

ORDINANCE NO. 2872

AN ORDINANCE to amend and reordain subsection (b) of Section 4-2-19, subsection (6) of Section 4-2-22, and to amend Section 4-2-22 by adding a new subsection numbered (29), all of Article B, Chapter 2, Title 4 of The Code of the City of Alexandria, Virginia, 1981, as amended; which Title 4 relates to PUBLIC SAFETY, which Chapter 2 relates to FIRE PROTECTION AND PREVENTION, which Article B relates to FIRE PREVENTION, which Section 4-2-19 relates to FIRE HYDRANTS AND WATER MAINS, which subsection (b) relates to PERMIT FOR USE OF FIRE HYDRANT AND FEE THEREFOR, which Section 4-2-22 relates to CHANGES IN BOCA BASIC FIRE PREVENTION CODE, which subsection (6) relates to FEES and which new subsection (29) relates to UNDERGROUND TANK STORAGE.

THE CITY COUNCIL OF ALEXANDRIA HEREBY ORDAINS:

Section 1. That subsection (b), Section 4-2-19, Article B, Chapter 2, Title 4 of The Code of the City of Alexandria, Virginia, 1981, as amended, be and the same hereby is amended and reordained to read as follows:

(b) Application for a permit for use of fire hydrants may be made at the fire marshal's office on forms provided for this purpose. Any permit shall be subject to the conditions and specifications imposed by the fire marshal for the purpose of protecting equipment and preventing water leakage. No permit shall be issued unless approval to use water shall first have been obtained from the Virginia-American Water Company. A separate permit shall be required for each hydrant used and each time a hydrant is used. A fee of \$50.00 will be charged for each permit issued. A permit holder shall be liable to the city for the costs of labor and materials for any repair or replacement needed after hydrant use. Any permit must be in the possession of the actual user at the time of use.

Section 2. That subsection (6), Section 4-2-22, Article B, Chapter 2, Title 4 of The Code of the City of Alexandria, Virginia, 1981, as amended, be and the same hereby is amended and reordained to read as follows:

(6) Part A, Article 1, Section F-103.0, Subsection F-103.7 is amended to read:

F-103.7. Fees.

A permit shall not be issued until the required fees have been paid to the director of finance of the city or as he shall direct. The following fees shall be charged for permits required by the designated article; provided, however, the fire marshal may waive any fee payable by the city or its agents.

Article 3--Bonfires and other outdoor burning.....	\$10.00
Article 3--Use of open flame device to remove paint and sweating pipe.....	\$20.00
Article 3--Storage of combustibile or flammable materials (in excess of 2,500 cubic feet).....	\$25.00
Article 4--Installation, modification or repairing of fire protection systems.....	\$50.00
Article 6--Operation of airport, heliport or helistop.....	\$20.00
Article 7--Application of flammable finishes (in excess of one (1) gallon per day).....	\$50.00
Article 8--Bowling establishments, pin and lane refinishing.....	\$15.00
Article 9--Dry cleaning plants.....	\$15.00
Article 10--Dust producing processes.....	\$10.00
Article 11--Fruit ripening processes.....	\$10.00
Article 12--Fumigation and thermal insecticidal fogging.....	\$10.00
Article 13--Lumber yards and wood working plants (storage or use of more than 100,000 board feet).....	\$25.00
Article 15--Ovens and furnaces (operation of industrial types).....	\$10.00
Article 16--Places of assembly (those solely religious are excepted).....	\$100.00
with entertainment.....	\$150.00
Article 17--Service stations and garages.....	\$50.00
Article 18--Tents and air-supported structures (over 120 square feet).....	\$10.00
Article 19--Tire rebuilding plants.....	\$10.00
Article 20--Wrecking and junkyards and waste handling plants.....	\$10.00

Article 21--Welding and cutting, acetylene generators,  
storage of calcium carbide.....\$25.00

