

5.7 FIRE PROTECTION & PUBLIC SAFETY

5.7.1 AUTHORITY

Except for exemptions cited herein, Section 5.7 shall be applicable to the following structures constructed after June 14, 2017:

1. Residential subdivisions regulated by *30-A MRSA §4403* and subdivisions exempt by *30-A MRSA §4401.4 and 4401.4D-1, D-2, D-3, and D-4* [Probate and family divisions] consisting of:
 - a. Eight (8) lots or more;
 - b. Between four (4) and seven (7) lots located more than 2,500 linear feet by established travelway from a designated and operational Fire Department water supply of at least 15,000 gallon capacity;
2. Commercial and institutional structures with in excess of 4,000 square feet of area, excepting agricultural buildings.

5.7.2 RESIDENTIAL FIRE PROTECTION WATER SUPPLY

1. **Proximity to Fire Protection Water Supply:** All residential buildings governed by § 5.7.1. shall be located with 1,000 linear feet by established travelway of a designated and operational Fire Department water supply of at least 15,000 gallon capacity.
2. **Alternative Water Supply Required:** Proposed new residential structures failing to meet the standard of §5.7.2.1 will be required to provide one of the following remedies:
 - a. Install a residential fire sprinkler system in all residential units in conformance with the standards of NFPA 13D;
 - b. Install an enclosed concrete or polycarbonate cistern with a minimum 15,000 gallon capacity on site or within 500 feet by established travelway of the principal structure and provide Fire Department vehicular access to the cistern;
 - c. Install a fire pond with a minimum water capacity of 60,000 gallons according to standards of the Arundel Fire Chief, or designee.
- ~~3. **Exemptions:** The following structures shall be exempt from the requirement of section 5.7.2.2.b:
 - a. Mobile Homes;
 - b. Seasonal residences, occupied less than 6 months of a calendar year;
 - c. Replacement structures~~

5.7.3 NON-RESIDENTIAL FIRE PROTECTION WATER SUPPLY

1. **Proximity to Fire Protection Water Supply:** Commercial and institutional structures in excess of 4,000 square feet in area must be located within 2,500 linear feet by established travelway of a designated and operational Fire Department water supply of at least 15,000 gallon capacity. The Fire Chief and/or Planning Board may require a water supply in excess of 15,000 gallons based on building size, use, fire load, and/or number of buildings served by the water supply.
2. **Non-residential uses along Route 1:** Non-residential located in the DB-1, DB-2, B-1, and GW districts that fail to meet the standard of Section 5.7.2.1 above, shall install a dry barrel fire hydrant in the existing water line along Route 1 operated by Kennebunk, Kennebunkport and Wells Water District (KKWWD). The location of the hydrant shall be at a location closest to the new structure, and not less than 1,000 feet.
 - a. **Water Line Laterals:** Water line laterals may be constructed beneath Route 1 to supply dry barrel hydrants where the KKWWD water main is located on the opposite side from the proposed non-residential structure. The Fire Chief and/or Planning Board's decision to require a hydrant lateral will be based on building(s) size, use, fire load, exposures and neighborhood safety.

- b. Interior Water Line Extensions:** Non-residential uses and buildings located more than 1,000 feet from the Route 1 water main by established travelway shall construct water line extensions along access roads, private ways and driveways and install dry barrel hydrants to meet the requirements of §5.7.3.2. The Fire Chief or his/her designee may require the installation of additional hydrants at 500 foot intervals along such roads to service the fire protection needs of infill non-residential uses.
- c. Design Standards:** All hydrants shall be designed and constructed in conformance with NFPA 24. No hydrant shall be serviced by a water supply main of less than six (6) inch diameter
- d. Costs & Responsibilities:** The applicant shall be responsible for expenses associated with the installation, maintenance, and/or lease of fire hydrants located in private ways, driveways, and private property. Applicants shall also be responsible for the installation and lease costs associated with a hydrant installed in the right-of-way of a Town or State road for a period of three (3) years, whereupon all lease costs shall be assumed by the Town of Arundel.

5.7.4 AUTOMATIC FIRE SPRINKLER SYSTEMS

1. Fire Sprinkler Design Standards

All Automatic Fire Sprinkler Systems shall conform to the following design criteria:

- a. NFPA 13D for one and two family residential dwelling units;
- b. NFPA 13R in all residential structures except for one and two family dwelling units;
- c. NFPA 13 in any commercial or non-residential structure.

