

**SUFFOLK COUNTY DEPARTMENT OF HEALTH SERVICES
TOXIC/HAZARDOUS MATERIAL TRANSFER FACILITY DESIGN
GUIDELINES**

1.0 GENERAL

- 1.1 Article 12 of the Suffolk County Sanitary Code requires that toxic/hazardous material transfer facilities shall be designed and constructed in a manner that will, in the opinion of the Commissioner, provide the maximum reasonable protection available against leakage or spillage from the facility due to corrosion, breakage, structural failure, or other means.
- 1.2 This Guideline shall apply to all facilities transferring toxic/hazardous materials with the following exceptions:
 - A) gasoline station or similar installation solely incident to the retail sale or personal consumption of motor fuels for motor vehicular use;
 - B) the transfer of fuel oil to a storage facility used solely for on-site heating or intermittent stand-by power generation.
- 1.3 Approval of design by the Suffolk County Department of Health Services, Bureau of Hazardous Materials is required before installation.

2.0 DEFINITIONS

- 2.1 ARTICLE 7 REGULATED AREA means any of the areas delineated in Suffolk County by the “Long Island Comprehensive Waste Treatment Management Plan 9L.I. Study”, as revised by the “Long Island Groundwater Management Plan”, and subsequent revisions adopted by the Board identifying differences in regional hydrogeologic and groundwater quality conditions. The boundaries of the Groundwater Management Zones are set forth on a map adopted by the Board filed in the Office of the Commissioner in Hauppauge, New York.
- 2.2 All terms in this document shall be understood as defined in Article 12 of the Suffolk County Sanitary Code.

- 2.3 **PRODUCT TIGHT** means impervious to the material which is or could be contained therein so as to prevent the detectable seepage of the produce through the container. To be product-tight, the container shall be constructed of a material that is not subject to physical or chemical deterioration by the product being stored.
- 2.4 **SEWERED AREA** means a location which is served by a municipal or private sewage treatment facility.
- 2.5 **TRANSFER FACILITY** means truck fill stands and/or any other facility for the loading or unloading of toxic or hazardous materials.

3.0 SUBMITTALS

- 3.1 **A PERMIT TO CONSTRUCT ISSUED BY THE BUREAU OF HAZARDOUS MATERIALS IS REQUIRED PRIOR TO INSTALLATION OF A NEW TRANSFER FACILITY OR SUBSTANTIAL MODIFICATION TO AN EXISTING OR NEW TRANSFER FACILITY.**
- 3.2 Submittal Requirements-
 - 3.2.1 An application for a Permit to Construct a toxic/hazardous material transfer facility signed by the owner or owners representative;
 - 3.2.2 Plans prepared and signed by a registered professional engineer or architect licensed in the State of New York submitted in quadruplicate.
- 3.3 Plan Requirements-each plan submittal for construction approval must include the following:
 - 3.3.1 Key map highlighting the site location;
 - 3.3.2 Site plan of suitable scale illustrating the following:
 - A) existing and proposed buildings;
 - B) property lines;
 - C) all existing and proposed tank locations;
 - D) North arrow;
 - E) piping;
 - F) overfill and leak alarm panels.

3.3.3 Title block listing the following:

- A) facility name and address;
- B) architect/engineer name, address, phone number, signature and seal;
- C) Suffolk County tax map number (District-Section-Block-Lot);
- D) scale of drawing;
- E) 3" X 5" block for SCDHS approval stamp.

3.3.4 Construction drawings shall illustrate all proposed containment structures, tankage, and piping including partial plan view, cross-section of installation, tank installation details as required in the applicable Guidelines for the Administration of Article 12, "Underground Tank Design Guidelines", and necessary details.

The following items must be included in the partial plan view:

- A) dimensions of concrete slab;
- B) location of oil/water separator, where applicable;
- C) slope of containment pad;
- D) containment roof structure;
- E) location of sumps.

The following items must be included in the cross-sectional detail:

- A) elevations including finished grade, top of pad and top of curbing;
- B) concrete thickness and reinforcement.

The following items must be included in the details:

- A) waterstop within all concrete construction and expansion joints;
- B) location of alarm sensor probes.

4.0 RESTRICTIONS

4.1 Sewered Areas: Non-Article 7 Regulated

4.1.1 If discharge of collected liquids, i.e. rainwater, is desired and permitted based upon anticipated, acceptable concentrations of contaminants, the required containment structure must drain through an acceptable pretreatment system (i.e. oil/water separator, etc.) to a sampling manhole leading to the sewer main. The pretreatment vessels and piping leading to it must conform with the GUIDELINES FOR THE ADMINISTRATION OF ARTICLE 12 “DOUBLE WALLED UNDERGROUND TANK DESIGN GUIDELINES”.

4.1.2 The sampling manhole and sewer hook-up must be designed and installed in accordance with permits and approval of the Suffolk County Department of Public Works.

A) a roof sheltering the entire containment structure is required to minimize storm water flow to the sewer district.

4.2 Sewered Areas: Article 7 Regulated

4.2.1 If discharge of collected liquids, i.e. rainwater, is desired and permitted based upon anticipated, acceptable concentrations of contaminants, the required containment structure must drain through an acceptable pretreatment system (i.e. oil/water separator, etc.) to a sampling manhole leading to the sewer main. The pretreatment vessels and piping leading to it must conform with the GUIDELINES FOR THE ADMINISTRATION OF ARTICLE 12 “DOUBLE WALLED UNDERGROUND TANK DESIGN GUIDELINES”.

