



URBAN WATER MANAGEMENT PLAN



Adopted
November, 2005

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SECTION 1

INTRODUCTION

SECTION 1

INTRODUCTION

The California Water Code requires all urban water suppliers within the state to prepare urban water management plans and update them every five years. These plans satisfy the requirements of the Urban Water Management Planning Act of 1983 (Act) including amendments that have been made to the Act. Sections 10610 through 10656 of the Water Code detail the information that must be included in these plans, as well as who must file them. Appendix A contains the text of the Act. This document constitutes the District's first Urban Water Management Plan (UWMP).

Recent amendments to the Act now require that total projected water use be compared to water supply sources over the next 20 years in 5-year increments. The Act also requires the information be shown for a single dry water year and multiple dry water years. Additionally, the Act requires that all plans include a water recycling analysis that includes a description of the wastewater collection and treatment system within the agency's service area along with current and potential recycled water uses.

According to the Act, "The conservation and efficient use of urban water supplies are of statewide concern; however, the planning for that use and the implementation of those plans can best be accomplished at the local level." The Act requires that each urban water supplier, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually, shall prepare, update and adopt its urban water management plan at least once every five years or before December 31, in years ending in five and zero. Consequently, the District will be required to update this document in the year 2010, and then every five years thereafter.

The California Department of Water Resources (DWR) has prepared a checklist that lists items to be addressed in each water agency's plan, based on the Act. The checklist allows agencies to identify where in their plan they have addressed each item. The District has completed this checklist, cross-referencing the Act's sections and this document's page numbers. The completed checklist is included in Appendix B.

PUBLIC PARTICIPATION

In accordance with the Act, the District is required to make the plan available for public review and to hold a public hearing prior to adoption of the Urban Water Management Plan.

Law

10642. Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan. Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection and shall hold a public hearing thereon. Prior to the hearing, notice of the time and place of hearing shall be published within the jurisdiction of the public owned water supplier pursuant to Section 6066 of then Government Code. The urban water supplier shall provide notice of the time and place of the hearing to any city or county within which the supplier provides water supplies. A privately owned water supplier shall provide an equivalent notice within its service area. After the hearing, the plan shall be adopted as prepared or as modified after the hearing.

This public hearing was held at the District's regularly schedule Board Meeting on October 5, 2005. Notices of the meeting were published in the Sierra Sun on September 14, 2005. Letters were mailed directly to the following agencies advising them of the public hearing:

- Town of Truckee
- Nevada County
- Placer County
- Northstar Community Services District (NCSD)
- Placer County Water Agency (PCWA)
- Truckee Sanitation District
- Tahoe-Truckee Sanitation Agency

Prior to the meeting, draft copies of the UWMP were made available for public review at the District's office at 11570 Donner Pass Road, Truckee California.

INTERAGENCY COORDINATION

In accordance with the Act, the District is required to coordinate preparation of its UWMP with other local agencies:

Law

10620 (d) (2) Each urban water supplier shall coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.

The District has been working cooperatively with NCSD and PCWA to study the available water supplies in the Truckee and Martis Valley area. To date, one study that was jointly funded by all three agencies has been completed: *Ground Water Availability In The Martis Valley Ground Water Basin, Nevada And Placer Counties, California*. Prepared by Nimbus Engineers. Reno, Nevada. March 2001

ENVIRONMENTAL REVIEW

The preparation of an Urban Water Management Plan is specifically exempt from the California Environmental Quality Act (CEQA). Therefore, a CEQA review has not been performed in conjunction with the preparation of this document. However, the exemption only applies to preparation of the UWMP and the District will have to conduct environmental reviews in order to physically construct any of the projects described in this UWMP.

Law

10652. The California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) does not apply to the preparation and adoption of plans pursuant to this part or to the implementation of actions taken pursuant to Section 10632. Nothing in this part shall be interpreted as exempting from the California Environmental Quality Act any project that would significantly affect water supplies for fish and wildlife, or any project for implementation of the plan, other than projects implementing Section 10632, or any project for expanded or additional water supplies.

PLAN ADOPTION

The District's Board of Directors adopted the 2005 Urban Water Management Plan on November 2, 2005. A copy of the adopting resolution is included in Appendix C.

DEFINITIONS

There are four related terms that are used throughout this document. In order to properly understand the issues facing the District into the future, it is necessary that these terms be defined:

- **Water Consumption** - The amount of water used by customers and billed as sales. In the District's case, this is the amount that would be billed as sales if all uses were metered.
- **Water Demand** - The amount of water used within a water distribution system. Water demand is comprised of two components: water consumed (billed as sales) and unaccounted-for water.
- **Water Production** - The amount of water introduced into the water system. System-wide water demand should equal the total water production. Discussions of water production capacity involve facilities such as wells and treatment plants used to introduce water into the distribution system to meet demand.
- **Water Supply** - The total amount of water available to be used on an annual basis, provided that sufficient water production capacity exists.

SECTION 2

SERVICE AREA

SECTION 2 SERVICE AREA

Law

10630. It is the intention of the Legislature, in enacting this part, to permit levels of water management planning commensurate with the number of customers served and the volume of water supplied.
10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:
10631. (a) Describe the service area of the supplier, including current and projected population, climate, and other demographic factors affecting the supplier's water management planning. The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available.

The Truckee Donner Public Utility District (District) provides water service to portions of the town of Truckee, California, along with adjacent unincorporated areas of Nevada and Placer Counties. The District currently operates two water systems in the Truckee area: the Hirschdale System and the Truckee System. A third water system (the Lahontan Water System) is owned by the Placer County Water Agency (PCWA) and operated by the District under contract to PCWA.

During the Summer of 2002, a pipeline was constructed to interconnect the Glenshire and Truckee systems. In addition, the District's *2004 Water System Master Plan* outlines projects that will combine the Donner Lake and Hirschdale systems with the Truckee system into a single entity. These improvements should be completed by the end of 2005. Therefore, this UWMP addresses the combined service area of all the District's water systems.

The general location of the District is given in **Figure 2-1** and the boundaries of the District's water system service areas are shown in **Figure 2-2**.

DISTRICT HISTORY AND BACKGROUND

Public water service in the Truckee area began in 1880, when the Schaeffer Lumber Company developed the Tonini Spring to serve what is now downtown Truckee. In 1883, the McGlashen infiltration gallery was constructed, along with a transmission system to convey water to the downtown area. In 1885, the adjacent McGlashen Spring was developed.

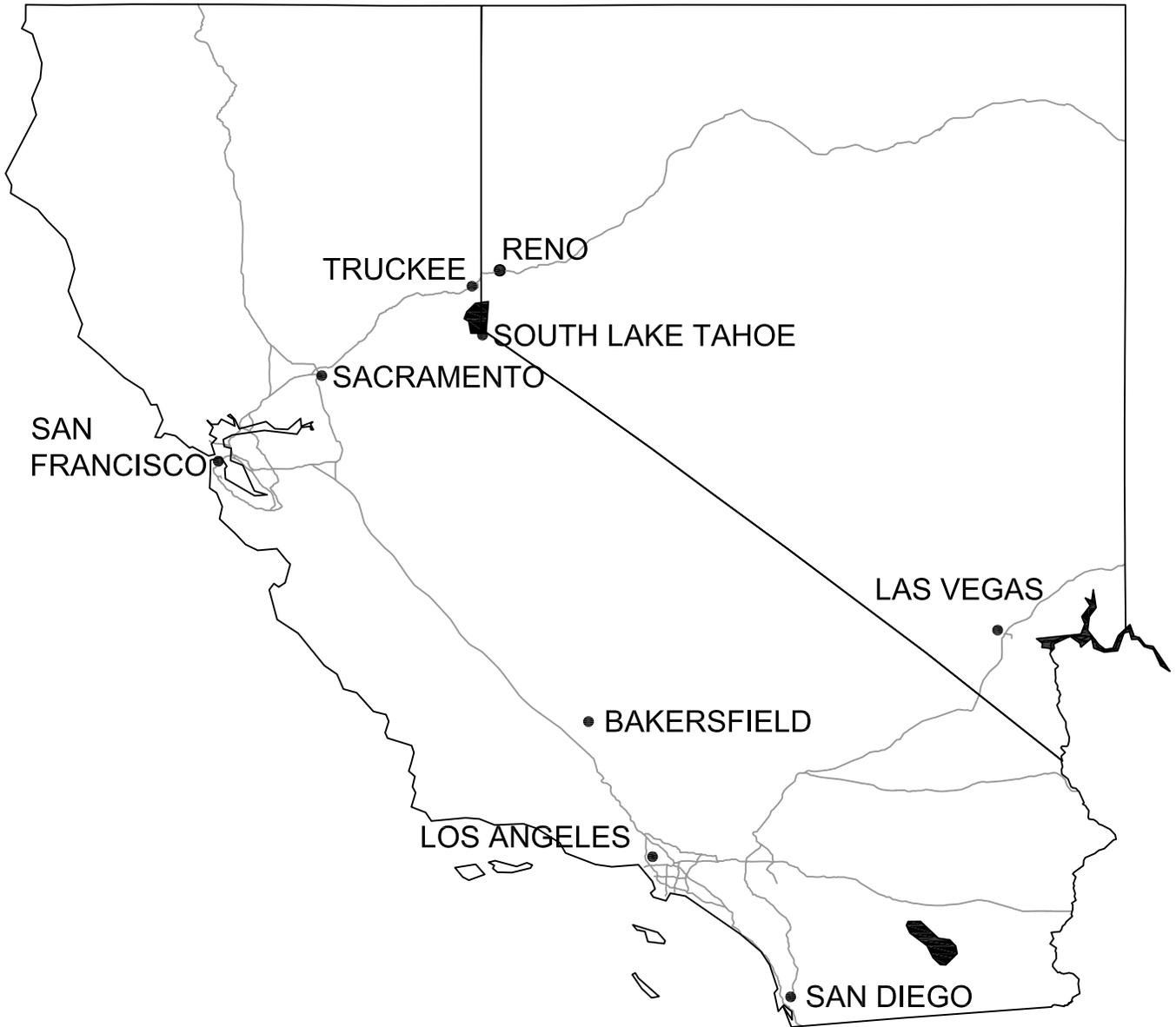
In 1927, the Truckee Donner Public Utility District was formed to provide electrical service to the Truckee area. In 1935, the District began providing water service with the purchase of the McGlashen water system. In 1943, the Southside Spring was acquired by the District and in 1953, the Tonini Spring water system was obtained by the District.

Originally, the District's water system provided service to only the downtown area. The system was expanded to serve the Gateway and Meadow Park areas in the late 1940s. Significant expansion of the District's service area occurred in the 1960s as new residential subdivisions were constructed in the area.

Service was extended to the Olympic Heights area in the early 1960s, and the Sierra Meadows area in the mid-1960s. The Tahoe-Donner, Prosser Lakeview and Ponderosa Palisades areas were developed in the late 1960s, and the Armstrong area in the late 1970s.

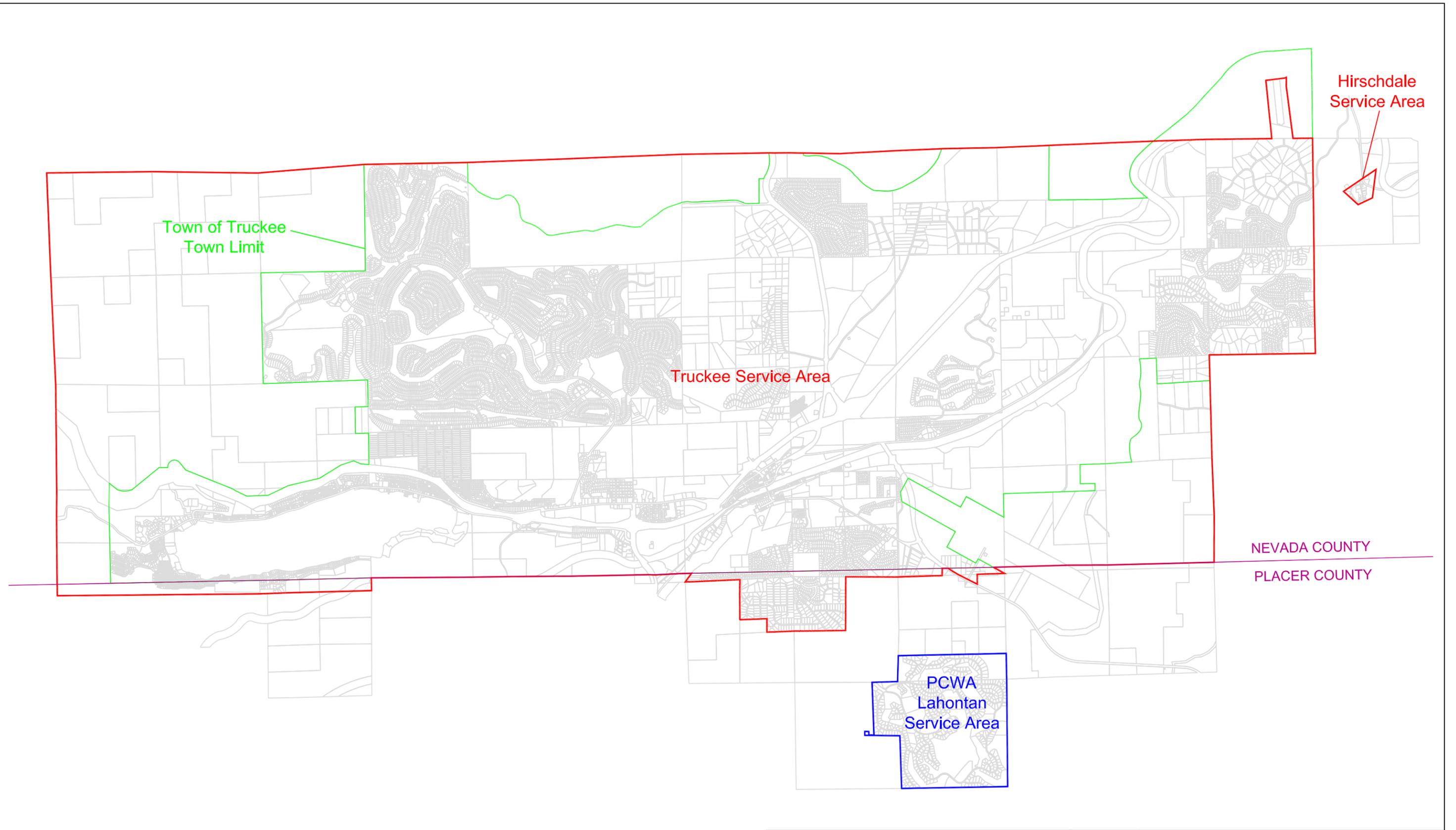
CALIFORNIA

NEVADA



TRUCKEE DONNER
Public Utility District

Figure 2-1
Location Map



In 1998, the Lahontan Water System was constructed and dedicated to the Placer County Water Agency (PCWA). This system is located in the Martis Valley about three miles from downtown Truckee. All of PCWA's other facilities are located in the Sierra foothills in the vicinity of Auburn. In order to minimize operating expenses, PCWA contracted with the District to operate the Lahontan system.

Prior to 2001, there were two other water purveyors in the Truckee area. The District has taken possession of both water systems since that time. In the Summer of 2001, the District took possession of the Donner Lake Water System. In February of 2002, the District took possession of the Glenshire Mutual Water Company's system. **Figure 2-2** shows the District's current water service area, along with PCWA's Lahontan service area is shown in **Figure 2-2**.

CLIMATE

The service area of the Truckee System is located in the eastern Sierra Nevada mountains at the east end of Donner Pass. Water system service elevations range of from 5800 to over 7300 feet. The area receives substantial amounts of precipitation during the winter as both rain and snow. Average high temperatures range from the low 80s in Summer to the low 40s in Winter. Average low temperatures range from the low 40s in Summer to the mid teens in Winter.

CURRENT AND PROJECTED POPULATION

The Town of Truckee and surrounding areas have been experiencing slow to moderate growth over the past 50 years. Population within the town has increased from 2,528 in 1970 to a current population of about 15,100. **Table 2-1** shows this historic population data.

The Town of Truckee's current General Plan was adopted in 1996. That document projected population growth in the area to occur at a rate of about two percent per year. However, the population projections given in the General Plan are below the actual growth experienced in Truckee. The General Plan projected 14,417 residents in the year 2005, and the actual population reached this total in 2001. The General Plan projected an anticipated 2015 population of 17,253. If current population growth rates continue, this value will be reached in 2008.

The Town of Truckee is currently preparing a General Plan Update that will be published in Draft form during 2005. That document projects population growth of 2.0 percent into the future with a buildout population of about 23,300 permanent residents. Based upon the projected growth rate in the *2005 Draft General Plan Update*, historic and projected population totals are given in **Figure 2-3**.

The economy of Truckee and the surrounding area relies upon tourism as the main industry. There are a significant number of residential units that are not occupied on a full-time basis with estimates ranging as high as 75 to 80 percent for certain portions of the service area. However, the District is not aware of any studies that have confirmed these estimates. This part time occupancy is reflected in the *2005 Draft General Plan Update*, showing a total of 18,256 dwelling units at buildout with a corresponding population of only 23,300 for a density of 1.28 persons per dwelling unit.

