ORDINANCE NO. 1
SERIES OF 2026

AN ORDINANCE OF THE BOARD OF TRUSTEES OF THE TOWN OF CARBONDALE, COLORADO, AMENDING CHAPTER 18 OF THE MUNICIPAL CODE TO AMEND THE TOWN'S FIRE CODE AND ENACT THE COLORADO WILDFIRE RESILIENCY CODE

WHEREAS, pursuant to Ordinance No. 3, Series of 2025, the Town of Carbondale updated its building regulations, which regulations are presently part of Chapter 18 of the Municipal Code, including the Town's Building Code, Residential Code, Electrical Code, Mechanical Code, Plumbing Code, Energy Conservation Code, Fire Code, Fuel Gas Code, and Flood Damage Prevention Code; and

WHEREAS, pursuant to said Ordinance No. 3, the Town also expanded the Town's then-existing building regulations to incorporate and include additional uniform regulations, with local modifications, including an Electric Code, Property Maintenance Code, Swimming Pool and Spa Code, Energy Conservation Code, Existing Building Code, and a Plumbing Code (these include all or portions of the International Property Maintenance Code, the International Swimming Pool and Spa Code, the International Energy Conservation Code, the International Existing Building Code, and the International Plumbing Code, to the extent adopted by the Colorado Plumbing Code); and

WHEREAS, the unrestricted use of property in wildland-urban interface areas is a potential threat to life and property from fire and resulting erosion, and, on July 1, 2025, the Wildfire Resiliency Code Board ("Board") created in Colorado Revised Statutes 24-33.5-1236(2), within the Division of Fire Prevention and Control in the Colorado Department of Public Safety, adopted the 2025 Colorado Wildfire Resiliency Code; and

WHEREAS, the 2025 Colorado Wildfire Resiliency Code establishes minimum regulations to safeguard life and property from intrusion of fire from wildland fire exposures and fire exposures from adjacent structures and to provide adequate fire protection facilities to control the spread of fire in wildland-urban interface areas; and

WHEREAS, Colorado Revised Statutes Section 24-33.5-1237(2)(a), as amended by Colorado Senate Bill 25-142, requires any governing body with jurisdiction in an area within the wildland-urban interface that has authority to adopt building codes to adopt a code that meets or exceeds the minimum standards set forth in the 2025 Colorado Wildfire Resiliency Code on or before April 1, 2026; and

WHEREAS, recognizing in particular the ongoing and increasing risk of wildfires in the Carbondale area during drought periods, and the need to further modernize and update the Town's building standards with regard to fire protection, the Town now desires to further update Chapter 18 of the Municipal Code to both: (1) repeal and replace the Town's current Fire Code (the 1988 Uniform Fire Code) with the 2021 International

Fire Code, with local modifications; and (2) adopt and incorporate the 2025 Colorado Wildfire Resiliency Code, with local modifications, as a new Article 14 of Chapter 18 of the Carbondale Municipal Code;

WHEREAS, Section 3-6 of the Carbondale Home Rule Charter provides that the Town may, by ordinance, enact by reference, in whole or in part, any published compilations of rules, regulations or standards adopted by the federal or state government, or any codes and technical standards concerning buildings or structures, fire prevention, plumbing, housing, mechanical systems, electrical systems, energy conservation and similar matters published by recognized technical organizations, provided that certified copies of all documents adopted by reference shall be kept in the official records of the Town (excepting provisions of federal or state statutes adopted by reference); and

WHEREAS, the Board of Trustees finds and determines that these proposed amendments and additions to the Towns' building regulations are in the interest of public health, safety and welfare.

NOW THEREFORE, BE IT ORDAINED BY THE BOARD OF TRUSTEES OF THE TOWN OF CARBONDALE, COLORADO, that the following amendments and additions to the Town of Carbondale Municipal Code are hereby approved and adopted:

SECTION 1: Article 13 of Chapter 18 of the Carbondale Municipal Code, entitled "Fire Code" is hereby repealed and re-enacted to read as set forth on the attached **Exhibit A**.

SECTION 2: The Town hereby adopts the 2025 Colorado Wildfire Resiliency Code, with amendments, as Article 14 of Chapter 18 of the Carbondale Municipal Code, to be entitled "Wildfire Resiliency Code", and to read as set forth on the attached **Exhibit B**.

SECTION 3: The Town Clerk and the Town Attorney are hereby authorized to modify the formatting and to make such other amendments to this Ordinance and the exhibits thereto as necessary to facilitate codification in the Carbondale Municipal Code, provided such modifications and amendments shall not change the substance of the Code provisions.

SECTION 4: Except as set forth above, the Board of Trustees intends that all other provisions of the Municipal Code shall remain in full force and effect. If any part, section, subsection, sentence, clause or phrase of this Ordinance is for any reason held to be invalid, such decision shall not affect the validity of the remaining portions of this ordinance and the Board of Trustees hereby declares that it would have passed this Ordinance and each such part thereof regardless of the fact that any one or more provisions were declared invalid.

SECTION 5: This Ordinance shall be posted and published in accordance with Section 3-3 of the Carbondale Home Rule Charter, with the Municipal Code changes set forth herein to become effective on and after July 1, 2026.

INTRODUCED, READ AND PASSED this 10 day of April, 2026.

THE TOWN OF CARBONDALE

Ben Bohmfalk, Mayor

ATTEST:

Patrick Thibault, Town Clerk

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TOWN OF CARBONDALE SEAL COLORADO

Exhibit A

ARTICLE 13 – Fire Code

Sec. 18-13-10 International Fire Code Adopted; and Penalty for Violation.

(a) Pursuant to Part 2 of Article 16 of Title 31, C.R.S., for the purposes of establishing minimum requirements governing the maintenance of buildings and premises and to safeguard life, health property, and public welfare from fires and explosion hazards, by regulating the storage, use and handing of dangerous and hazardous materials, substances and processes, and by regulating the maintenance of adequate facility egress in both new and existing residential and non-residential structures in the Town of Carbondale, the International Fire Code (IFC), 2021 edition, published by the International Code Council, 4051 West Flossmoor Road, Country Club Hills, Illinois 60478-5795, is hereby adopted except as it is amended in this article.

(b) *Appendices adopted*[1]

Appendix	Title
Appendix B – 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 International Building Code®.	**Fire-Flow Requirements for Buildings**
Appendix C - Appendix C focuses on the location and spacing of fire hydrants, which is important to the success of fire-fighting 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 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.	**Fire Hydrant Locations and Distribution**
Appendix D - 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.	**Fire Apparatus Access Roads**

1. Appendix Chapters A through N, not expressly adopted above, shall be utilized by the District as reference materials and guidelines, to the extent they are applicable.

(c) Fire Department administration. The provisions of this Article are administered by the Fire Chief of the Fire Department pursuant to an intergovernmental agreement between the Town and the Carbondale and Rural Fire Protection District.

(d) Unless indicated otherwise, all references in the Municipal Code to the Fire Code shall be deemed to include the International Fire Code, the International Fire Code Appendices and the International Fire Code Standards as referred to in this Title and as adopted in this section.

(e) All Fire Code Standards, which are referred to in the various parts of the International Fire Code, as adopted in this section, are hereby adopted.

(f) The International Fire Code and Commentary 2021 edition is hereby adopted as a reference and enforcement guide. The Fire Official, or any authorized representative, shall have the discretion to apply the contents of the documents referenced in this article in each circumstance, but the Fire Official is not required to strictly apply such contents in every conceivably relevant circumstance.

(g) If the provisions of the International Fire Code, as adopted in this article, conflict with any other provisions of the Municipal Code then the more restrictive of the two shall govern. Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall be applicable.

(h) Any person violating any of the provisions of the International Fire Code, as adopted in this section, shall be deemed guilty of a misdemeanor and upon conviction of any such violation, such person shall be punishable as provided in Section 1-4-20 of this Code. Each day such violation is allowed to persist shall constitute a separate and new offense.

Sec. 18-13-20 Amendments to the International Fire Code.

CHAPTER 1—ADMINISTRATION

(1) **Section 101.1 Title.** Is amended by adding the name of the jurisdiction to read as follows:

101.1 Title. These regulations shall be known as the Fire Code of "Town of Carbondale", hereinafter referred to as "this code."

(2) **Section 102.7 Reference codes and standards** and **Section 102.8 Subjects not regulated by this code** are hereby amended by the addition of the following language and an exception to read as follows:

The most current National Fire Protection Association (NFPA) code cycle shall be utilized.

> **Exception:** When the current cycle is less than a year from the previous cycle, the previous cycle may be used with the approval of the *fire code official*.

(3) **Section 103.2 Appointment.** is hereby amended to read as follows:

103.2 Appointment. The fire code official shall be appointed by the ~~chief appointing authority of the jurisdiction.~~ Fire Chief, and the fire code official shall not be removed from office except for cause and after full opportunity to be heard on specific and relevant charges by and before the appointing authority. Unless the fire chief shall otherwise appoint an alternative fire code official, the Fire Marshal shall be deemed the designated fire code official upon adoption of this Code.

(4) **Section 104.6.3 Fire records.** Is hereby amended to read as follows:

104.6.3 Fire records. The fire department shall keep a record of fires occurring within its jurisdiction and of facts concerning the same, including statistics as to the extent of such fires and the damage caused thereby, together with other information as required by the fire code official. Copies of all such records shall be forwarded to the *fire code official*.

(5) **Section 104.7 Liability.** Is hereby amended to read as follows:

104.7 Liability. The adoption of this code, and any previous codes adopted by the Town of Carbondale, shall not be deemed to give rise to a duty of care on the part of any public entity, public employee, or agent, nor shall this code or any previous codes be deemed to create any civil remedy against a public entity, public employee, or agent. The Fire Code Official, member of the Board of Appeals, or employee charged with the enforcement of this code, while acting for the jurisdiction in good faith and without malice in the discharge of the duties required by this code or other law or ordinance, shall not thereby be rendered civilly or criminally liable personally, and is hereby relieved from all personal liability for any damage accruing to persons or property as a result of any act or by reason of an act or omission in the discharge of official duties.

(6) **Section 106.1 Submittals.** Is hereby amended to reads as follows:

106.1 Submittals. Construction documents and supporting data shall be submitted in two or more sets with each application for a permit and in such form and detail as required by the fire code official. The construction documents shall be prepared by a registered design professional where required by the statues of the jurisdiction in which the project is to be constructed. All plans for automatic fire suppression systems submitted for review shall have affixed the signature of a NICET Level III or higher in fire sprinkler system design or a Colorado Certified Professional Engineer with certified documented training in fire sprinkler system design. In the alternative, such signature may be provided by a fire alarm system designer possessing the equivalent of NICET Level 3 training, if all certificates and documentation of such training is presented and approved by the fire code official. All plans for fire alarm systems submitted for review shall have affixed the stamp and signature of a Colorado Certified Professional Engineer with certifications documenting training in fire alarm systems design or a NICET Level III or higher in fire alarm design.

(7) **Section 107.2 Schedule of Permit Fees.** Is deleted in its entirety and replaced with the following:

107.2 Schedule of Permit Fees. Fees shall be assessed for all fire district related fees in accordance with the Fee Schedule set forth by the Fire District, which shall be adopted by resolution of the Carbondale and Rural Fire Protection District Board of Directors, and which schedule may be amended from time to time. Prior to issuance of any Certificate of Occupancy by the Town of Carbondale, all fees required to be assessed shall be paid in full and written confirmation from the district stating all fees have been paid shall be on record with the Town.

(8) **Section 111.1 Board of appeals established.** Is amended to read as follows:

111.1 Board of appeals established. In order to hear and decide appeals of orders, decisions or determinations made by the Fire Chief and/or fire code official relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. The board of appeals shall ~~be appointed by the applicable governing authority~~ be comprised of the current Carbondale and Rural Fire District Board of Directors and the fire chief shall be an ex officio member but shall have no vote on any matter before the board and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business and shall render all decisions and findings in writing to the appellant with a duplicate copy to the fire code official.

(9) **Section 111 Means of appeals established.** Is amended by the addition of **Section 111.1.1 Notice of Appeal** which reads as follows:

111.1.1 Notice of Appeal. A notice of appeal must be presented to the fire code official and the Carbondale and Rural Fire Protection District Board of Directors within 14 days of the order being appealed, stating the order in question and the basis for the appeal. Failure to present the notice of appeal within 14 days shall be a waiver of any further right of appeal. Upon receipt of the notice of appeal, the Board of Directors will place the item on the next meeting agenda of the Carbondale and Rural Fire Protection District.

(10) **Section 111.3 Qualifications.** Is amended to reads as follows:

111.3 Qualifications. The board of appeals shall consist of members who are qualified by experience and training to pass on matters pertaining to hazards of fire, explosions, hazardous conditions or fire protection systems, and are not employees of the jurisdiction. The Town may, in its discretion, engage an independent third party with training and experience in matters involving fire hazards, explosions, hazardous conditions or fire protection systems to provide an opinion regarding the issues on appeal.

(11) **Section 111.4 Administration** is hereby changed to **Effect of Appeal** and amended to read as follows:

111.4 ~~Administration.~~ Effect of Appeal. A timely appeal shall stay all proceedings related to the action being appealed unless the fire code official determines that such a stay would cause imminent peril to life or property. The fire code official shall take immediate action in accordance with the decision of the board.

(12) **Section 112.3.2 Compliance with Orders and Notices.** Is amended to read as follows:

112.3.2 Compliance with Orders and Notices. A notice of violation issued or served as provided by this code shall be ~~complied with by the *owner*, the *owner's* authorized agent, operator, occupant or other person responsible for the condition or violation to which the notice of violation pertains.~~ subject to the following requirements and conditions:

(A) If the building or other premises is owned by one person and occupied by another, under lease or otherwise, and the notice of violation requires additions to or changes in the building or premises such as would be considered real estate and become the property of the owner, said notice and order shall be directed to such owner of the building or premises.

(B) Every notice of violation pursuant to this chapter shall set forth a time by which compliance with the notice violation is required. The time specified shall be reasonable according to the circumstances of the particular hazards or conditions to which the notice and order pertains. Immediate compliance may be required in any case which represents extreme or imminent danger to persons or property.

(C) Except for cases where immediate compliance is required, violations pursuant to this chapter may be appealed as set forth in Section 111. In cases where immediate compliance is required, the notice of violation so stating shall be final and conclusive.

(13) **Section 113.4 Failure to Comply.** Is amended to read as follows:

113.4 Failure to Comply. Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be ~~subject to fines established by the authority having jurisdiction~~ liable to a fine of not less than five hundred dollars ($500.00) or more than one thousand dollars ($1,000.00) as determined by the Fire Code Official and payable directly to the Carbondale and Rural Fire Protection District. Notwithstanding any penalty provision of this Code or any fines adopted pursuant to this Code to the contrary, the penalty for any offense that also constitutes a violation of similar state law shall not exceed the penalty provided for by the applicable provisions in the Colorado Revised Statutes.

CHAPTER 2 - DEFINITIONS

(14) **Section 202 Definitions** shall be amended by the definition of "guest" which shall be added (alphabetically) to Section 202 and reads as follows:

GUEST. Any person hiring or occupying a room or bed for living or sleeping purposes.

CHAPTER 3—GENERAL REQUIREMENTS

(15) **Section 307.1.1 Prohibited open burning.** is deleted in its entirety and replaced with Section 307.1.1 Prohibited burning and Section 307.1.2 Restricted open burning that read as follows:

307.1.1 Prohibited burning. The burning of tree stumps, tires, plastic, cut lumber, construction debris, furniture, and pallets and other materials as determined by the Fire Code Official shall be prohibited.

307.1.2 Restricted Open Burning. Open burning shall be prohibited from the Friday prior to Memorial Day Weekend until after September 30 of each calendar year.

Exception: Open burning may be permitted or prohibited at any time when, in the opinion of the Fire Chief/fire code official, the atmospheric conditions are conducive for safe burning. Such modifications shall be made by the fire code official in writing and posted in the District fire stations.

(16) **Section 308.3 Group A Occupancies.** Is amended to read as follows:

308.3 Group A Occupancies. Open-flame devices or the use of indoor pyrotechnic displays shall not be used in a Group A occupancy.

Exceptions:

1. Open-flame devices are allowed to be used in the following situations, provided that approved precautions are taken to prevent ignition of a combustible material or injury to occupants.
   - **1.1** Where necessary for ceremonial or religious purposes in accordance with Section 308.1.7.
   - **1.2** ~~**On stages and platforms as a necessary part of a performance in accordance with Section 308.3.2.**~~
   - **1.3** ~~**Where candles on tables are securerly supported on substantial noncombustible bases and the candle flames are protected.**~~
2. Heat-producing equipment complying with Chapter 6 and the *International Mechanical Code.*
3. Gas lights are allowed to be used provided that adequate precautions satisfactory to the *fire code official* are taken to prevent ignition of combustible materials.

(17) **Section 308.3.2 Theatrical Performances.** Is amended to read as follows:

308.3.2 Theatrical Performances. ~~Where *approved*, open flame devices used in conjunction with theatrical performances are allowed to be used where adequate safety precautions have been taken in accordance with NFPA 160.~~ The use of indoor pyrotechnic and open flame displays shall be prohibited, unless otherwise approved by the Fire Code Official.

(18) **Section 315 General Storage.** Is amended by the addition of **Section 315.8 Use of Intermodal Shipping Containers for Commercial Storage** so that this Section now reads as follows:

315.1.1 General. Storage shall be in accordance with Sections 315.2 through 315.6 "and Section 315.8". Outdoor pallet storage shall be in accordance with Sections 315.2 and 315.7.