Article 22--Cellulose nitrate motion  
picture film (use or storage).....\$10.00

Article 23--Cellulose nitrate plastics  
(use or storage).....\$10.00

Article 24--Combustible fibers (storage  
or handling).....\$10.00

Article 25--Compressed gases (use,  
storage or handling).....\$15.00

Article 26--Cryogenic liquids (production,  
use, storage or sales).....\$10.00

Article 27--Explosives, ammunition  
and blasting agents:  
Storage and transportation.....\$20.00  
Use (each site).....\$20.00

Article 28--Fireworks display.....\$100.00

Article 29--Flammable and combustible  
liquids (manufacture, use, transportation  
or storage).....\$30.00

Article 30--Hazardous materials and  
chemicals (use, handling and storage).....\$50.00

Article 31--Liquified petroleum gases (installation  
of containers over 2,000 gallons water capacity  
and all installation at public places).....\$10.00

Article 32--Magnesium (working of more  
than 10 pounds per day).....\$10.00

Article 33--Matches (manufacture of or  
storage of more than 25 cases).....\$10.00

Article 34--Organic coatings (manufacture of  
more than one (1) gallon per day).....\$15.00

Section 3. That Section 4-2-22, Article B, Chapter 2,  
Title 4 of The Code of the City of Alexandria, Virginia, 1981, as  
amended, be and the same hereby is amended by adding a new  
subsection numbered (29) to read as follows:

(29) Part C, Article 29, Section F-2904.0 is amended and  
reordained to read:

Article 29. Flammable and combustible liquids.  
Section F-2904.0. Underground tank storage.  
F-2904.1. Location.

Underground tanks for the storage of flammable or combustible liquids shall be located at least five (5) feet (1.53 m) from any wall, foundation or property line. The top of flammable liquid tanks shall be below the lowest floor level of any building within 20 feet (6.10 m) of said tanks. Tanks shall not be located in or under any building unless said building and tank installation are constructed in accordance with the building code and NFIP 30 listed in Appendix A. A distance of at least one (1) foot (30.48 cm) shall be maintained between underground tanks in multiple tank installations.

F-2904.1.1. Special conditions.

The fire official may require greater separations or may limit the storage capacity when the installation is subject to severe exposure hazard or topographical conditions when necessary for the safety of the general public.

F-2904.1.2. Standards.

Storage tanks, venting, piping and metering devices installed after the effective date of this provision shall be in accordance with the recommended standards of the National Fire Protection Association and the American Petroleum Institute.

F-2904.2. Tank protection.

Underground flammable or combustible liquid storage tanks shall be set on a firm foundation and surrounded with at least six (6) inches (15.24 cm) of noncorrosive inert material such as clean sand or gravel well tamped in place. Tanks, and the six (6) inches (15.24 cm) of protective material, shall be covered with a minimum of two (2) feet (0.61 m) of earth, or shall be covered with 18 inches (45.72 cm) of earth, on top of which shall be placed a slab of reinforced concrete not less than four (4) inches (10.16 cm) thick. When underground tanks are or are likely to be subjected to vehicular traffic, they shall be protected against damage by at least six (6) inches (15.24 cm) of reinforced concrete or eight (8) inches (20.32 cm) of asphaltic concrete. The reinforced concrete or asphaltic concrete protective cover shall extend at least one (1) foot (30.48 cm) horizontally beyond the outline of the tank. When tanks are located in an area that may be subject to flooding or corrosion, applicable precautions shall be used in accordance with NFIP 30 listed in Appendix A. All storage systems installed after the effective date of this regulation must be protected against corrosion by either: (1) A properly installed and maintained cathodic protection system which has been engineered by a member

of the National Association of Corrosion Engineers or supplied by the original tank manufacturer and approved by Underwriters' Laboratories, Inc. or impressed current type; or (2) Noncorrosive material of construction such as special alloys, fiberglass reinforced plastic tanks and coatings. All tanks of these types must be approved for general use by Underwriters' Laboratories, Inc. or by Factory Mutual, or a member of the National Association of Corrosion Engineers for the precise location.

