire alarm control panel, and that have a local detection systems(s) shall interconnect, or otherwise configure, the system(s) to report to a Central Station as a fire condition or alarm condition. The report shall be in nomenclature easy to understand (e. g. Water, not H20).

Amend: 907.2.9.1 Manual fire alarm system. Exception: (3) Deleted.

Amend: 907.3 Fire safety functions. Automatic fire detectors utilized for the purpose of performing fire safety functions shall be connected to the building's fire alarm control unit where a fire alarm or sprinkler monitoring system is installed. Detectors shall, upon actuation, perform the intended function and activate the alarm notification appliance or activate a visible and audible supervisory signal at a constantly attended location when approved by the Fire Code Official. In buildings not required to be equipped with a fire alarm or sprinkler monitoring system, the automatic fire detector shall be powered by normal electrical service and, upon actuation, perform the intended function. The detectors shall be located in accordance with NFPA 72.

Amend: 907.3.1 Duct Smoke Detectors. Smoke detectors installed in ducts shall be listed for the air velocity, temperature and humidity present in the duct. Duct smoke detectors shall be connected to the building's fire alarm control unit when a fire alarm or sprinkler monitoring is installed. Activation of a duct smoke detector shall initiate a visible and audible supervisory signal at a central station or when approved by the Fire Code Official at a constantly attended location and shall perform the

2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
INTERNATIONAL CODE COUNCIL Ag—t with ICC. No , RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 by third Single user copyingand networking ANY UNAUIYORIZED License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netw
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

intended fire safety function in accordance with this code and the California Mechanical Code. Duct smoke detectors shall not be used as a substitute for required open area detection.

Exceptions:

1. The supervisory signal at a constantly attended location is not required where duct smoke detectors activate the building's notification appliances.
2. In occupancies, not required to be equipped with a fire alarm or sprinkler monitoring system, actuation of a smoke detector shall activate a visible and an audible signal in an approved location and shall be identified as air duct detector supervisory.

Add: 907.5.2.1.5 Audible Alarms. Approved audible devices shall be connected to every automatic sprinkler system. Such sprinkler water-flow alarms devices shall be activated by water flow equivalent to the flow of a single sprinkler of the smallest orifice size installed in the system. Audible alarm devices shall be provided inside each tenant space in a normally occupied area and on the exterior of the building in an approved location. Where a fire alarm system or sprinkler water flow monitoring is installed, actuation of the automatic sprinkler system shall activate the building fire alarm system.

Amend: 907.6.2 Power Supply. The primary and secondary power supply for the alarm system shall be provided in accordance with NFPA 72.

Exception: Deleted.

Amend: 907.6.6 Monitoring. Fire alarm system shall transmit distinctly and descriptively different alarm, supervisory and trouble signals to an approved supervising station in accordance with NFPA 72 or when approved by the Fire Code Official, shall sound an audible signal at a constantly attended location.

Exceptions:

1. Single and multiple-station smoke alarms required by Section 907.2.10.
2. Group I-3 occupancies shall be monitored in accordance with Section 907.2.6.3
3. Automatic sprinkler systems in one and two family dwellings.

Add: 908.3.1 Carbon dioxide (CO2) systems all other occupancies. Emergency alarm system shall comply with section 5307.3.2. Emergency alarm system shall be interconnected and monitored by building fire alarm system.

Section 909 Smoke Control Systems – *Amend Section 909 as follows*:

Amend: 909.12.1 Verification. Control systems for mechanical smoke control systems shall include provisions for verification. Verification shall include positive confirmation of actuation, testing, manual override and the presence of power downstream of all disconnects. A preprogrammed weekly test sequence shall report abnormal conditions audibly, visually and by printed report. The preprogrammed weekly test shall operate all devices, equipment, and components used for smoke control.

Exception: Where verification of individual components tested through the preprogrammed weekly testing sequence will interfere with, and produce unwanted effects to, normal building operation, such individual components are permitted to be bypassed from the preprogrammed weekly testing, where approved by the fire code official and in accordance with both of the following:

1. Where the operation of components is bypassed from the preprogrammed weekly test, presence of power downstream of all disconnects shall be verified weekly by a listed control unit.
2. Testing of all components bypassed from the preprogrammed weekly test shall be in accordance with Section 909.22.6 California Fire Code.

The status of dampers shall be determined using limit or proximity switches installed at the damper or incorporated into the damper actuator. Where multiple dampers are grouped together in an assembly requiring one or more actuators, each damper

2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
INTERNATIONAL CODE COUNCIL Ag—t with ICC. No . RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 by third Single user copyingand networking ANY UNAUIYORIZED License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netwo
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

shall be independently controlled by a separate actuator and provided with an individual limit or proximity switch, or the dampers shall be linked together by a reliable and durable mechanical means or otherwise by permanent means into one or more groups, with each group provided with a common limit or proximity switch.

The status of fans shall be determined by sensing the airflow downstream of the fans using pressure differential switches or transmitters or by other means of positive proof of airflow where approved by the enforcing authority.

Periodic visual inspection of smoke control systems, including smoke dampers and fire dampers shall be required in accordance with Section 909.22.7 of the Oakland Fire Code.

Amend: 909.22 Maintenance. Smoke control systems shall be maintained to ensure to a reasonable degree that the system is capable of controlling smoke for the duration required. The system shall be maintained in accordance with the manufacturer's instructions and Sections 909.22.1 through 909.22.7 and Section 909.23.

Add: 909.22.7 Periodic Visual Inspection. Periodic visual inspection of smoke control systems, including smoke dampers and fire dampers, shall be required in accordance with Section 909.22 and Section 909.23, of the Oakland City Code.

Add: 909.23 Fire Damper, Smoke Damper, and Smoke and Heat Vents, Smoke Control Systems, and Mechanical Smoke Removal Systems Inspections

Add: Section 909.23.1 Purpose and Intent. Heating, Ventilating and Air Conditioning (HVAC) Fire Damper, Smoke Damper, and Smoke and Heat Vents, Smoke Control Systems, and Mechanical Smoke Removal Systems Inspections shall be completed for the purpose of ensuring that Fire Dampers, Smoke Dampers, Combination Fire/Smoke Dampers and Smoke Control Systems in non-residential buildings are in working order to prevent the spread of fire and smoke throughout non-residential buildings.

Add: Section 909.23.2 Periodic Testing. (a) All owners of non-residential buildings shall be responsible for ensuring that Smoke Dampers, Fire Dampers, Smoke and Heat Vents, Smoke Control Systems, and Mechanical Smoke Removal Systems required to be installed in buildings pursuant to the California Building Standards Code are inspected and tested as required by NFPA standards 80, 92, 105, and 204, as applicable, and as otherwise set forth in state regulations.

(b) Fire Dampers and Smoke Dampers (including combination fire and smoke dampers) in buildings shall be periodically inspected and tested one year after installation and once every four years thereafter, except for buildings containing a hospital, as required by NFPA Standards 80 and 105. Fire Dampers and Smoke Dampers (including combination fire and smoke dampers) in buildings containing a hospital shall be periodically inspected and tested one year after installation and once every six years thereafter, as required by NFPA Standards 80 and 105.

(c) The periodic testing of Fire Dampers and Smoke Dampers (including combination fire and smoke dampers) shall include the Visual Inspection Method as defined in the Periodic Testing sections of NFPA 80 and NFPA 105. The Remote Inspection Method set defined in the Periodic Testing sections of NFPA 80 and 105 shall not be used in place of visual inspection for the periodic testing required under this section. All Fire Dampers and Smoke Dampers (including combination fire and smoke dampers) shall be tested, according to the aforementioned schedule, regardless of location.

(d) All owners of non-residential Buildings shall be responsible for ensuring that Smoke and Heat Vents required to be installed pursuant to the California Building Standards Code are periodically tested as required by section 910.5.1 and NFPA 204, and as otherwise set forth in state regulations.

(e) All owners of non-residential Buildings shall be responsible for ensuring that Smoke Control Systems required to be installed pursuant to the California Building Standards Code are periodically tested as required by Section 909.22 and NFPA 92, and by NFPA Standards 80, 105, and 204, as applicable, and as otherwise set forth in state regulations. Dedicated Smoke Control Systems shall be tested at least semiannually. Non-Dedicated Smoke Control Systems shall be tested at least annually. Testing of Smoke Control Systems shall include tests to determine airflow quantities and pressure differences are code compliant, including

2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
INTERNATIONAL CODE COUNCIL Ag—t with ICC. No , RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #1020392239 by third Single user copyingand networking ANY UNAUIYORIZED License
arther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netwo
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

at the following locations: (1) across smoke barrier openings; (2) at the air makeup supplies; and (3) at smoke exhaust equipment.

2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
INTERNATIONAL CODE COUNCIL Ag—t with ICC. No . RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #1020392239 by third Single user copyingand networking ANY UNAUIYORIZED License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netw
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

(f) All owners of non-residential Buildings shall be responsible for ensuring that Mechanical Smoke Removal Systems required to be installed pursuant to the California Building Standards Code are periodically tested as required by Section 910.5.2 and NFPA 204, and as otherwise set forth in state regulations.

(g) Inspections and tests under this section shall be performed by a qualified technician.

(1) For purposes of this section a technician qualified to inspect and test Fire Dampers, Smoke Dampers, and Smoke and Heat Vents is either: (a) a technician that possesses a California State Fire Training (SFT) Fire Inspector 2 certification and is employed by the Oakland Fire Department; or (b) a technician that possesses certification from the International Certification Board as a HVAC Fire and Smoke Damper Technician or through an equivalent certification program accredited under the ISO/IEC 17024 personnel certification standard and is employed and supervised by a licensed C-20, C-61/D-62 contractor.

(2) For purposes of this section a technician qualified to inspect and test Smoke Control Systems and Mechanical Smoke Removal Systems is either: (a) a technician that possesses a California State Fire Training (SFT) Fire Inspector 2 certification and is employed by the Oakland Fire Department; or (b) a technician that (i) possesses certification from the International Certification Board as a Smoke Control Systems Technician or through an equivalent certification program accredited under the ISO/IEC 17024 Personnel Certification standard, (ii) is certified to perform testing, adjusting, and balancing of Heating, Ventilation, and Air Conditioning Systems through a certification body accredited under the ISO/IEC 17024 Personnel Certification standard, and (iii) is employed and supervised by a licensed C-20, C-61/D-62 contractor.

Add: Section 909.23.3 Compliance Certification. (a) If the Smoke Dampers, Fire Dampers, Smoke and Heat Vents, Smoke Control Systems, and Mechanical Smoke Removal Systems pass the applicable inspections and tests as set forth in Sections 909.23.2, 910.5.1 and 910.5.2, the qualified technician performing the inspection or test shall execute a Compliance Certification which verifies such compliance, and provides the name of the individual(s) conducting the inspection or test and that person's employer, the name of the building owner and address of the property, the location of all Smoke Dampers, Fire Dampers, Smoke and Heat Vents, Smoke Control Systems, and Mechanical Smoke Removal Systems inspected or tested, and the date of the inspection or test. The building owner shall maintain a copy of the Compliance Certification on the building property and make the Certification available for inspection upon request.

(b) In the event an inspection or test reveals deficiencies in Smoke Dampers, Fire Dampers, Smoke and Heat Vents, Smoke Control Systems, and Mechanical Smoke Removal Systems, the qualified technician(s) who conducted the inspection or test shall prepare a Deficiency Report for the building owner identifying the nature of the deficiency and reasons for non-compliance. The Deficiency Report shall contain the name of the qualified technician(s) conducting the inspection or test and that person's employer, the name of the building owner, address of the property, the location of all Smoke Dampers, Fire Dampers, Smoke and Heat Vents, Smoke Control Systems, and Mechanical Smoke Removal Systems inspected or tested, and the date of the inspection or test. The building owner shall, without delay, take the necessary steps to ensure the defective equipment is replaced or repaired and that compliance with the applicable inspection and testing requirements has been achieved. A building that does not achieve compliance within 60 calendar days shall be deemed in violation of this section.

Add: Appendix 909.23.3

VERIFICATION OF FIRE SAFETY BUILDING INSPECTION

Building Address: _____

2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
INTERNATIONAL CODE COUNCIL Ag—t with ICC. No . RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #1020392239 by third Single user copyingand networking ANY UNAUIYORIZED License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netwo
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

Date of Last Inspection of Fire Dampers, Smoke Dampers, and Combination Fire/Smoke Dampers: _____

Pass: Yes / No. Date of Expiration of Inspection: _____.

Name of Inspector: _____.

Date of Last Inspection of Smoke and Heat Vents: _____.

Pass: Yes / No. Date of Expiration of Inspection: _____.

Name of Inspector: _____.

Name of Inspector: _____.

Date of Last Inspection of Smoke Control Systems: _____.

Pass: Yes / No. Date of Expiration of Inspection: _____.

Name of Inspector: _____.

Name of Inspector: _____.

Date of Last Inspection of Mechanical Smoke Removal Systems: _____.

Pass: Yes / No. Date of Expiration of Inspection: _____.

Name of Inspector: _____.

Amend: Section 910.5.1 Smoke and heat vents.

Smoke and heat vents shall be maintained in an operative condition. Inspection, testing and maintenance shall be in accordance with NFPA 204 except as follows:

1. Mechanically operated smoke and heat vents shall be inspected annually and operationally tested not less than every 5 years.
2. Gravity dropout smoke and heat vents shall be inspected annually.
3. Fused, damaged or painted fusible links shall be replaced.
4. Inspection and testing shall be performed by qualified technicians as defined in Section 909.23.2, subsection (g).
5. If smoke and heat vents pass the applicable inspections and tests, Compliance Certification shall be executed and maintained as required by Section 909.23.3, subdivision (a). If an inspection or test reveals deficiencies in smoke and heat vents, a Deficiency Report shall be prepared and corrective actions taken in compliance Section 909.23.3, subdivision (b). The notice of verification of testing and inspection required by Section 909.23.3, subdivision (c) shall include verification of the testing and inspection of smoke and heat vents.

Amend: 910.5.2 Mechanical smoke removal systems.

Mechanical smoke removal systems shall be maintained in accordance with NFPA 204 and the equipment manufacturer's instructions except as follows:

1. Systems shall be inspected and operationally tested annually.

2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
INTERNATIONAL CODE COUNCIL Ag—t with ICC. No , RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #1020392239 by third Single user copyingand networking ANY UNAUIYORIZED License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netwo
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

2. Testing shall include the operation of all system components, controls and ancillary equipment, such as makeup air openings.
3. A written schedule for routine maintenance and operational testing shall be established and testing shall be conducted in accordance with the schedule.
4. Inspection and testing shall be performed by qualified technicians as defined in Section 909.23.2, subsection (g).
5. If a mechanical smoke removal system passes the applicable inspections and tests, Compliance Certification shall be executed and maintained as required by Section 909.23.3, subdivision (a). If an inspection or test reveals deficiencies in a mechanical smoke removal system, a Deficiency Report shall be prepared and corrective actions taken in compliance Section 909.23.3, subdivision (b). The notice of verification of testing and inspection required by Section 909.23.3, subdivision (c) shall include verification of the testing and inspection of mechanical smoke removal systems.

Section 912 Fire Department Connections – *Amend Section 912 as follows:*

Add: 912.8 Color-Coding Requirements
All FDC caps shall be color-coded as follows:

Red: Indicates a standpipe-only system.

Green: Indicates a sprinkler-only system.

Yellow: Indicates a combination standpipe and sprinkler system.

Add: 912.8.1 Installation and Maintenance. Property owners shall ensure that FDC caps are installed and maintained in accordance with this section. Color-coded caps must be securely affixed, clearly visible from the street, and free from obstruction or damage. Caps shall be made of durable, weather-resistant material and shall not be painted or altered in a manner that obscures the designated color.

Add: 912.8.2 Inspection. Compliance with this section shall be verified during annual fire inspections conducted by the Oakland Fire Department. Non-compliant properties shall be issued a notice of violation and required to correct deficiencies within 30 days.

Section 914. Fire Protection Based on Special Detailed Requirements of Use and Occupancy - *Amend Section 914 as follows:*

Amend: 914.2.3 Emergency voice/alarm communication system. Covered malls buildings shall be provided with an emergency voice/alarm communication system. Emergency voice/alarm communication system serving a mall, required or otherwise shall be accessible to the fire department. The system shall be provided in accordance with Section 907.5.2.2.

CHAPTER 10 - MEANS OF EGRESS

Section 1033. Special Egress Graphics - *Add Section 1033 as follows:*

Add: 1033.1 General. When required by the Fire Code Official, a special egress graphics package shall be incorporated into new and existing structures. Such structures may include parking structures, warehouses, high-rise buildings, mid-rise buildings, complex projects, or when required by the Fire Code Official. The package may include one or more of the following:

1. Oversized exit identification. Signs or graphics shall be provided to assist in identification of exits, and shall be so designed and installed so as to be visible to occupants from a distance of not less than 300 feet (91,440 mm).
2. Supplemental egress graphics. Supplemental egress graphics shall be provided to assist in the orderly and safe evacuation or relocation of people. Such graphics shall be performance based and include way-finding to identify egress paths and termination points.

2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
INTERNATIONAL CODE COUNCIL Ag—t with ICC. No . RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 by third Single user copyingand networking ANY UNAUIYORIZED License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netw
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

3. Means of egress - finishes. Means of egress shall be painted and/or otherwise finished with building-standard finishes, or as otherwise approved by the Fire Code Official.

CHAPTER 11 - CONSTRUCTION REQUIREMENTS FOR EXISTING BUILDINGS

Section 1103. Fire Safety Requirements for Existing Buildings - *Amend Section 1103 as follows:*

Amend: 1103.2 Exception: Where the fire code official has determined that the 800 MHZ and 700 MHz frequencies for radio coverage within the building are not needed.

Amend: 1103.7.6 Group R-2. An automatic and manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in existing Group R-2 occupancies more than three stories in height or with more than 16 dwelling or sleeping units.

Exceptions: *Deleted*

CHAPTER 12 - ENERGY SYSTEMS

Section 1204. Portable Generators - *Amend Section 1204 as follows:*

Add: 1204.3.1 Standby power generators shall have a permit issued by the Fire Code official for a period of no longer than 180 days.

Section 1206 - Stationary Fuel Cell Power Systems - *Amend Section 1206 as follows:*

Add: 1206.7.1 Final approval of the Stationary Cell Power System must be provided by the Fire Code Official prior to installation of the protective barriers.

Section 1207. Electrical Energy Storage Systems - *Amend Section 1207 as follows:*

Add: 1207.6.1.2.5 Failure of Ventilation System. Failure of the ventilation system shall automatically disengage the charging system.

CHAPTER 28 - LUMBERYARDS AND AGRO-INDUSTRIAL, SOLID BIOMASS AND WOODWORKING FACILITIES

Section 2807. Storage and Processing of Wood Chips and Hogged Material Associated with Timber and Lumber Production Facilities - *Amend Section 2807 as follows:*

Add: 2807.6 Fire Protection Water Supply Systems. An approved fire protection water supply and hydrant system suitable for the fire hazard involved shall be provided for open storage yards and processing areas. Hydrant systems shall be installed in accordance with NFPA 24.

CHAPTER 33 - FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION

Section 3307. Fire Department Site Access and Water Supply - *Amend Section 3307 as follows:*

Amend: 3307.1.2 Stairways Required. Each level above the first story in new multi-story buildings shall be provided with at least two usable exit stairways after the floor decking is installed. The stairways shall be continuous and discharge to grade level. Stairways serving more than two floor levels shall be enclosed (with openings adequately protected) after exterior walls/windows are in place. Exit stairs in new and in existing, occupied buildings shall be lighted and maintained clear of debris and construction materials at all times.

Exception: For new multi-story buildings, one of the required exit stairs may be obstructed on not more than two contiguous floor levels for the purposes of stairway construction (i.e., installation of gypsum board, painting, flooring, etc.).

2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
INTERNATIONAL CODE COUNCIL Ag—t with ICC. No . RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #1020392239 by third Single user copyingand networking ANY UNAUIYORIZED License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netwo
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

Add: Section 3307.1.4 Required Means of Egress. All new buildings under construction shall have a least one unobstructed means of egress. All means of egress shall be identified in the Fire Protection Plan.

CHAPTER 50 - HAZARDOUS MATERIALS - GENERAL PROVISIONS

Section 5003. General Requirements - *Amend Section 5003 as follows:*

Add: 5003.2.10 Fire Protection for Workstations. When the building is protected by an automatic fire sprinkler system, additional sprinkler protection in accordance with Section 5003.10 shall be provided for all combustible workstations where hazardous materials are dispensed, stored or used.

Exception: Internal fire protection is not required for Biological Safety Cabinets that carry NSF/ANSI certification and where aggregate quantities of flammable liquids in use or storage within the cabinet do not exceed 500 ml.

The Fire Code Official may approve alternate automatic fire-extinguishing systems. Activation of such systems shall deactivate the related processing equipment. An alternative automatic fire-extinguishing system other than automatic fire sprinkler heads may be installed where:

(a) In process equipment that operates at temperatures exceeding 932 degrees F (500 degrees C).

(b) In exhaust ducts 10 inches (254 mm) or less in diameter for flammable gas storage cabinets that are part of a workstation.

Exception: Piping and tubing within the space defined by the walls of corridors and the floor or roof above or in concealed space above other occupancies when installed in accordance with Section 415.11 of the California Building Code as required for Group H, Division 5 Occupancies.

(c) All primary piping for toxic, highly toxic and moderately toxic gases shall pass a helium leak test of 1x10-9 cubic centimeters/second where practical, or shall pass testing in accordance with an approved, nationally recognized standard. Tests shall be conducted by a qualified "third party" not involved with the construction of the piping and control systems.

Add: 5003.5.2 Ventilation Ducting. Product conveying ducts for venting hazardous materials operations shall be labeled with the hazard class of the material being vented and the direction of flow.

Add: 5003.5.3 "H" Occupancies. In "H" occupancies, all piping and tubing may be required to be identified when there is any possibility of confusion with hazardous materials transport tubing or piping. Flow direction indicators are required.

Add: 5003.9.11 Monitoring. Liquid and solid hazardous materials storage or use systems must be monitored on a regular or continuous basis. A written monitoring plan must be submitted for approval by the Fire Code Official and must be included in the Hazardous Materials Business Plan. Monitoring methods may include but are not limited to the following:

1. Visual inspection, no less than monthly (requires trained personnel and documentation).
2. Approved continuous leak detection and alarm system.
3. Any system which will provide continuous, reliable monitoring of the primary container(s) capable of alerting occupants to an alarm or trouble condition; all systems are subject to approval by the Fire Code Official.

Add: 5003.9.12 Spill Control for hazardous materials liquids. Regardless of the exempt amounts and containment requirements in Chapter 50, all containers of liquid hazardous materials regulated by this or any other article shall be provided with an approved means to control spills. The spill control shall take into consideration the amount and hazard of the materials and the nature of the facility.

Add: 5003.9.13 Secondary Containment requirements. When deemed necessary to protect life safety, emergency responders, or the environment and regardless of the exempt amounts and secondary containment requirements in Chapter 50, the Fire Code Official, or his designee, may require containers of liquid, solid, or gaseous hazardous materials regulated by this or any other article to be provided with secondary containment in accordance with Section 5004.2.2.

If parts of this code differ in their requirements for secondary containment, the more stringent shall apply. The chief may require outside containment areas to be covered with a roof or canopy for protection from the environment.

2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
INTERNATIONAL CODE COUNCIL Ag—t with ICC. No , RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 by third Single user copyingand networking ANY UNAUIYORIZED License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netw
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

Amend: 5003.10.4.3 Toxic, highly toxic and asphyxiant gases shall be limited to a container of a maximum water capacity of 1 lb.

Section 5004. Storage - *Amend Section 5004 as follows:*

Amend: 5004.2.1 Spill control for hazardous materials liquids. Rooms, buildings or areas used for the storage of hazardous materials in excess of their permit amount or fifty-five (55) gallons, whichever is less, shall be provided with spill control to prevent the flow of liquids to adjoining areas. Floors in indoor locations and similar surfaces in outdoor locations shall be constructed to contain a spill from the largest single vessel by one of the following methods:

1. Liquid-tight sloped or recessed floors in indoor locations or similar areas in outdoor locations.
2. Liquid-tight floors in indoor locations or similar areas in outdoor locations provided with liquid-tight raised or recessed sills or dikes.
3. Sumps and collection systems.
4. Other approved engineered systems.

Except for surfacing, the floors, sills, dikes, sumps and collection systems shall be constructed of noncombustible material, and the liquid-tight seal shall be compatible with the material stored. When liquid-tight sills or dikes are provided, they are not required at perimeter openings that are provided with an open-grate trench across the opening that connects to an approved collection system.

Amend: 5004.2.2 Secondary containment for hazardous materials liquids and solids.

Buildings, rooms or areas used for the storage of hazardous materials liquids or solids shall be provided with secondary containment in accordance with this Section when the capacity of an individual vessel or the aggregate capacity of multiple vessels exceeds the following:

1. Liquids: Capacity of an individual vessel exceeds 55 gallons (208.2L) or the aggregate capacity of multiple vessels exceeds 1,000 gallons (3,785L); and
2. Solids: Capacity of an individual vessel exceeds 550 pounds (248.8 kg) or the aggregate capacity of multiple vessels exceeds 10,000 pounds (4,524.8 kg).

CHAPTER 53 - COMPRESSED GASES

Section 5307. Compressed Gases Not Otherwise Regulated - *Amend Section 5307 as follows:*

Add: 5307.4.8 Existing facilities. An existing carbon dioxide enrichment system shall be installed in accordance with Section 5307.4 within a timeframe established by the adopting authority.

CHAPTER 56 - EXPLOSIVES AND FIREWORKS

Section 5601. General - *Amend Section 5601 as follows:*

Amend: 5601.1 Scope. The provisions of this Chapter shall govern the possession, manufacture, storage, handling, sale and use of explosives, explosive materials, fireworks, rockets, emergency signaling devices and small arms ammunition. Please also refer to Oakland Municipal Code Chapter 8.06.

Exceptions:

(a) The Armed Forces of the United States, Coast Guard or National Guard.

(b) Explosives in forms prescribed by the official United States Pharmacopoeia.

(c) The possession, storage and use of small arms ammunition when packaged in accordance with DOT packaging requirements.

2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
INTERNATIONAL CODE COUNCIL Ag—t with ICC. No , RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 by third Single user copyingand networking ANY UNAUIYORIZED License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netwo
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

(d) The possession, storage and use of not more than 1 pound (0.454kg) of commercially manufactured sporting black powder, 20 pounds (9 kg) of smokeless powder and 10,000 small arms primers for hand loading of small arms ammunition for personal consumption.

(e) The use of explosive materials by federal, state and local regulatory, law enforcement and fire agencies acting in their official capacities.

(f) Special industrial explosive devices which in the aggregate contain less than 50 pounds (23 kg) of explosive materials.

(g) The possession, storage and use of blank industrial-power load cartridges when packaged in accordance with DOT packaging regulations.

(h) Transportation in accordance with DOT 49 CFR Parts 100-185.

(i) Items preempted by federal regulations.

(j) Items preempted by state law and/or local regulations.

Add: 5601.1.1.1 Explosives. The possession, manufacture, storage, sale, handling, and use of explosives are prohibited.

Exceptions:

(a) Possession, storage, handling and use of explosives for test and research purposes are allowed with permit and approval of the Fire Code Official.

(b) Possession, storage, handling and use of squibs, explosive nuts or bolts and similar small quantity explosive devices are allowed with permit and approval of the Fire Code Official.

Amend: 5601.1.3 Fireworks. As specified in Chapter 8.06 of the Oakland Municipal Code, the possession, manufacture, storage, sale, handling, and use of fireworks, including those fireworks classified as Safe and Sane by the California State Fire Marshal, are prohibited.

Exceptions:

(a) Storage and handling of fireworks as allowed in Section 5604.

(b) Manufacture, assembly and testing of fireworks as allowed in Section 5605 and Health and Safety Code Division 11.

(c) A permit issued by the Fire Code Official is required according to California Fire Code Chapter 105 for the use of fireworks for firework displays, pyrotechnics before a proximate audience and Storage, handling and use of fireworks and pyrotechnic special effects when used for public or proximate audience displays, in motion pictures, television, theatrical and or group entertainment productions. Permitted fireworks shall be handled and used by a licensed pyrotechnic operator in accordance with Title 19, Division 1, Chapter 6 Fireworks reprinted in Section 5608 of the California Code of Regulations and permitted in accordance with this Chapter and Health and Safety Code Division 11.

(d) A permit shall be issued by the Fire Code Official for storage, handling and use of pyrotechnic special effects fireworks inside of occupancies equipped throughout with an approved fire sprinkler system, when used for proximate audience displays or special effects in theatrical, television, motion picture and group entertainment productions and when handled and used by a licensed pyrotechnic operator in accordance with Title 19 of the California Code of Regulations and permitted in accordance with this Chapter.

(e) Deleted.

Add: 5601.1.4.1 Model Rocketry. The storage, handling, and use of model rockets shall be in accordance with Title 19 of the California Code of Regulations and as approved by the Fire Code Official.

Amend: 5601.2.2 Sale and retail display. Sale, transfer, possession and use of fireworks prohibited. In accordance with Oakland Municipal Code 8.06.030.

CHAPTER 57 - FLAMMABLE AND COMBUSTIBLE LIQUIDS

Section 5701. General - *Amend Section 5701 as follows:*

2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
INTERNATIONAL CODE COUNCIL Ag—t with ICC. No . RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #1020392239 by third Single user copyingand networking ANY UNAUIYORIZED License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netwo
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

Add: 5701.4.1 Plans. Plans shall be submitted with each application for a permit to store liquids outside of buildings in drums or tanks. The plans shall indicate the method of storage, quantities to be stored, distances from buildings and property lines, access ways, fire-protection facilities, and provisions for spill control and secondary containment.

All plans and specifications shall be approved by Alameda County Environmental Health Services.

Section 5707. On-Demand Mobile Fueling Operations - *Amend Section 5707 as follows:*

Amend: 5707.5.2 Break-away device. A listed break-away device shall be provided at the nozzle. NFPA 30A 14.3.3.

Add: 5707.5.6 Fuel pump. The fuel pump shall be listed to UL 79, Power Operated Pumps for Petroleum Dispensing Product. NFPA 30A 14.3.6.

Add: 5707.5.7 Fuel meter. The meter shall be listed to UL 25, Meters for Flammable and Combustible Liquids and LP-Gas. NFPA 30A 14.3.7.

Add: 5707.6.7 Nighttime deliveries. Nighttime deliveries shall only be made in areas deemed adequately lighted by the authority having jurisdiction. NFPA 30A 14.4.1.

Add: 5707.6.8 Vehicle lights. The mobile fueling vehicle flasher lights shall be in operation while dispensing operations are in progress. NFPA 30A 14.4.2.

Add: 5707.6.9 Safety cones. Safety cones or barriers shall be employed to protect the vehicle fueling area. NFPA 30A 14.4.3.

Add: 5707.6.10 Expansion space. Expansion space shall be left in each motor vehicle fuel tank to prevent overflow in the event of temperature increase. NFPA 30A 14.4.4.

Add: 5707.6.11 Bonding. A means for bonding the mobile fueling vehicle to the motor vehicle shall be provided. Such bonding means shall be employed during fueling operations. NFPA 30A 14.4.5*.

A.14.4.5 The listed hose and nozzle assembly provides for bonding. However, where there is a plastic insert that prohibits an electrical/metallic connection with the customer vehicle while filling, then a separate means of bonding is required.

CHAPTER 58 - FLAMMABLE GASES AND FLAMMABLE CRYOGENIC FLUIDS

Section 5803. General Requirements — *Amend Section 5803 as follows:*

Add: 5803.3 Mobile gaseous fueling of hydrogen-fueled vehicles. Mobile fueling of hydrogen vehicles is prohibited unless approved by the Fire Code Official.

CHAPTER 60 - HIGHLY TOXIC AND TOXIC MATERIALS

Section 6002. Definitions - *Amend Section 6002 as follows:*

Add: MODERATELY TOXIC GAS. Moderately toxic gas is a chemical or substance that has a median lethal concentration (LC so) in air more than 2000 parts per million but not more than 5000 parts per million by volume of gas or vapor, when administered by continuous inhalation for an hour, or less if death occurs within one hour, to albino rats weighing between 200 and 300 grams each.

Maximum Threshold Quantity (Max TQ) is the maximum quantity of a moderately toxic or toxic gas, which may be stored in a single vessel before a more stringent category of regulation is applied. The following equation shall be used to calculate the Max TQ:

Max TQ (pounds) = LC_{50} (ppm) x 2 lb.

Gas Mixtures, the LC_{50} value for a gas mixture containing toxic, highly toxic or moderately toxic components shall be calculated using the formula in Appendix E, Section 103.1.3.1.

2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
INTERNATIONAL CODE COUNCIL Ag—t with ICC. No . RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 by third Single user copyingand networking ANY UNAUIYORIZED License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netw
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

Section 6004. Highly Toxic and Toxic Compressed Gases - *Amend Section 6004 as follows:*

Amend: 6004.1 General. The storage and use of highly toxic and toxic compressed gases and those with health hazard rankings of 3 or 4 in accordance with NFPA 49 or NFPA704 shall comply with this Section.

Add: 6004.1.1.4 Other areas of Group B, F, M, S or L occupancies. Storage, use, and handling of highly toxic and toxic compressed gases shall comply with the following:

1. When located inside, highly toxic and toxic compressed gases shall be permitted, stored or used only when located within approved gas cabinets, exhausted enclosures, or gas rooms. See also Sections 6004.1.2, 6004.1.3, and 6004.2.2.6.

Exceptions:

1.1 Cylinders of compressed gases with a health hazard ranking of 4 and with a capacity not exceeding 10 cubic feet at normal temperature and pressure (NTP) are allowed in gas cabinets or fume hoods.

1.2 Cylinders of compressed gases with a health hazard ranking of 3 and with a capacity not exceeding 20 cubic feet at normal temperature and pressure (NTP) are allowed in gas cabinets, fume hoods or approved tools designed for their use.

2. When located outside, and when approved by the Fire Code Official, highly toxic and toxic compressed gases shall be kept under a canopy in accordance with Section 6004.3.3.

Add: 6004.1.4 Automatic Shut-Off Valve. An automatic shut-off valve, which is of a fail-safe-to-close design, shall be provided to shut off the supply of highly toxic gases for any of the following:

1. Activation of a manual fire alarm system.
2. Activation of the gas detection system.
3. Failure of emergency power.
4. Failure of primary containment.
5. Seismic activity.
6. Failure of required ventilation.
7. Manual activation at an approved remote location.

Add: 6004.1.5 Emergency Control Station. Signals from emergency equipment used for highly toxic gases shall be transmitted to an emergency control station or other approved monitoring station, which is continually staffed by trained personnel.

Add: 6004.1.6 Maximum Threshold Quantity. Toxic gases stored or used in quantities exceeding the maximum threshold quantity in a single vessel per control area or outdoor control area shall comply with the additional requirements for highly toxic gases of Section 6004 of this code.

Moderately toxic gases stored or used in quantities exceeding the maximum threshold quantity. In a single vessel per control area or outdoor control area shall comply with the additional requirements for toxic gases of Section 6004 of this code.

Add: 6004.1.7 Reduced Flow Valve. All containers of materials other than lecture bottles containing Highly Toxic material and having a vapor pressure exceeding 29 psi shall be equipped with a reduced flow valve when available. If a reduced flow valve is not available, the container shall be used with a flow-limiting device. All flow limiting devices shall be part of the valve assembly and visible to the eye when possible; otherwise, they shall be installed as close as possible to the cylinder source.