315.8 Use of Intermodal Shipping Containers for Commercial Storage Use of Intermodal Shipping Containers (aka: CON-X, etc.), herein referred to as "Container," for commercial storage may be approved under the following conditions:

1. **Permits.** A Building Permit issued by the Town Building Department and Zoning Compliance review by the Town Planning Department is required and subject to approval prior to the use of Intermodal Shipping Containers for Commercial Storage. A plan must be submitted indicating the intended stored content and accommodation of the conditions listed below. Fire Department endorsement of the permit is also required. Regular Fire Department inspections may be conducted to ensure adherence to approved conditions. A Change of Use permit is required if the stored content plan is modified.
2. **Clearances**
   a) Clearance from property lines. Containers shall be placed no closer than five feet from a property line. If a container is placed within 10 feet of the property line, the container shall be positioned in such a way that the doors do not face the property line.
   b) Clearance from utilities. Containers shall not be placed under electrical service lines. Location of containers above known water/sewer lines and other buried utility services will be considered on a case-by-case basis.
   c) Clearance of vents. Vents shall not be closer that 5 feet from any flammable object including buildings and vegetation. Vent arrangement described below.
   d) Emergency Access. Door end of container shall not be obstructed by additional storage, vehicles or other objects. If container is required to be equipped with a fire deluge sprinkler system, access to the Fire Department Connection (FDC) shall not be obstructed to a radius of five feet and an open path to the fire department apparatus access shall be maintained.
3. **Container Modifications**
   a) Prohibition of utility connections. Containers shall not be fitted with electric service, fueled heat, water or sewer services. Use of extension power cords is expressly prohibited. Container shall be properly grounded. Portable light fixtures with sealed battery power supplies may be utilized, but must be recharged outside the container.
   b) Ventilation. Containers shall be fitted with a passive ventilation system consisting of two 18" square (324 square inches) vents. These vents may be screened for security but shall not inhibit air flow. One vent shall be fitted in the lower portion of an entry door and one vent fitted within 6 inches of the top of the wall at the opposite end from the entry door.
   c) Fire Deluge Sprinkler System. Depending on the intended stored contents, a Fire Deluge Sprinkler System may be required. This system will consist of sufficient fire sprinkler heads fed from a fire department connection with a quick-connect fitting. This system shall not be connected to a standing water supply, nor shall it be required to be monitored by means of a fire alarm system.
   d) Traffic and Blast protection. Depending on the intended stored contents and physical set-up of the container, traffic bollards may be required to prevent damage or injury from incursion or potential explosion shrapnel spread.
   e) Markings. Containers shall be marked with the appropriate NFPA 704 Hazard Diamond and signage identifying stored contents. This signage will consist of a white background and black lettering that is legible from a distance of 30 feet. The signage shall be placed on the door to the container and on a side facing fire department access if different from the door side. Markings indicating storage limitations shall be placed on the inside of door to serve as employee notification.

4. Operation

a) Contents. Containers shall not be used for storage of combustible liquids or compressed gasses. This restriction shall include motorized tools or equipment containing any amount of fuel. Fuels shall be drained from these tools prior to storage.

b) Storage Height. Storage inside the containers shall follow standard storage guidelines of 18" ceiling clearance for sprinklered structures and 24" ceiling clearance for non-sprinklered structures.

Exceptions:

1. 24" ceiling clearance is not required for storage along walls in a non-sprinklered container.
2. 18" ceiling clearance is not required for storage along walls in a sprinklered container.

c) Security. Containers used for storage shall remain locked while not attended. If the container is left unlocked and unmonitored for any period of time, the operator shall ensure that the container is not occupied before locking.

CHAPTER 5—FIRE SERVICE FEATURES

(19) **Section 507.5.5 Clear space around hydrants.** Is amended by the addition of **Section 507.5.5.1 Snow Removal** so that this Section now includes the following:

507.5.5.1 Snow Removal. Snow removal operations/snow storage shall not prevent fire hydrants from being immediately discernible or hinder gaining immediate access.

CHAPTER 9—FIRE PROTECTION SYSTEMS

(20) **Section 901.4.2 Nonrequired fire protection and life safety systems.** is amended to read as follows:

901.4.2 Nonrequired fire protection and life safety systems. *Fire protection* and *life safety systems* or portion thereof not required by this code or the *International Building Code* shall be allowed to be furnished for partial or complete protection provided that such installed systems meet the applicable requirements of this code and the *International Building Code*. Nonrequired fire protection systems shall not be removed unless previously approved by the Fire Code Official.

(21) **Section 903.2 Where required (Automatic Sprinkler Systems).** Is amended to read as follows:

903.2 Where Required. Approved automatic sprinkler systems in ~~new~~ all buildings and structures shall be provided in the locations described in this section and" Sections 903.2.1 through 903.2.12:

1. In every story of all buildings three (3) stories or more in height except when it is required by this code, the 2021 International Building Code or International Residential Code as amended, the more restrictive shall apply.
2. In every story, basement and mezzanines of any building when the total building area (including basements and mezzanines) exceeds the limits shown in Table 903.2:

TABLE 903.2 MAXIMUM BUILDING AREA FOR UNSPRINKLED BUILDINGS BASED ON CONSTRUCTION TYPE OR OCCUPANCY

Building Type[1]	Maximum Floor Area
I-A, I-B, II-A, II-B, III-A, III-B, IV-A, IV-B, IV-C, IV-HT, V-A and V-B	5,000 sq. ft.
Occupancy Group[2]	
R-3 Single-Family Dwelling or Duplex	5,000 sq. ft.
R-3 Townhouse (3 or more Dwelling Units)	7,500 sq. ft.

1. A-Protected / B-Unprotected (per Table 601 IBC) H.T. - Heavy timber
2. An automatic sprinkler system shall not be required where additions or alterations are made to existing buildings that are not already provided with a sprinkler system.

3. Whenever any addition to an existing building, except R-3 occupancies, causes the total floor area of the building to exceed the limits set forth in the preceding item number 2 or the floor areas in the 2021 International Building Code or the 2021 International Fire Code as amended for that occupancy, the entire building shall be provided with an approved automatic sprinkler system or a firewall conforming to Sections 705 and 706 of the 2021 International Building Code must be installed. When such wall also separates different occupancy classifications, which require a greater fire-resistive rating as set forth in Table 706.4 of the 2021 International Building Code, the more restrictive requirement shall apply. Openings in these walls shall conform to the 2021 International Building Code and be controlled by actuation of a smoke detector. When the automatic-closing fire assembly is installed in a building with an approved fire detection system, the fire assembly actuating smoke detectors shall be made part of the fire detection.

4. Existing structures and facilities (except R-3 occupancies). When in any 24 month period the floor area of an alteration, remodel or modification to any existing building exceeds forty percent (40%) of the floor area of the building being improved, the entire building shall be made to comply with the requirements of Chapter 9 of the 2021 International Building Code and the 2021 International Fire Code as amended and adopted by the Town. When the regulations set forth in the 2021 International Existing Building Code apply to the renovation, remodel or modification of an existing building the more restrictive shall apply to the building.

5. All occupancies to be built in a location that is difficult to access, or has limited fire flow water supply as determined by the fire code official or fire chief, will be reviewed by the fire code official and or fire chief for the need to be equipped with an approved automatic fire suppression system or alternative automatic fire-extinguishing system.

(22) **Section 903.1 General (Automatic Sprinkler Systems).** Is amended by the addition of Section **903.1.2 Supervision** that reads as follows:

903.1.2 Supervision. All fire sprinkler system installations shall be supervised by a fire sprinkler technician holding a current Colorado Department of Public Safety, Division of Fire Protection and Control "Registered Fire Sprinkler Fitter" credential and supervise no more than three non-registered sprinkler fitters/apprentices.

(23) **Section 903.2.7.2 Group M upholstered furniture or mattresses.** Is amended to reads as follows:

903.2.7.2 Group M upholstered furniture or mattresses. An *automatic sprinkler system* shall be provided throughout a Group M fire area where the area used for the display and sale of upholstered furniture or mattresses exceeds ~~5,000 square feet (464 m$^{2)}$~~ 2,500 square feet (232 m$^{s)}$.

(24) **Section 903.4.2 Alarms.** Is amended by the addition of **Section 903.4.2.1 Unmonitored Residential Systems** that reads as follows:

903.4.2.1 - Unmonitored Residential Systems. Automatic sprinkler systems protecting one-, two-, or multi- family dwellings that are not monitored shall operate in the following manner:

1. All water flow activations shall be capable of sounding an interior audible alarm notifying all occupants simultaneously.
2. All water flow activations shall be capable of activating an exterior audible/visual alarm. This alarm shall be located so as to be visible nearest the street side fire department connection.

(25) **Section 907 Fire Alarm and Detection Systems.** Is amended by the addition of Section **907.1.4 Supervision** that reads as follows:

907.1.4 Supervision. All fire alarm system installations shall be supervised by a fire alarm technician certified at a minimum of NICET II level. In the alternative, such supervision may be completed by a person possessing the equivalent of NICET Level II training, if all certificates and documentation of such training is presented and approved by the fire code official.

(26) **Sections 907.2.1 Group A (Fire Alarm and Detection Systems).** is amended and the exception deleted in its entirety so that this section now reads as follows:

907.2.1 Group A. ~~A manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group A occupancies where the *occupant load* due to the assembly occupancy is 300 or more, or where the Group A *occupant load* is more than 100 persons above or below the lowest *level of exit discharge*.~~ A manual and automatic fire alarm system shall be installed in accordance with NFPA 72 in Group A occupancies having an occupant load of 100 or more. Group A occupancies not separated from one another in accordance with Section 707.3.10 of the *International Building Code* shall be considered as a single occupancy for the purposes of applying this section. Portions of Group E occupancies occupied for assembly purposes shall be provided with a fire alarm system as required for the Group E occupancy.

~~**Exception:** Manual fire alarm boxes are not required where the building is equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 and the occupant notification appliances will activate throughout the notification zones upon sprinkler water flow.~~

(27) **Section 907.2.8.1 (Group R-1) Manual fire alarm system** is amended by the deletion of the exceptions so that this section now reads as follows:

907.2.8.1 (Group R-1) Manual fire alarm system. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group R-1 occupancies.

~~**Exceptions:**~~

~~1. A manual fire alarm system is not required in buildings not more than two stories in height where all individual *sleeping units* and contiguous attic and crawl spaces to those units are separated from each other and public or common areas by not less than 1-hour *fire partitions* and each individual *sleeping unit* has an *exit* directly to a *public way, egress court* or yard.~~

~~2. Manual fire alarm boxes are not required throughout the building where all of the following conditions are met:~~

~~2.1 The building is equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2.~~

~~2.2 The notification appliances will activate upon sprinkler water flow.~~

~~2.3 Not fewer than one manual fire alarm box is installed at an *approved* location.~~

(28) **Section 907.5.2 Alarm notification appliances.** Is amended the addition of **Section 907.5.2.3.4 Visible Alarm Signals** that reads as follows:

907.5.2.3.4 Visible Alarm Signals. A visual signal shall be required wherever an audible alarm signal is required for an automatic fire alarm system. The visible signal shall meet the following requirements:

a) The light used shall be of the strobe light producing at least 110-185 candela.

b) In systems with fire department connections the light is to be located at least 12 ft. above and as directly vertical to the fire department connection as possible. In systems without fire department connections the light is to be located so as to be visible from the nearest street.

c) The light shall not replace the audible alarms but is to be used in conjunction with it.

(29) **Section 907.6.3 Initiating Device Identification.** Exception 1 is amended and exception 4 is hereby deleted, so that this section will now read as follows:

907.6.3 Initiating device identification. The fire alarm system shall identify the specific initiating device address, location, device type, floor level where applicable and status including indication of normal, alarm, trouble and supervisory status, as appropriate.

Exceptions:

1. Fire alarm systems in single-story buildings containing only one tenant, and that are less than 22,500 square feet (2090 m^2) in area.
2. Fire alarm systems that only include manual fire alarm boxes, waterflow initiating devices and not more than 10 additional alarm-initiating devices.
3. Special initiating devices that do not support individual device identification.
4. ~~Fire alarm systems or devices that are replacing existing equipment.~~

Chapter 12 ENERGY SYSTEMS

(30) **Chapter 12 Energy Systems.** Is deleted in its entirety and replaced with Chapter 12 Energy Systems as promulgated in the 2024 IFC so that this chapter will now read as follows:

Chapter 12 Energy Systems

Section 1201 General

1201.1 Scope. The provisions of this chapter shall apply to the installation, operation, maintenance, repair, retrofitting, testing, commissioning and decommissioning of energy systems used for generating or storing energy, including but not limited to energy storage systems under the exclusive control of an electric utility or lawfully designated agency. It shall not apply to equipment associated with the generation, control, transformation, transmission, or distribution of energy installations that is under the exclusive control of an electric utility or lawfully designated agency. Energy storage systems regulated by Section 1207 shall comply with this chapter, as appropriate, and NFPA 855.

1201.2 Electrical wiring and equipment. Electrical wiring and equipment used in connection with energy systems shall be installed and maintained in accordance with this chapter, Section 603 and NFPA 70 .

1201.3 Mixed system installation. Where mixed systems are *approved*, the aggregate nameplate kWh energy of all energy storage systems in a *fire area* shall not exceed the maximum quantity specified for any of the energy systems in this chapter. Where required by the *fire code official*, a hazard mitigation analysis shall be provided and *approved* in accordance with Section 104.2.2 to evaluate any potential adverse interaction between the various energy systems and technologies.

Section 1202 Definitions

1202.1 Definitions. The following terms are defined in Chapter 2:
BATTERY SYSTEM, STATIONARY STORAGE.
BATTERY TYPES.
CAPACITOR ENERGY STORAGE SYSTEM.
CRITICAL CIRCUIT.
EMERGENCY POWER SYSTEM.
ENERGY STORAGE MANAGEMENT SYSTEMS.
ENERGY STORAGE SYSTEM (ESS).
ENERGY STORAGE SYSTEM, ELECTROCHEMICAL.
ENERGY STORAGE SYSTEM, MOBILE.
ENERGY STORAGE SYSTEM, WALK-IN UNIT.
ENERGY STORAGE SYSTEM CABINET.
ENERGY STORAGE SYSTEM COMMISSIONING.
ENERGY STORAGE SYSTEM DECOMMISSIONING.
FUEL CELL POWER SYSTEM, STATIONARY.
PORTABLE GENERATOR.
STANDBY POWER SYSTEM.

Section 1203 Emergency and standby power systems

1203.1 General. Emergency power systems and standby power systems required by this code or the *International Building Code* shall comply with Sections 1203.1.1 through 1203.1.9.

1203.1.1 Stationary generators. Stationary emergency and standby power generators required by this code shall be *listed* in accordance with UL 2200.

1203.1.2 Fuel line piping protection. Fuel lines supplying a generator set inside a high-rise building shall be separated from areas of the building other than the room the generator is located in by one of the following methods:

1. A fire-resistant pipe-protection system that has been tested in accordance with UL 1489. The system shall be installed as tested and in accordance with the manufacturer's installation instructions, and shall have a rating of not less than 2 hours. Where the building is protected throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1, the required rating shall be reduced to 1 hour.
2. An assembly that has a *fire-resistance rating* of not less than 2 hours. Where the building is protected throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1, the required *fire-resistance rating* shall be reduced to 1 hour.
3. Other *approved* methods.

1203.1.3 Installation. Emergency power systems and standby power systems shall be installed in accordance with the *International Building Code*, NFPA 70, NFPA 110 and NFPA 111.

1203.1.4 Load transfer. Emergency power systems shall automatically provide secondary power within 10 seconds after primary power is lost, unless specified otherwise in this code. Standby power systems shall automatically provide secondary power within 60 seconds after primary power is lost, unless specified otherwise in this code.

1203.1.5 Load duration. Emergency power systems and standby power systems shall be designed to provide the required power for a minimum duration of 2 hours without being refueled or recharged, unless specified otherwise in this code.

1203.1.6 Uninterruptable power source. An uninterrupted source of power shall be provided for equipment where required by the manufacturer's instructions, the listing, this code or applicable referenced standards.

1203.1.7 Interchangeability. Emergency power systems shall be an acceptable alternative for installations that require standby power systems.

1203.1.8 Group I-2 occupancies. In Group I-2 occupancies located in flood hazard areas established in Section 1612.3 of the *International Building Code* where new essential electrical systems are installed, and where new essential electrical system generators are installed, the systems and generators shall be located and installed in accordance with ASCE 24. Where connections for hook up of temporary generators are provided, the connections shall be located at or above the elevation required in ASCE 24.

1203.1.9 Maintenance. Existing installations shall be maintained in accordance with the original approval and Section 1203.4.

1203.2 Where required. Emergency and standby power systems shall be provided where required by Sections 1203.2.1 through 1203.2.19.

1203.2.1 Ambulatory care facilities. Essential electrical systems for ambulatory care facilities shall be in accordance with Section 422.6 of the *International Building Code*.

1203.2.2 Elevators and platform lifts. Standby power shall be provided for elevators and platform lifts as required in Sections 604.3 , 1009.4.1 and 1009.5 .

1203.2.3 Emergency responder communication coverage systems. Standby power shall be provided for in-building, two-way emergency responder communication coverage systems as required in Section 510.4.2.3. The standby power supply shall be capable of operating the in-building, two-way emergency responder communication coverage system at 100-percent system operation capacity for a duration of not less than 12 hours.

1203.2.4 Emergency voice/alarm communication systems. Standby power shall be provided for emergency voice/alarm communication systems in accordance with NFPA 72.

1203.2.5 Exhaust ventilation. Standby power shall be provided for mechanical exhaust ventilation systems as required in Section 1207.6.1.2.1. The system shall be capable of powering the required load for a duration of not less than 2 hours.

1203.2.6 Exit signs. Emergency power shall be provided for exit signs as required in Section 1013.6.3. The system shall be capable of powering the required load for a duration of not less than 90 minutes.

1203.2.7 Gas detection systems. Emergency power shall be provided for *gas detection systems* where required by Sections 1203.2.10 and 1203.2.17. Standby power shall be provided for *gas detection systems* where required by Sections 916.5 and 1207.6.1.2.4.

1203.2.8 Group I-2 occupancies. Essential electrical systems for Group I-2 occupancies shall be in accordance with Section 407.11 of the *International Building Code*.

1203.2.9 Group I-3 occupancies. Power-operated sliding doors or power-operated locks for swinging doors in Group I-3 occupancies shall be operable by a manual release mechanism at the door. Emergency power shall be provided for the doors and locks.

Exceptions:

1. Emergency power is not required in facilities where provisions for remote locking and unlocking of occupied rooms in Occupancy Condition 4 are not required as set forth in the *International Building Code*.
2. Emergency power is not required where remote mechanical operating releases are provided.

1203.2.10 Hazardous materials. Emergency and standby power shall be provided in occupancies with hazardous materials as required in the following sections:

1. Sections 5004.7 and 5005.1.5 for hazardous materials.
2. Sections 6004.2.2.8 and 6004.3.4.2 for highly toxic and toxic gases.
3. Section 6204.1.11 for *organic peroxides*.

1203.2.11 High-rise buildings. Standby power and emergency power shall be provided for high-rise buildings as required in Section 403 of the *International Building Code*, and shall be in accordance with Section 1203.

1203.2.12 Special purpose horizontal sliding doors. Standby power shall be provided for horizontal sliding doors as required in Section 1010.3.3. The standby power supply shall have a capacity to operate not fewer than 50 closing cycles of the door.

