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Section 1: Introduction

Sections 10620 - 10656 of the California Water Code require the Groveland Community Services District (GCSD or District) to develop an Urban Water Management Plan and to update the plan every five years.

1.1 Purpose

This update of the Urban Water Management Plan will identify the current and future anticipated demands on the existing water supply system. The District has compared available water supplies with expected future water demands, has analyzed the possibility of a drought-induced water shortage, and has adopted various management procedures to be implemented during both normal and emergency conditions.

1.2 Benefits

GCSD expects the implementation of long range water planning to help anticipate overall future water demands, identify timing for expansions to treatment plants, storage facilities or transmission lines, and foresee the need to increase water supplies. Use of recycled water will help augment raw water supplies and postpone the increased water supply demand. The Water Shortage Contingency Plans will provide uniform direction for District Board and staff decisions during periods of critical year drought.

1.3 Public Participation

Groveland Community Services District encourages public participation in the development of its Urban Water Management Plan updates, which will occur every five years. GCSD sought input from Tuolumne County, the Pine Mountain Lake Association, and the communities of Big Oak Flat and Groveland.

A public meeting workshop, during which the District's Board of Directors sought public input, was held on xx, 2009, prior to final approval by the GCSD Board of Directors. The meeting was noticed in the Union Democrat, the Yosemite Highway Herald, the Pine Mountain Lake Association News, and on the District's website. Copies of the report were made available for public review at the

District's office, as well as on the District's website. The public hearing notice is shown in Appendix A.

1.4 Plan Adoption

This is the first Urban Water Management Plan (UWMP) to be adopted by GCSD. The plan was adopted by the GCSD Board of Directors on xx, 2009, and was submitted to the California Department of Water Resources. Appendix B is the Resolution of Plan Adoption, as adopted by the Board of Directors.

1.5 GCSD's Service Area

GCSD is a public agency chartered under of California Government Code Section 61000, *et seq*. The District provides water, wastewater, fire, parks, and community buildings. GCSD service area covers approximately 25 square miles in southern Tuolumne County.

The District is bounded on the north by the Tuolumne River, on the south by Mariposa County, on the east by the Stanislaus National Forest, and on the west by Moccasin. The total area within GCSD boundaries is approximately 25 square miles. GCSD is the owner and operator of the Groveland Water System, which receives water from the City and County of San Francisco. GCSD's Water System distributes the water to the populated areas of Big Oak Flat, Groveland, and Pine Mountain Lake. The attached map shows the distribution water system within the District's service area. The GCSD water supply and distribution system includes three water treatment plants, five storage reservoirs, and approximately 70 miles of distribution piping. The District provides a treated water supply to approximately 3,500 customers. The District also owns and operates the regional wastewater collection, treatment, and regional recycled water system, which provides sewer service to approximately 1,500 customers within the District's service area.

1.6 Population Projections

The 2009 population within GCSD was an estimated 6,426 persons as defined by the Agreement with SFPUC. For planning purposes, GCSD has determined that the growth rate forecast for our service area is approximately 1.0 percent per annum. The projected population for the service area is depicted in Table 1.

Table 1

POPULATION PROJECTION						
Year	**2010**	**2015**	**2020**	**2025**	**2030**	**Ult**
Service Area Population	6426	6747	7068	7389	7710	8854

MAP

1.7 Climate

Tuolumne County has a varying range of temperature and precipitation. The Sierra Nevada foothill areas experience hot, dry summers and mild winters. The higher elevations, above 5,000 feet, experience long and severe winters, accompanied by heavy snowfall. Table 2 shows the precipitation and temperature averages for the Groveland area.