Add: 6004.1.8 Annual Maintenance. All safety control systems at a facility shall be maintained in good working condition and tested not less frequently than annually. Maintenance and testing shall be performed by persons qualified to perform the maintenance and tests. Maintenance records and certifications shall be available to any representative of the Fire Department for inspection upon request.

Add: 6004.1.9 Fire Extinguishing Systems. Fires and covered exterior areas for storage and use areas of materials regulated by this Chapter shall be protected by an automatic fire sprinkler system in accordance with NFPA 13. The design of the sprinkler

2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
INTERNATIONAL CODE COUNCIL Ag—t with ICC. No , RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 by third Single user copyingand networking ANY UNAUIYORIZED License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netwo
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

system for any room or area where highly toxic, toxic and moderately toxic gases are stored, handled or used shall be in accordance with Section 5004.5.

Add: 6004.1.10 Local Gas Shut Off. Manual activation controls shall be provided at locations near the point of use and near the source, as approved by the Fire Code Official. The Fire Code Official may require additional controls at other places, including, but not limited to, the entry to the building, storage or use areas, and emergency control stations. Manual activated shut-off valves shall be of a "fail safe-to-close design."

Add: 6004.1.11 Exhaust Ventilation Monitoring. For highly toxic gases and toxic gases exceeding threshold quantities, a continuous monitoring system shall be provided to assure that the required exhaust ventilation rate is maintained. The monitoring system shall initiate a local alarm. The alarm shall be both visual and audible and shall be designed to provide warning both inside and outside of the interior storage, use, or handling area.

Add: 6004.1.12 Emergency Response Plan. If the preparation of an emergency response plan for the facility is not required by any other law, responsible persons shall prepare, or cause to be prepared, and filed with the Fire Code Official, a written emergency response plan. If the preparation of an emergency response plan is required by other law, a responsible person shall file a copy of the plan with the Fire Code Official.

Add: 6004.1.13 Emergency Response Team. Responsible persons shall be designated the on-site emergency response team and trained to be liaison personnel for the Fire Department. These persons shall aid the Fire Department in preplanning emergency responses, identifying locations where regulated materials are stored, handled and used, and be familiar with the chemical nature of such material. An adequate number of personnel for each work shift shall be designated.

Add: 6004.1.14 Emergency Drills. Emergency drills of the on-site emergency response team shall be conducted on a regular basis but not less than once every three months. Records of drills conducted shall be maintained. Add: 6004.1.15 Cylinder Leak Testing. Cylinders shall be tested for leaks immediately upon delivery and again immediately prior to departure. Testing shall be approved by the Fire Code Official in accordance with appropriate nationally recognized industry standards and practices, if any. Appropriate remedial action shall be immediately undertaken when leaks are detected.

Add: 6004.1.15 Inert Gas Purge System. Gas systems shall be provided with dedicated inert gas purge systems. A dedicated inert gas purge system may be used to purge more than one gas, provided the gases are compatible. Purge gas systems inside buildings shall be located in an approved gas cabinet unless the system operates by vacuum demand.

Add: 6004.1.16 Seismic Shutoff Valve. An automatic seismic shut-off valve, which is of a fail-safe-to- close design, shall be provided to shutoff the supply of highly toxic and toxic and moderately toxic gases with an LC so less than 3000 parts per million upon a seismic event within 5 seconds of a horizontal sinusoidal oscillation having a peak acceleration of 0.3G (1.47m/sec^2) and a period of 0.4 seconds.

Amend: 6004.2 Indoor Storage and Use. The indoor storage or use of highly toxic and moderately toxic compressed gases shall be in accordance with Sections 6004.2.1 through 6004.2.2.10.3.3. The threshold quantity for highly toxic, toxic and moderately toxic gases for indoor storage and use are set forth in Table 6004.2.

Add: Table 6004.2 to read:

Threshold Quantities for Highly Toxic, Toxic and Moderately Toxic Gases for Indoor Storage and Use	
Highly Toxic	0
Toxic	10 cubic feet
Moderately Toxic	20 cubic feet

Amend: 6004.2.1 Applicability. The applicability of regulations governing the indoor storage and use of highly toxic, toxic, and moderately toxic compressed gases shall be as set forth in Sections 6004.2.1.1 through 6004.2.1.3.

Amend: 6004.2.1.1 Quantities Not Exceeding the Maximum Allowable Quantity per Control Area. The indoor storage or use of highly toxic, and moderately toxic gases in amounts exceeding the threshold quantity per control area set forth in Table 6004.2 shall be in accordance with Sections 5001, 5003, 6001, 6004.1 and 6004.2.

Amend: 6004.2.2 General Indoor Requirements. The general requirements applicable to the indoor storage and use of highly toxic and toxic compressed gases shall be in accordance with Sections 6004.2.2.1 through 6004.2.2.10.3.

2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
INTERNATIONAL CODE COUNCIL Ag—t with ICC. No . RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #1020392239 by third Single user copyingand networking ANY UNAUIYORIZED License
arther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netwo
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

Moderately toxic gases with an LC_{50} less than 3,000 parts per million shall comply with the requirements for toxic gases in Sections 6004.2.2.1 through 6004.2:2.10.3.

All other moderately toxic gases exceeding the threshold quantity shall comply with the requirements for toxic gases in Sections 6004.2.2.1 through 6004.2.2.7.

Amend: 6004.2.2.7 Treatment Systems. The exhaust ventilation from gas cabinets, exhausted enclosures, gas rooms and local exhaust systems required in Section 3704.2.2.4 and 3704.2.2.5 shall be directed to a treatment system. The treatment system shall be utilized to handle the accidental release of gas and to process exhaust ventilation. The treatment system shall be designed in accordance with Sections 3704.2.2.7.1 through 3704.2.2.7.5 and Section 510 of the California Mechanical Code.

Exceptions:

1. Highly toxic, toxic and moderately toxic gases storage. A treatment system is not required for cylinders, containers and tanks in storage when all of the following are provided:

1.1. Valve outlets are equipped with gas-tight outlet plug or caps.

1.2. Hand wheel-operated valves have handles secured to prevent movement.

1.3. Approved containment vessels or containment systems are provided in accordance with Section 3704.2.2.3.

Amend: 6004.3 Outdoor Storage and Use. The outdoor storage or use of highly toxic and moderately toxic compressed gases shall be in accordance with Sections 6004.3.1 through 6004.3.4. The threshold quantity for highly toxic, toxic and moderately toxic gases for outdoor storage and use are set forth in Table 6004.3.

Add: Table 6004.3 to read:

Threshold Quantities for Highly Toxic, Toxic and Moderately Toxic Gases for Outdoor Storage and Use	
Highly Toxic	0
Toxic	10 cubic feet
Moderately Toxic	20 cubic feet

Amend: 6004.3.1 Applicability. The applicability of regulations governing the outdoor storage and use of highly toxic, toxic, and moderately toxic compressed gases shall be as set forth in Sections 6004.3.1.1 through 6004.3.1.3.

Amend: 6004.3.1.1 Quantities Not Exceeding the Maximum Allowable Quantity per Control Area. The outdoor storage or use of highly toxic and toxic gases in amounts exceeding the threshold quantity per control area set forth in Table 6004.3 shall be in accordance with Sections 5001, 5003, 6001, 6004.1, and 6004.3.

Moderately toxic gases with an LC_{50} less than 3,000 parts per million in amounts exceeding the threshold quantity in Table 6004.3 shall comply with the requirements for toxic gases in Sections 5001, 5003, 6001, 6004.1 and 6004.3.

Moderately toxic gases in amounts exceeding the threshold quantity in Table 6004.3 shall comply with the requirements for toxic gases in Sections 5001, 5003, 6001, 6004.1 and 6004.3.2.1 through 6004.3.2.5.

Amend: 6004.3.3 Outdoor Storage Weather Protection for Portable Tanks and Cylinders. Weather protection in accordance with Section 5004.13 and this Section shall be provided for portable tanks and cylinders located outdoors and not within gas cabinets or exhausted enclosures. The storage area shall be equipped with an approved automatic sprinkler system in accordance with Section 903.

Exception: Deleted

CHAPTER 80 - REFERENCED STANDARDS

The reference standards in Chapter 80 of the 2025 California Fire Code are amended as provided in this Section.

Amend: NFPA 13-25 is amended as follows:

Amend: 16.10.6.2 Sprinkler drains shall discharge to the sanitary sewer, open planters having enough volume to contain the discharge, or bio swell approved by Building Services Department in accordance with CMC 13.16.

2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
INTERNATIONAL CODE COUNCIL Ag—t with ICC. No , RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 by third Single user copyingand networking ANY UNAUIYORIZED License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netwo
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

Amend: 16.12.5.7 Fire department connection shall be located on each street of fire department access. When the fire department connection is located within 10 feet of the corner of a building adjacent to the fire department access, the fire department connection shall service both streets.

Amend: NFPA 13D-25 is amended as follows:

Amend: 6.2. Water Supply Sources. When approved by the Fire Code Official and the requirements are met, the following water supply sources shall be considered to be acceptable by this standard.

1. A connection to a reliable waterworks system with or without an automatically operated pump.
2. An elevated tank.
3. A pressure tank designed to American Society of Mechanical Engineers (ASME) standards for the pressure vessel with a reliable pressure source.
4. A stored water source with an automatically operated pump.
5. A well with a pump of sufficient capacity and pressure to meet the sprinkler system demand. The stored water requirement of 6.1.2 or 6.1.3 shall be permitted to be a combination of the water and the well (including the refill rate) plus the water in the holding tank if such tank can supply the sprinkler system.

Amend: 6.2.4 Where a water supply serves both domestic and fire sprinkler systems, 15 gpm shall be added to the sprinkler system demand at the point where the systems are connected, to determine the size of common piping and the size of the total water supply requirements where no provision is made to prevent flow into the domestic water system upon operation of a sprinkler.

Amend: Figure A.6.2 (a, b, or c) is amended as follows:

Sprinkler control valve and rubber-faced check valve is not permitted and shall be replaced with a listed double check valve assembly listed for fire-protection as required per adopted California Plumbing Code for backflow prevention devices.

Delete: 6.3 Multipurpose Piping System - Multipurpose Piping System is not permitted

Figure A.6.3 (a, b, or c) Multipurpose Piping System is not permitted.

Amend: NFPA 14-25 is amended as follows:

Amend: 6.3.7.1 System Water Supply valves, isolation control valves and other valves in fire mains shall be supervised in an approved manner in an open position by one of the following approved methods:

1. Where a building has a fire alarm system or a sprinkler monitoring system installed, the valve shall be supervised by:
   (a) A central station, proprietary or remote supervising station.
   (b) Deleted.
2. Where a building does not have a fire alarm system or a sprinkler monitoring system installed, the valve shall be supervised by:
   (a) Locking the valves in the open position or
   (b) Sealing valves in an approved weekly recorded inspection where valves are located within fenced enclosures under the control of the owner.

Amend: NFPA 24-25 is amended as follows:

Add: 10.4.3.2.5 Only ductile iron shall be installed within 5 feet of a foundation or a wall.

Amend: NFPA 72-16 is amended as follows:

Amend: 23.8.5.1.2 - Exception deleted.

Amend: SFM is amended by adding:

Add: SFM - State Fire Code Official- Solar Photovoltaic Installation Guideline.

Add: NFPA 5000

2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
INTERNATIONAL CODE COUNCIL Ag—t with ICC. No . RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 by third Single user copyingand networking ANY UNAUIYORIZED License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netw
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

Add: NFPA 1932-20: Standard on the Use, Maintenance, Service Testing, of In-Service Fire Department Ground Ladders. 5.1.8.1, 5.1.8.2.

Add: 5.1.8.1.1: Where a property has slopes greater than 15% on grade and where the Emergency Escape and Rescue Openings (EERO) is required for R-3 occupancies fire crew access shall be provided to such properties with sloped access to all sleeping area openings with ground ladder access to the EERO for rescue. Properties subject to this requirement shall have:

1. On-site rise/run (7"/11") steps on grade or exterior stairs constructed by noncombustible material or heavy timber. 3-foot wide minimum steps on grade shall accommodate ground ladder movement along fire crew access paths to escape windows with a stable mountable platform/grade below rescue windows.
2. An All-weather pathway such as creosoted railway ties or equivalent shall be provided on the surface of stairs or ramps.

Add: 5.1.8.1.2: Setbacks shall be provided for ground mounting ladder to rescue openings per CFC 1030.

~~(Ord. No. 13720, § 3(Exh. A), 12-20-2022)~~

PART APPENDICES

APPENDIX CHAPTER

4

SPECIAL DETAILED REQUIREMENTS BASED ON USE AND OCCUPANCY

SECTION 435—SPECIAL PROVISIONS FOR LICENSED 24-HOUR CARE FACILITIES IN A GROUP R-2.1, R-3.1, R-4 [SFM]

435.1 Scope. The provisions of this section shall apply to 24-hour care facilities in a Group R-2.1, R-3.1 or R-4 occupancy licensed by a governmental agency.

435.2 General. The provisions in this section shall apply in addition to general requirements in this code.

435.2.1 Restraint shall not be practiced in a Group R-2.1, R-3.1 or R-4 occupancies.

Exception: Occupancies which meet all the requirements fora Group 1-3 occupancy.

435.2.2 Pursuant to Health and Safety Code, Section 13133, regulations of the state fire marshal pertaining to occupancies classified as Residential Facilities (RF) and Residential-care Facilities for the Elderly (RCFE) shall apply uniformly throughout the state and no city, county, city and county, including a charter city or charter county, or fire protection district shall adopt or enforce any ordinance or local rule or regulation relating to fire and panic safety which is inconsistent with these regulations. A city, county, city and county, including a charter city or charter county may, pursuant to Health and Safety Code, Section 13143.5, or a fire protection district may, pursuant to Health and Safety Code, Section 13869.7, adopt standards more stringent than those adopted by the state fire marshal that are reasonably necessary to accommodate local climate, geological or topographical conditions relating to roof coverings for Residential-care Facilities for the Elderly.

Exception: Local regulations relating to roof coverings in facilities licensed as a Residential Care Facility for the Elderly (RCFE) in accordance with Health and Safety Code Section 13133.

435.3 Building height and area provisions.

435.3.1 Group R-2.1, R-3.1 and R-4 shall be constructed in accordance with Table 504.3 of the California Building Code.

[California Code of Regulations, Title 19, Division 1, 53.26] Operators Statement - Group l, R-2.1, R-3.1 and R-4 Occupancies. Every person, firm or corporation maintaining or operating any Group I or R-2.1, R-3.1 or R-4 occupancy shall provide an operators statement in accordance with Section 13132 of the Health and Safety Code which reads as follows:

"13132. Every person, firm or corporation maintaining or operating any facility for the care of the mentally handicapped shall file a statement with the fire authority having jurisdiction within five days of the admission or readmission of a patient

2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
INTERNATIONAL CODE COUNCIL Ag—t with ICC. No . RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 by third Single user copyingand networking ANY UNAUIYORIZED License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netw
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

stating that such patient is an ambulatory or a non ambulatory person and enumerating the reasons for such classification. Such a statement shall also be filed for each existing patient within 30 days of the effective date of this section.

Any statement required to be filed pursuant to this section shall be certified as to its correctness by the person attending such patient.

It shall be unlawful for any person, firm or corporation required to file a statement pursuant to this section to include false statements therein. Any such act shall be in violation of this section and subject to the provisions of Section 13112. "

435.3.2 Limitations six or less clients. Group R-3.1 occupancies where non ambulatory clients are housed above the first story, having more than two stories in height or having more than 3,000 square feet (279 H) of floor area above the first story shall not be of less than I-hour fire-resistance-rated construction throughout.

In Group R-3.1 occupancies housing a bedridden client, the client sleeping room shall not be located above or below the first story. Exception: Clients who become bedridden as a result of a temporary illness as defined in Health and Safety Code, Sections 1566.45, 1568.0832, and 1569.72. A temporary illness is an illness which persists for 14 days or less. A bedridden client may be retained in excess of the 14 days upon approval by the Department of Social Services and may continue to be housed on any story in a Group R-3.1 occupancy classified as a licensed residential facility.

Every licensee admitting or retaining a bedridden resident shall, within 48 hours of the resident's admission or retention in the facility, notify the local fire authority with jurisdiction of the estimated length of time the resident will retain his or her bedridden status in the facility.

435.3.3 Limitations seven or more clients. Group R-4 occupancies, where non ambulatory clients are housed above the first story and there is more than 3,000 square feet (2 79 m^2) of floor area above the first story or housing not more than 16 clients above the first story, shall be constructed of not less than I-hour fire-resistance-rated construction throughout

435.3.4 Ambulatory and non ambulatory elderly clients. Group R-4 occupancies housing non ambulatory elderly clients shall be of not less than I-hour fire-resistance-rated construction throughout.

435.4 Type of construction provisions.

435.4.1 Group R-2.1, occupancies are not permitted in non-fire-resistance-rated construction, see Health and Safety Code, Section 13131.5.

435.5 Fire-resistance-rated construction provisions.

435.5.1 Smoke barriers required. Group R-2.1 and R-4 occupancies licensed as a Residential Care Facility (RCF) with individual floor areas over 6000 square feet (557 m^2) per floor, shall be provided with smoke barriers, constructed in accordance with Section 710 of the California Building Code.

Group R-2.1 occupancies housing bedridden clients shall be provided with smoke barriers constructed in accordance with Section 710 of the California Building Code regardless of the number of clients.

When smoke barriers are required, the area within a smoke compartment shall not exceed 22,500 square feet (2090 m^2) nor shall its travel distance exceed 200 feet (60 960 mm). Such smoke barriers shall divide the floor as equally as possible.

435.5.2 Smoke partitions. Group R-2.1 occupancies where smoke partitions are required, framing shall be covered with noncombustible materials having an approved thermal barrier with an index ofnot less than 15 in accordance with FM 4880, UL 1040, NFPA 286 or U 1715.

435.5.3 Independent egress. At least two means of egress shall be provided from each smoke compartment created by smoke barriers. Means of egress may pass through adjacent compartments provided it does not return through the smoke compartment from which means of egress originated.

435.6 Interior finish provisions.

435.6.1 Interior wall and ceiling finish. Group R-3.1 occupancies housing a bedridden client shall comply with Interior Wall and Ceiling Finish requirements specified for Group 1-2 occupancies in Table 903.3 of the California Building Code.

435.6.2 Safety padding. Padding material used on walls, floors and ceilings in Group I and R-2.1 occupancies shall be of an approved type tested in accordance with the procedures established by State Fire Marshal Standard 12-8-100, Room Fire Test for Wall and Ceiling Materials, California Code of Regulations, Title 24, Part 12.

435.7 Fire Protection system provisions.

435.7.1 Automatic sprinkler systems in Group R-2.1, R-3.1 and R-4 occupancies. An automatic sprinkler system shall be installed where required in Section 903.

435.7.2 Fire alarm systems in Group R-2.1 and R-4 occupancies. An approved fire alarm system shall be installed where required in Section 907.

435.7.3 Smoke alarms in Groups R-2.1, R-3.1 and R-4 occupancies. Smoke alarms shall be installed where required in Section 907.2.11.2.

435.7.4 Hearing impaired. See Section 907.5.2.3.5.

435.8 Means of egress provisions.

2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
INTERNATIONAL CODE COUNCIL Ag—t with ICC. No . RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 by third Single user copyingand networking ANY UNAUIYORIZED License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netw
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

435.8.1 General. In addition to the general means of egress requirements of Chapter 10, this section shall apply to Group R-2.1, R-3.1 and R-4 occupancies.

435.8.2 Number of exits.

435.8.2.1 Group R-2.1, R-3.1 and R-4 occupancies shall have a minimum of two exits.

Exception. Ancillary use areas or occupancies shall have egress as required by Section 1021.

435.8.3 Egress arrangements.

435.8.3.1 Egress through adjoining dwelling units shall not be permitted.

435.8.3.2 Group R-3.1 occupancies housing non ambulatory clients. In a Group R-3.1 occupancy, bedrooms used by non ambuIatory clients shall have access to at least one of the required exits which shall conform to one of the following:

I. Egress through a hallway or area into a bedroom in the immediate area which has an exit directly to the exterior and the corridor/hallway is constructed consistent with the dwelling unit interior walls. The hallway shall be separated from common areas by a solid wood door not less than $1^3/8$ inch (35 mm) in thickness, maintained self-closing or shall be automatic closing by actuation of a smoke detector installed in accordance with Section 7162.6 of the California Building Code.

2. Egress through a hallway which has an exit directly to the exterior. The hallway shall be separated from the rest of the house by a wall constructed consistent with the dwelling unit interior walls and opening protected by a solid wood door not less than $1\ ^3/8$ inch (35 mm) in thickness, maintained self-closing or shall be automatic closing by actuation of a smoke detector installed in accordance with Section 716.2.6 of the California Building Code.

3. Direct exit from the bedroom to the exterior, such doors shall be of a size as to permit the installation of a door not less than 3 feet (914 mm) in width and not less than 6 feet 8 inches (2032 mm) in height. When installed, doors shall be capable of opening at least 90 degrees and shall be so mounted that the clear width of the exit way is not less than 32 inches (813 mm).

4. Egress through an adjoining bedroom which exits to the exterior.

435.8.3.3 Group R-3.1 occupancies housing only one bedridden client. In Group R-3.1 occupancies housing a bedridden client and not provided with an approved automatic fire sprinkler system, all of the following shall apply:

I. In Group R-3.1 occupancies housing a bedridden client, a direct exit to the exterior of the residence shall be provided from the client sleeping room.

2. Doors to a bedridden client's sleeping room shall be of a self-closing, positive latching $1^3/8$ inch solid wood door. Such doors shall be provided with a gasket so installed as to provide a seal where the door meets the jam on both sides and across the top. Doors shall be maintained self-closing or shall be automatic closing by actuation of a smoke detector in accordance with California Building Code, Section 7162.6.
3. Group R-3.1 occupancies housing a bedridden client shall not have a night latch, dead bolt, security chain or any similar locking device installed on any interior door leading from a bedridden client's sleeping room to any interior area such as a corridor, hallway and/or general use areas of the residence in accordance with Chapter 10.
4. The exterior exit door to a bedridden client's sleeping room shall be operable from both the interior and exterior of the residence.
5. Every required exit doorway from a bedridden client sleeping room shall be of a size as to permit the installation of a door not less than 3 feet (914 mm) in width and not less than 6 feet 8 inches (2032 mm) in height. When installed in exit doorways, exit doors shall be capable of opening at least 90 degrees and shall be so mounted that the clear width of the exit way is not less than 32 inches (813 mm).

Note: A sliding glass door can be used as an exterior exit doorway as long as it is operable from the inside and outside and the clear width of the exit way is not less than 32 inches (813 mm).

435.8.3.4 Intervening rooms. A means of exit shall not pass through more than one intervening room. A means of egress shall not pass through kitchens, storerooms, closets, garages or spaces used for similar purposes. Exception: Kitchens which do not form separate rooms by construction.

435.8.4 Corridors.

435.8.4.1 Unless specified by Section 435.&4, corridors serving Group R-2.1 and Group R-4 occupancies shall comply with Section 1020.1.

435.8.4.2 The minimum clear width of a corridor shall be as follows:

I. Group R-2.1 occupancies shall have 60 inches (1524 mm) on floors housing non ambulatory clients and 44 inches (1118 mm) on floors housing only ambulatory clients.

2. Group R-4 occupancies shall have 44 inches (1118 mm) on floors housing clients. Exceptions:

2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
INTERNATIONAL CODE COUNCIL Ag—t with ICC. No . RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #1020392239 by third Single user copyingand networking ANY UNAUIYORIZED License
arther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netwo
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

I. Corridors serving an occupant load of10 or less shall not be less than 36 inches (914 mm) in width.

2. Corridors serving ambulatory persons only and having an occupant load of490r less shall not be less than 36 inches (914 mm) in width.

In Group R-2.1 occupancies provided with fire sprinklers throughout and which are required to have rated corridors, door closers need not be installed on doors to client sleeping rooms.

435.8.4.3 In a Group R-2.1 and Group R-4 occupancies having smoke barriers, cross-corridor doors in corridors 6 feet (1829 mm) or less in width shall have, as a minimum, a door 36 inches (914 mm) in width.

435.8.5 Changes in level. In Group R-3.1 occupancies housing non ambulatory clients, interior changes in level up to 0.25 inch (6 mm) may be vertical and without edge treatment. Changes in level between 0.25 inch (6 mm) and 0.5 inch (12.7 mm) shall be beveled with a slope no greater than I unit vertical in 2 units horizontal (50-percent slope). Changes in level greater than 0.5 inch (12.7 mm) shall be accomplished by means of a ramp.

435.8.6 Stairways.

435.8.6.1 Group R-2.1 and Group R-4 occupancies housing more than six non ambulatory clients above the first floor shall be provided with two vertical exit enclosures. Stairway enclosures shall be in compliance with Section 1023. Exceptions to Section 1023 shall not apply in facilities licensed as a 24-hour care facility.

435.8.6.2 Group R-3.1 occupancies may continue to use existing stairways (except for winding and spiral stairways which are not permitted as a required means of egress) provided the stairs have a maximum rise of8 inches (203 mm) with a minimum run of9 inches (229 mm). The minimum stairway width may be 30 inches (762 mm).

435.8.7 Floor separation. Group R-3.1 occupancies with non ambulatory clients housed above the first floor shall be provided with a non-fire-resistance constructed floor separation at stairs which will prevent smoke migration between floors. Such floor separation shall have equivalent construction ofO.5 inch (12.7 mm) gypsum wallboard on one side of wall framing. Exceptions:

I. Occupancies with at least one exterior exit from floors occupied by clients.

2. Occupancies provided with automatic fire sprinkler systems complying with Chapter 9.

435.8.7.1 Doors within floor separations. Doors within such floor separations shall be tight fitting solid wood at least 1 3/8 inches (35 mm) in thickness. Door glazing shall not exceed 1296 square inches (32 918 mm^2) with no dimension greater than 54 inches (1372 mm). Such doors shall be positive latching, smoke gasketed and shall be automatic-closing by smoke detection.

435.8.8 Fences and gates. Grounds of a Residential Care for the Elderly facility serving Alzheimer clients may be fenced and gates therein equipped with locks, provided safe dispersal areas are located not less than 50 feet (15 240 mm) from the buildings. Dispersal areas shall be sized to provide an area of not less than 3 square feet (0.28 rn^2) per occupant. Gates shall not be installed across corridors or passageways leading to such dispersal areas unless they comply with egress requirements.

435.8.9 Basement exits. One exit is required to grade level when the basement is accessible to clients.

435.8.10 Delayed egress locks. See Section 1010.2.13.

435.9 Request for alternate means of protection for facilities housing bedridden clients. Request for alternate means of protection shall apply to Sections 435 through 435.9. Request for approval to use an alternative material, assembly or materials, equipment, method of construction, method of installation of equipment or means of protection shall be made in writing to the local fire enforcing agency by the facility, client or the client's authorized representative. Sufficient evidence shall be submitted to substantiate the need for an alternate means of protection.

The facility, client or the client's representative or the local fire enforcing agency may request a written opinion from the State Fire Marshal concerning the interpretation of the regulations promulgated by the State Fire Marshal for a particular factual dispute. The State Fire Marshal shall issue the written opinion within 45 days following the request.

Approval of a request for use of an alternative material, assembly or materials, equipment, method of construction, method of installation of equipment or means of protection made pursuant to this section shall be limited to Group R-3.1 occupancies housing a bedridden client.

Approvals made by the local fire enforcing agency and the written opinion by the State Fire Marshal shall be applicable only to the requesting facility and shall not be construed as establishing any precedent for any future request by that facility or any other facility. 435.10 Temporarily bedridden clients. Clients who become temporarily bedridden as defined in Health and Safety Code, Section 1569.72, as enforced by the Department of Social Services, may continue to be housed on any story in Group R-2.1, R-3.1 or R-4 occupancies classified as Residential Care Facilities for the Elderly (RCFE). Every Residential Care Facility for the Elderly (RCFE) admitting or retaining a bedridden resident shall, within 48 hours of the resident's admission or retention in the facility, notify the local fire authority with jurisdiction of the estimated length of time the resident will retain his or her bedridden status in the facility.

SECTION 436—GROUP 1-4 [SEM]

436.1 Group 1-4 special provisions. Rooms classified as Group 1-4 shall not be located above or below the first story.

Exceptions:

I. Basements or stories having floor levels located within 4 feet (1219 mm), measured vertically, from adjacent ground level at the level ofexit discharge, provided the basement or story has exterior exit doors at that level.

2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
INTERNATIONAL CODE COUNCIL Ag—t with ICC. No , RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #1020392 by third Single user copyingand networking ANY UNAUIYORIZED License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netw
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

2. Group 1-4 child-care center or adult daycare may be located above the first story in buildings of Types I-A, I-B, [I-A, Ill-A IV-A, IV-B and IV-C construction, subject to the limitation of Section 503 when:

2.1. Group 1-4 child-care center with children under the age of seven or containing more than 12 children per story shall not be located above the fourth floor; and

2.2. The entire story in which the Group 1-4 child-care center or adult day care is located is equipped with an approved manual fire alarm and automatic smoke-detection system. (See the California Fire Code.) Actuation ofan initiating device shall sound an audible alarm throughout the entire story. When a building fire alarm system is required by other provisions of this code or the Fire Code, the alarm system shall be connected to the building alarm system. An approved alarm signal shall sound at an approved location in the Group 1-4 facility to indicate a fire alarm or sprinkler flow condition in other portions of the building; and

2.3. Group 1-4 child-care center or adult daycare, if more than 1,000 square feet (92.9 rn^2) in area, is divided into at least two compartments of approximately the same size by a smoke barrier with door openings protected by smoke and draft-control assemblies having a fire-protection rating of not less than 20 minutes. Smoke barriers shall have a fire-resistive rating of not less than one hour. In addition to the requirements of Section 508.33 of the California Building Code, occupancy separations between Group 1-4 child-care center or adult day care and other occupancies shall be constructed as smoke barriers. Door openings in the smoke barrier shall be tight fittinq, with gaskets installed as required by Section 710 of the California Building Code, and shall be automatic closing by actuation of the automatic sprinklers, fire alarm or smoke-detection system.

2.4, Each compartment formed by the smoke barrier has not less than two exits or exit access doors, one of which is permitted to pass through the adjoining compartment; and

2.5. Where two or more exits or exit access are required, at least one shall not share a common path of travel. The egress system shall comply with the requirements of Section 709 for smoke barriers.

2.6. The building is equipped with an automatic sprinkler system throughout.

436.1.1 Egress. Rooms used for Group 1-4 child-care or adult day care on the first floor shall have one exit door directly to the exterior. Exception: One-hour rated corridors with a minimum width of60 inches (1524 mm).

SECTION 452—SCHOOL FACILITIES FOR KINDERGARTEN THROUGH 12TH GRADE AND GROUP E CHILD-CARE

452.1 General provisions. School facilities for Kindergarten through 12th grade and Group E day care shall comply with the provisions of this section and other applicable provisions of this code including requirements for specific occupancies.

452.1.1 Location on property. All buildings housing Group E occupancies shall front directly on a public street or an exit discharge not less than 20 feet (6096 mm) in width. The exit discharge to the public street shall be a minimum 20-foot-wide (6096 mm) right-of-

way, unobstructed and maintained only as access to the public street. At least one required exit shall be located on the public street or on the exit discharge.

452.1.2 Separate means of egress systems required. Every room with an occupant load of300 or more shall have one of its exits or exit-access doorways lead directly into a separate means of egress system that consists of not less than two paths of exit travel which are separated by a smoke barrier in accordance with Section 709 of the California Building Code in such a manner to provide an atmospheric separation that precludes contamination of both paths of exit travel by the same fire. Not more than two required exits or exit-access doorways shall enter into the same means of egress system.

452.1.3 Fences and gates. School grounds may be fenced and gates therein may be equipped with locks, provided that safe dispersal areas based on 3 square feet (0.28 m^l) per occupant are located between the school and the fence. Such required safe dispersal areas shall not be located less than 50 feet (15240 mm) from school buildings.

Every public and private school shall conform with Section 32020 of the Education Code which states:

The governing board of every public school district, and the governing authority of every private school, which maintains any building used for the instruction or housing of school pupils on land entirely enclosed (except for building walls) by fences of walls, shall, through cooperation with the local law enforcement and fire-protection agencies having jurisdiction of the area, make provision for the erection of gates in such fences or walls. The gates shall be of sufficient size to permit the entrance of the ambulances, police equipment and firefighting apparatus used by the law enforcement and fire-protection agencies. There shall be no less than one such access gate and there shall be as many such gates as needed to assure access to all major buildings and ground areas. If such gates are to be equipped with locks, the locking devices shall be designed to permit ready entrance by the use of the chain or bolt-cutting devices with which the local law enforcement and fire-protection agencies may be equipped.

452.1.4 Special provisions. Rooms used by kindergarten, first- or second-grade pupils, and Group E child-care, shall not be located above or below the first story.

Exceptions:

2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
INTERNATIONAL CODE COUNCIL Ag—t with ICC. No . RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #1020392239 by third Single user copyingand networking ANY UNAUIYORIZED License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netwo
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

I. Kindergarten, first- or second-grade pupils, or Group E child-care may be located in basements or stories having floor levels located within 4 feet (1219 mm), measured vertically, from the adjacent ground level at the level of exit discharge, provided the basement or story has exterior exit doors at that level.

2. In buildings equipped with an automatic sprinkler system throughout, rooms used for kindergarten, first- and second grade children or for Group E child-care purposes may be located on the second story, provided there are at least two exterior exit doors, or other egress systems complying with Section 1020 with two exits, for the exclusive use of such occupants. Egress systems for the exclusive use of such occupants shall be maintained until exit discharge at grade is attained.

3. Group E day-care facilities may be located above the first story in buildings of Type I-A, Type I-B, Type Il-A, Ill-A, IV-A, IV-B and IV-C construction, subject to the limitation of Section 503 when:

3.1. Facilities with children under the age of seven or containing more than 12 children per story shall not be located above the fourth floor; and

3.2. The entire story in which the day-care facility is located is equipped with an approved manual fire alarm and automatic smoke-detection system. Actuation of an initiating device shall sound an audible alarm throughout the entire story.

When a building fire alarm system is required by other provisions of this code, the alarm system shall be interconnected and sound the day-care fire alarm system; and

3,3. The day-care facility, if more than 1,000 square feet (92.9 m^2) in area, is divided into at least two compartments of approximately the same size by a smoke barrier in accordance with Section 709 of the California Building Code. In addition to the requirements of Section 508, occupancy separations between daycare and other occupancies shall be constructed as smoke barriers. Door openings in the smoke barrier shall be tight fitting, with gaskets installed as required by Section 716.5.3.1 of the California Building Code and shall be automatic closing by actuation of the fire sprinklers, fire alarm or smoke detection system; and

3.4. Each compartment formed by the smoke barrier has not less than two exits or exit-access doors, one of which is permitted to pass through the adjoining compartment, and

3.5. At least one exit or exit-access door from the day-care facility shall be into a separate means of egress with not less than two paths of exit travel, which are separated in such a manner to provide an atmospheric separation. The egress system shall comply with the requirements of Section 709 for smoke barriers. *3.6.*The building is equipped with an automatic sprinkler system throughout.

452.1.5 Special hazards. School classrooms constructed after January I, 1990, not equipped with automatic sprinkler systems, which have metal grilles or bars on all their windows and do not have at least two exit doors within 3 feet (914 mm) of each end of the classroom opening to the exterior of the building or to a common hallway used for evacuation purposes, shall have an inside release for the grilles or bars on at least one window farthest from the exit doors. The window or windows with the inside release shall be clearly marked as emergency exits.

