

ARTICLE XVI

FIRE & HAZARD PREVENTION

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ARTICLE XVI

FIRE & HAZARD PREVENTION

SECTION 21-210 - GENERAL PROVISIONS

21-210.01 - Purpose

The purpose of this Article is to promote, protect and improve the health, safety and welfare of the citizens and visitors of the City by adoption of nationally recognized codes and standards as well as following accepted industry (hazardous materials, water distribution, etc.) guidelines.

21-210.02 - Adoption of Codes

The following standards are hereby adopted and incorporated by reference as the fire and life safety standards of the City:

- a. Florida Fire Prevention Code.

21-210.03 - Amendments to Codes

The following are hereby amended to read as follows:

- a. Section 1-10, Board of Appeals; Florida Fire Prevention Code, is repealed and replaced with Article VIII (Administration), Section 21-87 (Construction Board of Adjustments and Appeals) of the City of Edgewater Land Development Code.

21-210.04 - Access to Buildings by Fire Apparatus

- a. All buildings (except one and two family dwellings) constructed, expanded, relocated or substantially changed after adoption of this Article shall be accessible to Fire-Rescue Department apparatus by way of access roadways with all-weather driving surfaces of not less than twenty feet (20') of unobstructed width, and having a minimum vertical clearance of thirteen feet six inches (13'6").
- b. The width of access roadways shall comply with all requirements as set forth in the City of Edgewater Land Development Code and the Standard Construction Details and shall not be obstructed in any manner, including the parking of vehicles.
- c. The Fire Chief or his/her designee shall have the authority to require an increase in the minimum access widths where they are inadequate for fire or rescue access or operations.
- d. Where security gates are installed, they shall be installed and maintained as described in Section 21-215 of the code.

SECTION 21-215 - GUIDELINES FOR DESIGN AND INSTALLATION OF EMERGENCY ACCESS GATES AND BARRIERS

21-215.01 - Intent

The intent of this section is to provide guidelines for the design and installation of emergency access gates and barriers. The requirements are to provide for quick and easy access of emergency response fire and rescue apparatus into gated residential areas or communities.

21-215.02 – Approval and Inspection

- a. Authorization shall be obtained from the City of Edgewater prior to installation.
- b. Detailed construction plans are required for review and approval. Plans shall indicate measurements, location, type of gate/barrier, type of locking device, approved opening device, gate swing direction, set-backs and clearance zones.

1. Openings for both ingress and egress of vehicles shall be a 12' minimum clear width, or as approved by the Fire Chief. The vertical clearance shall not be less than 13'6".
2. The access control gates shall open horizontally or swing open inward towards the development to open.

EXCEPTION: Where inward swing is not possible due to the site configuration, outward swing may be approved with certain signage requirements intended to prevent damage to property and/or vehicles and personal injury.

3. All access control devices or systems must reach the fully open position within a total time not to exceed one second for each one foot of required width.
 4. Access gates shall be located a minimum of 56' from the street. Private driveways serving one single-family residence are exempt from this requirement. If existing conditions prevent installation with a 56' setback, a letter documenting an acceptable alternative that would facilitate emergency ingress without endangering emergency response personnel and apparatus will be required for review and approval by the Fire Chief.
 5. All required vehicle access openings shall provide both ingress and egress. Direction limiting devices such as fixed tire spikes are prohibited. No other device may be used which will delay the ingress or egress of emergency responders.
- c. The access gate must be inspected, approved and authorized by the City prior to the use of the access gate.

21-215.03 - Electrically Operated Gates

- a. The design and installation of all electrically operated gates shall be in accordance with the following criteria:
 1. Warning light pre-emption and/or radio controlled systems are required and shall be approved by the City prior to installation.
 2. The gate control shall also be operable by an approved emergency override Knox key switch (Models 3501, 3502 and 3503) that is an integral part of the mechanism. In the event of a power failure, the gate shall automatically be transferred to a fail-safe mode allowing the gate to be manually pushed opened without the use of special knowledge or equipment.
 3. All transmitter-operated pre-emption systems or keypad operated gates shall also have a Knox key switch located in a location approved by the Fire Chief and it shall be mounted 48" above the roadway surface. It shall be visible and easily accessible and identified with a label as specified below.
 4. Upon activation of the key switch, the gate shall remain open until returned to normal operation by means of the key switch.
 5. The key switch shall be labeled with a permanent red sign with contrasting letters reading "FIRE DEPT" or a "Knox" decal.
 6. A 27' minimum unobstructed setback is required from a gate to the first right turn to allow for apparatus clearance.