Table 2-1. Historic Population Data

Year	Truckee Area Population	Data Source
1970	2,528	1995 Water System Master Plan
1971	2,750	1995 Water System Master Plan
1972	2,966	1995 Water System Master Plan
1973	3,137	1995 Water System Master Plan
1974	3,375	1995 Water System Master Plan
1975	3,568	1995 Water System Master Plan
1976	3,711	1995 Water System Master Plan
1977	3,942	1995 Water System Master Plan
1978	4,239	1995 Water System Master Plan
1979	4,978	1995 Water System Master Plan
1980	5,539	1995 Water System Master Plan
1981	6,371	1995 Water System Master Plan
1982	6,844	1995 Water System Master Plan
1983	7,136	1995 Water System Master Plan
1984	7,254	1995 Water System Master Plan
1985	7,631	1995 Water System Master Plan
1986	7,800	1995 Water System Master Plan
1987	7,950	1995 Water System Master Plan
1988	8,240	1995 Water System Master Plan
1989	8,471	1995 Water System Master Plan
1990	8,912	Town of Truckee General Plan, 1996
1991	9,482	1995 Water System Master Plan
1992	9,975	1995 Water System Master Plan
1993	10,250	1995 Water System Master Plan
1994	11,150	California Department of Finance ^a
1995	11,800	California Department of Finance ^a
1996	12,050	California Department of Finance ^a
1997	12,600	California Department of Finance ^a
1998	13,000	California Department of Finance ^a
1999	13,300	California Department of Finance ^a
2000	13,864	US Census Bureau, Census 2000
2001	14,200	California Department of Finance ^b
2002	14,750	California Department of Finance ^c
2003	15,000	California Department of Finance ^d
2004	15,100	Town of Truckee Draft General Plan Update, 2005

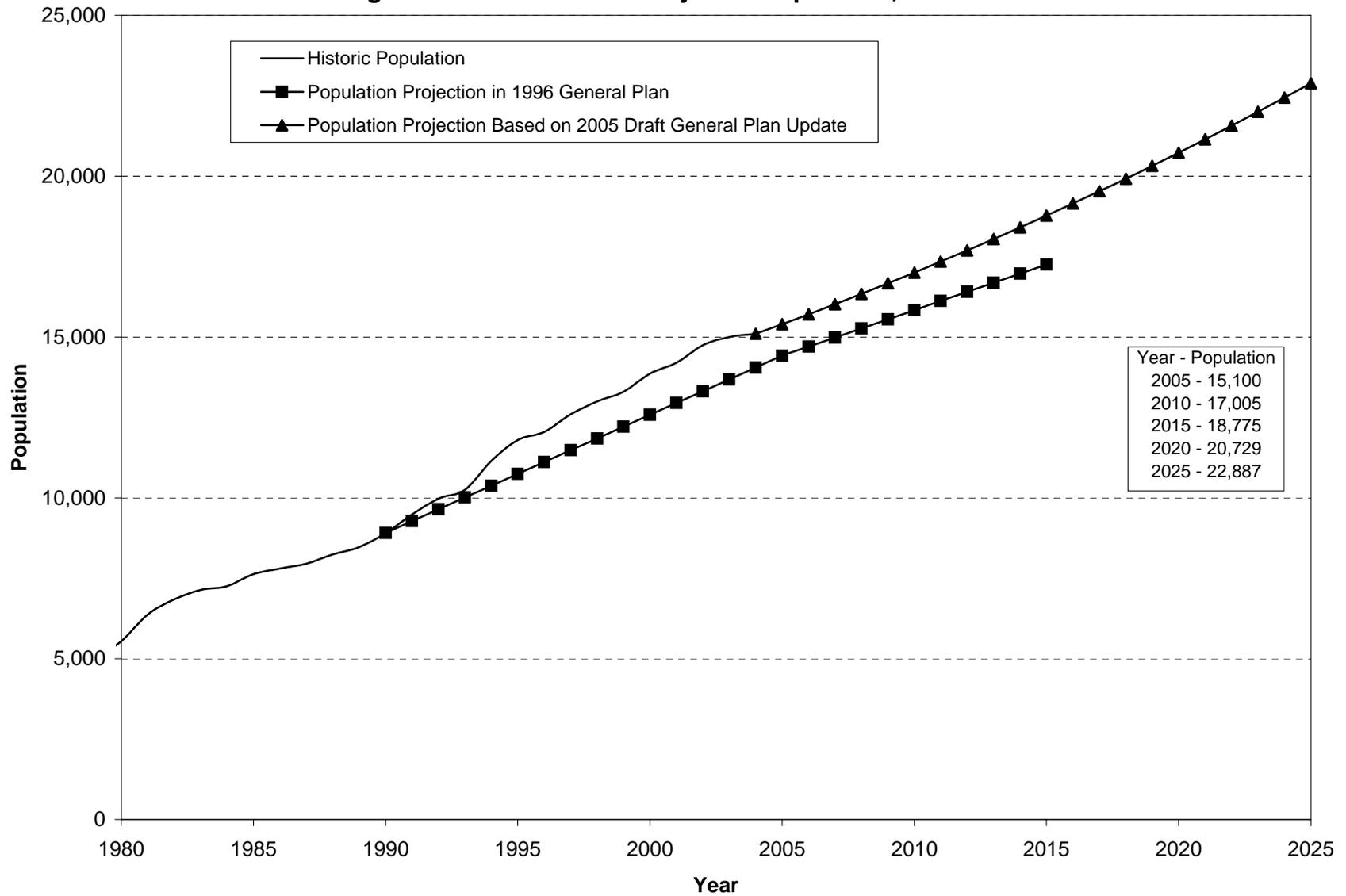
^a State of California, Department of Finance, *Revised Historical City, County and State Population Estimates, 1991-2000, with 1990 and 2000 Census Counts*. Sacramento, California. March 2002.

^b State of California, Department of Finance, *E-1 City/County Population Estimates, with Annual Percent Change, January 1, 2001 and 2002*. Sacramento, California. May 2002.

^c State of California, Department of Finance, *E-1 City/County Population Estimates, with Annual Percent Change, January 1, 2002 and 2003*. Sacramento, California. May 2003.

^d State of California, Department of Finance, *E-1 City/County Population Estimates, with Annual Percent Change, January 1, 2003 and 2004*. Sacramento, California. May 2004.

Figure 2-3. Historic and Projected Population, 1980-2025



SECTION 3

EXISTING WATER FACILITIES

SECTION 3 EXISTING WATER FACILITIES

The District's water system is reasonably complicated with 48 pressure zones, 28 pumping stations, 12 active wells and 36 storage tanks. All demands in the Truckee, Glenshire and Hirschdale areas of the system are currently served by groundwater wells, although natural springs have been used in the Truckee area as a water supply in the past. Demands in the Donner Lake area are currently supplied by surface water.

PRESSURE ZONES

There are currently 48 pressure zones in the service area, with service elevations ranging from 5535 feet in Hirschdale to 7370 feet at the highest point in Tahoe Donner. Static service pressures ranges from a high of about 200 psi to a low of about 20 psi. Approximate minimum and maximum ground elevations and static service pressures in the pressure zones are given in **Table 3-1**.

GROUNDWATER WELLS

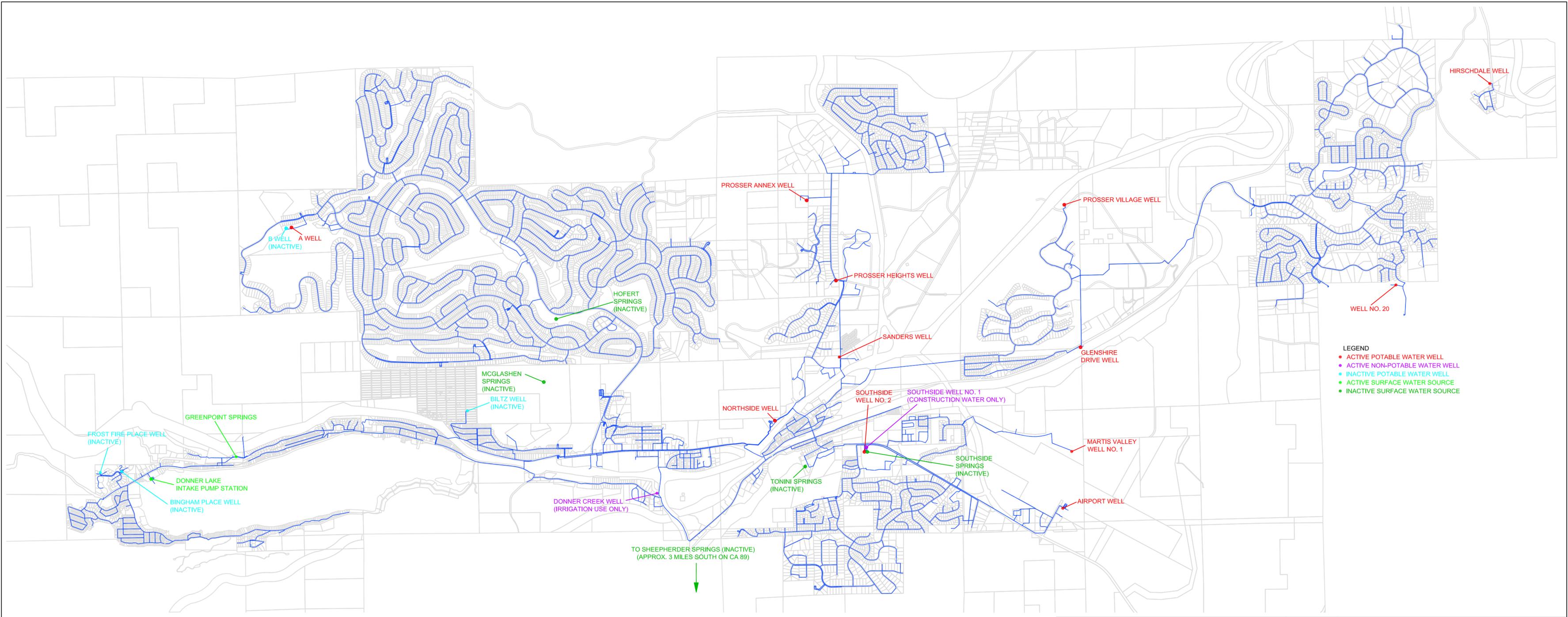
The District currently has twelve active wells that are used to supply potable water to customers. The total production capacity of the active potable water wells is about 9,555 gpm (13.8 mgd). The wells are located at various locations throughout the distribution system. The locations of the wells are shown in **Figure 3-1** and selected well characteristics are shown in **Table 3-2**.

Two additional wells are used to serve non-potable water demands. The Donner Creek Well is connected to a separate piping system that is used to provide irrigation water to the Coyote Moon Golf Course. The Southside No. 1 well is used to supply construction water for contractor use during the Summer construction season.

There are four other wells that are not currently used by the District. They are the B Well, Biltz, Bingham Place and Frost Fire Place wells. All four of these wells are low in capacity and the District does not intend to use these wells in the future. However, they have not been abandoned in accordance with California State requirements and are therefore considered inactive.

Table 3-1. Summary of Pressure Zone Data

Pressure Zone	Target HGL, feet	Lowest Service Elevation, feet	Highest Static Service Pressure, psi	Highest Service Elevation, feet	Lowest Static Service Pressure, psi
6040	6040	5838	87	5927	49
6170	6170	5880	125	6050	52
Alder Creek	6610	6300	134	6440	74
Armstrong	6334	5959	162	6200	58
Bennett Flat	6352	6196	68	6225	55
Berkshire	5985	5823	70	5885	43
DL-6124	6124	5940	80	6050	32
DL-North	6229	5940	125	6155	32
DL-Northeast	6085	5940	63	5975	48
DL-Red Mountain	6200	6100	43	6110	39
DL-Upper	6400	6115	123	6125	119
DL-Wolfe	6220	6035	80	6140	35
Donner Trails	6160	5932	99	6005	67
Donner View	6894	6612	122	6806	38
Donner View Hydro	6990	6820	74	6890	43
Gateway	6040	5825	93	5990	22
Glacier	7500	7210	126	7370	56
Glenshire 1	6341	5880	200	6203	60
Glenshire 2	6163	5823	147	6038	54
Heidi Way	6815	6595	95	6645	74
Heights Hydro	6415	6183	100	6325	40
Hillside	6660	6357	131	6526	58
Hirschdale	5626	5495	58	5535	39
Icknield	6058	5840	94	5850	90
Innsbruck	6493	6157	145	6455	16
Lower Lakeview	6130	5820	134	6040	40
Lower Ski Run	7088	6850	103	6954	58
Lower Skislope	7015	6752	114	6830	80
Martiswoods	6360	6210	65	6255	45
Middle Skislope	7172	6800	161	7010	70
Olympic Heights	5985	5745	104	5890	41
Palisades Hydro	6390	6180	91	6220	74
Pinnacle	6843	6588	110	6756	38
Pinnacle Hydro	6950	6752	86	6820	56
Ponderosa Palisades	6298	6025	118	6220	34
Prosser Heights	6338	6000	146	6180	68
Roundhill Hydro	6790	6618	74	6660	56
Sierra Meadows	6146	5880	115	6030	50
Sitzmark Hydro	6580	6435	63	6440	61
Soma Sierra	6286	6000	124	6200	37
Stockholm	6708	6395	135	6641	29
Town	6024	5745	121	5950	32
Trout Creek 6550	6550	6375	76	6420	56
Upper Lakeview	6230	5975	110	6100	56
Upper Ski Run	7193	6954	103	7140	23
Upper Skislope	7366	7010	154	7274	40
Waterloo	6071	5825	106	5876	84
West Palisades Hydro	6250	6100	65	6210	17



- LEGEND**
- ACTIVE POTABLE WATER WELL
 - ACTIVE NON-POTABLE WATER WELL
 - INACTIVE POTABLE WATER WELL
 - ACTIVE SURFACE WATER SOURCE
 - INACTIVE SURFACE WATER SOURCE

Table 3-2. Summary of Data for Potable Wells

Name	Pump Size, hp	Current Capacity, gpm ¹
A Well	20	150
Airport	250	2,000
Glenshire Drive	100	1,800
Hirschdale	35	35
Martis Valley Well No. 1	350	1,725
Northside	100	810
Prosser Annex	125	400
Prosser Heights	30	350
Prosser Village	250	1,200
Sanders	75	300
Southside No. 2	40	225
Well No. 20	150	560
Total		9,555

Notes: 1. Current capacity given is based on most recent data

DONNER LAKE INTAKE AND GREENPOINT SPRINGS

At the time of its acquisition by the District in May 2001, the DLWS was served by three small groundwater wells, the Donner Lake Intake Pump Station and Greenpoint Springs. Since that time, the three wells have been placed into inactive status and the Intake Pump Station has been upgraded from about 300 gpm to 1,400 gpm in capacity. The Greenpoint Springs continue to supply between 100 and 300 gpm to the system. Neither of these facilities is filtered in accordance with the Surface Water Treatment Rule (SWTR). It should be noted that neither source was filtered when the District acquired the DLWS and the system has been subject to a Department of Health Services Compliance Order mandating treatment in accordance with the SWTR since June 29, 1993. **Figure 3-1** shows the locations of these surface water sources.

Due to the configuration of the water system, surface water drawn from Donner Lake and Greenpoint Springs cannot be utilized outside the Donner Lake area. The system is capable of feeding about 50-70 gpm from the Gateway area into the Donner Lake area through a 2-inch pipeline underneath Interstate 80.

In December 2004, the Richards Boulevard Pump Station was placed into service. The purpose of this pump station is to pump water from the Gateway area into the Donner Lake area. There is a segment of 14-inch steel pipeline located just west of the Richards Boulevard Pump Station that was installed in 1973. This pipeline is unable to withstand the higher system pressures created by the Richards Boulevard Pump Station and will be replaced in May 2005. Once this pipeline is replaced, the Richards Boulevard Pump Station will be used to supply water to the Donner Lake area. At that time, the Intake Pump Station and Greenpoint Springs will be removed from potable water service permanently.

OTHER WATER SUPPLY SOURCES

In the past, the District has used natural springs as water supply sources. There are three springs – McGlashen, Southside and Tonini – at which the District has facilities. These springs are not currently used due to their low capacity and the need to treat the water supply in accordance with the SWTR. In addition, the District owns water rights to the Sheepherder Springs and Hofert Springs, although no facilities exist to utilize these supplies. **Figure 3-1** shows the locations of these springs.

PUMPING STATIONS

The Truckee System currently has 28 pumping stations located throughout the distribution system. These pumping stations move water from lower pressure zones to higher pressure zones to serve demands in higher elevations of the service area.

The different pumping stations have a variety of configurations, with some facilities taking suction directly from distribution system pipelines, while others are located at reservoir sites and use the reservoir as a forebay. Similarly, there is a variety of vertical turbine, end suction and horizontal split case pumps. All of the pumps are driven by electric motors.

The locations of the pumping stations are shown in **Figure 3-2**, and selected pump characteristics are shown in **Table 3-3**.

STORAGE TANKS

The Truckee System has 39 storage tanks – 36 active and 3 inactive. Most of the tanks provide gravity pressure to a portion of the distribution system. Some also function as a forebay for a pumping station. The total storage capacity of the active water tanks is about 9.4 mg. Storage tank locations are shown in **Figure 3-3** and their characteristics are given in **Table 3-4**.

CONTROL VALVE STATIONS

There are 38 pressure regulating stations located throughout the Truckee System – 29 active and 9 inactive. These stations provide service to small pressure zones, allow a means to relieve pressure in zones not directly served by a reservoir and provide additional water for fire flow demands. The locations of the stations are shown on **Figure 3-3** and selected data on the stations is given in **Table 3-5**.

PIPELINES

The existing distribution system consists of about 195 miles of pipeline ranging from 2-inches to 24-inches in diameter. The majority of the pipelines are between 4-inches and 8-inches in diameter. The oldest piping in the system dates to the 1940s, with the great majority of the system having been installed since 1960. There are a number of different pipeline materials throughout the system. The majority of the distribution pipelines are steel, with large portions of ductile iron pipe as well.