452.1.6 Class I, Il or Ill-A flammable liquids. Class l, Il or Ill-A flammable liquids shall not be placed, stored or used in Group E occupancies, except in approved quantities as necessary in laboratories and classrooms and for operation and maintenance as set forth in the California Fire Code.

SECTION 455—LARGE FAMILY DAY-CARE HOMES [SFM]

455.1 Large family day-care homes.

455.2 For purposes of clarification, Health and Safety Code Section 1597.45 and 1597.46 is repeated.

1597.45.

(a) The use of a home as a small or large family day-care home shall be considered a residential use of property and a use by right for the purposes ofall local ordinances, including, but not limited to, zoning ordinances.

(b) A local jurisdiction shall not impose a business license, fee or tax for the privilege of operating a small or large family day-care home.

(c) Use of a home as a small or large family day-care home shall not constitute a change of occupancy for purposes of Part 1.5 (commencing with Section 17910) of Division 13 (State Housing Law) or for purposes of local building codes.

(d) A small or large family daycare home shall not be subject to the provisions of Division 13 (commencing with Section 21000) of the Public Resources Code.

(e) The provisions of this chapter do not preclude a city, county or other local public entity from placing restrictions on building heights, setback or lot dimensions of a family day-care home, as long as those restrictions are identical to those applied to all other residences with the same zoning designation as the family day-care home. This chapter does not preclude a local ordinance that deals with health and safety, building standards, environmental impact standards or any other matter within the jurisdiction of a local public entity, as long as the local ordinance is identical to those applied to all other residences with the same zoning designation as the family daycare home. This chapter also does not prohibit or restrict the abatement of nuisances by a city, county, or city and county. However, the ordinance or nuisance abatement shall not distinguish family day-care homes from other homes with the same zoning designation, except as otherwise provided in this chapter.

2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
INTERNATIONAL CODE COUNCIL Ag—t with ICC. No . RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #1020392239 by third Single user copyingand networking ANY UNAUIYORIZED License
arther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netwo
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

(f) For purposes of this chapter, "small family day-care home or large family daycare home" includes a detached single-family dwelling, a townhouse, a dwelling unit within a dwelling or a dwelling unit within a covered multifamily dwelling in which the underlying zoning allows for residential uses. A small family daycare home or large family day-care home is where the family day-care provider resides and includes a dwelling or dwelling unit that is rented, leased or owned. (Amended by Stats. 2019, Ch. 244, Sec. 9. (SB 234) Effective January I, 2020.) 1597.46.

(a) A large family daycare home shall abide by all standards, in addition to the requirements of the State Uniform Building Standards Code, that are specifically designed to promote fire and life safety in large family day-care homes. The State Fire Marshal shall adopt separate building standards specifically relating to the subject of fire and life safety in family daycare homes, which shall be published in Title 24 of the California Code of Regulations. These standards shall apply uniformly throughout the state and shall include, but not be limited to, all of the following:

(I) The requirement that a large family daycare home contain a fire extinguisher or smoke detector device, or both, that meets child-care standards established by the State Fire Marshal.

(2) Specification as to the number of required exits from the home.

(3) Specification as to the floor or floors on which child-care maybe provided and the number of required exits on each floor.

(b) A large family day-care home for children shall have one or more carbon monoxide detectors in the facility that meet the standards established in Chapter 8 (commencing with Section 13260) of Part 2 of Division 12. The department shall account for the presence of these detectors during inspections.

(c) Enforcement of this section shall be in accordance with Sections 13145 and 13146. A city, county, city and county, or district shall not adopt or enforce a building ordinance or local rule or regulation relating to the subject of fire and life safety in large family day-care homes that is inconsistent with those standards adopted by the State Fire Marshal, except to the extent the building ordinance or local rule or regulation applies to all residences with the same zoning designation in which child-care is provided

(Repealed and added by Stats. 2019, Ch. 244, Sec. 12. (SB 234) Effective January I, 2020.)

455.3 Smoke alarms. Large family day-care homes shall be equipped with State Fire Marshal approved and listed single station residential type smoke alarms. The number and placement ofsmoke alarms shall be determined by the enforcement authority.

455.4 Fire extinguishers. Large and small family day-care homes shall be equipped with a portable fire extinguisher having a minimum 2AIOBC rating.

455.5 Fire alarm devices. See Section 90726.4.

455.6 Compliance. Every large-family day-care home shall comply with the provisions for Group R-3 occupancies. For the purposes of Section 436.1 of the California Building Code, the first story shall be designated as the floor used for residential occupancy nearest to the street level which provides primary access to the building.

455.7 Special hazards. Every unenclosed gas-fired water heater or furnace which is within the area used for child-care in a large family day-care home shall be protected in such a way as to prevent children from making contact with those appliances. Exception: This does not apply to kitchen stoves or ovens. 455.8 Exiting. See Section 1006.2.2.7.

2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to

INTERNATIONAL CODE COUNCIL Ag—t with ICC. No , RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 by third Single user copyingand networking ANY UNAUIYORIZED License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netw
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

CALIFORNIA FIRE CODE - MATRIX ADOPTION TABLE

APPENDIX B - FIRE-FLOW REQUIREMENTS FOR BUILDINGS

(Matrix Adoption Tables are nonregulatory, intended only as an aid to the code user.
See Chapter I for state agency authority and building applications.)

Adopting Agency		BSCCG	SFM		HCD			DSA		OSHPD						BSCC	DPH	AGR	DWR	CEC	CA	SL	SLC
			T-24	T-19*		2	IIAC	AC	SS	1	IR	2	3	4	5								
Adopt Entire Chapter																							
Adopt Entire Chapter as amended (amended sections listed below)																							
Adopt only those sections that are listed below																							
[California Code Of Regulations, Title 19, Division 1]																							
Chapter / Section																							
Table 8105.1(1)			x																				
8105.2																							

• The California Code of Regulations (CCR), Title 19, Division 1 provisions that are found in the California Fire Code area reprint from the current CCR, Title 19, Division 1 text for the code user's convenience only. The scope, applicability and appeals procedures Of CCR, Title 19, Division I remain the same.

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
. RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License
Ag—t with ICC. No rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and networking ANY UNAUIYORIZED
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT AND THE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
Ag—t with ICC. No by third Single user copying and networking ANY UNAUIYORIZED

APPENDIX B

FIRE-FLOW REQUIREMENTS FOR BUILDINGS

The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance or legislation of the jurisdiction.

user notes:

About this appendix: Appendix B provides a tool for the use Of jurisdictions in establishing a policy for determining fire-flow requirements in accordance with Section 507.3. The determination Of required fire flow is not an exact science, but having some level Of information provides a consistent way Of choosing the appropriate fire flow for buildings throughout a jurisdiction. The primary tool used in this appendix is a table that presents fire flow based on construction type and building area based on the correlation Of the Insurance Services Office (ISO) method and the construction types used in the California Building Code.

ICCc0dedeveloprnentnote: Code change proposals to this appendix will be considered bythe IFC Code DevelopmentCommittee duringthe2024 (Group A) Code Development Cycle.

SECTION BIOI—GENERAL

BIOI.I Scope. The procedure for determining fire-flow requirements for buildings or portions of buildings hereafter constructed shall be in accordance with this appendix. This appendix does not apply to structures other than buildings.

SECTION B102—DEFINITIONS

B102.1 Definitions. For the purpose of this appendix, certain terms are defined as follows:

FIRE FLOW. The flow rate of a water supply, measured at 20 pounds per square inch (psi) (138 kPa) residual pressure, that is available for firefighting.

FIRE-FLOW CALCULATION AREA. The floor area, in square feet (m^2), used to determine the required fire flow.

SECTION B103—MODIFICATIONS

B103.1 Decreases. The fire code official is authorized to reduce the fire-flow requirements for isolated buildings or a group of buildings in rural areas or small communities where the development of full fire-flow requirements is impractical.

B103.2 Increases. The fire code official is authorized to increase the fire-flow requirements where conditions indicate an unusual susceptibility to group fires or conflagrations. An increase shall be not more than twice that required for the building under consideration.

B103.3 Areas without water supply systems. For information regarding water supplies for firefighting purposes in rural and suburban areas in which adequate and reliable water supply systems do not exist, the fire code official is authorized to utilize NFPA 1142 or the California Wildland-Urban Interface Code.

SECTION B104—FIRE-FLOW CALCULATION AREA

B104.1 General. The fire-flow calculation area shall be the total floor area of all floor levels within the exterior walls, and under the horizontal projections of the roof of a building.

Exceptions:

1. The fire-flow calculation area of buildings constructed of Types IA and 1B construction shall be the area of the three largest successive floors.
2. The fire-flow calculation area for open parking garages of Types IA and 1B construction shall be determined by the area of the largest floor.

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
Ag—t with ICC. No by third Single user copying and networking ANY UNAUIYORIZED
. RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License
arther reproduction, no further reproductions by any third party, or distribution authorized. Single user copying and networking
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

B104.2 Area separation. Portions of buildings that are separated by fire walls without openings, constructed in accordance with the California Building Code, are allowed to be considered as separate fire-flow calculation areas.

SECTION BIOS—FIRE-FLOW REQUIREMENTS FOR BUILDINGS

B105.1 One- and two-family dwellings, Group R-3 and R-4 buildings and townhouses. The minimum fire-flow and flow duration requirements for one- and two-family dwellings, Group R-3 and R-4 buildings and townhouses shall be as specified in Tables B105.1(1) and 8105.1(2).

TABLE FIRE FLOW FOR ONE- AND TWO-FAMILY DWELLINGS, GROUP R-3 AND R-4 BUILDINGS AND TOWNHOUSES

FIRE-FLOW CALCULATION AREA (square feet)	AUTOMATIC SPRINKLER SYSTEM (Design Standard)	MINIMUM FIRE FLOW (gallons per minute)	FLOW DURATION (hours)
0-3,600	No automatic sprinkler system	1,000	1
3,601 and greater	No automatic sprinkler system	Value in Table B105.1(2)	Duration in Table B105.1(2) at the required fire-flow rate
0-3,600	Section 903.3.1.3 of the California Fire Code or Section P2904 of the California Residential Code	500	
3,601 and greater	Section 903.3.1.3 of the California Fire Code or Section P2904 of the California Residential Code	1/2 value in Table 3105.1(2)	1

For Sl: 1 square foot = 0.0929 m[a], 1 gallon per minute = 3.785 L/m.

TABLE TABLE FOR TABLES BIOS.I(I) AND 8105.2

FIRE-FLOW CALCULATION AREA (square feet)					FIRE FLOW (gallons per minute)b	FLOW DURATION (hours)
Types IA and IB[a]	Types 'IA and IIIA[a]	Types IV and V-N	Types 11B and 111B[a]	Type V-e		
0-22,700	0-12,700	0-8,200	0-5,900	0-3,600	1,500	2
22,701-30,200			5,901-7 900	3,601-4,800	1,750	
30,201-38,700	17,001-21,800		7,901-9 800	4,801-6,200	2,000	
38,701-48,300	21,801-24,200	12,901-17,400	9,801-12,600	6,201-7,700	2,250	
48,301-59,000	24,201-33,200	17,401-21,300	12,601-15,400	7,701-9,400	2,500	
59,001-70 900	33,201-39,700	21,301-25,500	15,401-18 400	9,401-11,300	2,750	
70,901 83 700	39,701-47,100	25,501-30,100	18,401 21,800	11,301-13 400	3,000	3
83,701-97,700		30,101-35,200	21,801-25,900	13,401 15 600	3,250	
97,701-112,700	54,901-63,400	35,201-40,600	25,901-29,300		3,500	
	63,401-72,400	40,601-46,400	29,301-33,500		3,750	
128,701-145,900	72,401-82 100	46,401-52,500	33,501-37,900	20,601-23,300	4,000	4
145,901-164,200	82,101-92 400	52,501-59,100	37,901-42,700	23,301-26,300	4,250	
164,201-183,400	92,401-103,100		42,701-47,700	26,301-29,300	4,500	
183,401-203,700	103,101-114,600	66,001-73,300	47,701-53,000	29,301-32,600	4,750	
203,701-225,200		73,301-81,100	53,001-58,600	32,601-36,000	5,000	

INTERNATIONAL CODE COUNCIL

2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to

Ag—t with ICC. No

. RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License

arther reproduction, no further reproductions by any third party, or distribution authorized. Single user copying and networking by third ANY UNAUIYORIZED

REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

225,201-247,700 247,701-271,200	126,701-139 400	81,101-89,200 89,201-97,700	58,601-65,400 65,401-70,600	36,001-39,600 39,601-43,400	5,250 5,500
271,201-295,900	152,601-166 500	97,701-106,500	70,601-77,000		5,750
295,901-Greater	166,501-Greater		77,001-83,700	47,401-51,500	6,000
		115,801-125,500	83,701-90,600	51,501-55,700	6,250
		125,501-135,500	90,601-97,900	55,701-60,200	6,500
		135,501-145,800 145,801-156,700	97,901-106,800	60,201-64,800 64,801-69,600	6,750 7,000
		156,701-167,900		69,601-74,600	7,250
		167,901-179,400	121,301-129,600		7,500
		179,401-191,400	129,601-138,300	79,801-85,100	7,750
		191,401-Greater	138,301—Greater	85,101-Greater	8,000

For Sl: 1 square foot = 0.0929 m^a, 1 gallon per minute = 3.785 Lim, 1 pound per square inch = 6.895 kPa.

a. Types Of construction are based on the California Building Code.

b. Measured at20 psi residual pressure.

2025ICC. ALL RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order to oa Jul 11.2023 PM (CDT) further reproduction, no further reproductions by any third party, or distribution authorized. Single user copyingand networking ANY UNAUIYORIZED

B105.2 Buildings other than one- and two-family dwellings, Group R-3 and R-4 buildings and townhouses. The minimum fireflow and flow duration for buildings other than one- and two-family dwellings, Group R-3 and R-4 buildings and townhouses shall be as specified in Tables B105.I(2) and 8105.2.

Exception: [SFMJ Group B, S-2 and U occupancies having a floor area not exceeding 1,000 square feet, primarily constructed of noncombustible exterior walls with wood or steel roof framing, having a Class A roof assembly, with uses limited to the following or similar uses:

I. California State Parks buildings of an accessory nature (restrooms).

2. Safety roadside rest areas, (SRRA), public restrooms.

3. Truck inspection facilities, (TIE), CHP office space and vehicle inspection bays.

4. Sand/salt storage buildings, storage of sand and salt.

TABLE B105.2—REQUIRED FIRE FLOW FOR BUILDINGS OTHER THAN ONE- AND TWO-FAMILY DWELLINGS, GROUP R-3 AND R-4 BUILDINGS AND TOWNHOUSES

AUTOMATIC SPRINKLER SYSTEM (Design Standard)	MINIMUM FIRE FLOW (gallons per minute)	FLOW DURATION (hours)
No automatic sprinkler system	Value in Table B105.1(2)	Duration in Table B105.1(2)
Section 903.3.1.1 of the California Fire Code	25% of the value in Table	Duration in Table 8105.1(2) at the reduced flow rate
Section 903.3.1.2 of the California Fire Code	25% ofthe value in Table B105.1(2)[b]	Duration in Table 8105.1(2) at the reduced flow rate

For S': 1 gallon per minute = 3.785 1-1m.

a. The reduced fire flow shall be not less than 1,000 gallons per minute.

b. The reduced fire flow shall be not less than 1,500 gallons per minute.

B105.3 Water supply for buildings equipped with an automatic sprinkler system. For buildings equipped with an approved automatic sprinkler system, the water supply shall be capable of providing the greater of: I. The automatic sprinkler system demand, including hose stream allowance.

2. The required fire flow.

2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to . RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License arther reproduction, no further reproductions by any third party, or distribution authorized. Single user copyingand networking ANY UNAUIYORIZED

REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

B106.1 General. See Table B106.1 for standards that are referenced in various sections of this appendix. Standards are listed by the standard identification with the effective date, standard title, and the section or sections of this appendix that reference the standard.

TABLE B106.1—REFERENCED STANDARDS

STANDARD ACRONYM	STANDARD NAME	SECTIONS HEREIN REFERENCED
CBC—25	California Building Code	B104.2
CRC—25	California Residential Code	Table B105.1(1)
cwt-nc—25	California Wildland-Urbon Interface Code	B103.3
NFPA 1142—22	Standard on Water Supplies for Suburban and Rural Firefighting	B103.3

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
Ag—t with ICC. No by third Single user copying and networking ANY UNAUIYORIZED

CALIFORNIA FIRE CODE - MATRIX ADOPTION TABLE

APPENDIX BB - FIRE-FLOW REQUIREMENTS FOR BUILDINGS

(Matrix Adoption Tables are nonregulatory, intended only as an aid to the code user.
See Chapter I for state agency authority and building applications.)

Adopting Agency		escCG	SFM		HCD			OSA		OSHPD						BSCC	DPH	AGR	DWR	CEC	CA	SL	SLC
			T-24	T-19*	i	2	IIAC	AC	SS	1	IR	2	3	4	5								
Adopt Entire Chapter			X																				
Adopt Entire Chapter as amended (amended sections listed below)																							
Adopt only those sections that are listed below																							
[California Code Of Regulations, Title 19, Division 1]																							
Chapter / Section																							

RNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
with ICC. No by third Single user copyingand networking ANY UNAUIYORIZED
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

, RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netw License

* The California Code Of Regulations (CCR), Title 19, Division 1 provisions that are found in the California Fire Code are a reprint from the current CCR, Title 19, Division 1 text for the code user's convenience only. The scope, applicability and appeals procedures Of CCR, Title 19, Division I remain the same.

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
Ag—t with ICC. No by third Single user copying and networking ANY UNAUIYORIZED

FIRE-FLOW REQUIREMENTS FOR BUILDINGS

SECTION BBIOI—SCOPE

RNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
with ICC. No by third Single user copyingand networking ANY UNAUIYORIZED
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

. RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netw License

BBIOI.I The procedures determining fire-flow requirements for any school buildings or portions of buildings hereafter constructed for which review and approval is required under Subdivision(a) of Section 17280 of the Government Code shall be in accordance with this appendix as amended by the state fire marshal. This appendix does not apply to structures other than buildings.

SECTION BB102—DEFINITIONS BB102.1 For the purpose of Appendix Ill-A, certain terms are defined as follows:

FIRE AREA. The floor area, in square feet, used to determine the required fire flow.

FIRE FLOW. The flow rate of a water supply, measured at 20 psi (137.9 kPa) residual pressure, that is available for firefighting.

SECTION BB103—MODIFICATIONS

BB103.1 An alternative method of providing water for fire protection or any other alternative, in lieu of providing the water, may be enforced when deemed appropriate by the fire chief and the state fire marshal.

SECTION BB104—FIRE AREA

BB104.1 General. The fire area shall be the total floor area of all floor levels within the exterior walls, and under the horizontal projections of the roof ofa building, except as modified in Section 4.

BB104.2 Area separation. Portions of buildings which are separated by one or more 4-hour area separation walls constructed in accordance with the building code, without openings and provided with a 30-inch (762 mm) parapet, are allowed to be considered as separate fire areas.

BB104.3 Type I and Type 1B construction. The fire area of buildings constructed of Type I and Type 1B construction shall be the area of the three largest successive floors.

SECTION BB105—FIRE-FLOW REQUIREMENTS FOR BUILDINGS

BB105.1 The minimum fire flow and flow duration for school buildings shall be as specified in Table BB105.I.

Exception: A reduction in required fire flow of up to 75 percent is allowed when the building is provided with an approved automatic sprinkler system. When a reduction in fire flow is used, fire flow shall not be less than 1500 GPM.

RNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
with ICC. No by third Single user copyingand networking ANY UNAUIYORIZED
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

, RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239
arther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netw License

APPENDIX BB—FIRE-FLOW REQUIREMENTS FOR BUILDINGS

TABLE BBIOS.I—MINIMUM REQUIRED FIRE-FLOWAND FLOW DURATION FOR BUILDINGS

FIREAREA (square feet)					FIRE-FLOW (gallons per minute)b	FLOW DURATION (hours)
Type IA and 1B a	Type 'IA and IllA a	Type IV and V-A a	Type 11B and 111B a	Type V-B a		
0-22, 700	0-12, 700	0-8,200	0-5,900	0-3,600	1,500	2
22, 701-30,200	12,701-17,000	8,201-10,900	5,901-7,900	3,601-4,800	1, 750	
30,201-38, 700	17,001-21,800	10,901-12,900	7,901-9,800	4,801-6,200	2,000	
38, 701-48,300	21,801-24,200	12,901-17,400	9,801-12,600	6,201-7,700	2,250	
48,301-59,000	24,201-33,200	17,401-21,300	12,601-15,400	7, 701-9,400	2,500	
59,001-70,900	33,201-39, 700	21,301-25,500	15,401-18,400	9,401-11,300	2, 750	
70, 901-83, 700	39,701-47,100	25,501-30,100	18,401-21,800	11,301-13,400	3,000	3
83,701-97,700	47,101-54,900	30,101-35,200	21,801-25,900	13,401-15,600	3,250	
97, 701-112, 700	54,901-63,400	35,201-40,600	25,901-29,300	15,601-18,000	3,500	
112,701-128,700	63,401-72,400	40,601-46,400	29,301-33,500	18,001-20,600	3, 750	
128, 701-145,900	72,401-82,100	46,401-52,500	33,501-37,900	20,601-23,300	4,000	4
145,901-164,200	82,101-92,400	52,501-59,100	37,901-42,700	23,301-26,300	4,250	
164,201-183,400	92,401-103,100	59,101-66,000	42, 701-47,700	26,301-29,300	4,500	
183, 401-203, 700	103,101-114,600	66,001-73,300	47,701-53,000	29,301-32,600	4, 750	
203, 701-225,200	114,601-126,700	73,301-81,100	53,001-58,600	32,601-36000	5,000	
225,201-247,700	126, 701-139,400	81,101-89,200	58,601-65,400	36,001-39,600	5,250	
247,701-271,200	139,401-152,600	89,201-97, 700	65,401-70,600	39,601-43,400	5,500	
271,201-295,900	152,601-166,500	97, 701-106,500	70,601-77,000	43,401-47,400	5, 750	
295,901-Greater	166,501-Greater	106501-115,800	77,001-83,700	47,401-51,500	6,000	
		115,801-125,500	83,701-90,600	51,501-55, 700	6,250	
		125,501-135,500	90,601-97,900	55, 701-60,200	6,500	
		135,501-145,800	97,901-106,800	60,201-64 800	6,750	
		145,801-156,700	106,801-113,200	64,801-69,600	7,000	
		156, 701-167,900	113,201-121,300	69,601-74,600	7,250	
		167,901-179,400	121,301-129,600	74,601-79 800	7,500	
		179,401-191,400	129,601-138,300	79,801-85,100	7, 750	
		191,401-Greater	138,301-Greater	85,101-Greater	8,000	

RNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
with ICC. No by third Single user copyingand networking ANY UNAUIYORIZED
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

, RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239
arther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netwo License

For Sl:l square foot = 0.0929 m[a], 1 gallon per minute = 3.785 Lim, 1 pound per square inch 6.895kpa.
a. Types Of construction are based on the California Building Code.
b. Measured at20psi.

Oakland)Order oa Jul 11.2023 PM (CDT) to
Single user copyingand networking ANY UNAUIYORIZED

CALIFORNIA FIRE CODE - MATRIX ADOPTION TABLE

APPENDIX C - FIRE HYDRANT LOCATIONS AND DISTRIBUTION

(Matrix Adoption Tables are nonregulatory, intended only as an aid to the code user.
See Chapter I for state agency authority and building applications.)

Adopting Agency	BSC	BSCCG	SFM		HCD			DSA		OSHPD						BSCC	DPH	AGR	DWR	CEC	CA	SL	SLC
			T-24	T-19*	i	2	IIAC	AC	SS	i	IR	2	3	4	5								
Adopt Entire Chapter																							
Adopt Entire Chapter as amended (amended sections listed below)																							
Adopt only those sections that are listed below																							
[Califomia Code Of Regulations, Title 19, Division 1]																							
Chapter / Section																							
CIOI.I			x																				

• The California Code ofRegulations (CCR), Title 19, Division 1 provisions that are found in the California Fire Code are a reprint from the current CCR, Title 19, Division 1 text for the code user's convenience only. The scope, applicability and appeals procedures Of CCR, Title 19, Division I remain the same.

RNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
with ICC. No by third Single user copyingand networking ANY UNAUIYORIZED
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

, RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netw License

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
Ag—t with ICC. No by third Single user copying and networking ANY UNAUIYORIZED

RNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
with ICC. No by third Single user copyingand networking ANY UNAUIYORIZED
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

, RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netw License

APPENDIX C

FIRE HYDRANT LOCATIONS AND DISTRIBUTION

The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance or legislation of the jurisdiction.

User notes:

About this appendix: Appendix C focuses on the location and spacing Of fire hydrants, which is important to the success Of firefighting operations. The difficulty with determining the spacing Of fire hydrants is that every situation is unique and has unique challenges. Finding one methodology for determining hydrant spacing is difficult. This particular appendix gives one methodology based on the required fire flow that fire departments can work with to set a policy for hydrant distribution around new buildings and facilities in conjunction with Section 507.5.

ICC code development note: Code change proposals to this appendix will be considered by the IFC Code Development Committee during the 2024 (Group

A) Code Development Cycle.

SECTION CIOI—GENERAL

CIOI.I Scope. In addition to the requirements of Section 507.5.1, fire hydrants shall be provided in accordance with this appendix for the protection of buildings, or portions of buildings, hereafter constructed or moved into the jurisdiction.

Exception: [SFMI Group B, S-2 and U occupancies having a floor area not exceeding 1,000 square feet, primarily constructed of noncombustible exterior walls with wood or steel roof framing, having a Class A roof assembly, with uses limited to the following or similar uses:

1. California State Parks buildings of an accessory nature (restrooms).
2. Safety roadside rest areas, (SRRA), public restrooms.
3. Truck inspection facilities, (TIF), California Highway Patrol (CHP) office space and vehicle inspection bays.
4. Sand/salt storage buildings, storage of sand and salt.

SECTION C102—NUMBER OF FIRE HYDRANTS

C102.1 Minimum number of fire hydrants for a building. The number of fire hydrants available to a building shall be not less than the minimum specified in Table C102.I.

TABLE C102.1—REQUIRED NUMBER AND SPACING OF FIRE HYDRANTS

FIRE-FLOW REQUIREMENT (gpm)	MINIMUM NUMBER OF HYDRANTS	AVERAGE SPACING BETWEEN HYDRANT+ (feet)	MAXIMUM DISTANCE FROM ANY POINT ON STREET OR ROAD FRONTAGE TO A HYDRANT[d] [f] [g]
1,750 or less	1	500	250
1,751-2,250	2	450	225
2,251-2,750	3	450	225
2,751-3,250	3	400	225
3,251-4,000	4	350	210
4,001-5,000	5	300	180
5,001-5,500	6 6	300 250	180 150
6,001-7,000	7	250	150
7,001 or more	8 or more[e]	200	120

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
Ag—t with ICC. No by third Single user copyingand networking ANY UNAUIYORIZED License
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

For St: 1 foot = 304.8 mm, 1 gallon per minute; 3.785 L/m.

a. Reduce by 100 feet for dead-end streets or roads.

b. Where streets are provided with median dividers that cannot be crossed by firefighters pulling hose lines, or where arterial streets are provided with four or more traffic lanes and have a traffic count Of more than 30,000 vehicles per day, hydrant spacing shall average 500 feet on each side Of the street and be arranged on an alternating basis.

c. Where new water mains are extended along streets where hydrants are not needed for protection Of structures or similar fire problems, fire hydrants shall be provided at spacing not to exceed 1,000 feet to provide for transportation hazards.

d. Reduce by 50 feet for dead-end streets or roads.

e. One hydrant for each 1,000 gallons per minute or fraction thereof.

f. A 50-percent spacing increase shall be permitted where the building is equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1 Of the California Fire Code.

g. A 25-percent spacing increase shall be permitted where the building is equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.2 or 903.3.1.3 Of the California Fire Code or Section P2904 Of the California Residential Code.

h. The fire code official is authorized to modify the location, number and distribution Of fire hydrants based on site-specific constraints and hazards.

, RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239
urther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netwo

APPENDIX C—FIRE HYDRANT LOCATIONS AND DISTRIBUTION

SECTION C103—FIRE HYDRANT SPACING

C103.1 Hydrant spacing. Fire apparatus access roads and public streets providing required access to buildings in accordance with Section 503 shall be provided with one or more fire hydrants, as determined by Section C102.I. Where more than one fire hydrant is required, the distance between required fire hydrants shall be in accordance with Sections C103.2 and C103.3.

C103.2 Average spacing. The average spacing between fire hydrants shall be in accordance with Table C102.I.

Exception: The average spacing shall be permitted to be increased by 10 percent where existing fire hydrants provide all or a portion of the required number of fire hydrants.

C103.3 Maximum spacing. The maximum spacing between fire hydrants shall be in accordance with Table C102.I.

SECTION C104—CONSIDERATION OF EXISTING FIRE HYDRANTS

C104.1 Existing fire hydrants. Existing fire hydrants on public streets are allowed to be considered as available to meet the requirements of Sections C102 and C103. Existing fire hydrants on adjacent properties are allowed to be considered as available to meet the requirements of Sections C102 and C103 provided that a fire apparatus access road extends between properties and that an easement is established to prevent obstruction of such roads.

SECTION C105—REFERENCED STANDARD

C105.1 General. See Table C105.I for standards that are referenced in various sections of this appendix. Standards are listed by the standard identification with the effective date, standard title, and the section or sections of this appendix that reference the standard.

TABLE C105.1—REFERENCED STANDARDS

STANDARD ACRONYM	STANDARD NAME	SECTIONS HEREIN REFERENCED
CRC—25	California Residential Code	Table C102.1

INTERNATIONAL CODE COUNCIL Ag—t with 2025 ICC. ICC. No ALL RIGHTS RESERVED. by Br"n by third to (Qty Single user Order copyingand networking oa Jul 11.2023 ANY PM UNAUIYORIZED(CDT)

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
Ag—t with ICC. No , RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License
urther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and networking ANY UNAUIYORIZED
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

CALIFORNIA FIRE CODE - MATRIX ADOPTION TABLE

APPENDIX CC - FIRE HYDRANT LOCATIONS AND DISTRIBUTION

(Matrix Adoption Tables are nonregulatory, intended only as an aid to the code user. See Chapter I for state agency authority and building applications.)

Adopting Agency		BSCCG	SFM		HCD			DSA		OSHPD						BSCC	DPH	AGR	DWR	CEC	CA	SL	SLC
			T-24	T-19•	i	2	IIAC	AC	SS	i	IR	2	3	4	5								
Adopt Entire Chapter			x																				
Adopt Entire Chapter as amended (amended sections listed below)																							
Adopt only those sections that are listed below																							
[Califomia Code Of Regulations, Title 19, Division 1]																							
Chapter / Section																							

*

The California Code Of Regulations (CCR), Title 19, Division 1 provisions that are found in the California Fire Code are a reprint from the current CCR, Title 19, Division 1 text for the code user's convenience only. The scope, applicability and appeals procedures Of CCR, Title 19, Division I remain the same.

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
. RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License
Ag—t with ICC. No rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and networking ANY UNAUIYORIZED
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT AND THE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
Ag—t with ICC. No by third Single user copying and networking ANY UNAUIYORIZED

FIRE HYDRANT LOCA TIONS AND DISTRIBUTION

SECTION CCIOI—SCOPE

CCIOI.I Fire hydrants shall be provided in accordance with this appendix for the protection ofany school buildings, or portions thereof hereafter constructed for which review and approval are required under Subdivision(a) ofSection 17280 of the Government Code.

SECTION CC102—LOCATION

CC102.1 Fire hydrants shall be provided along required fire apparatus access roads and adjacent public streets.

SECTION CC103—NUMBER OF FIRE HYDRANTS

CC103.1 The minimum number of fire hydrants available to a building shall not be less than that listed in Table CC105.I. The number of fire hydrants available to a complex or subdivision shall not be less than that determined by spacing requirements listed in Table CC105.I when applied to fire apparatus access roads and perimeter streets from which fire operations could be conducted.

SECTION CC104—CONSIDERA TION OF EXISTING FIRE HYDRANTS

CC104.1 Existing fire hydrants on public streets are allowed to be considered as available. Existing fire hydrants on adjacent properties shall not be considered available unless fire apparatus access roads extend between properties and easements are established to prevent obstruction ofsuch roads.

SECTION CC105—DISTRIBUTION OF FIRE HYDRANTS

CC105.1 The average spacing between fire hydrants shall not exceed that listed in Table CC105.I.

Exception: A deficiency of up to 10 percent shall not be allowed when existing fire hydrants provide all, or a portion, of the required fire hydrant service.

Regardless of the average spacing, fire hydrants shall be located such that all points on streets and access roads adjacent to a building are within the distances listed in Table CC105.I.

CC105.2 When public or private water mains are not available to supply fire flow [not within 1,000 feet (304 800 mm) of the proposed building), the following alternatives shall be used:

I. Building(s) shall be protected by an automatic sprinkler system

Exception: Portable (relocatable) buildings, as defined in California Education Code Section 17742.5(e), which requires that portable buildings be designed and constructed to be relocatable over public streets, shall be designed and constructed for relocation without the separation of the roof or floor from the building and when measured at the most exterior walls, shall have a floor area not in excess of2,OOO square feet (186 H). Such portable buildings shall be separated from other structures in groupings not to exceed 9,100 square feet (845 m^{l}) in building area (pursuant to Table 503, California Building Code, for Type VB buildings). Further area increases shall be as approved by the local fire authority having jurisdiction and the state fire marshal.

The water for sprinklers may be supplied by the domestic system, a pressure tank, a gravity tank or other means in accordance with NPFA 13. Water tanks shall be installed in accordance with NFPA 22. (See the California Building Code, Chapter 9.)

2. When the adequate fire flow is not available and the water for sprinklers is provided from a source other than a public water supply, the amount of water to supply the system shall be calculated using the area/density method or the room design method as delineated in NFPA 13. The calculated duration of water flow to sprinklers shall not be less than 15 minutes to 10 heads.

3. The sprinkler system shall have a water flow alarm monitored by an approved central, proprietary or remote station service or a local alarm which will give audible and visual signals at a constant attended location.

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
Ag—t with ICC. No by third Single user copying and networking ANY UNAUIYORIZED
. RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user copy, copying and netw
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

4. When this alternative is utilized and the calculated water duration to a sprinkler is less than NFPA 13 recommendations, the area increases and fire resistive substitutions allowed in Chapter 5 of the California Building Code shall not be permitted.

APPENDIX CC—FIRE HYDRANT LOCATIONS AND DISTRIBUTION

TABLE CC105.1—NUMBER AND DISTRIBUTION OF FIRE HYDRANTS

FIRE-FLOW REQUIREMENT (gpm)	MINIMUM NUMBER OF HYDRANTS	AVERAGE SPACING BETWEEN HYDRANTS (feet)	MAXIMUM DISTANCE FROM ANY POINT ON STREET OR ROAD FRONTAGE TO A HYDRANT"
1, 750 or less	1	500	250
2,000-2,250	2	450	225
2,500	3	450	225
3,000	3	400	225
	4	350	210
4,500-5,000	5	300	180
5,500	6	300	180
6,000	6	250	150
6,500-7,000	7	250	150
7,500 or more	8 or more[e]	200	120

For Sl: 1 foot = 304.8 mm, gallon per minute = 3.785 L/m.
Reduce by 100 feet for dead-end streets or roads.

b. Where streets are provided with median dividers which can be crossed by firefighters pulling hose lines, or where arterial streets are provided with four or more traffic lanes and have a traffic count of more than 30,000 vehicles per day, hydrant spacing shall average 500 feet on each side of the street and be arranged on an alternating basis up to a fire-flow requirement Of 7,000 gallons per minute and 400 feet for higher fire-flow requirements.