4.2.2 The sampling manhole and sewer hook-up must be designed and installed in accordance with permits and approval of the Suffolk County Department of Public Works.

A) a roof sheltering the entire containment structure is required to minimize storm water flow to the sewer district.

4.3 Unsewered Areas: Non-Article 7 Regulated

4.3.1 Liquids collected in the required containment structure, i.e. rainwater, may be discharged if desired and permitted based upon anticipated, acceptable concentrations of contaminants by draining through an acceptable pretreatment system (i.e. oil/water separator, etc.) to a leaching pool, or it may be totally held in a toxic/hazardous material holding tank for subsequent pick-up by a licensed waste scavenger. The pretreatment vessels, holding tank and piping leading to them must conform with the GUIDELINES FOR THE ADMINISTRATION OF ARTICLE 12 “DOUBLE WALLED UNDERGROUND TANK DESIGN STANDARDS”.

- A) a State Pollutant Discharge Elimination System (SPDES) permit must be obtained and complied with when the leaching pool option is chosen.
- B) facilities conveying toxic/hazardous materials which contain constituents that are water soluble, in concentrations which may violate SPDES discharge limits, may not be designed using the leaching pool option.

4.4 Unsewered Areas: Article 7 Regulated Areas

4.4.1 The required containment structure must be self-containing as additional storage tanks and groundwater discharges are prohibited.

- A) a roof sheltering the entire containment structure is required to eliminate storm water accumulation.

5.0 DESIGN REQUIREMENTS

5.1 Containment at transfer areas must be sized to contain 100% of the maximum spill possible and to accommodate the entire loading/unloading vehicle.

5.2 Concrete:

5.2.1 All concrete must be a minimum 3500 psi mix.

5.2.2 All concrete must be adequately reinforced.

5.2.3 All concrete must be air entrained.

5.2.4 All concrete must be moist cured for a minimum of 7 days.

5.2.5 Concrete slabs must bear on a properly compacted base.

5.2.6 Concrete slabs must be sloped to the required collection point.

- 5.2.7 All concrete dimensions and reinforcement must be clearly illustrated and specified on the design drawings.
- 5.2.8 All construction and expansion joints within the containment structure must be sealed using compatible, cast-in-place waterstop. Waterstop must be clearly illustrated and specified on the design drawings.
- 5.2.9 Concrete sealer must be utilized to enhance the impermeability of the containment structure. The sealer type and manufacturer must be specified on the design drawings.
- 5.2.10 When required by the Bureau of Hazardous Materials, a minimum of two test cylinders must be taken at time of construction for each 50 cubic yards of concrete poured testing shall be by the owner or contractor and test results immediately submitted to the Bureau of Hazardous Materials.
- 5.2.11 Access ramps must be properly sloped to allow clear passage for the loading/unloading vehicles. Slopes must be clearly specified on the design drawings.
- 5.3 Where applicable, roofs must shelter the entire loading/unloading containment area. Roof design must conform with all applicable building codes. Roofs must be sloped to a leader and gutter system which directs storm water away from the containment area. Roof designs must be clearly illustrated on the design drawings.
- 5.4 Grading around the containment structure must be sloped to eliminate storm water intrusion on the containment structure. Grading slopes must be illustrated on the design drawings.
- 5.5 As per the “LEVEL ALARM SYSTEM REQUIREMENTS FOR OVERFILL PROTECTION OF TOXIC/HAZARDOUS MATERIAL STORAGE TANKS”, on-site pumps loading the storage tanks must be interlocked with the tanks overfill alarm system.
- 5.6 All underground piping conveying drainage from the containment structure to a holding tank or oil/water separator must conform with the piping design requirements contained in the applicable STANDARDS FOR THE ADMINISTRATION OF ARTICLE 12, “UNDERGROUND TANK DESIGN GUIDELINES”.
- 5.7 Oil/water separators, where acceptable, must conform with the tank design requirements contained within the STANDARDS FOR THE ADMINISTRATION OF ARTICLE 12, “DOUBLE WALLED UNDERGROUND TANK DESIGN GUIDELINES” and meet the following criteria:

- 5.7.1 The oil/water separator must be designed and constructed in accordance with Underwriters Laboratory Standards.
- 5.7.2 Influent to the separator must be controlled by the use of an electrically operated solenoid valve. Additionally, the valve must be of the type that fails in the closed position.
- 5.7.3 The oil/water separator must have no moving parts and must be designed to handle flows without adjustment of valves, diffusers, grease cups, etc.
- 5.7.4 The oil/water separator must be a cylindrical parallel corrugated plate gravity displacement type. The separator must include an inlet velocity diffusion baffle, sediment chamber, sludge baffle, coaleser and effluent downcomer.
- 5.7.5 The oil/water separator must be equipped with an alarm system, approved by the Suffolk County Department of Health Services, Bureau of Hazardous Materials, which will annunciate when the oil separator has reached its oil holding capacity thus rendering further separation impossible. In addition, this alarm must be interlocked with the influent solenoid valve to prevent additional flow to the separator.
- 5.7.6 The separator inlet and outlet piping must be sloped a minimum of 1/8" per foot to maintain adequate flow characteristics.
- 5.7.7 The separator must be installed as per the manufacturers written installation procedures and meet the requirements of the Suffolk County Department of Health Services, Bureau of Hazardous Materials.