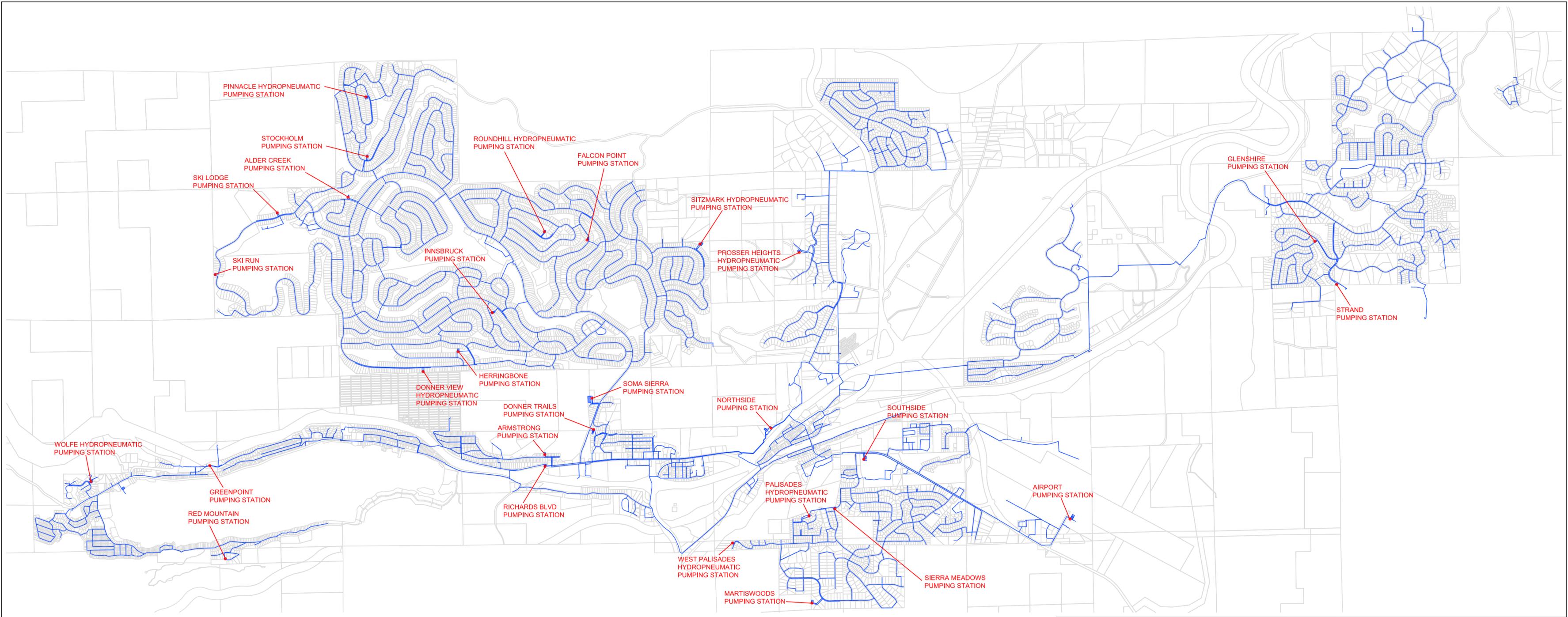


Table 3-3. Summary of Pumping Station Data

Name	Suction Pressure Zone	Discharge Pressure Zone	Number of Pumps	Total Power, hp
Airport	---	Town	5	495
Alder Creek	Stockholm	Donner View	2	60
Armstrong	Gateway	Armstrong	2	40
Donner Trails	Gateway	Soma Sierra	4	600
Donner View Hydro	Donner View	Donner View Hydro	2	30
Falcon Point	Innsbruck	Stockholm	3	225
Glenshire	Glenshire 2	Glenshire 1	2	30
Greenpoint	6124	Upper	3	60
Herringbone	Stockholm	Donner View	3	120
Innsbruck	Innsbruck	Stockholm	4	200
Martiswoods	Palisades	Martiswoods	2	15
Northside	Town	Gateway	3	180
Pinnacle Hydro	Pinnacle	Pinnacle Hydro	2	27.5
Palisades Hydro	Palisades	Palisades Hydro	2	37.5
Prosser Heights Hydro	Prosser Heights	Prosser Heights Hydro	2	70
Red Mountain	6124	Red Mountain	1	2
Richards Boulevard	Gateway	Armstrong	3	300
Roundhill Hydro	Stockholm	Roundhill Hydro	2	30
Sierra Meadows	Sierra Meadows	Palisades	2	80
Sitzmark Hydro	Innsbruck	Sitzmark Hydro	2	30
Ski Lodge	Donner View	Upper Ski Run	2	35
Ski Run	Upper Ski Run	Upper Glacier	2	30
Soma Sierra	Soma Sierra	Innsbruck	4	600
Southside	Town	Sierra Meadows	4	75
Stockholm	Stockholm	Pinnacle	2	40
Strand	Glenshire 2	Glenshire 1	3	120
West Palisades Hydro	Palisades	West Palisades Hydro	1	3
Wolfe Hydro	6124	Wolfe	2	45

Table 3-4. Summary of Storage Tank Data

Storage Tank	Volume, mg	Diameter, feet	Floor Elevation	Shell Height, feet	Overflow Elevation	Year Built
Airport	0.60	70	5886	20	5906	1979
Armstrong	0.10	27	6310	24	6334	1979
Biltz	0.085	25	6350	24	6374	1985
Bridge Street 6170	1.50	90	6139	32	6171	2002
Donner Trails 1	0.15	36	6022	20	6042	1973
Donner Trails 2	0.15	36	6022	20	6042	1990
Donner View	0.35	40	6861	32	6893	1973
Falcon Point	0.20	39	6469	24	6493	1974
Featherstone 5988	0.36	44	5956	32	5988	2002
Gateway	0.45	60	6021	24	6045	1995
Glacier	0.15	36	7476	24	7500	1972
Greenpoint 1	0.03	17	6106	18	6124	1955
Greenpoint 2	0.03	17	6106	18	6124	1955
Herringbone	0.30	40	6676	32	6708	1973
Hirschdale	0.10	33.5	5611	16	5627	1988
Innsbruck	0.20	39	6469	24	6493	1972
Lower Glenshire 1	0.42	55	6139	24	6163	1993
Lower Glenshire 2	0.32	48	6139	24	6163	1972
Martiswoods	0.20	40	6276	22	6298	1982
Martiswoods Tower	0.10	20	6338	22	6360	1982
Northside	0.40	55	6003	24	6027	1974
Pinnacle	0.18	31.5	6811	32	6843	1973
Ponderosa Palisades	0.20	40	6276	22	6298	1972
Prosser Annex	0.215	40	6314	24	6338	1994
Prosser Heights	0.215	40	6314	24	6338	1963
Prosser Lakeview	0.25	40	6102	28	6130	1971
Red Mountain	0.21	39	6100	24	6124	1963
Roundhill	0.30	40	6676	32	6708	1974
Sierra Meadows	0.25	34	6110	36	6146	1971
Sitzmark	0.20	39	6469	24	6493	1973
Ski Lodge	0.35	50	6870	24	6894	1971
Ski Run	0.10	26	7163	30	7193	1972
Soma Sierra	0.20	40	6262	24	6286	1972
Stockholm	0.32	42	6676	32	6708	1972
Upper Donner Lake 1	0.05	20	6478	22	6500	1960
Upper Donner Lake 2	0.05	20	6478	22	6500	1960
Upper Glenshire 1	0.28	45	6315	24	6339	1991
Upper Glenshire 2	0.21	39	6315	24	6339	1989
Wolfe	0.23	42	6100	24	6124	1993
Total	10.0					

Table 3-5. Summary of Control Valve Station Data

Name	Upstream Pressure Zone	Downstream Pressure Zone	Notes
13330 Skislope	Lower Glacier	Donner View	
13770 Skislope	Middle Glacier	Lower Glacier	
14526 Skislope	Upper Glacier	Middle Glacier	
16133 Skislope	Upper Ski Run	Lower Ski Run	
Alder Creek	Stockholm	Alder Creek	
Alder Drive	Prosser Heights	6170	Inactive
Biltz	Biltz Tank	Armstrong	Inactive
Berkshire	Glenshire 2	Berkshire	
Donner Trails	Soma Sierra	Donner Trail	
Donnington	Glenshire 1	Glenshire 2	
Donner Park	DL-North	Coldstream 6080	Inactive
East Hillside	Stockholm	Hillside	
East Northside	6170	Town	Inactive
Greenpoint	DL-Upper	DL-North	Inactive
Glenshire Drive	Glenshire 2	Olympic Heights	
Icknield	Glenshire 1	Icknield	
Heidi Way	Stockholm	Innsbruck	
Laurelwood	Upper Lakeview	Lower Lakeview	Inactive
Manchester	Glenshire 2	Glenshire 2	
Martis Valley Road	Ponderosa Palisades	Sierra Meadows	
Moraine Road	Armstrong	Northeast	
North Bennett Flat	Innsbruck	Bennett Flat	
Old Greenwood No. 1	Glenshire 2	6040	
Old Greenwood No. 2	Glenshire 2	6040	
Old Greenwood No. 3	Glenshire 2	6040	
Old Greenwood No. 4	Glenshire 2	6040	
Pioneer Drive	Upper Tank	Northeast	
Prosser	Prosser Heights	Upper Lakeview	Inactive
Rainbow	Upper Lakeview	Lower Lakeview	
Snowshoe	Upper Lakeview	Lower Lakeview	
South Bennett Flat	Innsbruck	Bennett Flat	
Summit Drive	DL-North	DL-Northeast	
Trout Creek 6550	Stockholm	Trout Creek 6550	
Waterloo	Glenshire 2	Waterloo	
Wellington	Glenshire 2	Waterloo	
West Hillside	Stockholm	Hillside	
West Northside	6170	Gateway	Inactive
West Reed	DL-North	DL-6124	Inactive

SECTION 4

WATER DEMANDS

SECTION 4 WATER DEMANDS

Law

10630. It is the intention of the Legislature, in enacting this part, to permit levels of water management planning commensurate with the number of customers served and the volume of water supplied.
10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:
- 10631.(e) (1) Quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, identifying the uses among water use sectors including, but not necessarily limited to, all of the following uses:
- (A) Single-family residential; (B) Multifamily; (C) Commercial; (D) Industrial; (E) Institutional and governmental; (F) Landscape; (G) Sales to other agencies; (H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof; and (I) Agricultural.
- (2) The water use projections shall be in the same 5-year increments to 20 years or as far as data is available.

TRUCKEE SYSTEM WATER PRODUCTION

Current water production averages 6.64 million gallons per day (mgd) with a peak of 12.61 mgd that occurred on July 18, 2004. **Figure 4-1** shows the historical trend of water demand for the Truckee System. **Table 4-1** gives this information in tabular form. There was a large increase in demand that occurred in 2002, a result of the District's acquisition of the Donner Lake and Glenshire Water Systems.

Table 4-2 gives a breakdown of sales by customer class for the period of 1995-2004. The District has only two customer classifications - residential and commercial. All single-family residential customers are charged a flat rate for monthly service. Individual meters are not read for single-family residential accounts. In contrast, most of the commercial accounts are billed monthly based on actual meter readings. The total residential consumption was determined by subtracting metered commercial sales from total production. Multi-family residential accounts such as duplexes, four-plexes and apartments are billed monthly based on actual meter readings and are considered as commercial accounts for this analysis.

In actuality, total residential usage is less than the value given in **Table 4-2**. Typically, a percentage of water introduced into the system from supply sources is not recovered through sales. This water not recovered through sales is designated as "unaccounted-for water." The likely reasons for discrepancies between production and sales are meter recording errors from uncalibrated or worn meters, system leakage, and water uses such as fire fighting usage, construction water, illegal connections to the water system and water used by the District for maintenance purposes such as main flushing. Industry literature has cited unaccounted-for water percentages as high as 36 percent in older systems with high leakage rates and rates below 10 percent are typical water agency goals. Due to the fact that residential connections are not metered, data is not available to determine the volume of unaccounted-for water.

Figure 4-1. Historic Average Day, Minimum Day and Maximum Day Demands, 1965 - 2004

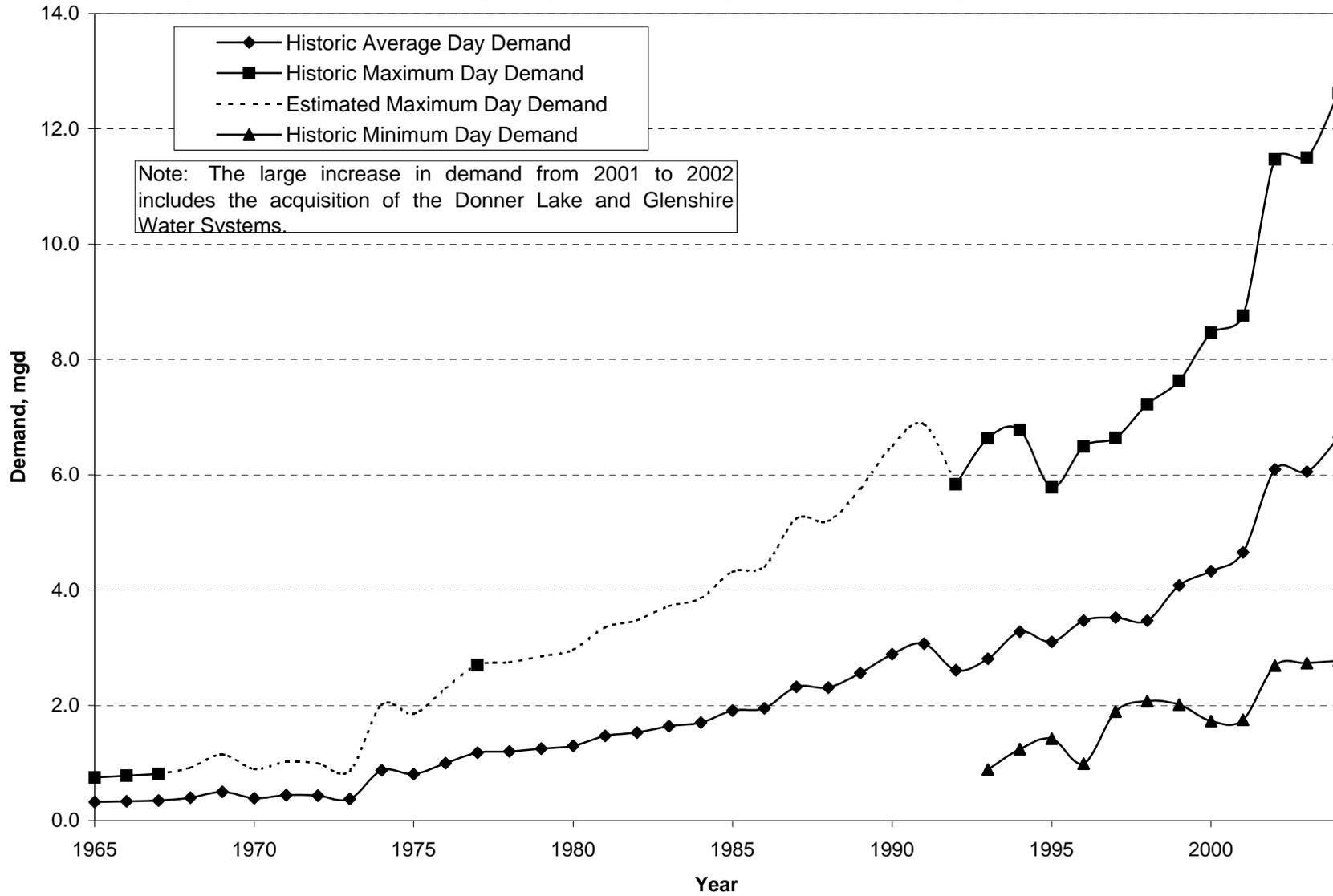


Table 4-1. Historic Potable Water Production

Year	Average Day		Maximum Day		Peaking Factor
	mgd	gpm	mgd	gpm	
1977	1.18	819	2.70	1,875	2.29
1978	1.20	830	NA	NA	NA
1979	1.25	869	NA	NA	NA
1980	1.30	901	NA	NA	NA
1981	1.47	1,021	NA	NA	NA
1982	1.53	1,060	NA	NA	NA
1983	1.64	1,138	NA	NA	NA
1984	1.70	1,182	NA	NA	NA
1985	1.91	1,328	NA	NA	NA
1986	1.95	1,353	NA	NA	NA
1987	2.32	1,611	NA	NA	NA
1988	2.31	1,606	NA	NA	NA
1989	2.56	1,775	NA	NA	NA
1990	2.89	2,005	NA	NA	NA
1991	3.07	2,131	NA	NA	NA
1992	2.61	1,810	NA	NA	NA
1993	2.81	1,954	NA	NA	NA
1994	3.28	2,277	6.78	4,708	2.07
1995	3.10	2,150	5.78	4,016	1.86
1996	3.47	2,407	6.49	4,505	1.87
1997	3.52	2,445	6.64	4,611	1.89
1998	3.47	2,413	7.22	5,014	2.08
1999	4.08	2,833	7.63	5,299	1.87
2000	4.33	3,004	8.46	5,877	1.96
2001	4.65	3,228	8.76	6,085	1.88
2002	6.09 ^a	4,229	11.47 ^a	7,965	1.88
2003	6.05	4,204	11.50	7,986	1.90
2004	6.64	4,614	12.61	8,759	1.90

^a Large increase in production for 2002 results from acquisition of Donner Lake and Glenshire Water Systems

Table 4-2. Breakdown of Water Sales by Customer Class, 1995-2004

Year	Total Average Sales, mgd	Commercial Sales, mgd	Commercial Sales, percentage	Residential Sales, mgd	Residential Sales, percentage
1995	3.10	0.58	18.7	2.52	81.3
1996	3.47	0.56	16.1	2.91	83.9
1997	3.52	0.59	16.8	2.93	83.2
1998	3.47	0.54	15.6	2.93	84.4
1999	4.08	0.60	14.7	3.48	85.3
2000	4.33	0.71	16.4	3.62	83.6
2001	4.65	0.76	16.3	3.89	83.6
2002	6.09 ^a	0.98	16.1	5.11	83.9
2003	6.05	0.95	15.7	5.10	84.3
2004	6.64	1.37	20.6	5.27	79.4

^a Large increase in sales for 2002 results from acquisition of Donner Lake and Glenshire Water Systems

HIRSCHDALE SYSTEM WATER PRODUCTION

The Hirschdale Water System (HWS) is an isolated water system currently serving 20 single-family residences. The system was constructed in 1989 and has been owned and operated by the District since that time. **Table 4-3** gives the historic production data for the HWS. Examination of this data shows a trend of increased water consumption with no increase in the number of connections. Maximum day demand for the year of 1993 is considered abnormally high due to some well pump testing that was performed during that time. Demand for the years of 2000 and 2001 is also unusually high because a construction contractor working on Interstate 80 was drawing significant amounts of water from the HWS with District permission. An estimate of this volume of construction water usage is not available.

