

SEWRPC Planning Report No. 52

A REGIONAL WATER SUPPLY PLAN FOR SOUTHEASTERN WISCONSIN

Appendix C

**GLOSSARY OF TERMS
AND LIST OF ABBREVIATIONS**

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GLOSSARY OF TERMS

Aquifer:	A geological sediment or rock capable of transmitting useable quantities of water under normal hydraulic gradients.
Average Day Demand:	The average quantity over a one year period of daily water usage in a municipal water system.
Average Day Pumpage:	The average quantity pumped over a one-year period of daily water usage in a municipal water system.
Community Water System	A public water system which serves at least 15 service connections used by year-round residents, or regularly serves at least 25 year-round residents. Any public water system serving seven or more homes, 10 or more mobile homes, 10 or more apartment units, or 10 or more condominium units is considered a community water system, unless information is available to indicate that 25 year-round residents will not be served.
Confining Unit, Confined Bed:	A body of relatively impermeable or distinctly less permeable material stratigraphically adjacent to one or more aquifers.
Diurnal Demand Curve:	A curve which describes changes in the quantities of water used by customers over a one day period.
Drawdown:	The difference between the pumping water level and static water level in a well. For an aquifer system, the difference between the natural condition water level and the water level as influenced by withdrawal of groundwater.
Elevated Storage:	A facility for storing water supplies that maintains a hydraulic grade in the system.
Equipotential Line	A contour line along which groundwater hydraulic head is the same. Groundwater flow will move perpendicular to these lines from high head to lower head.
Fire Flow Rate:	The maximum flow rate that can be supplied by a water distribution system at a specified location and residual pressure (usually expressed as gallons per minute).
Formation:	A geological sediment or rock unit having properties consistent enough to be mapped.
Groundwater Depletion:	The removal of water supplies, with equivalent replacement, from an aquifer.
Groundwater Recharge:	The entry of water into the saturated zone of an aquifer.
Hazen Williams Pipe Roughness Coefficient:	A coefficient which is used to determine the energy (pressure) loss due to friction that will occur as water under pressure flows through a pipe.

Hydraulic Conductivity (K):	A measure of how easily water moves through a geologic medium. The horizontal hydraulic conductivity (K_h) is a measure of how easily water can move in the horizontal direction and the vertical hydraulic conductivity (K_v) is a measure of how easily water can move in the vertical direction. Due to the stratified nature of geologic materials, the horizontal hydraulic conductivity is typically higher than the vertical hydraulic conductivity by one or more orders of magnitude.
Hydraulic Grade:	The piezometric surface, i.e. the height to which water will rise to in a piezometer.
Hydraulic Gradient:	Difference in hydraulic head or grade between two measuring points within a water system. In an aquifer, the rate of change of hydraulic head per unit of distance of flow at a given point and in a given direction.
Hydraulic Head:	Hydraulic grade expressed as feet or pressure above the base of the piezometer or a well. Head can vary both vertically and spatially in a groundwater system. Groundwater flows from high to low heads, so it is the driving force in groundwater systems.
Hydrology:	Study of the physical behavior of water from its occurrence as precipitation to its entry into streams, lakes, reservoirs, , and aquifers and its return to the ocean or atmosphere.
Maximum Day Demand:	The highest quantity of daily water usage in a municipal water system in a given year.
Maximum Day Ratio:	The ratio of maximum day pumpage to average pumpage, expressed as a multiplier.
Municipal Water System:	A community water system owned by a city, village, county, town, town sanitary district, utility district, public inland lake and rehabilitation district, municipal water district or a Federal, State, county or municipal-owned institution for congregate care or correction, or a privately owned water utility serving the foregoing.
Noncommunity Water System:	A public water system that serves fewer than 25 year-round residents. A noncommunity water system is either a nontransient, noncommunity water system or a transient, noncommunity water system.
Nontransient, Noncommunity Water System:	A noncommunity water system that regularly serves at least 25 of the same persons over six months per year. Examples of nontransient noncommunity water systems include those serving schools, day care centers and factories.
Other than Municipal, Community Water System:	A community water system that serves at least 25 year-round residents, or serves 15 service connections used by year-round residents (anything greater than six months is considered year-round), and is not a municipal water system. Examples of these include mobile home parks, subdivisions, apartments, and condominiums.
Peak Hour Demand:	The rate of water usage during the highest hour use generally on a maximum usage day.

