

Facts & Information Related to Water Usage & POWTS

- **SPS 383 - PRIVATE ONSITE WASTEWATER TREATMENT SYSTEMS**

The purpose of SPS 383 is to establish uniform standards and criteria for the design, installation, inspection, and management of a private onsite wastewater treatment system, POWTS, so that the system is safe and will protect public health and the waters of the state.

Currently under SPS 383, the metric utilized for water consumption in a campground is **30 gpd per day per site**, when connected to a sewer. Using the assumption of 3 people per site, this would be **10 gpd per person**. Considering human behavior, it is difficult to believe that people will change their habits when there is an endless water supply available and gray/black water disappears into a bottomless abyss, just like the process that they experience in their homes.

- **Water Usage Statistics**

- ✓ Wisconsin uses an average of **56** gallons of water per day per person. (WI Water Library)
- ✓ The average Minnesota resident uses about **52** gallons per person per day. (DNR)
- ✓ The national per capita average is **90** gallons. (EPA)

- **Excerpt from North Carolina Public Health Document – they updated their metrics 4 years ago.**

Permitting and Design Guidance for Wastewater Treatment and Dispersal Systems for Recreational Vehicle Parks - REVISED

Design and Review Requirements

RV Parks shall include an approved wastewater system and each space that is individually connected to a water supply source shall also be directly connected to an approved system.

Design Parameters and Considerations

1. Traditional RVs: **120 gallons per day (gpd)/space** in an RV Park, with a **maximum of four (4) occupants/RV** [15A NCAC 18A .1949(b)]

2. Park Model RVs: **175 gpd/space** in an RV Park, with a **maximum 30gpd of four (4) occupants/RV**. Park Models may also include laundry machines.

(Source: <https://ehs.ncpublichealth.com/oswp/docs/design/RV-ParksGuidance-10202017.pdf>) October 20, 2017

- **Anatomy of a Private Onsite Wastewater Treatment System**

The successful biological treatment of wastewater relies on the ability of bacteria in the septic tank to digest the organic waste in the wastewater. These bacteria grow and die in the tank contentiously. However, bacteria don't grow instantaneously. You will always have a lag time between the decrease or increase in loading and how the bacteria respond to the changes. **In an ideal scenario, there will be a constant flow of wastewater and that will stabilize the death and growth rate of bacteria.**

However, this **constant flow of wastewater can only be possible in homes but not at the campground**. In a typical campground, attendance will be determined with seasonal patterns and the days of the weeks. For instance, weekends will attract more campers than weekdays and summers will attract more visitors than winter. For the most part, campground septic systems will experience two distinct loading patterns;

- Peak season – this is a time when the campground is full and the campground septic system is therefore in maximum utilization
- Off-peak season – a time when there is no usage.

Because of these fluctuations, the campground septic systems may not always run efficiently.