Table 4-3. Historic Water Production for Hirschdale Water System

Year	Number of Connections	Total Annual Production, gals	Maximum Monthly Production, gallons
1990	17	1,850,700	282,400
1991	19	2,471,500	417,800
1992	20	2,330,600	353,900
1993	20	3,324,700	1,107,600
1994	20	3,453,600	651,500
1995	20	2,383,700	548,300
1996	19	2,769,300	491,700
1997	19	3,768,200	659,100
1998	19	3,297,800	727,300
1999	19	4,384,100	811,900
2000	19	6,748,800	1,189,200
2001	19	6,277,900	956,700
2002	19	4,455,200	713,000
2003	19	2,972,100	540,800
2004	20	3,455,200	554,300

NON-POTABLE WATER PRODUCTION

In the Summer of 2000, an 8-inch pipeline was constructed to provide irrigation water service to the Coyote Moon Golf Course from the Donner Creek Well. Connections from this pipeline to the irrigation systems at Meadow Park and the School District are also planned, but have not yet been constructed. **Table 4-4** gives the historic water production for this system.

Table 4-4. Historic Water Production for Donner Creek Well Irrigation System

Year	Total Production, millions of gallons
2001	84.0
2002	61.5
2003	72.7
2004	83.4

During the Summer of 2004, the District constructed a filling station at the Southside No. 1 Well to provide a central location where contractors may draw construction water. It is estimated that 6.6 million gallons was pumped for this purpose.

BUILDOUT WATER DEMAND

Water demand projections for buildout conditions were developed during preparation of the *2004 Water Master Plan Update*. These projections were based on anticipated development of all currently vacant parcels. Currently developed parcels were assumed to continue into the future with no change in water usage. A projected buildout demand was then calculated for each vacant parcel based on the anticipated land use and the size of the parcel. For ease of discussion, the service area was divided into seven planning areas. Buildout demands for the Hirschdale Water System were included within the Glenshire Planning area. Detailed information regarding these buildout projections is given in Section 3 and Appendices A through G of the *2004 Water Master Plan Update*. The projections given in **Tables 4-5 and 4-6** are taken directly from the *2004 Water Master Plan Update*.

Table 4-5. Buildout Average Day Potable Water Demand by Planning Area

Planning Area	Residential Demand, mgd	Commercial Demand, mgd	Total, mgd
Donner Lake	0.92	0.04	0.96
Downtown/Airport	0.36	1.92	2.28
Gateway	0.48	0.77	1.25
Glenshire	1.11	0.02	1.13
Northeast	1.22	1.56	2.78
Southside	1.06	0.14	1.20
Tahoe Donner	3.30	0.15	3.45
Total	8.45	4.60	13.05

Table 4-6. Buildout Maximum Day Potable Water Demand by Planning Area

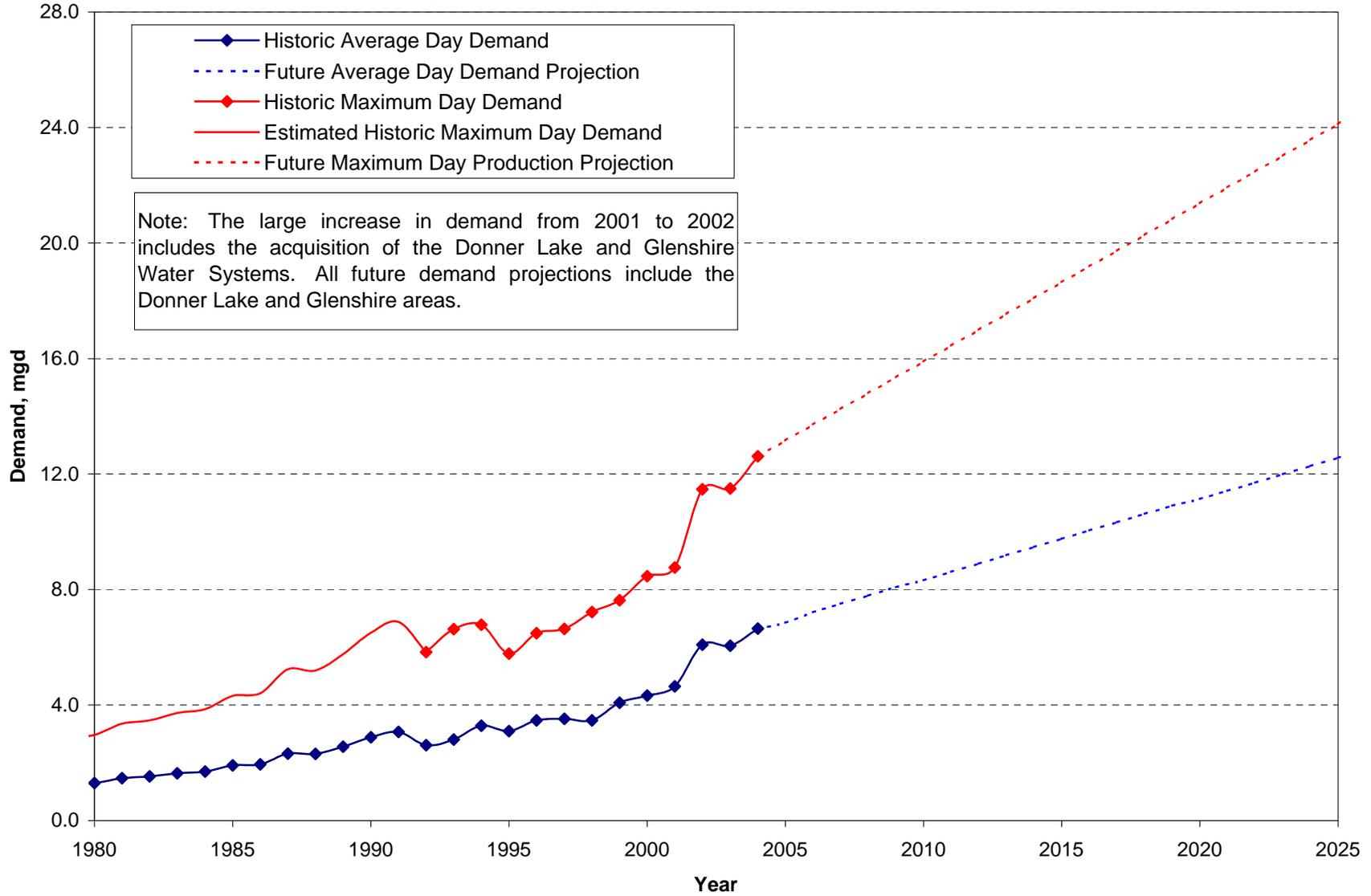
Planning Area	Residential Demand, mgd	Commercial Demand, mgd	Total, mgd
Donner Lake	1.75	0.07	1.82
Downtown/Airport	0.69	3.71	4.40
Gateway	0.92	1.62	2.54
Glenshire	2.65	0.06	2.71
Northeast	2.32	2.76	5.08
Southside	2.02	0.24	2.26
Tahoe Donner	6.28	0.37	6.65
Total	16.63	8.83	25.46

It is assumed that the Donner Creek Irrigation Well will continue to provide about 84 million gallons per year of irrigation water to the Coyote Moon Golf Course at buildout conditions. It is also assumed that there will be a minimal construction water demand of 1.0 million gallons per year once buildout conditions are reached. Therefore, buildout non-potable water demand is expected to be 85 million gallons annually. If the School District athletic fields and Meadow Park are connected to the Donner Creek Irrigation System, there will be a decrease in potable water demand and corresponding increase in irrigation water demand. Total withdrawals from the groundwater basin will not change.

FUTURE POTABLE WATER DEMANDS

Average day potable water demands will increase from 6.64 mgd currently to 13.05 mgd at buildout conditions. Similarly, maximum day potable water demands will increase from 12.61 mgd currently to 25.46 mgd at buildout. Of significant importance is the how rapidly demand will increase from existing to buildout conditions. Based on recent historic data, the demand projection shown in **Figure 4-2** was developed. This projection is based on the five-year period of 1997 to 2001, which experienced a growth in water demand of about 7.2 percent annually. With this projection, the existing service area will reach buildout conditions in the year 2027. The use of more recent data is skewed due to the acquisition of the Donner Lake and Glenshire water systems in 2002.

Figure 4-2. Projected Increase in Water Demand



SECTION 5

WATER SUPPLY SOURCES

SECTION 5 WATER SUPPLY SOURCES

Law

10630. It is the intention of the Legislature, in enacting this part, to permit levels of water management planning commensurate with the number of customers served and the volume of water supplied.
10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:
10631. (b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments [to 20 years or as far as data is available.]

This section provides an evaluation of the available water supplies to meet the existing and future water demands through buildout of the District's service area. Recommendations necessary for the District to continue providing adequate water at acceptable quality are made for both existing and future conditions.

MARTIS VALLEY GROUNDWATER BASIN

The District's currently obtains the majority of its drinking water through the pumping of groundwater from the Martis Valley Groundwater Basin (MVGB). The MVGB is a multiple aquifer system consisting of basin-fill sedimentary units and interlayered basin-fill volcanic units. Detailed information regarding geology of the MVGB can be found in a number of sources, including:

- Availability of Ground Water. Prepared for the Truckee Donner Public Utility District by Hydro-Search Inc. Reno, Nevada. February 1975.
- Truckee and Vicinity Ground-Water Resource Evaluation. Prepared for Dart Resorts Inc. by Hydro-Search Inc. Reno, Nevada. April 1980.
- Ground-Water Management Plan, Phase 1, Martis Valley Ground-Water Basin, Basin No. 6-67, Nevada and Placer Counties. Prepared for the Truckee Donner Public Utility District by Hydro-Search Inc. Reno, Nevada. January 1995.
- Ground Water Resource Evaluation. Prepared For The Truckee Donner Public Utility District by Nimbus Engineers. Reno, Nevada. November 2000.
- Ground Water Availability In The Martis Valley Ground Water Basin, Nevada and Placer Counties, California. Prepared for the Truckee Donner Public Utility District, Placer County Water Agency and Northstar Community Services District by Nimbus Engineers. Reno, Nevada. March 2001.
- Supplemental Report to California's Groundwater – Bulletin 118, Update 2003. Prepared by the California Department of Water Resources. Sacramento, California. October 2003.

QUANTITY OF GROUNDWATER IN THE MARTIS VALLEY BASIN

A number of studies have been conducted over the past 30 years to investigate and quantify the amount of water available in the MVGB. As knowledge regarding the geologic characteristics of

the MVGB has improved over the years, the estimates of available water have been refined and therefore, the most recent studies are considered to have the best information regarding water availability.

The 1975 study by Hydro-Search estimated annual recharge to the MVGB at 18,200 AFY with a total subsurface storage volume of 1,050,000 acre-feet. The 1975 study also concluded that 13,000 AFY was available for consumptive uses. The 1980 and 1995 studies were essentially updates of the 1975 study and provided additional information regarding the MVGB. However, a new evaluation of groundwater availability was not conducted as part of those efforts.

The 2001 study represented the first reconsideration of the MVGB water availability since the 1975 study. This 2001 study concluded that total subsurface storage volume is 484,000 acre-feet, with an annual recharge of 29,165 AFY. An additional 5,433 AFY is recharged to the upper layer of the MVGB by the Tahoe-Truckee Sanitation Agency's (TTSA) wastewater treatment plant. This 2001 study concluded that the sustainable yield of the MVGB is 24,000 AFY.

In 2002, a study entitled *Independent Appraisal of Martis Valley Ground Water Availability, Nevada and Placer Counties* was conducted by Kennedy/Jenks Consultants. This study agreed with the sustainable yield estimate of 24,000 AFY by Nimbus Engineers in 2001. The Kennedy/Jenks study also concluded that the 24,000 AFY likely underestimates the amount of water available on a sustainable basis since the 2001 Nimbus study underestimated both basin recharge and ground water discharge to tributary streams.

In April 2003, a study conducted by InterFlow Hydrology and Cordilleran Hydrology entitled *Measurement of Ground Water Discharge to Streams Tributary to the Truckee River in Martis Valley, Nevada and Placer Counties, California* examined the issue of ground water discharge to tributary streams and concluded that about 34,000 AFY of water is available on a sustainable basis.

The California Department of Water Resources has not determined that the MVGB is being overdrafted and there are not any known instances of contamination of the MVGB. The MVGB is currently unadjudicated and none of the groundwater users has expressed a desire to have the basin adjudicated to date. Therefore, it is reasonable to assume that, at a minimum, the 24,000 AFY of water cited in the Nimbus study is available to support development in Truckee and the surrounding areas.

DONNER LAKE SURFACE WATER SUPPLY AND GREENPOINT SPRINGS

As described in Section 3, the District currently operates two surface water sources that provide water to the Donner Lake area: an Intake Pump Station with a capacity of 1,400 gpm and the Greenpoint Springs with a capacity between 100 and 300 gpm. These facilities will be removed from service permanently during the Summer of 2005 and the District will discontinue using these surface water supplies at that time.

RELIABILITY OF WATER SUPPLY

Currently, the major producers of water in the MVGB are the District, the Placer County Water Agency (Lahontan Subdivision), Donner Creek Mobile Home Park, Ponderosa Golf Course, and Teichert Aggregates. There are numerous small wells supporting individual residences along with some other uses such as the Martis Creek Campground. Total basin-wide withdrawals for the year 2000 were estimated 7,262 AFY.

For 2004, withdrawals from the MVGB by the District totaled 7,109 AF for potable water purposes and an additional 276 AF for irrigation and construction water purposes. An additional 335 AF of surface water was used by the District in the Donner Lake area. Total withdrawals from the basin are estimated at about 8,905 AFY for the year 2004.

Buildout average day potable water demand for the District is projected at 13.05 mgd. Therefore, a sustainable water supply about 14,619 AFY will be required to meet this buildout condition. An additional 261 AFY (85 million gallons annually) will be needed to serve non-potable water demands for a total of 14,880 AFY.

In May 2001, a document entitled *Technical Memorandum and Net Depletion for Martis Valley Groundwater Basin* prepared by David Antonucci estimated buildout water demand for all water producers throughout the MVGB at 20,936 AFY. This document projected a buildout demand of 13,326 AFY for areas currently served by the District, with 7,610 AFY for areas currently served by other agencies or individual wells. Assuming the 7,610 AFY estimate for other parties is correct, a total of 22,490 AFY is needed to serve the entire region.

With a total water supply of at least 24,000 AFY, there is adequate water supply to meet the projected buildout conditions. In addition, there are a total of 484,000 acre-feet of water in storage in the MVGB. Total demand of 22,490 AFY at buildout is equal to less than five percent of the capacity of the MVGB and there is adequate water to provide for over 20 years worth of demand even if no recharge of the basin were to occur. Considering the large amount of water in storage in relation to the projected buildout demand, one year (or even multiple years) of below average precipitation and basin recharge will not have an impact upon the water supply.