21-215.04 - Manually Operated Gates and Barriers

- a. Gates shall be constructed in a manner that reflects generally accepted construction practice and provides the required level of security based on site conditions. Typical gate design may include construction crash posts with a chain connecting across the minimum 12' clear opening or a pipe gate construction with a clear opening of 12'.
- b. Gates and barriers that require fire apparatus access routes and are provided with a means to lock. The approved type of locking device is a weatherproof Knox padlock (Model 3750, 3751, 3752 and 3753) or other similar locking devices approved by the City. Authorization forms are required by the Knox Company and may be obtained by calling the Edgewater Fire-Rescue Department at (386) 424-2445.
- c. Permanent signage shall be attached and shall be constructed of 18 gauge steel. Letters shall be red on a white background and a minimum of 3" high. Sign on both sides shall read: "FIRE LANE - NO PARKING".

21-215.05 - Special Gates

- a. All pedestrian entry, pool gates or gated areas where immediate emergency access is required and provides a means to lock shall provide an approved Edgewater Fire-Rescue approved emergency Knox key box adjacent to the gate at 48" above grade. The key to unlock the gate shall be kept in the key box. Restricted applications may allow the use of a Knox padlock with the approval of the Fire Chief.

21-215.06 – Maintenance

- a. In order to assure that the vehicle access control device or system is properly maintained, proof of a maintenance contract for the device or system is required. The property owner and/or property owners association must provide an agreement accepting responsibility for maintenance and operation of the vehicle access control device or system.

SECTION 21-220 - HAZARDOUS MATERIALS

21-220.01 - Cleanup and Abatement

- a. The Fire-Rescue Department is hereby authorized to take such steps deemed necessary to cleanup, remove or abate the effects of any hazardous substances discharged upon or into public or private property or facilities located within the corporate limits of the City.
- b. Any person who, without legal justification, discharged, participates or assists in the discharge or authorizes the discharge of any hazardous substance that requires cleanup, removal or abatement by the Fire-Rescue Department or its contractors shall be liable to the City for the costs incurred by the City in the cleanup, removal or abatement of such discharge. In the event that more than one (1) person has made a discharge, participated in the discharge or authorized the discharge of a hazardous substance; each person shall be jointly and severally liable for costs incurred in the cleanup, removal or abatement of such discharge.
- c. The Fire-Rescue Department shall keep a detailed record of any costs incurred in the cleanup, removal or abatement of discharge of any hazardous substance.

21-220.02 Cost Recovery, Penalties, Other Remedies

- a. Any person responsible for discharging, participating or assisting in the discharge or authorizing the discharge of a hazardous substance shall reimburse the City for the full amount of all costs associated with the cleanup, removal or abatement of any such discharge within a period of thirty (30) days after receipt of an itemized invoice for such costs from the City.
- b. The remedy provided for in this section shall be supplemental and in addition to all other available remedies at law and equity.

- c. Funds recovered pursuant to this section shall be allocated to the City departments that incurred costs in the cleanup, removal or abatement of the discharge of a hazardous substance. It is the intent of this Article that levels of response equipment, inventories and City funds be replenished to levels which existed prior the City's response to a discharge of hazardous substances.

SECTION 21-230 - BURNING OF GARBAGE, TRASH, BRUSH, ETC.

21-230.01 - Burning or burying garbage, other refuse

No garbage, trash, brush, natural cover or other refuse shall be burned except as provided in this Article and no garbage shall be buried within the City.

21-230.02 - Burning of trash and ground cover

Conditions for open burning of trash and natural cover. Open burning of trash, brush and natural cover (as a result of land clearing or authorized clean-up from a localized declared disaster) may be permitted by the Fire Department when it is determined that:

- a. The weather conditions will allow the escape of smoke and fire byproducts without being a hazard or nuisance to the surrounding citizens or their property.
- b. The location, amount and nature of materials, when burning, present no health or safety hazards to the surrounding citizens or their property.
- c. The time of day that materials may be burned and when they must be extinguished will be established by the Fire Chief based upon the considerations set forth herein and those safety practices deemed necessary based on standard fire procedures.

