County of Door
LAND USE SERVICES DEPARTMENT

County Government Center
421 Nebraska Street
Sturgeon Bay, WI 54235

Main office lines: (920) 746-2323 and (920) 746-2308
FAX: (920) 746-2387
Website: https://www.co.door.wi.gov/164/Land-Use-Services
On-line permit applications: https://www.citysquared.com/#/app/DoorCountyWI/landing

Door County Private On-Site Wastewater Treatment Systems (POWTS)
Regulatory Program History
Compiled by John Teichtler, County Sanitarian
December 22, 2022

Timeline/Overview

- 1967: First POWTS code adopted by Door County. State agency dealing with POWTS is Department of Health and Social Services (DHSS).
- 1969: Code revised due to change at state level (state plumbing code POWTS standards).
- 1974: WI Certified Soil Tester Program established (certification required for POWTS work).
- 1975: Three mound system types allowed, per state changes. 24 inches of soil required over bedrock or groundwater.
- 1978: Joined WI Fund Program. Maintenance program required.
- 1980: Code revised; stand-alone and state-level changes (inspections at all installations). State agency dealing with POWTS is switched to Department of Industry, Labor, and Human Relations (DILHR).
- 1986: County time-of-sale ordinance enacted.
- 1987: At-grade systems developed/allowed.
- 1989: WI Certified Soil Tester Program updated. State agency dealing with POWTS is switched to Department of Commerce ("Commerce").
- 2000: Code revised due to state "performance code." Six inches of soil for mound systems. State agency dealing with POWTS is switched to Department of Safety and Professional Services (DSPS).
- 2002-2015: County-wide survey of all systems.
- 2010-2016: WI DSPS inventory and maintenance report requirement fulfilled.
- 2015: Time-of-sale ordinance revised due to state prohibition on mandatory inspections.
- 2017: Merger with Planning & Zoning Department.
- 2018: State requirement to use more detailed soil report forms.
- 2021: On-line permitting, application, and filing system launched.

Program History

Door County's first private on-site wastewater treatment system (POWTS) ordinance became effective in August of 1967. The state agency at the time that set POWTS standards was the Wisconsin Department of Health and Social Services (DHSS). The county's ordinance required a sanitary permit prior to the installation of such systems. The most important section of the code was that it established a three (3) foot separation between the bottom of the system ("system elevation") and a "limiting factor" such as bedrock or seasonal high ground water.

This ordinance was in effect until July of 1969, when State Administrative Code H 62 Plumbing was required to be followed/implemented state-wide. A section of this code, H 62.20, established requirements for POWTS, such as sizing for the septic tank and soil absorption system based on whether there were appliances or no appliances (e.g., dishwashers, washing machines, etc.). This code was effective until 1980.

In 1974, the Wisconsin Certified Soil Tester Program was established, which became a state-wide requirement on November 1, 1974. Prior to that, any licensed Wisconsin plumber, engineer, or architect could conduct soil borings and percolation tests for POWTS, with no soil knowledge required. After the program was mandated, those who wanted to do soil evaluations needed to attend training and pass both written and practical exams.

From 1970 to 1975, the UW-Madison Small Scale Waste Management Project developed the Experimental Fill System, which became the present-day mound systems. Finding the correct sand and fill material for use over the dispersal cell was the most difficult issue to resolve. A coarse sand allows the wastewater to pass too quickly, not treating the waste, and fine sand results in ponding and discharge to the ground surface. Concrete sand is used on mounds today; fill material must be fine aggregate (meeting ASTM Specification C-33).

In May of 1975, three packages of mound system types were approved state-wide. They were mound over bedrock, seasonal high ground water, and slowly permeable soil. A minimum of 24 inches of soil was required over “limiting factors” of bedrock or ground water. (Today, and since the adoption of the DSPS Performance Code on July 1, 2000, the minimum is six inches over a limiting factor.) The cover material has to be a soil that will provide frost protection, prevent erosion and excess precipitation or runoff infiltration, but also allow air to enter the dispersal area/distribution cell for the proper treatment of the wastewater. This cover material was originally clay, which was discovered to prevent oxygen to the dispersal cell, so a sandy loam soil is now used. Counties were required to inspect the mound at time of construction and also to conduct an on-site inspection of the soil borings. A letter regarding the soil borings and an inspection report about the constructed mound were required by the Wisconsin Department of Health. County employees were required to have training on the inspection of mound type systems. Inspections consisted of being present and completing an inspection report for the plowing, placement of sand, and distribution pipe installation, and a final inspection of all the mound components.

In 1978, Door County joined the Wisconsin Fund Program, which provided funding from the state for the replacement of failing private on-site waste water treatment systems installed prior to July 1, 1978. This was for systems serving single-family homes and small commercial establishments. The existing system had to meet the statute requirements for a failing system, as verified by county staff (usually upon request of the property owner). The county then issued an order to the property owner to replace the failing system within one year of the order date. County staff prepared and assisted in the application process for the property owner. After the property owner paid for the replacement, the property owner was reimbursed the appropriate amount based on cost tables established in the code for the various components of the system.