5.7.5 CISTERNS AND FIRE POND STANDARDS

1. Cisterns: Fire Water Supply cisterns shall be designed as follows:

- a. All cisterns shall be waterproofed prior to installation.
- b. Cisterns shall be plumbed with six (6) inch drafting outlet with a threaded fitting with long handles and a metal cap mounted on an elbow at least two (2) feet above the surface of the ground
- c. All plumbing fixtures shall be metal in construction.
- d. A separate vent pipe shall be installed
- e. A separate fill pipe on an elbow mounted at least 2 feet above the ground and fitted with a threaded 2.5 inch wye.
- f. A sight gauge showing water level in the cistern.
- g. Cisterns shall be constructed with a cleanout manhole enabling maintenance access to the interior with a locking mechanism to prevent vandalism.

2. Fire Ponds:

- a. **Fire Pond Capacity:** The water capacity of a proposed fire pond shall be determined based on the geometric volume of the pond minus that volume located from the bottom to 1 foot above the strainer elevation and minus a three (3) foot thick ice pack at the pond surface.
- b. **Fire Pond Water Supply:** The fire pond shall be lined with clay, a synthetic liner, or any other impervious material approved by the Fire Chief or his/her designee to minimize water loss in the facility. Fire ponds should be fed by a perennial surface water source or by groundwater to reliably maintain design capacity year-round.
- c. **Dry Hydrant:** A Dry hydrant connection shall be installed consisting of a ~~six~~ eight (8) inch strainer situated on granular material in the pond bottom, a connector line, riser pipe and elbow with a 6-inch threaded connection mounted at least two feet above the ground surface.
- d. **Cleanout Access:** A minimum of one access point shall be provided of sufficient size to enable pond maintenance and periodic silt cleanout by excavator or similar equipment.

3. Pumping Apron:

- a. **Apron Design:** A paved access apron at least 15 feet long shall be constructed from the cistern or fire pond's dry hydrant to the edge of the street or private way to provide easy Fire Department access to the dry hydrant and fill pipe.
- b. **Bituminous Surface:** The apron shall consist of 2.5 inch bituminous concrete surface constructed on 18 inches of MDOT Type D gravel compacted to 95 Proctor.
- c. **Protective Bollards:** Two three-inch concrete filled metal pipe bollards shall be installed at on either side and in front of the hydrant and fill pipe connections in order to protect the fittings from impact from vehicles.

5.7.6 FIRE RESPONSE ACCESSIBILITY

1. **Road & Parking Design:** All private ways, subdivision roads, private driveways, and parking lots shall be designed to provide adequate travelway widths and curve/curb radii to accommodate a 100-foot ladder /tower apparatus with a minimum 42-foot inside turning radius.
2. ~~**Long Driveways:** Driveways with a travelway less than a uniform fifteen (15) feet in width and a length exceeding 400 feet to the principal structure by established travelway.~~
3. **Fire Lanes:** Buildings of high-density occupancy, public accommodation or hazardous conditions; including but not limited to multi-family complexes, shopping centers, auditoriums, theaters, office buildings, hospitals, lodging, and manufacturing facilities, shall provide 15-foot fire lanes designated as "No Parking zones" that will enable rapid and unimpeded access of fire/rescue equipment and personal to a the interior, roof, mechanical room, and/or other critical areas.

The Arundel Fire Chief shall exercise sole discretion in the location and design of such Fire Lanes.

4. Fire Department Connection (FDC)

All buildings fitted with an Automatic Fire Sprinkler System in conformance with NFPA 13 and NFPA 13R shall provide an exterior Fire Department Connection (FDC) in a location readily accessible to responding Fire apparatus. The Fire Chief shall exercise sole discretion on the location of the FDC, and the configuration of road access to the FDC.

5. "Knox Box" Rapid Entry System (RES)

All multi-family uses and non-residential buildings, including but not limited to places of public accommodation,, manufacturing and fabrication facilities, gated emergency accesses and similar uses shall install a secure Rapid Entry System box, containing keys facilitating rapid entry of fire and rescue personnel to a locked facility. The Arundel Fire Chief or designee shall specify the location and number of such Knox Box systems.

5.7.7 EXEMPTIONS & ADDITIONS:

~~The Fire Chief or his/her designee may provide exemptions from or may impose additional standards beyond the requirements specified in this section based upon site conditions, topography, isolation, fire loads, exposures, and neighborhood safety.~~

1. **Exemptions:** Given the proximity of adequate established Fire Department water supplies, the Fire Chief or designee may exempt a proposed development from providing an on-site water supply.
2. **Additional Requirements:** Given site conditions and constraints, inaccessibility, fire loads, and /or exposures, the Fire Chief or designee may impose additional fire protection standards beyond the minimum requirements specified in Section 5.7, in order to maintain neighborhood safety, preserve property, and protect civilian and firefighter lives.