21-230.03 - Burn permit required

A burn permit must be obtained from the Fire Department prior to each burn period of seven (7) calendar days and shall be subject to such conditions as are imposed by the Fire Department. Any violation of the conditions of the burn permit or of any provision of this Article shall be cause for revocation of the permit and may be considered for prosecution as a code violation, misdemeanor or as a basis for denial of subsequent applications where such violations have been determined by the Fire Chief or his designee to have constituted a public hazard. A fee will be assessed to cover the costs of issuance of each permit. Said fee will be established by resolution of the City Council.

SECTION 21-240 - WATER DISTRIBUTION

21-240.01 - Water distribution systems

Water Distribution System Piping shall include all piping, which is part of the water distribution system and supplies water to a fire hydrant.

- a. *Minimum Size.* Except as provided herein, all new water mains supplying water to fire hydrants shall be at least six inches (6") in inside diameter. The minimum size for water mains will vary according to the intended use of the property as set forth in Section 21-250 (Fire Flow Regulations). When water mains are installed along right-of-ways that have differing abutting land uses, the diameter along the entire run shall be based on the largest main size required hereby.
- b. *Looping.* Except as provided herein, all water mains serving fire hydrants shall be looped. Water mains shall be designed so that in the event the water supply is interrupted at one (1) end of the loop; the flow of water to the hydrant shall not be entirely eliminated.
- c. *Provisions for Non-Looped Water Mains.* Recognizing the fact that there will be applications where looped water mains are impractical, the following applications are exempt:
 - 1. Dead-end water mains supplied by a looped water main of equal or larger size may be extended the following distances: up to two hundred fifty feet (250' for six inch (6") water mains, and up to five hundred feet (500') for eight inch (8") or larger water mains. This application is permitted without any upsizing of the water main, providing the required fire flow is available. Physical arrangements may include unusual street layouts such as a cul-de-sac or cases where a hydrant is required on one (1) side of a street and the water main is on the other. The preferred diameter for dead-end mains is eight inches (8") if sufficient feed is available.
 - 2. Dead-end (non-looped) water mains may be permitted in new subdivisions and land development sites where there are no water mains present or of sufficient size to complete a loop. This would be applicable to areas being serviced by a single larger (eight inch or larger) diameter water main.
 - 3. When non-looped water mains not already covered in subparagraph (2) are permitted in place of looped water mains, the minimum size shall be increased by not less than two inches (2") in diameter and still meet the minimum fire flow requirements as determined by this Article.

SECTION 21-250 - FIRE FLOW REGULATIONS & HYDRANTS

21-250.01 - Intent

The intent of this Section is to assure an adequate supply of water for fire suppression by establishing minimum water main sizes and minimum water flow rates to control and extinguish fires that may occur within the City of Edgewater. This Section is applicable to the City water distribution system's future additions and the replacement of any existing non-complying segments of the system through normal system upgrading.

21-250.02 - Applicability

This Section will not apply to one (1) and two (2) family dwellings being built outside of an approved subdivision or land development project. The intent of this Section is to exempt new and existing one (1) and two (2) family dwellings located within sections of the City which were developed without a water system meeting the minimum requirements of this Article.

21-250.03 - Minimum required fire flow and flow duration for buildings

The required fire flow is the quantity of water measured in gallons per minute (GPM) that is needed to extinguish a fire involving a particular building, area or material. The computation of the required fire flow depends upon the size (gross square footage) and the type of construction. Minimum required for fire flow and flow duration will be based on Annex H of the National Fire Protection Association Uniform Fire Code (NFPA 1) 2003 Edition.

- a. The minimum size for water mains supporting fire hydrants and the minimum flow rates for the various land use groups shall be as follows:
 1. One thousand gallons per minute (1,000 GPM), with twenty (20) pounds per square inch (psi) residual pressure for one and two family residential (single-family, detached and duplex).
 2. Two thousand gallons per minute (2,000 GPM), with twenty (20) pounds per square inch (psi) residual pressure for commercial development.
- b. Each building other than one (1) and two (2) family dwellings to be constructed, enlarged or having a change in occupancy shall be evaluated for fire flow needs as set forth in this section.
- c. If water is not available in sufficient quantity to meet the required fire flow, the following alternatives are available to comply with this Article:
 1. Reduce the required fire flow fifty percent (50%) by installing an approved automatic fire sprinkler; or
 2. Reduce the required fire flow twenty-five percent (25%) by installing an approved smoke detection and alarm system that transmits an alarm to a central receiving station in accordance with NFPA 72; or
 3. Utilize a construction type identified by NFPA for the structure that will reduce the required fire flow enough to meet the quantity of water available.
- d. All private water delivery systems and water storage systems being utilized to meet minimum fire flow requirements must meet the applicable standards adopted by the City.
- e. No salt or brackish water will be eligible for consideration as part of the minimum fire flow available for use.

