

Introduction

Protecting North Carolina's water resources is a very important goal. Because underground storage tank (UST) systems pose a potential risk to public health and the environment, they are required to be sited at certain distances from wells and specified surface waters. In some cases, secondary containment on the UST system may be required. When siting UST systems, three water sources must be considered:

- Public Water Supply Wells
- Any Other Wells Used for Human Consumption
- Certain Surface Waters

Public Water Supply Wells (please see Figure 1)

- No regulated UST system (including tank, piping and dispensers) may be installed within 100 feet of a public water supply well.
- Regulated UST systems may be installed between 100 and 500 feet of a public water supply well, but secondary containment (double-walled UST systems with interstitial monitoring) is required.

Note: A public water supply well (as determined by the Public Water Supply Section of DENR) includes any well where the water is available to the public. Examples include: water used to make coffee or other beverages for public consumption, water in bathrooms, water fountains or outside spigots. Public water supply wells include most wells at convenience stores and service stations.

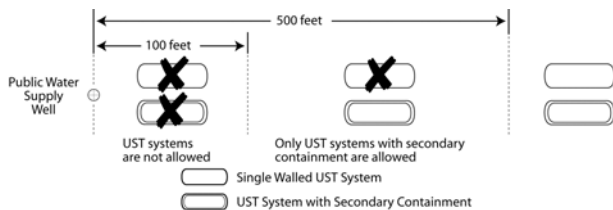


Figure 1. Siting / secondary containment requirements for UST systems near public water supply wells.

Any Other Well Used for Human Consumption (please see Figure 2)

- No regulated UST system (including tank, piping and dispensers) may be installed within 50 feet of any other well used for human consumption.

- Regulated UST systems may be installed between 50 and 100 feet of any other well used for human consumption, but secondary containment (double-walled UST system with interstitial monitoring) is required.

Note: Human consumption includes, but is not limited to: drinking, bathing, showering, cooking, dishwashing, laundering and oral hygiene. Water for toilets or sinks is also considered human consumption.

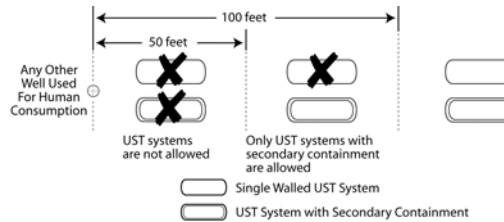


Figure 2. Siting / secondary containment requirements for UST systems near any other well used for human consumption.

Surface Waters (please see Figure 3)

Regulated UST systems within 500 feet of any surface water designated as any of the following classifications by the Division of Water Quality (DWQ) require secondary containment (double-walled UST system with interstitial monitoring).

- High Quality Water (HQW)
- Outstanding Resource Water (ORW)
- Water Supply I (WS-I)
- Water Supply II (WS-II)
- Shellfishing (SA)

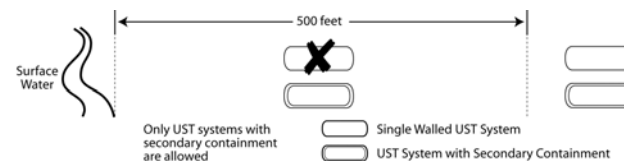


Figure 3. Siting / secondary containment requirements for UST systems near designated surface waters.

To determine if surface waters near you meet the DWQ classifications, please contact DWQ at 919-733-7015. This information is also on the DWQ web page at [http:// h2o.enr.state.nc.us/bims/](http://h2o.enr.state.nc.us/bims/)

Exclusion From These Rule Requirements

All UST systems installed **on or before January 1, 1991** that met "new tank system" performance standards (corrosion protection, spill prevention and overfill prevention) by that date are excluded from these siting and secondary containment regulations.

Secondary Containment Upgrade Requirements

- Secondary containment must be provided immediately for UST systems **installed on or before January 1, 1991** that did not meet the "new tank system" performance standards by that date, and that are within 100 feet of a public water well or within 50 feet of any other well used for human consumption. Replacement UST systems with secondary containment may not be located any closer to the well than the UST system they replaced.

- Proper closure of the UST system or discontinuation of the use of the well must be performed immediately if a UST system was **installed after January 1, 1991** and within 100 feet of a public water supply well or within 50 feet of any other well used for human consumption.

- Effective May 1, 2000, all new UST systems and all replacements to UST systems must be provided with secondary containment at the time they are installed or replaced if located between 100 and 500 feet of a public water supply well, between 50 and 100 feet of any other well used for human consumption or within 500 feet of specified surface waters.

- All UST systems installed before May 1, 2000 and located:
 - between 100 and 500 feet of a public water supply well,
 - between 50 and 100 feet of any other well used for human consumption, or
 - within 500 feet of specified surface waters

must be provided with secondary containment immediately, unless **Enhanced Leak Detection**, (as described in this brochure) is conducted.

Secondary Containment Upgrade Schedule

For UST systems conducting **Enhanced Leak Detection**, secondary containment must be installed by January 1st of the following years:

2005 – All steel or metal connected piping and ancillary equipment (including metal flexible connectors and “European” suction piping)

2008 – All fiberglass or non-metal connected piping and ancillary equipment (including “European” suction piping)

2008 – All USTs installed on or before January 1, 1991

2016 – All USTs installed after January 1, 1991

Note: Ancillary equipment means any devices including, but not limited to, such devices as piping, fittings, flanges, valves, and pumps used to distribute, meter or control the flow of regulated substances to and from an UST

Note: Secondary containment for ancillary equipment generally employs containment sumps at piping terminations, below dispensers and on top of USTs where automatic line leak detectors, submersible pumps, etc. are located. Like all forms of secondary containment, monthly monitoring for releases is required.

Enhanced Leak Detection

- A combination of leak detection monitoring and well sampling offers UST system owners an extended deadline to comply with secondary containment requirements for affected UST systems. However, enhanced leak detection is not a viable option if environmental contamination is already present at your site.

Enhanced leak detection consists of the following:

- Install an automatic tank gauge (ATG) for each UST and conduct at least one valid 0.1 gallon per hour (gph) leak test per month or one valid 0.2 gph test per week.
- Install an electronic line leak detector (ELLD) for each pressurized piping system. The ELLD must be capable of detecting a catastrophic 3.0 gph leak. In addition, use the ELLD to perform at least one valid 0.1 gph leak test per month or 0.2 gph leak test per week on the lines.
- Conduct a line tightness test once per year for each suction piping system. The line tightness test must be capable of detecting a leak rate of 0.1 gph. “European” or “safe” suction systems are excluded from this requirement.

- Public water supply wells and any other well used for human consumption must be sampled once per year for volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs). If the UST system contains waste oil, the wells must also be sampled for lead and chromium. The results for each sample must be submitted to your UST Section Regional Office each year.

Other Possible Remedies

Depending on your specific situation, other remedies may include discontinuing the use of a supply well and hooking up to municipal water or constructing a new well outside the prohibited area or areas requiring secondary containment. When constructing a new well, refer to the appropriate well construction standards. Another possible remedy may be to prevent access to the water by the public (e.g., closing bathrooms, removing water fountains, etc.)

Questions?

More specific information on these regulations can be found in 15A NCAC 2N .0301, .0302 and .0304. If you have any other questions, please contact the UST Section Central Office at (919) 733-8486 or visit our web page at <http://www.wastenotnc.org>.



Siting and Secondary Containment Requirements for Underground Storage Tank Systems near Wells and Surface Waters



**N.C. Department of Environment
and Natural Resources**

**Division of Waste Management
UST Section**