ORDINANCE O-2021-66

A BILL FOR AN ORDINANCE REPEALING AND REENACTING CHAPTER 16:32 OF THE LONGMONT MUNICIPAL CODE ADOPTING BY REFERENCE THE 2021 EDITION OF THE INTERNATIONAL FIRE CODE

THE COUNCIL OF THE CITY OF LONGMONT, COLORADO, ORDAINS:

Section 1. International Fire Code Adopted.

Chapter 16.32 of the Longmont Municipal Code is hereby repealed and reenacted to read as follows:

16.32.010. – International Fire Code, Appendices and Standards Adopted.

Pursuant to Part 2 of Article 16 of Title 31, CRS, and Article IV of the City Charter, the International Fire Code, 2021 Edition, including appendices except for appendix A and I published by the International Code Council and copyrighted by the International Code Council, Inc., 4051 West Flossmoor Road, Country Club Hills, IL 60478, is adopted as the City Fire Code, by reference, as amended. All references in this code to the International Fire Code are references to the edition referenced above.

16.32.020. – Copies of Code – Filing for Public Inspection.

A certified true copy of the International Fire Code, 2021 Edition, is on file in the office of the city clerk and may be inspected by any interested person between 8:00 a.m. and 5:00 p.m., Monday through Friday, holidays excepted. The International Fire Code, as finally adopted, is available for sale at the office of the city clerk, at a price reflecting cost to the city as established by the city manager, by the municipal code. The city shall keep a copy of the adopted code in the office of the chief enforcement officer for public inspection. All references in this code to the International Fire Code are references to the edition referenced above.

16.32.030. – Section 101.1 Amended – Title.

Section 101.1 of the International Fire Code is amended to read as follows:

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

16.32.040. – Section 102.10 Amended – Conflicting Provisions.

Section 102.10 of the International Fire Code is amended by the addition of the following:

102.10.1 Conflicting Provisions. Where there is a conflict between a general requirement of the International Building Code or the International Fire Code or the Longmont Municipal Code, the specific requirements of the Longmont Municipal Code shall be applicable.

16.32.050. – Section 105.5 Amended – Operational Permits.

Section 105.5 of the International Fire Code is amended by the deletion of 9 sections: 105.5.12, 105.5.13, 105.5.17, 105.5.19, 105.5.20, 105.5.25, 105.5.26, 105.5.39, and 105.5.41 as published.

16.32.060. – Table 105.5.9 Replaced – Permit Amounts for Compressed Gases.

Table 105.5.9 is replaced with the following table:

TABLE 105.5.9

PERMIT AMOUNTS FOR COMPRESSED GASES

TYPE OF GAS	AMOUNT (Cubic feet at NTP)
Carbon dioxide used in equipment operation or processing	875 (100 lbs.) or remote fill connection
Carbon dioxide used in carbon dioxide enrichment systems	875 (100 lbs.) or remote fill connection
Carbon dioxide used in insulated liquid carbon dioxide beverage dispensing applications	875 (100 lbs.) or remote fill connection
Corrosive	200
Flammable (except cryogenic fluids and liquefied petroleum gases)	200
Highly toxic	Any amount
Insert and simple asphyxiant	6,000

16.32.070. – Section 105.5.29 Amended – LP Gas.

Section 105.5.29 of the International Fire Code is deleted in its entirety and replaced with the following:

105.5.29 LP Gas and Repair Garage. An operational permit is required for the storage and use of LP gas containers having an individual water capacity of 250 gallons or greater.

16.32.080. – Section 105.5.49 Amended – Temporary Membrane Structures and Tents.

Section 105.5.49 of the International Fire Code is amended in the first paragraph by replacing 400 square feet with 750 square feet.

Section 105.5.49 of the International Fire Code is amended in Exception 2.1 and 2.2 by replacing 700 square feet with 1000 square feet.

16.32.090. – Section 105.5.53 Added – Fermentation and Distillation of Alcohol Beverages.

Section 105.5 of the International Fire Code is amended by the addition of the following:

105.5.53 Fermentation and Distillation of Alcohol Beverages. An operational permit shall be required for the fermentation and distillation of alcohol beverages where the alcohol by volume exceeds 16% ethanol.

16.32.100. – Section 105.6.24 Amended – Temporary Membrane Structures and Tents.

Section 105.6.24 of the International Fire Code is amended in the first paragraph by replacing 400 square feet with 750 square feet.

Section 105.6.24 of the International Fire Code is amended in Exception 3.1 and 3.2 by replacing 700 square feet with 1000 square feet.

16.32.105. – Section 107.2 Schedule of Permit Fees.

Section 107.2 of the International Fire Code is amended by the deletion of Section 107.2 and the adoption of the following:

Fees for any permit, plan review, or inspection required by this code shall be established from time to time by resolution of the city council.

16.32.110. – Section 109.3 Amended – Recordkeeping.

Section 109.3 of the International Fire Code is amended by the addition of the following:

109.3.1 Inspection, Testing, and Maintenance reports shall be submitted to the fire code official within 7 days of the completion of the inspection report.

16.32.115. – Section 111 Replaced – Board of Appeals.

Section 111 of the International Fire Code is deleted in its entirety and replaced with the following:

111 Board of Appeals Established. The board of appeals is established and governed pursuant to chapter 16.30 of the Longmont Municipal Code.

16.32.120. – Section 112 Amended – Unlawful Acts.

Section 112.1 of the International Fire Code is amended by the addition of the following:

112.1.1 Unlawful Parking. Vehicles parked in fire apparatus access roads marked in accordance with Appendix D, section D103.6, shall be in violation of the Longmont Municipal Code chapter 11.16 and section 1204 of the Model Traffic Code.

16.32.130. – Section 112.4 Replaced – Violation Penalties.

Section 112.4 of the International Fire Code is deleted in its entirety and replaced with the following:

A. Any person, partnership, or corporation who violates this chapter or fails to obey it, or who violates or fails to obey any order made under it, or who builds in violation of any detail statement of specifications or plans submitted and approved under it or builds in violation of any certificate or permit issued under it, commits a separate offense for each day or part of a day the violation exists. Offenses are punishable according to chapter 1.12 of the Longmont Municipal Code. Imposition of one penalty for any violation shall not excuse the violation, nor permit it to continue; and all such persons shall correct or remedy such violations or defect within a reasonable time.

B. In addition to any other penalties, any violation of this code is also a public nuisance which a court of competent jurisdiction shall enjoin. The city attorney may obtain legal or equitable relief from any court of competent jurisdiction.

16.32.140. – Section 114.1.1 Replaced – Unsafe Conditions.

Section 114.1.1 of the International Fire Code is deleted in its entirety and replaced with the following:

114.1.1 Unsafe Conditions. Structures or existing equipment that are or hereafter become unsafe or deficient because of inadequate means of egress or which constitute a fire hazard or are otherwise dangerous to human life or the public welfare, or which involve illegal or improper occupancy or inadequate maintenance, shall be deemed an unsafe condition. The fire code official may require placarding in accordance with section 311.5 of International Fire Code. A vacant structure that is not secured against unauthorized entry as required by section 311 of the International Fire Code shall be deemed unsafe.

16.32.150. – Section 202 Amended – Definitions.

Section 202 of the International Fire Code is amended by replacement of the definition "FIRE ALARM SYSTEM" with the following:

FIRE ALARM SYSTEM. A system consisting of components and circuits arranged to monitor and annunciate the status of fire alarm or supervisory signal-initiating devices and to initiate the appropriate response to those signals.

16.32.160. – Section 503 Amended – Fire Apparatus Access Roads.

Section 503 of the International Fire Code is amended by the deletion of sections 503.1 through 503.2.8 as published and adoption of the following:

Section 503 Fire Apparatus Access Roads.

503.1 Where Required. Fire apparatus access roads shall be provided and maintained in accordance with sections 503.1.1 through 503.1.3.

503.1.1 Buildings and Facilities. Approved fire apparatus access roads shall be provided for every facility, building, or portion of a building hereafter constructed or moved into or within the jurisdiction. The fire apparatus access road shall

comply with the requirements of this section and shall extend to within 150 feet of all portions of the facility as measured by the way of provided doors, stairways, and corridors and any portion of the exterior wall of the first story of the building as measured by an approved route around the exterior of the building or facility.

Exception: The code official is authorized to increase the dimension of 150 feet where:

A. To a maximum of 300 feet when the building is equipped throughout with an approved NFPA 13 automatic sprinkler system not required by another provision of the code.

B. When fire apparatus access roads cannot be installed due to location on property, topography, waterways, non-negotiable grades, or other similar conditions, and an approved alternative means of fire protection is provided.

503.1.2 Additional Access. A minimum of 2 separate and independent access/egress routes shall be provided when more than 25 individual dwelling units, or a combined potential aggregate building area of more than 24,000 square feet in any other type of development, will be served by the access. Where 2 fire apparatus access roads are required, they shall be placed a distance apart equal to not less than one half of the length of the maximum overall diagonal dimension of the property or area to be served, measured in a straight line between accesses.

Exception: When all buildings are protected by approved automatic fire sprinkler systems, installed in accordance with NFPA 13 (NFPA 13D for Group R-3), 2 access/egress routes need not be provided unless more than 50 dwelling units or a combined potential aggregate building area of more than 48,000 square feet will be served by the single access/egress route.

503.2 Specifications. Fire apparatus access roads shall be installed and arranged in accordance with sections 503.2.1 through 503.2.8 and the City of Longmont Public Improvements Design Standards and Construction Specifications.

503.2.3 Surface. The full width of fire apparatus access roads shall be constructed with at least the first lift of an approved type of paving material in place and meet

all of the construction requirements of the City of Longmont Public Improvements Design Standards and Construction Specifications Manual.

503.2.4 Turning Radius. The centerline radius of all turns shall not be less than 40 feet. No turn shall have less than a 30 foot inside radius and a 50 foot outside radius.

503.2.7 Grade and Vertical Alignment. The grade and vertical alignment of the fire apparatus access road shall be a maximum 6% grade and meet the vertical curve requirements of the City of Longmont Public Improvements Design Standards and Construction Specifications.

503.2.9 Neck Downs and Islands. Short neck downs and islands may be allowed by the code official where all of the following conditions are met:

A. The design does not negatively impact the turning radius of fire apparatus or the ability to safely operate aerial apparatus; and

B. They are designed to eliminate the potential blockage by lawfully parked vehicles and a 20-foot minimum clear width access is maintained throughout.

16.32.170. – Section 605.8.1 Replaced – Residential Incinerators.

Section 605.8.1 of the International Fire Code is deleted in its entirety and replaced with the following:

Section 605.8.1 Residential Incinerators. Residential incinerators shall be prohibited.

16.32.180. – Section 606 Amended – Commercial Cooking Equipment and Systems.

Section 606.2 of the International Fire Code is deleted in its entirety.

16.32.185. – Section 901.5 Amended – Installation Acceptance.

Section 901.5 is amended by the addition of the following:

Section 901.5.1.2 Installation Acceptance Testing for Automatic Fire Sprinkler System Tenant Finish Permit. The addition, modification, or deletion of 20 or more sprinkler heads requires a hydrostatic test of 50 psi above static system pressure for the period of 2 hours.

Exception: Separate permits issued for the same project limited to 19 or less sprinkler heads.

16.32.190. – Section 901.6 Replaced – Inspection, Testing, and Maintenance.

Section 901.6 of the International Fire Code is deleted in its entirety and replaced with the following:

901.6 Inspection, Testing, and Maintenance. Fire detection, alarm, and extinguishing systems shall be maintained in an operative condition at all times and shall be replaced or repaired where defective. Non-required fire protection systems shall be inspected, tested, maintained, removed, or posted as required by the fire code official.

16.32.195. – Section 901.6.3 Deleted – Records

Section 901.6.3 is deleted in its entirety and replaced with the following:

901.6.3 Records. Records of all system inspections, tests, and maintenance required by the referenced standards shall be maintained. Inspection, Testing, and Maintenance reports shall be submitted to the fire code official within 7 days of completion of the inspection report.

16.32.210. Section 903.2.11.1.3 Amended – Basements

Section 903.2.11.1.3 of the International Fire Code is amended by the deletion of 903.2.11.1.3 as published and the adoption of the following:

903.2.11.1.3 Basements. Where any portion of a basement is located more than 50 feet (22,860 mm) from openings required by section 903.2.11.1, or where walls, partitions, or other obstructions are installed that restrict the application of water from hose streams, the basement shall be equipped throughout with an approved automatic sprinkler system.

Exception: Exterior access/openings to basement approved by fire code official.

Section 903.2.11.1.4 of the International Fire Code is amended by addition of the following:

903.2.11.1.4 Buildings Greater Than 12,000 Square Feet. An automatic sprinkler system shall be provided throughout all buildings where the fire area exceeds

12,000 square feet, or where the combined fire areas on all floors, including mezzanines and basements, exceed 24,000 square feet.

