

# Town of Philipstown

Code Enforcement Office  
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Cold Spring, NY 10516

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## **LIQUEFIED PETROLEUM STORAGE TANK BUILDING/ZONING PERMIT PACKAGE**

1. **BUILDING/ZONING PERMIT APPLICATION** - The applications must be filled out in sufficient detail and signed by the owner of the property or by an authorized agent/contractor with the submission of the **AGENT AUTHORIZATION FORM** other legal instrument authorizing the applicant to sign and obtain the Building Permit.
2. **CONSTRUCTION DRAWINGS** - Submit two (2) drawings of the proposed installation of liquefied petroleum storage tanks, size, piping and supports.
3. **SITE PLAN** - A plan or survey of the property showing the location of the proposed liquefied petroleum storage tanks, the size in water gallons, supports and size and type of piping. Show setbacks from the property lines and building in conformance with the Town of Philipstown Zoning Law and NFPA 58. Verify locations within a special hazard floodplain. Some commercial projects may require **SITE PLAN APPROVAL** by the Philipstown Planning Board.
4. **PUTNAM COUNTY LICENSED GAS CONTRACTORS** is requires and a copy of the licensed needs to be submitted with the building permit application.
5. **INTERIOR PIPING AND APPLIANCES** – New interior piping and appliances will require the submission of two (2) floor plans locating the size and type of piping and type of appliance and location.
6. **WORKERS' COMPENSATION and EMPLOYEE LIABILITY** – Proof of insurance must be submitted from the contractor at the time of application. **ACORD FORMS** are not acceptable as proof of insurance.
  - Contractor with The State Insurance Fund must submit form U26.3 and DB-120.1.
  - Contractor with Private Insurance must submit form C-105.2 and DB-120.1.
  - Contractor who is self insured must submit form SI-12 or GSI-105.2 and DB-155.
  - Contractors who are exempt from Workers' Compensation must submit form CE-200.
  - An owner applying for the permit who occupies the residence may submit form BP-1 affidavit.
7. **INSPECTIONS:**
  - Underground tanks - require an inspection of the gas piping, slab base and anchoring before fill is put around the tank and a final inspection when complete.
  - Above ground tanks - require a final inspection of the gas piping, slab base and anchoring when complete.
  - Piping, trenching and testing – trench back fill and pressure test required to be observed.



# LIQUEFIED PETROLEUM TANKS

Storage of liquefied petroleum (LP) gas and the installation of equipment in structures shall be in accordance with *Fire Code of New York State* for tanks, *Fuel Gas Code of New York State* for piping and equipment in commercial structures, and *Residential Code of New York State* for residential piping and equipment.

A Building Permit is required for the installation of any LP gas (propane) tank. Distributors shall not fill an LP gas container unless a permit for installation has been issued and its installation inspected and approved.

Applications to install an LP gas tank shall include a site plan clearly identifying the tank's location with respect to buildings, property lines and sources of ignition.

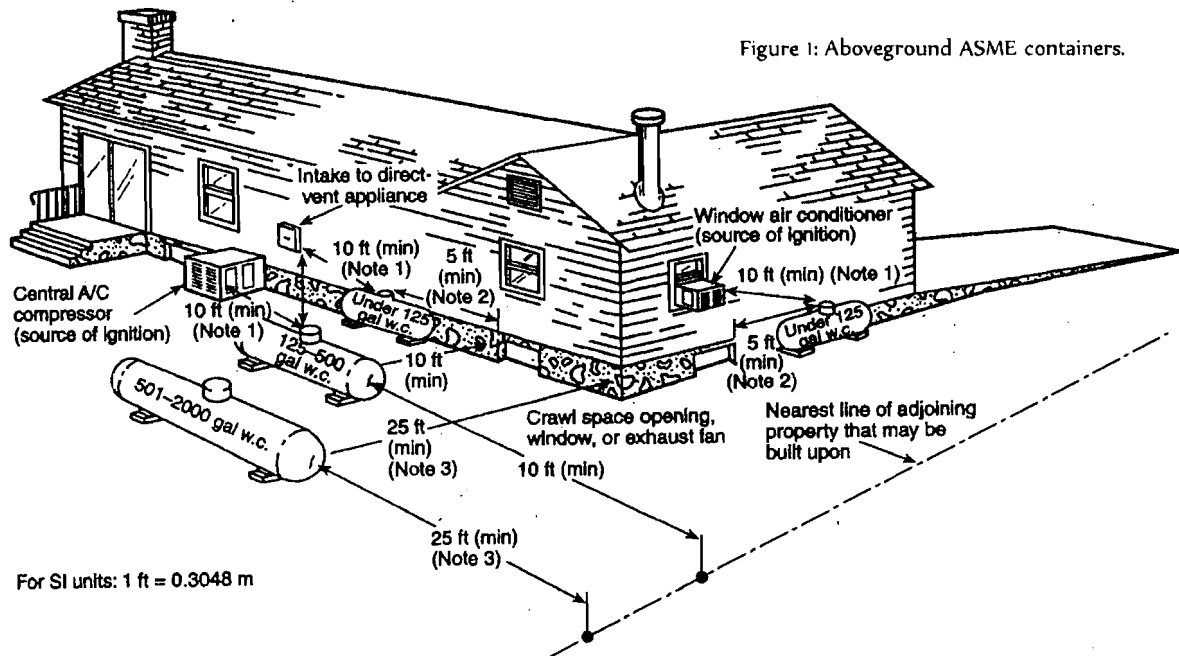
Containers shall be located with respect to buildings, public ways, and lines of adjoining property in accordance with Table 1 (see Figure 1).