All storage systems protected by a cathodic protection system must have a test system installed to take structure-to-soil potential measurements which must be taken at one-year intervals. The measurements must be recorded and kept at the facility for reasonable inspection by personnel of the administration. All storage systems protected by impressed current systems must be designed so that the impressed current source cannot be de-energized, even, in the event that the facility is closed.

#### F-2904.3. Vent piping.

Vent pipes from underground tanks storing flammable liquids shall be so located that the discharge point is outside of buildings, higher than the fill pipe opening and not less than 12 feet (3.66 m) above the adjacent ground level. Vent pipes shall discharge only upward in order to disperse vapors. Each tank shall be vented through piping adequate in size as specified in NFIPA 30 listed in Appendix A, to prevent blow-back of vapor or liquid at the fill opening while the tank is being filled. Threaded joints and connections shall be liquid-tight with a suitable lubricant or piping compound.

#### F-2904.4. Fill piping.

Fill piping passing through concrete shall be located in sleeves, mastic or the equivalent to protect against settlement, frost action and vibration. Welded or screwed joints or approved connectors shall be used. Threaded joints and connections shall be made liquid-tight with a suitable lubricant or piping compound. Fill pipes shall terminate within six (6) inches (15.24 cm) of the bottom of the tank. Fill piping shall be of adequate size to prevent blow-back or spillage of oil in accordance with the recommended standards of the American Petroleum Institute and NFIPA.

#### F-2904.5. Testing and monitoring.

All underground flammable liquid storage tanks shall be subjected to the following tests and monitoring:

(1) All tanks shall be strength tested before they are placed in service in accordance with the applicable provisions of the

code or standard under which they were built. The American Society of Mechanical Engineers (ASME) code stamp, American Petroleum Institute (API) monogram, the label of the Underwriters' Laboratories, Inc. (UL), or the Underwriters' Laboratories of Canada (ULC) or an approved equivalent identification label on a tank shall be evidence of compliance with the strength test.

(2) Before tanks are placed into the hole they shall be tested with not less than three (3) psi (20.69 kPa) or more than five (5) psi (34.48 kPa) air pressure. All leaks or deformations shall be corrected in a manner approved by the fire official before the tanks are placed into the hole. Mechanical caulking is not permitted for correcting leaks in welded tanks.

(3) After the tank is set in the excavation and all lines are connected another air test shall be conducted. This test must be conducted before the lines and the tank are covered over and before the tank is filled with product.

(4) When the vertical length of the fill and vent pipes is such that when filled with liquid the static head imposed upon the bottom of the tank exceeds 10 psig (68.95 kPa), the tank and related piping shall be tested hydrostatically to a pressure equal to the static head thus imposed. In special cases where the height of the vent above the top of the tank is excessive, the hydrostatic test pressure shall be specified by the fire official.

(5) Periodic tests of underground tank storage systems may be required by the fire official in accordance with the authority granted under Section F-102.7 of this code to determine that leakage has not occurred.

(6) Two (2) permanent monitoring wells shall be installed in opposing corners of the tank field on all new installations after the effective date of this regulation. These wells shall extend to a minimum depth of two (2) feet below the bottom of the tanks in the tank field. These wells shall be a minimum of four (4) inches schedule 40 PVC screen pipe or equivalent and shall be flush with covering surface and covered with standard metal cover and gravel packed to prevent clogging. The screened section shall have a minimum size of .025 inch.