Exception: F-2 Occupancies

16.32.215. – Section 903.3 Deleted – Installation Requirements

Section 903.3 of the International Fire Code is deleted in its entirety and replaced with the following:

Section 903.3 Installation Requirements. Automatic sprinkler systems shall be designed and installed in accordance with this section and sections 903.3.1 through 903.3.8. Per Longmont Municipal Code, section 14.04.170 D, if a single water meter is installed for the multi-family project, only a 903.3.1.1 (NFPA 13 or 903.3.1.2 (NFPA 13R) shall be allowed. If a service line and meters are set for each individual townhome unit, then only a 903.3.1.3 (NFPA 13D) system shall be allowed to be installed.

16.32.220. – Section 903.4.2 Replaced – Alarms.

Section 903.4.2 of the International Fire Code is deleted in its entirety and replaced with the following:

903.4.2 Alarms. Approved audible/visual devices shall be connected to every automatic sprinkler system. Such sprinkler water-flow alarm devices shall be activated by water flow equivalent to the flow of a single sprinkler of the smallest orifice size installed in the system. An approved audible/visual sprinkler flow alarm shall be provided on the exterior of the building in an approved location above the fire department connection. An approved audible/visual sprinkler flow alarm to alert the occupants shall be provided throughout the interior of the building in accordance with sections 907.6.2 through 907.6.2.3 and NFPA 72. Where a fire alarm system is installed, actuation of the automatic sprinkler system shall actuate the building fire alarm system.

16.32.230. – Section 904.2.2 Replaced – Commercial Hood and Duct Systems.

Section 904.2.2 of the International Fire Code is deleted in its entirety and replaced with the following:

904.2.2 Commercial Hood and Duct Systems. Each required commercial kitchen exhaust hood and duct systems required by the International Mechanical Code to have Type I hood shall be protected with an approved automatic fire-extinguishing system installed in accordance with this code.

16.32.240. – Section 904.3.5 Amended – Monitoring.

Section 904.3.5 of the International Fire Code is amended by the addition of the following:

904.3.5.1 Monitoring. Monitoring of alternative automatic fire-extinguishing systems, when installed as an alternative to the required automatic sprinkler systems of section 903, monitoring, shall be required in accordance with NFPA 72.

16.32.250 – Section 905.2 Amended – Installation Standard.

Section 905.2 of the International Fire Code is amended by deletion of section 905.2 as published and adoption of the following:

905.2 Installation Standard. Standpipe systems shall be installed/designed as an automatic wet standpipe with a 500 gpm at 100 psi at the 2 hydraulic most demanding hose outlets in accordance with this section and NFPA 14. Fire department connections for standpipe systems shall be in accordance with section 912.

16.32.260. – Section 906.1 Item #1 Amended – Where Required.

Section 906.1 Item #1 of the International Fire Code is deleted in its entirety and replaced with the following:

1. In all occupancies not protected by approved fire sprinkler systems.

16.32.265. – Section 907.1.2 Addition – Fire Alarm Shop Drawings.

1 Section 907.1.2 of the International Fire Code is deleted in its entirety and replaced with the following:

Section 907.1.2 Fire alarm shop drawings. Shop drawings for fire alarm systems shall be prepared in accordance with NFPA 72 and submitted for review and approval prior to system installation. Shop drawings shall bear the stamp of either a Professional Engineer (PE) licensed in the State of Colorado or an individual

holding a level 3 certification in fire alarm design by the National Institute for Certification in Engineering Technologies (NICET).

16.32.270. – Section 907.1.3 Amended – Equipment.

Section 907.1.3 of the International Fire Code is amended by deletion of 907.1.3 as published and the adoption of the following:

907.1.3 Equipment. Systems and components shall be listed and approved for the purpose for which they are installed. Only addressable fire alarm panels will be approved.

Exception: Fire alarm panels that can transmit individual specific initiating device information.

907.1.3.1 Combination fire and security panels. A fire alarm system shall not be used for any purpose other than fire protection or control of fire protection systems. Combination fire and security panels are not permitted.

907.1.3.2 Fire Alarm System Wiring. All fire alarm wiring shall be red jacketed wiring listed and approved for fire alarm systems.

16.32.280. – Section 907.2.1 Replaced – Group A.

Section 907.2.1 of the International Fire Code is amended by the deletion of section 907.2.1 as published and the adoption of the following:

907.2.1 Group A. A manual and automatic fire alarm system shall be installed in accordance with NFPA 72 in all Group A occupancies. Portions of Group E occupancies occupied for assembly purposes shall be provided with a fire alarm as required for the Group E occupancy.

Exceptions:

A. Where the building is equipped throughout with an automatic sprinkler system and the alarm notification appliances will activate upon sprinkler water flow.

B. Fire area is 750 square feet or less.

16.32.290. – Section 907.2.7.1 Deleted – Occupant Notification.

Section 907.2.7.1 of the International Fire Code is deleted in its entirety.

16.32.300. – Section 907.6.6 Amended – Monitoring.

Section 907.6.6 of the International Fire Code is amended by the addition of the following:

Supervising station shall report all fire alarms in a contact identification point reporting format.

16.32.310. – Section 913.1 – General.

Section 913.1 of the International Fire Code is amended by deletion of section 913.1 as published and the adoption of the following:

913.1 General. Where provided, fire pumps shall be installed in accordance with this section and NFPA 20. Sizing of fire pumps shall be limited to a maximum of 125 percent of the pump rated capacity to meet total flow demand.

16.32.320. – Section 914.12 Added – Extraction Operations.

Section 914 of the International Fire Code is amended by the addition of the following:

Section 914.12 Extraction Operations. Extraction rooms, booths, or hoods, including ductwork where required for hazardous exhaust systems, shall be protected by an approved automatic fire extinguishing system complying with section 903.3 where any of the following exist:

A. Extraction process utilizing flammable and or combustible materials or off gassing flammable vapors from spent plant material or oil.

B. Vapors are released exceeding 25% of the Lower Flammable Limit (LFL) from flammable liquid extraction process or flammable liquid post oil processing.

16.32.330. – Section 1010.2.13 Amended – Delayed Egress.

Section 1010.2.13 of the International Fire Code is amended by the deletion of section 1010.2.13 as published and replaced with the following:

Approved, listed, delayed egress locking systems shall be permitted to be installed on doors serving any occupancy except Group A, E, and H occupancies in buildings which are equipped throughout with an automatic sprinkler system in accordance

with section 903.3.1.1, and an approved automatic smoke detection system installed in accordance with section 907.

16.32.340. – Section 1010.2.14 Amended – Controlled Egress Doors in Group I-1 and I-2.

Section 1010.2.14 of the International Fire Code is amended by replacing the word "or" in the second sentence with the word "and."

16.32.350. – Section 1020.2 Amended – Construction.

Section 1020.2 of the International Fire Code is amended by the revision of Table 1020.2 with the following:

Occupancy Group R required corridor fire-resistance rating in buildings with a sprinkler system shall be 1-hour.

16.32.360. – Section 1103.5 Amended – Basements.

Section 1103.5 of the International Fire Code is amended by the addition of the following section.

1103.5.6 Basements. Where any portion of a basement is located more than 75 feet (22 860 mm) from openings required by section 903.2.11.1, or where walls, partitions or other obstructions are installed that restrict the application of water from hose streams, the basement shall be equipped throughout with an approved automatic sprinkler system.

Exception: Exterior access/openings as determined by the fire code official.

16.32.370. – Section 2304.3.7 Amended – Motor Fuel Dispensing Facilities and Repair Garages.

Section 2304.3.7, Item 1 of the International Fire Code is deleted in its entirety and replaced with the following:

Dispensing devices shall be programmed or set to limit uninterrupted fuel delivery to no more than 50 gallons and require a manual action to resume delivery.

Exception: Aircraft motor-vehicle fuel dispensing facilities shall be programmed or set to limit uninterrupted fuel delivery to no more than 100 gallons and require a manual action to resume delivery.

16.32.380. – Chapter 31 Amended – Temporary and Permanent Tents and Membrane Structures.

Section 3103.2 of the International Fire Code is amended in the first paragraph by replacing 400 square feet with 750 square feet.

Section 3103.2 is amended in Exception 2.1 and 2.2 by replacing 700 square feet with 1000 square feet.

Section 3103.5 of the International Fire Code is amended by deletion of section 3103.5 and adoption of the following:

3103.5 Use Period. Temporary tents, air supported, air-inflated or tensioned membrane structures shall not be erected for a period of more than 30 days within a 12-month period on a single premise.

3103.9 Structural Stability and anchorage required is amended by the deletion of Section 3103.9 and the adoption of the following:

3103.9 Tents or membrane structures and their appurtenances shall be designed and installed to withstand the elements of weather and prevent collapsing. Documentation of structural stability shall be furnished to the fire code official. Water-filled barrels shall not be used as anchorage.

16.32.390. – Means of Egress.

Section 3312.1 of the International Fire Code is deleted in its entirety and replaced with the following:

3312.1 Stairways Required.

Where an existing building exceeding 50 ft. in building height is altered, not less than one temporary lighted stairway shall be provided, unless one or more of the permanent stairways are erected as the construction progresses.

16.32.410. – Section 3405 Amended – Outdoor Storage.

Sections 3405.1 and 3405.4 of the International Fire Code are deleted in their entirety and replaced with the following:

3405.1 Tire Amounts. Outdoor storage of tires shall be restricted to no more than 500 tires per lot.

3405.4 Distance from Lot Lines. Within 10 feet of property lines, tire storage shall not exceed the height of a single tire on tread (approximately 36 inches) from ground level. Distances of 10 feet or greater from property lines, tire storage shall not exceed 6 feet in height.

16.32.420 Section 3905.1 Amended – Gas Detection.

Section 3905.1 of the International Fire Code is deleted in its entirety and replaced with the following:

Section 3905.1 Gas Detection. For extraction processes utilizing CO2 or flammable and or combustible solvents, a gas detection system complying with section 916 shall be provided.

16.32.430. – Chapter 41 Added – Alcohol Beverage Production Facilities.

The International Fire Code is amended by the addition of the following chapter:

Chapter 41 ALCOHOL BEVERAGE PRODUCTION FACILITIES

SECTION 4101

GENERAL

4101.1 Scope. Buildings and portions thereof where ethanol mixtures are produced, stored, handled, or dispensed in the production of alcohol beverages shall be regulated in accordance with this chapter and the 2021 International Building and Fire Codes, from here on referenced as Longmont Codes.

The intent of this chapter is to establish minimum requirements consistent with nationally recognized good practice for providing a reasonable level of life safety and property protection from the hazards of fire, explosion, or dangerous conditions in new and existing alcohol beverage production facilities (ABPFs) such as distilleries, breweries, and wineries, and to provide safety to fire fighters and emergency responders during emergency operations. The objective is to consolidate regulations for materials, systems, processes, and conditions most commonly found in ABPFs to facilitate compliance with the intent of this chapter.

The fire and building code officials are authorized to enforce applicable provisions of the Longmont Codes, referenced standards, and recommended practices not

specifically addressed in this chapter provided they are consistent with the intent and objective of this chapter. Consideration shall be given to the unique materials and equipment utilized in this industry such as wooden casks (typically barrels) and high quality but as-yet unlisted stills.

Unless otherwise noted, where provisions in this chapter conflict with provisions in other sections of the Longmont Codes for ABPFs, the provisions of this chapter shall supersede the provisions in those sections.

4101.2 Referenced Standards. The fire and building code officials are authorized to enforce applicable provisions of the standards listed in chapter 80 of the 2021 International Fire Code and chapter 35 of the 2021 International Building Code to ensure the safe operation of ABPFs. Table 4101.2 lists the standards most often utilized for the ABPFs.

Table 4101.2 Referenced Standards

DOCUMENT	TITLE
NFPA 13	Standard for the Installation of Sprinkler Systems
NFPA 30	Flammable and Combustible Liquids Code
NFPA 61	Standard for the Prevention of Fires and Dust Explosions in Agricultural and Food Processing Facilities
NFPA 69	Standard on Explosion Prevention Systems
NFPA 70	National Electrical Code (NEC)
NFPA 72	National Fire Alarm and Signaling Code
NFPA 505	Fire Safety Standard For Powered Industrial Trucks Including Type Designations, Areas Of Use, Conversions, Maintenance, And Operations
NFPA 704	Standards System for Identification of the Hazardous Materials for Emergency Response
NFPA 780	Standard for the Installation of Lightning Protection Systems

4101.3 Recommended Practices. The fire and building code officials shall have the authority to utilize the recommended practices listed in Table 4101.3 to render interpretations and develop policies and procedures in the application of the provisions of the Longmont Codes and referenced standards. Such interpretations,

policies, and procedures shall be in compliance with the intent and objective of this chapter.

