Richardson Fire Department
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www.cor.net/fire/permits

Flammable and Combustible Liquid Storage - Above Ground Tanks Policy

[revised 10/01/2013]

A construction permit is required:

1. *To install, repair or modify a pipeline for the transportation of flammable or combustible liquids.*
2. *To install, construct or alter tank vehicles, equipment, tanks, plants, terminals, wells, fuel-dispensing stations, refineries, distilleries and similar facilities where flammable and combustible liquids are produced, processed, transported, stored, dispensed or used.*
3. *To install, alter, remove, abandon or otherwise dispose of a flammable or combustible liquid tank.*

[City of Richardson Fire Code, Section 105.7.8]

A "Tank" is a vessel containing more than 60 gallons.

Installation of any Above Ground Storage Tank is prohibited without first obtaining a Construction Permit from the Richardson Fire Department. A permit fee of $100.00 per tank is payable by check only, to City of Richardson, when permit is issued. Payment is not accepted in advance.

Development Services approval, (972) 744-4240, is also required.

Richardson Fire Department reviews Applications and submittals against the 2015 International Fire Code, as amended and adopted by the City of Richardson, [www.cor.net/fire/permits]. Chapters 50 and 57 are the main sources of requirements], and the applicable NFPA Standards [e.g. the latest effective edition of NFPA 30].

Please submit ONLY documentation specifically addressing each applicable requirement, below, with the Application. Do not submit a letter stating compliance without supporting documentation such as; manufacturer's cut-sheets, engineering details, plans, etc... Do not submit documentation that does not specifically address the items below:

Plans:

Site plan indicating:

1. Specific location of each tank, with unique identifier, e.g. serial number and/or tank number;
2. Other flammable and combustible liquid storage tanks, and other hazards.
3. Primary and emergency power hookups, if applicable;
4. All buildings and structures;
5. Fire lanes;
6. Fire hydrants;
7. Fire Extinguishers:

Table 6.3.1.1 Fire Extinguisher Size and Placement for Class B Hazards

Type of Hazard	Basic Minimum Extinguisher Rating	Maximum Travel Distance to Extinguishers	
		ft	m
Light (low)	5-B	30	9.14
	10-B	50	15.25
Ordinary (moderate)	10-B	30	9.14
	20-B	50	15.25
Extra (high)	40-B	30	9.14
	80-B	50	15.25

Tank Contents:

Submit MSDS for the contents to be stored in each tank.

Tanks:

Manufacturer's cut-sheets or fabricator's shop drawings describing the dimensions, materials, and UL listings of each tank;

Details of each tank, including:

1. Manufacturer;
2. Model number, or description;
3. Serial number;
4. Previous contents, if applicable;
5. History of damage, if applicable;
6. Material;
7. Construction [single wall, double wall, etc…];
8. Normal operating pressures;
9. Capacity;
10. Mounting orientation [vertical, horizontal];
11. Tank certificate for each tank.

Location:

5704.2.9.6.1.1 Location of tanks with pressures 2.5 psig or less. *Above-ground tanks operating at pressures not exceeding 2.5 psig (17.2 kPa) for storage of Class I, II or IIIA liquids, which are designed with a floating roof, a weak roof-to shell seam or equipped with emergency venting devices limiting pressure to 2.5 psig (17.2 kPa), shall be located in accordance with Table 22.4.1.1(a) of NFPA 30.*

Table 22.4.1.1(b) Reference Table for Use with Tables 22.4.1.1(a), 22.4.1.3, and 22.4.1.5

Tank Capacity (gal)	Minimum Distance (ft)	
	From Property Line that Is or Can Be Built Upon, Including the Opposite Side of a Public Way	From Nearest Side of Any Public Way or from Nearest Important Building on the Same Property
275 or less	5	5
276 to 750	10	5
751 to 12,000	15	5
12,001 to 30,000	20	5
30,001 to 50,000	30	10
50,001 to 100,000	50	15
100,001 to 500,000	80	25
500,001 to 1,000,000	100	35
1,000,001 to 2,000,000	135	45
2,000,001 to 3,000,000	165	55
3,000,001 or more	175	60

Piping, pumps, other:

Submit cut-sheets and/or other information specifically detailing all components of the tank and its use. UL listings must be provided for each component, as applicable to its use.