Table 2

TEMPERATURE AND RAINFALL						
	January	February	March	April	May	June
Average Rainfall	5.9	5.4	6.6	3.3	1.2	0.3
Average Temperature	39.4	42.5	46.7	51.4	58.2	65.3
	July	August	September	October	November	December
Average Rainfall	0.0	0.0	0.1	2.1	5.0	7.2
Average Temperature	71.1	71.8	65.2	56.4	49.4	40.5
Annual Average						
Average Rainfall	37.2	inches				
Temperatures	54.8	degrees F				

1.8 Topography

The topography of Tuolumne County varies greatly, from gently rolling terrain at the lower elevations to steep hilly uplands deeply traversed by streams and tributaries that drain to the Tuolumne River. A large number of GCSD's customers reside in or near the communities of Big Oak Flat, Groveland, and Pine Mountain Lake which are at about the 2,800-foot elevation. GCSD treated water service area includes semi-rural areas up to about elevation 3,300 feet.

Two passes with paved roads cross the Sierra Nevada Mountains in Tuolumne County: Sonora Pass (9,628-feet) and Tioga Pass (9,941-feet). This high elevation to the east serves as the watershed for the GCSD water supply with significant snow pack during the winter months.

1.9 Soils and Land Use

The majority of Tuolumne County is underlain by hard, impermeable bedrock such as greenstone, schist, and granite. Some of these rocks are fractured

and these fractures can yield relatively small amounts of groundwater to wells that intersect them.

The soils in the GCSD service area are derived from the underlying granodiorite and schist bedrock, which in places has weathered to decomposed granite with large, hard, residual boulders and thin soil mantle.

Large areas of Pliocene Mehrten formations overlie the granitic bedrock. The Mehrten contains mudflows, andesitic lava, tuff and gravel. In general the soil was formed in place by the weathering and decomposition of the underlying rock material.

Crop adaptability of the upland soils is largely restricted to irrigated pasture or various deciduous orchards. Both slope and soil depth directly affect the degree of suitability of lands for irrigation or development, as does public land ownership.

In 1897, the lumber industry realized the commercial value of the trees in the higher elevation. Logging subsequently has become a major industry for the County. Large segments of irrigable land within GCSD are presently forested and subject to forest and range management. This land possesses the slope and soil characteristics to sustain irrigable agriculture lands. However, due to the conditions of the climate, location and availability of water, it will in all likelihood remain under some type of forest or range management program.

Today, over half of the County remains under federal land management by the US Forest Service, the National Park Service, and the Bureau of Land Management. The Stanislaus National Forest, Emigrant Wilderness, and most of Yosemite National Park are located within Tuolumne County. For this reason, future development will be limited. In the Groveland area, tourism, and to a lesser extent, logging are the major industries. Residential development, primarily retirees and people building second homes, is slowly growing in the GCSD service area.

1.10 Background and History of GCSD's Water System

Since the early California Gold Rush days, the Groveland area was a center of gold mining activity. However, from its beginnings the area has not had sufficient water to support these activities. Over the years many have undertaken efforts to bring water to Groveland and Big Oak Flat, and have met with varying and usually limited successes. On August 19, 1953, the Groveland Communities Services District was formed to bring much needed utility services to the Groveland area and later (1964) to the Big Oak Flat area. At first, the District tried to meet its growing water needs by tapping into groundwater from flooded mine shafts and tunnels that lay beneath the

town. This water was of generally poor quality, and contained an abundance of iron and manganese. In 1964 the District secured the rights to pump water from the City and County of San Francisco's Hetch Hetchy Mountain Tunnel Aqueduct, which runs beneath the District's service area.

Through the course of its history, the Groveland Community Services District has primarily served the residential and commercial sectors of the community.

Section 2: Water Supply Sources

2.1 Water Supply Sources

GCSD has three primary sources of water: (1) surface water from the San Francisco Public Utility Commission's (SFPUC) Hetch Hetchy Mountain Tunnel (two locations, Second Garrote Shaft and Big Creek Shaft) (2) surface water that flows into Pine Mountain Lake (water rights owned by Turlock Irrigation District) and (3) recycled water. The surface water supply from the Hetch Hetchy Mountain Tunnel accounts for 83.3 percent of total supply. Groundwater in Tuolumne County is severely limited due to the hard, impermeable bedrock that covers the majority of the County and due to the high naturally occurring iron content of the groundwater. Recycled water is used by the Pine Mountain Lake Association's Golf Course and by the District's spray fields which support cattle pastures.

