Winnipeg

Fire Paramedic Service
Incendie et soins paramédicaux

Above Ground Tank Installation Checklist

Complete the following checklist and submit with your building permit application package.

Tank installation details

Tank size (L):	
Product type:	
ULC listing:	
Construction type:	
Type of overfill protection:	

Tank size (L):	
Product type:	
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Construction type:	
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Check all that apply

Manitoba Fire Code 2024	Code Requirement	Complies
	Location, Spacing & Clearances	
4.3.2.1.	Flammable/combustible liquid storage tanks are located in conformance with MFC Table 4.3.2.1.	☐
4.3.2.1.	The minimum required distance from a storage tank to a property line or to a building on the same property may be 1.5 m if the tank contains only combustible liquids and does not exceed 50,000 L storage capacity	☐
4.3.2.1.	Where end failure of horizontal storage tanks may endanger adjacent property, tanks must be placed with the longitudinal axis parallel to such property	☐
4.3.2.2.	The minimum distance between above ground storage tanks shall be half the diameter of the smaller of every two adjacent tanks where any one of the tanks has a capacity exceeding 250,000 L, but in no case less than 1 m	☐
4.3.2.2.	The minimum distance between any two storage tanks, neither of which has a capacity of more than 250,000 L, is 1 m	☐
4.3.2.3.	Flammable/combustible liquid storage tanks and LPG cylinders or tanks are separated by at least 6 m	☐
4.3.2.3.	Diked storage areas for flammable/combustible liquids do not contain LP cylinders or tanks	☐
4.3.2.3.	The centre line of diked wall for flammable/combustible liquids is at least 3 m away from LPG cylinders or tanks	☐
4.3.2.4.	Storage tanks are accessible to within 60 m for firefighting vehicles	☐
	Supports, Foundations & Anchorage	
4.3.3.1.	Foundations or supports for storage tanks are made of concrete, masonry, piling or steel	☐
4.3.3.1.	Tank supports are installed on firm foundations designed to minimize uneven settling of a tank and to minimize corrosion of the part of the tank resting on the foundation	☐
4.3.3.1.	Where clearance below the tank exceeds 300 mm, tank supports shall have a minimum fire resistance rating of not less than 2 hours	☐
4.3.3.1.	Every above ground storage tank shall be supported in a manner that will prevent the allowable design stress of the tank from being exceeded	☐
	Normal and Emergency Venting	
4.3.4.1.	Atmospheric and low pressure storage tanks must have normal and emergency venting in conformance with API-2000 or tank design standards as listed in the Fire Code	☐
4.3.4.2.	Where unstable liquids are stored, the effects of heat or gas resulting from polymerization, decomposition, condensation or self-reactivity shall be allowed for in the determination of the total venting capacity	☐

Manitoba Fire Code 2024	Code Requirement	Complies
	Vent Piping	
4.3.5.2.	Vent pipe outlets for storage tanks of flammable liquids shall be located outside buildings not less than 3.5 m above the adjacent ground level, not less than 1.5 m from any building opening and must discharge so that flammable vapours will not enter the building or be trapped near any part of the building	☐
4.3.5.2.	Vent pipe outlets for combustible liquids shall discharge outside buildings not less than 2 m above the adjacent ground level and not less than 1.5 m from any building opening	☐
4.3.5.3.	Vent piping for storage tanks for flammable liquids shall not be connected to vent piping for storage tanks for combustible liquids unless an effective arrangement is provided to prevent flammable liquid vapours from entering other tanks. Other storage tanks may be connected to a common vent pipe for normal relief venting provided the vent pipe size is designed to vent the combined vapours produced in the connected tanks without exceeding the allowable stresses of the tanks.	☐
	Dikes and Drainage	
	Note: Dike and drainage requirements apply if a tank does **not** have secondary containment. These requirements may be waived if the tank is double walled.	
	**Double wall tank	☐
4.3.7.1.	The area surrounding a storage tank or group of storage tanks must be designed to accommodate accidental spillage in conformance with Subsection 4.1.6. by (provide method): _____	☐
4.3.7.2.	Non-combustible sills, curbs or dikes of sufficient height to contain the spill, provide acceptable permeability, or a membrane that complies to CAN/ULC-S668. If the membrane is combustible it is protected by a non-combustible material. No openings permitted.	☐
4.1.6.1.	The site is sloped to a drainage system which directs the flow of spilled liquids and firefighting water away from buildings, means of egress, fire department access roadways, or valves controlling the flow of flammable/combustible liquids or water supplies for firefighting.	☐
4.1.6.2.	The drainage system terminates at a location where the spill will not create a fire hazard or any risk to public health or safety by contaminating any potable water source, underground stream or waterway, or by entering any sanitary or storm sewer.	☐
4.1.6.2.	Closed drainage system is equipped with a trap	☐
4.3.7.8.	Controls for a drainage system must be accessible under fire exposure conditions and must be located outside the diked area	☐
4.3.7.3(1)	Where a diked area contains only one storage tank, the diked area shall be of sufficient size to contain a volume of liquid at least 110 % than the volume of the tank	☐
4.3.7.3(2)	Where a diked area contains more than one storage tank, the diked area must be of sufficient size to contain a volume of liquid not less than the volume of the largest tank plus 10% of the aggregate volume of all other tanks or 10% greater than the volume of the largest tank, whichever is greater	☐
4.3.7.2(1)	The base and walls of a dike must be made of non-combustible materials, and designed and constructed to withstand full hydrostatic head and provide impermeability	☐

Manitoba Fire Code 2024	Code Requirement	Complies
4.3.7.2(4)	Where piping passes through a dike, passages must be designed, constructed and maintained to prevent seepage from the diked area	☐
4.3.7.5(1)	Dikes must be designed to facilitate access to storage tanks, valves and other equipment, and safe egress from the diked area	☐
4.3.7.5(2)	Provisions must be made for the normal operation of valves and for access to storage tank roofs at a level above the top of the dike when: a) the height of a dike containing flammable liquids exceeds 3.5 m, measured from the ground level of the interior of the diked area or b) when the distance between any tank and the top inside edge of the dike wall is less than the height of the dike wall.	☐
4.3.7.6.	Secondary containment which is not open to the atmosphere has emergency venting to relieve any buildup of internal pressure in the contained space	☐
4.5.	All piping and transfer systems comply to section 4.5 of the Manitoba Fire Code	☐
4.5.	A piping layout is included	☐
	Other requirements	
4.3.7.4(3)	Mechanical protection for a tank must be provided (e.g. bollards or guardrails)	☐
4.3.1.8.	Overfill protection shall be provided (i.e. a device to prevent a tank from being overfilled)	☐

This checklist is not intended to replace any requirements under the Manitoba Fire Code or any City of Winnipeg By-laws. Complete requirements may be obtained by referring to the applicable bylaw or section under the Manitoba Fire Code. The permit applicant/contractor is responsible for ensuring that all applicable provisions are in compliance.

Completed by:

Petroleum Contractor:	
Signature:	
Date:	