Table 4101.3 Recommended Practices

NFPA 77	Recommended Practice on Static Electricity
NFPA 497	Recommended Practice for the Classification of Flammable Liquids, Gases, or Vapors and of Hazardous (Classified) Locations for Electrical Installations in Chemical Process Areas
NFPA 499	Recommended Practice for the Classification of Combustible Dusts and of Hazardous Locations for Electrical Installations in Chemical Process Areas
The Distilled Spirits Council of the United States, Inc.	Recommended Fire Protection Practices for Distilled Spirits Beverage Facilities

4101.4 Construction Documents. Construction documents shall be submitted for review and permit prior to the installation, construction, or modification of ABPFs or the operational equipment therein.

4101.5 Operational Permits. Operational permits shall be acquired as set forth in section 105.6.49 ALCOHOL BEVERAGE PRODUCTION FACILITIES.

SECTION 4102

DEFINITIONS, ACRONYMS, AND ABBREVIATIONS

4102.1 Definitions. The following words and terms shall have the meanings identified below for the purposes of this chapter and, except as noted, as used elsewhere in the Longmont Codes:

Alcohol Beverage (also, "Alcoholic Beverage"). A drinkable ethanol mixture intended for human consumption including wine, beer, and beverage spirits.

Alcohol Beverage Production Facility (ABPF). Any building or portion thereof where ethanol mixtures are produced, stored, handled, blended, dispensed, or bottled in the production of alcohol beverages including areas for grain storage and handling.

Alcohol by Volume (ABV). Volume percentage of ethanol in an ethanol mixture.

Asphyxiant Gas – A nontoxic or minimally toxic gas which reduces or displaces the normal oxygen concentration in breathing air and can lead to death by

asphyxiation. Notable examples of asphyxiant gases are nitrogen, argon, helium, carbon dioxide, butane, and propane.

Beverage Spirit – A drinkable spirit intended for human consumption including neutral spirits or alcohol (i.e. vodka or gain spirits), whisky, gin, brandy, blended applejack, rum, tequila, cordials, and liqueurs.

Brewery. An ABPF or portion thereof, including accessory uses, in which beer or other malt liquors are produced. For spirit production, beer and wash are synonymous as precursors to distillation.

Bulk Storage. The storage of ethanol mixtures in containers exceeding 1.3 gallons (5L) in volume.

Cask. A closed vessel of 185 gallons (700 L) or less capacity, used primarily for storing Class 1 Liquids, constructed of wooden staves and heads, held together by metal hoops, not equipped with provisions for emergency venting, and not intended for fixed installation.

Class 1 Liquids. Used in this chapter to identify ethanol mixtures that are Class 1B or Class 1C flammable liquids.

Container. Any closed vessel of 119 gallons (450L) or less capacity used for transporting or storing Class 1 Liquids, not intended for fixed installation and not constructed of wood, but possibly equipped with an overpressure-relieving mechanism per FM Global <u>Approved Standard for Plastic Plugs for Steel Drums,</u> Class Number 6083, or equivalent.

Longmont Codes. The complete collection of International Code Council (ICC) publications as adopted and amended by the City of Longmont.

Distillation. The separation and concentration of the constituent of an ethanol mixture by slowly raising the temperature of the mixture through the boiling points of its constituents then collecting and condensing the constituent vapors separately from the mixture.

Distillery (also "Distilled Spirits Plant – Beverage"). An ABPF licensed by the TTB to produce, bottle, rectify, process, or store beverage spirits including areas

for fermentation, distillation, storage, blending, packaging, and accessory uses. Other types of distilleries licensed by the TBB include:

Distilled Spirits Plant – Industrial. A distilled spirits plant established to manufacture articles, or produce, bottle, or package denature or warehouse spirits for industrial use. These spirits are not intended for beverage use. Distilled spirits – Vinegar Plants also fall into this category.

Distilled Spirits Plant – Industrial/Beverage. A distilled spirits plant that manufactures beverage and industrial spirits on the same premises.

Distilled Spirits Plant – Experimental. An experimental distilled spirits plant established for specific and limited periods of time solely for experimentation in, or development of, industrial spirits or sources of materials used to produce spirits, or processes for producing or refining spirits.

Ethanol (also, "Ethyl Alcohol" or "Grain Alcohol"). A volatile, flammable, colorless, neurotoxic liquid fit for human consumption with structural formula CH-3CH-2OH (abbreviated as C_2H_5OH or C_2H_6O).

Ethanol Mixture. Liquid mixture comprised of ethanol and materials with hazards not regulated by the Longmont Codes, namely water.

Fermentation. An enzymatically controlled, anaerobic breakdown of energy-rich compounds such as simple carbohydrates by microorganisms such as yeast, to yield carbon dioxide and ethanol.

HazMat (Hazardous Materials). Materials with hazards regulated by the Longmont Codes.

HazMat Inventory Statement (HMIS). A portion of an HMR containing a list of all the HazMat in a facility including information related to the materials such as product names, locations, quantities, regulated hazards, and Chemical Abstract Service (CAS) numbers.

HazMat Management Plan (HMMP). A portion of a HazMat Permit Application containing site maps and facility floor plans identifying HazMat locations and site

and building features relevant to the management of HazMat inventories, systems, and operations.

HazMat Report (HMR). A consolidated description of a facility and the HazMat therein including a contact list, code-based description of the building and adjacent outdoor areas, and a HazMat Inventory Statement (HMIS).

Intermediate Bulk Container. Any closed vessel defined in Title 49, Code of Federal Regulations, Parts 100 through 199 or in Part 6 of the United Nations' Recommendations on the Transport of Dangerous Goods having a liquid capacity of 793 gallons (3000 L) or less, used for transporting or storing Class 1 Liquids, not equipped with provisions for emergency venting, not intended for fixed installation, and not constructed of wood.

Lower Flammable Limit (LFL); also Lower Explosive Limit (LEL). The atmospheric volumetric concentration of a flammable vapor at which propagation of flame will occur in the presence of an ignition source. The LFL at sea level for ethanol vapor is 3.3 percent.

Mash. Typically the mixture of ground or cracked grains, mashed fruit, or other crushed edible organic material steeped in hot water to release carbohydrates and reduce them to sugars. The term is used inconsistently (often overlapping with wort) for the various solutions in process up to the point where fermentation is complete.

Minimum Explosive Concentration (MEC). The lowest mass to volume concentration of combustible dust that will propagate a flame (sometimes referred to as LFL). The MEC for dust is 0.055 oz/ft^3 (55 g/m^3).

Normally Closed. A system or vessel in an ABPF used in the storage, production, dispensing, blending, bottling, or handling of Class 1 Liquids that, for up to 50 percent of the time it is in operation, its contents are not exposed to atmosphere and vulnerable to evaporation. Processes involving vessels such as casks opened only for filling, draining, or sampling, distillation where all vapors are condensed below their flash point prior to collection, uncovered vessels of 5.3-gallon (20 L) capacity

or less used to collect distillate below its flash point, and covered blending or maceration vessels are typically considered normally closed.

Normally Open. A system or vessel in an ABPF used in the storage, production, dispensing, blending, bottling, or handling of Class 1 Liquids that, for 50 percent or more of the time it is in operations, its contents are continuously exposed to atmosphere and vulnerable to evaporation, or where a Class 1 Liquid at or above its flash point is exposed to atmosphere at any time during transfer, dispensing, or release. Continuous blending or maceration in uncovered vessels open draining of Class 1 Liquids above their flash points, and the act of "bleeding" heads (the initial vapors generated during distillation) or tails (the last vapors generated during distillation) to atmosphere are typically considered normally open.

Pile. Independently stacked commodities possibly organized by separate spacers, dunnage, or pallets in which the demise of any storage container on a lower tier compromises the structural stability of the storage system.

Portable Tank. A tank that is readily capable of being relocated within the facility, not permanently attached to immovable structure or ground, and not constructed of wood.

Process Description. An operational description such as a flow chart of the sequence of events required to convert raw materials from the state in which they enter the APBF through each development point until the finished products are derived. The process description identifies all input and output materials and includes quantities, concentrations, temperatures, pressures, types of equipment, systems, etc. at each development point using code-based terminology, e.g., "37 gallons of 55% ABV at standard temperature and pressure (STP)" vs. "all the high wines collected." All systems and processes utilize to produce all intermediate and finished products are required to be included in the description.

Pressure Vessel. Containers, intermediate bulk containers, processing vessels, and tanks that under normal conditions, are permitted to operate above 15 pounds per square inch gauge (psig; 103.4 kPa).

Processing Vessel. An open or closed vessel other than stills used in the manufacture of ethanol mixtures. Processing vessels include fermentation tanks, mash tuns, blending tanks, etc., but do not include long-term storage vessels such as vats or casks.

Rack. Shelves or similar structural frame-supported system of tiers in which the demise of any storage container on a lower tier does not affect the structural stability of the storage system.

Remote Area (c.f. NFPA 13). The specified floor area over which an assigned sprinkler density (in volume per minute per unit area) is required in the design of an automatic sprinkler system.

Spirit. An ethanol mixture produced by the distillation of wine, wash, or a previously distilled spirit.

Stationary Tank. A tank not intended to be relocated that is physically attached to immovable structure or ground.

Still. Any appliance in which distillation of an ethanol mixture is performed. For the purposes of this chapter, still includes pots, columns, and condensing coils.

Storage Area. ABPF or portion thereof where ethanol mixtures or materials incorporated or utilized in the manufacture of ethanol mixtures are held for maturation, awaiting transport, or subsequent handling (c.f., use area).

Tank. Any normally open or normally closed vessel having a capacity greater than 60 gallons (230 L) intended for storing or processing (but not transporting outside the facility) Class 1 Liquids and equipped with provisions for emergency venting.

Use Area. ABPF or portion thereof where ethanol mixtures or materials incorporated or utilized in the manufacture of ethanol mixtures are actively handled in processes such as fermentation, distillation, rectification, transportation, remixing, dispensing, bottling, blending, etc. (c.f., storage area).

Vat (also Foudre). A stationary tank constructed primarily of wood.

Wash (also Beer, Malt Liquor). The ethanol mixture intended for distillation produced by the fermentation of mash or wort. For spirit production, wash and wine are analogous as precursors to distillation.

Wine. An ethanol mixture produced by the fermentation of organic products, namely fruits, including agave. For spirit production, wine and wash are analogous as precursors to distillation.

Winery. An ABPF or portion thereof, including accessory uses, in which wine is produced.

Wort. The sugar solution strained from mash for fermentation.

Vessel. Used in this chapter to reference reservoirs holding – unless otherwise noted – Class 1 Liquids including casks, containers, intermediate bulk containers, processing vessels, and tanks.

4102.2 Acronyms and Abbreviations. The following acronyms and abbreviations shall, for the purposes of this chapter, have the meanings identified below:

ABPF. Alcohol Beverage Production Facility.

ABV. Alcohol by Volume.

ASME. American Society of Mechanical Engineers.

ASTM. American Society for Testing and Materials.

HMIS. HazMat Inventory Statement.

HMMP. HazMat Management Plan.

HMPA. HazMat Permit Application.

HMR. HazMat Report.

LEL. Lower Explosive Limit.

LFL. Lower Flammable Limit.

MAQ. Maximum Allowable Quantity per Control Area in accordance with section 5003.1.1.

MEC. Minimum Explosive Concentration.

MSDS. Material Safety Data Sheet.

NEC. National Electrical Code.

TTB. Alcohol and Tobacco Tax and Trade Bureau.

SECTION 4103
GENERAL REQUIREMENTS

4103.1 Material Classification. Hazard classifications and analyses of ethanol mixtures shall account for altitude-dependent properties based on an elevation of 5,000 feet (1,524 m) above sea level.

Ethanol mixtures that have no fire point when tested in accordance with ASTM D 92, Standard Test Method for Flash and Fire Points by Cleveland Open Cup Tester and ethanol mixtures with 16 percent or less ABV with the remainder comprised of materials with hazards not regulated by the Longmont Codes shall not be regulated as flammable or combustible liquids.

Ethanol mixtures with greater than 16 percent ABV and less than or equal to 34 percent ABV, and the remainder comprised of water and other materials with hazards not regulated by the Longmont Codes, shall be classified as flammable 1C liquids.

Ethanol mixtures with greater than 34 percent ABV, and the remainder comprised of water and other materials with hazards not regulated by the Longmont Codes, shall be classified as flammable 1B liquids.

4103.2 Occupancy Classification. The occupancy classification of use areas and storage areas including grain-handling and bottling/packaging systems and processes shall be classified in accordance with sections 4103.2.1 through 4103.2.3.

4103.2.1 H-2 Occupancy Classification. An H-2 occupancy classification shall be assigned to buildings or portions thereof in accordance with sections 4103.2.1.1 and 4103.2.1.2.

4103.2.1.1 Combustible Dust Producing Operations. ABPFs or portions thereof containing equipment, systems, and processes where grains are stored, transferred or milled in such a manner that the confinement conditions and dust concentrations create a fire or explosion hazard shall be in accordance with chapter 22 and chapter 50. The fire and building code officials are authorized to require technical assistance in accordance with section 104.7.2 to establish whether the building or portion thereof is required to be assigned an H-2 occupancy classification and to determine explosion and deflagration hazard reduction criteria.