EXISTING PRODUCTION CAPACITY IN RELATION TO PROJECTED DEMANDS

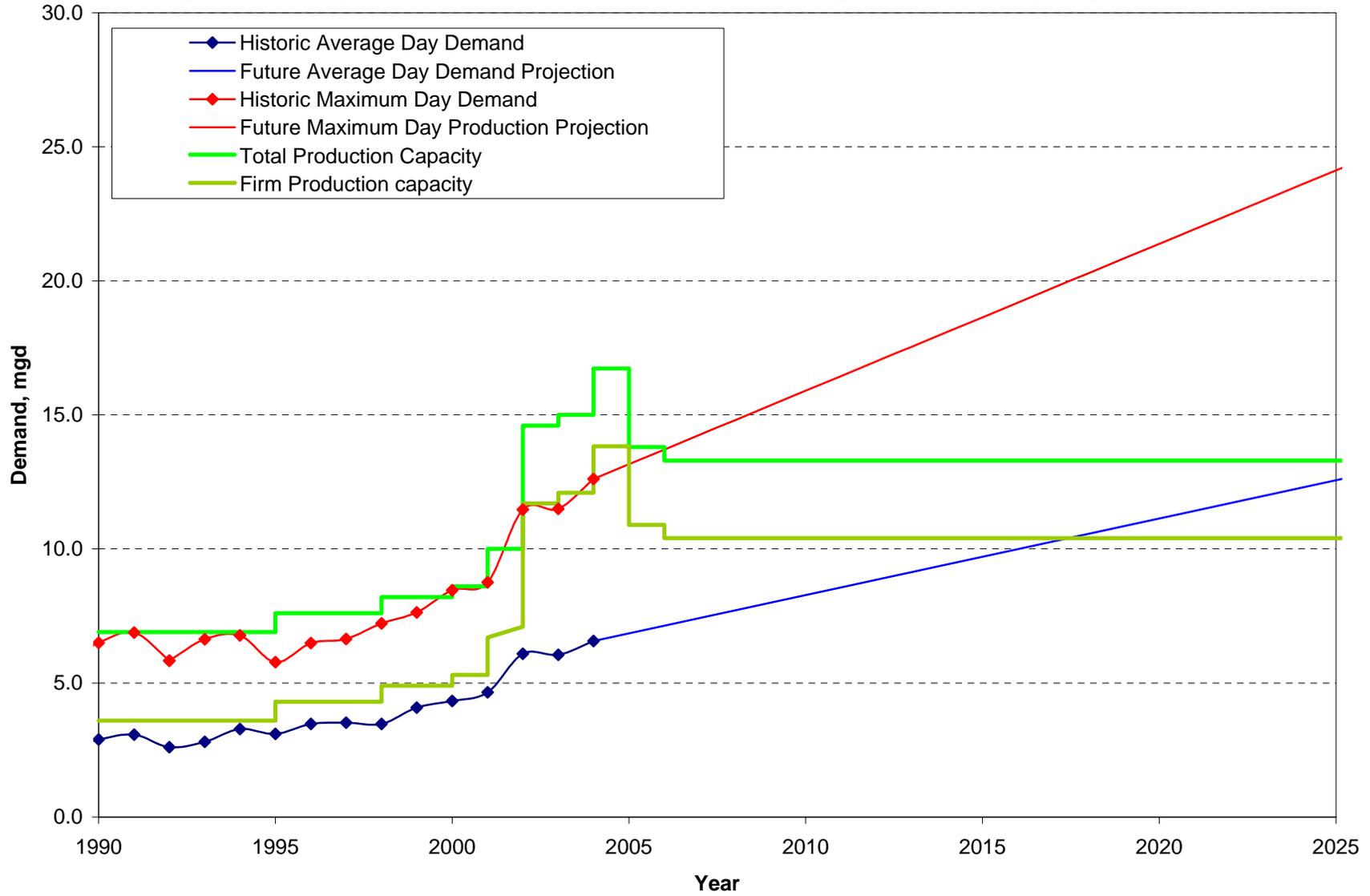
Current maximum day potable water demand is 12.61 mgd. It is anticipated that this maximum day demand will increase to 15.9 mgd and 21.38 mgd by the years 2010 and 2020, respectively. Average day water demand will increase from 6.64 mgd currently to 8.28 mgd in the year 2010 and 11.14 mgd in the year 2020. The anticipated growth in potable water demand is presented in **Table 5-1** and is also shown graphically in **Figure 5-1**.

The District currently operates twelve potable water wells in the Truckee area and one in the Hirschdale area. The total capacity of these wells is about 9,550 gpm. As shown in **Table 5-1**, the overall system production capacity is adequate for 2005, even with removal of the Donner Lake Intake and Greenpoint Springs from potable water service. However, adequate capacity does not exist to serve projected demands in 2006 with a projected maximum day demand of 13.7 mgd compared with a production capacity of 13.3 mgd. Currently, there is insufficient firm capacity, since a failure of Airport Well would leave a production capacity of only 10.4 mgd.

Table 5-1. Historic and Projected Potable Water Demand

Year	Average Day Demand, mgd	Maximum Day Demand, mgd	Available Production Capacity, mgd	Notes
1990	2.89	6.47	6.9	
1991	3.07	6.88	6.9	
1992	2.61	5.83	6.9	
1993	2.81	6.63	6.9	
1994	3.28	6.78	6.9	
1995	3.10	5.78	7.6	Prosser Annex Well Completed
1996	3.47	6.49	7.6	
1997	3.52	6.64	7.6	
1998	3.47	7.22	8.2	Glenshire Drive Well Completed
1999	4.08	7.63	8.2	
2000	4.29	8.58	8.6	Donner Creek Well Capacity Upgrade Martis Valley Well No. 1 constructed
2001	4.65	8.60	10.0	Donner Creek Well removed from potable water service
2002	6.09	11.47	14.6	Includes DLWS and GWS Demands and Supply Small DLWS and GWS Wells removed from
2003	6.05	11.50	15.0	potable water service Glenshire Drive Well capacity increased
2004	6.57	12.61	16.7 ³	Prosser Village Well constructed
2005	6.85	13.16	13.8	Donner Lake Intake and Greenpoint Springs removed from potable water service
2006	7.14	13.71	13.3	Northside Well capacity reduced to 500 gpm
2007	7.42	14.26	13.3	
2008	7.71	14.80	13.3	
2009	8.00	15.35	13.3	
2010	8.28	15.90	13.3	
2011	8.57	16.45	13.3	
2012	8.85	17.00	13.3	
2013	9.14	17.54	13.3	
2014	9.42	18.09	13.3	
2015	9.71	18.64	13.3	
2016	9.99	19.19	13.3	
2017	10.28	19.74	13.3	
2018	10.56	20.28	13.3	
2019	10.85	20.83	13.3	
2020	11.14	21.38	13.3	
2021	11.42	21.93	13.3	
2022	11.71	22.48	13.3	
2023	11.99	23.02	13.3	
2024	12.28	23.57	13.3	
2025	12.56	24.12	13.3	
2026	12.85	24.67	13.3	
Buildout	13.05	25.46	13.3	

Figure 5-1. Projected Potable Water Demand vs. Existing Production Capacity, 1990-2025



IMPACT OF UPCOMING WATER QUALITY REGULATIONS

The Environmental Protection Agency (EPA) has promulgated new regulations regarding arsenic in drinking water supplies. New regulations regarding radon levels in drinking water are anticipated in the near future. Both of these constituents are present in the existing wells at levels below the existing maximums.

Arsenic Regulations

The new arsenic regulations set a maximum level of 10 mg/L and will become effective on January 1, 2006. **Table 5-2** gives a summary of the arsenic levels in the existing wells based on the most recent test results. As shown by the data, the Hirschdale and Northside Wells will exceed the proposed arsenic limit. Two methods have been identified to bring these sources into compliance with the proposed arsenic level.

Table 5-2. Groundwater Well Arsenic and Radon Levels

Name	Arsenic Level, ug/L	Radon Level, pCi/L
A Well	Not Detectable	540
Airport	10	1,600
Glenshire Drive	10	765
Hirschdale	26	570
Martis Valley Well No. 1	9.8	Data Not Available
Northside	38	990
Prosser Annex	Not Detectable	740
Prosser Heights	Not Detectable	Not Detectable
Prosser Village	7	560
Sanders	4	1050
Southside No. 2	Not Detectable	885
Well No. 20	Not Detectable	293

Arsenic data taken from *Truckee Water System 2003 Water Quality Report*
Radon data taken from testing performed in November 1999

One method involves the installation of arsenic treatment systems at the affected wells. These systems utilize either a coagulation/filtration or ion exchange process. Both processes are quite expensive with capital costs estimated at over \$600 per gpm of well capacity. Operations and maintenance is also quite costly, estimated at \$0.10 per thousand gallons produced.

The second method is known as “Avoidance.” A given well would be removed from service temporarily for testing. The testing will involve isolating a section of the aquifer by sealing off the casing above and below this level. Water quality samples would then be taken from this section and tested for arsenic. This process would be repeated for all water bearing strata within the aquifer. Once the formations containing high levels of arsenic have been identified, the well casing would be sealed through these formations to prevent the entrance of water containing high levels of arsenic.

During the Summer of 2005, the District will be conducting pilot plant studies to determine the feasibility and cost associated with arsenic removal at the Northside Well. If treatment proves cost effective, the District will be able to utilize the 810 gpm capacity into the future. If an Avoidance methodology is necessary, it is expected that the capacity of Northside Well will be reduced to 500 gpm.

The 26 mg/L level for the Hirschdale Well given in **Table 5-2** was determined from samples taken at the wellhead. The Hirschdale Well is equipped with a pressure filter system for iron and manganese removal. Currently, finished water served to customers in the Hirschdale area has an arsenic level of 22 mg/L. During 2005, the District will be conducting pilot studies to determine if the existing treatment process can be modified to remove arsenic. The District has also initiated discussions with the party that owns the parcel of land between the Hirschdale water system and the Glenshire subdivision. The purpose of these discussions is to obtain an easement for a pipeline that would connect the two water systems and provide the Hirschdale area with a new water supply without the need for treatment.

Radon Regulations

Preliminary announcements from USEPA have indicated that the maximum allowable radon level will likely be reduced from 4,000 picocuries per liter (pCi/L) to 300 pCi/L. **Table 5-2** also gives a summary of the radon level in the existing wells based on the most recent test results. As shown by the data, all of the wells will exceed the proposed radon limit. The proposed radon level limit is under review and may be set a level higher than 300 pCi/L. Two methods have been identified to address the proposed reduction in the allowable radon level.

One method involves the removal of radon in the water by aeration. Treatment by aeration would require the installation of separate aeration tanks and booster pumping stations at each well site. This method would require a significant capital investment, along with incurring higher operations and maintenance costs. Capital costs range from \$100,000 to \$150,000 for each well site. Operation and maintenance costs are estimated at \$0.05 per thousand gallons.

The second method is a Multimedia Mitigation Program proposed by EPA. The Multimedia Mitigation Program addresses both water and air quality at the point of use. This program has a limited involvement by the water provider and is focused mainly on air quality. No cost estimates are available at this time, but it is anticipated that the Multimedia Mitigation Program costs will be substantially lower than the cost of treatment by aeration. Therefore, it is expected that the forthcoming radon regulations will have a minimal impact on the District's water supply.

Available Water Production Capacity Considering Water Quality Regulations

As noted above, the District will be removing the Donner Lake Intake and Greenpoint Springs from potable water service during the Summer of 2005. The capacity of Northside Well may also be reduced due the new arsenic regulations. **Table 5-3** gives the anticipated water production capacity utilizing existing facilities after considering the impact of both the upcoming arsenic and radon regulations.

Table 5-3. Available Water Production Capacity Considering Water Quality Regulations

Name	Year 2004 Total Capacity, gpm	Year 2004 Firm Capacity, gpm	Year 2006 Total Capacity, gpm	Year 2006 Firm Capacity, gpm
A Well	150	150	150	150
Airport	2,000	0	2,000	0
Donner Lake Intake	1,400	1,400	0 ^a	0 ^a
Glenshire Drive	1,800	1,800	1,800	1,800
Greenpoint Springs	100	100	0 ^a	0 ^a
Martis Valley Well No. 1	1,725	1,725	1,725	1,725
Northside	810	810	500 ^b	500 ^b
Prosser Annex	400	400	400	400
Prosser Heights	350	350	350	350
Prosser Village	1,200	1,200	1,200	1,200
Sanders	300	300	300	300
Southside No. 2	225	225	225	225
Well No. 20 ⁴	560	560	560	560
Total, gpm	11,020	9,020	9,210	7,210
Total, mgd	15.9	13.0	13.3	10.4

Note: The Hirschdale Well is omitted since it is part of an independent system and cannot be used to serve demands in the Truckee System

^a Surface water source to be removed from service during 2005

^b Assumed capacity reduction using the “Avoidance” Method

ADDITIONAL WATER PRODUCTION CAPACITY

The currently available production capacity will be unable to meet projected maximum day demands in the year 2006. With the projected Buildout maximum day demand of 25.46 mgd, an additional 15.2 mgd of production capacity is needed to meet buildout demands and to provide adequate firm capacity to the system.

Based on the 13.3 mgd of total available capacity, an additional 12.2 mgd of production capacity is needed over the next 22 years to meet projected demands. Furthermore, an additional 2.9 mgd of capacity will be necessary to ensure that the system has adequate firm capacity. There are three alternatives available to the District for additional water supply to meet this need:

- Construct additional wells not requiring filtration
- Construct additional wells requiring filtration
- Construct a surface water treatment facility

Historically, the District has used groundwater as its sole source of supply. Construction of a surface water treatment plant was undertaken by a developer in the earlier 1970s, but was halted due to political issues and questions regarding the status of water rights. It is recommended that groundwater continue to be the main source of supply.

Based the studies cited at the beginning of this Section, the additional groundwater wells can be constructed without exceeding the sustainable yield of the groundwater basin. Construction of new wells is expected to be the short-term solution to increasing water supply. As development occurs in adjoining areas of the Martis Valley, the overall withdrawals from the basin will need

to be balanced with the sustainable yield. The District has held discussions with Placer County Water Agency regarding long-term water supply issues in the Martis Valley. Both agencies have agreed that further studies of the basin are necessary, along with an accounting of expected buildout demand versus supply for all groundwater users.

The other two water supply options require additional investigations of legal and regulatory issues. A draft plan governing the use of surface water in the Truckee River basin has been developed and is entitled the “Truckee River Operating Agreement.” The use of surface water is subject to this plan and requires the acquisition of surface water rights.

RECOMMENDED IMPROVEMENTS

Based on the expected increase in water demand and the impact of forthcoming water quality regulations, a number of water production improvements are recommended. These improvements are listed in **Table 5-4**. In the short-term, construction of new wells not requiring filtration is the most reasonable alternatives to pursue. For the purposes of water supply planning, it is assumed that new wells will have a capacity of 1,500 gpm. If the capacity of new wells differs significantly from this 1,500 gpm value, the recommendations given herein should be adjusted accordingly.

With the impending reduction in water production capacity, it is necessary that the District aggressively pursue construction of two wells immediately to ensure that adequate capacity is available to serve customer demands. Construction of a third well is necessary to provide adequate firm capacity in the event that a single well is out of service for any length of time during high-demand periods.

The proposed phasing given in **Table 5-4** is based on anticipated growth in demand throughout the service area. An additional four wells will be needed to serve buildout conditions and should be constructed as growth and increases in water demand dictate. **Figure 5-2** gives the relationship of projected demand to the recommended water supply improvements.

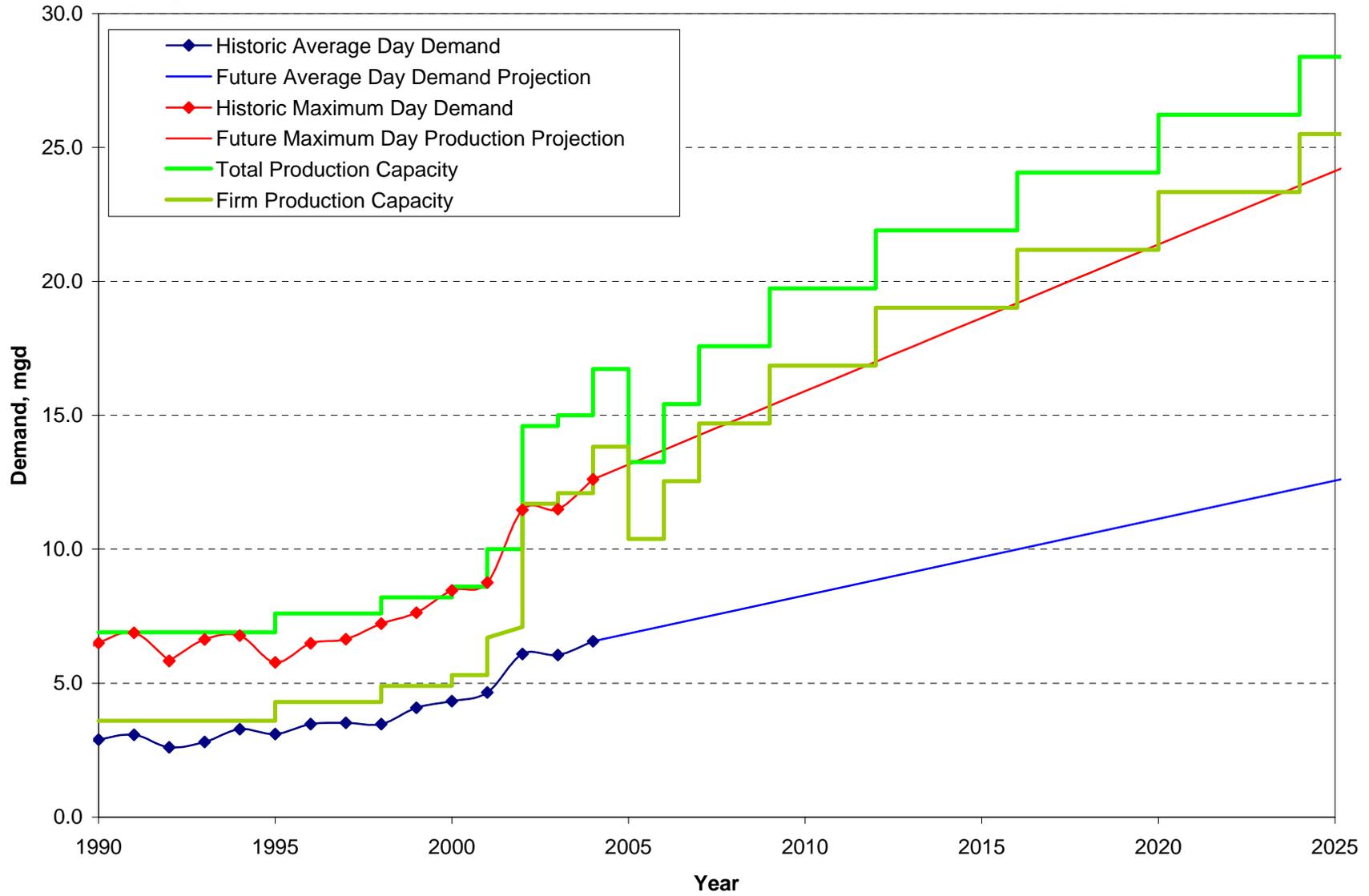
In 2002 and 2003, the District drilled a number of exploration wells in order to identify locations for future groundwater wells. Exploratory wells were drilled at the locations given in **Figure 5-3**. As a result of this exploration well program, the District acquired four well sites. The Prosser Village Well was constructed in 2004. In 2005, the District will begin construction of the Featherstone Well with the goal of having the well available for use in 2006. Property rights to two other sites (Fibreboard & Prosser Dam Road) have been secured by the District and will be used to construct new wells in 2007 and 2009. The District has also identified other potential wells sites and will be drilling additional test wells once property rights can be secured.