1203.2.13 Hydrogen fuel gas rooms. Standby power shall be provided for hydrogen fuel gas rooms as required by Section 5808.7 .

1203.2.14 Laboratory suites. Standby or emergency power shall be provided in accordance with Section 5004.7 where *laboratory suites* are located above the sixth story above *grade plane* or located in a story below *grade plane*.

1203.2.15 Means of egress illumination. Emergency power shall be provided for means of egress illumination in accordance with Sections 1008.2.4 and 1104.5.1.

1203.2.16 Membrane structures. Standby power shall be provided for auxiliary inflation systems in permanent membrane structures in accordance with Section 2702 of the *International Building Code*. Auxiliary inflation systems shall be provided in temporary air-supported and air-inflated membrane structures in accordance with Section 3103.9.4.

1203.2.17 Semiconductor fabrication facilities. Emergency power shall be provided for semiconductor fabrication facilities as required in Section 2703.15.

1203.2.18 Smoke control systems. Standby power shall be provided for smoke control systems as required in Section 909.11 .

1203.2.19 Underground buildings. Emergency and standby power shall be provided in underground buildings as required in Section 405 of the *International Building Code* and shall be in accordance with Section 1203.

1203.3 Critical circuits. Required *critical circuits* shall be protected using one of the following methods:

1. Cables used for survivability of required *critical circuits* shall be *listed* in accordance with UL 2196 and shall have a *fire-resistance rating* of not less than 1 hour.
2. Electrical circuit protective systems shall have a *fire-resistance rating* of not less than 1 hour. Electrical circuit protective systems shall be installed in accordance with their listing requirements.
3. Construction having a *fire-resistance rating* of not less than 1 hour.

1203.4 Maintenance. Emergency and standby power systems shall be maintained in accordance with NFPA 110 and NFPA 111 such that the system is capable of supplying service within the time specified for the type and duration required.

1203.4.1 Group I-2 and ambulatory care facilities. In Group I-2 occupancies and ambulatory care facilities, emergency and standby power systems shall be maintained in accordance with NFPA 99.

1203.4.2 Schedule. Inspection, testing and maintenance of emergency and standby power systems shall be in accordance with an *approved* schedule established upon completion and approval of the system installation.

1203.4.3 Records. Records of the inspection, testing and maintenance of emergency and standby power systems shall include the date of service, name of the servicing technician, a summary of conditions noted and a detailed description of any conditions requiring correction and what corrective action was taken. Such records shall be maintained.

1203.4.4 Switch maintenance. Emergency and standby power system transfer switches shall be included in the inspection, testing and maintenance schedule required by Section 1203.4.2. Transfer switches shall be maintained free from accumulated dust and dirt. Inspection shall include examination of the transfer switch contacts for evidence of deterioration. When evidence of contact deterioration is detected, the contacts shall be replaced in accordance with the transfer switch manufacturer's instructions.

1203.5 Operational inspection and testing. Emergency power systems, including all appurtenant components, shall be inspected and tested under load in accordance with NFPA 110 and NFPA 111 .

> **Exception:** Where the emergency power system is used for standby power or peak load shaving, such use shall be recorded and shall be allowed to be substituted for scheduled testing of the generator set, provided that appropriate records are maintained.

1203.5.1 Group I-2 and ambulatory care facilities. In Group I-2 occupancies and ambulatory care facilities, emergency and standby power systems shall be inspected and tested under load in accordance with NFPA 99 .

1203.5.2 Transfer switch test. The test of the transfer switch shall consist of electrically operating the transfer switch from the normal position to the alternate position and then return to the normal position.

1203.6 Supervision of maintenance and testing. Routine maintenance, inspection and operational testing shall be overseen by a properly instructed individual.

Section 1204 Portable generators

1204.1 Portable generators. The use, operation and maintenance of portable generators shall comply with this section.

1204.2 Listing. Portable generators manufactured after January 1, 2021, shall be *listed* and *labeled* in accordance with UL 2201.

1204.3 Operation and maintenance. Portable generators shall be operated and maintained in accordance with the manufacturer's instructions.

1204.4 Grounding. Portable generators shall be grounded in accordance with NFPA 70 .

1204.5 Operating locations. Portable generators shall be operated only outdoors a minimum of 5 feet (1524 mm) from any building openings such as windows and doors or air intakes. Portable generators shall not be operated within buildings or enclosed areas. Additional separation shall be provided for tents, membrane structures and outdoor assembly events as specified in Chapter 31.

1204.6 Cords and wiring. Extension cords and temporary wiring used to connect portable generators shall be in accordance with Section 603 and shall be provided with GFCI protection.

1204.7 Connections to premise wiring. Connections to a premise wiring system shall comply with all of the following:

1. Power shall not be provided in a manner that "back-feeds" receptacles or the premise wiring system.
2. Connection to a premise served by commercial power shall be made through a *listed* transfer switch installed, used and maintained in accordance with NFPA 70.
3. Connections to buildings not served by commercial power shall comply with NFPA 70.

1204.8 Refueling. Portable generators shall not be refueled while operating.

1204.9 Storage and repair. Storage and repair of fuel-fired portable generators shall comply with Section 313.

1204.10 Fire extinguisher. A *listed* portable fire extinguisher complying with Section 906 with a minimum rating of 2-A:20-B:C shall be provided not more than 50 feet (15 240 mm) from the portable generator.

Section 1205 Solar photovoltaic power systems

1205.1 General. Solar photovoltaic (PV) systems shall be installed in accordance with the *International Building Code* or *International Residential Code*. The electrical portion of solar PV systems shall be installed in accordance with NFPA 70. Rooftop-mounted solar photovoltaic systems shall be installed in accordance with Sections 1205.2 through 1205.4.3. Ground-mounted solar photovoltaic systems shall comply with Section 1205.5 .

1205.2 Access and pathways. Roof access, pathways and spacing requirements shall be provided in accordance with Sections 1205.2.1 through 1205.3.3. Pathways shall be over areas capable of supporting firefighters accessing the roof. Pathways shall be located in areas with minimal obstructions, such as vent pipes, conduit or mechanical equipment.

Exceptions:

1. Detached, nonhabitable Group U structures including, but not limited to, detached garages serving Group R-3 buildings, parking shade structures, carports, solar trellises and similar structures.
2. Roof access, pathways and spacing requirements need not be provided where the *fire code official* has determined that rooftop operations will not be employed.
3. Building-integrated photovoltaic (BIPV) systems where the BIPV systems are *approved*, integrated into the finished roof surface and are *listed* in accordance with UL 3741. The removal or cutting away of portions of the BIPV system during firefighting operations shall not expose a firefighter to electrical shock hazards.

1205.2.1 Solar photovoltaic (PV) systems for Group R-3 buildings. Solar photovoltaic (PV) systems for Group R-3 buildings shall comply with Sections 1205.2.1.1 through 1205.2.3.

Exceptions:

1. These requirements shall not apply to structures designed and constructed in accordance with the *International Residential Code*.
2. These requirements shall not apply to roofs with slopes of 2 units vertical in 12 units horizontal (16.7-percent slope) or less.

1205.2.1.1 Pathways to ridge. Not fewer than two 36-inch-wide (914 mm) pathways on separate roof planes, from lowest roof edge to ridge, shall be provided on all buildings. Not fewer than one pathway shall be provided on the street or driveway side of the roof. For each roof plane with a photovoltaic array, not fewer than one 36-inch-wide (914 mm) pathway from lowest roof edge to ridge shall be provided on the same roof plane as the photovoltaic array, on an adjacent roof plane or straddling the same and adjacent roof planes.

1205.2.1.2 Setbacks at ridge. For photovoltaic arrays occupying 33 percent or less of the plan view total roof area, a setback of not less than 18 inches (457 mm) wide is required on both sides of a horizontal ridge. For photovoltaic arrays occupying more than 33 percent of the plan view total roof area, a setback of not less than 36 inches (457 mm) wide is required on both sides of a horizontal ridge.

1205.2.1.3 Alternative setbacks at ridge. Where an *automatic sprinkler system* is installed within the *dwelling* in accordance with Section 903.3.1.3, setbacks at the ridge shall conform to one of the following:

1. For photovoltaic arrays occupying 66 percent or less of the plan view total roof area, a setback of not less than 18 inches (457 mm) wide is required on both sides of a horizontal ridge.
2. For photovoltaic arrays occupying more than 66 percent of the plan view total roof area, a setback of not less than 36 inches (914 mm) wide is required on both sides of a horizontal ridge.

1205.2.2 Emergency escape and rescue openings. Panels and modules installed on Group R-3 buildings shall not be placed on the portion of a roof that is below an emergency escape and rescue opening. A pathway of not less than 36 inches (914 mm) wide shall be provided to the emergency escape and rescue opening.

1205.2.3 Building-integrated photovoltaic (BIPV) systems. Where building-integrated photovoltaic (BIPV) systems are installed in a manner that creates areas with electrical hazards to be hidden from view, markings shall be provided to identify the hazardous areas to avoid for ladder placement. The markings shall be reflective and be visible from grade *beneath the eaves or other location approved by the fire code official.*

> **Exception:** BIPV systems *listed* in accordance with UL 3741, where the removal or cutting away of portions of the BIPV system during firefighting operations have been determined to not expose a firefighter to electrical shock hazards.

1205.3 Other than Group R-3 buildings. Access to systems for buildings, other than those containing Group R-3 occupancies, shall be provided in accordance with Sections 1205.3.1 through 1205.3.3.

> **Exception:** Where it is determined by the *fire code official* that the roof configuration is similar to that of a Group R-3 occupancy, the residential access and ventilation requirements in Sections 1205.2.1.1 through 1205.2.1.3 are a suitable alternative.

1205.3.1 Perimeter pathways. There shall be a minimum 6-foot-wide (1829 mm) clear perimeter around the edges of the roof.

> **Exception:** Where either axis of the building is 250 feet (76 200 mm) or less, the clear perimeter around the edges of the roof shall be permitted to be reduced to a minimum width of 4 feet (1219 mm).

1205.3.2 Interior pathways. Interior pathways shall be provided between array sections to meet the following requirements:

1. Pathways shall be provided at intervals not greater than 150 feet (45 720 mm) throughout the length and width of the roof.
2. A pathway not less than 4 feet (1219 mm) wide in a straight line to roof standpipes or ventilation hatches.
3. A pathway not less than 4 feet (1219 mm) wide around roof access hatches, with not fewer than one such pathway to a parapet or roof edge.

1205.3.3 Smoke ventilation. The solar installation shall be designed to meet the following requirements:

1. Where nongravity-operated smoke and heat vents occur, a pathway not less than 4 feet (1219 mm) wide shall be provided bordering all sides.
2. Where gravity-operated dropout smoke and heat vents occur, a pathway not less than 4 feet (1219 mm) wide on not fewer than one side.
3. Smoke ventilation options between array sections shall be one of the following:
   - 3.1. A pathway not less than 8 feet (2438 mm) wide.
   - 3.2. A pathway not less than 4 feet (1219 mm) wide bordering 4-foot by 8-foot (1219 mm by 2438 mm) venting cutouts every 20 feet (6096 mm) on alternating sides of the pathway.

1205.4 Buildings with rapid shutdown. Buildings with rapid shutdown solar photovoltaic systems shall have permanent labels in accordance with Sections 1205.4.1 through 1205.4.3.

1205.4.1 Rapid shutdown type. The type of solar photovoltaic system rapid shutdown shall be *labeled* with one of the following:

1. For solar photovoltaic systems that shut down the array and the conductors leaving the array, a label shall be provided. The first two lines of the label shall be uppercase characters with a minimum height of 3/8 inch (10 mm) in black on a yellow background. The remaining characters shall be uppercase with a minimum height of 3/16 inch (5 mm) in black on a white background. The label shall be in accordance with Figure 1205.4.1(1) and state the following:

   SOLAR PV SYSTEM EQUIPPED WITH RAPID SHUTDOWN. TURN RAPID SHUTDOWN SWITCH TO THE "OFF" POSITION TO SHUT DOWN PV SYSTEM AND REDUCE SHOCK HAZARD IN ARRAY.
2. For photovoltaic systems that only shut down conductors leaving the array, a label shall be provided. The first two lines of the label shall be uppercase characters with a minimum height of 3/8 inch (10 mm) in white on a red background and the remaining characters shall be capitalized with a minimum height of 3/16 inch

(5 mm) in black on a white background. The label shall be in accordance with Figure 1205.4.1(2) and state the following:

THIS SOLAR PV SYSTEM EQUIPPED WITH RAPID SHUTDOWN. TURN RAPID SHUTDOWN SWITCH TO THE "OFF" POSITION TO SHUT DOWN CONDUCTORS OUTSIDE THE ARRAY. CONDUCTORS WITHIN ARRAY REMAIN ENERGIZED IN SUNLIGHT.

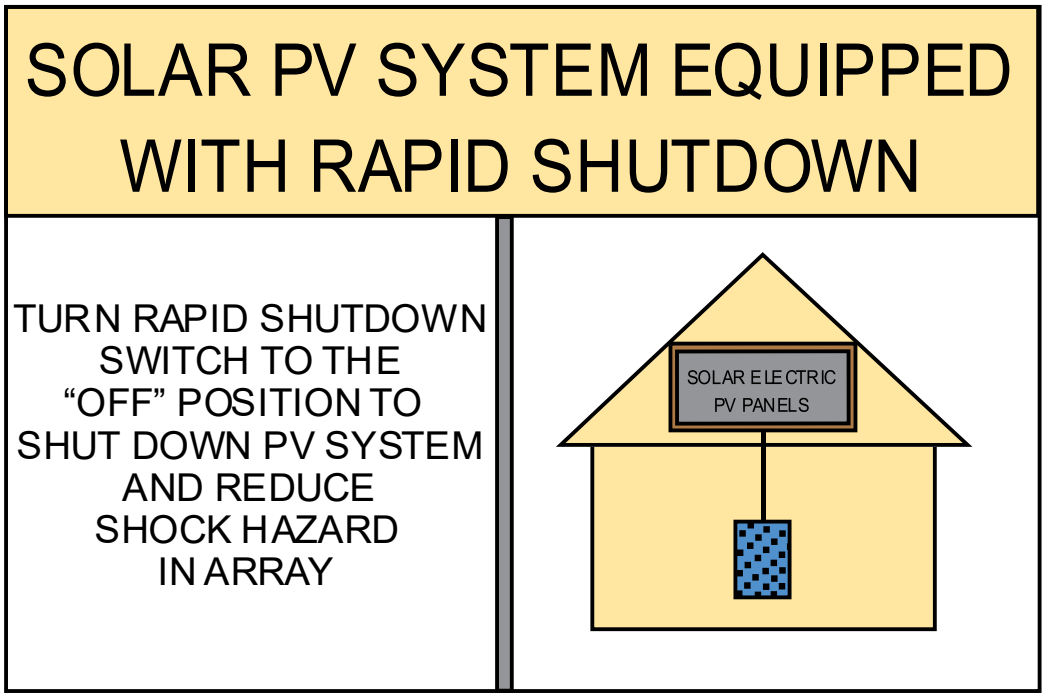

FIGURE 1205.4.1(1) LABEL FOR SOLAR PV SYSTEMS THAT REDUCE SHOCK HAZARD WITHIN ARRAY AND SHUT DOWN CONDUCTORS LEAVING ARRAY

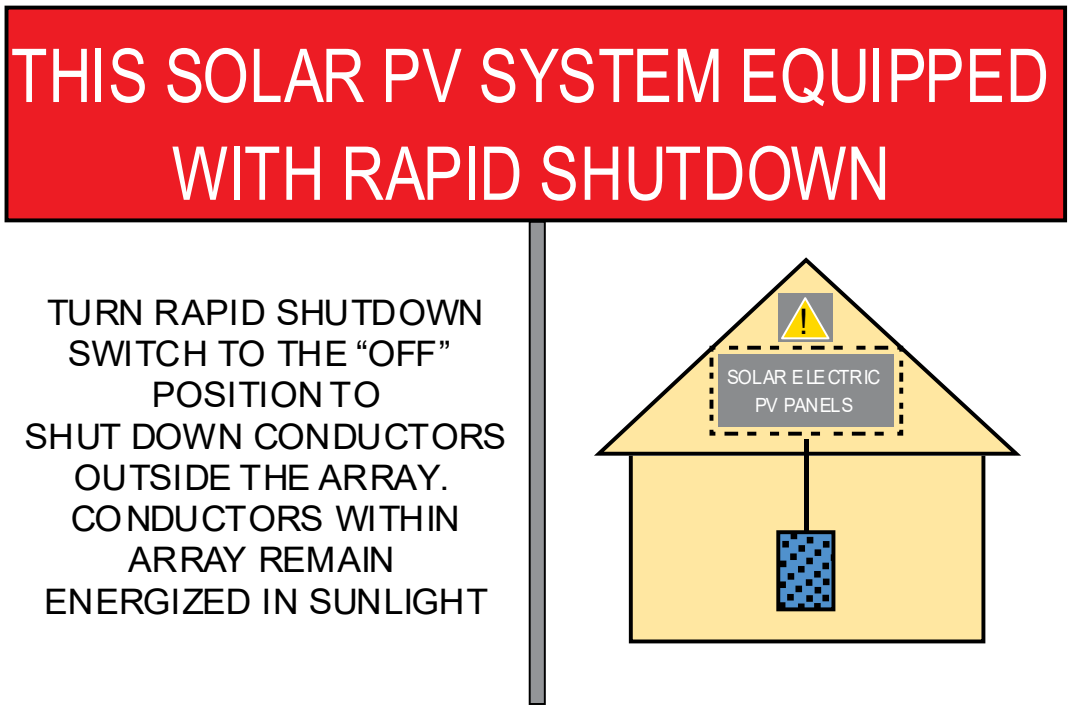

FIGURE 1205.4.1(2) LABEL FOR SOLAR PV SYSTEMS THAT ONLY SHUT DOWN CONDUCTORS LEAVING THE ARRAY

1205.4.1.1 Diagram. The labels in Section 1205.4.1 shall include a simple diagram of a building with a roof. Diagram sections in red signify sections of the solar photovoltaic system that are not shut down when the rapid shutdown switch is turned off.

1205.4.1.2 Location. The rapid shutdown label in Section 1205.4.1 shall be located not greater than 3 feet (914 mm) from the service disconnecting means to which the photovoltaic systems are connected, and shall indicate the location of all identified rapid shutdown switches if not at the same location.