4103.2.1.2 Flammable Liquids. ABPFs and portions thereof with quantities of Class 1 Liquids in excess of the MAQs that are stored or processed in normally open vessels or systems, or vessels or systems that are pressurized at more than 15 pounds per square inch gauge (psig; 103.4 kPa), or where a Class 1 Liquid is released to atmosphere at or above its flash point temperature as part of normal operations shall be assigned an H-2 occupancy classification.

4103.2.2 H-3 Occupancy Classification. ABPFs and portions thereof with quantities of Class 1 Liquids in excess of the MAQs, that are stored or processed in normally closed vessels or systems pressurized to 15 pounds per square inch gauge (psig; 103.4 kPa) or less, shall be classified as H-3 occupancies.

Exception: Quantities of ethanol mixtures beverages exceeding the MAQs but packaged in individual containers not exceeding 1.3 gallons (5 L) in volume shall not cause the ABPF or portion thereof to be assigned an H-3 occupancy classification.

4103.2.3 Non-high Hazard Occupancy Classification. Control areas with Class 1 Liquids, combustible dust production, or other regulated hazards shall be assigned an occupancy classification in accordance with the Longmont Codes according to the fire safety and relative hazard involved.

4103.3 Hazardous Materials Permit Application (HMPA). An HMPA in an approved format is required for all ABPFS using or storing HazMat. It shall contain at a minimum, an HMR, HMMP, process description, fire-safety and evacuation plans, and a storage plan.

4103.3.1 Hazardous Materials Report (HMR). An HMR in an approved format is required for all facilities using or storing HazMat. It shall contain at a minimum, critical personnel contact information, pertinent building construction and occupancy information, and an HMIS.

4103.3.2 Hazardous Materials Management Plan (HMMP). An HMMP in accordance with section 5001.5.1 and Appendix H101 shall be provided in an approved format.

4103.3.3 Process Description. A process description shall be provided in an approved format.

4103.3.4 Emergency Planning. Fire safety and evacuation plans in accordance with section 414 shall be prepared and maintained.

4103.3.5 Storage Plan. Aisle and storage plans shall be submitted in accordance with chapter 50.

4103.3.6 Material Safety Data Sheets. MSDS shall be readily available on the premises for HazMat therein.

4103.3.7 Unauthorized Discharges Preparation. Plans and provisions shall be made for controlling and mitigating unauthorized discharges.

4103.3.8 Personnel Training and Written Procedures. Persons responsible for the operations in Class 1 Liquid storage areas or use areas shall be familiar with the chemical nature of the materials and the appropriate mitigating actions necessary in the event of fire, leak, or spill.

4103.3.9 Fire Department Liaison. Responsible persons shall be designated and trained to be liaison personnel to the fire department. They shall aid the fire department in the preplanning emergency responses and identifying the locations

of HazMat, shall have access to MSDS and be knowledgeable in the site's emergency response procedures.

4103.4.1 Records. Accurate records shall be kept of all unauthorized discharges of Class 1 Liquids by the permittee.

4103.3.2 Responsibility for Cleanup. The person, firm, or corporation responsible for an unauthorized discharge shall institute and complete all actions necessary to remedy the effects of such unauthorized discharge, whether sudden or gradual, at no cost to the jurisdiction. When deemed necessary by the fire code official, cleanup may be initiated by the fire department or by an authorized individual or firm. Costs associated with such cleanup shall be borne by the owner, operator, or other person responsible for the unauthorized discharge.

4103.5 Construction. The construction of ABPFs shall be in accordance 22 with sections 4103.5.1 and 4103.5.2.

4103.5.1 General. Special detailed requirements, building heights, allowable areas, construction types, control areas, rated assemblies, finishes, means of egress, accessibility, interior environment, energy efficiency, exterior walls, roofing, structural design, fire service features, building services and systems, and fire and smoke protection shall be in accordance with the Longmont Codes for the assigned occupancy classifications and this chapter.

4103.5.2 Floors. Floors of use areas and storage areas for Class 1 Liquids shall be of noncombustible construction. Floor surfacing shall not be reactive with ethanol.

4103.6 Systems, Features, and Components. Systems, features, and components shall be provided in accordance with sections 4103.6.1 through 4103.6.13.

4103.6.1 Deflagration Prevention by Combustible Concentration Reduction. Atmospheric concentration of flammable vapors shall be maintained at or below 25 percent of the LFL, and combustible dusts at or below 25 percent of the MEC, in all areas of the ABPF or portion thereof where they could collect or migrate. Good housekeeping shall be exercised to prevent accumulation of combustible dust on all exposed surfaces at all levels throughout the building. Indoor storage areas and use

areas are permitted to be provided with natural ventilation where it can be shown to maintain the atmospheric concentrations at or below 25 percent of the LFL and MEC for the materials under consideration.

Where natural ventilation is not adequate, Class 1 Liquid use areas, storage areas and equipment, machinery, and operations which produce or emit combustible dust, shall be provided with an approved mechanical collection and exhaust system in accordance with International Mechanical Code sections 501, 502.1 502.8, 502.9.5, and 503.

Use areas and storage areas in ABPFs or portions thereof where Class 1 Liquid vapor concentrations cannot be maintained at or below 25 percent of the LFL, or confined enclosures where the concentration of combustible dust cannot be maintained at or below 25 percent of the MEC, shall be provided hazardous exhaust in accordance with International Mechanical Code sections 510 and 511.

4103.6.1.1 System Requirements. Exhaust ventilation systems shall comply with all of the following:

1. Installation shall be in accordance with the International Mechanical Code.

2. Mechanical ventilation over the storage area or use area shall be at a rate of not less than 1 cubic foot per minute per square foot [cfm/ft^2; 0.00508 cms/m^2)] of floor area.

Exception: Areas where Class 1 Liquids are stored in casks are permitted to be provided with an engineered ventilation system in accordance with International Mechanical Code chapter 4. The air flow rate shall not be less than the greater of (1) that required to maintain the flammable vapor concentration in the storage area at or below 25 percent of the LFL or (2) 0.06 cubic feet per minute per square foot (cfm/ft^2; 0.000305 cms/m^2).

3. Systems shall operate continuously unless alternative designs are approved.

4. A manual shutoff control shall be provided outside of the room in a position adjacent to the access door to the room, or in an approved location. The switch

shall be a break-glass or other approved type and shall be labeled, VENTILATION SYSTEM EMERGENCY SHUTOFF."

5. Exhaust ventilation shall be designed to consider the density of the material released. For ethanol vapor, inlet air shall be introduced, and exhaust shall be taken, from a point within 12 inches (305 mm) of the floor. For dust, inlet air shall be introduced to a point within 12 inches (305 mm) of the floor and exhaust shall be taken as close to the dust generation source as possible.

6. The location and configuration of both the inlet and exhaust air openings shall be designed to provide air movement across all portions of the floor or room to prevent the accumulation of flammable vapors and suspended dust.

7. Exhaust air shall not be recirculated to occupied areas.

4103.6.2 Spill Control and Secondary Containment. Spill control and secondary containment shall be provided in accordance with sections 4103.6.2.1 through 4103.6.2.2.

4103.6.2.1 Indoor. Spill control and secondary containment shall be provided for H-2 and H-3 occupancies in ABPFs where:

1. The capacity of any single normally closed vessel or systems with Class 1 Liquids exceeds 55 gallons (208 L);

2. The aggregate capacity of multiple normally closed vessels or systems with Class 1 Liquids exceeds 1,000 gallons (3,785 L); or

3. Class 1 Liquids are dispensed into or from a normally open vessel or system exceeding a 5.3-gallon (20 L) capacity.

4103.6.2.1.1 Design. The drainage system shall be in accordance with the International Plumbing Code and the following:

1. All portions of the drainage system including floors shall be liquid-tight and constructed of noncombustible materials compatible with ethanol.

2. The slope of floors to drains shall be sufficient to prevent spilled Class 1 Liquids and water discharged from the automatic sprinkler system from flowing to adjoining areas, but shall not be less than 2 percent.

3. Drains and drainage system capacity shall be sized to carry the volumetric flow of water discharged from the automatic sprinkler system without backing up or pooling at the drains. The sprinkler coverage area used to calculate the required volumetric flow is permitted to be based on the smaller of (1) the remote area per NFPA 13 – provided it is located in the area served by the drains – or (2) the area of the building or portion thereof served by the drains.

4. Drainage systems shall terminate in an approved secondary containment reservoir designed to contain a spill from the largest vessel in the area served by the drains plus the volumetric flow of water calculated in item 3 above for a period of 20 minutes. An approved automatic monitoring method shall be provided to detect material in the reservoir. Monitoring devices shall be connected to approved visual and audible alarms. Reservoir capacity to accommodate the required in secondary containment volume shall be maintained at all times.

Exceptions:

1. Release of Class 1 Liquids and fire protection water directly into a sanitary or storm-water drainage system, onto the ground, or a combination thereof is permitted when in compliance with federal, state, and local governmental agencies' regulations and permits.

2. When released onto the ground within a fire area, such as on a dirt floor in a barrel storage warehouse, the volumetric flow of water calculated in item 3 above is permitted to be reduced to account for the percolation rate into the soil. An engineering analysis shall be provided to establish the reduction.

4103.6.2.2 Outdoor. Secondary containment for outdoor storage areas shall be in accordance with chapter 50.

4103.6.3 Occupant and Property Protection. Occupant and property protection shall be provided in accordance with sections 4103.6.3.1 through 4103.6.3.4.

4103.6.3.1 Automatic Sprinklers. An automatic sprinkler system shall be installed throughout ABPF H-2 and H-3 fire areas in accordance with sections 4103.6.3.1.1 through 4103.6.3.1.3.

4103.6.3.1.1 Flammable Liquids. Sprinkler discharge criteria for Class 1 Liquid use areas and storage areas in ABPFs or portions thereof shall be in accordance with NFPA 30 but shall not be less than that required in accordance with section 903.3.1.1 for Ordinary Hazard Group 2 with minimum design area of 3,000 square feet (279 m2).

Exception: H-2 and H-3 occupancies with storage of Class 1 Liquids in casks shall be protected by a sprinkler system designed for Extra Hazard 2 in accordance with section 903.3.1.1, or by an approved engineered design.

4103.6.3.1.2 Combustible Dust Producing Operations. Automatic sprinkler protection criteria for H-2/Combustible Dust Producing Operations shall be determined in accordance with section 4103.2.1.1.

4103.6.3.1.3 Non-high Hazard Occupancies. Sprinkler discharge criteria for ABPFs or portions thereof not classified as a division of the high-hazard occupancy classification and where Class 1 Liquids are not present in quantities or conditions required to be regulated by NFPA 30 or this chapter, shall be in accordance with section 903.3.1.1.

4103.6.3.2 Sprinkler System Supervision and Alarms. Automatic sprinkler systems shall be electrically supervised in accordance with section 903.4. Audible and visible occupant notification upon activation of water flow shall be provided in accordance with section 907.5 throughout all areas in ABPFs with automatic sprinkler protection.

4103.6.3.3 Emergency Alarm. In addition to automatic sprinkler system flow detection and all fire safety functions required by other sections of this code, an approved manual fire alarm system in accordance with sections 4103.6.3.3.1 through 4103.6.3.3.3 shall be provide4d in H-2 and H-3 occupancies in ABPFs.

4103.6.3.3.1 Initiation. Manual fire alarm boxes shall be installed in accordance with section 907.4.2 outside of each interior exit or exit access door in the fire barrier walls separating the H-2 or H-3 occupancies, and in the exterior walls surrounding the H-2 or H-3 occupancies.

Exception: On exterior walls of H-2 or H-3 occupancies, fire alarm boxes are permitted to be installed inside of each interior exit, exit access, or exit discharge door in the exterior wall.

Manual fire alarm boxes shall be installed at not more than 150-foot (45,720 mm) intervals along corridors, interior exit stairways or ramps, or exit passageways where Class 1 Liquids are transported.

4103.6.3.3.2 Notification. Emergency alarm audible and visible occupant notification shall be provided in accordance with section 907.5 throughout fire areas containing H-2 or H-3 occupancies.

4103.6.3.3.3 Annunciation. The emergency alarm system shall be monitored and annunciated as a separate zone at the Fire Alarm Control Panel (FACP). A separate emergency alarm panel is required when prescribed by other sections of the Longmont Codes for regulated hazards other than, or in addition to, Class 1 Liquids or combustible dust production in the manufacture of ethanol mixtures. When the emergency alarm system is activated, information shall be communicated to the supervising station that the zone in the alarm contains flammable liquids or combustible dust, or both.