Containers shall also be located with respect to special hazards such as aboveground flammable or combustible liquid tanks, oxygen or gaseous hydrogen containers, flooding or electric power lines.

Weeds, grass, brush, trash and other combustible materials shall be kept not less than 10' from LP gas tanks or containers.

When exposed to probable vehicular damage due to proximity to alleys, driveways or parking areas, LP gas containers, regulators and piping shall be suitably protected with bollards or other approved physical barriers.

*Note: LP gas containers shall not be used in a basement, above-grade underfloor space, pit or similar location where heavier-than-air gas might collect.*



**Note 1:** Regardless of its size, any ASME container filled on site must be located so that the filling connection and fixed maximum liquid level gauge are at least 10 ft from any external source of ignition (e.g., open flame, window A/C, compressor), intake to direct-vented gas appliance, or intake to a mechanical ventilation system. Refer to 3.2.2.2(d).

**Note 2:** Refer to 3.2.2.2(c)

**Note 3:** This distance may be reduced to no less than 10 ft for a single container of 1200 gal (4.5 m<sup>3</sup>) water capacity or less, provided such container is at least 25 ft from any other LP-Gas container of more than 125 gal (0.5 m<sup>3</sup>) water capacity. Refer to 3.2.2.2(e).

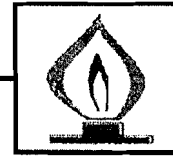
TABLE 1: LOCATION OF CONTAINERS.

Container Capacity (water gallons)	Minimum Separation Between Containers and buildings, public Ways, or Lines of Adjoining Property That Can Be Built Upon		Minimum Separation Between Containers (feet) <sup>2,3</sup>
	Mounded or Underground Containers (feet) <sup>1</sup>	Aboveground Containers (feet) <sup>2</sup>	
Less than 125 "	10	5 "	None
125 to 250	10	10	None
251 to 500	10	10	3
501 to 2,000	10	25 "	3
2,001 to 30,000	50	50	5
30,001 to 70,000	50	75	(0.25 of sum of diameters of adjacent containers)
70,001 to 90,000	50	100	
90,001 to 120,000	50	125	

- 1 Minimum distance for underground containers shall be measured from the pressure-relief device and the filling or liquid level gauge vent connection at the container, except that all parts of an underground container shall be 10' or more from a building or line of adjoining property which can be built upon.
- 2 For other than installations in which the overhanging structure is 50' or more above the relief valve discharge outlet. In applying the distance between buildings and American Society of Mechanical Engineers (ASME) containers of a 125-gallon or more water capacity, a minimum of 50% of this horizontal distance shall also apply to all portions of the building which project more than 5' from the building wall and which are higher than the relief valve discharge outlet. This horizontal distance shall be measured from a point determined by projecting the outside edge of such overhanging structure vertically downward to grade or other level upon which the container is installed. Distances to the building wall shall not be less than those prescribed in this table.
- 3 When underground and multicontainer installations are comprised of individual containers having a water capacity of 125 gallons or more, such containers shall be installed so as to provide access at their ends or sides to facilitate working with cranes or hoists.
- 4 At a consumer site, if the aggregate water capacity of a multicontainer installation, comprised of individual containers having a water capacity of less than 125 gallons is 500 gallons or more, the minimum distance shall comply with the appropriate portion of this table, applying the aggregate capacity rather than the capacity per container. If more than one such installation is made, each installation shall be separated from other installations by at least 25'. Minimum distances between containers need not be applied.
- 5 The following shall apply to aboveground containers installed alongside buildings:
  - A. Containers less than a 125-gallon water capacity are allowed next to the building they serve when in compliance with items 2, 3, and 4.
  - B. Department of Transportation (DOT) specification containers shall be located and installed so that the discharge from the container pressure relief device is at least 3' horizontally from building openings below the level of such discharge and shall not be beneath building unless the space is well ventilated to the outside and is not enclosed for more than 50% of its perimeter. The discharge from container pressure relief devices shall be located not less than 5' from exterior sources of ignition, openings into direct-vent (sealed combustion system) appliances or mechanical ventilation air intakes.
  - C. ASME containers of less than a 125-gallon water capacity shall be located and installed such that the discharge from pressure relief devices shall not terminate in or beneath buildings and shall be located at least 5' horizontally from building openings below the level of such discharge and not less than 5' from exterior sources of ignition, openings into direct-vent (sealed combustion system) appliances, or mechanical ventilation air intakes.
  - D. The filling connection and the vent liquid level gauges on either DOT or ASME containers filled at the point of installation shall not be less than 10' from exterior sources of ignition, openings into direct-vent (sealed combustion system) appliances, or mechanical ventilation air intakes.
- 6 This distance is allowed to be reduced to not less than 10' for a single container of 1,200-gallon water capacity or less, provided such container is at least 25' from other LP gas containers of more than 125 gallon water capacity.