C Where new water mains are extended along streets where hydrants are not needed for protection of structures or similar fire problems, fire hydrants shall be provided at spacing not to exceed 1, 000 feet to provide for transportation hazards. d Reduce by50 feet for dead-end streets or roads.
One hydrant for each 1,000 gallons per minute or fraction thereof.

2025ICC. ALL RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 on Jul 11.2023 PM (CDT)
further reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and networking
to INTERNATIONAL CODE COUNCIL Ag—t with ICC. No ANY UNAUIYORIZED

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
Ag—t with ICC. No . RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License
urther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and networking ANY UNAUIYORIZED
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

CALIFORNIA FIRE CODE - MATRIX ADOPTION TABLE

APPENDIX D - FIRE APPARATUS ACCESS ROADS

(Matrix Adoption Tables are nonregulatory, intended only as an aid to the code user.
See Chapter I for state agency authority and building applications.)

(Not adopted by the State Fire Marshal)

Adopting Agency		CG	SFM		HCD			DSA		OSHPD						BSCC	DPH	AGR	DWR	CEC	CA	SL	SLC
			T-24	T-19*		2	IIAC	AC	SS	i	IR	2	3	4	5								
Adopt Entire Chapter																							
Adopt Entire Chapter as amended (amended sections listed below)																							
Adopt only those sections that are listed below																							
[Califomia Code of Regulations, Title 19, Division 1]																							
Chapter / Section																							

- The California Code ofRegulations (CCR), Title 19, Division 1 provisions thatare found in the California Fire Code are a reprint from the current CCR, Title 19, Division 1 text for the code user's convenience only. The scope, applicability and appeals procedures Of CCR, Title 19, Division I remain the same.

INTERNATIONAL CODE COUNCIL
Ag—t with ICC. No
2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
. RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License
arther reproduction, no further reproductions by any third party, or distribution authorized. Single user copying and networking by third ANY UNAUIYORIZED
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
Ag—t with ICC. No by third Single user copying and networking ANY UNAUIYORIZED

APPENDIX D

FIRE APPARATUS ACCESS ROADS

The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance or legislation of the jurisdiction.

User notes:

About this appendix: Appendix D contains more detailed elements for use with the basic access requirements found in Section 503, which gives some minimum criteria, such as a maximum length Of 150 feet and a minimum width Of 20 feet, but in many cases does not state specific criteria. This appendix, like Appendices B and C, is a tool for jurisdictions looking for guidance in establishing access requirements and includes criteria for multiple-family residential developments, large one- and two-family subdivisions, specific examples for various types Of turnarounds for fire department apparatus and parking regulatory signage.

ICCc0dedeveloprnentnote: Code change proposals to this appendix will be considered by the IFC Code Development Committee during the2024 (Group A) Code Development Cycle.

SECTION DIOI—GENERAL

DIOI.I Scope. Fire apparatus access roads shall be in accordance with this appendix and all other applicable requirements of the California Fire Code.

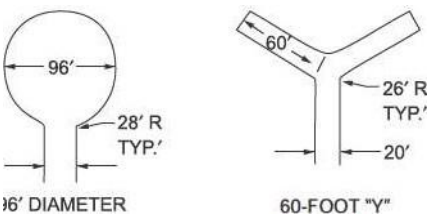
SECTION D102—REQUIRED ACCESS

D102.1 Access and loading. Facilities, buildings or portions of buildings hereafter constructed shall be accessible to fire department apparatus by way of an approved fire apparatus access road with an asphalt, concrete or other approved driving surface capable of supporting the imposed load of fire apparatus weighing up to 75,000 pounds (34 050 kg).

SECTION D103—MINIMUM SPECIFICATIONS

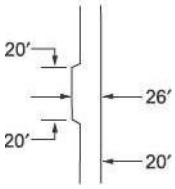
D103.1 Access road width with a hydrant. Where a fire hydrant is located on a fire apparatus access road, the minimum road width shall be 26 feet (7925 mm), exclusive of shoulders (see Figure [)103.1).

FIGURE D103.1—DEAD-END FIRE APPARATUS ACCESS ROAD TURNAROUND



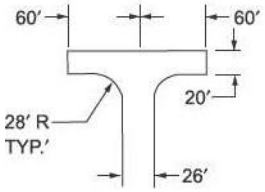
96′ DIAMETER CUL-DE-SAC

60-FOOT "Y"

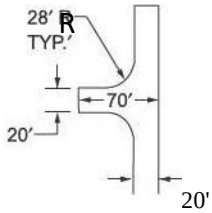


26' 96' DIAMETER MINIMUM CLEARANCE AROUND A FIRE HYDRANT

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
Ag—t with ICC. No . RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user copying and networking by third ANY UNAUIYORIZED
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER



120' HAMMERHEAD



ACCEPTABLE ALTERNATIVE TO 120' HAMMERHEAD

For Sl: 1 foot; 304.8 mm.

D103.2 Grade. Fire apparatus access roads shall not exceed 10 percent in grade.

Exception: Grades steeper than 10 percent as approved by the fire code official.

D103.3 Turning radius. The minimum turning radius shall be determined by the fire code official.

D103.4 Dead ends. Dead-end fire apparatus access roads in excess of 150 feet (45 720 mm) shall be provided with width and turnaround provisions in accordance with Table D103.4.

TABLE D103.4—REQUIREMENTS FOR DEAD-END FIRE APPARATUS ACCESS ROADS		
LENGTH (feet)	WIDTH (feet)	TURNAROUNDS REQUIRED
0-150	20	None required
151-500	20	120-foot Hammerhead, 60-foot "Y" or 96-foot diameter cul-de-sac in accordance with Figure D103.1
501-750	26	120-foot Hammerhead, 60-foot "Y" or 96-foot diameter cul-de-sac in accordance with Figure D103.1
over 750	Special approval required	
For Sl: 1 foot = 304.8 mm.		

D103.5 Fire apparatus access road gates. Gates securing the fire apparatus access roads shall comply with all of the following criteria:

I. Where a single gate is provided, the gate width shall be not less than 20 feet (6096 mm). Where a fire apparatus road consists of a divided roadway, the gate width shall be not less than 12 feet (3658 mm).

2. Gates shall be of the horizontal swing, horizontal slide, vertical lift or vertical pivot type.

3. Construction of gates shall be of materials that allow manual operation by one person.

4. Gate components shall be maintained in an operative condition at all times and replaced or repaired when defective.

5. Electric gates shall be equipped with a means of opening the gate by fire department personnel for emergency access. Emergency opening devices shall be approved by the fire code official.

6. Methods of locking shall be submitted for approval by the fire code official.

7. Electric gate operators, where provided, shall be listed in accordance with UL 325.

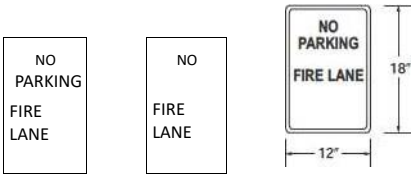
8. Gates intended for automatic operation shall be designed, constructed and installed to comply with the requirements of ASTM F2200.

D103.6 Signs. Where required by the fire code official, fire apparatus access roads shall be marked with permanent "NO PARKING— FIRE LANE" signs complying with Figure D103.6. Signs shall have a minimum dimension of 12 inches (305 mm) wide by 18 inches (457 mm) high and have red letters on a white reflective background. Signs shall be posted on one or both sides of the fire apparatus road as required by Section D103.6.I or D103.6.2.

INTERNATIONAL CODE COUNCIL
2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
Ag—t with ICC. No
. RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user copy, printing and netw
by third Single user copy, printing and networking ANY UNAUIYORIZED
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

FIGURE D103.6—FIRE LANE SIGNS

SIGN TYPE •A" SIGN TOE •C" SIGN TYPE "D•



D103.6.1 Roads 20 to 26 feet in width. Fire lane signs as specified in Section D103.6 shall be posted on both sides of fire apparatus access roads that are 20 to 26 feet wide (6096 to 7925 mm).

D103.6.2 Roads more than 26 feet in width. Fire lane signs as specified in Section D103.6 shall be posted on one side of fire apparatus access roads more than 26 feet wide (7925 mm) and less than 32 feet wide (9754 mm).

SECTION D104—COMMERCIAL AND INDUSTRIAL DEVELOPMENTS

D104.1 Buildings exceeding three stories or 30 feet in height. Buildings or facilities exceeding 30 feet (9144 mm) or three stories in height shall have not fewer than two means of fire apparatus access for each structure.

D104.2 Buildings exceeding 62,000 square feet in area. Buildings or facilities having a gross building area of more than 62,000 square feet (5760 m^2) shall be provided with two separate and approved fire apparatus access roads.

Exception: Projects having a gross building area of up to 124,000 square feet (Il 520 m^2) that have a single approved fire apparatus access road where all buildings are equipped throughout with approved automatic sprinkler systems.

D104.3 Remoteness. Where two fire apparatus access roads are required, they shall be placed a distance apart equal to not less than one half of the length of the maximum overall diagonal dimension of the lot or area to be served, measured in a straight line between accesses.

SECTION D105—AERIAL FIRE APPARATUS ACCESS ROADS

D105.1 Where required. Where the vertical distance between the grade plane and the highest roof surface exceeds 30 feet (9144 mm), approved aerial fire apparatus access roads shall be provided. For purposes of this section, the highest roof surface shall be

INTERNATIONAL CODE COUNCIL Ag—t with 2025 ICC. ICC. No ALL RIGHTS RESERVED. by Br"n by third to (Qty Single user Order copyingand networking oa Jul 11.2023 ANY PM UNAUIYORIZED(CDT)

determined by measurement to the eave of a pitched roof, the intersection of the roof to the exterior wall, or the top of parapet walls, whichever is greater.

Exception: Where approved by the fire code official, buildings of Type IA, Type 1B or Type IIA construction equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 and having firefighter access through an enclosed stairway with a Class I standpipe from the lowest level of fire department vehicle access to all roof surfaces.

D105.2 Width. Aerial fire apparatus access roads shall have a minimum unobstructed width of 26 feet (7925 mm), exclusive of shoulders, in the immediate vicinity of the building or portion thereof.

D105.3 Proximity to building. One or more of the required access routes meeting this condition shall be located not less than 15 feet (4572 mm) and not greater than 30 feet (9144 mm) from the building, and shall be positioned parallel to one entire side of

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
Ag—t with ICC. No . RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user copying and networking by third ANY UNAUIYORIZED
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

the building. The side of the building on which the aerial fire apparatus access road is positioned shall be approved by the fire code official.

D105.4 Obstructions. Overhead utility and power lines shall not be located over the aerial fire apparatus access road or between the aerial fire apparatus road and the building. Other obstructions shall be permitted to be placed with the approval of the fire code official.

SECTION D106—MULTİPLE-FAMİLY RESIDENTIAL DEVELOPMENTS

D106.1 Projects having more than 100 dwelling units. Multiple-family residential projects having more than 100 dwelling units shall be equipped throughout with two separate and approved fire apparatus access roads.

Exception: Projects having up to 200 dwelling units shall have not fewer than one approved fire apparatus access road where all buildings, including nonresidential occupancies, are equipped throughout with approved automatic sprinkler systems installed in accordance with Section 903.3.1.1 or 903.3.1.2.

D106.2 Projects having more than 200 dwelling units. Multiple-family residential projects having more than 200 dwelling units shall be provided with two separate and approved fire apparatus access roads regardless of whether they are equipped with an approved automatic sprinkler system.

D106.3 Remoteness. Where two fire apparatus access roads are required, they shall be placed a distance apart equal to not less than one-half of the length of the maximum overall diagonal dimension of the property or area to be served, measured in a straight line between accesses.

SECTION D107—ONE- OR TWO-FAMILY RESIDENTIAL DEVELOPMENTS

D107.1 One- or two-family dwelling residential developments. Developments of one- or two-family dwellings where the number of dwelling units exceeds 30 shall be provided with two separate and approved fire apparatus access roads. Exceptions:

I. Where there are more than 30 dwelling units accessed from a single public or private fire apparatus access road and all dwelling units are equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3, access from two directions shall not be required.

2. The number of dwelling units accessed from a single fire apparatus access road shall not be increased unless fire apparatus access roads will connect with future development, as determined by the fire code official.

D107.2 Remoteness. Where two fire apparatus access roads are required, they shall be placed a distance apart equal to not less than one-half of the length of the maximum overall diagonal dimension of the property or area to be served, measured in a straight line between accesses.

SECTION D108—REFERENCED STANDARDS

D108.1 General. See Table D108.I for standards that are referenced in various sections of this appendix. Standards are listed by the standard identification with the effective date, standard title, and the section or sections of this appendix that reference the standard.

TABLE D108.1—REFERENCED STANDARDS

STANDARD ACRONYM	STANDARD NAME	SECTIONS HEREIN REFERENCED
ASTM 2200—14	Standard Specification for Automated Vehicular Gate Construction	D103.5
UL 325—02	Door, Drapery, Gate, Louver, and Window Operators and Systems, with Revisions through May 2015	D103.5

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
Ag—t with ICC. No by third Single user copying and networking ANY UNAUIYORIZED

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
Ag—t with ICC. No by third Single user copying and networking ANY UNAUIYORIZED
. RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License
arther reproduction, no further reproductions by any third party, or distribution authorized. Single user copy, copying and netw
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

CALIFORNIA FIRE CODE - MATRIX ADOPTION TABLE

APPENDIX E - HAZARD CATEGORIES

(Matrix Adoption Tables are nonregulatory, intended only as an aid to the code user.
See Chapter I for state agency authority and building applications.)

(Not adopted by the State Fire Marshal)

Adopting Agency	BSC	CG	SFM		HCD			DSA		OSHPD						BSCC	DPH	AGR	DWR	CEC	CA	SL	SLC
			T-24	T-19*	1	2	IIAC	AC	SS	1	IR	2	3	4	5								
Adopt Entire Chapter																							
Adopt Entire Chapter as amended (amended sections listed below)																							
Adopt only those sections that are listed below																							
[California Code Of Regulations, Title 19, Division 1]																							
Chapter / Section																							

• The California Code of Regulations (CCR), Title 19, Division 1 provisions that are found in the California Fire Code are a reprint from the current CCR, Title 19, Division 1 text for the code user's convenience only. The scope, applicability and appeals procedures Of CCR, Title 19, Division I remain the same.

INTERNATIONAL CODE COUNCIL
2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
Ag—t with ICC. No
. RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user copying and networking by third ANY UNAUIYORIZED
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
Ag—t with ICC. No by third Single user copying and networking ANY UNAUIYORIZED

APPENDIX E

HAZARD CATEGORIES

This appendix is for information purposes and is not intended for adoption.

user notes:

About this appendix: Appendix E contains guidance for designers, engineers, architects, code officials, plans reviewers and inspectors in the classifying Of hazardous materials so that proposed designs can be evaluated intelligently and accurately. The descriptive materials and explanations Of hazardous materials and how to report and evaluate them on a Safety Data Sheet (SDS) are intended to be instructional as well as informative. This appendix also provides a comparative tool to better understand how the classifications in the International Codes (I-Codes) relate to the UN Recommendations on the Transport Of Dangerous Goods, Model Regulations and UN Globally Harmonized System Of Classification and Labelling Of Chemicals (GHS).

ICC code development note: Code change proposals to this appendix will be considered by the IFCC0de Development Committee duringthe2024 (Group A) Code Development Cycle.

SECTION EIOI—GENERAL

EIOI.I Scope. This appendix provides information, explanations and examples to illustrate and clarify the hazard categories contained in Chapter 50 of the California Fire Code. The hazard categories are based on the DOL 29 CFR. Where numerical classifications are included, they are in accordance with nationally recognized standards.

This appendix should not be used as the sole means of hazardous materials classification.

SECTION E102—HAZARD CATEGORIES E102.1 Physical

hazards. Materials classified in this section pose a physical hazard.

E102.1.1 Explosives and blasting agents. The current UN/DOT classification system recognized by international authorities, the Department of Defense and others classifies all explosives as Class 1 materials. They are then divided into six separate divisions to indicate their relative hazard. There is not a direct correlation between the designations used by the old DOT system and those used by the current system nor is there correlation with the system (high and low) established by the Bureau of Alcohol, Tobacco, Firearms and Explosives (BATF). Table 5604.3 provides some guidance with regard to the current categories and their relationship to the old categories. Some items appear in more than one division, depending on factors such as the degree of confinement or separation, by type of packaging, storage configuration or state of assembly.

In order to determine the level of hazard presented by explosive materials, testing to establish quantitatively their explosive nature is required. There are numerous test methods that have been used to establish the character of an explosive material. Standardized tests, required for finished goods containing explosives or explosive materials in a packaged form suitable for shipment or storage, have been established by UN/DOT and BATF. However, these tests do not consider key elements that should be examined in a manufacturing situation. In manufacturing operations, the condition and/or the state of a material may vary within the process. Potentially, material classification and the requirements used to determine that classification during manufacturing will differ from the classification of the same material found in finished goods. A classification methodology must be used that recognizes the hazards commensurate with the application to the variable physical conditions as well as potential variations of physical character and type of explosive under consideration.

Test methods or guidelines for hazard classification of energetic materials used for in-process operations shall be approved by the fire code official. Test methods used shall be DOD, BATF, UN/DOT or other approved criteria. The results of such testing shall become a portion of the files of the jurisdiction and be included as an independent section of any Hazardous Materials Management Plan (HMMP) required by Section 5605.2.1. Also see Section 104.22.

Examples of materials in various Divisions are as follows:

2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
INTERNATIONAL CODE COUNCIL Ag—t with ICC. No . RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License
arther reproduction, no further reproductions by third party, or distribution authorized. Single user copying and networking ANY UNAUIYORIZED
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT AND THE LICENSE AG AND SUBJECT TO CIVIL CRIMINAL THEREUNDER

I. Division 1.1 (High Explosives). Consists of explosives that have a mass explosion hazard. A mass explosion is one that affects almost the entire pile of material instantaneously. Includes substances that, where tested in accordance with approved methods, can be caused to detonate by means of a blasting cap where unconfined or will transition from deflagration to a detonation where confined or unconfined. Examples: dynamite, TNT, nitroglycerine, C-3, HMX, RDX, encased explosives, military ammunition.

2. Division 1.2 (Low Explosives). Consists of explosives that have a projection hazard, but not a mass explosion hazard. Examples: non detonating encased explosives, military ammunition and the like.

3. Division 1.3 (Low Explosives). Consists of explosives that have a fire hazard and either a minor blast hazard or a minor projection hazard or both, but not a mass explosion hazard. The major hazard is radiant heat or violent burning, or both. Can be deflagrated where confined. Examples: smokeless powder, propellant explosives, display fireworks.

4. Division 1.4. Consists of explosives that pose a minor explosion hazard. The explosive effects are largely confined to the package and no projection of fragments of appreciable size or range is expected. An internal fire must not cause virtually instantaneous explosion of almost the entire contents of the package. Examples: squibs (non detonating igniters), explosive actuators, explosive trains (low-level detonating cord).

2025 ICC. ALL RIGHTS RESERVED.
by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
INTERNATIONAL CODE COUNCIL Ag—t with ICC. No
. RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License
rther reproduction, no further reproductions by third party, or distribution authorized. Single user copying and networking ANY UNAUIYORIZED
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT AND THE LICENSE AG AND SUBJECT TO CIVIL CRIMINAL THEREUNDER

5. Division 1.5 (Blasting Agents). Consists of very insensitive explosives. This division comprises substances that have a mass explosion hazard, but are so insensitive that there is very little probability of initiation or of transition from burning to detonation under normal conditions of transport. Materials are not cap sensitive; however, they are mass detonating where provided with sufficient input. Examples: oxidizer and liquid fuel slurry mixtures and gels, ammonium nitrate combined with fuel oil.
6. Division 1.6. Consists of extremely insensitive articles that do not have a mass explosive hazard. This division comprises articles that contain only extremely insensitive detonating substances and that demonstrate a negligible probability of accidental initiation or propagation. Although this category of materials has been defined, the primary application is currently limited to military uses. Examples: Low vulnerability military weapons.

Explosives in each division are assigned a compatibility group letter by the Associate Administrator for Hazardous Materials Safety (DOT) based on criteria specified by DOT in 49 CFR. Compatibility group letters are used to specify the controls for the transportation and storage related to various materials to prevent an increase in hazard that might result if certain types of explosives were stored or transported together. Altogether, there are 35 possible classification codes for explosives, for example, 1.1A, 1.3C, 1.4S.

E102.1.2 Compressed gases. Examples include:

I. Flammable: acetylene, carbon monoxide, ethane, ethylene, hydrogen, methane. Ammonia will ignite and burn although its flammable range is too narrow for it to fit the definition of "Flammable gas."

For binary mixtures where the hazardous component is diluted with a nonflammable gas, the mixture shall be categorized in accordance with CGA P-23.

2. Oxidizing: oxygen, ozone, oxides of nitrogen, chlorine and fluorine. Chlorine and fluorine do not contain oxygen but reaction with flammables is similar to that of oxygen.
3. Corrosive: ammonia, hydrogen chloride, fluorine.
4. Highly toxic: arsine, cyanogen, fluorine, germane, hydrogen cyanide, nitric oxide, phosphine, hydrogen selenide, stibine.
5. Toxic: chlorine, hydrogen fluoride, hydrogen sulfide, phosgene, silicon tetrafluoride.
6. Inert (chemically unreactive): argon, helium, krypton, neon, nitrogen, xenon.
7. Pyrophoric: diborane, dichloroborane, phosphine, silane.
8. Unstable (reactive): butadiene (unstabilized), ethylene oxide, vinyl chloride. E102.1.3 Flammable and combustible liquids. Examples include:

I. Flammable liquids.

Class IA liquids shall include those having flash points below 73^0F (23^0C) and having a boiling point at or below 100^0F (38^0C). Class 1B liquids shall include those having flash points below 73^0F (23^0C) and having a boiling point at or above 100^0F (38^0C). Class IC liquids shall include those having flash points at or above 73^0F (23^0C) and below 100^0 F ($38^0$0.

2. Combustible liquids.

Class Il liquids shall include those having flash points at or above 100^0F (38^0C) and below 140^0 F (60^0C).

Class IllA liquids shall include those having flash points at or above 140^0F (60^0C) and below 200^0 F (93^0C). Class 111B liquids shall include those liquids having flash points at or above 200^0 F (93^0C). E102.1.4 Flammable solids. Examples include:

I. Organic solids: camphor, cellulose nitrate, naphthalene.
2. Inorganic solids: decaborane, lithium amide, phosphorous heptasulfide, phosphorous sesquisulfide, potassium sulfide, anhydrous sodium sulfide, sulfur.
3. Combustible metals (except dusts and powders): cesium, magnesium, zirconium.

E102.1.5 Combustible dusts and powders. Finely divided solids that could be dispersed in air as a dust cloud: wood sawdust,

plastics, coal, flour, powdered metals (few exceptions).

E102.1.6 Combustible fibers. See the definition of combustible fibers in Section 202. E102.1.7 Oxidizers. Examples include:

I. Gases: oxygen, ozone, oxides of nitrogen, fluorine and chlorine (reaction with flammables is similar to that of oxygen).
2. Liquids: bromine, hydrogen peroxide, nitric acid, perchloric acid, sulfuric acid.
3. Solids: chlorates, chromates, chromic acid, iodine, nitrates, nitrites, perchlorates, peroxides.

E102.1.7.1 Examples of liquid and solid oxidizers according to hazard. Examples include:

2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
INTERNATIONAL CODE COUNCIL Ag—t with ICC. No , RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netw by third Single user copyingand networking ANY UNAUIYORIZED
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

Class 4: ammonium perchlorate (particle size greater than 15 microns), ammonium permanganate, guanidine nitrate, hydrogen peroxide solutions more than 91 percent by weight, perchloric acid solutions more than 72.5 percent by weight, potassium superoxide, tetranitromethane.

Class 3: ammonium dichromate, calcium hypochlorite (over 50 percent by weight), chloric acid (10 percent maximum concentration), hydrogen peroxide solutions (greater than 52 percent up to 91 percent), mono-(trichloro)-tetra-(monopotassium dichloro)-penta-s-triazinetrione, nitric acid, (fuming—more than 86 percent concentration), perchloric acid solutions (60 percent to 72 percent by weight), potassium bromate, potassium chlorate, potassium dichloro-s-triazinetrione (potassium dichloro-isocyanurate), potassium perchlorate (99 percent), potassium permanganate (greater than 97.5 percent), sodium bromate, sodium chlorate and sodium chlorite (over 40 percent by weight).

Class 2: barium bromate, barium chlorate, barium hypochlorite, barium perchlorate, barium permanganate, I-bromo-3chloro-5, 5-dimethylhydantoin, calcium chlorate, calcium chlorite, calcium hypochlorite (50 percent or less by weight), calcium perchlorate, calcium permanganate, calcium peroxide (75 percent), chromium trioxide (chromic acid), copper chlorate, halane (I, 3-dichloro-5, 5-dimethylhydantoin), hydrogen peroxide (greater than 27.5 percent up to 52 percent), lead perchlorate, lithium chlorate, lithium hypochlorite (more than 39 percent available chlorine), lithium perchlorate, magnesium bromate, magnesium chlorate, magnesium perchlorate, mercurous chlorate, nitric acid (more than 40 percent but less than 86 percent), perchloric acid solutions (more than 50 percent but less than 60 percent), potassium peroxide, potassium superoxide, silver peroxide, sodium chlorite (40 percent or less by weight), sodium dichloro-s-triazinetrione anhydrous (sodium dichloroisocyanurate anhydrous), sodium perchlorate, sodium perchlorate monohydrate, sodium permanganate, sodium peroxide, sodium persulfate (99 percent), strontium chlorate, strontium perchlorate, thallium chlorate, urea hydrogen peroxide, zinc bromate, zinc chlorate and zinc permanganate.

Class 1: all inorganic nitrates (unless otherwise classified), all inorganic nitrites (unless otherwise classified), ammonium persulfate, barium peroxide, hydrogen peroxide solutions (greater than 8 percent up to 27.5 percent), lead dioxide, lithium hypochlorite (39 percent or less available chlorine), lithium peroxide, magnesium peroxide, manganese dioxide, nitric acid (40 percent concentration or less), perchloric acid solutions (less than 50 percent by weight), potassium dichromate, potassium monopersulfate (45 percent KHS05 or 90 percent triple salt), potassium percarbonate, potassium persulfate, sodium carbonate peroxide, sodium dichloro-s-triazinetrione dihydrate, sodium dichromate, sodium perborate (anhydrous), sodium perborate monohydrate, sodium perborate tetra-hydrate, sodium percarbonate, strontium peroxide, trichloro-s-triazinetrione (trichloroisocyanuric acid) and zinc peroxide.

E102.1.7.2 Oxidizer classification. The UN's Globally Harmonized System (GHS) is an internationally agreed upon standard of classification and labeling that utilizes prescriptive, standardized testing procedures and criteria to classify hazardous materials. Federal law (DOL 29 CFR 1910.1200 and DOT in 49 CFR 173.127) mandate that manufacturers selling, producing or transporting chemicals in the United States classify chemicals according to the GHS system and make the classifications available in product Safety Data Sheets. For the classification of solid and liquid oxidizers, GHS relies on relevant quantitative test data that measures burning rate, a key indicator of the severity of the hazard. To assist code officials, an alignment between the GHS and CFC oxidizer hazard classes is provided in Table E102.I.7.2. This alignment is provided as a tool to assist fire code officials and should not be used as the sole means for hazardous materials classification.

TABLE E102.1.7.2—OXIDIZER COMPARISON (CFC VERSUS GHS)

CFC HAZARD CLASSIFICATION	CHS HAZARD CLASSIFICATION
Oxidizer, Class 4	H271, Category 1
Oxidizer, Class 3	H271, Category 1
Oxidizer, Class 2	H272, Category 2
Oxidizer, Class 1	H272, Category 3

E102.1.8 Organic peroxides. Organic peroxides contain the double oxygen or peroxy (-0-0) group. Some are flammable compounds and subject to explosive decomposition. They are available as: I. Liquids.

2. Pastes.
3. Solids (usually finely divided powders).

2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
INTERNATIONAL CODE COUNCIL Ag—t with ICC. No . RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License
by third Single user copyingand networking ANY UNAUIYORIZED
arther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netwi
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

E102.1.8.1 Classification of organic peroxides according to hazard. Examples include:

Unclassified: Unclassified organic peroxides are capable of detonation and are regulated in accordance with Chapter 56.

Class l: acetyl cyclohexane sulfonyl 60-65 percent concentration by weight, fulfonyl peroxide, benzoyl peroxide over 98 percent concentration, t-butyl hydroperoxide 90 percent, t-butyl peroxyacetate 75 percent, t-butyl peroxyisopropylcarbonate 92 percent, diisopropyl peroxydicarbonate 100 percent, di-n-propyl peroxydicarbonate 98 percent, and di-n-propyl peroxydicarbonate 85 percent.

Class II: acetyl peroxide 25 percent, t-butyl hydroperoxide 70 percent (with DTBP and t-BuOH diluents), t-butyl peroxybenzoate 98 percent, t-butyl peroxy-2-ethylhexanoate 97 percent, t-butyl peroxyisobutyrate 75 percent, t-butyl peroxyisopropyl-carbonate 75 percent, t-butyl peroxypivalate 75 percent, dybenzoyl peroxydicarbonate 85 percent, di-sec-butyl peroxydicarbonate 98 percent, di-secbutyl peroxydicarbonate 75 percent, 1,1-di-(t-butylperoxy)-3,5,5-trimethyecyclohexane 95 percent, di-(2-ethythexyl) peroxydicarbonate 97 percent, 2,5-dymethyl-2-5 di (benzoylperoxy) hexane 92 percent, and peroxyacetic acid 43 percent.

Class lll: acetyl cyclohexane sulfonal peroxide 29 percent, benzoyl peroxide 78 percent, benzoyl peroxide paste 55 percent, benzoyl peroxide paste 50 percent peroxide/50 percent butylbenzylphthalate diluent, cumene hydroperoxide 86 percent, di(4-butylcyclohexyl) peroxydicarbonate 98 percent, t-butyl peroxy-2-ethylhexanoate 97 percent, t-butyl peroxyneodecanoate 75 percent, decanoyl peroxide 98.5 percent, di-t-butyl peroxide 99 percent, 1,1-di-(t-butylperoxy)3,5,5-trimethylcyclohexane75 percent, 2,4-dichlorobenzoyl peroxide 50 percent, di-isopropyl peroxydicarbonate 30 percent, 2,-5-di-methyl-2,5-di-(2ethylhexanolyperoxy)-hexane 90 percent, 2,5-dimethyl-2,5-di-(t-butylperoxy) hexane 90 percent and methyl ethyl ketone peroxide 9 percent active oxygen diluted in dimethyl phthalate.

Class IV: benzoyl peroxide 70 percent, benzoyl peroxide paste 50 percent peroxide/15 percent water/35 percent butylphthalate diluent, benzoyl peroxide slurry 40 percent, benzoyl peroxide powder 35 percent, t-butyl hydroperoxide 70 percent, (with water diluent), t-butyl peroxy-2-ethylhexanoate 50 percent, decumyl peroxide 98 percent, di-(2-ethylhexal) peroxydicarbonate 40 percent, laurel peroxide 98 percent, p-methane hydroperoxide 52.5 percent, methyl ethyl ketone peroxide 5.5 percent active oxygen and methyl ethyl ketone peroxide 9 percent active oxygen diluted in water and glycols.

Class V: benzoyl peroxide 35 percent, I,l-di-t-butyl peroxy 3,5,5-trimethylcyclohexane 40 percent, 2,5-di-(t-butyl peroxy) hexane 47 percent and 2,4-pentanedione peroxide 4 percent active oxygen. E102.1.9 Pyrophoric materials. Examples include:

I. Gases: diborane, phosphine, silane.

2. Liquids: diethylaluminum chloride, di-ethylberyllium, diethylphosphine, diethylzinc, dimethylarsine, triethylaluminum etherate, tri-ethylbismuthine, triethylboron, trimethylaluminum, trimethylgallium.

3. Solids: cesium, hafnium, lithium, white or yellow phosphorous, plutonium, potassium, rubidium, sodium, thorium.

E102.1.10 Unstable (reactive) materials. Examples include:

Class 4: acetyl peroxide, dibutyl peroxide, dinitrobenzene, ethyl nitrate, peroxyacetic acid and picric acid (dry) trinitrobenzene.

Class 3: hydrogen peroxide (greater than 52 percent), hydroxylamine, nitromethane, paranitroaniline, perchloric acid and tetrafluoroethylene monomer.

Class 2: acrolein, acrylic acid, hydrazine, methacrylic acid, sodium perchlorate, styrene and vinyl acetate.

Class I: acetic acid, hydrogen peroxide 35 percent to 52 percent, paraldehyde and tetrahydrofuran.

E102.1.11 Water-reactive materials. Examples include:

Class 3: aluminum alkyls such as triethylaluminum, isobutylaluminum and trimethylaluminum; bromine pentafluoride, bromine trifluoride, chlorodiethylaluminium and diethylzinc.

Class 2: calcium carbide, calcium metal, cyanogen bromide, lithium hydride, methyldichlorosilane, potassium metal, potassium peroxide, sodium metal, sodium peroxide, sulfuric acid and trichlorosilane.

Class I: acetic anhydride, sodium hydroxide, sulfur monochloride and titanium tetrachloride.

E102.1.12 Cryogenic fluids. The cryogenics listed will exist as compressed gases where they are stored at ambient temperatures.

I. Flammable: carbon monoxide, deuterium (heavy hydrogen), ethylene, hydrogen, methane.

2. Oxidizing: fluorine, nitric oxide, oxygen.

3. Corrosive: fluorine, nitric oxide.

4. Inert (chemically unreactive): argon, helium, krypton, neon, nitrogen, xenon.

5. Highly toxic: fluorine, nitric oxide.

E102.2 Health hazards. Materials classified in this section pose a health hazard.

E102.2.1 Highly toxic materials. Examples include:

2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
INTERNATIONAL CODE COUNCIL Ag—t with ICC. No , RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License
by third Single user copyingand networking ANY UNAUIYORIZED
arther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netwi
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

I. Gases: arsine, cyanogen, diborane, fluorine, germane, hydrogen cyanide, nitric oxide, nitrogen dioxide, ozone, phosphine, hydrogen selenide, stibine.

2. Liquids: acrolein, acrylic acid, 2-chloroethanol (ethylene chlorohydrin), hydrazine, hydrocyanic acid, 2-methylaziridine (propylenimine), 2-methyl-acetonitrile (acetone cyanohydrin), methyl ester isocyanic acid (methyl isocyanate), nicotine, tetranitromethane and tetraethylstannane (tetraethyltin).

3. Solids: (aceto) phenylmercury (phenyl mercuric acetate), 4-aminopyridine, arsenic pentoxide, arsenic trioxide, calcium cyanide, 2-chloroacetophenone, aflatoxin B, decaborane(14), mercury (II) bromide (mercuric bromide), mercury (II) chloride (corrosive mercury chloride), pentachlorophenol, methyl parathion, phosphorus (white) and sodium azide.

