August 2018

Water System Service Capacity in Residential Equivalent Units (REUs)

Public water systems—especially small systems—mainly serve single-family residences. On average, each of these single-family residential customers uses a similar amount of water over a day. Customers from nonresidential (restaurants) and multifamily units (apartments and condominiums) can have significantly different demands.

When designing or evaluating a water system, we compare non-residential and multifamily water demands to the typical amount of water a single-family residential unit uses. We use the term "residential equivalent unit" (REU) as a basis for this comparison.

Single-family residential demand as the basis for an REU

Because single-family homes are the most common type of service, and most have relatively uniform water use patterns, it is a national standard to base "equivalent per unit" water and sewer demands on them. Demands for other types of service, such as multifamily, industrial, and commercial connections, often vary more widely.

Water use for a typical single-family residence is the same as one REU.

Using data for single-family residential demand during peak usage months (May – Sep) allows for a more statistically consistent and valid approach for determining the amount of water for a "typical" REU. The REU quantity for SI has been determined as the mean or average of all single-family residential demand during these months which is 6200 gallons.

After you establish a system's REU quantity, you can use it to determine the number of REUs for other types of service connections. The REUs would be equivalent to what would be used by typical single-family residences, if they were using the water. The result is an estimate of total system service capability expressed as the number of REUs the water system serves, or could serve.

With the exception of water systems serving only single-family residences, the number of service connections would not usually be the same as the number of REUs.