4103.6.3.4 Portable Fire Extinguishers. A minimum of one approved portable fire extinguisher complying with section 906 and having a rating of not less than 20-B shall be located not less than 10 feet (3048 mm) or more than 50 feet (15241 mm) from any Class 1 Liquid storage area or use area or combustible dust production area.

4103.6.4 Electrical. Electrical wiring, equipment, and systems shall be installed and maintained in ABPFs in accordance with NFPA 70 and sections 605, 4103.6.4.1 through 4103.6.4.4.

4103.6.4.1 Classified Electrical Equipment. Classified electrical equipment per NFPA 70 shall be installed in accordance with section 5703.1.1 in areas of ABPFs or portions thereof where it cannot be justified to the fire and building code official during design review, and subsequently demonstrated to the fire code official on

annual inspections, that an atmospheric concentration at or below 25 percent of the LFL or MEC can be maintained.

A classified area shall not be required to extend beyond an unpierced floor, roof, or other solid partition that prevents the migration of liquids, vapors, and dust.

4103.6.4.1.1 Stills. Electrical equipment attached to or part of stills in H-2 or H-3 occupancies shall be Class 1, Division 1 per NFPA 70.

4103.6.4.1.2 Electric Motors. Electric motors located 8 feet (2438 mm) or less from any edge of equipment where Class 1 Liquid vapor/air mixtures could exist under normal operations and 3 feet (914 mm) or less above the floor or grade level within 25 feet (7620 mm) horizontally from any equipment with Class 1 Liquids shall be considered Class 1, Division 2 per NFPA 70.

4103.6.4.1.3 Other Applications. The fire code official is authorized to determine the extent of the Class 1 electrical equipment and wiring location when a condition is not specifically covered by this chapter, section 5703.1.1 or NFPA 70.

4103.6.4.1.4 Industrial Trucks. Powered industrial trucks used in areas designated as classified electrical locations in accordance with section 4103.6.4.1 shall be listed and labeled for use in the intended environment in accordance with NFPA 505.

4103.6.4.2 Grounding. Equipment used for grain or Class 1 Liquids shall be electrically connected in accordance with NFPA 70 and 77, and sections 4103.6.4.2.1 and 4103.6.4.2.2 to prevent the accumulation of static electricity and sparking.

4103.6.4.2.1 Conveyance Equipment. All conveyance equipment including that used for grain or Class 1 Liquid transfer shall be electrically connected by bond wires, ground cables, piping or similar means to a static grounding system. Conveyor belts shall be electrically conductive and equipped with static eliminators. Nozzles and vessels used for the transfer of Class 1 Liquids shall be electrically interconnected by:

1. Metallic floor plates on which vessels stand while filling, when such floor plates are electrically connected to the fill stem; or

2. Where the fill stem is bonded to the container during filling by means of a bond wire.

Exceptions:

1. Vats or casks without internal metal or plastic components that could hold a potential difference.

2. Equipment used in post bottling operations such as packaging and box storage shall be grounded in accordance with standards applicable to that equipment and industry practice.

4103.6.4.2.2 Storage Equipment. Plastic and metal grain storage bins or silos and Class 1 Liquid stationary tanks that are drawn down and refilled on a regular basis or are otherwise subjected to processes that could create an electric potential difference and sparking, shall be grounded.

4103.6.4.3 Lightning Protection. Lightning protection in accordance with NFPA 780 shall be provided on ABPFs and structures with an H-2 or H-3 occupancy and on buildings and structures where grains are stored, handled, or processed in a manner that combustible dust is produced.

4103.6.4.4 Standby or Emergency Power. Where mechanical ventilation, treatment systems, limit controls, alarm, detection, or other electrically operated systems are required, such systems shall be provided with an emergency or standby power system in accordance with NFPA 70 and section 604.1.

Exception: Subject to confirmation by the fire and building code officials, standby power for mechanical ventilation and limit control systems shall not be required where an approved fail-safe engineered system is installed.

4103.6.5 Location of Stills and Vessels. Stills and vessels in Class 1 Liquid use areas shall be located with respect to the lot lines of adjoining property which can be built on, in accordance with Tables 5705.3.4(1) and 5705.3.4(2).

Exceptions:

1. Where the exterior wall facing the adjoining lot line is without openings, has a fire-resistance rating of not less than 2 hours, and the ABPF is protected throughout with an automatic sprinkler system in accordance with section 4103.6.3.1, the fire and building code officials are authorized to reduce the minimum separation distances to not less than 1 foot (305 mm), or the minimum separation distances required by other provisions of the Longmont Codes, whichever is greater.

2. Where the capacity of the largest still or vessel within the minimum separation distance is 250 gallons (946 L) or less, the aggregate volume of all stills and vessels within the minimum separation distance is 750 gallons (2839 L) or less, the normal operating pressure of all vessels within the minimum separation distance is 2.5 psig (17.2 kPa) or less, and the ABPF is protected throughout with an automatic sprinkler system in accordance with section 4103.6.3.1, the minimum separation distance to lot lines is permitted to be 1 foot (305 mm), or the minimum separation distances required by other provisions of the Longmont Codes, whichever is greater.

4103.6.6. Security. Class 1 Liquid use areas and storage areas shall be secured against unauthorized entry and safeguarded in a manner approved by the fire code official.

4103.6.7 Protection from Vehicles. Bollards in accordance with section 312 or other approved means shall be provided to protect all vessels, stills, and piping which handle Class 1 Liquids and are subject to vehicular, including industrial truck, damage.

4103.6.8 Labeling and signage. When a permit is required in accordance with section 105.6, visible hazard identification markings, labels, signs, and placards shall be placed on vessels and process piping used for Class 1 Liquids, and in Class 1 Liquid storage areas, use areas, and combustible dust production areas, and at the entrances thereto in accordance with applicable federal, state and standards regulations, sections 4103.6.8.1 through 4103.6.8.5, chapters 50 and 57, and NFPA

704, or as approved. Content shall be in English, symbols permitted by this code and referenced standards, or both. Placards shall be in accordance with NFPA 704. The fire code official is authorized to require additional signs and placards at specific entrances and locations. Markings, labels, signs, and placards shall not be obscured or removed.

Exception: Casks are not required to be labeled.

4103.6.8.1 Warning Signs. Warning signs shall be of a durable material, have a yellow background with black or red text or symbols, and shall convey the danger being identified. Warning sign text shall not be less than 3 inches (76 mm) in height with a 5/8-inch (15 mm) stroke.

4103.6.8.2 Information Signs. Information signs shall be of a durable material, have a blue background with white or red text or symbol, or a white background with blue text, and shall convey the information required. Information sign text shall not be less than 3 inches (76 mm) in height with a 5/8-inch (15 mm) stroke.

Exception: Where otherwise specified by applicable regulations or standards.

4103.6.8.3 Location. Placards shall be located in accordance with NFPA 704 and shall be provided on the outside of each interior exit or exit access door in the fire barrier walls separating the H-2 or H-3 occupancies, and in the exterior walls surrounding the H-2 or H-3 occupancies.

4103.6.8.4 Piping. Piping and tubing conveying Class 1, 2, or 3 flammable or combustible liquids between vessels including heat transfer fluids shall be identified in accordance with ASME A13.1 to indicate the material conveyed.

4103.6.8.5 Individual Containers, Packages, and Cartons. Individual containers, intermediate bulk containers, packages and cartons shall be conspicuously identified in accordance with federal regulations and applicable state laws.

4103.6.8.6 Tank Marking. Every tank shall bear a permanent nameplate or marking indicating the standard used as the basis of design. Stationary tanks more than 100 gallons (379 L) in capacity used for the storage of Class 1 Liquids shall bear a

warning sign and placed in accordance with section 4103.6.8 corresponding to the material therein.

Exception: Vats.

Sources of Ignition. Sources of ignition shall comply with sections 4103.6.8.1 and 4103.6.8.2

4103.6.9.1 Smoking. Smoking shall be in accordance with section 310 and shall be prohibited in Class 1 Liquid storage areas or use areas and in combustible dust production areas. "No Smoking" warning signs in accordance with sections 4103.6.8 shall be provided in such areas and at all entrances to them.

Exception: Where designated smoking areas within ABPFs are permitted. Designated smoking areas shall be separated from Class 1 Liquid storage areas and use areas and combustible dust production areas by a minimum of 25 feet (7620 mm) and shall be clearly identified with information signs in accordance with section 4103.6.8.

4103.6.9.2 Open Flames. Open flames including barrel charring operations, and devices operating at temperatures above 680°F (360 °C) are prohibited throughout fire areas containing Class 1 Liquid storage areas or use areas or combustible dust production areas.

Exceptions:

1. Areas designated as smoking.
2. Areas where hot work permits have been issued in accordance with section 105.
3. Listed and labeled gas fired or electric unit heaters installed in accordance with the International Mechanical and Fuel Gas Codes and NFPA 70, located more than 8 feet (2438 mm) from any edge of equipment where Class 1 Liquid vapor/air mixtures could exist under normal operations and more than 3 feet (914 mm) above the floor or grade level within 25 feet (7620 mm) horizontally from any equipment with Class 1 Liquids.

4103.6.10 Separation of Incompatible Materials. Incompatible materials shall be separated in accordance with section 5003.9.8.

4103.6.11 Seismic Protection. All equipment in ABPFs including machinery, racks, piping, and stationary tanks shall be braced and anchored in accordance with the seismic design requirements of the International Building Code for the seismic zone in which the ABPF is located.

4103.6.12 Protection from Corrosion. Machinery, piping, tank, process vessel, and container materials exposed to Class 1 Liquids shall be in accordance with sections 4103.6.12.1 and 4103.6.12.2.

4103.6.12.1 Protection from External Corrosion and Galvanic Action. Where subject to external corrosion or galvanic action, machinery, piping, tank, process vessel, and container holding or conveying Class 1 Liquids shall be fabricated from noncorrosive materials or provided with a corrosion protection. Dissimilar metallic parts subject to galvanic action shall not be joined.

4103.6.12.2 Chemical Protection. Machinery, piping, tank, process vessel, and container materials used for Class 1 Liquids shall be protected from all chemicals to which they are exposed including ethanol. Clean-in-place (CIPs) fittings shall be compatible with the cleaning agents used on the vessels and piping to which they are attached. Tank lining shall be in accordance with section 4104.1.2.7.

4103.6.13 Limit Controls. Limit Controls shall be provided in accordance with sections 4103.6.13.1 through 4103.6.13.3.

4103.6.13.1 Pressure Control. Machinery, piping, tanks, vessels, and stills containing or conveying Class 1 Liquids shall be designed for the pressures they will be subjected to in accordance with applicable standards. Machinery, piping, tanks, containers, processing vessels, and stills containing or conveying Class 1 Liquids that can generate pressures exceeding design limits because of exposure fires or internal reaction shall have an approved means to relieve excessive positive and negative internal pressure. Vents provided to relieve excessive positive pressure shall discharge to an approved location.

4103.6.13.2 High Liquid-level Control. Stationary tanks and process vessels with Class 1 Liquids having a capacity greater than 500 gallons (1893 L) shall be equipped with a device or other means to prevent overflow into the building including, but not limited to, a float valve, preset meter on the fill line, valve actuated by the weight of the tank's contents, low-head pump incapable of producing overflow, or a liquid-tight overflow pipe at least one pipe size larger than the fill pipe and discharging by gravity back to an approved location.

Exception: Liquid-level sight gauges or other manual means approved by the fire code official to determine fill level are permitted in ABPFs where the use area or storage area is small enough that the stationary tank or process vessel is effectively under constant observation during filling operations.

4103.6.13.3 Low-liquid-level Control. Approved safeguards shall be provided to prevent a low-liquid level in stationary tanks, processing vessels, and stills from creating a hazardous condition, including but not limited to overheating.

4103.6.14 Handling and Transportation. Containers, portable tanks, and casks holding more than 5 gallons (19 L) of Class 1 Liquids being transported in a corridor or enclosed exit shall be on a cart or truck in accordance with sections 5003.10.2 and 5003.10.3.

SECTION 4104 EQUIPMENT

4104.1 General. Equipment utilized for the production, storage, dispensing, blending or handling of Class 1 Liquids shall be listed or approved and shall be in accordance with sections 4104.1.1 through 4104.1.4.4.2.

4104.1.1 Piping Systems. Piping systems for conveying Class 1 Liquids including piping, tubing, valves, pumps, and fittings shall be designed, installed, and maintained in accordance with sections 4104.1.1.1 through 4104.1.1.7, section 5703.6, and ASME B31. The use of other standards is permitted when approved.

4104.1.1.1 Component Design and Construction. Piping, tubing, hoses, valves, fittings, and related components conveying Class 1 Liquids shall be in accordance with the following:

1. Piping, tubing, hoses, valves, pumps, fittings, and related components shall be designed and fabricated from materials of adequate strength and durability to withstand the structural and environmental conditions to which they are subjected.

2. Piping, tubing, hoses, valves, pumps, fittings, and related components used in liquid transfer operations shall be approved or listed for the intended use.