1205.4.2 Buildings with more than one rapid shutdown type. Solar photovoltaic systems that contain rapid shutdown in accordance with both Items 1 and 2 of Section 1205.4.1 or solar photovoltaic systems where only portions of the systems on the building contain rapid shutdown, shall provide a detailed plan view diagram of the roof showing each different photovoltaic system and a dotted line around areas that remain energized after the rapid shutdown switch is operated.

1205.4.3 Rapid shutdown switch. A rapid shutdown switch shall have a label located not greater than 3 feet (914 mm) from the switch that states the following:

RAPID SHUTDOWN SWITCH FOR SOLAR PV SYSTEM

1205.5 Ground-mounted photovoltaic panel systems. Ground-mounted photovoltaic panel systems shall be installed in accordance with this section. Setback requirements shall not apply to ground-mounted, free-standing photovoltaic arrays.

1205.5.1 Vegetation control. A clear, brush-free area of 10 feet (3048 mm) shall be required around the perimeter of the ground-mounted photovoltaic arrays. A maintained vegetative surface or a noncombustible base, *approved* by the *fire code official*, shall be installed and maintained under the photovoltaic arrays and associated electrical equipment installations.

Section 1206 Stationary fuel cell power systems

1206.1 General. *Stationary fuel cell power systems* in new and existing occupancies shall comply with this section.
Exception: The temporary use of a fuel cell-powered electric vehicle to power a Group R-3 or R-4 building while parked shall comply with Section 1206.13.

1206.2 Permits. Permits shall be obtained for *stationary fuel cell power systems* as set forth in Section 105.6.10.

1206.3 Equipment. *Stationary fuel cell power systems* shall comply with the following:

1. *Prepackaged fuel cell power systems* shall be *listed* and *labeled* in accordance with CSA FC 1.
2. The modules and components in a *preengineered fuel cell power system* shall be *listed* and *labeled* in accordance with CSA FC 1 and interconnected to complete the assembly of the system at the job site in accordance with the manufacturer's instructions and the module and component listings.
3. *Field-fabricated fuel cell power systems* shall be *approved* based on a review of the technical report provided in accordance with Section 104.2.2. The report shall be prepared by and bear the stamp of a *registered design professional* and shall include:
    3.1. A fire risk evaluation.
    3.2. An evaluation demonstrating that modules and components in the fuel cell power system comply with applicable requirements in CSA FC 1.
    3.3. Documentation of the fuel cell power system's compliance with applicable NFPA 2 and NFPA 853 construction requirements.

1206.4 Installation. *Stationary fuel cell power systems* shall be installed and maintained in accordance with NFPA 70 and NFPA 853, the manufacturer's installation instructions, and the listing. *Stationary fuel cell power*

systems fueled by hydrogen shall be installed and maintained in accordance with NFPA 2 and NFPA 70, the manufacturer's installation instructions and the listing.

1206.5 Residential use. *Stationary fuel cell power systems* shall not be installed in Group R-3 and R-4 buildings, or *dwelling units* associated with Group R-2 buildings unless they are specifically *listed* for residential use.

> **Exception:** The temporary use of a fuel cell-powered electric vehicle to power a Group R-3 or R-4 building while parked shall comply with Section 1206.13.

1206.6 Indoor installations. *Stationary fuel cell power systems* installed in indoor locations shall comply with Sections 1206.6 through 1206.6.2. For purposes of this section, an indoor location includes a roof and 50 percent or greater enclosing walls.

1206.6.1 Listed. *Stationary fuel cell power systems* installed indoors shall be specifically *listed* and *labeled* for indoor use.

1206.6.2 Separation. Rooms containing *stationary fuel cell power systems* shall be separated from the following occupancies by *fire barriers* or *horizontal assemblies*, or both, constructed in accordance with the *International Building Code*.

1. Group B, F, M, S and U occupancies by 1-hour *fire-resistance-rated* construction.
2. Group A, E, I and R occupancies by 2-hour *fire-resistance-rated* construction.

   Exception: *Stationary fuel cell power systems* with an aggregate rating less than 50 kW shall not be required to be separated from other occupancies provided that the systems comply with Section 9.3 of NFPA 853.

1206.6.3 Gas detection systems. *Stationary fuel cell power systems* shall be provided with a gas detection system. Detection shall be provided in *approved* locations in the fuel cell power system enclosure, the exhaust system or the room that encloses the fuel cell power system. The system shall be designed to activate at a *flammable gas* concentration of not more than 25 percent of the lower flammable limit (LFL).

1206.6.3.1 System activation. The activation of the *gas detection system* shall automatically:

1. Close valves between the gas supply and the fuel cell power system.
2. Shut down the fuel cell power system.
3. Initiate local audible and visible alarms in *approved* locations.

1206.7 Vehicle impact protection. Where *stationary fuel cell power systems* are subject to impact by a motor vehicle, vehicle impact protection shall be provided in accordance with Section 312.

1206.8 Outdoor installation. *Stationary fuel cell power systems* located outdoors shall be separated by not less than 5 feet (1524 mm) from the following:

1. Lot lines.
2. Public ways.
3. Buildings.
4. Stored combustible materials.
5. Hazardous materials.
6. High-piled stock.
7. Any portion of a designated *means of egress* system.
8. Other exposure hazards.

1206.9 Fuel supply. The design, location and installation of the fuel supply for *stationary fuel cell power systems* shall comply with Chapter 53, Chapter 58 and the International Fuel Gas Code, based on the particular fuel being supplied to the system.

1206.10 Manual shutoff. Access to a manual shutoff valve shall be provided for the fuel piping within 6 feet (1829 mm) of any fuel storage tank serving the fuel cell and within 6 feet (1829 mm) of the power system. If the fuel tank and the *stationary fuel cell power system* are less than 12 feet (3658 mm) apart, a single shutoff valve shall be permitted. If the *stationary fuel cell power system* is located indoors, the shutoff valve shall be located outside of the room in which the system is installed, unless otherwise *approved* by the *fire code official*.

1206.11 Ventilation and exhaust. Ventilation and exhaust for stationary fuel cell power systems shall be provided in accordance with NFPA 853.

1206.12 Fire protection. Fire protection systems for stationary fuel cell power system installations shall be provided in accordance with NFPA 853.

1206.13 Group R-3 and R-4 fuel cell vehicle energy storage system use. The temporary use of the *dwelling unit owner* or occupant's fuel cell-powered electric vehicle to power a Group R-3 or R-4 dwelling while parked in an attached or detached garage or outside shall comply with the vehicle manufacturer's instructions and NFPA 70.

Section 1207 Electrical energy storage systems (ess)

1207.1 General. The provisions in this section are applicable to stationary and mobile electrical energy storage systems (ESS).

> **Exception:** ESS in Group R-3 and R-4 occupancies shall only be required to comply with Section 1207.11 except where Section 1207.11.4 requires compliance with Sections 1207.1 through 1207.9.

1207.1.1 Utilities and industrial applications. This section shall not apply to capacitors and capacitor equipment for electric utilities and industrial facilities used in applications such as flexible AC transmission (FACTS) devices, filter capacitor banks, power factor correction, and standalone capacitor banks for voltage correction and stabilization. (Material based on NFPA 855 2023 Ed.)

1207.1.2 Mobile ESS. Mobile ESS deployed at an electric utility substation or generation facility for 90 days or less shall not add to the threshold values in Table 1207.1.3 for the stationary ESS installation if both of the following conditions apply:

1. The mobile ESS complies with Section 1207.10.
2. The mobile ESS is being used only during periods in which the facility's stationary ESS is being tested, repaired, retrofitted or replaced.

(Material based on NFPA 855 2023 Ed.)

1207.1.3 Scope. ESS having capacities exceeding the values shown in Table 1207.1.3 shall comply with this section. (Material based on NFPA 855 2023 Ed.)

TABLE **1207.1.3** **ENERGY STORAGE SYSTEM (ESS) THRESHOLD QUANTITIES**

TECHNOLOGY	ENERGY CAPACITY[a]
Capacitor ESS	3 kWh
Flow batteries[b]	20 kWh
Lead-acid batteries, all types	70 kWh[c]
Lithium-ion batteries	20 kWh
Nickel-cadmium (Ni-Cd), nickel metal hydride (Ni-MH) and nickel zinc (Ni-Zn) batteries	70 kWh
Nonelectrochemical ESS[d]	70 kWh
Other battery technologies	10 kWh
Other electrochemical ESS technologies	3 kWh
Sodium nickel chloride batteries	70 kWh
Zinc manganese dioxide batteries ($Zn\text{-}MnO_2$)	70 kWh

For SI: 1 kilowatt hour = 3.6 megajoules.

a) Energy capacity is the total energy capable of being stored (nameplate rating), not the usable energy rating. For units rated in amp-hours, kWh shall equal rated voltage times amp-hour rating divided by 1,000.
b) Shall include vanadium, zinc-bromine, polysulfide-bromide and other flowing electrolyte-type technologies.
c) Fifty gallons of lead-acid battery electrolyte shall be considered equivalent to 70 kWh.
d) Covers nonelectrochemical technologies such as flywheel and thermal ESS.

1207.1.4 Permits. Permits shall be obtained for ESS as follows:

1. Construction permits shall be obtained for stationary ESS installations and for mobile ESS charging and storage installations covered by Section 1207.10.1. Permits shall be obtained in accordance with Section 105.6.6.
2. Operational permits shall be obtained for stationary ESS installations and for mobile ESS deployment operations covered by Section 1207.10.3. Permits shall be obtained in accordance with Section 105.5.14.

1207.1.4.1 Communication utilities. Operational permits shall not be required for lead-acid and nickel-cadmium battery systems at facilities under the exclusive control of communications utilities that comply with NFPA 76 and operate at less than 50 voltage alternating current (VAC) and 60 voltage direct current (VDC).

1207.1.5 Construction documents. The following information shall be provided with the permit application:

1. Location and layout diagram of the room or area in which the ESS is to be installed.
2. Details on the hourly *fire-resistance ratings* of assemblies enclosing the ESS.
3. The quantities and types of ESS to be installed.
4. Manufacturer's specifications, ratings and listings of each ESS.
5. Description of energy (battery) management systems and their operation.
6. Location and content of required signage.
7. Details on fire suppression, smoke or fire detection, thermal management, ventilation, exhaust and *deflagration* venting systems, if provided.
8. Support arrangement associated with the installation, including any required seismic restraint.
9. A commissioning plan complying with Section 1207.2.1.
10. A decommissioning plan complying with Section 1207.2.3.
11. A fire safety and evacuation plan in accordance with Section 404.

1207.1.5.1 Utilities applicability. Plans and specifications associated with ESS owned and operated by electric utilities as a component of the electric grid that are considered critical infrastructure documents in accordance with the provisions of the North American Electric Reliability Corporation and other applicable governmental laws and regulations shall be made available to the *fire code official* for viewing based on the requirements of the applicable governmental laws and regulations. (Material based on NFPA 855 2023 Ed.)

1207.1.6 Hazard mitigation analysis. A failure modes and effects analysis (FMEA) or other *approved* hazard mitigation analysis shall be provided in accordance with Section 104.2.2 under any of the following conditions:

1. Where ESS technologies not specifically identified in Table 1207.1.3 are provided.
2. More than one ESS technology is provided in a single fire area where there is a potential for adverse interaction between technologies.
3. Where allowed as a basis for increasing maximum allowable quantities. See Section 1207.5.2.
4. Where required by the *fire code official* to address a potential hazard with an ESS installation that is not addressed by existing requirements.

1207.1.6.1 Fault condition. The hazard mitigation analysis shall evaluate the consequences of the following failure modes. Only single failure modes shall be considered.

1. A thermal runaway condition in a single electrochemical ESS unit.
2. A mechanical failure of a nonelectrochemical ESS unit.
3. Failure of any battery (energy) management system or fire protection system within the ESS equipment that is not covered by the product listing failure mode effects analysis (FMEA).
4. Failure of any required protection system external to the ESS, including but not limited to ventilation (HVAC), exhaust ventilation, smoke detection, fire detection, gas detection or fire suppression system. (Material based on NFPA 855 2023 Ed.)

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1207.1.6.2 Analysis approval. The *fire code official* is authorized to approve the hazardous mitigation analysis provided that the consequences of the hazard mitigation analysis demonstrate:

1. Fires will be contained within unoccupied ESS rooms or areas for the minimum duration of the fire-resistance-rated separations identified in Section 1207.7.4.
2. Fires involving the ESS will allow occupants or the general public to evacuate to a safe location. (Material based on NFPA 855 2023 Ed.)

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1207.1.6.3 Additional protection measures. Construction, equipment and systems that are required for the ESS to comply with the hazardous mitigation analysis, including but not limited to those specifically described in Section 1207, shall be installed, maintained and tested in accordance with nationally recognized standards and specified design parameters.

1207.1.7 Large-scale fire test. Where required elsewhere in Section 1207, large-scale fire testing shall be conducted on a representative ESS in accordance with UL 9540A. The testing shall be conducted or witnessed and reported by an *approved* testing laboratory and show that a fire involving one ESS will not propagate to an adjacent ESS, and where installed within buildings, enclosed areas and walk-in units will be contained within the room, enclosed area or walk-in unit for the duration of the test. The test report shall be provided to the *fire code official* for review and approval in accordance with Section 104.2.2. (Material based on NFPA 855 2023 Ed.)

1207.1.8 Fire remediation. Where a fire or other event has damaged the ESS and ignition or re-ignition of the ESS is possible, the system *owner*, agent or lessee shall take the following actions, at their expense, to mitigate the hazard or remove damaged equipment from the premises to a safe location.

1207.1.8.1 Fire mitigation personnel. Where, in the opinion of the *fire code official*, it is essential for public safety that trained personnel be on-site to respond to possible ignition or re-ignition of a damaged ESS, the system *owner*, agent or lessee shall dispatch within 15 minutes one or more fire mitigation personnel to the premise, as required and *approved*, at their expense. These personnel shall remain on duty continuously after the fire department leaves the premise until the damaged energy storage equipment is removed from the premises, or earlier if the *fire code official* indicates the public safety hazard has been abated. (Material based on NFPA 855 2023 Ed.)

1207.1.8.2 Duties.
On-duty fire mitigation personnel shall have the following responsibilities:

1. Keep a diligent watch for fires, obstructions to *means of egress* and other hazards.
2. Immediately contact the fire department if their assistance is needed to mitigate any hazards or extinguish fires.
3. Take prompt measures for remediation of hazards in accordance with the decommissioning plan per Section 1207.2.3.
4. Take prompt measures to assist in the evacuation of the public from the structures. (Material based on NFPA 855 2023 Ed.)

1207.2 Commissioning, decommissioning, operation and maintenance. Commissioning, decommissioning, operation and maintenance shall be conducted in accordance with this section.

1207.2.1 Commissioning. Commissioning of newly installed ESS and existing ESS that have been retrofitted, replaced or previously decommissioned and are returning to service shall be conducted prior to the ESS being placed in service in accordance with a commissioning plan that has been *approved* prior to initiating commissioning. The commissioning plan shall include the following:

1. A narrative description of the activities that will be accomplished during each phase of commissioning, including the personnel intended to accomplish each of the activities.
2. A listing of the specific ESS and associated components, controls and safety-related devices to be tested, a description of the tests to be performed and the functions to be tested.
3. Conditions under which all testing will be performed, which are representative of the conditions during normal operation of the system.
4. Documentation of the owner's project requirements and the basis of design necessary to understand the installation and operation of the ESS.
5. Verification that required equipment and systems are installed in accordance with the *approved* plans and specifications.
6. Integrated testing for all fire and safety systems.
7. Testing for any required thermal management, ventilation or exhaust systems associated with the ESS installation.
8. Preparation and delivery of operation and maintenance documentation.
9. Training of facility operating and maintenance staff.
10. Identification and documentation of the requirements for maintaining system performance to meet the original design intent during the operation phase.
11. Identification and documentation of personnel who are qualified to service, maintain and decommission the ESS, and respond to incidents involving the ESS, including documentation that such service has been contracted for.
12. A decommissioning plan for removing the ESS from service, and from the facility in which it is located. The plan shall include details on providing a safe, orderly shutdown of energy storage and safety systems with notification to the code officials prior to the actual decommissioning of the system. The decommissioning plan shall include contingencies for removing an intact operational ESS from service, and for removing an ESS from service that has been damaged by a fire or other event.

    Exceptions:

    1. Commissioning shall not be required for lead-acid and nickel-cadmium battery systems at facilities under the exclusive control of communications utilities that comply with NFPA 76 and operate at less than 50 VAC and 60 VDC. A decommissioning plan shall be provided and maintained where required by the *fire code official*.

2. Lead-acid and nickel-cadmium battery systems less than 50 VAC, 60 VDC that are in telecommunications facilities for installations of communications equipment under the exclusive control of communications utilities, and are located outdoors or in building spaces or walk-in units used exclusively for such installations that are in compliance with NFPA 76, shall be permitted to have a commissioning plan in compliance with recognized industry practices in lieu of complying with Section 1207.2.1.
3. Lead-acid and nickel-cadmium battery systems that are used for DC power for control of substations and control or safe shutdown of generating stations under the exclusive control of the electric utilities, and are located in building spaces or walk-in units used exclusively for such installations, shall be permitted to have a commissioning plan in compliance with applicable governmental laws and regulations in lieu of developing a commissioning plan in accordance with Section 1207.2.1.

(Material based on NFPA 855 2023 Ed.)

1207.2.1.1 Initial acceptance testing. During the commissioning process an ESS shall be evaluated for proper operation in accordance with the manufacturer's instructions and the commissioning plan prior to final approval.

1207.2.1.2 Commissioning report. A report describing the results of the system commissioning, including the results of the initial acceptance testing required in Section 1207.2.1.1, shall be provided to the *fire code official* prior to final inspection and approval and maintained at an *approved* on-site location. (Material based on NFPA 855 2023 Ed.)

1207.2.2 Operation and maintenance. An operation and maintenance manual shall be provided to both the ESS *owner* or their authorized agent and the ESS operator before the ESS is put into operation and shall include the following:

1. Manufacturer's operation manuals and maintenance manuals for the entire ESS, or for each component of the system requiring maintenance, that clearly identify the required routine maintenance actions.
2. Name, address and phone number of a service agency that has been contracted to service the ESS and its associated safety systems.
3. Maintenance and calibration information, including wiring diagrams, control drawings, schematics, system programming instructions and control sequence descriptions, for all energy storage control systems.
4. Desired or field-determined control set points that are permanently recorded on control drawings at control devices or, for digital control systems, in system programming instructions.
5. A schedule for inspecting and recalibrating all ESS controls.
6. A service record log form that lists the schedule for all required servicing and maintenance actions and space for logging such actions that are completed over time and retained on-site.