E102.2.2 Toxic materials. Examples include:

I. Gases: boron trichloride, boron trifluoride, chlorine, chlorine trifluoride, hydrogen fluoride, hydrogen sulfide, phosgene, silicon tetrafluoride.

2. Liquids: acrylonitrile, allyl alcohol, alpha-chlorotoluene, aniline, I-chloro-2,3-epoxypropane, chloroformic acid (allyl ester), 3-chloropropene (allyl chloride), 0-cresol, crotonaldehyde, dibromomethane, diisopropylamine, diethyl ester sulfuric acid, dimethyl ester sulfuric acid, 2-furaldehyde (furfural), furfural alcohol, phosphorus chloride, phosphoryl chloride (phosphorus oxychloride) and thionyl chloride.

3. Solids: acrylamide, barium chloride, barium (II) nitrate, benzidine, p-benzoquinone, beryllium chloride, cadmium chloride, cadmium oxide, chloroacetic acid, chlorophenylmercury (phenyl mercuric chloride), chromium (VI) oxide (chromic acid, solid), 2,4-dinitrotoluene, hydroquinone, mercury chloride (calomel), mercury (II) sulfate (mercuric sulfate), osmium tetroxide, oxalic acid, phenol, P-phenylenediamine, phenylhydrazine, 4-phenylmorpholine, phosphorus sulfide, potassium fluoride, potassium hydroxide, selenium (IV) disulfide and sodium fluoride.

E102.2.3 Corrosives. Examples include:

I. Acids: Examples: chromic, formic, hydrochloric (muriatic) greater than 15 percent, hydrofluoric, nitric (greater than 6 percent, perchloric, sulfuric (4 percent or more).

2. Bases (alkalis): hydroxides-ammonium (greater than 10 percent), calcium, potassium (greater than I percent), sodium (greater than I percent); certain carbonates-potassium.

3. Other corrosives: bromine, chlorine, fluorine, iodine, ammonia.

Note: Corrosives that are oxidizers (for example, nitric acid, chlorine, fluorine), compressed gases (for example, ammonia, chlorine, fluorine), or water-reactive (for example, concentrated sulfuric acid, sodium hydroxide) are physical hazards in addition to being health hazards.

SECTION E103—EVALUATION OF HAZARDS

E103.1 Degree of hazard. The degree of hazard present depends on many variables that should be considered individually and in combination. Some of these variables are as shown in Sections E103.I.I through E103.I.5.

E103.1.1 Chemical properties of the material. Chemical properties of the material determine self reactions and reactions that could occur with other materials. Generally, materials within subdivisions of hazard categories will exhibit similar chemical properties. However, materials with similar chemical properties could pose very different hazards. Each individual material should be researched to determine its hazardous properties and then considered in relation to other materials that it might contact and the surrounding environment.

E103.1.2 Physical properties of the material. Physical properties, such as whether a material is a solid, liquid or gas at ordinary temperatures and pressures, considered along with chemical properties will determine requirements for containment of the material. Specific gravity (weight of a liquid compared to water) and vapor density (weight of a gas compared to air) are both physical properties that are important in evaluating the hazards of a material.

E103.1.3 Amount and concentration of the material. The amount of material present and its concentration must be considered along with physical and chemical properties to determine the magnitude of the hazard. Hydrogen peroxide, for example, is used as an antiseptic and a hair bleach in low concentrations (approximately 8 percent in water solution). Over 8 percent, hydrogen peroxide is classed as an oxidizer and is toxic. Above 90 percent, it is a Class 4 oxidizer "that can undergo an explosive reaction when catalyzed or exposed to heat, shock or friction," a definition that, incidentally, places hydrogen peroxide over 90-percent concentration in the unstable (reactive) category. Small amounts at high concentrations could present a greater hazard than large amounts at low concentrations.

E103.1.3.1 Mixtures. Gases—toxic and highly toxic gases include those gases that have an LCso of 2,000 parts per million (ppm) or less when rats are exposed for a period of I hour or less. To maintain consistency with the definitions for these materials,

2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
INTERNATIONAL CODE COUNCIL Ag—t with ICC. No . RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License
by third Single user copyingand networking ANY UNAUIYORIZED
arther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netwi
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

exposure data for periods other than I hour must be normalized to I hour. To classify mixtures of compressed gases that contain one or more toxic or highly toxic components, the LC50 of the mixture must be determined. Mixtures that contain only two components are binary mixtures. Those that contain more than two components are multicomponent mixtures. Where two or more hazardous substances (components) having an LC50 below 2,000 ppm are present in a mixture, their combined effect, rather than that of the individual substance components, must be considered. The effects of the hazards present must be considered as additive, except where there is a good reason to believe that the principal effects of the different harmful substances (components) are not additive.

For binary mixtures where the hazardous component is diluted with a nontoxic gas such as an inert gas, the LCso of the mixture is estimated by use of the methodology contained in CGA P-20. The hazard zones specified in CGA P-20 are applicable for DOTn purposes and shall not be used for hazard classification.

E103.1.4 Actual use, activity or process involving the material. The definition of handling, storage and use in closed systems refers to materials in packages or containers. Dispensing and use in open containers or systems describes situations where a material is exposed to ambient conditions or vapors are liberated to the atmosphere. Dispensing and use in open systems, then, are generally more hazardous situations than handling, storage or use in closed systems. The actual use or process could include heating, electric or other sparks, catalytic or reactive materials and many other factors that could affect the hazard and must therefore be thoroughly analyzed.

E103.1.5 Surrounding conditions. Conditions such as other materials or processes in the area, type of construction of the structure, fire protection features (for example, fire walls, automatic sprinkler systems, alarms), occupancy (use) of adjoining areas, normal temperatures, exposure to weather, etc., must be taken into account in evaluating the hazard.

E103.2 Evaluation questions. The following are sample evaluation questions:

I. What is the material? Correct identification is important; exact spelling is vital. Checking labels and SDS and asking responSible persons should be among the highest priorities.
2. What are the concentration and strength?
3. What is the physical form of the material? Liquids, gases and finely divided solids have differing requirements for spill and leak control and containment.
4. How much material is present? Consider in relation to permit amounts, maximum allowable quantity per control area (from Group H occupancy requirements), amounts that require detached storage and overall magnitude of the hazard.
5. What other materials (including furniture, equipment and building components) are close enough to interact with the material?
6. What are the likely reactions?
7. What is the activity involving the material?
8. How does the activity impact the hazardous characteristics of the material? Consider vapors released or hazards otherwise exposed.
9. What must the material be protected from? (For example, other materials, temperature, shock, pressure.)
10. What effects of the material must people and the environment be protected from? Il. How can protection be accomplished? Consider:
    - 11.1. Proper containers and equipment.
    - 11.2. Separation by distance or construction.
    - 11.3. Enclosure in cabinets or rooms.
    - 11.4. Spill control, drainage and containment.
    - 11.5. Control system ventilation, special electrical, detection and alarm, extinguishment, explosion venting, limit controls, exhaust scrubbers and excess flow control.
    - 11.6. Administrative (operational) control signs, ignition source control, security, personnel training, established procedures, storage plans and emergency plans.

Evaluation of the hazard is a strongly subjective process; therefore, the person charged with this responsibility must gather as much relevant data as possible so that the decision will be objective and within the limits prescribed in laws, policies and standards.

It could be necessary to cause the responsible persons in charge to have tests made by qualified persons or testing laboratories to support contentions that a particular material or process is or is not hazardous. See Section 104.22

SECTION E104—GHS HAZARDOUS MATERIALS DEFINITIONS

2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
INTERNATIONAL CODE COUNCIL Ag—t with ICC. No . RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 by third Single user copyingand networking License ANY UNAUIYORIZED
arther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netwi
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

E104.1 Hazardous materials definitions. The categorization and classification of hazardous materials enables the code user to determine the applicability of requirements based on hazard category and class related to the physical and health hazards of materials. The current definitions found in Chapter 2 have been developed using criteria found in NFPA codes and standards, model fire prevention codes, NIOSH, and requirements of the US Department of Transporation (DOT 49 CFR)and US Department of Labor (DOL 49 CFR 1910).

The chemical industry has grown substantially since the inception of the CFC hazard definitions. Large-scale global production and distribution of common and specialty chemicals has become mainstream. In the 1990s, the United Nations (UN) developed the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) to create international congruency among chemical suppliers. The GHS is an internationally agreed upon standard of classification and labeling that utilizes prescriptive, standardized testing procedures and criteria to classify hazardous materials.

The DOL published a revised Hazard Communication Standard(DOL 29 CFR 1910.1200) to align with the GHS in March 2012. It became effective in May 2012. All manufacturers selling, producing or transporting chemicals in the United States are now required to comply with the GHS and provide this standardized hazard information on all Safety Data Sheets (SDS).

SDS are a primary source of information for identifying hazards for chemicals and mixtures containing hazardous materials. It can be helpful for fire code officials to become familiar with the GHS definitions and how they relate to CFC hazard definitions.

E104.2 GHS hazardous materials definitions comparison table. Table E104.2 provides a tabular presentation of the various definitions published within the California Fire Code. In addition, the table presents corresponding definitions, where available, from the 2012 edition of DOL 29 CFR 1910.1200 along with applicable hazard statement codes. DOL 29 CFR 1910.1200 aligns with the UN's Globally Harmonized System of Classification and Labelling of Chemicals (GHS). The table is not meant to imply perfect alignment between CFC and GHS definitions.

2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
INTERNATIONAL CODE COUNCIL Ag—t with ICC. No , RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License
by third Single user copyingand networking ANY UNAUIYORIZED
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netw
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

TABLE E104.2—CFC AND GHS HAZARD DEFINITIONS COMPARISON[a]			
CFC MATERIAL	CFC CLASS	CFC DEFINITION	CHS 2017 (REV 7) CLASSIFICATION (H-CODE AND CATEGORY); HAZARD STATEMENT; DEFINITION
Aerosol		A combination of a container, a propellant and a material that is dispensed. Aerosol products shall be classified by means of the calculation of their chemical heats of combustion and shall be designated Level 1, Level 2 or Level 3.	Any nonrefillable receptacles made of metal, glass or plastics and containing a gas compressed, liquefied or dissolved under pressure, with or without a liquid, paste or powder, and fitted with a release device allowing the contents to be ejected as solid or liquid particles in suspension in a gas, as a foam, paste or powder or in a liquid state or in a gaseous state.
Aerosol	Level 1	Those with a total chemical heat of combustion that is less than or equal to 8,600 Btu/lb (20 kJ/g).	H223, Category 3; Pressurized container: May burst if heated. 1. Any aerosol that contains 1% flammable components (by mass) and that has a heat of combustion < 20 kJ/g. 2. Any aerosol that contains > 1% (by mass) flammable components or which has a heat of combustion of 20 kJ/g but which, based on the results of the ignition distance test, the enclosed space ignition test or the aerosol foam flammability test, does not meet the criteria for Category I or Category 2.
Aerosol		Those with a total chemical heat of combustion that is less than or equal to 8,600 Btu/lb (20 kJ/g).	H223, Category 2; Flammable aerosol. Pressurized container: May burst if heated: 1. Any aerosol that dispenses a spray that, based on the results of the ignition distance test, does not meet the criteria for Category 1, and which has: a. A heat of combustion of 20 kJ/g. b. A heat of combustion of < 20 kJ/g along with an ignition distance of 215 cm; or c. A heat of combustion of < 20 kJ/g and an ignition distance of < 15 cm along with either, in the enclosed space ignition test a time: i. A time equivalent ofs300 s/m^3; or ii. A deflagration density of 300 g/m^3; or 2. Any aerosol that dispenses a foam that, based on the results ofthe aerosol foam flammability test, does not meet the criteria for Category 1, and which has a flame height of 24 cm and a flame duration of 2 2 s.

2025 ICC. ALL RIGHTS RESERVED. by Br"n ranados (Qty Order oa Jul 11.2023 PM (CDT) to
INTERNATIONAL CODE COUNCIL Ag—t © with ICC. No by third Single user copyingand networking ANY UNAUIYORIZED License
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

Aerosol	Level 3	Those with a total chemical heat of combustion that is greater than 13,000 Btu/lb (30 kJ/g).	H222, Category 1; Extremely flammable aerosol. Pressurized container: May burst if heated: 1. Any aerosol that contains 2 85% flammable components (by mass) and has a heat of combustion of 2 30 kJ/g. 2. Any aerosol that dispenses a spray that, in the ignition distance test, has an ignition distance of 2 75 cm. 3. Any aerosol that dispenses a foam that, in the foam flammability test, has: a. A flame height of 20 cm and a flame duration of 2 2 s. b. A flame height of 4 cm and a flame duration of 2 7 s.
Combustible liquid		A liquid having a closed cup flash point at or above 100^0F (38^0C). Combustible liquids shall be subdivided as follows:	A flammable liquid means a liquid having a flash point of not more than 93^0C.
Combustible liquid		Liquids having a closed cup flash point at or above IOO^O F (38^0C) and below 140^0 F (60^0C).	H226, Category 3; Flammable liquid and vapor: Flash point 23^0C and s 60^0C
Combustible liquid	IIIA	Liquids having a closed cup flash point at or above 140^0F (60^0C) and below 200^0 F (93^0C).	H227, Category 4; Combustible liquid: Flash point > 60^0C and s 93^0C
Combustible liquid	111B	Liquids having closed cup flash points at or above 200^0 F (93^0C).	N/A

2025 ICC. ALL RIGHTS RESERVED. by Br"n ranados (Qty Order oa Jul 11.2023 PM (CDT) to
INTERNATIONAL CODE COUNCIL Ag—t Copyright © , RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License
with ICC. Further reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and networking ANY UNAUIYORIZED
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT AND THE LICENSE AG AND SUBJEC TO CIVIL CRIMINAL THEREUNDER

TABLE E104.2—CFC AND GHS HAZARD DEFINITIONS COMPARISON[a]—continued

CFC MATERIAL	CFC CLASS	CFC DEFINITION	GHS 2017 (REV 7) CLASSIFICATION (H-CODE AND CATEGORY); HAZARD STATEMENT; DEFINITION
Compressed gas		A material or mixture of materials that: 1. Is a gas at 68^{0}F (20^{0}C) or less at 14.7 psia (101 kPa) of pressure, and 2. Has a boiling point of 68^{0}F (20^{0}C) or less at 14.7 psia (101 kPa) which is either liquefied, non liquefied or in solution, except those gases that have no other health- or physical-hazard properties are not considered to be compressed until the pressure in the packaging exceeds 41 psia (282 kPa) at 68^{0}F (200C). States of compressed gases: 1. Non liquefied compressed gases are gases, other than those in solution, that are in a packaging under the charged pressure and are entirely gaseous at a temperature of 68^{0}F (200C). 2. Liquefied compressed gases are gases that, in a packaging under the charged pressure, are partially liquid at a temperature of 68^{0}F (20^{0}0. 3. Compressed gases in solution are non liquefied gases that are dissolved in a solvent. 4. Compressed gas mixtures consist of a mixture of two or more compressed gases contained in a packaging, the hazard properties of which are represented by the properties of the mixture as a whole.	Gases under pressure are gases which are contained in a receptacle at a pressure of 200 kPa (gauge) or more at 20^{0}C, or which are liquefied, or liquefied and refrigerated. H280, Compressed gas; Contains gas under pressure: May explode if heated. A gas which when under pressure is entirely gaseous at -50^{0}C (-58^0 F), including all gases with a critical temperature s -50^{0}C (-58^{0}F). H280, Liquefied gas; Contains gas under pressure: May explode if heated. A gas which when under pressure is partially liquid at temperatures above -50^{0}C (-58^{0}9. H280, Dissolved gas; Contains gas under pressure: May explode if heated. A gas which when under pressure is dissolved in a liquid phase solvent.
Corrosive		A chemical that causes visible destruction of, or irreversible alterations in, living tissue by chemical action at the point of contact. A chemical shall be considered corrosive if, when tested on the intact skin of albino rabbits by the method described in DOT in 49 CFR 173.137 , such chemical destroys or changes irreversibly the structure of the tissue at the point of contact following an exposure period of 4 hours. This term does not refer to action on inanimate surfaces.	H314, Category 1 (IA, 1B, IC); Causes severe skin burns and eye damage. Skin corrosion refers to the production of irreversible damage to the skin; namely, visible necrosis through the epidermis and into the dermis occurring after exposure to a substance or mixture.
Cryogenic fluid		A fluid having a boiling point lower than -130^0 F (89.9^{0}C) at 14.7 pounds per square inch atmosphere (psia) (an absolute pressure of 101.3 kPa).	H281, Refrigerated liquefied gas; Contains refrigerated gas: May cause cryogenic burns or injury. A gas which is made partially liquid because of its low temperature.
Cryogenic flammable		A cryogenic fluid that is flammable in its vapor state.	H220, Category IA; Extremely flammable gas. Gases, which at 20^{0}C and a standard pressure of 101.3 kPa: 1. Are ignitable when in a mixture of 13% or less by volume in air; or 2. Have a flammable range with air of at least 12 percentage points, regardless of the lower flammability limit unless data show they meet the criteria for Category 1B. Category IA includes pyrophoric gases and chemically unstable gases. H281, refrigerated liquefied gas, would also apply.
Cryogenic—Inert		A cryogenic fluid that is inert.	H281, Refrigerated liquefied gas. Contains refrigerated gas: May cause cryogenic burns or injury.

2025 ICC. ALL RIGHTS RESERVED. by Br"n ranados (Qty Order oa Jul 11.2023 PM (CDT) to License
INTERNATIONAL CODE COUNCIL Ag—t with ICC. No by third Single user copyingand networking ANY UNAUIYORIZED
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJES TO CIVIL CRIMINAL THEREUNDER

			A gas which is made partially liquid because of its low temperature.
Cryogenic—Oxidizing		An oxidizing gas in the cryogenic state.	H270, Category 1: May cause or intensify fire; oxidizer. Any gas which may, generally by providing oxygen, cause or contribute to the combustion of other material more than air does. H281, refrigerated liquefied gas, would also apply.

E-lO

SIFICATION (H-CODE ZARD STATEMENT;
ture) is a solid or liquid ances) which is in itself f producing gas at such d at such a speed as to oundings. Pyrotechnic n when they do not
nstable explosives are unstable and/or too , transport and use. sary.
explosion hazard. les which have a mass plosion is one which ntity present virtually
ction hazard. cles which have a ass explosion hazard.
r projection hazard. cles which have a fire st hazard or a minor not a mass explosion
gives rise to eat; or another, producing on effects or both.
hazard: Substances, present no significant s and articles which the event of ignition or rgely confined to the n of fragments of to be expected. An virtually instantaneous ntire contents of the

2025 ICC. ALL RIGHTS RESERVED. by Br"n ranados (Qty Order oa Jul 11.2023 PM (CDT) to
INTERNATIONAL CODE COUNCIL Ag—t Copyright © with ICC. No by third Single user copyingand networking ANY UNAUIYORIZED License

fire. Very insensitive have a mass explosion es which have a mass sensitive that there is ation or of transition tion under normal
which do not have a s which predominantly substances or mixtures egligible probability of ation.

2025 ICC. ALL RIGHTS RESERVED. by Br"n ranados (Qty Order oa Jul 11.2023 PM (CDT) to License
INTERNATIONAL CODE COUNCIL Ag—t with ICC. No by third Single user copyingand networking ANY UNAUIYORIZED
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT AND THE LICENSE AG AND SUBJEC TO CIVIL CRIMINAL THEREUNDER

2025 ICC. ALL RIGHTS RESERVED. by Br"n ranados (Qty Order oa Jul 11.2023 PM (CDT) to
INTERNATIONAL CODE COUNCIL Ag—t Copyright © RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License
with ICC. rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netwking ANY UNAUIYORIZED
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT AND THE LICENSE AG AND SUBJEG TO CIVIL CRIMINAL THEREUNDER

TABLE E104.2—CFC AND GHS HAZARD DEFINITIONS COMPARISON[a]—continued			
CFC MATERIAL	CFC CLASS	CFC DEFINITION	GHS 2017 (REV 7) CLASSIFICATION (H-CODE AND CATEGORY); HAZARD STATEMENT; DEFINITION
Flammable gas	Gaseous	A material that is a gas at 68^{0}F (20^{0}C) or less at 14.7 psia (101 kPa) of pressure [a material that has a boiling point of 68^{0}F (20^{0}0 or less at 14.7 psia (101 kPa)] which: 1. Is ignitable at 14.7 psia (101 kPa) when in a mixture of 13% or less by volume with air; or 2. Has a flammable range at 14.7 psia (101 kPa) with air of not less than 12%, regardless of the lower limit. The limits specified shall be determined at 14.7 psia (101 kPa) of pressure and a temperature of 68^{0}F (20^{0}C) in accordance with ASTM E681.	A flammable gas is a gas having a flammable range with air at 20^{0}C and a standard pressure of 101.3 kPa. H220, Category IA; Extremely flammable gas. Gases, which at 20^{0}C and a standard pressure of 101.3 kPa: 1. Are ignitable when in a mixture of 13% or less by volume in air; or 2. Have a flammable range with air of at least 12 percentage points regardless of the lower flammability limit unless data show they meet the criteria for Category 1B. Category IA includes pyrophoric gases and chemically unstable gases. H220, Category 1B; Flammable gas. Gases which meet the flammability criteria for Category IA, but which are not pyrophoric nor chemically unstable, and which have at least either: 1. A lower flammability limit of more than 6% by volume in air, or 2. A fundamental burning velocity of less than 10 cm/s. H280, compressed gas, would also apply.
Flammable liquid		A liquid having a closed cup flash point below 100^{0}F (38^{0}C). Flammable liquids are further categorized into a group known as Class I liquids. The Class I category is subdivided as follows:	A liquid having a flash point of not more than 93^{0}C. A flammable liquid is classified in one of the four categories for this class.
Flammable liquid		Liquids having a flash point below 73^0 F (23^{0}C) and having a boiling point below 100^{0}F (38^{0}C).	H224, Category 1; Extremely flammable liquid and vapor. Flash point < 23^{0}C and initial boiling point s 35^{0}C
Flammable liquid	1B	Liquids having a flash point below 73^0 F (23^{0}C) and having a boiling point at or above 100^{0}F (38^{0}C).	H225, Category 2; Highly flammable liquid and vapor. Flash point < 23^{0}C and initial boiling point > 35^{0}C
Flammable liquid		Liquids having a flash point at or above 73^{0}F (23^{0}C) and below IOO^{O}F (38^{0}C).	H226, Category 3; Flammable liquid and vapor. Flash point 2 23^{0}C and 60^{0}C

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n ranados (Qty Order oa Jul 11.2023 PM (CDT) to License
Ag—t with ICC. No by third Single user copyingand networking ANY UNAUIYORIZED
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

Flammable solid		A solid, other than a blasting agent or explosive, that is capable of causing fire through friction, absorption of moisture, spontaneous chemical change or retaining heat from manufacturing or processing, or which has an ignition temperature below 212^{0}F (100^{0}0 or which burns so vigorously and persistently when ignited as to create a serious hazard. A chemical shall be considered a flammable solid, as determined in accordance with the test method of CPSC 16 CFR Part 1500.44, if it ignites and burns with a self-sustained flame at a rate greater than 0.0866 inch (2.2 mm) per second along its major axis.	A flammable solid is a solid which is readily combustible, or may cause or contribute to fire through friction. A flammable solid is classified in one of the two categories for this class using method N.l as described in Part Ill, subsection 33.2.1 of the Manual of Tests and Criteria, according to: H228, Category 1; Flammable solid: Burning rate test: Substances or mixtures other than metal powders: 1. Wetted zone does not stop fire; and 2. Burning time < 45 s or burning rate > 2.2 mm/s. Metal powders: burning time s 5 min H228, Category 2; Flammable solid: Burning rate test: Substances or mixtures other than metal powders: 1. Wetted zone stops the fire for at least 4 min; and 2. Burning time < 45 s or burning rate > 2.2 mm/s. Metal powders: burning time> 5 min and ... 10 min

TABLE E104.2—CFC AND GHS HAZARD DEFINITIONS COMPARISON[a]—continued

CFC MATERIAL	CFC CLASS	CFC DEFINITION	GHS 2017 (REV 7) CLASSIFICATION (H-CODE AND CATEGORY); HAZARD STATEMENT; DEFINITION
Highly toxic		A material that produces a lethal dose or lethal concentration that falls within any of the following categories: 1. A chemical that has a median lethal dose (LD50) of 50 mg or less per kg of body weight when administered orally to albino rats weighing between 200 and 300 g each. 2. A chemical that has a medial lethal dose (LD50) of 200 mg or less per kg of body weight when administered by continuous contact for 24 hr (or less if death occurs within 24 hr) with the bare skin of albino rabbits weighing between 2 and 3 kg each. 3. A chemical that has a median lethal concentration (LC50) in air of 200 ppm by volume or less of gas or vapor, or 2 mg/l or less of mist, fume or dust, when administered by continuous inhalation for 1 hr (or less if death occurs within 1 hr) to albino rats weighing between 200 and 300 g.	Acute toxicity refers to serious adverse health effects (i.e., lethality) occurring after a single or short-term oral, dermal or inhalation exposure to a substance or mixture. Oral H300, Category 1; Fatal if swallowed: LD50 .5 mg/kg bodyweight H300, Category 2; Fatal if swallowed: LD50 > 5 s 50 mg/kg bodyweight Dermal H310, Category 1; Fatal in contact with skin: LD50 s 50 mg/kg bodyweight H310, Category 2; Fatal in contact with skin: LD50 > 50 s 200 mg/kg bodyweight Inhalation H330, Category 1; Fatal if inhaled. Gases: LC50 s 100 ppm (4 hr) z 200 ppm (1 hr) Vapors: LC50 0.5 mg/l (4 hr) z 2 mg/l (1 hr) Dust/mist: LC50 s 0.05 mg/l (4 hr) z 0.2 mg/l (1 hr)

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n ranados (Qty Order oa Jul 11.2023 PM (CDT) to License
Ag—t with ICC. No by third Single user copyingand networking ANY UNAUIYORIZED
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

Inert gas		A gas that is capable of reacting with other materials only under abnormal conditions such as high temperatures, pressures and similar extrinsic physical forces. Within the context of the code, inert gases do not exhibit either physical or health hazard properties as defined (other than acting as a simple asphyxiant) or hazard properties other than those of a compressed gas. Some of the more common inert gases include argon, helium, krypton, neon, nitrogen and xenon.	Gases under pressure are gases which are contained in receptacles at a pressure of 200 kPa (gauge) or more at 20^0C or which are liquefied or liquefied and refrigerated. They comprise compressed gases, liquefied gases, dissolved gases and refrigerated liquefied gases. See the description of "Compressed gas."
Organic peroxide		An organic compound that contains the bivalent -0-0structure and which may be considered to be a structural derivative of hydrogen peroxide where one or both of the hydrogen atoms have been replaced by an organic radical. Organic peroxides can present an explosion hazard (detonation or deflagration) or they can be shock sensitive. They can also decompose into various unstable compounds over an extended period of time.	Organic peroxides are liquid or solid organic substances which contain the bivalent -0-0- structure and may be considered derivatives of hydrogen peroxide, where one or both of the hydrogen atoms have been replaced by organic radicals. The term also includes organic peroxide formulations (mixtures). Organic peroxides are thermally unstable substances or mixtures, which may undergo exothermic self-accelerating decomposition. In addition, they may have one or more of the following properties: 1. Be liable to explosive decomposition. 2. Burn rapidly. 3. Be sensitive to impact or friction. 4. React dangerously with other substances.
Organic peroxide		Organic peroxides that are capable of detonation. These peroxides pose an extremely high-explosion hazard through rapid explosive decomposition.	H240, Organic peroxide, Type A; Heating may cause an explosion. Any organic peroxide which, as packaged, can detonate or deflagrate rapidly will be defined as organic peroxide Type A.
Organic peroxide		Describes those formulations that are capable of deflagration but not detonation.	H241, Organic peroxide, Type B; Heating may cause a fire or explosion. Any organic peroxide possessing explosive properties and which, as packaged, neither detonates nor deflagrates rapidly but is liable to undergo a thermal explosion in that package will be defined as organic peroxide Type B.

INTERNATIONAL CODE COUNCIL
Ag—t with ICC. No
2025 ICC. ALL RIGHTS RESERVED. by Br"n ranados (Qty Order oa Jul 11.2023 PM (CDT) to
. RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netwking ANY UNAUIYORIZED
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

TABLE E104.2—CFC AND GHS HAZARD DEFINITIONS COMPARISON[a]—continued

CFC MATERIAL	CFC CLASS	CFC DEFINITION	GHS 2017 (REV 7) CLASSIFICATION (H-CODE AND CATEGORY); HAZARD STATEMENT; DEFINITION
Organic peroxide		Describes those formulations that burn very rapidly and that pose a moderate reactivity hazard.	H242, Organic peroxide, Type C; Heating may cause a fire. Any organic peroxide possessing explosive properties when the substance or mixture as packaged cannot detonate or deflagrate rapidly or undergo a thermal explosion will be defined as organic peroxide Type C. H242, Organic peroxide, Type D; Heating may cause a fire. Any organic peroxide which in laboratory testing: Detonates partially, does not deflagrate rapidly and shows no violent effect when heated under confinement; or Does not detonate at all, deflagrates slowly and shows no violent effect when heated under confinement; or Does not detonate or deflagrate at all and shows a medium effect when heated under confinement; will be defined as organic peroxide Type D.
Organic peroxide	III	Describes those formulations that burn rapidly and that pose a moderate reactivity hazard.	H242, Organic peroxide, Type E; Heating may cause a fire. Any organic peroxide which, in laboratory testing, neither detonates nor deflagrates at all and shows low or no effect when heated under confinement will be defined as organic peroxide Type E.
Organic peroxide	IV	Describes those formulations that burn in the same manner as ordinary combustibles and that pose a minimal reactivity hazard.	H242, Organic peroxide, Type F; Heating may cause a fire. Any organic peroxide which, in laboratory testing, neither detonates in the cavitated state nor deflagrates at all and shows only a low or no effect when heated under confinement as well as low or no explosive power will be defined as organic peroxide Type F.
Organic peroxide	v	Describes those formulations that burn with less intensity than ordinary combustibles or do not sustain combustion and that pose no reactivity hazard.	Organic peroxide, Type G. Any organic peroxide which, in laboratory testing, neither detonates in the cavitated state nor deflagrates at all and shows no effect when heated under confinement nor any explosive power, provided that it is thermally stable (selfaccelerating decomposition temperature is 60^0C or higherfor a 50 kg package), and for liquid mixtures, a diluent having a boiling point of not less than 150^0C and used for desensitization will be defined as organic peroxide Type G. If the organic peroxide is not thermally stable or is a diluent having a boiling point less than 150^0C and is used for desensitization, it shall be defined as organic peroxide Type F.

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n ranados (Qty Order oa Jul 11.2023 PM (CDT) to License
Ag—t with ICC. No by third Single user copyingand networking ANY UNAUIYORIZED
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

Oxidizer		A material that readily yields oxygen or other oxidizing gas, or that readily reacts to promote or initiate combustion of combustible materials and, if heated or contaminated, can result in vigorous self-sustained decomposition.	An oxidizing solid is a solid which, while in itself is not necessarily combustible, may, generally by yielding oxygen, cause, or contribute to, the combustion of other material. An oxidizing liquid is a liquid which, while in itself not necessarily combustible, may, generally by yielding oxygen, cause, or contribute to, the combustion of other material.

TABLE E104.2—CFC AND GHS HAZARD DEFINITIONS COMPARISON[a]—continued

CFC MATERIAL	CFC CLASS	CFC DEFINITION	GHS 2017 (REV 7) CLASSIFICATION (H-CODE AND CATEGORY); HAZARD STATEMENT; DEFINITION
Oxidizer	4	An oxidizer that can undergo an explosive reaction due to contamination or exposure to a thermal or physical shock that causes a severe increase in the burning rate of combustible materials with which it comes into contact. Additionally, the oxidizer causes a severe increase in the burning rate and can cause spontaneous ignition of combustibles.	H271, Category 1; May cause fire or explosion; strong oxidizer. Criteria for solids (based on Test 0.1 or 0.3 in Part Ill of UN ST/SG/AC.IO/II, Manual of Tests and Criteria): Test 0.1—Any substance or mixture which, in the or sample-to-cellulose ratio (by mass) tested, exhibits a mean burning time less than the mean burning time of a 3:2 mixture (by mass) of potassium bromate and cellulose. Test 0.3—Any substance or mixture which, in the 4:1 or sample-to-cellulose ratio (by mass) tested, exhibits a mean burning rate greater than the mean burning rate of a 3:1 mixture (by mass) of calcium peroxide and cellulose. Criteria for liquids (based on Test 0.2 in Part Ill of IJN ST/SG/AC.IO/II, Manual of Tests and Criteria): Any substance or mixture which, in the .. mixture (by mass) of substance (or mixture) and cellulose tested, spontaneously ignites; or the mean pressure rise time of a mixture (by mass) of substance and cellulose is less than that of a .. mixture (by mass) of 50% perchloric acid and cellulose.
Oxidizer	3	An oxidizer that causes a severe increase in the burning rate of combustible materials with which it comes in contact.	H271, Category 1; May cause fire or explosion; strong oxidizer. Criteria for solids (based on Test 0.1 or 0.3 in Part Ill of UN ST/SG/AC.IO/II, Manual of Tests and Criteria): Test 0.1—Any substance or mixture which, in the 4:1 or sample-to-cellulose ratio (by mass) tested, exhibits a mean burning time less than the mean burning time of a 3:2 mixture (by mass) of potassium bromate and cellulose. Test 0.3—Any substance or mixture which, in the 4:1 or sample-to-cellulose ratio (by mass) tested, exhibits a mean burning rate greater than the mean burning rate of a 3:1 mixture (by mass) of calcium peroxide and cellulose. Criteria for liquids (based on Test 0.2 in Part Ill of UN ST/SG/AC.IO/II, Manual of Tests and Criteria): Any substance or mixture which, in the 1:1 mixture (by mass) of substance (or mixture) and cellulose tested, spontaneously ignites; or the mean pressure rise time of a 1:1 mixture (by mass) of substance and cellulose is less than that of a .. mixture (by mass) of 50% perchloric acid and cellulose.