2.2 Surface Water

The surface water is supplied to GCSD from the Hetch Hetchy Mountain Tunnel under a 1964 Agreement with the City and County of San Francisco. The Agreement was extended in 1984 and expires on March 23, 2034. Under the terms of the Agreement, GCSD is a retail customer of the City and County of San Francisco.

The supply source for Hetch Hetchy Reservoir is the Tuolumne River. The majority of this water supply originates in the upper Tuolumne River Watershed high in the Sierra Nevada Mountain Range, remote from human development and pollution. This pristine water source is protected in tunnels until it gets to GCSD. The U.S. Environmental Protection Agency and the Department of Public Health have approved the use of this drinking water source without requiring filtration. GCSD also chlorinates, chloraminates, and treats the water with ultraviolet light disinfection. The water meets the criteria of the Long Term 2 (LT2) surface water supply regulations.

The Agreement with SFPUC allows for the District to serve up to 16,299

customers (3,651 acre feet per year) by the year 2020 and 22,072 customers (4,944 acre feet per year) by the year 2050. The projection includes a factor of 200 gallons of water per customer per day. A copy of the Agreement is provided in Appendix C. The Agreement defines a contract service area boundary of 25 square miles. The District's service area is within the contract area and has not yet reached this sphere of influence boundary. Lands between the service area and the contract area must be annexed into the District before District services can be provided in this outlying area.

A Water Exchange Agreement was entered into between the City and County of San Francisco's Public Utility Commission (SFPUC) and Turlock Irrigation District (TID) on July 23, 2007. The Agreement allows GCSD to use Pine Mountain Lake as its alternative water supply when the SFPUC shuts down the Hetch Hetchy Mountain Tunnel for durations up to 60 days per year for tunnel repair or during emergencies. The volume of water that will be allowed to be used during the shutdowns is 200 acre-feet. The Water Exchange Agreement is provided in Appendix D.

2.3 Recycled Water

The District owns and operates the Regional Wastewater System which collects wastewater from about half of the water customers within the principal communities and developed areas within the District, and transmits it to the Regional Wastewater Treatment Plant for treatment. The treated wastewater (recycled water) from GCSD is then delivered to the Pine Mountain Lake Association's 18-hole golf course and the District's 14 acres of spray fields. The spray fields are also used for animal grazing. The District's recycled water supply and the use of such recycled water are more fully described in Section 8 of this Plan.

Section 3: Water Use in GCSD

3.1 Current and Project Water Use (excluding recycled water)

The average daily residential household water use for the GCSD service area is approximately 125 gallons. All customers are metered. GCSD does not break down the customer list by specific type, such as single-family residential, multi-family residential, commercial or industrial. Table 3 shows the actual and projected number of treated water customers.

Table 3

Customers and Projected Usage			
	Treated Water		
Year	Customers*	Usage A/F	Loss A/F
2005	3010	674.4	141.6
2010	3213	719.9	151.2
2015	3374	755.9	158.7
2020	3534	791.7	166.3
2025	3695	827.8	173.8
2030	3855	863.7	181.4

*Customers are synonymous with the number of water meters.

Section 4: Reliability and Planning

4.1 Past Drought and Water Demands

Current demand for water within GCSD is approximately 720 acre-feet, as shown on Table 4. This demand is customer metered water only. In addition, 21% or 141.6 acre-feet of this water is lost in the transmission and distribution system piping.

The San Francisco Public Utilities Commission's (SFPUC) reliability is expressed in terms of the system's ability to deliver water during droughts.

Reliability is defined by the amount and frequency of water delivery reductions required to balance customer demands with available supplies during droughts. The SFPUC plans its water deliveries anticipating that an unprecedented drought may occur.

The total amount of water SFPUC has available to deliver is dependent on several factors, including the amount of water that is available from natural runoff, the amount of water in storage, and the amount of water that must be released for fishery purposes.

The 1987-92 drought profoundly highlighted the shortfall between the SFPUC's supplies and demand. Based on that experience, the SFPUC assumes its "firm" capability to include that period plus an additional period of limited water availability. This "design drought" serves as the basis for planning and modeling future drought scenarios. The SFPUC design drought sequence totals an 8½-year period and is based on historical hydrology, prospective drought, and that the last 6 months of the prospective drought is the beginning of the system recovery period.