(7) All buried tanks installed after this regulation is effective shall have provisions for taking direct measurements of readings of content level by the stick method. Liquid level of storage tanks shall be measured by the operator each day of operation and compared with pump meter readings taken on receipt of the product. These records shall be kept in a log book and be available for reasonable inspection by the fire marshal and/or his representative. Loss of product above normal evaporation

(one half of one (1) percent of pump meter sales readings) shall be reported immediately to the fire marshal. Records shall be retained for two (2) years. This period may be extended upon request of the fire marshal. High liquid level gauges or alarm systems as well as pump cut-off devices shall be installed by the owner or the authorized operator in all oil storage tanks wherever in the judgment of the administration there is a possibility that oil may be lost by overflowing. Since these emergency devices can fail to operate, their use for spill prevention purposes shall be considered only as auxiliary and supplementary to the use of personnel engaged in a transfer or fill operation.

(8) When an unusual variation is encountered, a verification of the operator's inventory records shall be accomplished, and if a loss of product is indicated, a test for tightness on the underground tank shall be performed in accordance with the standards set forth in the National Fire Protection Association Standard No. 329 for a final test. The fire marshal will order a final test when in his judgment there is evidence of a loss of product. The final test shall be conducted on all storage systems prior to a change in ownership. Noncorrosive storage systems approved by Underwriters' Laboratories, Inc. and the Steel Tank Institute P-3 systems shall be tested for tightness at the end of their warranty period to standards set forth in NFPA No. 329 for a final test. It shall be repeated at intervals no greater than five (5) years. When a final test is performed the following information must be kept on file at the facility until such time as another test is performed and shall be made available for reasonable inspection by the fire marshal or his representative upon reasonable request:

- (a) Commercial name of the test equipment;
- (b) The name of the testing company;
- (c) The name of the test operator;
- (d) The data accumulated by the test; and
- (e) The results of the test as to whether or not the storage system is tight.

When leakage is indicated from a storage system during the final test the operator of the test must immediately report the test results to the fire marshal's office.

(9) All storage systems, except noncorrosive systems approved by Underwriters' Laboratories, Inc. and the Steel Tank Institute P-3 systems, which have been buried for 10 years or more at the effective date of this provision and storage systems for which no installation date can be determined, shall be tested for

tightness in a manner approved by the fire official. This test shall be performed within 12 months after the effective date of this provision. It shall be repeated on all storage systems at an interval no greater than five (5) years.

(10) Before each filling of existing oil storage tanks which have provisions for measurement of contents and oil storage tanks installed after the effective date of this provision, the liquid level shall be gauged and the measurement shall be recorded in writing. The gauging records shall be maintained and made available to the fire marshal upon demand.

#### F-2904.6. Abandonment of tanks.

A permit shall be obtained from the fire official to remove, abandon, place temporarily out of service or otherwise dispose of any flammable or combustible liquid tank.

(1) Tanks "temporarily out of service" shall have the fill line, gauge opening and pump connection secured against tampering. Vent lines shall remain open and be maintained in accordance with the requirements of this article for vent lines.

(2) Any tank not used for a period of 90 days shall be properly safeguarded or removed in a manner approved by the fire official.

(3) Any tank which has been abandoned for a period of one (1) year shall be removed from the property in a manner approved by the fire official and the site restored in an acceptable manner.

(4) Tanks which are to be reinstalled for flammable or combustible liquid service shall comply with all of the provisions of this article.

(5) Tanks which are to be returned to service shall be tested in a manner approved by the fire official. Previously used tanks which are removed from the ground shall not be reinstalled unless the original manufacturer certifies that they are suitable for service. The manufacturer's written certification must be kept on file at the facility and available for reasonable inspection by the fire marshal.

Section 4. That the title of and an informal memorandum explaining this ordinance shall be published in a newspaper of general circulation published in the city not later than five days following its introduction together with a notice containing the time and place for a public hearing. The city clerk shall have the full text of this ordinance printed in sufficient numbers to supply copies to meet request. The city clerk shall note the date of introduction and first reading, the date of publication, the date of the public hearing, and the date of the

second reading and final passage in the minutes of the meeting. This ordinance shall become effective the date of its final passage.

CHARLES E. BEATLEY, JR.  
Mayor

Final Passage: November 12, 1983