

2.0 SERVICE AREA DESCRIPTION

This section describes the City's water service area including its current and projected population, its climate, and other demographic factors affecting water management and planning. Chapters 3, 4 and 5 provide details on the potable and recycled water sources that supply the City.

2.1 Description of Service Area

The water service area under consideration is bounded by the City's Sphere of Influence as outlined in its 2000 General Plan. This Sphere of Influence includes six Specific Plan Areas. All but the Canon Manor Specific Plan Area are anticipated to annex to the City and utilize the City's water supply. The Canon Manor Specific Plan Area has contracted with the Penngrove Water Company for water supply and its demands are not considered demands on the City supply. In addition, the Sphere of Influence includes Sonoma State University which has its own water system and is not served by the City¹. Figure 2.1 illustrates the water service area including the Specific Plan Areas described in the General Plan.

2.2 Current and Projected Population

The 2000 General Plan sets land-use patterns and population goals. The City's 2005 population was estimated at 41,640². At build-out, the City anticipates a population of 50,400. Jobs in the City are expected to increase from 21,900 in 1999 to 27,300 at build-out.³

The City has an adopted Growth Management Ordinance that is intended to provide for orderly build-out of residential development over the General Plan planning horizon. In its simplest form, the Growth Management Ordinance has the effect of limiting the number of residential building permits issued to 225 per year. There are exceptions for affordable housing and infill development projects and there are provisions to carry over building permits (i.e., if 50 are issued in one year, 400 may be issued the following year, providing a 2-year average of 225 per year). The City's Growth Management Ordinance outlines implementation procedures for the Growth Management Program.

Table 2-1, below presents the population in 5-year increments from 2005 until 2030. The population projections in Table 2-1 reflect the rate of development allowed by the Growth Management Ordinance. Because, the City's General Plan horizon extends through 2020, population estimates for 2025 and 2030 reflect General Plan build-out.

¹ While the Canon Manor Area and Sonoma State University do not place direct demands on the City's water system, their demands are considered in the regional groundwater analysis. See Section 4.

² 2005 Urban Water Management Plan Sonoma County Water Agency, Table 3-2 (December 2006).

³ City of Rohnert Park General Plan, Table 2.3-3: General Plan Build-out: Population and Jobs, General Plan

Table 2-1 (DWR Table 2) Population – Current and Projected⁴

Year	Population
2005	41,640
2010	44,560
2015	47,480
2020	50,400
2025	50,400
2030	50,400

2.2.1 Climate

The City is located in the Russian River watershed. The climate and hydrology of the Russian River watershed directly affect the City because its wholesale supply from the Agency is drawn from the Russian River. The climate of the Russian River watershed is tempered by its proximity to the Pacific Ocean and is characterized by seasonal rainfall patterns. Approximately 93 percent of the total annual precipitation falls between October and May, with a large percentage of the rainfall typically occurring during three or four major winter storms.

There is no predictable snow in the Russian River watershed and a snow pack does not contribute to runoff in the watershed. The hydrology of the Russian River system is not influenced by snow packs or snowmelt; it is influenced by rainfall and runoff. Current climate change models are unsuitable for predicting climate impacts along non-snow pack watersheds in the coastal regions of California. These models do not predict any conclusive trends for watersheds, like the Russian River watershed, that are influenced by rainfall and runoff.⁵

Average annual precipitation is 29.6 inches with a range from 22-inches to 80-inches annually. Table 2-2 summarizes monthly average evapotranspiration rates (ET_o), rainfall, and temperatures.

⁴ Customer Water Demand Projections *City of Rohnert Park Summary of Data Inputs, Assumptions and Results* Table 3-1 (page 12 of 13).

⁵ Sonoma County Water Agency Agenda Item Transmittal Report, 12-12-06 Attachment A1, page A1-3, paragraph I.

Table 2-2 (DWR Table 3) Climate

	Standard average ETo ^a , inches	Average rainfall ^b , inches	Average temperature ^b , °F
January	0.82	6.44	47.23
February	1.44	5.26	51.27
March	2.87	3.89	53.56
April	4.31	1.83	56.56
May	5.26	0.69	61.48
June	6.14	0.25	67.07
July	6.30	0.03	70.10
August	5.76	0.11	69.80
September	4.25	0.31	68.06
October	3.10	1.58	62.23
November	1.38	4.03	53.14
December	0.86	5.20	47.33
Annual	42.49	29.63	58.95

Notes:

- a Data recorded from Santa Rosa station 83, CIMIS database (January 1990 – October 2005). ETo, or evapotranspiration, is the loss of water from evaporation and transpiration from plants.
- b 1952-2005 data recorded at Sonoma Station from NOAA website www.wrcc.dri.edu

2.2.2 Water Distribution Facilities

The City maintains its potable water retail distribution system. The Subregional System maintains a recycled water distribution system within the City limits, which is discussed in Section 5. A map of the existing water distribution system facilities, including tanks, wells, pumping stations and major potable and recycled water pipelines is presented on Figure 2.2.

2.2.3 Potable Water Distribution System

The City receives potable water from twelve turnouts on the Agency’s Petaluma Aqueduct and Russian River-Cotati Intertie and from 26 active water supply wells. Potable water, from the Agency turnouts and City wells, is delivered to customers through the potable distribution system.

The City maintains 4.5 million gallons of storage capacity consisting of one 1.3 million gallon reservoir, two 1 million gallon reservoirs, and four 0.3 million gallon reservoirs located throughout its service area. Table 2-3 summarizes the City’s storage capacity information.

Table 2-3 Rohnert Park Tank Information

Tank No.	Status	Location	Storage capacity, MG
1	Active	Well 4	0.3
2	Active	Well 9	0.3
3	Active		0.3
4	Active	Well 26	0.3
5	Active	Well 27	1.0
6	Active		1.3
7	Active	Well 24	1.0

The City uses seven booster pump stations to deliver water to two pressure zones.

The City's potable water distribution system is divided into two pressure zones: the primary pressure zone that includes most of the City and the Snyder pressure zone, which is supplied by its own Agency turnouts and isolated from the rest of the system by closed valves. The hydraulic grade line in the Snyder pressure zone is maintained higher than in the primary pressure zone. Most of the distribution mains are six to eight inches in diameter. A small number of pipes with diameters of ten and twelve inches are also used.

2.2.4 Recycled Water Distribution System

Recycled water is delivered to customers in the City from the Subregional System. The Subregional System operates a low-pressure and high-pressure distribution system within the City. There is currently no recycled water storage in the City.

2.2.4.1 Low Pressure Recycled Water Distribution System

Recycled water from the Subregional System's Laguna Water Reclamation Plant (Laguna WRP) is delivered through an 18-inch-diameter low-pressure distribution system that runs along Wilfred Avenue and Golf Course Drive and dead-ends at the Foxtail Golf Course near the northern City limits. This low-pressure system delivers approximately 500 acre feet per year (AFY) to 5 customers, each of which uses private pumping facilities to achieve irrigation pressure on site.

2.2.4.2 High Pressure Distribution System

The high-pressure distribution system begins at the Rohnert Park Pump Station, located at the intersection of Stony Point Road and Rohnert Park Expressway. The Rohnert Park Pump Station includes screen filters and chlorination facilities and pressurizes a 24-inch-diameter transmission main that extends along Copeland Creek to Snyder Lane and continues to Sonoma State University. The high-pressure system delivers 500 AFY to 27 customers.