New and Substantially Improved Buildings

Fuel Systems



FLOOD RESISTANT FUEL SYSTEM CHECKLIST

Property ID:		Property Contact:	
Property Name:		Interviewed:	
Property Address:		Phone:	
Surveyed By:		Date Surveyed:	
DFE:			
• What type of fuel system supplies the building?			
<input type="checkbox"/> Above ground Is tank anchored to the ground properly? <input type="checkbox"/> Y <input type="checkbox"/> N Are fuel lines protected from impact? <input type="checkbox"/> Y <input type="checkbox"/> N Is the tank support structure designed to handle velocity flow? <input type="checkbox"/> Y <input type="checkbox"/> N		<input type="checkbox"/> Below ground Is tank protected from buoyancy forces properly? <input type="checkbox"/> Y <input type="checkbox"/> N Is the fuel tank top protected from impact? <input type="checkbox"/> Y <input type="checkbox"/> N Are fuel lines protected from impact? <input type="checkbox"/> Y <input type="checkbox"/> N	
<input type="checkbox"/> Inside the building Is tank anchored to the floor properly? <input type="checkbox"/> Y <input type="checkbox"/> N Are tank and fuel lines protected from impact? <input type="checkbox"/> Y <input type="checkbox"/> N Is the tank properly distanced from the wall and ignition sources? <input type="checkbox"/> Y <input type="checkbox"/> N		<input type="checkbox"/> Natural Gas Line Is the incoming natural gas line protected from impact? <input type="checkbox"/> Y <input type="checkbox"/> N What type of gas line is used? Is the gas meter protected from inundation by floodwaters? <input type="checkbox"/> Y <input type="checkbox"/> N	
Is a fuel storage tank located at the building? <input type="checkbox"/> Y <input type="checkbox"/> N: What type of fuel does it contain?			
Is the fuel storage tank of double-walled design? <input type="checkbox"/> Y <input type="checkbox"/> N			
Describe the tank anchoring system:			
Is the fuel system venting extended to above the DFE? <input type="checkbox"/> Y <input type="checkbox"/> N			
• What components are located below the DFE?			
<input type="checkbox"/> Tank	<input type="checkbox"/> Fuel Lines	<input type="checkbox"/> Gas Meters	<input type="checkbox"/> Other: <input type="checkbox"/> Other:

Table 3.2.5: Checklist for flood resistant fuel system design

# Protecting Your Property From Flooding



## FEMA

### Are You at Risk?

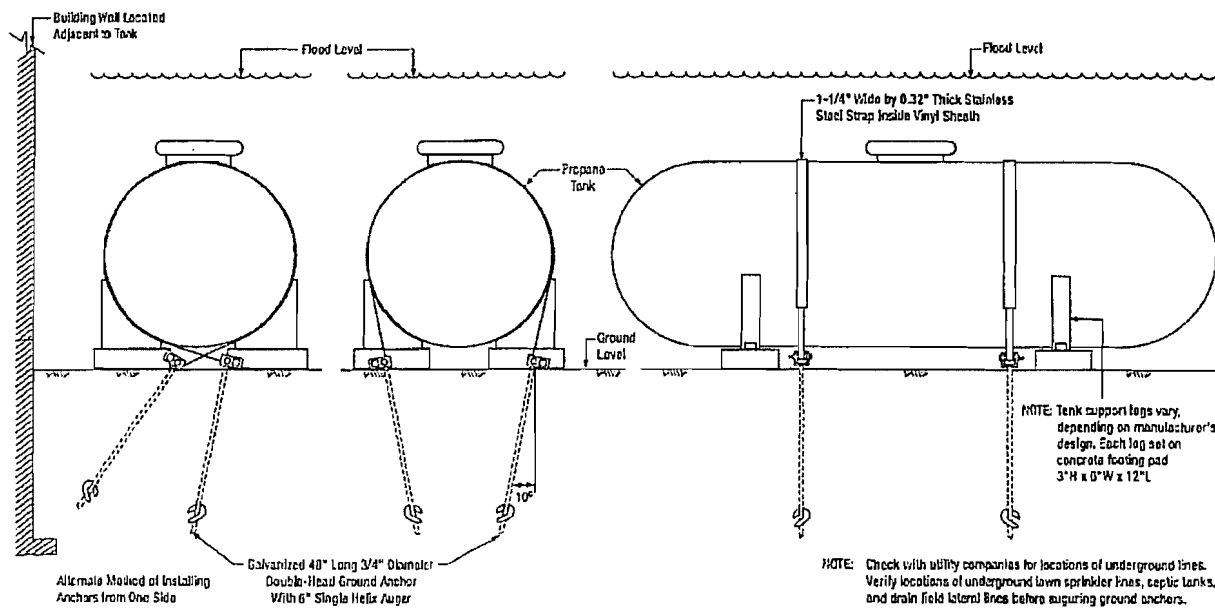
If you aren't sure whether your house is at risk from flooding, check with your local floodplain manager, building official, city engineer, or planning and zoning administrator. They can tell you whether you are in a flood hazard area. Also, they usually can tell you how to protect yourself and your house and property from flooding.

### What You Can Do

Flood protection can involve a variety of changes to your house and property – changes that can vary in complexity and cost. You may be able to make some types of changes yourself; however, complicated or large-scale changes and those that affect the structure of your house or its electrical wiring and plumbing should be carried out only by a professional contractor licensed to work in your state, county, or city. One example of flood protection is anchoring propane tanks. This is something that skilled homeowners can probably do on their own.

### Anchor Outside Propane Tanks

Unanchored propane tanks can be easily moved by flood waters. These tanks pose serious threats not only to you, your family, and your house, but also to public safety and the environment. Propane is stored in pressurized vessels as liquefied petroleum gas (LPG), which can be extremely volatile and potentially explosive if the tank is ruptured and the escaping LPG is ignited by a spark. An unanchored tank outside your house can be driven into your walls by flood waters, or can be swept downstream, where it can damage other houses. As shown in the figure, an inexpensive way to secure a horizontal outside propane tank is to install four ground anchors connected across the top of the tank with metal straps. Secure vertical tank (120-gallon, 420 lb. size) with two ground anchors. Set each anchor on opposite sides of vertical tank. Attach strap from each anchor to collar secured around top of tank. Attach another metal strap connected from one anchor to the other through tank base. The ground anchors and straps described below are the same products that are required by building codes to tie down mobile homes. These products are available from suppliers and installers that service the manufactured housing industry.



## **FUEL TANK GROUND ANCHOR TIE-DOWN MATERIALS**

Low lying lands along the shoreline of rivers, bays and coastal areas may be inundated by floodwaters and tidal surge. In the event of flood or tidal surge, the force of buoyancy will cause submerged heating oil and propane fuel tanks to float away, breaking the supply line to the home and spilling the fuel contained in the tank. Ground anchoring fuel tanks will resist the force of buoyancy and keep tanks tied down. Most fuel tanks are not anchored and are very prone to flotation should rising floodwaters occur.

Basic ground anchoring supplies for heating oil and propane tanks are the same products used nationwide to ground anchor manufactured homes:

- ➔ **Four steel ground anchors. Type: double head earth auger of minimum 48 inch length, 3/4-inch diameter shaft, with two 6-inch diameter helix disks. Earth auger shall have a tested minimum pull out value of 5,000 pounds. Recommended: galvanized earth auger if available.**
- ➔ **Four slotted tie-down strap slotted bolts and nuts. Type: 5/8 inch slotted bolt with 15/16" hex head, square shoulders and nuts.**
- ➔ **Thirty feet of tank tie-down strap. Type: 1-1/4 inch x 0.031-inch galvanized steel, Class B, Grade 1, minimum tensile strength of 4,750 pounds (ANSI A225.1 ASTM D3953-91). Recommended: 1 1/4-inch x 0.031-inch stainless steel, 301-1/4 Hard, minimum tensile strength of 4,750 pounds, if available.**
- ➔ **Fifteen feet of vinyl rubber tie-down strap sheathing that encases the strap to prevent metal-to-metal contact between the fuel tank and the tie-down strap. Type: 1 1/2-inch economy discharge irrigation hose or equivalent.**