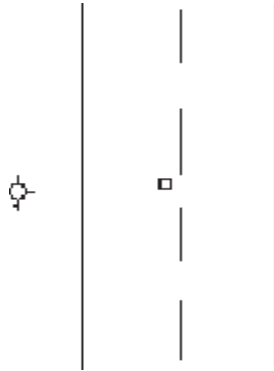
21-250.04 - Fire hydrants

- a. Approved fire hydrants shall be provided for buildings built after adoption of this Article to meet the required fire flow requirements as determined by the Fire Chief or his/her designee using current AWWA (American Water Works Association) and NFPA (National Fire Protection Handbook) standards.
- b. The Fire Chief shall designate the location and number of fire hydrants, but in no case shall the distance between fire hydrants installed after adoption of this Article exceed one thousand feet (1,000’).
- c. With the exception of one (1) and two (2) family dwellings, fire hydrants shall be located within five hundred feet (500’) of the most remote area of the building when measured along normal routes of Fire-Rescue Department access.
- d. Where sprinkler and/or standpipe systems are provided, a fire hydrant shall be located within fifty feet (50’) of the fire department connection. The Fire Department Connection (FDC) for the sprinkler and/or standpipe system shall be located between thirty-six inches (36’’) and forty-two inches (42’’) from finished grade, unless approved by the Fire Chief.
- e. All fire hydrants shall be of breakaway design. The minimum size for the barrel of all new hydrants shall be at least 5 ¼ inches in diameter. Each hydrant shall have two 2 ½ inch male thread hose connections and one 4 ½ inch male thread hose connection. All hose connections shall be of American National Standard thread. The operating nut shall be 12 inches point to point. For the purpose of standardization and parts inventory, only those makes of hydrants approved by the Utilities Department and Fire/Rescue Department shall be installed to comply with this Article.
- f. The center of the lowest outlet shall be not less than sixteen inches (16’’) above the surrounding grade. The operating nut shall not exceed 42 inches (42’’) above the surrounding grade.
- g. Hydrants shall not be located closer than three feet (3’) or more than thirty feet (30’) from a traveled street or roadway. No fence, tree, post, shrub or other object, which could block the hydrant from normal view or obstruct the hydrant’s use and shall be located within four feet (4’) of said hydrant. Unless otherwise requested by the Fire Chief or his/her designee, the 4 ½- inch large volume connections shall be situated so it faces the nearest roadway. No hydrant shall be installed where pedestrian or vehicular traffic would interfere with the use of the hydrant.
- h. All fire hydrants located on dedicated public right-of-ways or designed to serve multiple ownerships shall be conveyed by approved instrument to the City. Once the City has accepted ownership, the responsibility for maintenance and operation shall be the City’s. All hydrants not dedicated to the City shall be maintained in accordance with NFPA 24 at the owner’s expense.
- i. All new approved hydrants must be clearly identified utilizing a commercial approved reflective raised pavement markers. The reflective raised pavement markers must be installed by the

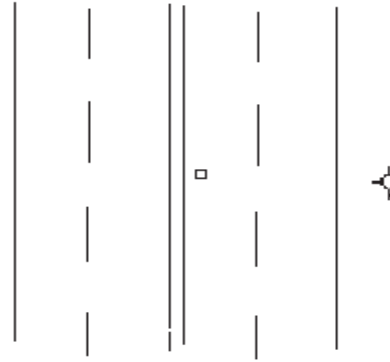
following standards:

- 1) Two-Way Streets or Roads - Markers should be placed 6 inches from edge of painted centerline on the side nearest the fire hydrant. If the street has no centerline, the marker should be placed 6 inches from the approximate center of the roadway on the side nearest the hydrant.