It should also be noted that some of the existing wells may be reaching the end of their useful lives towards the year 2025. Production from the wells should be monitored over time and redevelopment of existing wells may be necessary to maintain an adequate water supply. Of particular concern is the long-term viability of the existing Airport Well. The existing wellhole and casing are not completely vertical and there is a significant offset in the casing. As a result of this offset, the well shaft experiences accelerated wear and it is expected that the well pump will need replacement every four years.

Table 5-4. Recommended Water Production Improvements

Year	Maximum Day Demand, mgd	Total Production Capacity, mgd	Firm Production Capacity, mgd	Notes
1990	6.47	6.9	3.6	
1991	6.88	6.9	3.6	
1992	5.83	6.9	3.6	
1993	6.63	6.9	3.6	
1994	6.78	6.9	3.6	
1995	5.78	7.6	4.3	Prosser Annex Well Completed
1996	6.49	7.6	4.3	
1997	6.64	7.6	4.3	
1998	7.22	8.2	4.9	Glenshire Drive Well Completed
1999	7.63	8.2	4.9	
2000	8.58	8.6	5.3	Donner Creek Well Capacity Upgrade Martis Valley Well No. 1 constructed
2001	8.60	10.0	6.7	Donner Creek Well removed from potable water service
2002	11.47	14.6	11.7	Includes DLWS and GWS Demands and Supply
2003	11.50	15.0	12.1	Small DLWS and GWS Wells removed from potable water service
2004	12.61	16.7	13.8	Glenshire Drive Well capacity increased
2005	13.16	13.8	10.4	Prosser Village Well constructed Donner Lake Intake and Greenpoint Springs removed from service.
2006	13.71	15.4	12.5	New 1,500 gpm Well Constructed (Featherstone Site). Northside Well capacity reduced to 500 gpm
2007	14.26	17.6	14.7	New 1,500 gpm Well Constructed (Fibreboard Site)
2008	14.80	17.6	14.7	
2009	15.35	19.7	16.9	New 1,500 gpm Well Constructed (Prosser Dam Road Site)
2010	15.90	19.7	16.9	
2011	16.45	19.7	16.9	
2012	17.00	21.9	19.0	New 1,500 gpm Well Constructed
2013	17.54	21.9	19.0	
2014	18.09	21.9	19.0	
2015	18.64	21.9	19.0	
2016	19.19	24.1	21.2	New 1,500 gpm Well Constructed
2017	19.74	24.1	21.2	
2018	20.28	24.1	21.2	
2019	20.83	24.1	21.2	
2020	21.38	26.2	23.3	New 1,500 gpm Well Constructed
2021	21.93	26.2	23.3	
2022	22.48	26.2	23.3	
2023	23.02	26.2	23.3	
2024	23.57	28.4	25.5	New 1,500 gpm Well Constructed
2025	24.12	28.4	25.5	
2026	24.67	28.4	25.5	
Buildout	25.46	28.4	25.5	

Figure 5-2. Projected Potable Water Demand vs. Proposed Production Capacity, 1990-2025



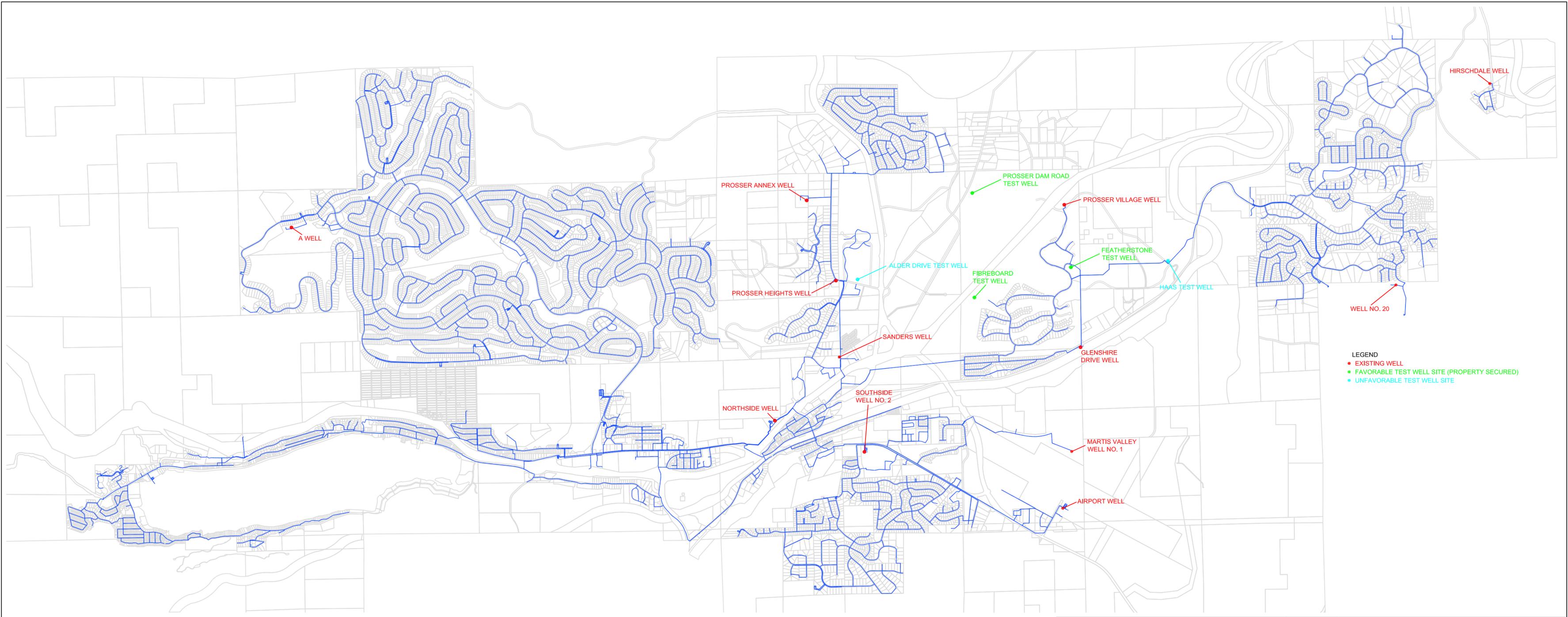


Figure 5-3
Location of Test Wells and
Future Well Sites

The use of surface water, either through a treatment plant or wells with filtration, requires that a number of legal and environmental issues be investigated and addressed. Surface water should be considered a long-term water supply option and may prove to be more cost-effective than new wells as demand approaches buildout conditions. It is recommended that the use of surface water be investigated further towards the goals of potentially supplying new demand in the period of 2010 and beyond.

SECTION 6

WATER DEMAND MANAGEMENT MEASURES

SECTION 6

WATER DEMAND MANAGEMENT MEASURES

Law

10631. (f) Provide a description of the supplier's water demand management measures. This description shall include all of the following:

- (1) A description of each water demand management measure that is currently being implemented, or scheduled for implementation, including the steps necessary to implement any proposed measures, including, but not limited to, all of the following: ...

Demand management, or water conservation, is frequently the lowest-cost resource available to a water agency. The goals of the District's water conservation program are to reduce demand for water at peak times, demonstrate continued commitment to appropriate demand management measures (DMMs) and to ensure a reliable future water supply. The Urban Water Planning Act requires that an Urban Water Management Plan discuss 14 specific DMMs. There is one additional measure (DMM 15) that has been implemented.

DEMAND MANAGEMENT MEASURES

DMM 1 – Water Survey Programs for Single-family and Multi-family Residential Customers

The District does not currently have a formal water survey program. During prior years, the District has performed surveys on several multi-family units upon request of the property owner.

DMM 2 – Residential Plumbing Retrofit

Upon request, the District provides to its customers, at no charge, the following water conservation devices:

- low-flow showerhead
- faucet aerators
- Sprinkler/rainfall measurement gauges.

The District is approaching other agencies to see if they may be willing to partner with the District in this effort. There is no formal mandate from either the District or the local governments that customer's install such water saving devices.

DMM 3 – Water System Audits, Leak Detection and Leak Repair

The District has an active leak repair program. Any reported or suspected leaks are verified by testing the water for chlorine residual. The leak is then excavated, and repaired. During the Summer months, the District has a crew that spends about 90 percent of its time repairing leaks. The District also owns listening devices that are used to locate leaks that are not visible from the surface.

Currently, the District's water system does not have sufficient meters and monitoring devices on all of its wells, pump stations and control valve stations. This issue was identified in the District's 2004 Water System Master Plan Update and installation of meters is included in the District's ongoing Capital Improvement Program. In addition, the demographics of the District's customer base are not fully understood (percentage of part-time vs. full-time residents).

Considering these two issues, it is not possible to conduct system-wide or even area-specific water audits. As metering and monitor devices are installed at central facilities, the District will begin conducting system level water audits.

DMM 4 – Metering with Commodity Rates for all New Connections and Retrofit of Existing Connections

Currently, water meters are installed on all commercial services and residential services constructed since 1992. Water meters have not been installed on residential services that were constructed before 1992. The District reads meters on commercial services and bills are based upon usage. Residential customers are charged a flat rate for service and residential meters are not read. Current commercial water rates have a declining block rate structure.

In 2004, AB 2572 was passed by the California Legislature and signed by the Governor. The section of this law that applies to the District reads:

Article 3.5. Metered Service

SEC. 5. Section 527 is added to the Water Code, to read:

- 527. (a) An urban water supplier that is not subject to Section 526 shall do both the following:**
- (1) Install water meters on all municipal and industrial service connections located within its service area on or before January 1, 2025.**
 - (2) (A) Charge each customer that has a service connection for which a water meter has been installed, based on the actual volume of deliveries, as measured by the water meter, beginning on or before January 1, 2010.**
(B) Notwithstanding subparagraph (A), in order to provide customers with experience in volume-based water service charges, an urban water supplier that is subject to this subdivision may delay, for one annual seasonal cycle of water use, the use of meter-based charges for service connections that are being converted from nonvolume-based billing to volume-based billing.
- (b) A water purveyor, including an urban water supplier, may recover the cost of providing services related to the purchase, installation, and operation of a water meter from rates, fees, or charges.**

In late 2004, the District hired a consultant to conduct a Water Rate Study. This study will investigate a revised rate structure for commercial accounts, as well as the implementation of meter reading and metered rates for residential service. An interim report was submitted to the District in the Summer of 2005.

For 2006, the District has budgeted funds to conduct a pilot study that will read meters on about 1,200 residential accounts. These residential customers will continue to be billed a flat rate for service. This pilot study will gather data regarding actual residential water usage that will then be used as part of the Water Rate Study to develop possible metered rate structures for residential customers. Once completed, this Water Rate Study should provide sufficient information to the District's Board of Directors to consider the issue of metering and rates.

DMM 5 – Large Landscape Conservation Programs and Incentives

The District does not currently have a formal landscape conservation program. As noted above, the District does distribute sprinkler/rainfall measurement gauges free of charge.

In addition, the District has worked with the community to develop a low-water use demonstration garden at the newly opened Tahoe Berry restaurant. The demonstration garden uses low-water using plant types as well as a drip irrigation system. The District has also collaborated on the creation of a native species demonstration garden at Truckee High School.

DMM 6 – High-Efficiency Washing Machine Rebates

The District currently offers a rebate of \$50 for the purchase of high energy efficiency and water conserving clothes washers. The District has developed a simple one page form to be completed by the property owner, accompanied by a copy of the sales receipt.

DMM 7 – Public Information Program

The District provides public education and information programs on water conservation through a number of means:

Water Conservation Education/Handouts: The District has developed water conservation information packets and brochures for community-wide distribution. Charts and handouts are also available that determine how much water is needed to water grasses Spring through Fall.

Print Advertising: The District has developed a print ad series on Water Wise Landscaping practices that is published in local newspapers (Sierra Sun, Moonshine Ink, etc). This advertising is performed in cooperation with local landscape companies.

TV Commercials: In the past, the District has produced television commercials asking District customers to voluntarily use landscape water wisely. These commercials were aired on the local cable public access channel.

Bill Inserts: The District periodically includes water conservation reminders with monthly service bills. The District also publishes a semi-annual newsletter that is mailed with a service bill.

DMM 8 – School Education Program

The District funds the purchase of landscape water conservation educational materials that are distributed to local children through the Tahoe-Truckee Unified School District. Each year a presentation is made by District staff to sixth grade students regarding water conservation.

DMM 9 – Conservation Programs for Commercial, Industrial and Institutional Accounts

The District does not currently have a formal conservation program to address these customers. The District, upon request, will perform a survey of subject properties and make recommendations regarding water conservation measures.

DMM 10 – Wholesale Agency Programs

The District does not purchase water from or sell water to any other agencies. This DMM is not applicable to the District.

DMM 11 – Conservation Pricing

As discussed above, the District’s current rate structure is a declining block rate. Also as noted above, the District hired a consultant to conduct a Water Rate Study to investigate a revised rate structure for commercial accounts, as well as the implementation of meter reading and metered rates for residential service.

DMM 12 – Water Conservation Coordinator

The District has a full-time employee with the title of Director of Planning. This individual is responsible for implementing and promoting the District’s conservation programs for both its electric and water utilities. Mr. Scott Terrell has been serving in this position since 1992. About 15 percent of Mr. Terrell’s time is spent on water conservation issues.

DMM 13 – Water Waste Prohibition

The District’s Codes and Policies contain a provision whereby the District may disconnect water service to a customer that is found to be wasting water. Chapter 5.12.040 reads as follows:

5.12.040 Discontinuance of Water Service by the District

5.12.040.1 With notice - A customer's water service may be discontinued by the District upon at least five days' prior written notice in the event of:

5.12.040.1(A) Non-payment of bills for water service at any location within 30 days of presentation;

5.12.040.1(B) Violation of these codes;

5.12.040.1(C) Negligent or wasteful use of water, as determined by the District.

5.12.040.1(D)

The District does not have any direct prohibitions on specific types of water usage and does not have an ordinance banning water softeners. Hardness and TDS levels in the District’s water supply are low and the District is not aware of any water softeners installed by customers.

DMM 14 – Residential Ultra-Low-Flush Toilet Replacement Program

The District does not have a Residential Ultra-Low-Flush Toilet Replacement Program.

DMM 15 - Plumbing Requirements for New Construction

Requirements for new construction within the District’s service area are governed by one of three separate agencies.

Location	Agency
Unincorporated Nevada County	Nevada County Building Department
Unincorporated Placer County	Placer County Building Department
Town of Truckee	Town of Truckee Building Department

All three agencies have adopted the California Plumbing Code and the requirements given therein apply to new construction. The District has not adopted any additional requirements regarding new construction.

WATER CONSERVATION DMM EFFECTIVENESS

As described previously, meters are not read for residential services and not all residential services are equipped with meters. In addition, the demographics of the District's customer base are not fully understood (percentage of part-time vs. full-time residents) and appear to be in a period of transition based upon anecdotal evidence. Consequently, sufficient tools do not exist to monitor DMM effectiveness at this time.

DMM IMPLEMENTATION COSTS

The District estimates the ongoing cost of the current DMMs at approximately \$31,000 per year, not counting Mr. Terrell's salary. The cost of implementing DMMs 4 and 11 is being investigated as part of the Water Rate Study currently under way.

FUTURE DMM EFFORTS

The Town of Truckee has recently expressed an interest in promoting additional water conservation efforts. The District and the Town have agreed to work together to identify opportunities to expand and promote the District's current water conservation efforts.

SECTION 7

WATER SHORTAGE CONTINGENCY PLAN

SECTION 7

WATER SHORTAGE CONTINGENCY PLAN

Law

10632. The plan shall provide an urban water shortage contingency analysis which includes each of the following elements which are within the authority of the urban water supplier:
- (a) Stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to a 50 percent reduction in water supply, and an outline of specific water supply conditions which are applicable to each stage.
 - (b) An estimate of the minimum water supply available during each of the next three water years based on the driest three year historic sequence for the agency's water supply.
 - (c) Actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster.
 - (d) Additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning.
 - (e) Consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.
 - (f) Penalties or charges for excessive use, where applicable.
 - (g) An analysis of the impacts of each of the actions and conditions described in subdivisions (a) to (f), inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments.
 - (h) A draft water shortage contingency resolution or ordinance.
 - (i) A mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.