The ESS shall be operated and maintained in accordance with the manual and a copy of the manual shall be retained at an approved on-site location.

1207.2.2.1 Ongoing inspection and testing. Systems that monitor and protect the ESS installation shall be inspected and tested in accordance with the manufacturer's instructions and the operation and maintenance manual. Inspection and testing records shall be maintained in the operation and maintenance manual.

1207.2.3 Decommissioning. The code official shall be notified prior to the decommissioning of an ESS. Decommissioning shall be performed in accordance with the decommissioning plan that includes the following:

1. A narrative description of the activities to be accomplished for removing the ESS from service, and from the facility in which it is located.
2. A listing of any contingencies for removing an intact operational ESS from service, and for removing an ESS from service that has been damaged by a fire or other event. (Material based on NFPA 855 2023 Ed.)

1207.3 Equipment. ESS equipment shall be in accordance with Sections 1207.3.1 through 1207.3.9.

1207.3.1 Energy storage system listings. ESS shall be *listed* in accordance with UL 9540.

Exceptions:

1. Lead-acid and nickel-cadmium battery systems less than 50 VAC, 60 VDC in telecommunications facilities for installations of communications equipment under the exclusive control of communications utilities located outdoors or in building spaces used exclusively for such installations that are in compliance with NFPA 76.
2. Lead-acid and nickel-cadmium battery systems that are used for DC power for control of substations and control or safe shutdown of generating stations under the exclusive control of the electric utility, and located outdoors or in building spaces used exclusively for such installations.
3. Lead-acid battery systems in uninterruptable power supplies *listed* and *labeled* in accordance with UL 1778 and utilized for standby power applications.

(Material based on NFPA 855 2023 Ed.)

1207.3.2 Equipment listing. Chargers, inverters and energy storage management systems shall be covered as part of the UL 9540 listing or shall be *listed* separately.

1207.3.3 Utility interactive systems. Inverters shall be *listed* and *labeled* in accordance with UL 1741. Only inverters *listed* and *labeled* for utility interactive system use and identified as interactive shall be allowed to operate in parallel with the electric utility power system to supply power to common loads.

1207.3.4 Energy storage management system. Where required by the ESS listing, an *approved* energy storage management system that monitors and balances cell voltages, currents and temperatures within the manufacturer's specifications shall be provided. The system shall disconnect electrical connections to the ESS or otherwise place it in a safe condition if potentially hazardous temperatures or other conditions such as short circuits, over voltage or under voltage are detected.

(Material based on NFPA 855 2023 Ed.)

1207.3.5 Enclosures. Enclosures of ESS shall be of noncombustible construction.

(Material based on NFPA 855 2023 Ed.)

1207.3.6 Repairs. Repairs of ESS shall only be done by qualified personnel. Repairs with other than identical parts shall be considered retrofitting and comply with Section 1207.3.7. Repairs shall be documented in the service records log.

(Material based on NFPA 855 2023 Ed.)

1207.3.7 Retrofits. Retrofitting of an existing ESS shall comply with the following:

1. A construction permit shall be obtained in accordance with Section 105.6.6.
2. New batteries, battery modules, capacitors and similar ESS components shall be *listed*.
3. Battery management and other monitoring systems shall be connected and installed in accordance with the manufacturer's instructions.
4. The overall installation shall continue to comply with UL 9540 listing requirements, where applicable.
5. Systems that have been retrofitted shall be commissioned in accordance with Section 1207.2.1.
6. Retrofits shall be documented in the service records log.

(Material based on NFPA 855 2023 Ed.)

1207.3.7.1 Retrofitting lead acid and nickel cadmium. Changing out or retrofitting of lead-acid and nickel-cadmium batteries with other lead-acid and nickel-cadmium batteries in the following applications shall be considered repairs where there is no increase in system size or energy capacity greater than 10 percent of the original design.

1. At facilities under the exclusive control of communications utilities that comply with NFPA 76 and operate at less than 50 VAC and 60 VDC.
2. Battery systems used for DC power for control of substations and control or safe shutdown of generating stations under the exclusive control of the electric utility, and located outdoors or in building spaces used exclusively for such installations.
3. Batteries in uninterruptible power supplies *listed* and *labeled* in accordance with UL 1778 and used for standby power applications only.

(Material based on NFPA 855 2023 Ed.)

1207.3.8 Replacements. Replacements of ESS shall be considered new ESS installations and shall comply with the provisions of Section 1207 as applicable to new ESS. The ESS being replaced shall be decommissioned in accordance with Section 1207.2.3. (Material based on NFPA 855 2023 Ed.)

1207.3.9 Reused and repurposed equipment. Equipment and materials shall only be reused or reinstalled as permitted in Section 104.9.1. Storage batteries previously used in other applications, such as electric vehicle propulsion, shall not be reused in applications regulated by Chapter 12 unless *approved* by the *fire code official* and unless the equipment is refurbished by a battery refurbishing company *approved* in accordance with UL 1974.

(Material based on NFPA 855 2023 Ed.)

1207.4 General installations requirements. Stationary and mobile ESS shall comply with the requirements of Sections 1207.4.1 through 1207.4.12.

1207.4.1 Electrical disconnects. Where the ESS disconnecting means is not within sight of the main electrical service disconnecting means, placards or directories shall be installed at the location of the main electrical service disconnecting means indicating the location of stationary storage battery system disconnecting means in accordance with NFPA 70 .

> **Exception:** Electrical disconnects for lead-acid and nickel-cadmium battery systems at facilities under the exclusive control of communications utilities and operating at less than 50 VAC and 60 VDC shall be permitted to have electrical disconnects signage in accordance with NFPA 76.

1207.4.2 Working clearances. Access and working space shall be provided and maintained about all electrical equipment to permit ready and safe operation and maintenance of such equipment in accordance with NFPA 70 and the manufacturer's instructions.

1207.4.3 Fire-resistance-rated separations. Rooms and other indoor areas containing ESS shall be separated from other areas of the building in accordance with Section 1207.7.4. ESS shall be permitted to be in the same room with the equipment they support.

1207.4.4 Seismic and structural design. Stationary ESS shall comply with the seismic design requirements in Chapter 16 of the *International Building Code*, and shall not exceed the floor loading limitation of the building.

1207.4.5 Vehicle impact protection. Where ESS are subject to impact by a motor vehicle, including forklifts, vehicle impact protection shall be provided in accordance with Section 312.

1207.4.6 Combustible storage. Combustible materials shall not be stored in ESS rooms, areas or walk-in units. Combustible materials in occupied work centers covered by Section 1207.4.10 shall be stored at least 3 feet (914 mm) from ESS cabinets.

1207.4.7 Toxic and highly toxic gases. ESS that have the potential to release toxic and highly toxic gas during charging, discharging and normal use conditions shall be provided with a hazardous exhaust system in accordance with Section 502.8 of the *International Mechanical Code*.

1207.4.8 Signage. *Approved* signs shall be provided on or adjacent to all entry doors for ESS rooms or areas and on enclosures of ESS cabinets and walk-in units located outdoors, on rooftops or in open parking garages. Signs designed to meet both the requirements of this section and NFPA 70 shall be permitted. The signage shall include the following or equivalent:

1. "ENERGY STORAGE SYSTEM," "BATTERY STORAGE SYSTEM," "CAPACITOR ENERGY STORAGE SYSTEM" or the equivalent.
2. The identification of the electrochemical ESS technology present.
3. "ENERGIZED ELECTRICAL CIRCUITS."
4. Where water-reactive electrochemical ESS are present, the signage shall include "APPLY NO WATER."
5. Current contact information, including phone number, for personnel authorized to service the equipment and for fire mitigation personnel required by Section 1207.1.8.1.

   Exception: Existing electrochemical ESS shall be permitted to include the signage required at the time they were installed. (Material based on NFPA 855 2023 Ed.)

1207.4.9 Security of installations. Rooms, areas and walk-in units in which electrochemical ESS are located shall be secured against unauthorized entry and safeguarded in an *approved* manner. Security barriers, fences, landscaping and other enclosures shall not inhibit the required air flow to or exhaust from the electrochemical ESS and its components. (Material based on NFPA 855 2023 Ed.)

1207.4.10 Occupied work centers.
Electrochemical ESS located in rooms or areas occupied by personnel not directly involved with maintenance, service and testing of the systems shall comply with the following:

1. Electrochemical ESS located in occupied work centers shall be housed in locked noncombustible cabinets or other enclosures to prevent access by unauthorized personnel.
2. Where electrochemical ESS are contained in cabinets in occupied work centers, the cabinets shall be located within 10 feet (3048 mm) of the equipment that they support.
3. Cabinets shall include signage complying with Section 1207.4.8. (Material based on NFPA 855 2023 Ed.)

1207.4.11 Open rack installations. Where electrochemical ESS are installed in a separate equipment room and only authorized personnel have access to the room, they shall be permitted to be installed on an open rack for ease of maintenance. (Material based on NFPA 855 2023 Ed.)

1207.4.12 Walk-in units. Walk-in units shall be entered only for inspection, maintenance and repair of ESS units and ancillary equipment, and shall not be occupied for other purposes.

1207.5 Electrochemical ESS protection. The protection of electrochemical ESS shall be in accordance with Sections 1207.5.1 through 1207.5.8 where required by Sections 1207.7 through 1207.10. (Material based on NFPA 855 2023 Ed.)

TABLE 1207.5 MAXIMUM ALLOWABLE QUANTITIES OF ELECTROCHEMICAL ESS

TECHNOLOGY	MAXIMUM ALLOWABLE QUANTITIES [a]
STORAGE BATTERIES	
Flow batteries[b]	600 kWh
Lead-acid, all types	Unlimited
Lithium-ion	600 kWh
Nickel-cadmium (Ni-Cd), nickel-metal hydride (NI-MH) and nickel zinc (Ni-Zn)	Unlimited
Sodium nickel chloride	600 kWh
Zinc-manganese dioxide (Zn-MnO_2)	Unlimited
Other battery technologies	200 kWh
CAPACITORS	
All types	20 kWh
OTHER ELECTROCHEMICAL ESS	
All types	20 kWh

For SI: 1 kilowatt hour = 3.6 megajoules.

a) For electrochemical ESS units rated in amp-hours, kWh shall equal rated voltage times the amp-hour rating divided by 1,000.
b) Shall include vanadium, zinc-bromine, polysulfide-bromide and other flowing electrolyte-type technologies.

1207.5.1 Size and separation. Electrochemical ESS shall be segregated into groups not exceeding 50 kWh (180 megajoules). Each group shall be separated a minimum of 3 feet (914 mm) from other groups and from walls in the storage room or area. The storage arrangements shall comply with Chapter 10 .

Exceptions: (Material based on NFPA 855 2023 Ed.)

1. Lead-acid and nickel-cadmium battery systems in facilities under the exclusive control of communications utilities and operating at less than 50 VAC and 60 VDC in accordance with NFPA 76.
2. Lead-acid and nickel-cadmium systems that are used for DC power for control of substations and control or safe shutdown of generating stations under the exclusive control of the electric utility, and located outdoors or in building spaces used exclusively for such installations.
3. Lead-acid battery systems in uninterruptable power supplies *listed* and *labeled* in accordance with UL 1778, utilized for standby power applications, and limited to not more than 10 percent of the floor area on the floor on which the ESS is located.
4. The *fire code official* is authorized to approve larger capacities or smaller separation distances based on large-scale fire testing complying with Section 1207.1.5.

1207.5.2 Maximum allowable quantities. *Fire areas* within rooms, areas and walk-in units containing electrochemical ESS shall not exceed the maximum allowable quantities in Table 1207.5.

Exceptions: (Material based on NFPA 855 2023 Ed.)

1. Where *approved* by the *fire code official*, rooms, areas and walk-in units containing electrochemical ESS that exceed the amounts in Table 1207.5 shall be permitted based on a hazardous mitigation analysis in accordance with Section 1207.1.6 and large-scale fire testing complying with Section 1207.1.7.
2. Lead-acid and nickel-cadmium battery systems installed in facilities under the exclusive control of communications utilities, and operating at less than 50 VAC and 60 VDC in accordance with NFPA 76.
3. Dedicated-use buildings in compliance with Section 1207.7.1.

1207.5.2.1 Mixed electrochemical energy systems. Where rooms, areas and walk-in units contain different types of electrochemical energy technologies, the total aggregate quantities of the systems shall be determined based on the sum of percentages of each technology-type quantity divided by the maximum allowable quantity of each technology type. The sum of the percentages shall not exceed 100 percent of the maximum allowable quantity.

1207.5.3 Elevation. Electrochemical ESS shall not be located in the following areas:

1. Where the floor is located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access.
2. Where the floor is located below the lowest level of *exit discharge* .

   Exceptions: (Material based on NFPA 855 2023 Ed.)

   1. Lead-acid and nickel-cadmium battery systems less than 50 VAC and 60 VDC installed in facilities under the exclusive control of communications utilities in accordance with NFPA 76.

      Lead-acid and nickel-cadmium systems that are used for DC power for control of substations and control or safe shutdown of generating stations under the exclusive control of the electric utility, and located outdoors or in building spaces used exclusively for such installations.
   2. Lead-acid battery systems in uninterruptable power supplies *listed* and *labeled* in accordance with UL 1778, utilized for standby power applications, which is limited to not more than 10 percent of the floor area on the floor on which the ESS is located.
   3. Where *approved*, installations shall be permitted in underground vaults complying with NFPA 70, Article 450, Part III.
   4. Where *approved* by the *fire code official*, installations shall be permitted on higher and lower floors.

1207.5.4 Fire detection. An *approved automatic smoke detection system* or radiant energy-sensing fire detection system complying with Section 907.2 shall be installed in rooms, indoor areas and walk-in units containing electrochemical ESS. An *approved* radiant energy-sensing fire detection system shall be installed to protect open parking garage and rooftop installations. Alarm signals from detection systems shall be transmitted to a central station, proprietary or remote station service in accordance with NFPA 72, or where *approved* to a constantly attended location.

Exception: Normally unoccupied, remote stand-alone telecommunications structures with a gross floor area of less than 1,500 square feet (139 m^2) utilizing lead-acid or nickel-cadmium batteries shall not be required to have a fire detection system installed. (Material based on NFPA 855 2023 Ed.)

1207.5.4.1 System status. Lead-acid and nickel-cadmium battery systems that are used for DC power for control of substations and control or safe shutdown of generating stations under the exclusive control of the electric utility, and located outdoors or in building spaces used exclusively for such installations, shall be allowed to use the process control system to monitor the smoke or radiant energy-sensing fire detectors required in Section 1207.5.4. (Material based on NFPA 855 2023 Ed.)

1207.5.5 Fire suppression systems. Rooms and areas within buildings and walk-in units containing electrochemical ESS shall be protected by an automatic fire suppression system designed and installed in accordance with one of the following:

1. *Automatic sprinkler systems* designed and installed in accordance with Section 903.3.1.1 for ESS units (groups) with a maximum stored energy capacity of 50 kWh, as described in Section 1207.5.1, shall be designed with a minimum density of 0.3 gpm/ft^2 (1.14 L/min) based over the area of the room or 2,500 square-foot (232 m^2) design area, whichever is smaller, unless a lower density is approved based on large-scale fire testing in accordance with Section 1207.1.7.
2. *Automatic sprinkler systems* designed and installed in accordance with Section 903.3.1.1 for ESS units (groups) exceeding 50 kWh shall use a density based on large-scale fire testing complying with Section 1207.1.7.
3. The following alternative *automatic fire-extinguishing systems* designed and installed in accordance with Section 904, provided that the installation is *approved* by the *fire code official* based on large-scale fire testing complying with Section 1207.1.7:

   3.1. NFPA 12, *Standard on Carbon Dioxide Extinguishing Systems*.

   3.2. NFPA 15, *Standard for Water Spray Fixed Systems for Fire Protection*.

   3.3. NFPA 750, *Standard on Water Mist Fire Protection Systems.*

   3.4. NFPA 2001, *Standard on Clean Agent Fire-Extinguishing Systems.*

   3.5. NFPA 2010, *Standard for Fixed Aerosol Fire-Extinguishing Systems.*

Exceptions:

1. Fire suppression systems for lead-acid and nickel-cadmium battery systems at facilities under the exclusive control of communications utilities that operate at less than 50 VAC and 60 VDC shall be provided where required by NFPA 76.
2. Lead-acid and nickel-cadmium systems that are used for DC power for control of substations and control or safe shutdown of generating stations under the exclusive control of the electric utility, and located outdoors or in building spaces used exclusively for such installations, shall not be required to have a fire suppression system installed.
3. Lead-acid battery systems in uninterruptable power supplies *listed* and *labeled* in accordance with UL 1778, utilized for standby power applications, which is limited to not more than 10 percent of the floor area on the floor on which the ESS is located, shall not be required to have a fire suppression system. (Material based on NFPA 855 2023 Ed.)

1207.5.5.1 Water-reactive systems. Electrochemical ESS that utilize water-reactive materials shall be protected by an *approved* alternative *automatic fire-extinguishing system* in accordance with Section 904, where the installation is *approved* by the *fire code official* based on large-scale fire testing complying with Section 1207.1.7.

1207.5.6 Maximum enclosure size. Outdoor walk-in units housing ESS shall not exceed 53 feet by 8 feet by 9.5 feet high (16 154 mm × 2438 mm × 2896 mm), not including bolt-on HVAC and related equipment, as *approved*. Outdoor walk-in units exceeding these limitations shall be considered indoor installations and comply with the requirements in Section 1207.7. (Material based on NFPA 855 2023 Ed.)

1207.5.7 Vegetation control. Areas within 10 feet (3048 mm) on each side of outdoor ESS shall be cleared of combustible vegetation and other combustible growth. Single specimens of trees, shrubbery or cultivated ground cover such as green grass, ivy, succulents or similar plants used as ground cover shall be permitted to be exempt provided that they do not form a means of readily transmitting fire. (Material based on NFPA 855 2023 Ed.)

1207.5.8 Means of egress separation. ESS located outdoors and in open parking garages shall be separated from any means of egress as required by the *fire code official* to ensure safe egress under fire conditions, but in no case less than 10 feet (3048 mm).

Exception: The *fire code official* is authorized to approve a reduced separation distance if large-scale fire testing complying with Section 1207.1.7 is provided that shows that a fire involving the ESS will not adversely impact occupant egress. (Material based on NFPA 855 2023 Ed.)

1207.6 Electrochemical ESS technology-specific protection. Electrochemical ESS installations shall comply with the requirements of this section in accordance with the applicable requirements of Table 1207.6. (Material based on NFPA 855 2023 Ed.)