Two-Lane Street



Multi-Lane Street



- 2) Streets with Left Turn Lane at Intersection - Markers should be placed 6 inches from edge of painted white channelizing line on the side nearest the hydrant.
 - 3) Streets with Continuous Two-Way Turn Lane - Markers should be placed 6 inches from the edge of the painted yellow barrier line on the side nearest the fire hydrant.
- j. All new installed hydrants must be painted with the following color code unless exempted by the City:

- Flow < 500 gpm Class C – red barrel and red top
- Flow 500 - 999 gpm Class B – red barrel and orange top
- Flow 1000 – 1499 gpm Class A – red barrel and green top
- Flow ≥ 1500 gpm Class AA – red barrel and blue top

SECTION 21-260 - PUBLIC SAFETY RADIO BUILDING AMPLIFICATION SYSTEM

21-260.01 - General

- a. Except as otherwise provided, no person shall, erect, construct, change the use of or provide an addition of more than 20% to, any building or structure or any part thereof, or cause the same to be done which fails to support adequate radio coverage for Volusia County 800Mhz Radio Communications System, including but not limited to, firefighters and police officers. For purposes of this section, adequate radio coverage shall include all of the following:
 1. A minimum signal strength of –95 dBm available in 95% of the area of each floor of the building when transmitted from the Volusia County 800MHz Radio Communications System;
 2. A minimum signal strength of –95 dBm received at the closest Volusia County 800MHz Radio Communications Site when transmitted from 95% of the area of each floor of the building;
 3. The frequency range which must be supported shall be 806 – 825 (816 after rebanding) MHz (Tx) and 851 – 870 (861 after rebanding) MHz (Rx); and 4) with a 95% reliability factor.

Exemptions - This section shall not apply to: Buildings less than 5,000 square feet or any R-1 or R-2 occupancy.

21-260.02 – Amplification Systems Allowed

- a. Buildings and structures which cannot support the required level of radio coverage shall be equipped with any of the following in order to achieve the required adequate radio coverage; a radiating cable system or an internal multiple antenna system with or without FCC type accepted bi-directional 800 MHz amplifiers as needed. If any part of the installed system or systems contains an electrically powered component, the system shall be capable of operating on an independent battery and/or generator system for a period of at least one (1) hour without external power input. The battery system shall automatically charge in the presence of an external power input.

21-260.03 – Testing Procedures

- a. Acceptance Test Procedure - When an in-building radio system is required and upon completion of installation, it will be the building owner's responsibility to have the radio system tested to ensure that two-way coverage on each floor of the building is a minimum of 95%. Each floor of the building shall be divided into a grid of approximately 20 equal areas. A maximum of 1 of the areas will be allowed to fail the test. If the system continues to fail, it will be the building owner's responsibility to have the system altered to meet the 95% coverage requirement. The test shall be conducted using an EDACS portable radio talking through the Volusia County 800 MHz Radio Communications System. A spot located approximately in the center of a grid area will be selected for the test, then the radio will be keyed to verify 2-way communications to and from the outside of the building through the Volusia County 800 MHz Radio Communications System. Once the spot has been selected, prospecting for a better spot within the grid area will not be permitted.

- b. The gain values of all amplifiers shall be measured and the test measurement results shall be kept on file with the building owner so that the measurements can be verified each year during the annual tests. In the event that the measurement results become lost, the building owner will be required to rerun the acceptance test to reestablish the gain values.
- c. Annual Test - When an in-building radio system is required, it shall be the building owner's responsibility to have all active components of the system, such as amplifiers and power supplies and backup batteries tested a minimum of once every 12 months. Amplifiers shall be tested to ensure that the gain remains within manufacturer tolerances. Backup batteries and power supplies shall be tested under load to verify that they will properly operate during an actual power outage. All other active components shall be checked to determine that they are operating within the manufacturers specifications for the intended purpose.
- d. Qualifications of Testing Personnel - Personnel conducting radio system tests shall be qualified to perform the work. All tests shall be documented and signed by a designee from Volusia County Radio System Management or the City of Edgewater with jurisdiction over the tested area. All test records shall be retained on the inspected premises by the building owner and shall be subject to inspection by Fire Department Officials upon request.
- e. Field Testing - Police and Fire Personnel, after providing reasonable notice to the owner or his representative, shall have the right to enter onto the property to conduct field testing to be certain that the required level of radio coverage is present.