



**SUBMITTAL REQUIREMENTS:
Above-ground or Below-ground Flammable/Combustible Liquid Storage Tanks**

Codes and Standards Used in the Review Process:

- **North Carolina Fire Code (2018 edition)**, including the following chapters –
 - **Chapter 23** for projects involving motor vehicle fueling facilities
 - **Chapter 50** for hazardous materials in general
 - **Chapter 57** for flammable/combustible liquid provisions
- Applicable NFPA standards, including NFPA 30
- Applicable UL standards, including –
 - UL 2085 for protected above-ground tanks
 - UL 142

Submitting Plans:

1. Visit <http://winston-salem.idtplans.com>. If you have never used the IDT system before, you will need to create an account by clicking the **Sign Up** button.
2. Sign in using your email address and the password you created.
3. Click on the **Submit a Project for Review** button.
4. Select the correct application type, then follow the steps to complete the online permit application, upload your files, pay your fees, and confirm your submission.

Submittal Requirements:

- Prior to compiling the required documents, the applicant is **highly encouraged** to review the applicable portions of the North Carolina Fire Code and its referenced standards.
- **BUILDING PERMIT NUMBER** – If the project is associated with a building permit number, that permit number must be provided in the online application.
- **TANK BEDDING, SUPPORTS, VAULTS, AND STRUCTURAL FEATURES** – The plan set shall include information about the design of bedding, supports, vaults, seismic protection, and other structural elements required by the fire code.

- SITE PLANS – Submitted tank plans shall include detailed, scaled site plans that have been drawn, sealed, and signed by a professional engineer as defined by North Carolina General Statutes. These site plans shall include the following details –
 - o The locations and capacities of each storage tank on site, specifying the following:
 - Indicators of which tanks are being installed, which tanks (if any) are existing to remain, and which tanks (if any) are being removed
 - Identification of the materials are being stored in each tank
 - o Locations of property lines on site
 - o Locations of structures on the property and on adjacent properties
 - NOTE: if dispensing equipment is present, the site plan shall also indicate the locations of openings for each building shown
 - o Locations of roadways and other means of vehicle access
 - o Locations of vehicle impact protection features protecting the tank(s) and related components, as well as design details showing how those features comply with fire code requirements (see NCFD Section 312)
 - o Locations and configurations of dispensers, remote fill stations, piping arrangements, and emergency controls
 - NOTE: if dispensing hoses are being installed, the connection point of each dispensing hose and the stated length of each hose
 - o The locations of each vent opening installed on each tank
 - o Locations and ratings of each portable fire extinguisher on site
 - o Locations and descriptions of any other fire appliances or related equipment intended to protect the tanks and related equipment
- EXCEPTION TO SEALED SITE PLAN REQUIREMENTS – The requirement for sealed, signed site plans may be waived by the fire code official if the site contains a simplistic system of a single storage tank with a capacity of no more than 300 gallons. ***In order to qualify for this waiver, the plan set must include a letter signed by City/County zoning officials indicating their approval of the proposed tank site arrangement. Any tank arrangement not meeting these conditions must have its site plans drawn, sealed, and signed by a professional engineer.***
- TANK DESIGN DRAWINGS – For each tank being installed, the plan set shall include a design drawing prepared by the tank manufacturer that illustrates how the tank is built and configured. Each tank design drawing shall be specific to the model, configuration, and size being installed.
- TANK DATA SHEETS – For each model of tank being installed, the plan set shall include a datasheet provided by the tank manufacturer that includes information about the model's UL listings, the materials the tank is designed to store, and other code compliance features such as secondary containment and built-in vehicle impact protection.
- MATERIAL TRANSFER METHODS – Plans shall include sufficient detail to indicate the specific methods of material loading, storage, unloading, and dispensing for each material and tank.

- SAFETY DATA SHEETS – The plan set shall include safety data sheets for each material being stored. Safety data sheets are not required for the following materials –
 - Gasoline and diesel fuel when being installed for motor fuel dispensing operations
 - Waste oil when being installed as part of motor vehicle repair and servicing operations
- SIGNAGE AND LABELING – Plans shall include scaled drawings for each sign or label required by the fire code, including but not limited to the following where applicable –
 - NFPA 704 placards (with the correct numbers shown for each material)
 - Signs prohibiting smoking or open flames
 - Labeling identifying the materials being stored
 - Signs documenting the tank fill procedure and posting the tank calibration chart (when using UL 2085 tanks)
- EQUIPMENT SCHEDULE – Submitted tank plans shall include an itemized listing of each tank being installed as well as the tank’s appurtenances. This listing shall include all safety features including but not limited to the following –

<ul style="list-style-type: none"> ○ Vents (normal and emergency vents) ○ Spill containers ○ Overfill prevention equipment ○ Leak detection equipment 	<ul style="list-style-type: none"> ○ Vapor recovery equipment ○ Dispensers, hoses, and nozzles ○ Piping, pumps, and valves ○ Emergency controls and shutoffs
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- EQUIPMENT DATA SHEETS – For each of the items listed in the equipment schedule described above, the plan set shall include a datasheet provided by the equipment manufacturer. These datasheets shall include information indicating the compatibility of the equipment with the materials being stored or used, as well as any specific information required to demonstrate compliance with applicable code requirements and safety standards.
- UNNECESSARY INFORMATION – ***Documents, sheets, and pages that are not pertinent to the fire code’s requirements or the content of these guidelines should be omitted from tank plans unless those items are specifically requested by the fire code official.***
- This is not an all-inclusive list; additional information may be required prior to approval.

Once your tank plans are approved...

- Follow all instructions provided in plan review comments at <http://winston-salem.idtplans.com>.
- Access the approved, stamped plans at <http://winston-salem.idtplans.com> and utilize only these plans for your project. If revisions are required, submit revisions for approval. A copy of approved, stamped plans shall be maintained on site.
- Schedule pressure testing activities and inspections as required. Instructions for scheduling these events will be provided at the time your plans are approved.
- Tanks, piping, dispensers, and related equipment may not be filled or placed in service until all required testing activities and inspections are completed successfully.