3. Where provided, in-line flame arresters in piping systems shall be installed and maintained in accordance with their listing or API 2008.

4. Where Class 1 Liquids are carried in piping pressurized above 15 pounds per square inch gauge (psig; 103kPa), an approved means of leak detection shall be provided.

Exception: Piping for overpressure relief devices.

4104.1.1.2 Piping Supports. Piping systems shall be substantially supported and protected against physical damage and excessive stresses arising from seismic activity, settlement, vibration, expansion, and contraction. Piping supports shall be protected against exposure to fire by:

1. draining spilled liquid away from the piping support system at a minimum slope of not less than 2 percent;

2. providing protection with a fire-resistance rating of not less than 2 hours, or

3. other approved methods.

4104.1.1.3 Pipe Joints. Pipe joints shall be in accordance with sections 5703.6.9 and 5703.6.10.

Exception: Where located in concealed spaces within buildings, joints in piping systems used to convey Class 1 liquids shall be welded.

4104.1.1.4 Valves. Piping systems with and without pumps shall contain a sufficient number of manual-control, auto-control, and check valves to protect the ABPF and properly control the flow of Class 1 Liquids in normal operations, the event of physical damage, or the condition of fire exposure, and shall be in accordance with the following:

1. Readily accessible manual valves, automatic remotely-activated fail-safe emergency shutoff valves, or excess flow control shall be installed on gravity-fed supply piping and tubing and in systems pressurized above 15 pounds per square inch gauge (psig; 103 kPa) as close to the source as practical.

2. Manual emergency shutoff valves and controls for remotely activated emergency shutoff valves shall be clearly visible and readily accessible. Information signage in accordance with section 4103.6.8 shall be provided identifying the emergency shutoff valves and controls.

3. Backflow prevention or check valves shall be provided when backflow could create a hazardous condition or cause an unauthorized discharge.

4104.1.1.5 Pumps. Solid or liquid fueled pumps are not permitted in Class 1 Liquid use areas or storage areas.

Exception: Fire pumps separated from the Class 1 Liquid use areas and storage areas by 2-hour fire-resistance rated fire barriers in accordance with section 707 of the International Building Code.

Positive-displacement pumps shall be provided with pressure relief discharging back to the vessel, pump suction or other approved location, or shall be provided with interlocks to prevent over-pressure.

4104.1.1.6 Pressurized Transfer Systems. Gases introduced to provide for transfer of Class 1 Liquids shall be inert. Controls, including pressure relief devices, shall be provided to limit the pressure so the maximum working pressure of vessels cannot be exceeded. Where devices operating through pressure within a tank, intermediate bulk container, or container are utilized, the tank, intermediate bulk container, or container shall be a pressure vessel approved for the intended use.

4104.1.1.7 Maintenance. Piping and appurtenances shall be maintained in a safe operating condition and in accordance with their applicable listings and standards. Damage to piping or appurtenances shall be repaired using materials having equal or greater strength and fire resistance or the equipment shall be replaced, taken out of service, repaired, or disposed of in an approved manner. The repair, alteration

or reconstruction, including welding, cutting, and hot tapping of piping that has been placed in service, shall be in accordance with NFPA 30.

4104.1.2 Vessels. The design and construction of vessels used in ABPFs for Class 1 Liquids shall comply with the applicable sections 4104.1.2.1 through 4104.1.2.20.5 and NFPA 30, or shall be of an approved type. Pressure vessels shall comply with the ASME Boiler and pressure Vessel Code.

4104.1.2.1 Underground Storage of Class 1 Liquids. Underground storage in tanks shall comply with chapters 50 and 57. Vaults shall be in accordance with chapter 57. Underground storage in other vessels is prohibited.

4104.1.2.2 Outdoor Storage of Class 1 Liquids. Outdoor storage shall be In accordance with chapters 50 and 57.

4104.1.2.3 Tank Vehicles and Tank Cars. Tank vehicles and tank cars shall not be used as storage or processing vessels.

4104.1.2.4 Design of Supports. The supporting structure for stationary tanks and portable tanks with capacity greater than 660 gallon (2498 L) shall be designed in accordance with the International Building Code and NFPA 30.

4104.1.2.5 Locations Subject to Flooding. Where a portable tank or intermediate bulk container with capacity greater than 660 gallons (2498 L), or a stationary tank is located in an area where it is subject to a rise in the water table, flooding, or accumulation of water from fire suppression operations, uplift protection shall be provided in accordance with sections 22.14 and 23.14 of NFPA 30.

4104.1.2.6 Tank Lining. Steel stationary tanks and steel portable tanks with capacity greater than 660 gallon (2498 L) are permitted to be lined only for the purpose of protecting the interior from corrosion or providing compatibility with a material to be stored. Only those liquids tested for compatibility with the lining material are permitted to be stored in lined tanks.

4104.1.2.7 Manual Drainage. Manual drainage control valves shall be provided on stationary tanks and portable tanks with capacity greater than 660 gallons (2498 L).

Manual drainage control valves on stationary tanks shall be located at approved locations remote from the tanks to ensure their operation in a fire condition.

4104.1.2.8 Connections. Filling and emptying connections to vessels shall be provided with liquid-tight caps, covers, plugs, or valves which shall be closed when not in use.

Connections located below normal Class 1 Liquid levels in stationary tanks with capacity of 500 gallons (1893 L) or more shall be provided with internal or external isolation valves located as close as practical to the shell of the tank.

4104.1.2.9 Materials Used in Tank Construction. The materials used in tank construction shall be in accordance with NFPA 30.

4104.1.2.10 Separation between Adjacent Tanks. The separation between stationary tanks containing Class 1 Liquids shall be in accordance with Table 22.4.2.1 of NFPA 30.

Exceptions:

1. Where a group of no more than 4 stationary tanks are aligned in a single row, the minimum separation distance between tanks is permitted to be reduced to 18" (457 mm) provided no single tank is over 960 gallons (3634 L) and clear access of 3 feet (914 mm) is provided around the group.

2. Where stationary tanks are in the drainage path of Class 1 Liquids, and are compacted in 3 or more rows or in an irregular pattern, the fire code official is authorized to require greater separation than specified in Table 22.4.2.1 of NFPA 30 or other means to make tanks in the interior of the pattern accessible for emergency response including firefighting purposes.

4104.1.2.11 Maintenance. Vessels and their appurtenances shall be maintained in a safe operating condition in accordance with their listings, applicable standards, and industry practice. Damage and malfunctions shall be repaired using materials having equal or greater strength and fire resistance. Vessels leaking Class 1 Liquids shall be promptly emptied, repaired, and returned to service. Stationary tanks not

returned to service shall be abandoned in accordance with section 5704.2.13, or removed in accordance with section 5704.2.14.

4104.1.2.12 Vent Lines. Portable tanks with storage capacity of 660 gallons (2498 L) or more and stationary tanks shall be provided with normal and emergency vents in accordance with sections 4104.1.2.13.1 through 4104.1.2.13.5 to relieve positive and negative pressures such as those created from filling and draining.

Vent lines shall not be used for purposes other than venting unless approved.

4104.1.2.12.1 Installation of Vent Piping. Vent pipes shall be designed, sized, constructed, and installed in accordance with sections 5703.6, 5704.2.7.3, and 5704.2.7.4. Vent pipes shall be installed to drain toward the tank without sags or traps in which liquid can collect. Vent pipes shall be protected from physical damage and vibration.

4104.1.2.12.2 Vent-line Flame Arresters and Pressure-vacuum vents. Normal vents shall be equipped with vent-line flame arresters and pressure-vacuum vents in accordance with section 5704.2.7.3.2.

4104.1.2.12.3 Vent Pipe Outlets. To facilitate atmospheric dispersion, vent outlets shall be located so vapors are released at a safe point outside of buildings, directed upward or horizontally away from adjacent walls so vapors will not be trapped by eaves or other obstructions. Vent outlets shall not be less than 12 feet (3658 mm) above the finished ground level and shall not be less than 12 feet (3658 mm) above the finished ground level and shall not be less than 5 feet (1524 mm) from building openings or lot lines of properties that can be built upon.

4104.1.2.12.4 Manifolding. Subject to the approval of the fire code official, vent pipes are permitted to be manifolded only for special purposes such as vapor recovery, vapor conservation or air pollution control. Manifolded vent pipes shall be adequately sized to prevent system pressure limits from being exceeded when manifolded tanks are subject to the same fire exposure.

4104.1.2.12.5 Emergency Venting. Tanks shall be equipped with additional venting that will relieve rapid overpressure due to fire. Emergency vents shall not

discharge inside buildings. The venting shall be installed and maintained in accordance with section 22.7 of NFPA 30.

4104.1.2.13 Vessel Openings Other Than Vents. Vessel openings other than vents shall comply with sections 4104.1.2.21.1 through 4104.1.2.21.5.

4104.1.2.13.1 Filling and emptying connections. Filling and emptying connections to stationary tanks shall be properly identified in accordance with 4103.6.8.

4104.1.2.13.2 Fill Pipes and Discharge Lines. For top-loaded stationary tanks and portable tanks with capacity greater than 660 gallons (2498 L), a metallic fill pipe shall be designed and installed to minimize the generation of static electricity by terminating the pipe within 6 inches (152 mm) of the bottom of the tank. It shall be installed in a manner which avoids excessive vibration.

4104.1.2.13.3 Manual Gauging. Vessel openings for manual gauging, if independent of the fill pipe, shall be provided with a liquid-tight cap, cover, or plug. Covers shall be kept closed when not gauging. Such openings shall be protected against liquid overflow and possible vapor release by means of a spring-loaded check valve or other approved device.

4104.1.2.13.4 Protection against vapor release. Tank openings provided for purposes of vapor recovery shall be protected against possible vapor release by means of a spring-loaded check valve or dry-break connection, or other approved vapor-tight device.

Exception: Where the opening is a pipe connected to a vapor processing system.

Openings designed for combined fill and vapor recovery shall be protected against vapor release.

Exception: Where connection of the liquid delivery line to the fill pipe simultaneously connects the vapor recovery line.

4104.1.3 Stairs, Platforms, and Walkways. Stairs, platforms, and walkways installed to facilitate access to vessels, storage, pipes, and process equipment shall be noncombustible and designed and constructed in accordance with NFPA 30 and the International Building Code.

4104.1.4 Testing. Equipment, devices, and systems shall be tested in accordance with sections 4104.1.4.1 through 4104.1.4.4.2.

4104.1.4.1 Piping Systems. Before being covered, enclosed or placed in use, piping shall be hydrostatically tested to 150 percent of the maximum anticipated pressure of the system, or pneumatically tested to 110 percent of the maximum anticipated pressure of the system, but not less than 5 pounds per square inch gauge (psig; 34.5 kPa) at the highest point of the system. This test shall be maintained for a sufficient time period to complete visual inspection of joints and connections. For a minimum of 10 minutes, there shall be no leakage or permanent distortion. Storage tanks shall be tested independently from the piping.

Exception: Piping tested in accordance with the applicable section of ASME B31.9.

4104.1.4.1.1 Existing Piping. Existing piping shall be tested in accordance with this section when the fire code official has reasonable cause to believe a leak exists. Piping used for Class 1 Liquids shall not be tested pneumatically.

Exception: Vapor-recovery piping is permitted to be tested using an inert gas.

4104.1.4.2 Tanks. Prior to being placed into service, tanks shall be tested in accordance with section 21.5 of NFPA 30.

4104.1.4.3 Safety Systems. Automatic sprinkler systems, automatic sprinkler system monitoring, fire alarm systems, all limit controls, and all other fire- and life-safety systems shall pass the commissioning or acceptance tests in accordance with their respective design, installation, and testing standards prior to occupancy and use of the facility. Emergency alarms and limit-control monitoring shall be tested as for fire alarm systems in accordance with NFPA 72.

4104.1.4.4 Periodic Testing. Equipment and safety systems shall be periodically tested in accordance with sections 4104.1.4.4.1 and 4104.1.4.4.2. Written records of the tests conducted or maintenance performed shall be maintained in accordance with the provisions of section 107.3

Exceptions:

1. Periodic testing shall not be required when approved written documentation is provided substantiating testing will damage the equipment, device, or system and the equipment, device, or system is maintained as specified by the respective manufacturer.

2. Periodic testing shall not be required when the equipment and systems are utilized routinely as part of normal operations and maintained in good operating condition.

3. Periodic testing shall not be required for equipment, devices, and systems that fail in a fail-safe manner.

4. Periodic testing shall not be required for equipment, devices, and systems that self-diagnose and report trouble. Records of the self-diagnosis and trouble reporting shall be made available to the fire code official.

5. Periodic testing shall not be required if system activation occurs during the required test cycle for the components activated during the test cycle.

6. Approved maintenance in accordance with section 5003.2.6 that is performed not less than annually or in accordance with an approved schedule shall be permitted to meet the testing requirements set forth in sections 5003.2.9.1 and 5003.2.9.2.