TABLE 1207.6 ELECTROCHEMICAL ESS TECHNOLOGY-SPECIFIC REQUIREMENTS

COMPLIANCE REQUIRED[b]		BATTERY TECHNOLOGY						OTHER ESS AND BATTERY TECHNOLOGIES[b]	CAPACITOR ESS[b]
Feature	Section	Lead-acid	Nickel-cadmium (Ni-Cd), nickel-metal hydride (Ni-MH) and nickel zinc (Ni-Zn)	Zinc-manganese dioxide ($Zn-MnO_2$)	Lithium-ion	Flow	Sodium nickel chloride		
Exhaust ventilation	1207.6.1	Yes	Yes	Yes	No	Yes	No	Yes	Yes
Explosion control	1207.6.3	Yes[a]	Yes[a]	Yes	Yes	No	Yes	Yes	Yes
Safety caps	1207.6.4	Yes	Yes	No	No	No	No	Yes	Yes
Spill control and neutralization	1207.6.2	Yes[c]	Yes[c]	Yes[f]	No	Yes	No	Yes	Yes
Thermal runaway	1207.6.5	Yes[d]	Yes	Yes[e]	Yes[e]	No	Yes	Yes[e]	Yes

a) Not required for lead-acid and nickel-cadmium batteries at facilities under the exclusive control of communications utilities that comply with NFPA 76 and operate at less than 50 VAC and 60 VDC.
b) Protection shall be provided unless documentation acceptable to the fire code official is provided in accordance with Section 104.2.2 that provides justification why the protection is not necessary based on the technology used.
Applicable to vented-type (i.e., flooded) nickel-cadmium and lead-acid batteries.
c) Not required for vented-type (i.e., flooded) batteries.
d) The thermal runaway protection is permitted to be part of a battery management system that has been evaluated with the battery as part of the evaluation to UL 1973.
e) Not required for batteries with jelled electrolyte.

1207.6.1 Exhaust ventilation. Where required by Table 1207.6 or elsewhere in this code, exhaust ventilation of rooms, areas and walk-in units containing electrochemical ESS shall be provided in accordance with the *International Mechanical Code* and Section 1207.6.1.1 or 1207.6.1.2 .

1207.6.1.1 Ventilation based on LFL. The exhaust ventilation system shall be designed to limit the maximum concentration of *flammable gas* to 25 percent of the lower flammable limit (LFL) of the total volume of the room, area or walk-in unit during the worst-case event of simultaneous charging of batteries at the maximum charge rate, in accordance with nationally recognized standards.

1207.6.1.2 Ventilation based on exhaust rate. Mechanical exhaust ventilation shall be provided at a rate of not less than 1 $ft^3/min/ft^2$(5.1 $L/sec/m^2$) of floor area of the room, area or walk-in unit. The ventilation shall be either continuous or shall be activated by a *gas detection system* in accordance with Section 1207.6.1.2.4.

1207.6.1.2.1 Standby power. Mechanical exhaust ventilation shall be provided with a minimum of 2 hours of standby power in accordance with Section 1203.2.5.

1207.6.1.2.2 Installation instructions. Required mechanical exhaust ventilation systems shall be installed in accordance with the manufacturer's installation instructions and the *International Mechanical Code*.

1207.6.1.2.3 Supervision. Required mechanical exhaust ventilation systems shall be supervised by an *approved* central station, proprietary or remote station service in accordance with NFPA 72, or shall initiate an audible and visible signal at an *approved* constantly attended on-site location.

1207.6.1.2.4 Gas detection system. Where required by Section 1207.6.1.2, rooms, areas and walk-in units containing ESS shall be protected by an *approved* continuous *gas detection system* that complies with Section 916 and with the following:

1. The *gas detection system* shall be designed to activate the mechanical ventilation system when the level of *flammable gas* in the room, area or walk-in unit exceeds 25 percent of the LFL.
2. The mechanical ventilation system shall remain on until the *flammable gas* detected is less than 25 percent of the LFL.
3. The *gas detection system* shall be provided with a minimum of 2 hours of standby power in accordance with Section 1203.2.5.
4. Failure of the *gas detection system* shall annunciate a trouble signal at an *approved* central station, proprietary or remote station service in accordance with NFPA 72, or shall initiate an audible and visible trouble signal at an *approved* constantly attended on-site location. (Material based on NFPA 855 2023 Ed.)

1207.6.2 Spill control and neutralization. Where required by Table 1207.6 or elsewhere in this code, areas containing free-flowing liquid electrolyte or hazardous materials shall be provided with spill control and neutralization in accordance with this section. (Material based on NFPA 855 2023 Ed.)

1207.6.2.1 Spill control. Spill control shall be provided to prevent the flow of liquid electrolyte or hazardous materials to adjoining rooms or areas. The method shall be capable of containing a spill from the single largest battery or vessel. (Material based on NFPA 855 2023 Ed.)

1207.6.2.2 Neutralization. An *approved* method that is capable of neutralizing spilled liquid electrolyte from the largest battery or vessel to a pH between 5.0 and 9.0 shall be provided. (Material based on NFPA 855 2023 Ed.)

1207.6.2.3 Communications utilities. The requirements of Section 1207.6.2 shall apply only when the aggregate capacity of multiple vessels exceeds 1,000 gallons (3785 L) for lead-acid and nickel-cadmium battery systems operating at less than 50 VAC and 60 VDC that are located at facilities under the exclusive control of communications utilities, and those facilities comply with NFPA 76 in addition to applicable requirements of this code.

1207.6.3 Explosion control. Where required by Table 1207.6 or elsewhere in this code, explosion control complying with Section 911 shall be provided for rooms, areas, ESS cabinets or ESS walk-in units containing electrochemical ESS technologies.

Exceptions: (Material based on NFPA 855 2023 Ed.)

1. Where *approved*, explosion control is permitted to be waived by the *fire code official* based on large-scale fire testing complying with Section 1207.1.7 that demonstrates that *flammable gases* are not liberated from electrochemical ESS cells or modules.
2. Where *approved*, explosion control is permitted to be waived by the *fire code official* based on documentation provided in accordance with Section 104.2.2 that demonstrates that the electrochemical ESS technology to be used does not have the potential to release *flammable gas* concentrations in excess of 25 percent of the LFL anywhere in the room, area, walk-in unit or structure under thermal runaway or other fault conditions.
3. Where *approved*, ESS cabinets that have no debris, shrapnel or enclosure pieces ejected during large-scale fire testing complying with Section 1207.1.5 shall be permitted in lieu of providing explosion control complying with Section 911.
4. Explosion control is not required for lead-acid and nickel-cadmium battery systems less than 50 VAC, 60 VDC in telecommunication facilities under the exclusive control of communications utilities located in building spaces or walk-in units used exclusively for such installations.
5. Explosion control is not required for lead-acid and nickel-cadmium systems used for DC power for control of substations and control or safe shutdown of generating stations under the exclusive control of the electric utility, located in building spaces or walk-in units used exclusively for such installations.
6. Explosion control is not required for lead-acid battery systems in uninterruptable power supplies *listed* and *labeled* in accordance with UL 1778, utilized for standby power applications, and housed in a single cabinet in a single fire area in buildings or walk-in units.

1207.6.4 Safety caps. Where required by Table 1207.6 or elsewhere in this code, vented batteries and other ESS shall be provided with flame-arresting safety caps.

1207.6.5 Thermal runaway. Where required by Table 1207.6 or elsewhere in this code, batteries and other ESS shall be provided with a *listed* device or other *approved* method to prevent, detect and minimize the impact of thermal runaway.

1207.7 Indoor installations. Indoor ESS installations shall be in accordance with Sections 1207.7.1 through 1207.7.4. (Material based on NFPA 855 2023 Ed.)

TABLE 1207.7 INDOOR ESS INSTALLATIONS

COMPLIANCE REQUIRED[a]		DEDICATED-USE BUILDINGS[a]	NONDEDICATED-USE BUILDINGS[b]
Feature	**Section**		
Dwelling units and sleeping units	1207.7.3	NA	Yes
Elevation	1207.5.3	Yes	Yes
Fire suppression systems	1207.5.5	Yes[c]	Yes
Fire-resistance-rated separations	1207.7.4	Yes	Yes
General installation requirements	1207.4	Yes	Yes
Maximum allowable quantities	1207.5.2	No	Yes
Size and separation	1207.5.1	Yes	Yes
Smoke and automatic fire detection[e]	1207.5.4	Yes[d]	Yes
Technology specific protection	1207.6	Yes	Yes

NA = Not Allowed.

a) See Section 1207.7.1.
b) See Section 1207.7.2.
c) Where approved by the fire code official, fire suppression systems are permitted to be omitted in dedicated-use buildings located more than 100 feet (30.5 m) from buildings, lot lines, public ways, stored combustible materials, hazardous materials, high-piled stock and other exposure hazards.
d) Where *approved* by the fire code official, alarm signals are not required to be transmitted to a central station, proprietary or remote station service in accordance with NFPA 72, or a constantly attended location where local fire alarm annunciation is provided and trained personnel are always present.
e) Lead-acid and nickel-cadmium battery systems installed in Group U buildings and structures less than 1,500 square feet (139 m^2) under the exclusive control of communications utilities, and operating at less than 50 VAC and 60 VDC in accordance with NFPA 76, are not required to have an *approved* automatic smoke or fire detection system.

1207.7.1 Dedicated-use buildings. For the purpose of Table 1207.7, dedicated-use ESS buildings shall be classified as Group F-1 occupancies and comply with all the following:

1. The building shall only be used for ESS, electrical energy generation and other electrical grid-related operations.
2. Occupants in the rooms and areas containing ESS are limited to personnel that operate, maintain, service, test and repair the ESS and other energy systems.
3. No other occupancy types shall be permitted in the building.
4. Administrative and support personnel shall be permitted in areas within the buildings that do not contain ESS, provided that:

   4.1. The areas do not occupy more than 10 percent of the *building area* of the story in which they are located.

4.2. A *means of egress* is provided from the incidental use areas to the *public way* that does not require occupants to traverse through areas containing ESS or other energy system equipment. (Material based on NFPA 855 2023 Ed.)

1207.7.2 Nondedicated-use buildings. For the purpose of Table 1207.7, nondedicated-use buildings include all buildings that contain ESS and do not comply with Section 1207.7.1 dedicated-use building requirements. (Material based on NFPA 855 2023 Ed.)

1207.7.3 Dwelling units and sleeping units. ESS shall not be installed in *sleeping units* or in *habitable spaces* of *dwelling units*. (Material based on NFPA 855 2023 Ed.)

1207.7.4 Fire-resistance-rated separations. Rooms and areas containing ESS shall include *fire-resistance-rated* separations as follows:

1. In dedicated-use buildings, rooms and areas containing ESS shall be separated from areas in which administrative and support personnel are located.
2. In nondedicated-use buildings, rooms and areas containing ESS shall be separated from other areas in the building.

Separation shall be provided by 2-hour *fire barriers* constructed in accordance with Section 707 of the *International Building Code* and 2-hour *horizontal assemblies* constructed in accordance with Section 711 of the *International Building Code*, as appropriate. (Material based on NFPA 855 2023 Ed.)

1207.8 Outdoor installations. Outdoor installations shall be in accordance with Sections 1207.8.1 through 1207.8.3. *Exterior wall* installations for individual ESS units not exceeding 20 kWh shall be in accordance with Section 1207.8.4. (Material based on NFPA 855 2023 Ed.)

TABLE 1207.8 OUTDOOR ESS INSTALLATIONS

COMPLIANCE REQUIRED		REMOTE INSTALLATIONS[a]	INSTALLATIONS NEAR EXPOSURES[b]
Feature	Section		
All ESS installations	1207.4	Yes	Yes
Clearance to exposures	1207.8.3	Yes	Yes
Fire suppression systems	1207.5.5	Yes[c]	Yes
Maximum allowable quantities	1207.5.2	No	Yes
Maximum enclosure size	1207.5.6	Yes	Yes
Means of egress separation	1207.5.8	Yes	Yes
Size and separation	1207.5.1	No	Yes[d]
Smoke and automatic fire detection	1207.5.4	Yes	Yes
Technology-specific protection	1207.6	Yes	Yes
Vegetation control	1207.5.7	Yes	Yes

a) See Section 1207.8.1.
b) See Section 1207.8.2.
c) Where *approved* by the fire code official, fire suppression systems are permitted to be omitted.
d) In outdoor walk-in units, spacing is not required between ESS units and the walls of the enclosure.

1207.8.1 Remote outdoor installations. For the purpose of Table 1207.8, remote outdoor installations include ESS located more than 100 feet (30 480 mm) from buildings, lot lines, public ways, stored combustible materials, hazardous materials, high-piled stock and other exposure hazards. (Material based on NFPA 855 2023 Ed.)

1207.8.2 Installations near exposures. For the purpose of Table 1207.8, installations near exposures include all outdoor ESS installations that do not comply with Section 1207.8.1 remote outdoor location requirements. (Material based on NFPA 855 2023 Ed.)

1207.8.3 Clearance to exposures. ESS located outdoors shall be separated by a minimum of 10 feet (3048 mm) from the following exposures:

1. Lot lines.
2. Public ways.
3. Buildings.
4. Stored combustible materials.
5. Hazardous materials.
6. High-piled stock.
7. Other exposure hazards.

   Exceptions: (Material based on NFPA 855 2023 Ed.)

   1. Clearances are permitted to be reduced to 3 feet (914 mm) where a 1-hour free-standing *fire barrier* suitable for exterior use and extending 5 feet (1524 mm) above and 5 feet (1524 mm) beyond the physical boundary of the ESS installation is provided to protect the exposure.
   2. Clearances to buildings are permitted to be reduced to 3 feet (914 mm) where noncombustible *exterior walls* with no openings or combustible overhangs are provided on the wall adjacent to the ESS and the *fire-resistance rating* of the *exterior wall* is a minimum of 2 hours.
   3. Clearances to buildings are permitted to be reduced to 3 feet (914 mm) where a weatherproof enclosure constructed of noncombustible materials is provided over the ESS, and it has been demonstrated that a fire within the enclosure will not ignite combustible materials outside the enclosure based on large-scale fire testing complying with Section 1207.1.7.

1207.8.4 Exterior wall installations. ESS shall be permitted to be installed outdoors on *exterior walls* of buildings when all of the following conditions are met:

1. The maximum energy capacity of individual ESS units shall not exceed 20 kWh.
2. The ESS shall comply with applicable requirements in Section 1207 .
3. The ESS shall be installed in accordance with the manufacturer's instructions and their listing.
4. Individual ESS units shall be separated from each other by at least 3 feet (914 mm).
5. The ESS shall be separated from doors, windows, operable openings into buildings or HVAC inlets by at least 5 feet (1524 mm).
   Exception: Where *approved*, smaller separation distances in Items 4 and 5 shall be permitted based on large-scale fire testing complying with Section 1207.1.7. (Material based on NFPA 855 2023 Ed.)

1207.9 Special installations. Rooftop and open parking garage ESS installations shall comply with Sections 1207.9.1 through 1207.9.6.

TABLE 1207.9 SPECIAL ESS INSTALLATIONS

COMPLIANCE REQUIRED		ROOFTOPS[a]	OPEN PARKING GARAGES[b]
Feature	**Section**		
All ESS installations	1207.4	Yes	Yes
Clearance to exposures	1207.9.3	Yes	Yes
Fire suppression systems	1207.9.4	Yes	Yes
Maximum allowable quantities	1207.5.2	Yes	Yes
Maximum enclosure size	1207.5.6	Yes	Yes
Means of egress separation	1207.5.8	Yes	Yes
Open parking garage installations	1207.9.6	No	Yes
Rooftop installations	1207.9.5	Yes	No
Size and separation	1207.5.1	Yes	Yes
Smoke and automatic fire detection	1207.5.4	Yes	Yes
Technology-specific protection	1207.6	Yes	Yes

a) See Section 1207.9.1.
b) See Section 1207.9.2.

1207.9.1 Rooftop installations. For the purpose of Table 1207.9, rooftop ESS installations are those located on the roofs of buildings. (Material based on NFPA 855 2023 Ed.)

1207.9.2 Open parking garage installations. For the purpose of Table 1207.9, open parking garage ESS installations are those located in a structure or portion of a structure that complies with Section 406.5 of the *International Building Code*. (Material based on NFPA 855 2023 Ed.)

1207.9.3 Clearance to exposures. ESS located on rooftops and in open parking garages shall be separated by a minimum of 10 feet (3048 mm) from the following exposures:

1. Buildings, except the building on which rooftop ESS is mounted.
2. Any portion of the building on which a rooftop system is mounted that is elevated above the rooftop on which the system is installed.
3. Lot lines.
4. Public ways.
5. Stored combustible materials.
6. Locations where motor vehicles can be parked.
7. Hazardous materials.
8. Other exposure hazards.

Exceptions:

1. Clearances are permitted to be reduced to 3 feet (914 mm) where a 1-hour free-standing *fire barrier* suitable for exterior use and extending 5 feet (1524 mm) above and 5 feet (1524 mm) beyond the physical boundary of the ESS installation is provided to protect the exposure.
2. Clearances are permitted to be reduced to 3 feet (914 mm) where a weatherproof enclosure constructed of noncombustible materials is provided over the ESS, and it has been demonstrated that a fire within the enclosure will not ignite combustible materials outside the enclosure based on large-scale fire testing complying with Section 1207.1.7. (Material based on NFPA 855 2023 Ed.)

1207.9.4 Fire suppression systems. ESS located in walk-in units on rooftops or in walk-in units in open parking garages shall be provided with automatic fire suppression systems within the ESS enclosure in accordance with Section 1207.5.5. Areas containing ESS other than walk-in units in open parking structures on levels not open above to the sky shall be provided with an automatic fire suppression system complying with Section 1207.5.5 .

> **Exception:** A fire suppression system is not required in open parking garages if large-scale fire testing complying with Section 1207.1.7 is provided that shows that a fire will not impact the exposures in Section 1207.9.3. (Material based on NFPA 855 2023 Ed.)

1207.9.5 Rooftop installations. ESS and associated equipment that are located on rooftops and not enclosed by building construction shall comply with the following:

1. Stairway access to the roof for emergency response and fire department personnel shall be provided either through a bulkhead from the interior of the building or a stairway on the exterior of the building.
2. Service walkways at least 5 feet (1524 mm) in width shall be provided for service and emergency personnel from the point of access to the roof to the system.
3. ESS and associated equipment shall be located from the edge of the roof a distance equal to at least the height of the system, equipment or component but not less than 5 feet (1524 mm).
4. The roofing materials under and within 5 feet (1524 mm) horizontally from an ESS or associated equipment shall be noncombustible or shall have a Class A rating when tested in accordance with ASTM E108 or UL 790.
5. A Class I standpipe outlet shall be installed at an *approved* location on the roof level of the building or in the stairway bulkhead at the top level.
6. The ESS shall be the minimum of 10 feet (3048 mm) from the fire service access point on the rooftop. (Material based on NFPA 855 2023 Ed.)