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n ranados (Qty Order oa Jul 11.2023 PM (CDT) to License
Ag—t with ICC. No by third Single user copyingand networking ANY UNAUIYORIZED
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

INTERNATIONAL CODE COUNCIL
Ag—t with ICC. No
2025 ICC. ALL RIGHTS RESERVED. by Br"n ranados (Qty Order oa Jul 11.2023 PM (CDT) to
. RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License
urther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netwking ANY UNAUIYORIZED
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

TABLE E104.2—CFC AND GHS HAZARD DEFINITIONS COMPARISON[a]—continued			
CFC MATERIAL	CFC CLASS	CFC DEFINITION	GHS 2017 (REV 7) CLASSIFICATION (H-CODE AND CATEGORY); HAZARD STATEMENT; DEFINITION
Oxidizer	2	An oxidizer that will cause a moderate increase in the burning rate of combustible materials with which it comes in contact.	H272, Category 2; May intensify fire; oxidizer. Criteria for solids (based on Test 0.1 or 0.3 in Part III of UN ST/SG/AC.IO/II, Manual of Tests and Criteria): Test 0.1—Any substance or mixture which, in the 4:1 or 1:1 sample-to-cellulose ratio (by mass) tested, exhibits a mean burning time equal to or less than the mean burning time of a 2:3 mixture (by mass) of potassium bromate and cellulose and the criteria for Category 1 are not met. Test 0.3—Any substance or mixture which, in the 4:1 or 1:1 sample-to-cellulose ratio (by mass) tested, exhibits a mean burning rate equal to or greater than the mean burning rate of a 1:1 mixture (by mass) of calcium peroxide and cellulose and the criteria for Category 1 are not met. Criteria for liquids (based on Test 0.2 in Part III of UN ST/SG/AC.IO/II, Manual of Tests and Criteria): Any substance or mixture which, in the mixture (by mass) of substance (or mixture) and cellulose tested, exhibits a mean pressure rise time less than or equal to the mean pressure rise time of a mixture (by mass) of a 40% aqueous sodium chlorate solution and cellulose and the criteria for Category 1 are not met.
Oxidizer	1	An oxidizer that does not moderately increase the burning rate of combustible materials.	H272, Category 3; May intensify fire; oxidizer: Criteria for solids (based on Test 0.1 or 0.3 in Part III of UN ST/SG/AC.IO/II, Manual of Tests and Criteria): Test 0.1—Any substance or mixture which, in the 4:1 or sample-to-cellulose ratio (by mass) tested, exhibits a mean burning time equal to or less than the mean burning time of a 3:7 mixture (by mass) of potassium bromate and cellulose and the criteria for Categories 1 and 2 are not met. Test 0.3—Any substance or mixture which, in the 4:1 or sample-to-cellulose ratio (by mass) tested, exhibits a mean burning rate equal to or greater than the mean burning rate of a 1:2 mixture (by mass) of calcium peroxide and cellulose and the criteria for Categories 1 and 2 are not met. Criteria for liquids (based on Test 0.2 in Part III of UN ST/SG/AC.IO/II, Manual of Tests and Criteria): Any substance or mixture which, in the mixture (by mass) of substance (or mixture) and cellulose tested, exhibits a mean pressure rise time less than or equal to the mean pressure rise time of a mixture (by mass) of a 65% aqueous nitric acid solution and cellulose and the criteria for Categories 1 and 2 are not met.

2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
INTERNATIONAL CODE COUNCIL Ag—E with ICC. No Copyright © , RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #1023039239 by third rther reproduction, no further reproductions by any third party, or distribution authorized. Single user copyingand networking Single user only, copying and netwo ANY UNAUIYORIZED License
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

Oxidizing gas	Gaseous	A gas that can support and accelerate combustion of other materials more than air does.	Any gas which may, generally by providing oxygen, cause or contribute to the combustion of other material more than air does. H270, Category 1; May cause or intensify fire; oxidizer. Any gas which may, generally by providing oxygen, cause or contribute to the combustion of other material more than air does. H280, compressed gas would also apply.

TABLE E104.2—CFC AND GHS HAZARD DEFINITIONS COMPARISON[a]—continued

CFC MATERIAL	CFC CLASS	CFC DEFINITION	GHS 2017 (REV 7) CLASSIFICATION (H-CODE AND CATEGORY); HAZARD STATEMENT; DEFINITION
Oxidizing gas	Liquified	An oxidizing gas that is liquefied [liquefied gases are gases that, in a packaging under the charged pressure, are partially liquid at 68^0 F (20^00].	Any gas which may, generally by providing oxygen, cause or contribute to the combustion of other material more than air does. H270, Category 1; May cause or intensify fire; oxidizer. Any gas which may, generally by providing oxygen, cause or contribute to the combustion of other material more than air does. H280, liquefied gas, would also apply.
Pyrophoric		A chemical with an autoignition temperature in air, at or below a temperature of 130^0 F (54^00.	Separate definitions based on physical state; see each category of pyrophoric:
Pyrophoric	Solid	A solid with an autoignition temperature in air, at or below a temperature of 130^0 F (54^0C).	H250, Category 1; Pyrophoric solid; Catches fire spontaneously if exposed to air. A pyrophoric solid is a solid which, even in small quantities, is liable to ignite within 5 minutes after coming into contact with air. Classification criteria: The solid ignites within 5 minutes of coming into contact with air.
Pyrophoric	Liquid	A liquid with an autoignition temperature in air, at or below a temperature of 130^0F (54^0C).	H250, Category 1; Pyrophoric liquid; Catches fire spontaneously if exposed to air. A pyrophoric liquid is a liquid which, even in small quantities, is liable to ignite within 5 minutes after coming into contact with air. Classification criteria: The liquid ignites within 5 minutes when added to an inert carrier and exposed to air, or it ignites or chars a filter paper on contact with air within 5 minutes. Testing is performed at 25 $\pm2^0$C and 50 ±5% relative humidity.
Pyrophoric	Gas	A gas with an autoignition temperature in air, at or below a temperature of 130^0F (54^0C).	H220, Category IA; Extremely flammable gas. May ignite spontaneously if exposed to air: A pyrophoric gas is a flammable gas that is liable to ignite spontaneously in air at a temperature of 54^0C or below. H280, compressed (or liquefied) gas, would also apply.

2025 ICC. ALL RIGHTS RESERVED. by Br"n ranados (Qty Order oa Jul 11.2023 PM (CDT) to
INTERNATIONAL CODE COUNCIL Ag—t Copyright © RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oakandca.gov), (City of Oakland) Order Number #102039239 License
with ICC. rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netw king ANY UNAUIYORIZED

TABLE E104.2—CFC AND GHS HAZARD DEFINITIONS COMPARISON[a]—continued

CFC MATERIAL	CFC CLASS	CFC DEFINITION	GHS 2017 (REV 7) CLASSIFICATION (H-CODE AND CATEGORY); HAZARD STATEMENT; DEFINITION
Toxic		A chemical falling within any of the following categories: 1. A chemical that has a median lethal dose (LD50) of more than 50 mg per kg, but not more than 500 mg per kg of body weight when administered orally to albino rats weighing between 200 and 300 g each. 2. A chemical that has a medial lethal dose (LD50) of more than 200 mg per kg but not more than 1,000 mg per kg of body weight when administered by continuous contact for 24 hr (or less if death occurs within 24 hr) with the bare skin of albino rabbits weighing between 2 and 3 kg each. 3. A chemical that has a median lethal concentration (LC50) in air of more than 200 ppm but not more than 2,000 ppm by volume or less of gas or vapor, or more than 2 mg/l but not more than 20 mg/l of mist, fume or dust, when administered by continuous inhalation for 1 hr (or less if death occurs within 1 hr) to albino rats weighing between 200 and 300 g	Acute toxicity refers to serious adverse health effects (i.e., lethality) occurring after a single or short-term oral, dermal or inhalation exposure to a substance or mixture. Oral H301, Category 3; Toxic if swallowed: LD50 > 50 s 300 mg/kg bodyweight H302, Category 4; Harmful if swallowed: LD50 > 300 s 2,000 mg/kg bodyweight Dermal H311, Category 3, Toxic in contact with skin: LD50 > 200 s 1,000 mg/kg bodpveight Inhalation H330, Category 2; Fatal if inhaled: Gases: LC50 > 100 ppm (4 hr) z 200 ppm (1 hr) s 500 ppm (4 hr) 1,000 ppm (1 hr) Vapours: LC50 > 0.5 mg/l (4 hr) z 2 mg/l (1 hr) s 2 mg/l (4 hr) z8 mg/l (1 hr) Dust/mist: LC50> 0.05 mg/l (4 hr) z 0.2 mg/l (1 hr) 0.5 mg/l (4 hr) z 2 mg/l (1 hr) H331, Category 3; Toxic if inhaled: Gases: LC50 > 500 ppm (4 hr) z 1,000 ppm (1 hr) ppm (4 hr) z 5,000 ppm (1 hr) Vapours: LC50 > 2 mg/l (4 hr) z 8 mg/l (1 hr) s 10 mg/l (4 hr) z 40 mg/l (1 hr) Dust/mist: LC50> 0.5 mg/l (4 hr) z 2 mg/l (1 hr) s 1 mg/l (4 hr) z 4 mg/l (1 hr)
Unstable (reactive)		A material, other than an explosive, which in the pure state or as commercially produced, will vigorously polymerize, decompose, condense or become selfreactive and undergo other violent chemical changes, including explosion, when exposed to heat, friction or shock, or in the absence of an inhibitor, or in the presence of contaminants, or in contact with incompatible materials. Unstable (reactive) materials are subdivided as follows:	Self-reactive substances or mixtures are thermally unstable liquids or solid substances or mixtures liable to undergo a strongly exothermic decomposition even without participation of oxygen (air). This definition excludes substances and mixtures classified under the GHS as explosives, organic peroxides or as oxidizing. A self-reactive substance or mixture is regarded as possessing explosive properties when in laboratory testing the formulation is liable to detonate, to deflagrate rapidly or to show a violent effect when heated under confinement.
Unstable (reactive)	4	Materials that in themselves are readily capable of detonation or of explosive decomposition or explosive reaction at normal temperatures and pressures. This class includes materials that are sensitive to mechanical or localized thermal shock at normal temperatures and pressures.	H240, Type A; Heating may cause an explosion. Any self-reactive substance or mixture which can detonate or deflagrate rapidly, as packaged, will be defined as self-reactive substance Type A.

2025 ICC. ALL RIGHTS RESERVED. by Br"n ranados (Qty Order oa Jul 11.2023 PM (CDT) to License
INTERNATIONAL CODE COUNCIL Ag—t © with ICC. No by third Single user copyingand networking ANY UNAUIYORIZED

Unstable (reactive)	3	Materials that in themselves are capable of detonation or of explosive decomposition or explosive reaction but which require a strong initiating source or which must be heated under confinement before initiation. This class includes materials that are sensitive to thermal or mechanical shock at the elevated temperatures and pressures.	H241, Type B; Heating may cause a fire or explosion. Any self-reactive substance or mixture possessing explosive properties and which, as packaged, neither detonates nor deflagrates rapidly, but is liable to undergo a thermal explosion in that package will be defined as self-reactive substance Type B.

2025 ICC. ALL RIGHTS RESERVED. by Br"n ranados (Qty Order oa Jul 11.2023 PM (CDT) to
INTERNATIONAL CODE COUNCIL Ag—t Copyright © with ICC. No by third Single user copyingand networking ANY UNAUIYORIZED License

TABLE E104.2—CFC AND GHS HAZARD DEFINITIONS COMPARISON[a]—continued

CFC MATERIAL	CFC CLASS	CFC DEFINITION	GHS 2017 (REV 7) CLASSIFICATION (H-CODE AND CATEGORY); HAZARD STATEMENT; DEFINITION
Unstable (reactive)	2	Materials that in themselves are normally unstable and readily undergo violent chemical change but do not detonate. This class includes materials that can undergo chemical change with rapid release of energy at normal temperatures and pressures, and that can undergo violent chemical change at elevated temperatures and pressures.	H242, Type C; Heating may cause a fire. Any self-reactive substance or mixture possessing explosive properties when the substance or mixture as packaged cannot detonate or deflagrate rapidly or undergo a thermal explosion will be defined as self-reactive substance Type C. H242, Type D; Heating may cause a fire. Any self-reactive substance or mixture which in laboratory testing: • Detonates partially, does not deflagrate rapidly and shows no violent effect when heated under confinement; or • Does not detonate at all, deflagrates slowly and shows no violent effect when heated under confinement; or • Does not detonate or deflagrate at all and shows a medium effect when heated under confinement; will be defined as self-reactive substance Type D; Will be defined as self-reactive substance Type D.
Unstable (reactive)	1	Materials that in themselves are normally stable but which can become unstable at elevated temperatures and pressures.	H242, Type E; Heating may cause a fire. Any self-reactive substance or mixture which, in laboratory testing, neither detonates nor deflagrates at all and shows low or no effect when heated under confinement will be defined as self reactive substance Type E. H242, Type F; Heating may cause a fire. Any self-reactive substance or mixture which, in laboratory testing, neither detonates in the cavitated state nor deflagrates at all and shows only a low or no effect when heated under confinement as well as low or no explosive power will be defined as self-reactive substance Type F. Any self-reactive substance or mixture which, in laboratory testing, neither detonates in the cavitated state nor deflagrates at all and shows no effect when heated under confinement nor any explosive power, provided that it is thermally stable (self-accelerating decomposition temperature is 60^0C to 75^0C for a 50 kg package), and for liquid mixtures, a diluent having a boiling point greater than or equal to 150^0C and used for desensitization will be defined as self-reactive substance Type G. If the mixture is not thermally stable or is a diluent having a boiling point less than 150^0C and is used for desensitization, the mixture shall be defined as self-reactive substance Type F.

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n ranados (Qty Order oa Jul 11.2023 PM (CDT) to License
Ag—t with ICC. No by third Single user copyingand networking ANY UNAUIYORIZED
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

Unstable (reactive) gas	Gaseous		A chemically unstable gas is a flammable gas that is able to react explosively even in the absence of air or oxygen. H220, Category IA, Category A; Extremely flammable gas; May react explosively even in the absence of air. Flammable gases which are chemically unstable at 20^0C and a standard pressure of 101.3 kPa. H220, Category IA, Category B; Extremely flammable gas; May react explosively even in the absence of air at elevated pressure and/or temperature. Flammable gases which are chemically unstable at a temperature greater than 20^0C and/or a standard pressure greater than 101.3 kPa. 1-1280, compressed gas, would also apply.

INTERNATIONAL CODE COUNCIL
2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
. RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #10203923# License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netwking ANY UNAUIYORIZED
Ag—t with ICC. No
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

TABLE E104.2—CFC AND GHS HAZARD DEFINITIONS COMPARISON[a]—continued			
CFC MATERIAL	CFC CLASS	CFC DEFINITION	GHS 2017 (REV 7) CLASSIFICATION (H-CODE AND CATEGORY); HAZARD STATEMENT; DEFINITION
Water reactive	3	Materials that react explosively with water without requiring heat or confinement.	H260, Category 1; Contact with water releases flammable gases which may ignite spontaneously. Any substance or mixture which reacts vigorously with water at ambient temperatures and demonstrates generally a tendency for the gas produced to ignite spontaneously, or which reacts readily with water at ambient temperatures such that the rate of evolution of flammable gas is equal to or greater than 10 liters per kilogram of substance over any 1 minute. (UN/DOT test methods: Test N.5, Part Ill, subsection 33.4.1.4)
Water reactive	2	Materials that react violently with water or have the ability to boil water. Materials that produce flammable, toxic or other hazardous gases, or evolve enough heat to cause autoignition of combustibles upon exposure to water or moisture.	H261, Category 2; Contact with water releases flammable gas. Any substance or mixture which reacts readily with water at ambient temperatures such that the maximum rate of evolution of flammable gas is equal to or greater than 20 liters per kilogram of substance per hour, and which does not meet the criteria for Category 1.
Water reactive	1	Materials that react with water with some release of energy, but not violently.	H261, Category 3; Contact with water releases flammable gas. Any substance or mixture which reacts slowly with water at ambient temperatures such that the maximum rate of evolution of flammable gas is equal to or greater than 1 liter per kilogram of substance per hour, and which does not meet the criteria for Categories 1 and 2.

a. The table illustrates that there is not perfect alignment between the CFC and GHS definitions and provides information on similarities and difference between the two classification systems.

SECTION E105—REFERENCED STANDARDS

E105.1 General. See Table E105.I for standards that are referenced in various sections of this appendix. Standards are listed by the standard identification with the effective date, standard title, and the section or sections of this appendix that reference the standard.

TABLE E105.1—REFERENCED STANDARDS		
STANDARD ACRONYM	STANDARD NAME	SECTIONS HEREIN REFERENCED
CGA P-20—2009	Standard for Classification of Toxic Mixtures	E103.1.3.1
CGA P-23—2008	Standard for Categorizing Gas Mixtures Containing Flammable and Nonflammable Components	E102.1.2
DOL 29 CFR Part 1910—2023	Occupational Safety and Health Standards	E104.1
DOL 29 CFR Part 1910.1200—2012	Hazard Communication	E102.1.7.2, E104.1, E104.2
DOT 49 CFR—2023	Transportation	E104.1

INTERNATIONAL CODE COUNCIL
2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
. RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oaklend) Order Number #102039239 License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user,copying and network
Ag—t with ICC. No by third ANY UNAUIYORIZED
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

DOT 49 CFR Part 173.127—2005	Class 5, Division 5. I—Definition and Assignment of Packing Groups	E102.1.7.2
UN ST/SG/AC.IO/II (Rev.	Manual of Tests and Criteria	Table E104.2
UN ST/SG/AC.IO/I (Rev21)—2019	Recommendations on the Transport of Dangerous Goods	Table E104.2
UN ST/SG/AC.10/30(Rev.7)—2017	Globally Harmonized System of Classification and Labelling of Chemicals (GHS), Part 2: Physical Hazards	E102.1.7.2, E104.1, E104.2, Table E104.2

CALIFORNIA FIRE CODE - MATRIX ADOPTION TABLE

APPENDIX F - HAZARD RANKING

(Matrix Adoption Tables are nonregulatory, intended only as an aid to the code user.

See Chapter I for state agency authority and building applications.)

(Not adopted by the State Fire Marshal)

Adopting Agency		CG	SFM		HCD			DSA		OSHPD						BSCC	DPH	AGR	DWR	CEC	CA	SL	SLC
			T-24	T-19*	i	2	IIAC	AC	SS	1	IR	2	3	4	5								
Adopt Entire Chapter																							
Adopt Entire Chapter as amended (amended sections listed below)																							
Adopt only those sections that are listed below																							
[Califom ia Code Of Regulations, Title 19, Division 1]																							
Chapter / Section																							

- The California Code ofRegulations (CCR), Title 19, Division 1 provisions that are found in the California Fire Code are a reprint from the current CCR, Title 19, Division 1 text for the code user's convenience only. The scope, applicability and appeals procedures Of CCR, Title 19, Division I remain the same.

INTERNATIONAL CODE COUNCIL
Ag—t with ICC. No
2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
. RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License
arther reproduction, no further reproductions by any third party, or distribution authorized. Single user copying and networking ANY UNAUIYORIZED
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

INTERNATIONAL CODE COUNCIL
2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
Ag—t with ICC. No , RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user,noninetpd,networking ANY UNAUIYORIZED
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
Ag—t with ICC. No by third Single user copying and networking ANY UNAUIYORIZED

APPENDIX F

HAZARD RANKING

The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance or legislation of the jurisdiction.

user notes:

About this appendix: Appendix F is intended to be a companion to the specific requirements Of Chapters 51 through 67, which regulate the storage, handling and use Of all hazardous materials classified as either physical or health hazards. These materials pose diverse hazards, including instability, reactivity, flammability, oxidizing potential or toxicity; therefore, identifying them by hazard ranking is essential. This appendix lists the various hazardous material categories that are defined in this code, along with the NFPA 704 hazard ranking for each.

ICCc0dedeveLopmentnote: Code change proposals tothis appendix will be considered by the IFC Code Development Committee duringthe 2024 (Group A) Code Development Cycle.

SECTION FIOI—GENERAL

FIOI.I Scope. Assignment of levels of hazards to be applied to specific hazard classes as required by NFPA 704 shall be in accordance with this appendix. The appendix is based on application of the degrees of hazard as defined in NFPA 704 arranged by hazard class as for specific categories defined in Chapter 2 of the California Fire Code and used throughout.

F101.2 General. The hazard rankings shown in Table F101.2 have been established by using guidelines found within NFPA 704. As noted in Section 4.2 of NFPA 704, there could be specific reasons to alter the degree of hazard assigned to a specific material; for example, ignition temperature, flammable range or susceptibility of a container to rupture by an internal combustion explosion or to metal failure while under pressure or because of heat from external fire. As a result, the degree of hazard assigned for the same material can vary when assessed by different people of equal competence.

The hazard rankings assigned to each class represent reasonable minimum hazard levels for a given class based on the use of criteria established by NFPA 704. Specific cases of use or storage may dictate the use of higher degrees of hazard in certain cases.

TABLE F101.2—FIREFIGHTER WARNING PLACARD DESIGNATIONS BASED ON HAZARD CLASSIFICATION CATEGORIES

License
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT AND THE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

HAZARD CATEGORY	DESIGNATION
Combustible liquid II	
Combustible liquid IIIA	
Combustible liquid 111B	
Combustible dust	a or F?
Combustible fiber	
Cryogenic flammable	
Cryogenic oxidizing	OX, H3
Explosive	
Flammable solid	
Flammable gas (gaseous)	
Flammable gas (liquefied)	
Flammable liquid IA	
Flammable liquid 1B	
Flammable liquid IC	
Organic peroxide, UD	
Organic peroxide I	
Organic peroxide II	
Organic peroxide Ill	F2, R2
Organic peroxide IV	Fl, RI
Organic peroxide V	None
Oxidizing gas (gaseous)	OX
Oxidizing gas (liquefied)	OX

TABLE F101.2—FIREFIGHTER WARNING PLACARD DESIGNATIONS BASED ON HAZARD CLASSIFICATION CATEGORIES—continued

HAZARD CATEGORY	DESIGNATION
Oxidizer 4	OX4
Oxidizer 3	OX3
Oxidizer 2	OX2
Oxidizer 1	OXI
Pyrophoric gases	
Pyrophoric solids, liquids	
Unstable reactive 4D	
Unstable reactive 3D	
Unstable reactive 3N	R2
Unstable reactive 2	R2
Unstable reactive 1	None
Water reactive 3	
Water reactive 2	
Corrosive	H3, COR

INTERNATIONAL CODE COUNCIL

2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to

Ag—t with ICC. No

. RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License

rther reproduction, no further reproductions by any third party, or distribution authorized. Single user,noviewand networking ANY UNAUIYORIZED

REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

Toxic	
Highly toxic	

a. F3 = Finely divided solids, typically less than 75 micrometers (urn) (200 mesh), that pose an elevated risk Of forming an ignitable dust cloud, such as finely divided sulfur, the California Electrical Code Group E dusts (for example, aluminum, zirconium and titanium) and bisphenol A. F2 = Finely divided solids less than 420 gm (40 mesh) that pose an ordinary risk Of formingan ignitable dust cloud, F—Flammable category.

R—Reactive category.
H—Health category.
W—Special hazard: water reactive.
ox—special hazard: oxidizing properties.
OR—corrosive.
IJD—Unclassified detonable material.
4D—Class 4 detonable material.
3D—class 3 detonable material.
3N—Class 3 nondetonable material.

SECTION F102—REFERENCED STANDARDS

F102.1 General. See Table F102.I for standards that are referenced in various sections of this appendix. Standards are listed by the standard identification with the effective date, standard title, and the section or sections of this appendix that reference the standard.

TABLE F102.1—REFERENCED STANDARDS

STANDARD ACRONYM	STANDARD NAME	SECTIONS HEREIN REFERENCED
CEC—25	California Electrical Code	Table F101.2
NFPA 704—22	Identification of the Hazards of Materials for Emergency Response	FIOI.I, F101.2

INTERNATIONAL CODE COUNCIL Ag—t with 2025ICC. ALL RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 further reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and networking ICC. No oa Jul 11.2023 ANY PM UNAUIYORIZED(CDT) to

CALIFORNIA FIRE CODE - MATRIX ADOPTION TABLE

APPENDIX G - CRYOGENIC FLUIDS—WEIGHT AND VOLUME EQUIVALENTS

(Matrix Adoption Tables are nonregulatory, intended only as an aid to the code user.
See Chapter I for state agency authority and building applications.)

(Not adopted by the State Fire Marshal)

Adopting Agency		CG	SFM		HCD			DSA		OSHPD						BSCC	DPH	AGR	DWR	CEC	CA	SL	SLC
			T-24	T-i9*	1	2	MAC	AC	SS		IR	2	3	4	5								
Adopt Entire Chapter																							
Adopt Entire Chapter as amended (amended sections listed below)																							
Adopt only those sections that are listed below																							
[Califomia Code Of Regulations, Title 19, Division 1]																							
Chapter / Section																							

• The California Code ofRegulations (CCR), Title 19, Division 1 provisions that are found in the California Fire Code are a reprint from the current CCR, Title 19, Division 1 text for the code user's convenience only. The scope, applicability and appeals procedures Of CCR, Title 19, Division I remain the same.

INTERNATIONAL CODE COUNCIL Ag—t with ICC. No 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to . RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License urther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and networking ANY UNAUIYORIZED
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
Ag—t with ICC. No by third Single user copying and networking ANY UNAUIYORIZED

APPENDIX G

CRYOGENIC FLUIDS—WEIGHT AND VOLUME EQUIVALENTS

This appendix is for information purposes and is not intended for adoption.

User notes:

About this appendix: Appendix G gives the fire code official and registered design professional a ready reference tool for the conversion Of the liquid weight and volume Of cryogenic fluid to their corresponding volume Of gas and vice versa and is a companion to the provisions Of Chapter 55 Of this code.

SECTION GIOI—GENERAL

GIOI.I Scope. This appendix is used to convert from liquid to gas for cryogenic fluids.

G101.2 Conversion. Table GIOI.2 shall be used to determine the equivalent amounts of cryogenic fluids in either the liquid or gas phase.

TABLE G101.2—WEIGHT AND VOLUME EQUIVALENTS FOR COMMON CRYOGENIC FLUIDS

CRYOGENIC FLUID	WEIGHT OF LIQUID OR GAS		VOLUME OF LIQUID AT NORMAL BOILING POINT		VOLUME OF GAS AT NTP	
	Pounds	Kilograms	Liters	Gallons	Cubic feet	Cubic meters
Argon	1.000	0.454	0.326	0.086	9.67	0.274
	2.205	1.000	0.718	0.190	21.32	0.604
	3.072	1.393	1.000	0.264	29.71	0.841
	11.628	5.274	3.785	1.000	112.45	3.184
	10.340	4.690	3.366	0.889	100.00	2.832
	3.652	1.656	1.189	0.314	35.31	1.000
Helium	1.000	0.454	3.631	0.959	96.72	2.739
	2.205	1.000	8.006	2.115	213.23	6.038
	0.275	0.125	1.000	0.264	26.63	0.754
	1.042	0.473	3.785	1.000	100.82	2.855
	1.034	0.469	3.754	0.992	100.00	2.832
	0.365	0.166	1.326	0.350	35.31	1.000
Hydrogen	1.000	0.454	6.409	1.693	191.96	5.436
	2.205	1.000	14.130	3.733	423.20	11.984
	0.156	0.071	1.000	0.264	29.95	0.848
	0.591	0.268	3.785	1.000	113.37	3.210
	0.521	0.236	3.339	0.882	100.00	2.832
	0.184	0.083	1.179	0.311	35.31	1.000
Oxygen	1.000	0.454	0.397	0.105	12.00	0.342
	2.205	1.000	0.876	0.231	26.62	0.754
	2.517	1.142	1.000	0.264	30.39	0.861

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
Ag—t with ICC. No by third Single user copying and networking ANY UNAUIYORIZED
. RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user copying and networking
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

	9.527	4.321	3.785	1.000	115.05	3.250
	8.281	3.756	3.290	0.869	100.00	2.832
	2.924	1.327	1.162	0.307	35.31	1.000
Nitrogen	1.000	0.454	0.561	0.148	13.80	0.391
	2.205	1.000	1.237	0.327	30.43	0.862
	1.782	0.808	1.000	0.264	24.60	0.697
	6.746	3.060	3.785	1.000	93.11	2.637
	7.245	3.286	4.065	1.074	100.00	2.832
	2.558	1.160	1.436	0.379	35.31	1.000

Copyright © 2025 ICC. ALL RIGHTS RESERVED. Accessed by Brian Granados

TABLE G101.2—WEIGHT AND VOLUME EQUIVALENTS FOR COMMON CRYOGENIC FLUIDS—continued

CRYOGENIC FLUID	WEIGHT OF LIQUID OR GAS		VOLUME OF LIQUID AT NORMAL BOILING POINT		VOLUME OF GAS AT NTP	
	Pounds	Kilograms	Liters	Gallons	Cubic feet	Cubic meters
LNG	1.000	0.454	1.052	0.278	22.968	0.650
	2.205	1.000	2.320	0.613	50.646	1.434
	0.951	0.431	1.000	0.264	21.812	0.618
	3.600	1.633	3.785	1.000	82.62	2.340
	4.356	1.976	4.580	1.210	100.00	2.832
	11.501	5.217	1.616	0.427	35.31	1.000

For Sl: 1 pound = 0.454 kg, 1 gallon = 3.785 L, 1 cubic foot= 0.02832 m[a], °c = [(⁶F) — 321/1.8, 1 pound per square inch atmosphere = 6.895 kPa.
a. The values listed for liquefied natural gas (LNG) are "typical" values. LNG is a mixture Of hydrocarbon gases, and no two LNG streams have exactly the same composition.

G101.2.1 Use of the table. To use Table GIOI.2, read horizontally across the line of interest. For example, to determine the number of cubic feet of gas contained in 1.0 gallon (3.785 L) of liquid argon, find 1.000 in the column entitled "Volume of Liquid at Normal Boiling Point." Reading across the line under the column entitled "Volume of Gas at NTP" (70^0F and I atmosphere/14.7 psia), the value of 112.45 cubic feet (3.184 m^3) is found.

G101.2.2 Other quantities. If other quantities are of interest, the numbers can be multiplied or divided to obtain the quantity of interest. For example, to determine the number of cubic feet of argon gas contained in a volume of 1,000 gallons (3785 L) of liquid argon at its normal boiling point, multiply 112.45 by 1,000 to obtain 112,450 cubic feet (3184 m^3).

INTERNATIONAL CODE COUNCIL
Ag—t with ICC. No
2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
. RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user,copying and networking ANY UNAUIYORIZED
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

INTERNATIONAL CODE COUNCIL Ag—t with 2025ICC. ALL , RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netwi networking ICC. No oa Jul 11.2023 ANY PM UNAUIYORIZED(CDT) to

INTERNATIONAL CODE COUNCIL Ag—t with ICC. No 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to , RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netw networking ANY UNAUIYORIZED REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

CALIFORNIA FIRE CODE - MATRIX ADOPTION TABLE
APPENDIX H - HAZARDOUS MATERIALS MANAGEMENT PLAN AND HAZARDOUS MATERIALS INVENTORY STATEMENTS

(Matrix Adoption Tables are nonregulatory, intended only as an aid to the user.
See Chapter I for state agency authority and building applications.)

Adopting Agency	BSC	BSCCG	SFM		HCD					OSHPD						BSCC	DPH	AGR	DWR	CEC	CA	SL	SLC
			T-24	T-i9*		2	IIAC	AC	SS	i	IR	2	3	4	5								
Adopt Entire Chapter			x																				
Adopt Entire Chapter as amended (amended sections listed below)																							
Adopt only those sections that are listed below																							
[California Code Of Regulations, Title 19, Division 1]																							
Chapter / Section																							

- The California Code ofRegulations (CCR), Title 19, Division 1 provisions that are found in the California Fire Code area reprintfrom the current CCR, Title 19, Division 1 text for the code user's convenience only. The scope, applicability and appeals procedures Of CCR, Title 19, Division I remain the same.

INTERNATIONAL CODE COUNCIL
Ag—t with ICC. No
2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
. RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user copying and networking
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

APPENDIX

H

CALIFORNIA FIRE CODE

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
Ag—t with ICC. No by third Single user copying and networking ANY UNAUIYORIZED

HAZARDOUS MATERIALS MANAGEMENT PLANS AND HAZARDOUS MATERIALS INVENTORY STATEMENTS (SEE SECTIONS 5001.5.1 AND 5001.5.2)

SECTION HI—SCOPE

HI.I Scope. Hazardous materials inventory statements (HMIS) and hazardous materials management plans (HMMP) which are required by the fire chief, pursuant to Chapter 50, shall be provided for hazardous materials in accordance with Appendix H.

Exceptions:

I. Materials which have been satisfactorily demonstrated not to present a potential danger to public health, safety or welfare, based upon the quantity or condition of storage, when approved.

2. Chromium, copper, lead, nickel and silver need not be considered hazardous materials for the purposes of Appendix H unless they are stored in a friable, powdered or finely divided state.

Proprietary and trade secret information shall be protected under the laws of the state or jurisdiction having authority.

SECTION H2—HAZARDOUS MA TERIALS INVENTORY STATEMENTS (HMS)

H2.1 When Required. A separate HMIS shall be provided for each building, including its appurtenant structures, and each exterior facility in which hazardous materials are stored.

The hazardous materials inventory statement shall list, by hazard class, all hazardous materials stored. The hazardous materials inventory statement shall include the following information for each hazardous material listed: I. Hazard class.

2. Common or trade name.
3. Chemical name, major constituents and concentrations if a mixture. Ifa waste, the waste category.
4. Chemical Abstract Service number (CAS number) found in 29 Code of Federal Regulations (C.F.R.).

5 Whether the material is pure or a mixture, and whether the material is a solid, liquid or gas.

6. Maximum aggregate quantity stored at any one time.
7. Storage conditions related to the storage type, temperature and pressure.

H2.2 Changes to HMIS. An amended HMIS shall be provided within 30 days of the storage of any hazardous materials which changes or adds a hazard class or which is sufficient in quantity to cause an increase in the quantity which exceeds 5 percent for any hazard class.

SECTION H3—HAURDOUS MA TERIALS MANAGEMENT PLAN (HMMP)

H3.1 General. Applications for a permit to store hazardous materials shall include an HMMP standard form or short form in accordance with Section H3.3 and shall provide a narrative description of the operations and processes taking place at the facility. See Figure A-H-I.

H3.2 Information Required. The HMMP standard form shall include the information detailed in Section H3.2.

H3.2.1 General Information. General information, including business name and address, emergency contacts, business activity, business owner or operator, SIC code, number of employees and hours, Dunn and Bradstreet number, and signature of owner, operator or designated representative.

H3.2.2 General site plan. A general site plan drawn at a legible scale which shall include, but not be limited to, the location of buildings, exterior storage facilities, permanent access ways, evacuation routes, parking lots, internal roads, chemical loading areas, equipment cleaning areas, storm and sanitary sewer accesses, emergency equipment and adjacent property uses. The exterior storage areas shall be identified with the hazard class and the maximum quantities per hazard class of hazardous materials stored When required by the chief, information regarding the location of wells, flood plains, earthquake faults, surface water bodies and general land uses within I mile (1.609 km) of the facility boundaries shall be included.

H3.2.3 Building floor plan. A building floor plan drawn to a legible scale which shall include, but not be limited to, hazardous materials storage areas within the building and shall indicate rooms, doorways, corridors, means of egress and evacuation routes. Each hazardous materials storage facility shall be identified by a map key which lists the individual hazardous materials, their hazard class and quantity present for each area.

H3.2.4 Hazardous materials handling. Information showing that activities involving the handling of hazardous materials between the storage areas and manufacturing processes on site are conducted in a manner to prevent the accidental release of such materials.

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
Ag—t with ICC. No . RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License
arther reproduction, no further reproductions by any third party, or distribution authorized. Single user copying and networking ANY UNAUIYORIZED
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

H3.2.5 Chemical capability and separation. Information showing procedures, controls, signs or other methods used to ensure separation and protection of stored materials from factors which could cause accidental ignition or reaction of ignitable, reactive or incompatible materials in each area.

H3.2.6 Monitoring program. Information including, but not limited to, the location, type, manufacturer's specifications, if applicable, and suitability of monitoring methods for each storage facility when required.

INTERNATIONAL CODE COUNCIL
Ag—t with ICC. No
2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
. RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user,copying and networking
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

H3.2.7 Inspection and recording keeping. Schedules and procedures for inspecting safety and monitoring and emergency equipment The permittee shall develop and follow a written inspection procedure acceptable to the chief for inspecting the facility for events or practices which could lead to unauthorized discharges of hazardous materials. Inspections shall be conducted at a frequency appropriate to detect problems prior to a discharge. An inspection check sheet shall be developed to be used in conjunction with routine inspections. The check sheet shall provide for the date, time and location of inspection; note problems and dates and times of corrective actions taken; and include the name of the inspector and the countersignature of the designated safety manager for the facility.