The county was required to establish a maintenance program as a requirement of being a part of the Wisconsin Fund Program. Every three years, a property owner was sent a maintenance report. The property owner was required to contact a pumper or plumber to inspect the POWTS. If the septic tank was 1/3 full of solids or greater, the septic tank was required to be pumped. If less than 1/3 full of solids, no pumping was required. The inspecting provider would complete the report and also conduct a visual inspection of the septic tank, inlet and outlet

baffles, note any problems with the septic tank such as cracks, rusting of tank, etc. Also, a walk-over of the soil absorption area was done to see if there was any surfacing of wastewater, and the cap on the vent was removed to check for ponding of waste water. This report was then sent to the county for review and follow-up, and kept as a history of each POWTS. This maintenance program is still in effect today.

In 1980, a state code on POWTS was established as a stand-alone code, and the state agency handling POWTS matters switched from Health and Social Services to the Department of Industry, Labor, and Human Relations (DILHR). In addition, DILHR required all counties to inspect all POWTS systems at the time of installation, not just mound systems. This required county regulatory staff to attend training courses and pass an exam to become Private On-Site Waste Water Inspectors. There was established an inspection report for each type of POWTS. This report is kept on file for the entire life of the on-site system. This prescriptive code was in force until July 1, 2000.

In 1986, Door County enacted ordinance 21.15, which required the inspection of POWTS prior to the sale, transfer, or conveyance of property ownership. The purpose of this code was to identify failing private on-site waste water treatment systems, and to order them replaced within one year of the transfer date. A soil boring was required for all systems installed prior to November 1, 1974; systems installed after that date already had soil boring results on file at the county. The soil boring results were used to determine if there was a 3-foot separation between the bottom of the soil absorption system and a limiting factor of bedrock or seasonal high groundwater. The report was turned in to the Sanitarian fifteen days prior to the sale, transfer, or conveyance of property ownership. An on-site inspection was conducted by staff and a written letter sent to the property owner if it was passing or an order issued if the system met the statute criteria for a failing POWTS. This ordinance was an outstanding way of finding and replacing failing systems. The ordinance was in effect until July 14, 2015, when Act 55 became law, creating s. 706.22 of the state statutes, titled “Prohibition on imposing time-of-sale, purchase, or occupancy requirements.” This bill removed a valuable tool for the county to protect water quality and public health.

In 1987, the At-Grade POWTS became a type of system used on sloping sites. The system was at grade level and used 36 inches to 48 inches of “in situ” (natural) soil to treat the wastewater. This system did not require and sand fill like the mound did, and is used on sites today.

In 1989, the state soil tester program was updated, and the state agency charged with POWTS matters switched to the Department of Commerce. The percolation test was eliminated, and sizing of the dispersal cell was based on soil texture and loading rates established in the code for various soils. All soil testers were required to have advanced training in soil identification, and they had to pass a written and practical exam. Soil descriptions became more detailed, and a site plan with the soil boring locations was attached to the soil report for the property owner to take to a plumber or designer with the soil report to design the POWTS for a particular use.

In the year 2000, the state agency charged with POWTS oversight switched to the Department of Safety and Professional Services (DSPS). On July 1, 2000, the DSPS 383 Performance Code for Private On-Site Waste Disposal Systems became effective. This code allowed for mound systems with six inches of soil over a limiting factor, and also allowed the private sector to come up with alternative systems. For example, substitutes for stone in cells came into use. Also, aeration treatment units, which reduced the size of the dispersal cell, became approved state-wide.

From 2002 to 2015, the Sanitarian Department undertook a county-wide Sanitary Survey of the approximately 16,000 Private On-Site Waste Water Treatment Systems in Door County. The expenditures for the survey were added to the department's annual budget, with some of the funding going toward a small excavator, operated and supplied by a private sector business selected through an annual bidding process. One year, a donation was received from the Door Property Owners Association to speed up the sanitary survey. Over the course of the survey, every POWTS in the county, regardless of age, was inspected. If any of the components were failing, an order was issued to replace the component, such as a septic tank, dose chamber, or dispersal cell. An interesting finding of the sanitary survey was that the failure rate for the entire survey was at 30%. As for any failing system identified, one year was given property owners to replace POWTS found to be failing. Many of the failures were steel treatment tanks. It was also discovered that a steel tank manufacture from outside Door County was not constructing steel treatment tanks to code. This manufacture was using thin gauge steel not approved by the state regulators. This was discovered by submitting steel samples to the state authorities by Door County staff.

In 2010, DSPS required all counties to inventory all POWTS, and those with septic tank and soil absorption systems for treatment were required to be sent and comply with the three-year maintenance requirements if they weren't already doing so. In Door County, this essentially involved reviewing records for POWTS installed prior to 1978. This was completed by 2016.

In March of 2017, the Sanitarian Department merged with the Planning & Zoning and Real Property Listing Departments and the Land Information Officer from the Information Systems Department. The merger resulted in the Door County Land Use Services Department, with a Sanitarian division within.

In 2018, DSPS established a ruling that the EH 115 form with general soil descriptions, which had been used from November 1974 to November 1989, could no longer be used when replacing components for existing private on-site waste water treatment systems. A more detailed soil report is required, and a soil boring is required next to the soil absorption system to determine whether the dispersal area is sited per code.

In August of 2021, applications for sanitary permits, issuance of sanitary permits, and maintenance of private on-site systems went paperless. The applicants and service providers can now apply for permits and enter service events on City Squared. Property owners and others can now access much POWTs information via their computers, outside of departmental office hours, saving time and trips to the office.