

Aboveground Storage Tanks (ASTs) in Flood-Prone Areas



Guidance for Tank Owners on the Vermont AST Rules



In August 2017, the Vermont Agency of Natural Resources adopted the current AST Rules.

The AST Rules:

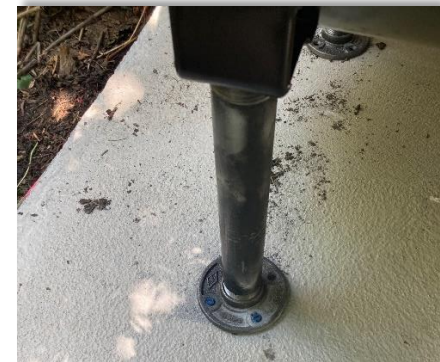
- Specify the standards for design, installation, and inspection of all AST systems.
- Require existing AST systems to be inspected.
- Prohibit delivery to non-compliant AST systems.
- **Establish requirements for new AST systems installed in flood-prone areas.**



Above: Home heating fuel spill from a flood

Flooding is the most common natural hazard in Vermont.

During flood events, the force of buoyancy causes submerged heating fuel tanks to float, breaking the fuel line and causing releases of heating fuel to the environment. Tanks in basements float, and they release their contents into the basement.



Above: AST with foot flange bolted to pad designed to hold a tank down during a flood

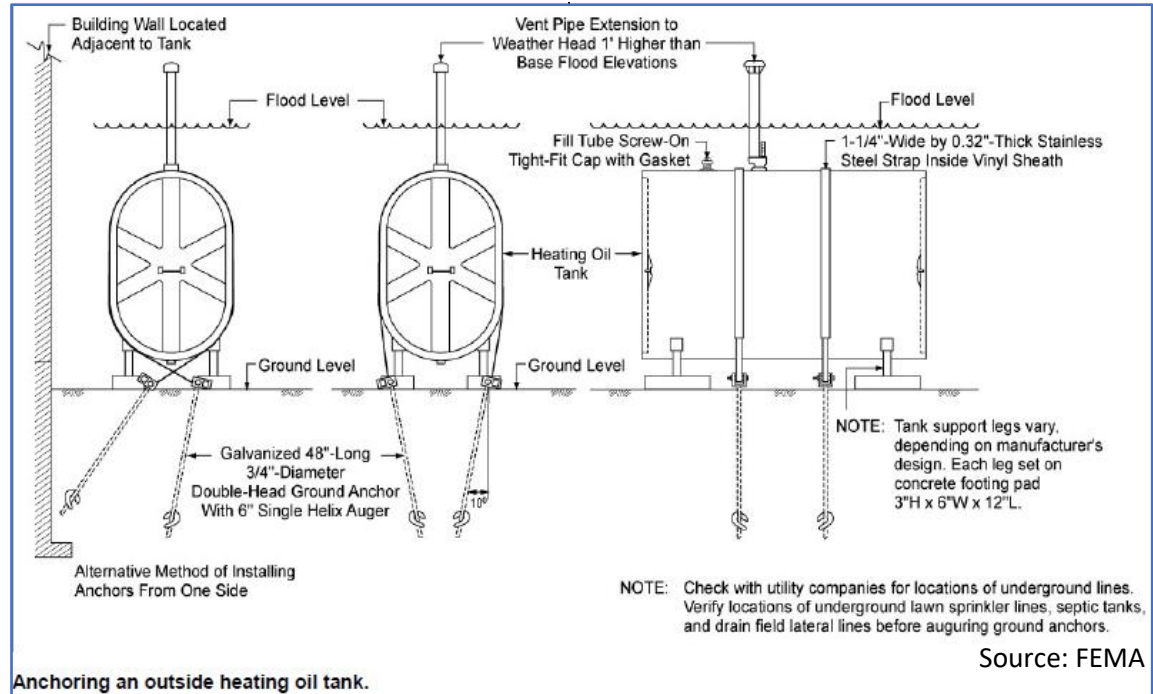
During Tropical Storm Irene and the July 2023 floods, ASTs floated in floodwaters or became dislodged from their locations. There were hundreds of spills from ASTs during these events. The requirements established in the AST Rules aim to prevent releases of heating fuel from ASTs installed in flood-prone areas.

Floods cause \$10 billion in damages per year in the U.S.

By Vermont Law, a tank owner is liable for the cleanup of releases from their fuel tank. Cleanups can be costly, and when there is a fuel spill – especially one that occurs in a basement – it can be extremely disruptive to residents.

What can you do to prevent a release of heating fuel in the future if you have an AST and live in a flood-prone area?

- ✓ Extend the AST's fill and vent pipes to above the 100-year flood plain level.
- ✓ Anchor your AST to the ground or concrete slab using hold down straps and concrete anchors or earth augers.
- ✓ Install foot flanges on your AST and use concrete bolts to affix your AST your basement floor.
- ✓ Close all connections when flooding is expected.



Above: Diagram showing the design of an AST installed in a flood-prone area



Above: An installer performing a wire rope tie-down which is another way to secure a tank in a flood-prone area

Note: New installations in flood-prone areas are required to be installed per §9-305 of the Vermont AST Rules. If your tank was flooded recently, the Agency of Natural Resources recommends that your tank is retrofitted to meet these specifications as well.

For more information please contact:

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