4104.1.4.4.1 Equipment. The following equipment shall be tested periodically:

1. Piping.

2. Limit controls required by section 4103.6.12.

4104.1.4.4.1 Testing Frequency. The equipment listed in section 4104.1.4.4.1 shall be tested at one of the frequencies listed below:

1. Not less than annually;

2. In accordance with the approved manufacturer's requirements;

3. In accordance with approved recognized industry standards; or

4. In accordance with an approved schedule.

4104.1.4.4.2 Safety Systems. Safety systems listed in section 4104.1.3.3 shall be periodically tested in accordance with their design, installation, and testing standards.

Emergency alarms and limit-control monitoring shall be tested as for fire alarm systems in accordance with NFPA 72.

4104.2 Storage and Use Areas. Storage and process operations shall be in accordance with the Longmont Codes and sections 4104.2.1 through 4104.2.3.4.

4104.2.1 Storage Areas. Storage of Class 1 Liquids shall be in accordance with sections 4103.2.1.1 through 4104.2.1.4, chapter 32, and NFPA 30.

4104.2.1.1 General. Storage of vessels in closely packed piles, on pallets, in racks, or on shelves shall be in accordance with sections 4104.2.1.1.1 through 4104.2.1.1.3.

4104.2.1.1.1 Basement Storage. Storage in excess of the MAQs is prohibited in basements.

4104.2.1.1.2 Limited Combustible Storage. Limited quantities of class 1 through 4 commodities are permitted to be stored in the same non-separated area, room, or building as Class 1 Liquids provided the combustibles, other than those used for packaging the Class 1 Liquids, are separated from Class 1 Liquids in storage by a minimum of 8 feet (2438 mm) horizontally either by open aisles, open racks, or racks filled with noncombustible commodities.

4104.2.1.1.3 Shelf Storage. Shelving shall be of substantial construction and shall be braced and anchored in accordance with the seismic design requirements of the International Building Code for the seismic zone in which the ABPF is located.

Shelving, chocks, scuffboards, floor overlay, and similar installations shall be of noncombustible construction or of wood not less than a 1-inch (25 mm) nominal thickness; treatments, coatings, and construction materials shall be compatible with ethanol.

Shelves shall be provided with a lip or guard when used for the storage of individual containers or casks.

Exception: Storage in flammable liquid storage cabinets specifically designed for such use.

4104.2.1.1.4 Separation and Aisles. Aisles shall be provided in storage areas such that all storage vessels are located no more than 20 feet (6096 mm) horizontally from a main aisle or access aisle.

Main aisles shall be a minimum of 8 feet (2438 mm) wide in high piled combustible storage areas and a minimum of 4 feet wide on non-high piled combustible storage areas.

Access aisles shall be a minimum of 4 feet (1219 mm) wide in high piled combustible storage areas and a minimum of 44 inches (1118 mm) wide on non-high piled combustible storage areas.

Aisles utilized for manual stocking, separation between piles, separation between adjacent rows of racks, and separation between racks and adjacent pile storage shall be main aisles or access aisles.

Aisles utilized for mechanical stocking shall be main aisles.

All piles including palletized storage shall border a main aisle on a minimum of one side or end.

Additional aisles shall be provided for access to doors, required windows and ventilation openings, standpipe connections, fire extinguishers, mechanical equipment, and switches. Such aisles shall be at least 3 feet (914 mm) in width.

A single aisle is permitted to serve multiple functions provided its minimum width is the largest of the widths required for the functions served.

4104.2.1.1.5 Material Handling Equipment. Material handling equipment shall be suitable to manipulate vessels at the highest tier level.

4104.2.1.1.6 Housekeeping. Storage shall be maintained in an orderly manner.

4104.2.1.1.7 Dunnage, scuffboards, floor overlay. Dunnage, scuffboards, floor overlay, and similar installations shall be of noncombustible construction or of wood not less than a 1-inch (25 mm) nominal thickness.

4104.2.1.1.8 High Piled Combustible Storage. Storage of vessels in closely packed piles on pallets, in racks, or on shelves, where the top of storage is greater than 6 feet (1829 mm) in height, shall be considered high piled combustible storage. Where applicable requirements in chapter 32 are in conflict with those in section 4104.2.1, the more restrictive shall govern.

4104.2.1.3 Pile Storage. Pile storage including palletized storage shall be in accordance with sections 4104.2.1.3.1 through 4104.2.1.3.2.2.

4104.2.1.3.1 Stabilizing and Supports. Intermediate bulk containers, containers, and portable tanks shall be stored in accordance with NFPA 30.

Horizontally oriented casks stored in piles shall be supported by stackable racks or cradles of substantial construction designed for that purpose. Lateral bracing shall be provided for horizontally oriented casks stored in piles where the height of the pile exceeds three times the least dimension of the base rack or cradle.

Exception: Where an approved engineering analysis is submitted demonstrating taller storage configurations are stable against overturning in accordance with the seismic design requirements of the International Building Code for the seismic zone in which the ABPF is located.

Storage height of horizontally oriented casks in this configuration shall not exceed the lesser of the rack manufacturer's recommendations or industry standards.

4104.2.1.3.2 Palletized Storage. Palletized storage shall be in accordance with sections 4104.2.1.3.2.1 and 4104.2.1.3.2.2.

4104.2.1.3.2.1 Stabilizing and Supports. Casks stacked vertically for storage shall be separated by pallets or other dunnage that spreads the weight of the casks on the tier above over the casks on the tier below. A lower tier shall not have less than four casks and shall not have an empty cask when a tier above has a cask that is not empty. No more than two tiers of casks are permitted to be stacked vertically in this configuration.

Exceptions:

1. Where the collapse strength of the casks on the lowest tier is not exceeded, palletized storage of vertically oriented casks are permitted to be stacked to a height of four tiers where the casks are bound together in a square pattern groups of no less than four, by a steel band, or other approved binding.

2. Where the collapse strength of the casks on the lowest tier is not exceeded, palletized storage of vertically oriented casks are permitted to be stacked to a height of six tiers where the casks are bound together in a square pattern in groups of no less than nine, by a steel band or other approved binding.

3. Where the collapse strength of the casks on the lowest tier is not exceeded, an engineered overturning analysis shall be provided demonstrating stability in accordance with the seismic design requirements of the International Building Code for the seismic zone in which the ABPF is located for storage configurations other than permitted in exceptions 1 and 2.

4104.2.1.3.2.2 Idle Combustible Pallets. Storage of idle wood pallets shall be limited to a maximum pile size of 2,500 square feet (232 m^2) and to a maximum storage height of 6 feet (1829 mm). Storage of idle plastic pallets shall be in accordance with section 3206.4.1.1 and as limited by the capacity of the automatic sprinkler system in accordance with section 903.3.1.1. Pallet storage shall be separated from liquid storage by aisles that are a minimum of 8 feet (2438 mm) wide.

4104.2.1.4 Portable Tank, Intermediate Bulk Container, and Container Storage. Portable tanks and intermediate bulk containers stored over one tier in height shall be designed to nest securely without dunnage. Stacked containers shall be separated by pallets or dunnage to provide stability and to prevent excessive stress to container walls. The storage height and configuration shall be in accordance with NFPA 30.

4104.2.2 Grain Storage. Grain storage shall be in accordance with section 4103.2.1.1.

4104.2.3 Use Areas. Use areas for Class 1 Liquids in amounts exceeding the MAQ shall be in accordance with sections 4104.2.3.1 through 4104.2.3.3.

4104.2.3.1 General. Systems shall be suitable for the use intended and shall be designed by persons competent in such design. Controls shall be designed to prevent materials from entering or leaving the process or reaction system at other than the intended time, rate, or path. Where failure of an automatic control could result in a dangerous condition or reaction, the automatic control shall be fail-safe. Use areas with Class 1 Liquids in excess of the MAQs are prohibited in basements.

4104.2.3.2 Non-listed appliances. Stills where internal operating vapor pressures normally exceed 2.5 psig (103.4 kPa) or could potentially exceed 2.5 psig (103.4 kPaq) due to failures in operating methods such as clogged head packing or other materials held on column plates shall be provided with a listed pressure relief valve piped to discharge to the exterior in an approved location.

Exception: Stills listed for operation of 2.5 psig (103.4 kPa) and, where approved, stills constructed in accordance with the ASME Boiler and Pressure Vessel Code.

4104.2.3.3 Class 1 Liquid Transfer. Class 1 Liquids shall be transferred by one of the following methods:

1. From safety cans in accordance with NFPA 30.
2. Through an approved closed piping system.
3. From vessels by an approved pump taking suction through an opening in the top of the vessel.
4. By gravity from a tank, intermediate bulk container, or container through an approved self-closing or automatic-closing valve.
5. Approved engineered liquid transfer systems.

Exception: Liquids transferred into and from containers not exceeding a 5.3-gallon (20 L) capacity.

16.32.440. – Section 5003.3.1 Replaced – Unauthorized Discharges.

Section 5003.3.1 of the International Fire Code is deleted in its entirety and replaced with the following:

5003.3.1 Unauthorized discharges. The owner or person in possession or control of any property, or the person in possession or control of any hazardous materials, shall immediately notify the fire department when any unauthorized discharge of hazardous materials occurs. The following procedures are required in accordance with sections 5003.3.1.1 through 5003.3.1.4.

16.32.450. – Section 5307.3 Amended – Insulated Liquid Carbon Dioxide Systems Used in Beverage Dispensing Applications.

Section 5307.31 of the International Fire Code is amended by the deletion of the first sentence and replaced with the following:

Insulated liquid carbon dioxide systems with more than 100 pounds (45.4 kg) of carbon dioxide or remote fill connection used in beverage dispensing applications shall comply with Section 5307.3.1.

16.32.460. – Section 5307.4 Deleted – Carbon Dioxide Enrichment System.

Section 5307.4 is deleted in its entirety and replaced with the following section:

5307.4 Carbon Dioxide Enrichment or Extraction Systems. The design, installation, and maintenance of carbon enrichment or extraction systems with more than 100 pounds of carbon dioxide and carbon dioxide enrichment systems with any quantity of carbon dioxide having a remote fill connection shall comply with Sections 5307.4.1 through 5307.4.7.

16.32.470. – Section 5701.2 – Non-applicability.

Section 5701.2 of the International Fire Code is amended by the deletion of #10 as published.

16.32.480. – Chapter 80 Amended – NFPA Codes.

The referenced NFPA codes in chapter 80 of the International Fire Code are deleted in their entirety and replaced with the following:

National Fire Protection Association (NFPA), Batterymarch Park, Quincy, MA 502269.

Standard Reference Number	Title	Referenced in code section number
02-20	Hydrogen Technologies Code.	2309.3.1.1, 2309.3.1.2, 5301.1, 5307.3, 5801.1
10-2018	Standard for Portable Fire Extinguishers	Table 901.6.1, 906.2, 906.3, Table 906.3(1), Table 906.3(2), 906.3.2, 906.3.4, 3006.3, I101.1
11-2021	Low Expansion Foam, Medium- and High-Expansion Foam Systems	904.7, 5704.2.9.2.2
12-2022	Carbon Dioxide Extinguishing Systems	Table 901.6.1, 904.8, 904.12
12A-2022	Halon 1301 Fire Extinguishing Systems	Table 901.6.1, 904.9
13-2022	Installation of Sprinkler Systems	903.3.1.1, 903.3.2, 903.3.8.2 903.3.8.5, 904.12, 905.3.4, 907.6.4, 914.3.2, 1019.3, 1103.4.8, 3201.1, 3204.2, Table 3206.2, 3206.4.1, 3206.9, 3207.2, 3207.2.1, 3208.2.2, 3208.2.2.1, 3208.4, 3210.1, 3411.1, 5104.1, 5104.1.1, 5106.5.7, 5704.3.3.9, Table 5704.3.6.3(7), 5704.3.7.5.1, 5704.3.8.4
13D-2022	Installation of Sprinkler Systems in One and Two Family Dwellings and Manufactured Homes	903.3.1.3
13R-2022	Installation of Sprinkler Systems in Residential Occupancies up to and Including Four Stories in Height	903.3.1.2, 903.3.5.2, 903.4
14-2019	Installation of Standpipe and Hose Systems	905.2, 905.3.4, 905.4.2, 905.6.2, 905.8
15-2022	Water Spray Fixed Systems for Fire Protection	5704.2.9.2.3
16-2019	Installation of Deluge Foam- Water Sprinkler and Foam- Water Spray	904.7, 904.12
17-2021	Dry Chemical Extinguishing Systems	Table 901.6.1, 904.6, 904.12