The effective management of water supply shortages is an important responsibility of water agencies. Shortages may be caused by failures of major water supply facilities, natural disasters, or other adverse conditions. Therefore, it is necessary to have an effective management program to mitigate water supply shortages.

As described in Section 5, by the Summer of 2005, the District should be using groundwater as its sole source of supply. The Martis Valley Groundwater Basin has a volume of about 484,000 acre-feet (AF). Based upon current withdrawals, there is over 20 years worth of water supply available even if there was zero recharge of the groundwater basin. Consequently, the most likely cause of a water supply shortage would be the failure of a major water supply facility such as a well, pump station or transmission pipeline. As a result, water supply shortages are expected to be somewhat short in duration (days or possibly weeks), but may occur without any warning.

The District's water system consists of five major components: control valve stations, groundwater wells, pipelines, pump stations and storage tanks. In May 2004, the District

completed a *Vulnerability Assessment* that identified that number of customers that would be impacted by major failure of a given facility. In conjunction with the *Vulnerability Assessment*, the District has been updating its Emergency Response Plan which identifies actions to be taken in the event of a major failure of a given facility.

WATER CONSERVATION PROGRAM

Depending upon the type of failure, the location and the number of customers affected, it would be necessary for the District to implement some form of water conservation – either voluntary or mandatory. Table 7-1 identifies the various stages of water conservation measures that would be implemented.

Table 7-1. Water Conservation Stages

Stage	Water Conservation Requirement	Compliance Level
1	10% Reduction in Usage	Voluntary
2	30% Reduction in Usage	Mandatory
3	50% Reduction in Usage	Mandatory

Stage 1 Water Conservation

Stage 1 would apply during periods requiring a reduction of 10 percent in water usage. This would be achieved through voluntary measures. All new water connections would be prohibited within the area affected. The withdrawal of water for construction purposes would also be prohibited.

Stage 2 Water Conservation

Stage 2 would apply during periods requiring a reduction of 30 percent in water usage. All outdoor water usage would be prohibited. Penalties and fines would be imposed for violations of the water conservation program.

Stage 3 Water Conservation

Stage 3 would apply during periods requiring a reduction of 50 percent in water usage. If necessary, mandatory rationing and temporary outages would be implemented by the District. Penalties and fines would be imposed for violations of the water conservation program.

WATER CONSERVATION ORDINANCE

Attached in Appendix B is an ordinance adopting a water conservation program that was passed by the District’s Board of Directors as part of development of this Urban Water Management Plan. This ordinance outlines three stages of water alerts that describe different required conservation savings. These conservation savings range from voluntary compliance with reasonable conservation efforts in Stage 1 to a mandatory 50 percent reduction in Stage 3.

This Ordinance also authorizes the General Manager of the District to implement these measures immediately upon occurrence of an event requiring such conservation measures. A public meeting of the Board of Directors would then be scheduled as soon a possible to inform the Board and the public of the emergency, the actions taken by the District and the expected duration until the problem can be corrected.

SECTION 8

RECYCLED WATER OPPORTUNITIES

SECTION 8 RECYCLED WATER OPPORTUNITIES

Law

10633. The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. To the extent practicable, the preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies and shall include all of the following:
10633. (a) A description of the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.
10633. (b) A description of the recycled water currently being used in the supplier's service area, including but not limited to, the type, place and quantity of use.
10633. (c) A description and quantification of the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.
10633. (d) The projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years.

The District does not provide either wastewater collection or wastewater treatment to customers within its service area. The great majority of the District's water customers are served by the Truckee Sanitary District (TSD). TSD operates and maintains the wastewater collection system that collects wastewater and conveys it to the Tahoe-Truckee Sanitation Agency's (TTSA) regional Water Reclamation Plant.

There are some areas that are not served by centralized wastewater collection and treatment. Water customers in the Prosser Heights, Prosser Lakeview, Ponderosa Palisades and Martiswoods areas are all served by individual septic tank and leachfield systems. TSD has been expanding its collection system into the Sierra Meadows subdivision

WASTEWATER QUANTITIES AND TREATMENT

Currently, all wastewater collected by the Truckee Sanitary District is conveyed to the TTSA Water Reclamation Plant for treatment. The plant has a current capacity of 4.83 mgd and treats wastewater from the entire north Lake Tahoe area within the state of California. About 2 million gallons per day of wastewater is conveyed by TSD to the treatment plant. No data is available to quantify the amount of wastewater treated by individual septic tank and leachfield systems

The treatment process involves full tertiary treatment including phosphorus and ammonia removal. Treated effluent is discharged into the uppermost layer of the groundwater aquifer using surface spray irrigation and subsurface percolation. Most of this water discharges from the aquifer into the Truckee River, contributing about 6 feet per second to the flow of the river. Sludge generated by the wastewater treatment process is conveyed to the Lockwood Regional Landfill for disposal.

CURRENT AND POTENTIAL USE OF RECYCLED WATER

As noted above all water treated at the TTSA plant is discharged into the upper groundwater aquifer, through which it eventually flows into the Truckee River. Currently, there is no usage of recycled water for commercial, industrial or irrigation purposes within the District's service territory.

In November 1990, the Truckee-Carson-Pyramid Lake Water Rights Settlement Act, Title II of Public Law 101-618 [104 Stat. 3289, 3294] was signed into law by the US Government. Section 204.c.1.G of that Act essentially prohibits the reduction in return flow of treated wastewater to the Truckee River and thereby precludes opportunities for the use of recycled water. The text of the Section is given below:

- G) if the Tahoe-Truckee Sanitation Agency or its successor (hereafter 'TTSA') changes in whole or in part the place of disposal of its treated wastewater to a place outside the area between Martis Creek and the Truckee River below elevation 5800 NGVD Datum, or changes the existing method of disposing of its wastewater, which change in place or method of disposal reduces the amount or substantially changes the timing of return flows to the Truckee River of the treated wastewater, TTSA shall:
- (i) acquire or arrange for the acquisition of preexisting water rights to divert and use water of the Truckee River or its tributaries in California or Nevada and discontinue the diversion and use of water at the preexisting point of diversion and place of use under such rights in a manner legally sufficient to offset such reduction in the amount of return flow or change in timing, and California's Truckee River basin gross diversion allocation shall continue to be charged the amount of the discontinued diversion; or
 - (ii) in compliance with California law, extract and discharge into the Truckee River or its tributaries an amount of Truckee River basin groundwater in California sufficient to offset such reduction or change in timing, subject to the following conditions:
 - (a) extraction and discharge of Truckee River Basin groundwater for purposes of this paragraph shall comply with the terms and conditions of subparagraphs 204(c)(1) (B) and (D) and shall not be deemed use of Truckee River basin groundwater within the State of Nevada within the meaning of subparagraph 204(c)(1)(D); and
 - (b) California's Truckee River basin gross diversion allocation shall be charged immediately with the amount of groundwater discharged and, when California's Truckee River Basin gross diversion allocation equals 22,000 acre-feet or when the total of any reductions resulting from the changes in the place or method of disposal exceed 1000 acre-feet, whichever occurs first, the California Truckee River basin gross diversion allocation shall thereafter be charged with an additional amount of water required to compensate for the return flows which would otherwise have accrued to the Truckee River basin from municipal and industrial use of the discharged groundwater. In no event shall the total of California's Truckee River gross diversions and extractions exceed 32,000 acre-feet.
 - (iii) For purposes of this paragraph, the existing method of disposal shall include, in addition to underground leach field disposal, surface spray or sprinkler infiltration of treated wastewater on the site between Martis Creek and the Truckee River referred to in this subsection.

- (iv) The provisions of this paragraph requiring the acquisition of water rights or the extraction and discharge of groundwater to offset reductions in the amount or timing of return flow to the Truckee River shall also apply to entities other than TTSA that may treat and dispose of wastewater within the California portion of the Truckee River basin, but only if and to the extent that the treated wastewater is not returned to the Truckee River or its tributaries, as to timing and amount, substantially as if the wastewater had been treated and disposed of by TTSA in its existing place of disposal and by its existing method of disposal. The provisions of this paragraph shall not apply to entities treating and disposing of the wastewater from less than eight dwelling units.

APPENDIX A

TEXT OF THE URBAN WATER MANAGEMENT PLANNING ACT

Established: AB 797, Klehs, 1983

Amended: AB 2661, Klehs, 1990

AB 11X, Filante, 1991

AB 1869, Speier, 1991

AB 892, Frazee, 1993

SB 1017, McCorquodale, 1994

AB 2853, Cortese, 1994

AB 1845, Cortese, 1995

SB 1011, Polanco, 1995

AB 2552, Bates, 2000

SB 553, Kelley, 2000

SB 610, Costa, 2001

AB 901, Daucher, 2001

SB 672, Machado, 2001

SB 1348, Brulte, 2002

SB 1384, Costa, 2002

SB 1518, Torlakson, 2002

AB 105, Wiggins, 2004

SB 318, Alpert, 2004

CALIFORNIA WATER CODE DIVISION 6 PART 2.6. URBAN WATER MANAGEMENT PLANNING

CHAPTER 1. GENERAL DECLARATION AND POLICY

10610. This part shall be known and may be cited as the "Urban Water Management Planning Act."

10610.2. (a) The Legislature finds and declares all of the following:

- (1) The waters of the state are a limited and renewable resource subject to ever-increasing demands.
- (2) The conservation and efficient use of urban water supplies are of statewide concern; however, the planning for that use and the implementation of those plans can best be accomplished at the local level.
- (3) A long-term, reliable supply of water is essential to protect the productivity of California's businesses and economic climate.
- (4) As part of its long-range planning activities, every urban water supplier should make every effort to ensure the appropriate level of reliability in

its water service sufficient to meet the needs of its various categories of customers during normal, dry, and multiple dry water years.

- (5) Public health issues have been raised over a number of contaminants that have been identified in certain local and imported water supplies.
- (6) Implementing effective water management strategies, including groundwater storage projects and recycled water projects, may require specific water quality and salinity targets for meeting groundwater basins water quality objectives and promoting beneficial use of recycled water.
- (7) Water quality regulations are becoming an increasingly important factor in water agencies' selection of raw water sources, treatment alternatives, and modifications to existing treatment facilities.
- (8) Changes in drinking water quality standards may also impact the usefulness of water supplies and may ultimately impact supply reliability.
- (9) The quality of source supplies can have a significant impact on water management strategies and supply reliability.

(b) This part is intended to provide assistance to water agencies in carrying out their long-term resource planning responsibilities to ensure adequate water supplies to meet existing and future demands for water.

10610.4. The Legislature finds and declares that it is the policy of the state as follows:

- (a) The management of urban water demands and efficient use of water shall be actively pursued to protect both the people of the state and their water resources.
- (b) The management of urban water demands and efficient use of urban water supplies shall be a guiding criterion in public decisions.
- (c) Urban water suppliers shall be required to develop water management plans to actively pursue the efficient use of available supplies.

CHAPTER 2. DEFINITIONS

10611. Unless the context otherwise requires, the definitions of this chapter govern the construction of this part.

10611.5. "Demand management" means those water conservation measures, programs, and incentives that prevent the waste of water and promote the reasonable and efficient use and reuse of available supplies.

10612. "Customer" means a purchaser of water from a water supplier who uses the water for municipal purposes, including residential, commercial, governmental, and industrial uses.

10613. "Efficient use" means those management measures that result in the most effective use of water so as to prevent its waste or unreasonable use or unreasonable method of use.

10614. "Person" means any individual, firm, association, organization, partnership, business, trust, corporation, company, public agency, or any agency of such an entity.

10615. "Plan" means an urban water management plan prepared pursuant to this part. A plan shall describe and evaluate sources of supply, reasonable and practical efficient uses, reclamation and demand management activities. The components of the plan may vary according to an individual community or area's characteristics and its capabilities to efficiently use and conserve water. The plan shall address measures for residential, commercial, governmental, and industrial water demand management as set forth in Article 2 (commencing with Section 10630) of Chapter 3. In addition, a strategy and time schedule for implementation shall be included in the plan.

10616. "Public agency" means any board, commission, county, city and county, city, regional agency, district, or other public entity.

10616.5. "Recycled water" means the reclamation and reuse of wastewater for beneficial use.

10617. "Urban water supplier" means a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually. An urban water supplier includes a supplier or contractor for water, regardless of the basis of right, which distributes or sells for ultimate resale to customers. This part applies only to water supplied from public water systems subject to Chapter 4 (commencing with Section 116275) of Part 12 of Division 104 of the Health and Safety Code.

CHAPTER 3. URBAN WATER MANAGEMENT PLANS

Article 1. General Provisions

10620.

- (a) Every urban water supplier shall prepare and adopt an urban water management plan in the manner set forth in Article 3 (commencing with Section 10640).

- (b) Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.
- (c) An urban water supplier indirectly providing water shall not include planning elements in its water management plan as provided in Article 2 (commencing with Section 10630) that would be applicable to urban water suppliers or public agencies directly providing water, or to their customers, without the consent of those suppliers or public agencies.
- (d)
 - (1) An urban water supplier may satisfy the requirements of this part by participation in areawide, regional, watershed, or basinwide urban water management planning where those plans will reduce preparation costs and contribute to the achievement of conservation and efficient water use.
 - (2) Each urban water supplier shall coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.
- (e) The urban water supplier may prepare the plan with its own staff, by contract, or in cooperation with other governmental agencies.
- (f) An urban water supplier shall describe in the plan water management tools and options used by that entity that will maximize resources and minimize the need to import water from other regions.

10621.

- (a) Each urban water supplier shall update its plan at least once every five years on or before December 31, in years ending in five and zero.
- (b) Every urban water supplier required to prepare a plan pursuant to this part shall notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. The urban water supplier may consult with, and obtain comments from, any city or county that receives notice pursuant to this subdivision.
- (c) The amendments to, or changes in, the plan shall be adopted and filed in the manner set forth in Article 3 (commencing with Section 10640).

Article 2. Contents of Plans

10630. It is the intention of the Legislature, in enacting this part, to permit levels of water management planning commensurate with the numbers of customers served and the volume of water supplied.

10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:

- (a) Describe the service area of the supplier, including current and projected population, climate, and other demographic factors affecting the supplier's water management planning. The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available.
- (b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a). If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:
 - (1) A copy of any groundwater management plan adopted by the urban water supplier, including plans adopted pursuant to Part 2.75 (commencing with Section 10750), or any other specific authorization for groundwater management.
 - (2) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater. For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree.

For basins that have not been adjudicated, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition.

- (3) A detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

- (4) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the urban water supplier. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.
- (c) Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable, and provide data for each of the following:
 - (1) An average water year.
 - (2) A single dry water year.
 - (3) Multiple dry water years.

For any water source that may not be available at a consistent level of use, given specific legal, environmental, water quality, or climatic factors, describe plans to supplement or replace that source with alternative sources or water demand management measures, to the extent practicable.

- (d) Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.
- (e)
 - (1) Quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, identifying the uses among water use sectors including, but not necessarily limited to, all of the following uses:
 - (A) Single-family residential.
 - (B) Multifamily.
 - (C) Commercial.
 - (D) Industrial.
 - (E) Institutional and governmental.
 - (F) Landscape.
 - (G) Sales to other agencies.
 - (H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof.
 - (I) Agricultural.
 - (2) The water use projections shall be in the same five-year increments described in subdivision (a).

- (f) Provide a description of the supplier's water demand management measures. This description shall include all of the following:
- (1) A description of each water demand management measure that is currently being implemented, or scheduled for implementation, including the steps necessary to implement any proposed measures, including, but not limited to, all of the following:
 - (A) Water survey programs for single-family residential and multifamily residential customers.
 - (B) Residential plumbing retrofit.
 - (C) System water audits, leak detection, and repair.
 - (D) Metering with commodity rates for all new connections and retrofit of existing connections.
 - (E) Large landscape conservation programs and incentives.
 - (F) High-efficiency washing machine rebate programs.
 - (G) Public information programs.
 - (H) School education programs.
 - (I) Conservation programs for commercial, industrial, and institutional accounts.
 - (J) Wholesale agency programs.
 - (K) Conservation pricing.
 - (L) Water conservation coordinator.
 - (M) Water waste prohibition.
 - (N) Residential ultra-low-flush toilet replacement programs.
 - (2) A schedule of implementation for all water demand management measures proposed or described in the plan.
 - (3) A description of the methods, if any, that the supplier will use to evaluate the effectiveness of water demand management measures implemented or described under the plan.

- (4) An estimate, if available, of existing conservation savings on water use within the supplier's service area, and the effect of the savings on the supplier's ability to further reduce demand.
- (g) An evaluation of each water demand management measure listed in paragraph (1) of subdivision (f) that is not currently being implemented or scheduled for implementation. In the course of the evaluation, first consideration shall be given to water demand management measures, or combination of measures, that offer lower incremental costs than expanded or additional water supplies. This evaluation shall do all of the following:
- (1) Take into account economic and noneconomic factors, including environmental, social, health, customer impact, and technological factors.
 - (2) Include a cost-benefit analysis, identifying total benefits and total costs.
 - (3) Include a description of funding available to implement any planned water supply project that would provide water at a higher unit cost.
 - (4) Include a description of the water supplier's legal authority to implement the measure and efforts to work with other relevant agencies to ensure the implementation of the measure and to share the cost of implementation.
- (h) Include a description of all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water use as established pursuant to subdivision (a) of Section 10635. The urban water supplier shall include a detailed description of expected future projects and programs, other than the demand management programs identified pursuant to paragraph (1) of subdivision (f), that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in average, single-dry, and multiple-dry water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.
- (i) Describe the opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply.
- (j) Urban water suppliers that are members of the California Urban Water Conservation Council and submit annual reports to that council

in accordance with the “Memorandum of Understanding Regarding Urban Water Conservation in California,” dated September 1991, may submit the annual reports identifying water demand management measures currently being implemented, or scheduled for implementation, to satisfy the requirements of subdivisions (f) and (g).