1207.9.6 Open parking garages. ESS and associated equipment that are located in open parking garages shall comply with all of the following:

1. ESS shall not be located within 50 feet (15 240 mm) of air inlets for building HVAC systems.

   Exception: This distance shall be permitted to be reduced to 25 feet (7620 mm) if the automatic *fire alarm system* monitoring the radiant-energy sensing detectors de-energizes the ventilation system connected to the air intakes upon detection of fire.
2. ESS shall not be located within 25 feet (7620 mm) of *exits* leading from the attached building where located on a covered level of the parking structure not directly open to the sky above.
3. An *approved* fence with a locked gate or other *approved* barrier shall be provided to keep the general public at least 5 feet (1524 mm) from the outer enclosure of the ESS. (Material based on NFPA 855 2023 Ed.)

1207.10 Mobile ESS equipment and operations. Mobile ESS equipment and operations shall comply with Sections 1207.10.1 through 1207.10.7.7 . (Material based on NFPA 855 2023 Ed.)

TABLE 1207.10 MOBILE ENERGY STORAGE SYSTEMS (ESS)

COMPLIANCE REQUIRED		DEPLOYMENT[a]
Feature	**Section**	
All ESS installations	1207.4	Yes[b]
Fire suppression systems	1207.5.5	Yes[c]
Maximum allowable quantities	1207.5.2	Yes
Maximum enclosure size	1207.5.6	Yes
Means of egress separation	1207.5.8	Yes
Size and separation	1207.5.1	Yesd
Smoke and automatic fire detection	1207.5.4	Yes[e]
Technology-specific protection	1207.6	Yes
Vegetation control	1207.5.7	Yes

a) See Section 1207.10.2.
b) Mobile operations on wheeled vehicles and trailers shall not be required to comply with Section 1207.4.4 seismic and structural load requirements.
c) Fire suppression system connections to the water supply shall be permitted to use *approved* temporary connections.
d) In walk-in units, spacing is not required between ESS units and the walls of the enclosure.
e) Alarm signals are not required to be transmitted to an *approved* location for mobile ESS deployed 30 days or less.

1207.10.1 Charging and storage. For the purpose of Section 1207.10, charging and storage covers the operation where mobile ESS are charged and stored so they are ready for deployment to another site, and where they are charged and stored after a deployment.

> **Exception:** Mobile ESS used to temporarily provide power to lead-acid and nickel-cadmium systems that are used for DC power for control of substations and control or safe shutdown of generating stations under the exclusive control of the electric utility, and located outdoors or in building spaces used exclusively for such installations. (Material based on NFPA 855 2023 Ed.)

1207.10.2 Deployment. For the purpose of Section 1207.10, deployment covers operations where mobile ESS are located at a site other than the charging and storage site and are being used to provide power.

> **Exception:** Mobile ESS used to temporarily provide power to lead-acid and nickel-cadmium systems that are used for DC power for control of substations and control or safe shutdown of generating stations under the exclusive control of the electric utility, and located outdoors or in building spaces used exclusively for such installations. (Material based on NFPA 855 2023 Ed.)

1207.10.3 Permits. Construction and operational permits shall be provided for charging and storage of mobile ESS and operational permits shall be provided for deployment of mobile ESS as required by Section 1207.1.4.

1207.10.4 Construction documents. *Construction documents* complying with Section 1207.1.5 shall be provided with the construction permit application for mobile ESS charging and storage locations.

1207.10.4.1 Deployment documents. The following information shall be provided with the operation permit applications for mobile ESS deployments:

1. Relevant information for the mobile ESS equipment and protection measures in the *construction documents* required by Section 1207.1.5.
2. Location and layout diagram of the area in which the mobile ESS is to be deployed, including a scale diagram of all nearby exposures.
3. Location and content of signage, including no smoking signs.
4. Description of fencing to be provided around the ESS, including locking methods.
5. Details on fire suppression, smoke and automatic fire detection, system monitoring, thermal management, exhaust ventilation and explosion control, if provided.
6. For deployment, the intended duration of operation, including anticipated connection and disconnection times and dates.
7. Location and description of local staging stops during transit to the deployment site. See Section 1207.10.7.5.
8. Description of the temporary wiring, including connection methods, conductor type and size, and circuit overcurrent protection to be provided.
9. Description of how fire suppression system connections to water supplies or extinguishing agents are to be provided.
10. Contact information for personnel who are responsible for maintaining and servicing the equipment, and responding to emergencies as required by Section 1207.1.8.1. (Material based on NFPA 855 2023 Ed.)

1207.10.5 Approved locations. Locations where mobile ESS are charged, stored and deployed shall be restricted to the locations established on the construction and operational permits. (Material based on NFPA 855 2023 Ed.)

1207.10.6 Charging and storage. Installations where mobile ESS are charged and stored shall be treated as permanent ESS indoor or outdoor installations, and shall comply with the following sections, as applicable:

1. Indoor charging and storage shall comply with Section 1207.7.
2. Outdoor charging and storage shall comply with Section 1207.8.
3. Charging and storage on rooftops and in open parking garages shall comply with Section 1207.9 .

Exceptions:

1. Electrical connections shall be permitted to be made using temporary wiring complying with the manufacturer's instructions, the UL 9540 listing and NFPA 70.
2. Fire suppression system connections to the water supply shall be permitted to use *approved* temporary connections. (Material based on NFPA 855 2023 Ed.)

1207.10.7 Deployed mobile ESS requirements. Deployed mobile ESS equipment and operations shall comply with this section and Table 1207.10. (Material based on NFPA 855 2023 Ed.)

1207.10.7.1 Duration. The duration of mobile ESS deployment shall not exceed 30 days.

Exceptions:

1. Mobile ESS deployments that provide power for durations longer than 30 days shall comply with Section 1207.10.6.
2. Mobile ESS deployments shall not exceed 180 days unless additional operational permits are obtained. (Material based on NFPA 855 2023 Ed.)

1207.10.7.2 Restricted locations. Deployed mobile ESS operations shall not be located indoors, in covered parking garages, on rooftops, below grade or under building overhangs. (Material based on NFPA 855 2023 Ed.)

1207.10.7.3 Clearance to exposures. Deployed mobile ESS shall be separated by a minimum of 10 feet (3048 mm) from the following exposures:

1. Public ways.
2. Buildings.
3. Stored combustible materials.
4. Hazardous materials.
5. High-piled storage.
6. Other exposure hazards.

Deployed mobile ESS shall be separated by a minimum of 50 feet (15 240 mm) from public seating areas and from tents, canopies and membrane structures with an *occupant load* of 30 or more. (Material based on NFPA 855 2023 Ed.)

1207.10.7.4 Electrical connections. Electrical connections shall be made in accordance with the manufacturer's instructions and the UL 9540 listing. Temporary wiring for electrical power connections shall comply with NFPA 70. Fixed electrical wiring shall not be provided. (Material based on NFPA 855 2023 Ed.)

1207.10.7.5 Local staging. Mobile ESS in transit from the charging and storage location to the deployment location and back shall not be parked within 100 feet (30 480 mm) of an occupied building for more than 1 hour during transit, unless specifically *approved* by the *fire code official* when the permit is issued. (Material based on NFPA 855 2023 Ed.)

1207.10.7.6 Fencing. An *approved* fence with a locked gate or other *approved* barrier shall be provided to keep the general public at least 5 feet (1524 mm) from the outer enclosure of a deployed mobile ESS. (Material based on NFPA 855 2023 Ed.)

1207.10.7.7 Smoking. Smoking shall be prohibited within 10 feet (3048 mm) of mobile ESS. Signs shall be posted in accordance with Section 310.

1207.11 ESS in Group R-3 and R-4 occupancies. ESS in Group R-3 and R-4 occupancies shall be in accordance with Sections 1207.11.1 through 1207.11.9.

Exceptions:

1. ESS *listed* and *labeled* in accordance with UL 9540 and marked "For use in residential *dwelling units*," where installed in accordance with the manufacturer's instructions and NFPA 70.
2. ESS rated less than 1 kWh (3.6 megajoules).

1207.11.1 Equipment listings. ESS shall be *listed* and *labeled* in accordance with UL 9540.

➡

1207.11.2 Installation. ESS shall be installed in accordance with the manufacturer's instructions and their listing. (Material based on NFPA 855 2023 Ed.)

1207.11.2.1 Spacing. Individual ESS units shall be separated from each other by at least 3 feet (914 mm) except where smaller separation distances are documented to be adequate based on large-scale fire testing complying with Section 1207.1.7.

1207.11.3 Location. ESS shall be installed only in the following locations:

1. Detached garages and detached accessory structures.
2. Attached garages separated from the *dwelling unit* living space and *sleeping units* in accordance with Section 406.3.2 of the *International Building Code*.
3. Outdoors or on the exterior side of exterior walls located a minimum of 3 feet (914 mm) from doors and windows directly entering the *dwelling unit*.
4. Enclosed utility closets, *basements*, and storage or utility spaces within *dwelling units* and *sleeping units* with finished or noncombustible walls and ceilings. Walls and ceilings of unfinished wood-framed construction shall be provided with not less than 5/8-inch Type X gypsum wallboard.

ESS shall not be installed in sleeping rooms, or in closets or spaces opening directly into sleeping rooms. (Material based on NFPA 855 2023 Ed.)

1207.11.4 Energy ratings. Individual ESS units shall have a maximum rating of 20 kWh. The aggregate rating of the ESS shall not exceed:

1. 40 kWh within utility closets, *basements*, and storage or utility spaces.
2. 80 kWh in attached or detached garages and detached accessory structures.
3. 80 kWh on *exterior walls*.
4. 80 kWh outdoors on the ground.

ESS installations exceeding the permitted individual or aggregate ratings shall be installed in accordance with Sections 1207.1 through 1207.9. (Material based on NFPA 855 2023 Ed.)

1207.11.5 Electrical installation. ESS shall be installed in accordance with NFPA 70. Inverters shall be *listed* and *labeled* in accordance with UL 1741 or provided as part of the UL 9540 listing. Systems connected to the utility grid shall use inverters *listed* for utility interaction. (Material based on NFPA 855 2023 Ed.)

1207.11.6 Fire detection. ESS installed in Group R-3 and R-4 occupancies shall comply with the following:

1. Rooms and areas within *dwelling units*, *sleeping units*, basements and attached garages in which ESS are installed shall be protected by smoke alarms in accordance with Section 907.2.11.
2. A *listed* heat alarm shall be installed in locations where smoke alarms cannot be installed based on their listing.

1207.11.7 Protection from impact. ESS installed in a location subject to vehicle damage in accordance with Section 1207.11.7.1 or 1207.11.7.2 shall be provided with impact protection in accordance with Section 1207.11.7.3..

1207.11.7.1 Garages. Where an ESS is installed in the normal driving path of vehicle travel within a garage, impact protection complying with Section 1207.11.3 shall be provided. The normal driving path is a space between the garage vehicle opening and the interior face of the back wall to a height of 48 inches (1219 mm) above the finished floor. The width of the normal driving path shall be equal to the width of the garage door opening. Impact protection shall also be provided for an ESS installed at either of the following locations (see Figure 1207.11.7.1):

1. On the interior face of the back wall and located within 36 inches (914 mm) to the left or to the right of the normal driving path.
2. On the interior face of a side wall and located within 24 inches (610 mm) of the back wall and 36 inches (914 mm) of the normal driving path.

   Exception: Where the clear height of the vehicle garage opening is 7 feet 6 inches (2286 mm) or less, ESS installed not less than 36 inches (914 mm) above the finished floor are not subject to vehicle impact protection requirements.

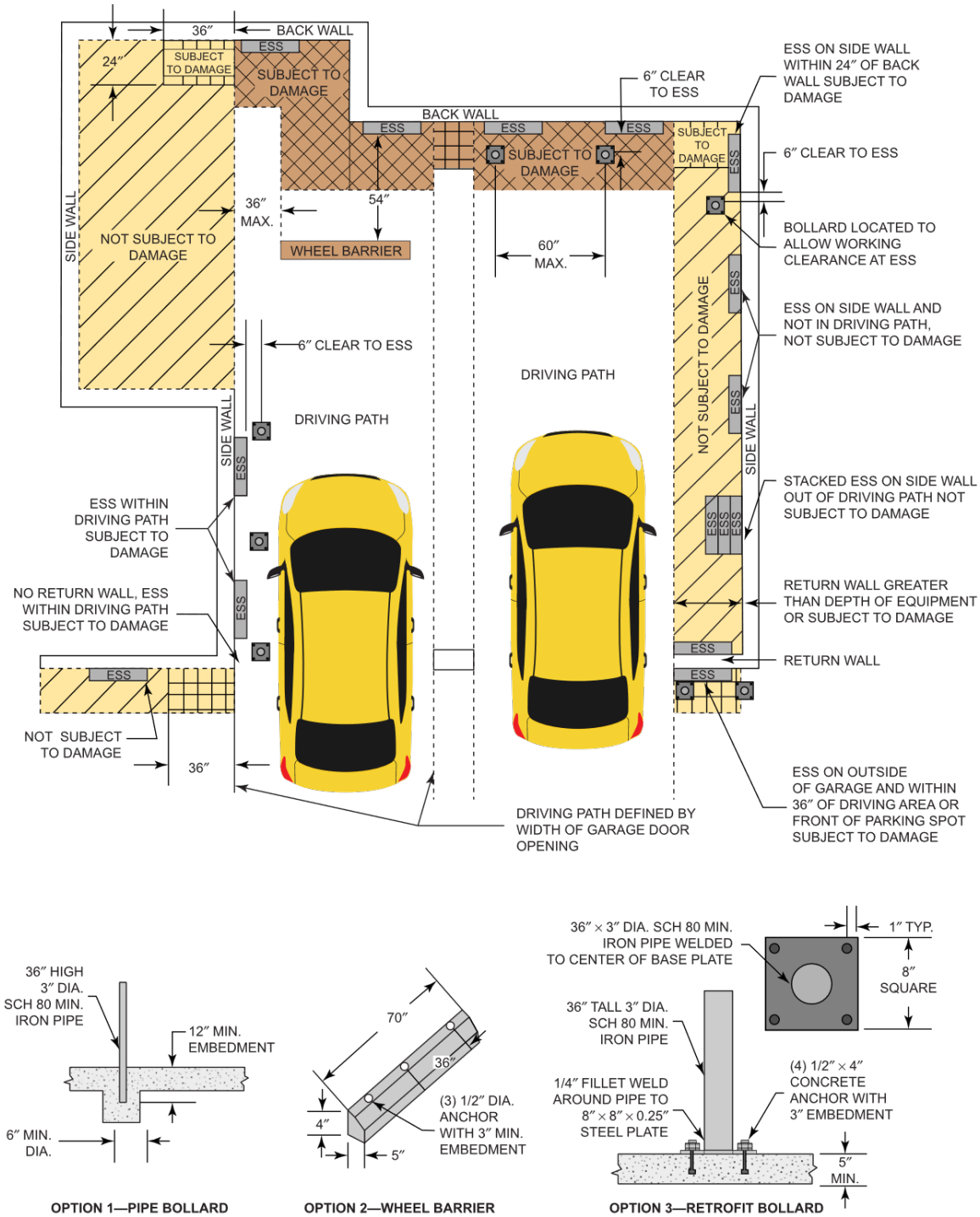

FIGURE **1207.11.7.1 ESS VEHICLE IMPACT PROTECTION**

1207.11.7.2 Other locations subject to vehicle impact. Where an ESS is installed in a location other than as defined in Section 1207.11.7.1 and is subject to vehicle damage, impact protection shall be provided in accordance with Section 1207.11.7.3.

1207.11.7.3 Impact protection options. Where ESS is required to be protected from impact in accordance with Section 1207.11.7.1 or 1207.11.7.2, such protection shall comply with one of the following:

1. Bollards constructed in accordance with one of the following:
   - 1.1 Minimum 48 inches (1219 mm) in length by 3 inches (76 mm) in diameter Schedule 80 steel pipe embedded in a concrete pier not less than 12 inches (304 mm) deep and 6 inches (152 mm) in diameter, with at least 36 inches (914 mm) of pipe exposed, filled with concrete and spaced at a maximum interval of 5 feet (1524 mm). Each bollard shall be located not less than 6 inches (152 mm) from an ESS.
   - 1.2 Minimum 36 inches (914 mm) in height by 3 inches (76 mm) in diameter Schedule 80 steel pipe fully welded to a minimum 8 inches (203 mm) by ¼-inch (6.4 mm) thick steel plate and bolted to a concrete floor by means of four ½-inch (13 mm) concrete anchors with 3-inch (76 mm) minimum embedment. Spacing shall be not greater than 60 inches (1524 mm), and each bollard shall be located not less than 6 inches (152 mm) from the ESS.
   - 1.3 Premanufactured steel pipe bollards shall be filled with concrete and anchored in accordance with the manufacturer's installation instructions, with spacing not greater than 60 inches (1524 mm). Each bollard shall be located not less than 6 inches (152 mm) from the ESS.
2. Wheel barriers constructed in accordance with one of the following:
   - 2.1 Four inches (102 mm) in height by 5 inches (127 mm) in width by 70 inches (1778 mm) in length wheel barrier made of concrete or polymer, anchored to the concrete floor not less than every 36 inches (914 mm) and located not less than 54 inches (1372 mm) from the ESS. Minimum 3½-inch (89 mm) diameter concrete anchors with 3-inch (76 mm) embedment per barrier shall be used. Spacing between barriers shall be not greater than 36 inches (914 mm).
   - 2.2 Premanufactured wheel barriers shall be anchored in accordance with the manufacturer's installation instructions.
3. *Approved* method designed to resist a 2,000-pound-force (8896 N) impact in the direction of travel at 24 inches (610 mm) above grade.

1207.11.8 Ventilation. Indoor installations of ESS that include batteries that produce hydrogen or other *flammable gases* during charging shall be provided with exhaust ventilation in accordance with Section 304.5 of the *International Mechanical Code*. (Material based on NFPA 855 2023 Ed.)