17A-2021	Wet Chemical Extinguishing Systems	Table 901.6.1, 904.5, 904.12
20-2019	Installation of Centrifugal Fire Pumps	913.1, 913.2, 913.5.1
22-2018	Water Tanks for Private Fire Protection	507.2.2
24-2022	Installation of Private Fire Service Mains and the Appurtenances	507.2.1, 2809.5
25-2020	Inspection, Testing, and Maintenance of Water-based Fire Protection Systems	507.5.3, Table 901.6.1, 904.7.1, 912.7, 913.5
30-2021	Flammable and Combustible Liquids Code	610.1, 5701.2, 5703.6.2, 5703.6.2.1, 5704.2.7, 5704.2.7.1, 5704.2.7.2, 5704.2.7.3.2, 5704.2.7.4, 5704.2.7.6, 5704.2.7.7, 5704.2.7.8, 5704.2.7.9, 5704.2.9.3, 5704.2.9.4, 5704.2.9.6.1.1, 5704.2.9.6.1.2, 5704.2.9.6.1.3, 5704.2.9.6.1.4, 5704.2.9.6.1.5, 5704.2.9.6.2, 5704.2.9.7.3, 5704.2.10.2, 5704.2.11.3, 5704.2.11.4.2, 5704.2.12.1, 5704.3.1, 5704.3.6, Table 5704.3.6.3(1), Table 5704.3.6.3(2), Table 5704.3.6.3(3), 5704.3.7.2.3, 5704.3.8.4, 5706.8.3
30A-2021	Automotive and Marine Service Station Code	2301.4, 2301.5, 2301.6, 2306.6.3, 2310.1
30B-2021	Manufacture and Storage of Aerosol Products	5101.1, 5103.1, 5104.1, Table 5104.3.1, Table 5104.3.2, Table 5104.3.2.2, 5104.4.1, 5104.5.2, 5104.6, 5106.2.3 5106.3.2, Table 5106.4, 5106.5.1, 5106.5.6, 5107.1
31-2020	Installation of Oil-burning Equipment	603.1.7, 603.3.1, 603.3.3
32-2021	Dry Cleaning Plants	2107.1, 2107.3
33-2021	Spray Application Using Flammable or Combustible Materials	2404.3.2
34-2021	Dipping and Coating Processes Using Flammable or Combustible	2405.3, 2405.4.1.1

35-2021	Manufacture of Organic Coatings	2901.3, 2905.4
40-2022	Storage and Handling of Cellulose Nitrate Motion Picture Film	306.2
51-2018	Design and Installation of Oxygen-fuel Gas Systems for Welding, Cutting, and Allied Processes	3501.5, 3507.1, 3509.1
51A-2021	Acetylene Cylinder Charging Plants	3508.1
52-2019	Vehicular Gaseous Fuel Systems Code	5301.1
58-2020	Liquefied Petroleum Gas Code	603.4.2.1.1, 6101.1, 6103.1, 6103.2.1, 6103.2.1.2, 6103.2.1.7, 6103.2.2, 6104.1, 6104.3.2, 6104.4, 6105.2, 6106.2, 6106.3, 6107.2, 6107.4, 6108.1, 6108.2, 6109.11.2, 6111.3
59A-2019	Production, Storage, and Handling of Liquefied Natural Gas (LNG)	5301.1, 5501.1
61-2020	Prevention of Fires and Dust Explosions in Agricultural and Food Products Facilities	Table 2204.1
69-2019	Explosion Prevention Systems	911.1, 911.3, Table 2204.1

70-2020	National Electric Code	603.1.3, 603.1.7, 603.5.2, 604.1.2, 605.3, 605.4, 605.9, 605.11, 606.16, 610.6, 610.7, 904.3.1, 907.6.1, 909.12.2, 909.16.3, 910.4.6, 2006.3.4, 2104.2.3, 2108.2, Table 2204.1, 2301.5, 2305.4, 2308.8.1.2.4, 2309.2.3, 2309.6.1.2.4, 2311.3.1, 2413.2.1, 2413.2.1.1, 2413.2.1.4, 2413.2.5, 2414.6.1.2.2, 2414.9.4, 2504.5, 2603.2.1, 2606.4, 2703.7.1, 2703.7.2, 2703.7.3, 2803.4, 2904.1, 3103.12.6.1, 3104.15.7, 3304.7, 3506.4, 5003.7.3, 5003.8.7.1, 5003.9.4, 5303.7.6, 5303.8, 5303.16.11, 5303.16.14, 5503.6, 5503.6.2, 5703.1, Table 5703.1.1, 5703.1.3, 5704.2.8.12, 5704.2.8.17, 5706.2.8, 5803.1.5, 5803.1.5.1, 5807.1.10, 5906.5.5, 5906.5.6, 6109.15.1
72-2019	National Fire Alarm Code	508.1.6, 604.2.4, Table 901.6.1, 903.4.1, 904.3.5, 907.2, 907.2.6, 907.2.9.3, 907.2.11, 907.2.13.2, 907.3, 907.3.3, 907.3.4, 907.5.2.1.2, 907.5.2.2, 907.5.2.2.5, 907.6, 907.6.1, 907.6.2, 907.6.6, 907.7, 907.7.1, 907.7.2, 907.8, 907.8.2, 907.8.5, 1103.3.2
80-2019	Fire Doors and Fire Windows	703.1.3, 1010.1.4.3
85-2019	Boiler and Combustion System Hazards Code	Table 2204.1
86-2019	Ovens and Furnaces	3001.1
92-2021	Smoke Management Systems in Malls, Atria, and Large Spaces	909.7, 909.8
99-2021	Health Care Facilities	611.1, 1105.5.2, 1105.10.1, 1105.10.2, 5306.4, 5306.5
101-2021	Life Safety Code	1029.6.2

110-2022	Emergency and Standby Power Systems	604.1, 604.3, 604.4, 913.5.2, 913.5.3
111-2022	Stored Electrical Energy Emergency and Standby Power Systems	604.1, 604.4, 604.5
120-2020	Coal Preparation Plants	Table 2204.1
160-2021	Flame Effects Before an Audience	308.3.2
170-2021	Standard for Fire Safety and Emergency Symbols	1025.2.6.1
211-2019	Chimneys, Fireplaces, Vents, and Solid Fuel-burning Appliances	603.2
241-2022	Safeguarding Construction, Alteration, and Demolition Operations	3301.1
253-2019	Standard Test for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source	804.3.1, 804.3.2, 804.4
260-2019	Methods of Tests and Classification System for Cigarette Ignition Resistance of Components of Upholstered Furniture	805.1.1.1, 805.2.1.1, 805.3.1.1, 805.4.1.1
261-2019	Methods of Tests for Determining Resistance of Mock-up Upholstered Furniture Material Assemblies to Ignition by Smoldering Cigarettes	805.2.1.1, 805.3.1.1, 805.4.1.1
265-2019	Fire Tests for Evaluating Room Fire Growth Contribution of Textile Wall Coverings	803.5.1, 803.5.1.1, 803.5.1.2, 803.5.2, 803.6
286-2019	Standard Method of Fire Tests for Evaluating Contribution of Wall and Ceiling Interior Finish to Room Fire Growth	803.1, 803.1.2, 803.1.2.1, 803.5.1, 803.5.2, 803.6, 803.7
289-2019	Standard Method of Fire Test for Individual Fuel Packages	806.2, 807.4, 807.5.1.1, 808.3
303-2021	Fire Protection Standard for Marinas and Boatyards	905.3.7, 3603.5, 3603.6, 3604.2
400-2022	Hazardous Material Code	5601.1.5, 6304.1.2, Table 6304.1.5(1), Table 6304.1.5(2)

407-2017	Aircraft Fuel Servicing	2006.2, 2006.3
409-2016	Aircraft Hangars	914.8.3, Table 914.8.3, 914.8.3.1, 914.8.6
410-2020	Standard on Aircraft Maintenance	2004.7
484-2019	Combustible Metals	Table 2204.1
495-2018	Explosive Materials Code	202, 911.1, 911.4, 5601.1.1, 5601.1.5, 5604.2, 5604.6.2, 5604.6.3, 5604.7.1, 5605.1, 5606.1, 5606.5.2.1, 5606.5.2.3, 5607.1, 5607.9, 5607.11, 5607.15
498-2018	Safe Havens and Interchange Lots for Vehicles Transporting Explosives	5601.1.2
505-2018	Powered Industrial Trucks, Including Type Designations, Areas of Use, Maintenance, and Operation	5003.7.3
654-2020	Standard for Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids	Table 2204.1
655-2017	Prevention of Sulfur Fires and Explosions	Table 2204.1
664-2020	Prevention of Fires and Explosions in Wood Processing and Woodworking Facilities	Table 2204.11.1, 2805.3
701-2019	Methods of Fire Tests for Flame-resistant Textiles and Films	806.2, 807.4, 807.5.1.2, 2603.5, 3104.2
703-2021	Fire Retardant Impregnated Wood and Fire Retardant Coatings for Building Materials	803.4
704-2022	Identification of the Hazards of Materials for Emergency Response	606.7, 202, 3104.2, 5003.2.2.1, 5003.2.2.2, 5003.5, 5003.10.2, 5005.1.10, 5005.2.1.1, 5005.4.4, 5503.4.1, 5704.2.3.2
750-2019	Standard on Water Mist Fire Protection Systems	202, Table 901.6.1, 904.11.1.1
855-2020	Standard for the Installation of Stationary Energy Storage Systems	Chapter 12.

914-2019	Code for Fire Protection of Historic Structures	1103.1.1
1122-2018	Model Rocketry	5601.1.4
1123-2017	Fireworks Display	202, 5604.2, 5608.1, 5608.2.2, 5608.5, 5608.6
1124-2022	Manufacture, Transportation, and Storage of Fireworks	202, 5601.1.3, 5604.2, 5605.1, 5605.3, 5605.4, 5605.5, 5609.1
1125-2017	Manufacture of Model Rocket and High Power Rocket Motors	5601.1.4
1126-2021	Use of Pyrotechnics Before a Proximate Audience	5604.2, 5605.1, 5608.1, 5608.2.2, 5608.4, 5608.5
1127-2018	High Power Rocketry	5601.1.4
2001-2018	Clean Agent Fire Extinguishing Systems	Table 901.6.1, 904.10

16.32.490. – Chapter 80 Amended – Reference Standards.

Chapter 80 of the International Fire Code is amended by the addition of referenced standard UL 9540A edition 4. UL Standard for Test Method for Evaluating Thermal Runaway Fire Propagation in Battery Energy Storage.

16.32.500. – Section B104.2 Amended – Area Separation Type IA and Type IB Construction.

Section B104.2 of the International Fire Code is amended by deletion of section B104.2 as published and adoption of the following:

B104.2 Area Separation. Portions of buildings that are completely isolated from adjoining portions of the building by a wall having a 4 hour fire resistance rating with no openings, constructed as required by section 705 of the International Building Code are allowed to be considered as separate Fire Flow Calculation Areas.

16.32.510. – Appendix D Amended – Fire Apparatus Access Roads.

Appendix D of the International Fire Code is amended by the deletion of sections D101, D102, D103.1 though D103.5, D106, D107, and D108 as published.

16.32.520 Section D105.1 – Where Required.

Section D105.1 of the International Fire Code is deleted in it entirely and replaced with the following:

D105.1 Where required. Where the vertical distance between the grade plane and the highest roof surface exceeds 30 feet (9144 mm), approved aerial fire apparatus access roads shall be provided. For purposes of this section, the highest roof surface shall be determined by measurement to highest point of a pitched roof, or the top of parapet walls, whichever is greater.

Section 2. – Validity

To the extent only that they conflict with this ordinance, the council repeals any conflicting ordinances or parts of ordinances. The provisions of this ordinance are severable, and invalidity of any part shall not affect the validity or effectiveness of the rest of this ordinance. Neither the adoption of this ordinance nor its action repealing or amending any other ordinance of the City of Longmont shall in any manner affect prosecution for violations of ordinances committed before the effective date of this ordinance. This ordnance shall not waive any license, fee, or penalty due and unpaid under pre-existing ordnances on its effective date. This ordinance shall not affect any pre-existing ordinances on the collection of any license, fee, or penalty, or the penal provisions applicable to any violation thereof. This ordinance shall not affect the validity of any bond or cash deposit required under any ordinance. All rights and obligations under such security shall continue in full force and effect.

Introduced this 26th day of October, 2021

Passed and adopted this _____ day of _____, 2021

_____

MAYOR

ATTEST:

_____

CITY CLERK

NOTICE: THE COUNCIL WILL HOLD A PUBLIC HEARING ON TIS ORDINANCE AT 7:00 P.M. ON THE 30TH DAY OF NOVEMBER, 2021, AT THE LONGMONT CITY COUNCIL MEETING.

APPROVED AS TO FORM:

/s/ Tim Hole 10/26/2021
ASSISTANT CITY ATTORNEY DATE

/s/ Cristi Campbell 10/26/2021
PROOFREAD DATE

APPROVED AS TO FORM AND SUBSTANCE:

/s/ Joni Marsh 10/26/2021
ORIGINATING DEPARTMENT DATE

CA File: 21-001439