- (k) Urban water suppliers that rely upon a wholesale agency for a source of water, shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier’s plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (c). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (c), including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply.

10631.5. The department shall take into consideration whether the urban water supplier is implementing or scheduled for implementation, the water demand management activities that the urban water supplier identified in its urban water management plan, pursuant to Section 10631, in evaluating applications for grants and loans made available pursuant to Section 79163. The urban water supplier may submit to the department copies of its annual reports and other relevant documents to assist the department in determining whether the urban water supplier is implementing or scheduling the implementation of water demand management activities.

10632. The plan shall provide an urban water shortage contingency analysis which includes each of the following elements which are within the authority of the urban water supplier:

- (a) Stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to a 50 percent reduction in water supply, and an outline of specific water supply conditions which are applicable to each stage.
- (b) An estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency's water supply.
- (c) Actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including,

but not limited to, a regional power outage, an earthquake, or other disaster.

- (d) Additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning.
- (e) Consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.
- (f) Penalties or charges for excessive use, where applicable.
- (g) An analysis of the impacts of each of the actions and conditions described in subdivisions (a) to (f), inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments.
- (h) A draft water shortage contingency resolution or ordinance.
- (i) A mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.

10633. The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. The preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area, and shall include all of the following:

- (a) A description of the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.
- (b) A description of the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.
- (c) A description and quantification of the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.

- (d) The projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.
- (e) A description of actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre-feet of recycled water used per year.
- (f) A plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.

10634. The plan shall include information, to the extent practicable, relating to the quality of existing sources of water available to the supplier over the same five-year increments as described in subdivision (a) of Section 10631, and the manner in which water quality affects water management strategies and supply reliability.

Article 2.5 Water Service Reliability

10635.

- (a) Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and multiple dry water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.
- (b) The urban water supplier shall provide that portion of its urban water management plan prepared pursuant to this article to any city or county within which it provides water supplies no later than 60 days after the submission of its urban water management plan.
- (c) Nothing in this article is intended to create a right or entitlement to water service or any specific level of water service.

- (d) Nothing in this article is intended to change existing law concerning an urban water supplier's obligation to provide water service to its existing customers or to any potential future customers.

Articl 3. Adoption and Implementation of Plans

10640. Every urban water supplier required to prepare a plan pursuant to this part shall prepare its plan pursuant to Article 2 (commencing with Section 10630).

The supplier shall likewise periodically review the plan as required by Section 10621, and any amendments or changes required as a result of that review shall be adopted pursuant to this article.

10641. An urban water supplier required to prepare a plan may consult with, and obtain comments from, any public agency or state agency or any person who has special expertise with respect to water demand management methods and techniques.

10642. Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan. Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection and shall hold a public hearing thereon. Prior to the hearing, notice of the time and place of hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code. The urban water supplier shall provide notice of the time and place of hearing to any city or county within which the supplier provides water supplies. A privately owned water supplier shall provide an equivalent notice within its service area. After the hearing, the plan shall be adopted as prepared or as modified after the hearing.

10643. An urban water supplier shall implement its plan adopted pursuant to this chapter in accordance with the schedule set forth in its plan.

10644.

- (a) An urban water supplier shall file with the department and any city or county within which the supplier provides water supplies a copy of its plan no later than 30 days after adoption. Copies of amendments or changes to the plans shall be filed with the department and any city or county within which the supplier provides water supplies within 30 days after adoption.
- (b) The department shall prepare and submit to the Legislature, on or before December 31, in the years ending in six and one, a report summarizing the status of the plans adopted pursuant to this part. The report prepared by the department shall identify the outstanding elements of the individual plans. The department shall provide a copy of the report to each urban water supplier that has filed its plan with the department. The department shall

also prepare reports and provide data for any legislative hearings designed to consider the effectiveness of plans submitted pursuant to this part.

10645. Not later than 30 days after filing a copy of its plan with the department, the urban water supplier and the department shall make the plan available for public review during normal business hours.

CHAPTER 4. MISCELLANEOUS PROVISIONS

10650. Any actions or proceedings to attack, review, set aside, void, or annul the acts or decisions of an urban water supplier on the grounds of noncompliance with this part shall be commenced as follows:

- (a) An action or proceeding alleging failure to adopt a plan shall be commenced within 18 months after that adoption is required by this part.
- (b) Any action or proceeding alleging that a plan, or action taken pursuant to the plan, does not comply with this part shall be commenced within 90 days after filing of the plan or amendment thereto pursuant to Section 10644 or the taking of that action.

10651. In any action or proceeding to attack, review, set aside, void, or annul a plan, or an action taken pursuant to the plan by an urban water supplier on the grounds of noncompliance with this part, the inquiry shall extend only to whether there was a prejudicial abuse of discretion. Abuse of discretion is established if the supplier has not proceeded in a manner required by law or if the action by the water supplier is not supported by substantial evidence.

10652. The California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) does not apply to the preparation and adoption of plans pursuant to this part or to the implementation of actions taken pursuant to Section 10632. Nothing in this part shall be interpreted as exempting from the California Environmental Quality Act any project that would significantly affect water supplies for fish and wildlife, or any project for implementation of the plan, other than projects implementing Section 10632, or any project for expanded or additional water supplies.

10653. The adoption of a plan shall satisfy any requirements of state law, regulation, or order, including those of the State Water Resources Control Board and the Public Utilities Commission, for the preparation of water management plans or conservation plans; provided, that if the State Water Resources Control Board or the Public Utilities Commission requires additional information concerning water conservation to implement its existing authority, nothing in this part shall be deemed to limit the board or the commission in obtaining that information. The requirements of this part shall be satisfied by any urban water demand management plan prepared to meet federal laws

or regulations after the effective date of this part, and which substantially meets the requirements of this part, or by any existing urban water management plan which includes the contents of a plan required under this part.

10654. An urban water supplier may recover in its rates the costs incurred in preparing its plan and implementing the reasonable water conservation measures included in the plan. Any best water management practice that is included in the plan that is identified in the "Memorandum of Understanding Regarding Urban Water Conservation in California" is deemed to be reasonable for the purposes of this section.

10655. If any provision of this part or the application thereof to any person or circumstances is held invalid, that invalidity shall not affect other provisions or applications of this part which can be given effect without the invalid provision or application thereof, and to this end the provisions of this part are severable.

10656. An urban water supplier that does not prepare, adopt, and submit its urban water management plan to the department in accordance with this part, is ineligible to receive funding pursuant to Division 24 (commencing with Section 78500) or Division 26 (commencing with Section 79000), or receive drought assistance from the state until the urban water management plan is submitted pursuant to this article.

10657.

- (a) The department shall take into consideration whether the urban water supplier has submitted an updated urban water management plan that is consistent with Section 10631, as amended by the act that adds this section, in determining whether the urban water supplier is eligible for funds made available pursuant to any program administered by the department.
- (b) This section shall remain in effect only until January 1, 2006, and as of that date is repealed, unless a later enacted statute, that is enacted before January 1, 2006, deletes or extends that date.

APPENDIX B

ORDINANCE NO. 2005-05 FINDING THE NECESSITY FOR AND ADOPTING A WATER CONSERVATION PROGRAM IN THE EVENT OF A WATER SUPPLY EMERGENCY

COPY



Ordinance No. 2005 - 05

FINDING THE NECESSITY FOR AND ADOPTING A WATER CONSERVATION PROGRAM IN THE EVENT OF A WATER SUPPLY EMERGENCY

WHEREAS, California Water Code Sections 375 et. seq. permit public entities which supply water at retail to adopt and enforce a water conservation program to reduce the quantity of water used by the people therein for the purpose of conserving the water supplies of such public entity;

WHEREAS, California Water Code Section 10632 requires an urban water supplier to describe stages of action to be undertaken in the event of a water supply shortage;

WHEREAS, the Board of Directors of the Truckee Donner Public Utility District has determined that it is necessary to establish a water conservation program in the event of any future water supply shortage;

WHEREAS, the Board finds and determines that a water shortage could exist in the event of major failure of one or more components of the water system;

WHEREAS, the Board also finds and determines that the water sources available be put to maximum beneficial use to the extent to which they are capable, and that the waste or unreasonable use, or unreasonable method of use, of water be prevented and that the conservation of such water be encouraged with a view to the maximum reasonable and beneficial use thereof in the interest of the people of the District and for the public welfare.

NOW THEREFORE BE IT RESOLVED by the Board of Directors of the District as follows:

1. The General Manager is hereby authorized and directed to implement the provisions of this ordinance. Additionally, the General Manager is hereby authorized to make minor and limited exceptions to prevent undue hardship or unreasonable restrictions, provided that water shall not be wasted or used unreasonably and the purpose of this ordinance can be accomplished.
2. The provisions of this Ordinance shall apply to all water served to persons, customers, and property by the District. The District shall declare which portions of the service area are subject to a water supply emergency and the requirements of this ordinance.
3. **Water Conservation Stages:** No person shall knowingly use water or permit the use of water supplied by the District for commercial, industrial, agricultural, governmental, or any other purpose in a manner contrary to any provision of this ordinance, in an amount in excess of the amounts authorized by this ordinance or during any period of time other than the periods of time specified in this ordinance. At no time shall water be wasted or used unreasonably.

4. The following stages shall take effect upon declaration as herein provided:
- (a) Stage 1 – 10% Reduction in Water Usage - Voluntary Compliance: Stage 1 applies during periods that the District determines that water usage should be reduced approximately 10% in order to meet all of the water demands of its customers. Specific mandated restrictions in water use for Stage 1 are as follows:
 - 1. All new water connections shall be prohibited in the area affected by the water conservation requirement.
 - (b) Stage 2 – 30% Reduction in Water Usage - Mandatory Compliance: Stage 2 applies during periods that the District determines that water usage should be reduced approximately 30% in order to meet all of the water demands of its customers. Specific additional mandated restrictions in water use for Stage 2 are as follows:
 - 1. All outdoor water uses are prohibited. The District may discontinue service to irrigation services.
 - 2. The withdrawal of water for construction purposes shall be prohibited in the area affected by the water conservation requirement.
 - 3. Customers may be subject to fines and penalties for failure to comply with this requirement.
 - 4. The District may install flow restricting devices on a customers service.
 - (c) Stage 3 – 50% Reduction in Water Usage - Mandatory Compliance: Stage 3 applies during periods that the District determines that water usage should be reduced approximately 50% in order to meet all of the water demands of its customers. Specific additional mandated restrictions in water use for Stage 3 are as follows:
 - 1. Customers shall be required to repair any known leaks on piping owned by the customer. In the event that such leaks are not repaired in a timely manner, the District may perform the repair or hire a contractor to perform the repair, and then invoice the customer for those costs.
 - 2. The District may implement mandatory water rationing through the use of forced rolling outages.
5. **Implementation of Conservation Stages.** The District shall monitor the projected supply and demand for water by its customers on a daily basis. In the event of an emergency, the General Manager shall determine the extent of the conservation required through the implementation and/or termination of particular conservation stages in order for the District to prudently plan for and supply water to its customers. Thereafter, the General Manager may order that the appropriate stage of water conservation be implemented or terminated in accordance with the applicable provision of this Ordinance. Water system customers shall be notified of water conservation stages by one or more of the following methods:
- (a) Doorhanger notices delivered to the property served
 - (b) Mass mailing to customers and property owners

- (c) Announcements in local media such as newspapers, radio and television
- (d) Any other methods deemed appropriate by the General Manager

The stage designated shall become effective immediately upon announcement. The declaration of any stage shall be reported to the Board as soon as practicable and convene a special meeting as soon as possible. The Board shall thereupon ratify the declaration, rescind the declaration, or direct the declaration of a different stage.

6. **Penalties and Fines.** It shall be unlawful for any customer of the District to fail to comply with any of the provisions of this ordinance. Failure to comply with any of the provisions of this Ordinance shall be as follows:
- (a) For the first violation by any customer of any of the provisions of this Ordinance, the District shall verbally notice the fact of such violation.
 - (b) For a second violation by any customer of any of the provisions of this Ordinance, the District shall issue a personal notice of the fact of such violation to the customer.
 - (c) For a third violation by a customer of any provision of this ordinance, the District may install an appropriate flow restricting device upon a prior determination that the customer has repeatedly violated the provisions of this Ordinance and that such action is reasonably necessary to assure compliance with this ordinance. Such action shall be taken only after a hearing held by the General Manager, where the customer has an opportunity to respond to the District's information or evidence that the customer has repeatedly violated the provisions of this Ordinance. As determined by the General Manager, any such restricted service may be restored upon application of the customer made not less than forty-eight (48) hours after the implementation of the action restricting service and only upon a showing by the customer that the customer is ready, willing and able to comply with the provisions of this Ordinance. Prior to any restoration of service, the customer shall pay all District charges for any restriction of service and its restoration as provided for in the District's rules governing water service. Any willful tampering with or removal of any flow restriction device shall result in termination of service for a period to be determined by the General Manager.
 - (d) Notice. The District shall give notice of each violation to the customer committing such violation as follows:
 - 1. For any violation of the provisions of this Ordinance, the District may give written notice of the fact of such violation to the customer personally or by U. S. mail, first class, registered postage paid.
 - 2. If the penalty assessed is, or includes, the installation of a flow restrictor to the customer, notice of the violation shall be given in the following manner:
 - a. By giving written notice thereof to the customer personally; or
 - b. If the customer be absent from or unavailable at either his place of residence or his assumed place of business, by leaving a copy with some person of suitable age and discretion at either place, and sending a copy through the U.S. mail, first class, registered postage prepaid, addressed to the customer at his place of business, residence, or such other address provided by the customer for bills for water or electric service if such can be ascertained; or

- c. If such place or residence, business or other address cannot be ascertained, or a person of suitable age or discretion at any such place cannot be found, then by affixing a copy in a conspicuous place on the property where the failure to comply is occurring and also be delivering a copy to a person of suitable age and discretion there residing, or employed, if such person can be found, and also sending a copy through the U.S. mail, first class, registered postage prepaid, addressed to the customer at the place where the property is situated as well as such other address provided by the customer for bills for water or electric service if such can be ascertained.
- 3. Said notice shall contain, in addition to the facts of the violation, a statement of the possible penalties for each violation and statement informing the customer of his right to a hearing on the violation.
- (e) **Appeals.** Any customer against whom a penalty is levied pursuant to this section shall have a right to an appeal, in the first instance to the General Manager with the right of appeal to the District's Board of Directors, on the merits of the alleged violation, upon written request of that customer to the District within fifteen days of the date of notification of the violation.

PASSED AND ADOPTED by the Board of Directors at a meeting duly called and held within the District on the second day of November 2005 by the following roll call vote:

AYES: Directors Aguera, Hemig, Sutton, Taylor and Thomason

NOES: None

ABSTAIN: None

ABSENT: None

TRUCKEE DONNER PUBLIC UTILITY DISTRICT

By J. Ron Hemig
J. Ron Hemig, President of the Board

ATTEST: Peter L. Holzmeister
Peter L. Holzmeister, Clerk of the Board

I, BARBARA H. CAMEL, HEREBY CERTIFY THAT
FORWARDED IS A TRUE AND CORRECT COPY
OF Ordinance 2005-05

AND FURTHER CERTIFY THAT SUCH DOCUMENT
HAS NOT BEEN AMENDED OR REPEALED.

Barbara H. Camel

APPENDIX C

RESOLUTION 2005-31 ADOPTION OF THE URBAN WATER MANAGEMENT PLAN



Resolution No. 2005 - 31

ADOPTION OF THE URBAN WATER MANAGEMENT PLAN

WHEREAS, the California Legislature enacted Assembly Bill 797 (Water Code Section 10610 et seq., known as the Urban Water Management Planning Act) during the 1983-1984 Regular Session, and as amended subsequently, which mandates that every supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre feet of water annually, prepare an Urban Water Management Plan, the primary objective of which is to plan for the conservation and efficient use of water; and

WHEREAS, the District is an urban supplier of water providing water to over 3,000 customers; and

WHEREAS, the Plan shall be periodically reviewed at least once every five years, and that the Truckee Donner Public Utility District shall make any amendments or changes to its plan which are indicated by the review; and

WHEREAS, the District has therefore, prepared and circulated for public review a draft Urban Water Management Plan, and a properly noticed public hearing regarding said Plan was held by the Truckee Donner Public Utility District on October 5, 2005 and continued on November 2, 2005; and

WHEREAS, the Plan must be adopted by December 31, 2005 after the public review and hearing, and filed with the California Department of Water Resources within thirty days of adoption; and

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the Truckee Donner Public Utility District as follows:

1. That the above recitations are true and correct.
2. That the 2005 Urban Water Management Plan is adopted.

PASSED AND ADOPTED by the Board of Directors at a meeting duly called and held within the District on the second day of November, 2005 by the following roll call vote:

AYES: Directors, Aguera, Hemig, Sutton Taylor and Thomason
NOES: None
ABSENT: None

TRUCKEE DONNER PUBLIC UTILITY DISTRICT

J. Ron Hemig, President

ATTEST:

Peter L. Holzmeister, District Clerk

I, BARBARA H. CAHILL, HEREBY CERTIFY THAT THE FOREGOING IS A TRUE AND CORRECT COPY OF
Resolution 2005-31
AND FURTHER CERTIFY THAT SUCH DOCUMENT HAS NOT BEEN AMENDED OR REPEALED.

Barbara H. Cahill