➡

1207.11.9 Electric vehicle use. The temporary use of an *owner* or occupant's electric-powered vehicle to power a *dwelling unit* or *sleeping unit* while parked in an attached or detached garage or outdoors shall comply with the vehicle manufacturer's instructions and NFPA 70 . (Material based on NFPA 855 2023 Ed.)

CHAPTER 23 Motor Fuel-Dispensing Facilities and Repair Garages

(31) **Section 2304.3 Unattended self-service motor fuel-dispensing facilities.**is hereby amended to read as follows:

2304.3 Unattended self-service motor fuel-dispensing facilities. Unattended private dispensing shall be by permit only. A safety plan and safety equipment technical data shall be submitted for review prior to approval. Unattended self-service motor fuel-dispensing facilities shall comply with Sections 2304.3.1 through 2304.3.7.

CHAPTER 56—EXPLOSIVES AND FIREWORKS

(32) **Section 5601.1.3 Fireworks.** Exception #4 is amended and Exception #5 is added so that the section now reads as follows:

5601.1.3 Fireworks. The possession, manufacture, storage, sale, handling and use of fireworks are prohibited.

Exceptions:

1. Storage and handling of fireworks as allowed in Section 5604.
2. Manufacture, assembly and testing of fireworks as allowed in Section 5605.
3. The use of fireworks for fireworks displays as allowed in Section 5608.
4. The possession, storage, sale, handling and use of specific types of Division 1.4G fireworks where allowed by applicable laws, ordinances and regulations, provided that such fireworks and facilities comply with the ~~2006 edition~~ most current edition of NFPA 1124, CPSC 16 CFR Parts 1500 and 1507, and DOTn 49 CFR Parts 100–185, as applicable for consumer fireworks.
5. The storage, sale, use and handling of toy caps, sparklers and smoke snakes shall be permitted.

(33) **Section 5604 Exlosive Materials Storage and Handling.** Is amended by the addition of **Section 5604.11 Handling** to read as follows:

5604.11 Handling The handling, firing and disposal of explosives shall only be performed by the person possessing a valid explosives certificate issued by the State of Colorado.

(34) **Section 5607.1 General (Blasting).** Is amended to read as follows:

5607.1 General. Blasting operations shall be conducted only by approved, competent operators possessing a valid explosives certificate issued by the State of Colorado who are familiar with the required safety precautions and the hazards involved; and in accordance with the provisions of NFPA 495.

(35) **Section 5608.1 General (Fireworks Display).** Is amended to read as follows:

5608.1 General. Outdoor fireworks displays, use of pyrotechnics before a *proximate audience* and pyrotechnic special effects in motion picture, television, theatrical and group entertainment productions shall comply with Sections 5608.2 through 5608.10 and NFPA 1123 or NFPA 1126. The use of indoor pyrotechnic displays shall be prohibited.

(36) **Section 5608.2.2 Use of Pyrotechnics Before a Proximate Audience.** Is amended to read as follows:

5608.2.2 - Use of Pyrotechnics Before a Proximate Audience. ~~Where the separation distances required in Section 5608.4 and NFPA 1123 are unavailable or cannot be secured, fireworks displays shall be conducted in accordance with NFPA 1126 for *proximate audiences*. Applications for use of pyrotechnics before a *proximate audience* shall include plans indicating the required clearances for spectators and combustibles, crowd control measures, smoke control measures and requirements for standby personnel and equipment where provision of such personnel or equipment is required by the *fire code official*.~~ The use of pyrotechnics before a proximate audience shall be with approval by a fire code official.

(37) **Section 5608.3 Approved Fireworks Displays.** Is amended to read as follows:

5608.3 Approved Fireworks Displays. Approved fireworks displays shall include only the approved fireworks 1.3G, fireworks 1.4G, fireworks 1.4S and pyrotechnic articles 1.4G, ~~which shall be handled by an *approved*, competent operator~~ and be only performed by the person possessing a valid Display Operator of Fireworks Certificate issued by the State of Colorado. Operator must possess liability insurance and other requirements as found in the Fireworks Display and Pyrotechnic Special Effects Requirements CRFPD application. The approved fireworks shall be arranged, located, discharged and fired in a manner that will not pose a hazard to property or endanger any person.

CHAPTER 57—FLAMMABLE AND COMBUSTIBLE LIQUIDS

(38) **Section 5704 Storage (Flammable and Combustible Liquids).** Is amended by the addition of **Section 5704.2.1.1 General limitation** that reads as follows:

5704.2.1.1 General limitation. No tank for the storage of flammable fluid in excess of ten (10) gallons shall be erected, repaired, renewed or replaced either wholly or partially above ground. Where in the opinion of the *fire code official* an existing tank constitutes a fire hazard through neglect or disrepair, he shall order such tank removed. Tanks or other facilities for the storage of Class 6 fuel oil may be installed above ground if approved by the *fire code official* and done in accordance with existing codes and regulations pertaining to above ground storage.

(39) **Section 5706.2.4 Permanent and temporary tanks.** Is amended and the exception is hereby deleted so that this section now reads as follows:

§5706.2.4 Permanent and Temporary Tanks. The capacity of permanent above ground tanks containing Class I or II liquids shall not exceed 1,100 gallons (4164 L). The capacity of temporary wheeled and trailer mounted above-ground tanks containing Class I or II liquids shall not exceed 10,000 gallons (37,854L). Tanks shall be of the single-compartment design. A permit shall be obtained from the Fire Code Official for the storage or keeping of volatile inflammable fluids in excess of ten (10) gallons in any building. The Fire Code Official is further authorized to issue temporary permits for the above ground storage of such fluids in tanks, which shall not exceed two thousand (2,000) gallon (7580L) capacity for the purpose of providing fuel for heavy equipment used in building construction, earth moving, earth grading or similar operations and such permits may be issued only for sites where there are not close hazards. Such temporary permits shall be issued with the time limits set that shall conform to the reasonably necessary time for completion of the individual job for which the permit is issued. Permanent above ground tanks of greater capacity that meet the requirements of Section 5704.2 shall be exempted.

~~**Exception:** Permanent above-ground tanks of greater capacity that meet the requirements of Section 5704.2.~~

Exhibit B

ARTICLE 14 – Wildfire Resiliency Code

Sec. 18-14-10 2025 Colorado Wildfire Resiliency Code Adopted; and Penalty for Violation.

(a) For the purposes of establishing enhanced life safety and property protection in Wildland-Urban Interface (WUI) areas, for both new and existing residential and non-residential structures in the Town of Carbondale, the Colorado Wildfire Resiliency Code (CWRC), 2025 edition, published by the Colorado Division of Fire Protection & Control – Wildfire Resiliency Code Board 1697 Cole Blvd. Unit 200, Lakewood CO 80401, is hereby adopted except as it is amended in this article.

(b) Appendices adopted

Appendix	Title
Appendix A – Appendix A allows the jurisdiction to require permits where permits are not otherwise provided in the requirements of the International Building Code, International Residential Code or the International Fire Code.	**Permits**
Appendix B - Appendix B provides the requirements for the preparation of construction documents necessary to demonstrate compliance with the requirements of this code.	**Construction Documents**
Appendix C - Appendix C contains the provisions for inspection and enforcement of the requirements of this code.	**Inspection And Enforcement**

(c) Administration. The provisions of this Article are administered by the Town of Carbondale Building Department and the Fire Chief of the Fire Department pursuant to an intergovernmental agreement between the Town and the Carbondale and Rural Fire Protection District.

(d) Permit requirements. Prior to approval of any building permit or land use application, the applicant must submit for review to the Town and Roaring Fork Fire Rescue Authority a Wildfire Mitigation Plan that demonstrates compliance with the Wildfire Resiliency Code. Such plan may be based on the Colorado State Forest Service guidelines for "The Home Ignition Zone" provided it is no less stringent than the Wildfire Resiliency Code. The Town shall conduct a site inspection and approve the Wildfire Mitigation Plan prior to issuing a Certificate of Occupancy or Certificate of Completion.

(e) Unless indicated otherwise, all references in the Municipal Code to the Wildfire Resiliency Code shall be deemed to include the 2025 Colorado Wildfire Resiliency Code as adopted in this section.

(f) All Wildfire Resiliency Code Standards, which are referred to in the various parts of the 2025 Colorado Resiliency Code, as adopted in this section, are hereby adopted.

(g) If the provisions of the 2025 Colorado Wildfire Resiliency Code, as adopted in this article, conflict with any other provisions of the Municipal Code then the more restrictive of the two shall govern. Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall be applicable.

(h) Any person violating any of the provisions of the 2025 Colorado Wildfire Resiliency Code, as adopted in this section, shall be deemed guilty of a misdemeanor and upon conviction of any such violation, such person shall be punishable as provided in Section 1-4-20 of this Code. Each day such violation is allowed to persist shall constitute a separate and new offense.

Sec. 18-14-20 Amendments to the Colorado Wildfire Resiliency Code.

The code adopted herein is modified by the following amendments

CHAPTER 1—ADMINISTRATION

(1) **Section 101.1 Title.** Is amended by adding the name of the jurisdiction to read as follows:

101.1 Title. These regulations shall be known as the Colorado Wildfire Resiliency Code as adopted by Town of Carbondale, hereinafter referred to as "this code."

(2) **Section 101.2.1 Appendices.** is hereby amended to read as follows:

101.2.1 Appendices. ~~Provisions in the appendices shall not apply unless specifically adopted.~~ Appendices A, B and C are hereby adopted with this code.

(3) **Section 101.5 Additions or alterations.** is amended to read as follows:

101.5 Additions or alterations. Minor additions or alterations, as determined by the code official, shall be permitted to be made to any building or structure without requiring the existing building or structure to comply with all of the requirements of this code, provided that, when the work (a) increases the footprint of the existing structure by 500 square feet or greater, (b) constitutes a distinct hazard or danger to life or property, or (c) causes the building, structure, or premises to become unsafe," the addition or alteration conforms to that required for a new building or structure.

Exception: Provisions of this code that specifically apply to existing conditions are retroactive.

Additions or alterations shall not be made to an existing building or structure that will cause the existing building or structure to be in violation of any of the provisions of this code nor shall such additions or alterations cause the existing building or structure to become unsafe. ~~An unsafe condition shall be deemed to have been created if an addition or alteration will cause the existing building or structure to become structurally unsafe or overloaded; will not provide adequate access in compliance with the provisions of this code or will obstruct existing exits or access; will create a fire hazard; will reduce required fire resistance or will otherwise create conditions dangerous to human life.~~

(4) **Section 101.6 Roof coverings.** is amended to read as follows:

101.6 Roof coverings. The roof covering on buildings or structures in existence prior to adoption of this code that are replaced or have 25 percent (or more) "or 100 square feet" of the surface area of the roof replaced, "whichever is less," or where work to reconstruct, alter, or repair the roof covering "(a)" effectively replaces such material, "(b) constitutes a distinct hazard or danger to life or property, or (c) causes the building, structure, or premises to become unsafe," shall require the entirety of the roof covering to be replaced with a roof covering required for new construction specified in Sections 403.2 through 403.2.

Exception: Existing roof coverings that are compliant with Section 403.2.

(5) **Section 101.7 Exterior walls.** is amended to read as follows:

"101.7 Exterior walls. The exterior walls of building or structures in existence prior to adoption of this code where 25 percent or more of the total exterior wall surface area is replaced, or where work to reconstruct, alter or repair the exterior walls "(a)" effectively replaces the exterior wall material, "(b) constitutes a distinct hazard or danger to life or property, or (c) causes the building, structure, or premises to become unsafe," shall require the entirety of the exterior wall surface area, including attachments, to be replaced with materials required for new construction specified in Section 404.3 through 404.3.2 and the immediate zone within 5 feet of the structure shall be made to comply with Section 503.1.

Exception: Existing exterior walls that are compliant with Section 404.3.

(6) **Section 102.10 Work exempt from permit under this code.** is hereby amended to read as follows:

102.10 Work exempt from permit under this code. Exemptions from code requirements shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of this code or any other laws or ordinances of the jurisdiction. Compliance with "Chapter 4 – Structure Hardening of" this code shall not be required for the following:

1. Interior alterations of existing structures "that do not constitute a substantially complete renovation of the interior, as determined by the code official."
2. Additions that do not increase the footprint of a structure by more than 500 square feet "and such work does not (a) constitute a distinct hazard or danger to life or property or (b) cause the building, structure, or premises to become unsafe."
3. The reconstruction, replacement, alteration, or repair of the exterior walls of an existing building, when less than 25 percent of the surface area of all exterior walls is affected "and such work does not (a) constitute a distinct hazard or danger to life or property or (b) cause the building, structure, or premises to become unsafe."
4. The reconstruction, replacement, alteration, or repair of the exterior roof covering of an existing building, when less than 25 percent "or 100 square feet" of the surface area of the exterior roof covering or an attachment thereto is affected "whichever is less, and such work does not (a) constitute a distinct hazard or danger to life or property or (b) cause the building, structure, or premises to become unsafe."
5. Alterations or repairs to the exterior of an existing structure, or an attachment to it, when less than twenty-five percent of the exterior of the structure is affected by the alteration or repair "and such work does not (a) constitute a distinct hazard or danger to life or property or (b) cause the building, structure, or premises to become unsafe."
6. Painting, staining and similar maintenance or restorative work.
7. One-story detached accessory, nonhabitable structures, such as tool and storage sheds, playhouses and similar uses, provided that the floor area does not exceed 120 square feet and the structure is located greater than or equal to 10 feet from the nearest adjacent occupiable structure.
8. Accessory structures and buildings of an accessory character classified as Utility and Miscellaneous Group U (including Agricultural Structures) located more than 50 feet from a structure containing occupiable or habitable space.
9. Fences located more than 8 feet from a habitable structure "that comply with this code."
10. ~~Any thirty-five acre parcel with only one residential structure on it that does not abut a residential or commercial area.~~

(7) **Section 103.1 Creation of agency.** is amended to read as follows:

103.1 ~~Creation~~ "Designation" of agency. The "Town of Carbondale" ~~[INSERT NAME OF DEPARTMENT]~~ "Building Department" is hereby ~~created~~ "designated as the code compliance agency" and the official in charge thereof shall be known as the code official. The function of the agency shall be the implementation, administration and enforcement of the provisions of this code.

(8) **Section 104.2.1.1 Costs.** is amended to read as follows:

104.2.1.1 Costs. A technical opinion and report shall be provided "at the owner or applicant's sole expense," without charge to the jurisdiction.

(9) **Section 106.1 General (Fees).** is amended to read as follows:

106.1 General. ~~An AHJ~~ "The Town and Carbondale and Rural Fire Protection District" ~~has~~ "have" the authority to establish fees "related to permitting and inspections required to be performed by this code".

CHAPTER 2—DEFINITIONS

(10) **Section 202 Definitions.** is amended by the addition of the following definitions to be added (alphabetically) to Section 202 and read as follows:

"UNSAFE. An unsafe condition shall be deemed to have been created if the action will cause the existing building or structure to become structurally unsafe or overloaded; will not provide adequate access in compliance with the provisions of this code or will obstruct existing exits or access; will create a fire hazard; will unreasonably increase the risk of fire ignition; will reduce required fire resistance; or will otherwise create conditions dangerous to human life.

WILDLAND-URBAN INTERFACE. That geographical area where structures and other human development meets or intermingles with wildland or vegetative fuels. Properties in the corporate limits of the Town as depicted in "Orange" within the mapping developed by the State of Colorado Wildfire Resiliency Code Board shall be considered within the wildland-urban interface."

CHAPTER 4—STRUCTURE HARDENING

(11) **Section 401.1 Scope.** Is amended to read as follows:

401.1 Scope. Exterior design and construction of new buildings and structures within the wildland-urban interface areas of Colorado shall be constructed in accordance with this chapter.

Exceptions:

1. Buildings of an accessory character classified as Group U occupancy (including agricultural buildings) of any size located at least 50 feet from a structure containing occupiable or habitable space.
2. One-story detached accessory, nonhabitable structures, such as tool and storage sheds, playhouses and similar uses, provided that the floor area does not exceed 120 square feet and the structure is located greater than or equal to 10 feet from the nearest adjacent occupiable structure.
3. The reconstruction, replacement, alteration, or repair of the exterior walls of an existing building, when less than 25 percent of the surface area of all exterior walls is affected "and such work does not (a) constitute a distinct hazard or danger to life or property or (b) cause the building, structure, or premises to become unsafe".

4. The reconstruction, replacement, alteration, or repair of the exterior roof covering of an existing building, when less than 25 percent "or 100 square feet" of the surface area of the exterior roof covering or an attachment thereto is affected, "whichever is less, and such work does not (a) constitute a distinct hazard or danger to life or property or (b) cause the building, structure, or premises to become unsafe".
5. Alterations or repairs to the exterior of an existing structure, or an attachment to it, when less than twenty-five percent of the exterior of the structure is affected by the alteration or repair, "and such work does not (a) constitute a distinct hazard or danger to life or property or (b) cause the building, structure, or premises to become unsafe".
6. Additions that do not increase the footprint of a structure by more than 500 square feet "and such work does not (a) constitute a distinct hazard or danger to life or property or (b) cause the building, structure, or premises to become unsafe".

CHAPTER 5—SITE and AREA REQUIREMENTS

(12) **Section 502.2.3 Adress markers.** is amended to read as follows:

502.2.3 Address markers. Buildings shall have a permanently posted address, which shall be placed at each driveway entrance and be visible from both directions of travel along the road. "Each lot or parcel shall be clearly marked by address identification characters that shall contrast with their background. Each character shall not be less than four-(4) inches (102mm) high with a minimum stroke width of ½ inch (12.7mm). minimum non-combustible numbers and installed on a non-combustible post or monument." In all cases, the address shall be posted at the beginning of construction and shall be maintained thereafter, and the address shall be visible and legible from the "primary point of access from the public or common access" road on which the address is located in a manner approved by the code official.

APPENDIX C—INSPECTION and ENFORCEMENT

(13) **Appendix C, Section C101.3.5 Unsafe conditions.** is amended to read as follows:

C101.3.5 Unsafe conditions. Buildings, structures or premises that constitute a fire hazard, "will unreasonably increase the risk of fire ignition," or are otherwise dangerous to human life, or that in relation to existing use constitute a hazard to safety or health or public welfare, by reason of inadequate maintenance, dilapidation, obsolescence, fire hazard, disaster damage or abandonment as specified in this code or any other ordinance, are unsafe conditions. Unsafe buildings or structures shall not be used. Unsafe buildings, "structures, and premises" are hereby declared to be public nuisances and shall be abated by repair, rehabilitation, demolition or removal, pursuant to applicable state and local laws and codes."

(14) **All references to "AHJ"** shall be amended to "Town."