H3.2.8 Employee training. A training program appropriate to the types and quantities of materials stored or used shall be conducted to prepare employees to safely handle hazardous materials on a daily basis and during emergencies. The training program shall include:

1. Instruction in safe storage and handling of hazardous materials, including maintenance of monitoring records;
2. Instruction in emergency procedures for leaks, spills, fires or explosions, including shutdown ofoperations and evacuation procedures; and
3. Record-keeping procedures for documenting training given to employees.

H3.2.9 Emergency response. A description of facility emergency procedures is to be provided.

H3.3 HMMP Short Form—(Minimal Storage Site). A facility shall qualify as a minimal storage site if the quantity of each hazardous material stored in one or more facilities in an aggregate quantity for the facility is 500 pounds (227 kg) or less for solids, 55 gallons (208.2 L) or less for liquids, or 200 cubic feet (5.7 m^3) or less at NTP for compressed gases and does not exceed the threshold planning quantity as listed in 40 C.F.R., Part 355, Sections 302 and 304. The applicant for a permit for a facility which qualifies as a minimal storage site is allowed to file the short form HMMP. Such plan shall include the following components:

I. General facility information,
2. A simple line drawing of the facility showing the location of storage facilities and indicating the hazard class or classes and physical state of the hazardous materials being stored,
3. Information describing that the hazardous materials will be stored and handled in a safe manner and will be appropriately contained, separated and monitored, and
4. Assurance that security precautions have been taken, employees have been appropriately trained to handle the hazardous materials and react to emergency situations, adequate labeling and warning signs are posted, adequate emergency equipment is maintained, and the disposal of hazardous materials will be in an appropriate manner.

SECTION H4—MAINTENANCE OF RECORDS

H4.1 Hazardous materials inventory statements and hazardous materials management plans shall be maintained by the permittee fora period of not less than three years after submittal of updated or revised versions. Such records shall be made available to the fire chief upon request.

FIGURE A-H-I—SAMPLE FORMAT

HAZARDOUS MATERIALS MANAGEMENT PLAN (HMMP) INSTRUCTIONS SECTION I—

FACILITY DESCRIPTION

1.1 Part A

I. Fill out Items I through Il and sign the declaration.

2. Only Part A of this section is required to be updated and submitted annually, or within 30 days of a change.

1. 2 Part B—General Facility Description (Site Plan)

I. ProvideasitepIanon8 [1],4-byII-inch (215 mm by 279 mm) paper, using letters on the top and bottom margins and numbers on the right and left side margins, showing the location of all buildings, structures, chemical loading areas, parking lots, internal roads, storm and sanitary sewers, wells, and adjacent property uses. Indicate the approximate scale, northern direction and date the drawing was completed.

2 List all special land uses within I mile (1.609 km).

1.3 Part C—Facility Storage Map (Confidential Information)

I. Provide a floorplan ofeach building on 8 [1]/2 by Il-inch (215 mm by 279 mm) paper, using letters on the top and bottom margins and numbers on the right and left side margins, with approximate scale and northern direction, showing the location of each storage area. Mark map clearly "Confidential—Do not disclose" for trade-secret information as specified by federal, state and local laws.

2. Identify each storage area with an identification number, letter, name or symbol.

3. Show the following:

INTERNATIONAL CODE COUNCIL
2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
. RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user copying and networking ANY UNAUIYORIZED
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

3.1. Accesses to each storage area.
3.2. Location ofemergency equipment.
3.3. The general purpose ofother areas within the facility.
3.4. Location of all aboveground and underground tanks to include sumps, vaults, below-grade treatment systems, piping, etc.

4. Map key. Provide the following on the map or in a map key or legend foreach storage area:

4.1. A list of hazardous materials, including wastes.
4.2. Hazard class of each hazardous waste.
4.3. The maximum quantity for hazardous materials.
4.4, Include the contents and capacity limit of all tanks at each area and indicate whether they are above or below ground.
4.5. List separately any radioactives, cryogens and compressed gases for each facility.
4.6. Trade-secret information shall be listed as specified by federal, state and local laws.

SECTION II—HAZARDOUS MATERIALS INVENTORY STATEMENT (HMS)

2.1 Part A—Declaration

Fill out all appropriate information.

2.2 Part B—lnventory Statement

I. You must complete a separate inventory statement for all waste and non waste hazardous materials. List all hazardous materials in alphabetical order by hazard class.

2. Inventory Statement Instructions:

Column Information Required

I. Provide hazard class for each material.
2. Non waste. Provide the common or trade name of the regulated material. Waste. In lieu of trade names, you may provide the waste category.
3. Provide the chemical name and major constituents and concentrations, if a mixture.
4. Enter the chemical abstract service number (CAS number) found in 29 CER. For mixtures, enter the CAS number of the mixture as a whole if it has been assigned a number distinct from its constituents. For a mixture that has no CAS number, leave this item blank or report the CAS numbers of as many constituent chemicals as possible.
5. Enter the following descriptive codes as they apply to each material. You may list more than one code, ifapplicable. p = Pure M Mixture

S = Solid
L = Liquid
G = Gas

6. Provide the maximum aggregate quantity of each material handled at any one time by the business. For underground tanks, list the maximum volume [in gallons (liters)] of the tank.

6.1. Enter the estimated average daily amount on site during the past year.

7. Enter the units used in Column 6 as:

LB = Pounds GA = Gallons
CF =Cubic Feet

8.Enter the number of days that the material was present on site (during the last year).

9. Enter the storage codes below for type, temperature and pressure. Type

A = Aboveground Tank B — Belowground Tank
C =Tank inside Building
D = Steel Drum

INTERNATIONAL CODE COUNCIL
Ag—t with ICC. No
2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
. RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License
arther reproduction, no further reproductions by any third party, or distribution authorized. Single user copying and networking ANY UNAUIYORIZED
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

E Plastic or Nonmetallic Drum

F = Can

G = Carbon

H = Silo

I = Fiber Drum

J Bag

K =Box

L = Cylinder

M = Glass Bottle or Jug

N =Plastic Bottles or Jugs O =

Tote Bin p = Tank Wagon

Q = Railcar

R = Other

Temperature

4 = Ambient

5 =Greater than Ambient

6 = Less than Ambient, but not Cryogenic [less than -150 ^{0}F(-IOI.1 ^{0}C)]

7 = Cryogenic conditions [less than -150^{0}F (-101.1 ^{0}0] Pressure

I = Ambient (Atmospheric)

2 =Greater than Ambient (Atmospheric)

3 = Less than Ambient (Atmospheric)

10. For each material listed, provide the Superfund Amendments and Reauthorization Act (SARA) hazard class as listed below. You may list more than one class. These categories are defined in 40 C.F.R. 370.3.

Physical Hazards

F = Fire

P = Sudden Release of Pressure

R = Reactivity

Health Hazards

I = Immediate (Acute)

D = Delayed (Chronic)

Il. Waste Only. For each waste, provide the total estimated amount of hazardous waste handled throughout the course of the year.

SECTION Ill—SEPARATION AND MONITORING

3.1 Part A—Aboveground

Fill out Items I through 6, or provide similar information for each storage area shown on the facility map. Use additional sheets as necessary.

3.2 Part B—Underground

I. Complete a separate page for each underground tank, sump, vault, below-grade treatment system, etc.

2. Check the type of tank and method(s) that applies to your tank(s) and piping, and answer the appropriate questions. Provide any additional information in the space provided or on a separate sheet.

SECTION IV—WASTE DISPOSAL

Check all that apply and list the associated wastes for each method checked.

SECTION V—RECORDING KEEPING

Include a brief description of your inspection procedures. You are also required to keep an inspection log and recordable discharge log, which are designed to be used in conjunction with routine inspections for all storage facilities or areas. Place a check in each box that describes your forms. If you do not use the sample forms, provide copies of your forms for review and approval.

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
Ag—t with ICC. No , RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user copying and networking by third ANY UNAUIYORIZED
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

SECTION VI—EMERGENCY-RESPONSE PLAN

I. This plan should describe the personnel, procedures and equipment available for responding to a release or threatened release of hazardous materials that are stored, handled or used on site.

2. A check or a response under each item indicates that a specific procedure is followed at the facility, or that the equipment specified is maintained on site.

3. If the facility maintains a more detailed emergency-response plan onsite, indicate this in Item 5. This plan shall be made available for review by the inspecting jurisdiction.

SECTION WI—EMERGENCY RESPONSE TRAINING PLAN

I. This plan should describe the basic training plan used at the facility.

2. A check in the appropriate box indicates the training is provided or the records are maintained.

3. If the facility maintains a more detailed emergency-response training plan, indicate this in Item 4. This plan shall be made available for review by the inspecting jurisdiction.

INTERNATIONAL CODE COUNCIL
Ag—t with ICC. No
2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
. RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user copying and networking by third ANY UNAUIYORIZED
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

APPENDIX

FIGUREA-H-I—HAZARDOUS MATERIALS MANAGEMENT PLAN SECTION 1:
FACILITY DESCRIPTION

PARTA—GENERAL INFORMATION

I. Business Name:_____ Phone • _____

Address:_____

2. Person Responsible for the Business

Name:	Tide:	Phone:

3. Emergency Contacts:

Name:	Tide:	Home Number:	work Number:

4. Person Responsible for the Application/Principa1 Contact:

Name:	Tide:	Phone:

5. Property Owner:

Name:	Address:	Phone:

6. Principal Business Activity:
7. Number of Employees:_____
8. Number of Shifts:_____
9. Hours of Operation:_____
10. SIC Code:

Il. Dunn and Bradstreet Number:_____
12. Declaration

I certify that the information above and on the following parts is true and correct to the best of my knowledge.

Signature: _____ Date:_____

Print Name: _____ Title:

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to Ag—t with ICC. No by third Single user copyingand networking ANY UNAUIYORIZED REPRODUCTION OR DISTR RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #10203923 r TO CIVIL CRIMINAL License rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netw

(Must be signed by owner/operator or designated representative)

PART B—GENERAL FACILITY DESCRIPTION/SITE PLAN

(Use grid format on next page.)

Special land uses within 1 mile (1.609 km):

PART C—FACILITY MAP

(Use grid format below.)

						F				J	K	L	M	N	
1															1
2															2
3															3
4															4
5															
6															6
7															7
8															8
9															9
10															10
11															11
12															12
13															13
14															14
15															15
16															16
17															17
						E	F	G	H				M	N	

BUSINESS NAME	DATE
ADDRESS CITY	PAGE OF

(Use grid format above)

SECTION 11: HAZARDOUS MATERIALS INVENTORY STATEMENT PART A—DECLARATION

1. Business Name:

2. Address:

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to Ag—t with ICC. No by third Single user copyingand networking ANY UNAUIYORIZED REPRODUCTION OR DISTR RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #10203923 r TO CIVIL CRIMINAL License rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netw

3. Declaration:

Under penalty of perjury, I declare the above and subsequent information, provided as part of the hazardous materials inventory statement, is true and correct.

Signature: ______________________________ Date:

Print Name: ______________________________ Title: ______________________________

(Must be signed by owner/operator or designated representative)

APPENDIX

FIGURE A-II-E-1—(Continued)

PART B—HAZARDOUS MATERIALS INVENTORY STATEMENT

CLASS	COMMON/ TRADE NAME	(3) CHEMICAL NAME, COMPONENTS AND CONCENTRATION	CHEMICAL ABSTRACT SERVICE NO.	(5) PHYSICAL STATE	MAXIMUM QUANTIT ON HAND ATANY TIME	(7) UNITS	(8) DAYS ON SITE	STORAGE CODE (TYPE, PRES., TEMP.)	(10) SARA CLASS	(11) ANNUAL WASTE THROUGHPUT

SECTION 111: SEPARA TION, SECONDARY CONTAINMENTAND MONITORING PART A—ABOVEGROUND STORAGE AREAS

Storage Area Identification (as shown on facility map):______________________________

I. Storage I)pe:

______ Original Containers ______ Safety Cans

______Inside Machinery ______ Bulk Tank

______55-ganon (208.2 L) ______ Outside Barrels

Drums or Storage Shed ______Pressurized Vessel

____

____2.

Storage Location:

______ Inside Building ______ Outside Building

______ *Secured*

3. Separation:

______All Materials ______One-hour Separation

______Compatible Wå1VPartition

______Separated by 20 Feet (6096 mm) ______Approved Cabinets ______ Other:

____

____4.

Secondary Containment:

______Approved Cabinet ______Secondary Drums

______ Tray ______Bermed, Coated Floor

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to

Ag—t with ICC. No by third Single user copyingand networking ANY UNAUIYORIZED

REPRODUCTION OR DISTR... SUBJECr TO CIVIL CRIMINAL License

Copyright © RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number # ...rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying

THEREUNDER

_____ Vaulted Tank _____Double-wall Tank _____ Other:

_____

_____

_____ *5.*

Monitoring:

_____ Vfsual _____ Continuous

_____

_____

_____ *Att*

ach specifications ifnecessary

6. Monitoring Frequency:

_____ *Daily* _____ *Weekly*

_____ ~~Other:~~ Other: _____

Attach specifications ifnecessary

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to

Ag—t with ICC. No by third Single user copyingand networking ANY UNAUIYORIZED

REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL License

THEREUNDER

APPENDIX H

FIGURE ***A-II-E-1—(Continued)***

SECTION111: SEPARATION, CONTAINMENTAND MONITORING PARTB—UNDERGROUND

SINGLE-WALL TANKS AND PIPING

Tank Area Identification (as shown on facility map): ______________________

1.____Backfill Vapor hélls Model and Manufacturer:

____

continuous or Monthly Testing:

____

____Groundwater Monitoring Wélls

3.____Monthly Precision Tank Test

4._ Piping—

Monitoring Method: ______________________

Frequency: ______________________

5.____Other: ______________________

DOUBLE- WALL TANKS AND PIPING

Tank Area Identification (as shown on facility map): ______________________

I. Method of monitoring the annular space: ______________________

2. Frequency:

Continuous Daily weekly ________Other:

____

3. List the type of secondary containment for piping: ______________________

____

4. List the method of monitoring the secondary containment for piping: ______________________

5. Are there incompatible materials within the same vault?

______ Yes ______No

Ifyes, how is separate secondary containment provided? ______________________

____

Note: If you have continuous monitoring equipment, you shall maintain copies of all service and maintenance work. Such reports shall be made available for review on site, and shall be submitted to the fire prevention bureau upon request. Attach additional sheets as necessary.

SECTION W: WASTE DISPOSAL

____Discharge to the Sanitary __________Pretreatment— Sewer—Wastes: Wastes:

____ ***Li***

censed Waste Hauler ____________Recycle ____________%åstes: ______________Wåstes:

____

____

____

INTERNATIONAL CODE COUNCIL

oa Jul 11.2023 PM (CDT) to

Ag—t with ICC. No copyingand License

networking ANY UNAUIYORIZED 2025ICC. ALL RIGHTSRESERVED. by Br"n (Ory Order

RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239

rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netw

by third Singleuser

REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE

_____Other— Describe Method:

Wastes:_____

No Waste

_____

H-IO

APPENDIXH

FIGURE*A-II-E-1—(Continued)*

SECTION IV: WASTE DISPOSAL—conünued B.
Spill Containment:

Absorbents Other:

_____ _____ _____

C. Spill Contml and Treatment:

_____ Vapor Scrubber _____Mechanical Véntilation

_____Pumps/vacuums _____Secondary Containment

Neutralizer Other: _____

_____Entil? building evacuation procedures developed

_____Assembly areas preplanned _____

Evacuation maps posted

Other:

_____ _____

4. Evacuation:

_____Immediate area evacuation routes posted

5. Supplemental hazardous materials emergency response plan on site.

Location:

Responsible Person:_____

Phone:

SECTION V: RECORD KEEPING

Description ofour inspection program:_____

_____ We will use the attached sample forms in our inspection program.

_____ We will not use the sample forms. We have attached a copy of our own forms.

oa Jul 11.2023 PM (CDT) to

Ag—t with ICC. No networking ANY UNAUIYORIZED 2025ICC. ALL RIGHTS RESERVED, by Br"n RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netwo IOrv Order Sinfeuser copyingand License

REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE

SECTION VI: EMERGENCYRESPONSE PLAN

I. In the event ofan emergency, the following shall be notified:

A. On-site Responders:

Name:	Tide:	Home Number:
____________________	____________________	____________________
____________________	____________________	____________________

B. Method of Notification to Responder:

Automatic Alarm _____ Phone

Manual Alarm _____ *Verbal*

Other:

H-il

C. Agency: Phone Number:

File Department:

California Emergency Management Agency (Cal EMA):

Other:

2. Designated Local Emergency Medical Facility:

Name:	Address:	Phone (24 hours):
____________________	____________________	____________________

3. Mitigation Equipment:

A. Monitoring Devices: ______ Toxic or flammable gas detection

______ Fluid detection

______ *Other:*______________________________

SECTION Vil: EMERGENCY-RESPONSE TRAINING PLAN

I. Person responsible for the emergency-response training plan:

Name:	Tide:	Phone:
____________________	____________________	____________________

2. Training Requirements:

A. All employees trained in the following as indicated:

_____ Procedures for internal alarm/notification

INTERNATIONAL CODE COUNCIL oa Jul 11.2023 PM (CDT) to
Ag—t with ICC. No copyingand License
networking ANY UNAUIYORIZED 2025ICC. ALL RIGHTSRESERVED. RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netw
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE

_____Procedures for notification of external emergency-response organization _____Location and content of the emergency-response plan

B. Chemical handlers are trained in the following as indicated:

_____Safe methods for handling and storage of hazardous materials

_____Proper use of personal protective equipment

_____Locations and proper use of fire- and spill-control equipment

_____Specific hazards of each chemical to which they may be exposed C. Emergency-response team members me trained in the following:

_____Procedures for shutdown of operations

_____Procedures for using, maintaining and replacing facility emergency and monitoring equipment

3. The following records are maintained for all employees:

_____ Vérification that training was completed by the employee

_____Description of the type and amount of introductory and continuing training

_____Documentation on and description of emergency-response drills conducted at the facility

4. A more comprehensive and detailed emergency-response training plan is maintained on site.

Location:

Responsible Person: ______________________________

Phone: ______________________________

INTERNATIONAL CODE COUNCIL oa Jul 11.2023 PM (CDT) to

Ag—t with ICC. No networking ANY UNAUIYORIZED 2025ICC. ALL RIGHTSRESERVED. RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netw by Br"n (Ory Order by third Singleuser copyingand License

REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE

CALIFORNIA FIRE CODE - MATRIX ADOPTION TABLE

APPENDIX I - FIRE PROTECTION SYSTEMS—NONCOMPLIANT CONDITIONS

(Matrix Adoption Tables are nonregulatory, intended only as an aid to the code user.
See Chapter I for state agency authority and building applications.)

(Not adopted by the State Fire Marshal)

Adopting Agency		BSCCG	SFM		HCD					OSHPD						BSCC	DPH	AGR	DWR	CEC	CA	SL	SLC
			T-24	T-i9*	i	2	IIAC	AC	SS	1	IR	2	3	4	5								
Adopt Entire Chapter																							
Adopt Entire Chapter as amended (amended sections listed below)																							
Adopt only those sections that are listed below																							
[Califomia Code Of Regulations, Title 19, Division 1]																							
Chapter / Section																							

- The California Code of Regulations (CCR), Title 19, Division 1 provisions that are found in the California Fire Code are a reprint from the current CCR, Title 19, Division 1 text for the code user's convenience only. The scope, applicability and appeals procedures Of CCR, Title 19, Division I remain the same.

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
. RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License
Ag—t with ICC. No rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and networking ANY UNAUIYORIZED
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
Ag—t with ICC. No by third Single user copying and networking ANY UNAUIYORIZED

APPENDIX I

FIRE PROTECTION SYSTEMS—NONCOMPLIANT CONDITIONS

The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance or legislation of the jurisdiction.

user notes:

About this appendix: Appendix l, which was developed by the ICC Hazard Abatement in Existing Buildings Committee, is intended to provide the fire code official with a list Of conditions that are readily identifiable by the inspector during the course Of an inspection utilizing this code. The specific conditions identified in this appendix are primarily derived from applicable NFPA standards and pose a hazard to the proper operation of the respective systems. While these do not represent all Of the conditions that pose a hazard or otherwise may impair the proper operation Of fire protection systems, their identification in this adoptable appendix will provide a more direct path for enforcement by the fire code official.

ICCc0dedeveloprnentnote: Code change proposals to this appendix will be considered bythe IFC Code DevelopmentCommittee duringthe2024 (Group A) Code Development Cycle.

SECTION IIOI—NONCOMPLIANT CONDITIONS

1101.1 General. This appendix is intended to identify conditions that can occur where fire protection systems are not properly maintained or components have been damaged. This appendix is not intended to provide comprehensive inspection, testing and maintenance requirements, which are found in NFPA 10, NFPA 25 and NFPA 72. Rather, it is intended to identify problems that are readily observable during fire inspections.

1101.2 Impaired conditions requiring immediate action. The following conditions indicate noncompliant and impaired fire protection systems. An impaired system(s) shall require immediate action by the building owner to return the fire protection system back to service:

I. Valves in the shut or closed position:

1.1. Water supply valves, such as in riser rooms, yards and vaults.

1.2. Water supply floor control valves in multiple-story buildings.

1.3. Fuel supply valves for fire pumps.

1.4. Commercial kitchen hood suppression valves.

2. Impaired fire alarm systems:

2.1. Fire alarm systems with no power (primary or secondary).

2.2. No active communication path to the supervising/remote station (unless the system is local).

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
Ag—t with ICC. No by third Single user copying and networking ANY UNAUIYORIZED
. RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user copying and networking
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

1101.3 Noncompliant conditions requiring component replacement. The following conditions shall be deemed noncompliant and shall cause the related component(s) to be replaced to comply with the provisions of this code: I. Sprinklers having any of the following conditions:

1.1. Signs of leakage.
1.2. Paint or other ornamentation that is not factory applied.
1.3. Evidence of corrosion including, but not limited to, discoloration or rust.
1.4. Deformation or damage of any part.
1.5. Improper orientation of sprinkler.
1.6. Empty glass bulb.
1.7. Sprinklers manufactured prior to 1920.
1.8. Replacement sprinklers that do not match existing sprinklers in orifice size, K-factor temperature rating, coating or deflector type.
1.9. Sprinklers for the protection of cooking equipment that have not been replaced within one year.

2. Water pressure and air pressure gauges.
   2.1. Installed for more than 5 years and have not been tested to within 3 percent accuracy.
   2.2. Indicating zero pressure.

1101.4 Noncompliant conditions requiring component repair or replacement. The following shall be deemed noncompliant conditions and shall cause the related component(s) to be repaired or replaced to comply with the provisions of this code: I. Sprinkler and standpipe system piping and fittings having any of the following conditions:

1.1. Signs of leakage.
1.2. Evidence of corrosion.
1.3. Misalignment. 1.4. Mechanical damage.

2. Sprinkler piping support having any of the following conditions:
   2.1. Materials resting on or hung from sprinkler piping.
   2.2. Damaged or loose hangers or braces.

3. Class II and Class III standpipe systems having any ofthe following conditions:
   3.1. No hose or nozzle, where required.
   3.2. Hose threads incompatible with fire department hose threads.
   3.3. Hose connection cap missing.
   3.4. Mildew, cuts, abrasions and deterioration evident.
   3.5. Coupling damaged.
   3.6. Gaskets missing or deteriorated.
   3.7. Nozzle missing or obstructed.

4. Hose racks and cabinets having any of the following conditions:
   4.1. Difficult to operate or damaged.
   4.2. Hose improperly racked or rolled.
   4.3. Inability of rack to swing 90 degrees (1.57 rad) out of the cabinet.
   4.4. Cabinet locked, except as permitted by this code.
   4.5. Cabinet door will not fully open.
   4.6. Door glazing cracked or broken.

5. Portable fire extinguishers having any of the following conditions:
   5.1. Broken seal or tamper indicator.
   5.2. Expired maintenance tag.
   5.3. Pressure gauge indicator in "red."
   5.4. Signs of leakage or corrosion.
   5.5. Mechanical damage, denting or abrasion of tank.

INTERNATIONAL CODE COUNCIL
2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
Ag—t with ICC. No
. RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user copying and networking ANY UNAUIYORIZED
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

5.6. Presence of repairs such as welding, soldering or brazing.
5.7. Damaged threads.
5.8. Damaged hose assembly, couplings or swivel joints.

6. Fire alarm and detection control equipment, initiating devices and notification appliances having any of the following conditions:
   6.1. Corroded or leaking batteries or terminals.
   6.2. Smoke detectors having paint or other ornamentation that is not factory applied.
   6.3. Mechanical damage to any fire alarm equipment, devices or appliances.
   6.4. Tripped fuses.
   6.5. Fire alarm systems not in "normal" (no alarm, supervisory or trouble) state.
7. Fire department connections having any of the following conditions:
   7.1. Fire department connections are not visible or able to be accessed from the fire apparatus access road.
   7.2. Couplings or swivels are damaged.
   7.3. Plugs and caps are missing or damaged.
   7.4. Gaskets are deteriorated.
   7.5. Check valve is leaking.
   7.6. Identification signs are missing.
8. Fire pumps having any of the following conditions:
   8.1. Pump room temperature is less than 40^0F (4.4^0C).
   8.2. Ventilating louvers are not freely operable.
   8.3. Corroded or leaking system piping.
   8.4. Diesel fuel tank is less than two-thirds full.
   8.5. Battery readings, lubrication oil or cooling water levels are abnormal.

INTERNATIONAL CODE COUNCIL Ag—t with 2025 ICC. ICC. No ALL RIGHTS RESERVED. by Br"n by third to (Qty Single user Order copyingand networking oa Jul 11.2023 ANY PM UNAUIYORIZED(CDT)

SECTION 1102—REFERENCED STANDARDS

1102.1 General. See Table 1102.1 for standards that are referenced in various sections of this appendix. Standards are listed by the standard identification with the effective date, standard title, and the section or sections of this appendix that reference the standard.

TABLE 1102.1—REFERENCED STANDARDS

STANDARD ACRONYM	STANDARD NAME	SECTIONS HEREIN REFERENCED
NFPA 10—22	Portable Fire Extinguishers	1101.1
NFPA25—23	Inspection, Testing and Maintenance of Water-based Fire Protection Systems	1101.1
NFPA 72—22	National Fire Alarm and Signaling Code	1101.1

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
Ag—t with ICC. No . RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user copyingand networking ANY UNAUIYORIZED
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
Ag—t with ICC. No by third Single user copying and networking ANY UNAUIYORIZED

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
Ag—t with ICC. No , RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user copying and networking by third ANY UNAUIYORIZED
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
, RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License
Ag—t with ICC. No rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and networking ANY UNAUIYORIZED
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT AND THE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

CALIFORNIA FIRE CODE - MATRIX ADOPTION TABLE

APPENDIX K - CONSTRUCTION REQUIREMENTS FOR EXISTING AMBULATORY CARE FACILITIES

(Matrix Adoption Tables are nonregulatory, intended only as an aid to the code user.
See Chapter I for state agency authority and building applications.)

(Not adopted by the State Fire Marshal)

Adopting Agency		CG	SFM		HCD			DSA		OSHPD						BSCC	DPH	AGR	DWR	CEC	CA	SL	SLC
			T-24	T-19*	1	2	IIAC	AC	SS	i	IR	2	3	4	5								
Adopt Entire Chapter																							
Adopt Entire Chapter as amended (amended sections listed below)																							
Adopt only those sections that are listed below																							
[Califomia Code Of Regulations, Title 19, Division 1]																							
Chapter / Section																							

• The California Code ofRegulations (CCR), Title 19, Division 1 provisions that are found in the California Fire Code are a reprint from the current CCR, Title 19, Division 1 text for the code user's convenience only. The scope, applicability and appeals procedures Of CCR, Title 19, Division I remain the same.

INTERNATIONAL CODE COUNCIL
2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
Ag—t with ICC. No
. RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License
arther reproduction, no further reproductions by any third party, or distribution authorized. Single user copying and networking
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to Ag—t with ICC. No by third Single user copying and networking ANY UNAUIYORIZED

CONSTRUCTION REQUIREMENTS FOR EXISTING AMBULATORY CARE FACILITIES

The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance or legislation of the jurisdiction.

User notes: user notes:

About this appendix: Appendix K was created with the intent to provide jurisdictions with an option for assessing minimum fire and life safety requirements for buildings containing ambulatory care facilities. While this appendix is written with the intent to apply retroactive minimum standards, it is recognized that the ambulatory care requirements are relatively recent additions to the California Building Code. For that reason, these requirements are presented as an appendix so that the adopting authority can exercise judgment in the adoption and application Of this section. This appendix would also be useful for those local and state jurisdictions that are specifically focused on ensuring the safety Of existing ambulatory care facilities by providing minimum criteria that could be used to bring Older facilities into compliance with the current standards at the discretion Of the adopting jurisdiction. The technical requirements are based on the current California Building Code language, which is consistent with the overall concept of the current federal requirements.

ICCc0dedevelopmentnote: Code change proposalstothis appendix will be considered bythe IFC Code Development Committee during the 2024 (Group A) Code Development Cycle.

SECTION KIOI—GENERAL

KIOI.I Scope. The provisions of this chapter shall apply to existing buildings containing ambulatory care facilities in addition to the requirements of Chapter Il. Where the provisions of this chapter conflict with either the construction requirements in Chapter Il or the construction requirements that applied at the time of construction, the most restrictive provision shall apply.

K101.2 Intent. The intent of this appendix is to provide a minimum degree of fire and life safety to persons occupying and existing buildings containing ambulatory care facilities where such buildings do not comply with the minimum requirements of the California Building Code.

SECTION K102—FIRE SAFETY REQUIREMENTS FOR EXISTING AMBULATORY CARE FACILITIES

K102.1 Separation. Ambulatory care facilities where the potential exists for four or more care recipients to be incapable of self-preservation at any time, whether rendered incapable by staff or staff has accepted responsibility for a care recipient already incapable, shall be separated from adjacent spaces, corridors or tenants with a fire partition installed in accordance with Section 708 of the California Building Code.

K102.2 Smoke compartments. Where the aggregate area of one or more ambulatory care facilities is greater than 10,000 square feet (929 m^2) on one story, the story shall be provided with a smoke barrier to subdivide the story into not fewer than two smoke compartments. The area of any one such smoke compartment shall be not greater than 22,500 square feet (2092 m^2). The travel distance from any point in a smoke compartment to a smoke barrier door shall be not greater than 200 feet (60 960 mm). The smoke barrier shall be installed in accordance with Section 709 of the California Building Code with the exception that smoke barriers shall be continuous from an outside wall to an outside wall, a floor to a floor, or from a smoke barrier to a smoke barrier or a combination thereof.

K102.2.1 Refuge area. Not less than 30 net square feet (2.8 m^2) for each non ambulatory care recipient shall be provided within the aggregate area of corridors, care recipient rooms, treatment rooms, lounge or dining areas and other low-hazard areas within each smoke compartment. Each occupant of an ambulatory care facility shall be provided with access to a refuge area without passing through or utilizing adjacent tenant spaces.

K102.2.2 Smoke barriers. Smoke barriers shall be constructed in accordance with Sections 422 and 709 ofthe California Building Code.

Exceptions:

I. Smoke barriers shall be permitted to terminate at an atrium enclosure in accordance with Section 404.6 of the California Building Code.

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to Ag—t with ICC. No by third Single user copying and networking ANY UNAUIYORIZED

. RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License
arther reproduction, no further reproductions by any third party, or distribution authorized. Single user copying and networking

REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

2. Smoke barriers shall be continuous from an outside wall to an outside wall, a floor to a floor, a smoke barrier to a smoke barrier or a combination thereof.

K102.2.3 Opening protectives. Openings in smoke barriers shall be protected in accordance with Section 716 of the California Building Code. Opening protectives shall have a minimum fire protection rating of 1/3 hour.

Exception: Existing wired glass vision panels in doors shall be permitted to remain.

K102.2.4 Penetrations. Penetrations of smoke barriers shall comply with the California Building Code. Exception: Approved existing materials and methods of construction.

K102.2.5 Joints. Joints made in or between smoke barriers shall comply with the California Building Code. Exception: Approved existing materials and methods of construction.

INTERNATIONAL CODE COUNCIL
2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
. RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user,copying and netw
Ag—t with ICC. No by third Single user,copying and networking ANY UNAUIYORIZED
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

K102.2.6 Duct and air transfer openings. Penetrations in a smoke barrier by duct and air-transfer openings shall comply with Section 717 of the California Building Code.

Exception: Where existing duct and air-transfer openings in smoke barriers exist without smoke dampers, they shall be permitted to remain. Any changes to existing smoke dampers shall be submitted for review and approved in accordance with Section 717 of the California Building Code.

K102.2.7 Independent egress. A means of egress shall be provided from each smoke compartment created by smoke barriers without having to return through the smoke compartment from which means of egress originated.

K102.3 Automatic sprinkler system. An automatic sprinkler system shall be provided in ambulatory care facilities where required by Sections K102.3.1 and K102.3.2.

K102.3.1 Types 11B, 111B and VB construction. An automatic sprinkler system shall be provided throughout the entire floor containing an ambulatory care facility in Type 11B, 111B and VB construction where either of the following conditions exist at any time:

I. Four or more care recipients are rendered incapable of self-preservation.

2. One or more care recipients that are rendered incapable of self-preservation are located at other than the level of exit discharge serving such a facility.

In buildings where ambulatory care is provided on levels other than the level of exit discharge, an automatic sprinkler system shall be installed throughout the entire floor where such care is provided, all floors below and all floors between the level of ambulatory care and the nearest level of exit discharge, including the level of exit discharge.

K102.3.2 High-rise buildings. In high-rise buildings containing ambulatory care facilities, an automatic sprinkler system shall be provided throughout the entire floor containing an ambulatory care facility where either of the following conditions exist at any time:

I. Four or more care recipients are rendered incapable of self-preservation.

2. One or more care recipients that are rendered incapable of self-preservation are located at other than the level of exit discharge serving such a facility.

In buildings where ambulatory care is provided on levels other than the level of exit discharge, an automatic sprinkler system shall be installed throughout the entire floor where such care is provided, all floors below and all floors between the level of ambulatory care and the nearest level of exit discharge, including the level of exit discharge.

K102.4 Automatic fire alarm system. Fire areas containing ambulatory care facilities shall be provided with an electronically supervised automatic smoke detection system installed within the ambulatory care facility and in public use areas outside of tenant spaces, including public corridors and elevator lobbies.

Exception: Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, provided that the occupant notification appliances will activate throughout the notification zones upon sprinkler waterflow.

K102.5 Waste and linen chutes. In ambulatory care facilities, existing waste and linen chutes shall comply with Sections K102.5.I through K102.5.5.

K102.5.1 Enclosures. Chutes shall be enclosed with I- hour fire-resistance-rated construction. Opening protectives shall be in accordance with Section 716 of the California Building Code and have a fire protection rating of not less than I hour.

K102.5.2 Chute intakes. Chute intakes shall comply with Section K102.5.2.I or K102.5.2.2.

K102.5.2.1 Chute intake direct from corridor. Where intake to chutes is direct from a corridor, the intake opening shall be equipped with a chute-intake door in accordance with Section 716 of the California Building Code and have a fire protection rating of not less than I hour.