Peak Hour Demand Ratio:	The ratio of peak hour pumpage to peak day pumpage, usually expressed as a multiplier.
Potentiometric Surface:	Level to which water in a confined aquifers rises in wells which breach the confining unit. A surface representing the total head of groundwater and defined by levels to which water will rise in tightly cased wells.
Public Water System:	A system providing piped water to the public for human consumption, if the system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year. A public water system is either a “community water system” or a “noncommunity water system.” A public water system includes: (a) Any collection, treatment, storage, and distribution facilities under control of the operator of the public water system and used primarily in connection with the public water system, and (b) Any collection or pretreatment storage facilities not under control of the operator of the public water system which are used primarily in connection with the public water system.
Pumpage:	The total volume of water pumped from a source or sources during a unit of time.
Pumping Water Level:	The water level in a well while it is being pumped can be expressed as feet below surface or as an elevation.
Residual Pressure:	Pressure at a specified location in the water distribution system when water is being removed or flowing.
Static Water Level:	The water level in a well when no water is being pumped from the aquifer can be expressed as feet below surface or as an elevation.
Total Dynamic Head:	The total energy that a pump must overcome to deliver a given flow rate including suction lift, discharge, and friction losses.
Transient Noncommunity System:	A noncommunity water system that serves at least 25 people at least 60 days of the year. Examples of transient noncommunity water systems include those serving restaurants, taverns, motels, churches, campgrounds and parks.
Transmissivity:	The rate at which water is transmitted through a unit width of an aquifer under a unit gradient. It can be expressed as gallons per day per foot (gpd/ft) or feet squared (feet ²)per day.
Urban Services Area:	The area which is expected to develop in the future and require municipal utility services.
Unaccounted-for Water:	The difference between the volume of water pumped into the distribution system and the volume of water sold or otherwise accounted-for. (Generally expressed as a percentage of total pumpage).
Water Demand:	The amount of water required by a water user or users at a specific point or area within a water distribution system.
Water Distribution Main:	A water pipe which primarily extends water to customer services and provide fire protection to an area of the water system.

Water Distribution System:	A group of water mains usually consisting of a network of piping, including transmission and distribution main which is designed to deliver water from water supplies to water users.
Water Supply System:	Facilities designed to collect, pump, and furnish a supply of water for meeting water demands.
Water Table	The highest elevation of fully saturated sediment or rock in a geological profile. The water table is the surface on which the fluid pressure in the pores of an aquifer is exactly atmospheric.
Water Transmission Main:	A large water pipe which is used to extend and convey water between a water system's supply/storage facilities and distribution mains. The definition of a water transmission main depends upon the function of the pipeline concerned within the system concerned. Thus, no minimum specific size can be associated with this term.
Wisconsin Unique Well Number	A unique five-digit alphanumeric code assigned to by the Wisconsin Department of Natural Resources to identify individual wells.

LIST OF ABBREVIATIONS

AWWA	American Water Works Association
WDNR	Wisconsin Department of Natural Resources
WDOA	Wisconsin Department of Administration
fps	Feet per Second
ft	Feet
gpcd	Gallons per Capita per Day
gpd	Gallons per Day
gpm	Gallons per Minute
gpm/ft	Gallons per Minute per Foot
HGL	Hydraulic Grade Line
Hp	Horsepower
in	Inches
ISO	Insurance Services Office
MG	Million Gallons
mg	Milligram
mg/l	Milligram per liter
mgd	Million Gallons per Day
mgY	Million Gallons per Year
MMSD	Milwaukee Metropolitan Sewerage District
mrem	Milirem (1/1,000 of a rem which is a standardized dosage of ionizing radiation)
NGVD	National Geodetic Vertical Datum
pCi/l	Picocuries per liter
PPZ	Primary Pressure Zone
PSC	Public Service Commission
psi	Pounds per Square Inch
rpm	Revolutions per Minute
SEWRPC	Southeastern Wisconsin Regional Planning Commission
TDH	Total Dynamic Head
USGS	U.S. Geological Survey
WGNHS	Wisconsin Geological and Natural History Survey