Vents:

***5704.2.7.3 Tank vents for normal* venting.** *Tank vents for normal venting shall be installed and maintained in accordance with Sections 5704.2.7.3.1 through 5704.2.7.3.6.*

5704.2.7.4 Emergency venting. *Stationary, above-ground tanks shall be equipped with additional venting that will relieve excessive internal pressure caused by exposure to fires. Emergency vents for Class I, II and IIIA liquids shall not discharge inside buildings. The venting shall be installed and maintained in accordance with Section 22.7 of NFPA 30.*

Exceptions:

1. *Tanks larger than 12,000 gallons (45 420 L) in capacity storing Class IIIB liquids which are not within the diked area or the drainage path of Class I or II liquids do not require emergency relief venting.*
2. *Emergency vents on protected above-ground tanks complying with UL 2085 containing Class II or IIIA liquids are allowed to discharge inside the building.*

Flame Arrestors [Class IB and IC liquids]:

5704.2.7.3.2 Vent-line flame arresters and pressure-vacuum vents. *Listed or approved flame arresters or pressure-vacuum (PV) vents that remain closed unless venting under pressure or vacuum conditions shall be installed in normal vents of tanks containing Class IB and IC liquids.*

Exception: *When determined by the fire code official that the use of such devices can result in damage to the tank….*

"Protected Above Ground Tanks" [definition and requirements IF the tank is a "Protected Above Ground Tank"]:

TANK, PROTECTED ABOVE GROUND. *A tank listed in accordance with UL 2085 consisting of a primary tank provided with protection from physical damage and fire-resistive protection from a high-intensity liquid pool fire exposure. The tank may provide protection elements as a unit or may be an assembly of components, or a combination thereof.*

5704.2.9.7 Additional requirements for protected above-ground tanks. *In addition to the requirements of this chapter for above-ground tanks, the installation of protected above-ground tanks shall be in accordance with Sections 5704.2.9.7.1 through 5704.2.9.7.9.*

Signs and Placards:

5003.5 Hazard identification signs. *Unless otherwise exempted by the fire code official, visible hazard identification signs as specified in NFPA 704 for the specific material contained shall be placed on stationary containers and aboveground tanks and at entrances to locations where hazardous materials are stored, dispensed, used or handled in quantities requiring a permit and at specific entrances and locations designated by the fire code official.*

5003.6 Signs. *Signs and markings required by Sections 5003.5 and 5003.5.1 shall not be obscured or removed, shall be in English as a primary language or in symbols allowed by this code, shall be durable, and the size, color and lettering shall be approved.*

5703.5 Labeling and signage. *The fire code official is authorized to require warning signs for the purpose of identifying the hazards of storing or using flammable liquids. Signage for identification and warning such as for the inherent hazard of flammable liquids or smoking shall be provided in accordance with this chapter and Sections 5003.5 and 5003.6.*

5703.5.1 Style. *Warning signs shall be of a durable material. Signs warning of the hazard of flammable liquids shall have white lettering on a red background and shall read: **DANGER—FLAMMABLE LIQUIDS**. Letters shall not be less than 3 inches (76 mm) in height and ½ inch (12.7 mm) in stroke.*

5703.5.2 Location. *Signs shall be posted in locations as required by the fire code official. Piping containing flammable liquids shall be identified in accordance with ASME A13.1.*

…

5703.5.4 Identification. *Color coding or other approved identification means shall be provided on each loading and unloading riser for flammable or combustible liquids to identify the contents of the tank served by the riser.*

5704.2.3 Labeling and signs. *Labeling and signs for storage tanks and storage tank areas shall comply with Sections 5704.2.3.1 and 5704.2.3.2.*

5704.2.3.1 Smoking and open flame. *Signs shall be posted in storage areas prohibiting open flames and smoking. Signs shall comply with Section 5703.5.*

5704.2.3.2 Label or placard. *Tanks more than 100 gallons (379 L) in capacity, which are permanently installed or mounted and used for the storage of Class I, II or IIIA liquids, shall bear a label and placard identifying the material therein. Placards shall be in accordance with NFPA 704.*

Exceptions:

1. *Tanks of 300-gallon (1136 L) capacity or less located on private property and used for heating and cooking fuels in single-family dwellings.*
2. *Tanks located underground.*

5704.2.7 Design, construction and general installation requirements for tanks. *The design, fabrication and construction of tanks shall comply with NFPA 30. Each tank shall bear a permanent nameplate or marking indicating the standard used as the basis of design.*

Testing:

Submit documentation of pressure/vacuum testing by the manufacturer and/or independent, qualified company – e. g. Tank Certificate; Additional, on-site, testing may also be required: Describe the required testing and identify the applicable NFPA reference.