K102.5.2.2 Chute intake via a chute-intake room. Where the intake to chutes is accessed through a chute-intake room, the room shall be enclosed with I-hour fire-resistance-rated construction. Opening protectives for the intake room shall be in accordance with Section 716 of the California Building Code and have a fire protection rating of not less than $^{3}/4$ hour. Opening protectives for the chute enclosure shall be in accordance with Section K102.5.I.

K102.5.3 Automatic sprinkler system. Chutes shall be equipped with an approved automatic sprinkler system in accordance with Section 903.2.11.2.

INTERNATIONAL CODE COUNCIL
2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
Ag—t with ICC. No
. RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user copying and networking
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

K102.5.4 Chute discharge rooms. Chutes shall terminate in a dedicated chute discharge room. Such rooms shall be separated from the remainder of the building by not less than I-hour fire-resistance-rated construction. Opening protectives shall be in accordance with Section 716 of the California Building Code and have a fire protection rating of not less than I hour.

K102S.5 Chute discharge protection. Chute discharges shall be equipped with a self-closing or automatic-closing opening protective in accordance with Section 716 of the California Building Code and have a fire protection rating of not less than I hour.

SECTION K103—INCIDENTAL USES IN EXISTING AMBULATORY CARE FACILITIES

K103.1 General. Incidental uses associated with and located within existing ambulatory care facilities required to be separated by Section 422 in the California Building Code, and that generally pose a greater level of risk to such occupancies, shall comply with the

provisions of Sections K103.2 through K103.4.2.I. Incidental uses in ambulatory care facilities required to be separated by Section 422 of the California Building Code are limited to those listed in Table K103.I.

TABLE K103.1—1NCIDENTAL USES IN EXISTING AMBULATORY CARE FACILITIES

ROOM OR AREA	SEPARATION AND/OR PROTECTION
Furnace room where any piece of equipment is over 400,000 Btu per hour input	1 hour or provide automatic sprinkler system
Rooms with boilers where the largest piece of equipment is over 15 psi and 10 horsepower	1 hour or provide automatic sprinkler system
Refrigerant machinery room	1 hour or provide automatic sprinkler system
Hydrogen fuel gas rooms, not classified as Group H	1 hour in ambulatory care facilities
Incinerator rooms	2 hours and provide automatic sprinkler system
Laboratories not classified as Group H	1 hour or provide automatic sprinkler system
Laundry rooms over 100 square feet	1 hour or provide automatic sprinkler system
Waste and linen collection rooms with containers with total volume of 10 cubic feet or greater	1 hour or provide automatic sprinkler system
Storage rooms greater than 100 square feet	1 hour or provide automatic sprinkler system
Stationary storage battery systems having a liquid electrolyte capacity of more than 50 gallons for flooded lead-acid, nickel cadmium or VRLA, or more than 1,000 pounds for lithium-ion and lithium metal polymer used for facility standby power, emergency power or uninterruptible power supplies	1 hour in ambulatory care facilities
For S': 1 square foot = 0.0929 m^a, 1 pound per square inch (psi) = 6.9 kpa, 1 British thermal unit (Btu) per hour = 0.293 watts, 1 horsepower = 746 watts, 1 gallon —3.785 L.	

K103.2 Occupancy classification. Incidental uses shall not be individually classified in accordance with Section 302.1 of the California Building Code. Incidental uses shall be included in the building occupancies in which they are located.

K103.3 Area limitations. Incidental uses shall not occupy more than 10 percent of the building area of the story in which they are located.

K103.4 Separation and protection. The incidental uses listed in Table K103.I shall be separated from the remainder of the building or equipped with an automatic sprinkler system, or both, in accordance with the provisions of that table.

K103.4.1 Separation. Where Table K103.I specifies a fire-resistance-rated separation, the incidental uses shall be separated from the remainder of the building in accordance with Section 509.4.1 of the California Building Code.

K103.4.2 Protection. Where Table K103.I permits an automatic sprinkler system without a fire-resistance-rated separation, the incidental uses shall be separated from the remainder of the building by construction capable of resisting the passage of smoke in accordance with Section 509.4.2 of the California Building Code.

K103.4.2.1 Protection limitation. Except as otherwise specified in Table K103.1 for certain incidental uses, where an automatic sprinkler system is provided in accordance with Table K103.I, only the space occupied by the incidental use need be equipped with such a system.

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
Ag—t with ICC. No , RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user,copying and networking
by third ANY UNAUIYORIZED
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

K104.1 Size of doors. The required capacity of each door opening shall be sufficient for the occupant load thereof and shall provide a minimum clear opening width of 28 inches (711 mm). Where this section requires a minimum clear opening width of 28 inches (711 mm) and a door opening includes two door leaves without a mullion, one leaf shall provide a minimum clear opening width of 28 inches (711 mm). In ambulatory care facilities, doors serving as means of egress from patient treatment rooms shall provide a minimum clear opening width of 32 inches (813 mm). The maximum width of a swinging door leaf shall be 48 inches (1219 mm) nominal. The minimum clear opening height of doors shall be 80 inches (2032 mm).

Exceptions:

I. Door openings to storage closets less than 10 square feet (0.93 m^2) in area shall not be limited by the minimum clear opening width.

2. The width of door leaves in revolving doors that comply with Section 1010.3.1 shall not be limited.

3. The maximum width of door leaves in revolving doors that comply with Section 10103.2 shall not be limited.

4. Exit access doors serving a room not larger than 70 square feet (6.5 m^2) shall have a door leaf width of not less than 24 inches (610 mm).

5. Door closers and door stops shall be permitted to be 78 inches (1980 mm) minimum above the floor.

K104.2 Corridor and aisle width. Corridor width shall be as determined in Section 1005.1 and this section. The minimum width of corridors and aisles that serve gurney traffic in areas where patients receive care that causes them to be incapable of self-preservation shall be not less than 72 inches (1829 mm).

K104.3 Existing elevators. Existing elevators, escalators, dumbwaiters and moving walks shall comply with the requirements of Sections K104.3.1 and K104.3.2.

K104.3.1 Elevators, escalators, dumbwaiters and moving walks. Existing elevators, escalators, dumbwaiters and moving walks in ambulatory care facilities required to be separated by Section 422 of the California Building Code shall comply with California Code of Regulations, Title 8, Division I, Chapter 4, Subchapter 6, Elevator Safety Orders.

K104.3.2 Elevator emergency operation. Existing elevators with a travel distance of 25 feet (7620 mm) or more above or below the main floor or other level of a building and intended to serve the needs of emergency personnel for firefighting or rescue purposes shall be provided with emergency operation in accordance with California Code ofRegulations, Title 8, Division I, Chapter 4, Subchapter 6, Elevator Safety Orders.

SECTION K105—REFERENCED STANDARDS

K105.1 General. See Table K105.1 for standards that are referenced in various sections of this appendix. Standards are listed by the standard identification with the effective date, standard title, and the section or sections of this appendix that reference the standard.

TABLE K105.1—REFERENCED STANDARDS

STANDARD ACRONYM	STANDARD NAME	SECTIONS HEREIN REFERENCED
CBC—25	California Building Code	K101.2, K102.1, K102.2, K102.2.2, 1<102.2.3, K102.2.4, K102.2.5, K102.2.6, K102.5.1, K102.5.2.1, K102.5.2.2, K102.5.4, K102.5.5, K103.1, K103.2, K103.4.1, K103.4.2, K104.3.1
ASMEA17.3—2023	California Code of Regulations, Title 8, Division 1, Chapter 4, Subchapter 6, Elevator Safety Orders	K104.3.1, K104.3.2

INTERNATIONAL CODE COUNCIL
2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
Ag—t with ICC. No
. RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License
arther reproduction, no further reproductions by any third party, or distribution authorized. Single user copying and networking by third ANY UNAUIYORIZED
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

License
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
, RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License
Ag—t with ICC. No rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and networking ANY UNAUIYORIZED
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT AND THE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

CALIFORNIA FIRE CODE - MATRIX ADOPTION TABLE

APPENDIX M - HIGH-RISE BUILDINGS—RETROACTIVE AUTOMATIC SPRINKLER REQUIREMENT

(Matrix Adoption Tables are nonregulatory, intended only as an aid to the code user.
See Chapter I for state agency authority and building applications.)

(Not adopted by the State Fire Marshal)

Adopting Agency		CG	SFM	HCD			DSA		OSHPD					BSCC	DPH	AGR	DWR	CEC	CA	SL	SLC
			T-24 T-19*	i	2	IIAC	AC	SS	1	IR 2	3	4	S								
Adopt Entire Chapter amended (amended sections listed below)																					
Adopt only those sections that are listed below																					
[Califomia Code Of Regulations, Title 19, Division 1]																					
Chapter / Section																					

- The California Code ofRegulations (CCR), Title 19, Division 1 provisions that are found in the California Fire Code are a reprint from the current CCR, Title 19, Division 1 text for the code user's convenience only. The scope, applicability and appeals procedures Of CCR, Title 19, Division I remain the same.

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
Ag—t with ICC. No by third Single user copyingand networking ANY UNAUIYORIZED License
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

, RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netwi

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
Ag—t with ICC. No by third Single user copying and networking ANY UNAUIYORIZED

HIGH-RISE BUILDINGS—RETROACTIVE AUTOMATIC SPRINKLER REQUIREMENTS

The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance or legislation of the jurisdiction.

user notes:

About this appendix: Appendix M was created with the intent to provide an option for adoption by jurisdictions that choose to require existing high-rise buildings to be retrofitted with automatic sprinklers. Modern fire and building codes require complete automatic fire sprinkler protection and a variety Of Other safety features in new high-rise construction. Many Older high-rise buildings lack automatic sprinkler protection and Other basic fire protection features necessary to protect the occupants, emergency responders and the structure itself. Without complete automatic sprinkler protection, fire departments cannot provide the level Of protection that high-rise buildings demand. Existing high-rise buildings that are not protected with automatic sprinklers represent a significant hazard to occupants and firefighters, and can significantly impact a community's infrastructure and economic viability in the event Of a fire loss.

ICCcodedeveLopmentnote: Code change proposalstothis appendix will be considered bythe IFC Code Development Committee duringthe2024 (Group A) Code Development Cycle.

SECTION MIOI—SCOPE

MIOI.I Scope. An automatic sprinkler system shall be installed in all existing high-rise buildings in accordance with the requirements and compliance schedule of this appendix.

SECTION M102—WHERE REQUIRED

M102.1 High-rise buildings. An automatic sprinkler system installed in accordance with Section 903.3.1.1 shall be provided throughout existing high-rise buildings.

Exceptions:

I. Airport traffic control towers.
2. Open parking structures.
3. Group U occupancies.
4. Occupancies in Group F-2.

SECTION M103—COMPLIANCE

M103.1 Compliance schedule. Building owners shall file a compliance schedule with the fire code official not later than 365 days after receipt of a written notice of violation. The compliance schedule shall not exceed 12 years for an automatic sprinkler system retrofit.

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
Ag—t with ICC. No by third Single user copyingand networking ANY UNAUIYORIZED License
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

, RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netw

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
Ag—t with ICC. No by third Single user copying and networking ANY UNAUIYORIZED

CALIFORNIA FIRE CODE - MATRIX ADOPTION TABLE

APPENDIX N - INDOOR TRADE SHOWS AND EXHIBITIONS

(Matrix Adoption Tables are nonregulatory, intended only as an aid to the code user.
See Chapter I for state agency authority and building applications.)

(Not adopted by the State Fire Marshal)

Adopting Agency		CG	SFM	HCD			DSA		OSHPD					BSCC	DPH	AGR	DWR	CEC	CA	SL	SLC
			T-24 T-19*	i	2	IIAC	AC	SS	1	IR 2	3	4	S								
Adopt Entire Chapter amended (amended sections listed below)																					
Adopt only those sections that are listed below																					
[Califomia Code Of Regulations, Title 19, Division 1]																					
Chapter / Section																					

- The California Code ofRegulations (CCR), Title 19, Division 1 provisions that are found in the California Fire Code are a reprint from the current CCR, Title 19, Division 1 text for the code user's convenience only. The scope, applicability and appeals procedures Of CCR, Title 19, Division I remain the same.

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
Ag—t with ICC. No by third Single user copyingand networking ANY UNAUIYORIZED License
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

, RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netwe

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
Ag—t with ICC. No by third Single user copying and networking ANY UNAUIYORIZED

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
Ag—t with ICC. No by third Single user copyingand networking ANY UNAUIYORIZED License
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

APPENDIX

N

INDOOR TRADE SHOWS AND EXHIBITIONS

The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance or legislation of the jurisdiction.

User notes: user notes:

About this appendix: Appendix N was created to address the hazards that are associated with larger, more complex trade shows and exhibitions. Although many Of these requirements are already included in various locations in this code, some Of the more important items, such as requirements for covered booths and multiple-level booths, are not. The intent is to have the requirements covering these events in a single location with pointers to Other locations within this code, which makes it easier for those organizing exhibitions and individual exhibitors who are unfamiliar with the fire code to locate the requirements that are applicable to them.

ICCc0dedeveloprnentnote: Code change proposals to this appendix will be considered bythe IFC Code Development Committee during the2024 (Group A) Code Development Cycle.

SECTION NIOI—GENERAL

NIOI.I Scope. Indoor trade shows and exhibitions with temporary vendor displays or booths within any indoor occupancy classification shall be in accordance with this appendix and all other applicable requirements of this code.

Compliance with this appendix is not required where Section NIOI.I.I or NIOI.I.2 is applicable.

NIOI.I.I Non sprinklered buildings. In a building that is not equipped throughout with an automatic sprinkler system, the aggregate exhibit area must be less than 1,500 square feet (139 m^2) of floor area and meet both of the following conditions: I. The exhibit area does not include any covered or multiple-level exhibits or booths.

2. Not fewer than two remote exits or exit access doors in compliance with Chapter 10 are provided.

N101.1.2 Sprinklered buildings. In a building that is equipped throughout with an automatic sprinkler system with a minimum design density of ordinary hazard Group I, the aggregate exhibit area must be less than 4,500 square feet (418 m^2) of floor area and meet both of the following conditions:

I. The exhibit area does not include any covered or multiple-level exhibits or booths.

2. Not fewer than two remote exits or exit access doors in compliance with Chapter 10 are provided.

N101.2 Permit required. An operational permit for trade shows and exhibitions shall be required as set forth in Section 105.5.15. N101.3 Application. A permit application for a trade show or exhibition shall be submitted to the fire code official prior to the start of the event in a time frame established by the jurisdiction. The application shall include documentation that identifies all of the following:

I. The means of egress.

2. The locations and widths of exits and aisles.
3. The locations of exit signs.
4. The total square footage (square meters) of spaces.
5. The location and arrangement of all booths and cooking equipment.
6. The location of all fire protection equipment.
7. The type and location of any heating and electrical equipment, where applicable.
8. The location of any covered or multiple-level booths.
9. Construction documents for any covered or multiple-level booths.
10. The storage locations and quantities of any highly combustible goods. Il. The location and type of any vehicle displays, where applicable.

SECTION N102—DEFINITIONS

N102.1 Definitions. For the purpose of this appendix, certain terms are defined as follows:

INTERNATIONAL CODE COUNCIL Ag—t with ICC. No 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to . RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License arther reproduction, no further reproductions by any third party, or distribution authorized. Single user copying and networking by third ANY UNAUIYORIZED REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

COOKING. Heating food products to a temperature of 145^0 F (63^0C) or higher by baking, braising, boiling, frying or grilling.

COVERED BOOTH. An exhibit that has an obstruction placed over the exhibit above floor level that resembles a roof, canopy, tent or other obstruction, other than vertical signs or banners.

MULTIPLE-LEVEL BOOTH. An exhibit that has a second level or tier constructed on top of the exhibit or portion of the exhibit that is open to the public, or includes a live load above the exhibit area floor level.

APPENDIX N—INDOOR TRADE SHOWS AND EXHIBITIONS

SECTION N103—PUBLIC SAFETY FOR EVENTS

N103.1 Fire safety and evacuation plan. A fire safety and evacuation plan shall be provided in accordance with Section 404.2.

Exception: Where the fire code official determines that the nature of the exhibition, display or the activities therein does not pose an increased hazard to public safety.

N103.2 Fire watch personnel. Where, in the opinion of the fire code official, it is essential for public safety in a trade show or exhibition, either because of the number or persons present or because of the nature of the performance, exhibition, display or activity, the owner or owner's authorized agent shall provide one or more fire watch personnel in accordance with Section 403.11.1.

N103.3 Crowd managers. Where events involve a gathering of more than 1,000 people, trained crowd managers shall be provided in accordance with Section 403.11.3.

SECTION N104—INTERIOR FINISH AND DECORATIVE MATERIALS

N104.1 General. Interior finish, interior trim, furniture, furnishings and decorative materials, including decorative vegetation, used in exhibition areas shall comply with the requirements of this section and Chapter 8.

N104.2 Interior wall and ceiling finish. The materials used for interior wall and ceiling finish of exhibit booths and displays in exhibition areas shall comply with one of the following:

I. Where the building is not equipped throughout with an automatic sprinkler system in accordance with Section 90331.1, the wall and ceiling finish materials are required to be Class A in accordance with Section 803.

2. Where the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, the wall and ceiling finish materials are required to be not less than Class B in accordance with Section 803.

SECTION N105—MULTIPLE-LEVEL BOOTHS

N105.1 Construction documents. Construction documents for all multiple-level booths shall be stamped by a registered design professional and shall be submitted with the permit application to the fire code official or the building code official, as appropriate.

N105.2 Structural design. Multiple-level booths shall be designed and constructed in accordance with Chapter 16 of the California Building Code.

N105.3 Means of egress. Upper levels of multiple-level booths with an occupant load greater than 10 persons shall have not fewer than two exits or exit access that are separated in accordance with Section 1007.1.1.

N105.4 Automatic sprinkler systems. An approved automatic sprinkler system in accordance with Section 903.3.1.1 shall be provided in multiple-level booths exceeding 400 square feet (37.2 rn^2) in floor area per level.

N105.5 Inspection. Inspection to verify that multiple-level booths are constructed in accordance with the construction documents and structural design details required by this section shall be approved by the building code official.

N105.6 Fire alarm and detection. Each multiple-level booth with a floor area exceeding 120 square feet (11.1 m^2) on any level shall be provided with an approved fire alarm system in accordance with Section 907.2.

INTERNATIONAL CODE COUNCIL
2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
. RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user copying and networking
Ag—t with ICC. No by third Single user copying and networking ANY UNAUIYORIZED
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

SECTION N106—COVERED BOOTHS N106.1 Automatic sprinkler systems. An approved automatic sprinkler system in accordance with Section 903.3.1.1 shall be provided in covered booths exceeding 100 square feet (9.3 m^2) in floor area per level.

N106.2 Fire alarm and detection. Each covered booth with a floor area exceeding 120 square feet (11.1 m^2) on any level shall be provided with an approved fire alarm system in accordance with Section 907.2.

SECTION N107—DISPLAY AND STORAGE OF HAZARDOUS AND COMBUSTIBLE MATERIALS

N107.1 Hazardous materials. The display of hazardous materials shall comply with Section 314 and Chapters 50 through 67. The storage of hazardous materials in indoor trade shows and exhibition areas shall be prohibited.

N107.1.1 Display near exit. The display of hazardous materials within 5 feet (1524 mm) of an exit shall be prohibited.

N107.2 Storage of combustible materials. Storage of combustible materials shall comply with Section 315.

N107.3 Vehicles. The display of liquid- or gas-fueled vehicles, boats or other motor craft in indoor trade shows and exhibition areas shall comply with Sections 314.4 and N107.3.1 through N 107.3.3.

N107.3.1 Batteries in vehicles. Vehicle batteries shall be rendered inoperable. Batteries in liquid- and gas-fueled vehicles shall be disconnected. Batteries in electric vehicles shall be rendered inoperable by the removal of fuses or other approved methods but shall not be required to be disconnected.

N107.3.2 Vehicle fuel. Vehicle fuel shall comply with Sections N107.3.2.I through N107.3.2.4.

N107.3.2.1 Fueling within the structure. Vehicles shall not be fueled or defueled within the structure.

N107.3.2.2 Vehicle fuel tanks. Vehicle fuel tanks shall contain not more than one quarter of the tank capacity or 5 gallons (18.93 L) of fuel, whichever is less.

N107.3.2.3 Vehicle fuel systems. Vehicle fuel systems shall be inspected for leaks prior to the vehicle being brought into the structure.

INTERNATIONAL CODE COUNCIL Ag—t with 2025 ICC. ICC. No ALL RIGHTS RESERVED. by Br"n by third to (Qty Single user Order copyingand networking oa Jul 11.2023 ANY PM UNAUIYORIZED(CDT)

N107.3.2.4 Vehicle fuel tank openings. Vehicle fuel tank openings shall be locked and sealed to prevent the escape of vapors.

N107.3.3 Obstruction by vehicles. Vehicles shall not be located in such a manner that they obstruct a means of egress.

N107.3.4 Gas-powered vehicles. Compressed natural gas (CNG), liquefied petroleum gas (LPG) or hydrogen-powered vehicles present in indoor trade shows and exhibition areas shall comply with Sections N107.3.4.I through N107.3.4.3.

N107.3.4.1 Shutoff valves. Shutoff valves shall be closed and the engine shall be operated until it stops. Valves shall remain closed until the vehicle is removed.

N107.3.4.2 Battery hot lead. The hot lead of the battery shall be disconnected.

N107.3.4.3 Dual-fuel vehicles equipped to operate on gasoline. Dual-fuel vehicles equipped to operate on gasoline as well as on CNG, LPG or hydrogen shall comply with Section 3108.14.

N107.3.5 Competitions or demonstrations. Competitions or demonstrations using any type of vehicle shall comply with Section 3108.14.5.

N107.4 Fueled equipment other than vehicles. Fueled equipment other than vehicles shall comply with Section 313.

N107.5 LP-gas containers. Liquefied petroleum (LP) gas containers shall comply with Sections N 107.5.1 through N107.5.5 and Chapter 61.

N107.5.1 LP-gas containers exceeding 12 pounds (5 kg) of water capacity. The use of LP-gas containers exceeding 12 pounds (5 kg) of water capacity shall be prohibited.

N107.5.2 Where more than one LP-gas container is present in the same area. Where more than one LP-gas container is present in the same area, cylinders shall be separated from each other by a minimum of 20 feet (6096 mm).

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
Ag—t with ICC. No . RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user copying and networking by third ANY UNAUIYORIZED
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

N107.5.3 Equipment for LP-gas containers. Equipment for LP-gas containers, including tanks, piping, hoses, fittings, valves, tubing and other related components, shall be approved and shall comply with Chapter 61 and with the applicable requirements of the International Fuel Gas Code.

N107.5.4 Securing of LP-gas containers. Portable LP-gas containers shall be securely fastened in place to prevent unauthorized movement.

N107.5.5 Spare LP-gas containers. Spare LP-gas containers not connected to an approved appliance shall be stored in a location and manner approved by the fire code official.

N107.6 Cooking and open-flame devices. All cooking equipment and any open-flame devices shall comply with the requirements of Section 308 of this code and with Chapter 5 of the California Mechanical Code. Cooking equipment shall be separated from combustible material display or storage by a horizontal distance of not less than 5 feet (1524 mm).

SECTION N108—MEANS OF EGRESS

N108.1 Means of egress from the indoor trade show or exhibition area. Means of egress from the indoor trade show or exhibition area shall comply with Chapter 10 and with Sections N108.2 and N108.3.

N108.2 Design of means of egress. The design of means of egress shall take into consideration the exhibit layout and the anticipated crowd movement during the event.

N108.3 Aisles and corridors. Aisles and corridors within the exhibit area shall be kept free of obstructions when the public is present. Storage of any kind in aisles or corridors within the exhibit area is not permitted.

SECTION N109—REFERENCED STANDARDS

N109.1 General. See Table N109.I for standards that are referenced in various sections of this appendix. Standards are listed by the standard identification with the effective date, standard title, and the section or sections of this appendix that reference the standard.

TABLE N109.1—REFERENCED STANDARDS

STANDARD ACRONYM	STANDARD NAME	SECTIONS HEREIN REFERENCED
CBC—25	California Building Code	N105.2
IFGC—24	International Fuel Gas Code	N107.5.3
CMC—25	California Mechanical Code	N107.6

INTERNATIONAL CODE COUNCIL

2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to

. RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License

Ag—t with ICC. No arther reproduction, no further reproductions by any third party, or distribution authorized. Single user copying and networking by third ANY UNAUIYORIZED

REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
Ag—t with ICC. No by third Single user copying and networking ANY UNAUIYORIZED

. RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netw

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
Ag—t with ICC. No by third Single user copyingand networking ANY UNAUIYORIZED License
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user only, copying and netwo

INTERNATIONAL CODE COUNCIL Ag—t with 2025ICC. ALL networking ICC. No oa Jul 11.2023 ANY PM UNAUIYORIZED(CDT) to

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
Ag—t with ICC. No by third Single user copying and networking ANY UNAUIYORIZED
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

CALIFORNIA FIRE CODE - MATRIX ADOPTION TABLE

APPENDIX P - TEMPORARY HAUNTED HOUSES, GHOST WALKS AND SIMILAR AMUSEMENT USES

(Matrix Adoption Tables are nonregulatory, intended only as an aid to the code user.
See Chapter I for state agency authority and building applications.)

(Not adopted by the State Fire Marshal)

Adopting Agency		BSCCG	SFM		HCD			DSA		OSHPD						BSCC	DPH	AGR	DWR	CEC	CA	SL	SLC
			T-24	T-19•	i	2	IIAC	AC	SS	1	IR	2	3	4	5								
Adopt Entire Chapter																							
Adopt Entire Chapter as amended (amended sections listed below)																							
Adopt only those sections that are listed below																							
[Califomia Code Of Regulations, Title 19, Division 1]																							
Chapter / Section																							

• The California Code ofRegulations (CCR), Title 19, Division 1 provisions that are found in the California Fire Code are a reprint from the current CCR, Title 19, Division 1 text for the code user's convenience only. The scope, applicability and appeals procedures Of CCR, Title 19, Division I remain the same.

INTERNATIONAL CODE COUNCIL
Ag—t with ICC. No
2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
. RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License
arther reproduction, no further reproductions by any third party, or distribution authorized. Single user,noviewand networking ANY UNAUIYORIZED
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

APPENDIX P

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
Ag—t with ICC. No by third Single user copying and networking ANY UNAUIYORIZED

TEMPORARY HAUNTED HOUSES, GHOST WALKS AND SIMILAR AMUSEMENT USES

The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance.

SECTION PIOI—GENERAL

PIOI.I Scope. These regulations shall apply to temporary haunted houses, ghost walks or similar amusement uses, where decorative materials and confusing sounds and/or visual effects are present and shall be in accordance with this Appendix.

P101.2 Permits. An operational permit shall be required for haunted houses, ghost walks or similar amusement uses in accordance with Appendix PIOI.2.

P101.2.1 Permit documents. The permit application shall include a dimensioned site plan and floor plan. A site plan showing the following:

I. The proximity of the event building(s) to other structures or hazardous areas.

2. The path of travel from the event building or area to the public way.

3. The location of exterior evacuation assembly points.

A floor plan showing the following:

1. Dimensions of the area being used (include total square footage, width and types of exits, aisles or interior exit pathways, etc.).

2. The path of travel shall include the layout of any mazes, mirrors or other display items that may confuse the egress paths.

3. A brief description of what will be depicted in each room or area along the walk or course, including the type of special effects to be utilized.

4. Location of exits, exit signs and emergency lighting.

5. Location of electrical panel(s) and light switches.

6. Identification of what the normal or prior use of the structure(s) being used is (i.e., auditorium, school, church, etc.).

7. Accessible egress routes.

8. When required, areas ofrefuge.

9. When required by Section 907.212, fire alarm panel location, manual fire alarm boxes and horn/strobe locations.

10. Portable fire extinguisher locations.

11. The location and fuel capacity ofall generators;

SECTION P102—DEFIMTIONS

P102.1 DECORATIVE MATERIALS. All materials used for decorative, acoustical or other effect (such as curtains, draperies, fabrics, streamers and surface coverings) and all other materials utilized for decorative effect (such as batting, cloth, cotton, hay stalks, straw, vines, leaves, trees, moss and similar items), including foam plastics and other materials containing foam plastics.

P102.2 HAUNTED HOUSE. A temporary building or structure, or portion thereof, which contains a system that transports passengers or provides a walkway through a course so arranged that the means of egresses are not apparent due to theatrical distractions, not visible due to low illumination, are disguised or are not readily available due to the method of transportation through the building or structure.

P102.3 GHOST WALKS. Similar to haunted houses and may include both indoor and outdoor areas where the means of egresses are similarly not readily identifiable.

SECTION P103—GENERAL REQUIREMENTS

P103.1 Allowable structures. Haunted houses, ghost walks and similar amusement uses shall only be located in structures that comply with the provisions for Special Amusement Areas in accordance with the California Building Code.

P103.2 Tents or membrane structures. Tents and membrane structures may be used when in compliance with all applicable requirements of this regulation and when the total floor area ofthe tent is less than 1,000 square feet and the travel distance to an exit from any location is less than 50 feet.

P103.3 Fire evacuation plans. A fire safety and evacuation plan that complies with Section 404 of this code shall be submitted.

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
Ag—t with ICC. No . RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user copy, copying and netw by third Single user copying and networking ANY UNAUIYORIZED
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

P103.4 Staffing. The event shall be adequately staffed by qualified person(s) to control the occupant load and assist patrons in exiting should an evacuation become necessary. Staffing level shall be determined upon review of plans and may be increased at the discretion of the Fire Code Official.

P103.5 Occupant load. Maximum occupant load shall be in accordance with Chapter 10, Table 10041.1. A sign stating maximum occupancy shall be posted in a visible location near the entrance. The attendant(s) shall control the flow of patrons so as not to exceed this limit,

INTERNATIONAL CODE COUNCIL
2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
Ag—t with ICC. No
. RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user,copying and net
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

P103.6 Exits. Exiting shall be in accordance with Chapter 10 and this section.

1. Two exits shall be provided from each room with an occupant load of 50 or more. Required exit doors shall swing in the direction of egress.
2. Illuminated exit signs shall be provided at each exit serving an occupant load of 50 or more.
3. Exit doors serving an occupant load of50 or more shall not be provided with a latch or lock unless it is panic hardware.
4. When tents or membrane structures are approved for use, curtains shall not be allowed to cover the exits.
5. Emergency lighting shall be provided in exit pathways.
6. Exhibits and decorative materials shall not obstruct, confuse or obscure exits, exit pathways, exit signs or emergency lights.
7. Additional exit pathway markings, such as low level exit signs and directional exit path markings, may be required.

P103.7 Fire protection. Haunted houses and ghost walks shall be provided with fire protection systems in accordance with Appendix PIE. 7.

Exception: When the total floor area of haunted houses or indoor portions of ghost walks are less than 1,000 square feet and the travel distance to an exit is less than 50 feet.

P103.7.1 Fire sprinkler protection. An automatic fire sprinkler system shall be required for haunted houses and indoor portions of ghost walks. Fire sprinkler systems shall be in accordance with Section 903.

P103.7.2 Fire detection systems. An approved automatic fire detection system shall be provided in accordance with Section 907.212, as required for amusement buildings.

P103.7.3 Alarm. Activation of any single smoke detector, the fire sprinkler system or other automatic fire detection device shall be in accordance with Section 907.2.12.1.

P103.7.4 Emergency voice alarm. Provide an emergency voice/alarm communication system in accordance with Section 907.2.12.3, as required for amusement buildings.

P103.7.5 Portable fire extinguishers. Fire extinguishers shall have a minimum 2A-IOB:C rating. Fire extinguishers shall be properly mounted and shall be visible and accessible at all times. Clearly identify locations with signs or reflective tape. Fire extinguishers shall be located within 50 offeet travel distance from anywhere in the building.

P103.8 Electrical. When required, a permit shall be obtained from the local building official.

P103.8.1 Extension cords. Extension cords shall be UL listed and shall be appropriate for the intended use.

P103.8.2 Power strips. Only UL listed power strips with overcurrent protection shall be used when the number of outlets provided is inadequate. Power strips shall be plugged directly into the outlet, and shall not be plugged into one another in series.

P103.8.3 String lighting. Manufacturer's installation guidelines shall be followed for the maximum allowable number ofstring lights that can be connected. When connecting string lights together, the total amperage of all string lights shall be calculated to ensure that they do not exceed the amperage for the extension cord and circuit.

P103.8.4 Protection. All extension cords and power strips shall be adequately protected from foot traffic.

P103.8.5 Portable generators. When portable generators are utilized, they shall be diesel fuel type and located a minimum of 20 feet away from all structures.

P103.9 Decorative materials. Interior wall, ceiling and floor finishes shall be Class A rated in accordance with the California Building Code.

P103.9.1 Flame retardant. All decorative materials shall be both inherently flame retardant and labeled as such, or shall be treated with a listed flame-retardant material. If the material is treated by the user, a container and receipt will serve as proof.

P103.9.2 Flame test. Testing shall be done in accordance with Section 803.5 of this code, as referenced from the California Code of Regulations, Title 19, Division I, Article 3, Section 3.21(a) and (b). Proof of testing shall be provided.

P103.9.3 Placement of decorative materials. Decorative materials, props and/or performer platforms shall not obstruct, confuse or obscure exits, exit signs, exit pathways, emergency lighting or any component of fire protection systems and equipment (i.e. fire extinguishers, fire alarm systems, fire sprinklers, etc.) inside or outside the building.

P103.10 Smoke generators. Use of smoke-generating equipment may be restricted if determined to be incompatible with smoke alarm(s). Care and consideration shall be used with respect to smoke generator and smoke alarm locations. Smoke generator and smoke alarm locations shall be approved by the fire department.

P103.11 Display of motor vehicles. Display of motor vehicles shall be in accordance with Section 3104.18 of this code.

P103.12 Inspections. A fire and life safety inspection shall be conducted by the fire department prior to the start of the event.

P103.13 Signs. "NO SMOKING" signs shall be conspicuously posted at the main entrance and throughout the exhibit.

License

REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

P103.14 Prohibited areas. Inside storage or use of flammable and/or combustible liquids, gases and solids shall be prohibited. Open flames shall be prohibited.

P103.15 Maintenance. Good housekeeping shall be maintained at all times throughout exhibit and exit pathways.

INTERNATIONAL CODE COUNCIL Ag—t with 2025 ICC. ICC. No ALL RIGHTS RESERVED. by Br"n by third to (Qty Single user Order copyingand networking oa Jul 11.2023 ANY PM UNAUIYORIZED(CDT)

INTERNATIONAL CODE COUNCIL 2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to
Ag—t with ICC. No . RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License
rther reproduction, no further reproductions by any third party, or distribution authorized. Single user copying and networking ANY UNAUIYORIZED
REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER

INTERNATIONAL CODE COUNCIL

2025 ICC. ALL RIGHTS RESERVED. by Br"n (Qty Order oa Jul 11.2023 PM (CDT) to

Ag—t with ICC. No , RIGHTS RESERVED. Accessed by Brian Granados (bgranados@oaklandca.gov), (City of Oakland) Order Number #102039239 License

rther reproduction, no further reproductions by any third party, or distribution authorized. Single user,copying and networking ANY UNAUIYORIZED

REPRODUCTION OR DISTRIBUTION IS A VIOLATION OF THE FEDERAL COPYRIGHT ACT ANDTHE LICENSE AG AND SUBJECr TO CIVIL CRIMINAL THEREUNDER