Since 1995, water demand has generally paralleled population increases. Historically, per capita water consumption has increased due to greater use of home appliances, landscaping, and other uses. However, an increased awareness for the need to conserve resulted in a general leveling off of per capita consumption until 2004 when per capita consumption again began to increase. For this plan, average daily residential connection demand is assumed to be 200 gallons.

GCSD adopted its most recently updated Water Rules and Regulations on February 25, 2008. The Ordinance does little to address GCSD's water conservation plan other than to state that if it is determined by the District that water is being negligently or wastefully used, that the District has the right to discontinue service to that customer within 5 days of giving that customer notice. However, because of the impending drought that started in 2006, the District did send out letters to all customers letting them know how they could help the District conserve water. The District maintains these suggested conservation measures on its web site.

4.2 Plans to Assure a Reliable Water Supply

The SFPUC plans to assure a reliable water supply during drought years and has implemented a Water System Improvement Plan to meet the demands of its customers. Since GCSD is on the upper part of Hetch Hetchy Aqueduct system, little or no improvement will be needed to supply GCSD under drought conditions. That, coupled with the fact that GCSD uses only 0.4 million gallons per day average compared to the 265 million gallons per day that the SFPUC delivers, makes it an insignificant impact to water supply.

SFPUC has established guidelines for water rationing during drought conditions. These guidelines are used as the basis by GCSD for voluntary and mandatory cut backs during drought conditions. They are listed in Section 7.3 of this plan.

GCSD has experienced periodic short-term outages as a result of water quality events. Due to the fact that Hetch Hetchy water is not filtered, it is subject to strict water quality standards set by the Department of Public Health. Due to occasional weather events, turbidity levels of the raw water supply sometimes exceed standards. During those events, GCSD uses its 6.7 million gallons of local reservoir storage to meet the demands of the customers. That is enough local storage to meet approximately 17 days of average annual demand. The District also plans to add another 500,000-gallon storage reservoir in the Big Oak Flat area of the District.

The District plans to install an acoustical leak detection monitoring system in its distribution system in 2010 to help recover lost water. This will be done when the water meters are converted to an automated meter reading system. The acoustical monitors will be placed on every 8th meter in the system. The data will be analyzed monthly and distribution system loss will be targeted and problem areas repaired.

Because GCSD has a contract service area agreement with SFPUC until 2034 and GCSD is located on the uppermost portion of their transmission system, GCSD and SFPUC estimate that sufficient quantities of water will be available from the Hetch Hetchy system to meet projected demands over the next twenty years, assuming a projected growth rate of 1.0 percent per year.

4.3 Normal, Single Dry-Year, and Three-Year Minimum Water Supply

Assuming a normal water condition occurs for the ensuing year, no deficiencies in water deliveries are anticipated. The SFPUC system water deliveries are approximately 265 mgd (of which GCSD's portion is 0.4 mgd), all of which can be met through existing resources.

The SFPUC plans its water deliveries anticipating that a drought worse than the 1987 through 1992 drought may occur. As a result, the SFPUC system operations are designed for providing sufficient carry-over water in SFPUC reservoirs after six years of drought. This design would enable the SFPUC to continue delivering water, although at significantly reduced levels, during and after a drought.

The SFPUC currently operates under a plan that anticipates three stages of response to water supply shortages. These responses range from voluntary customer actions, to enforced rationing, to a third stage response strictly

reserved for unprecedented drought periods. At current demand levels, the SFPUC system can expect shortages of at least 10 to 20 percent in the first 3 multiple dry years as shown by the following numbers:

Average/Normal Water Year	Single Dry Water Year	Year 1 2006	Year 2 2007	Year 3 2008
299,000 acre-feet (100 %)	269,000 acre-feet (90%)	269,000 acre-feet (90%)	239,000 acre-feet (80%)	239,000 acre-feet (80%)

The 1987-1992 drought period includes one-year and three-year sequences that are among the worst hydrologic periods project for the SFPUC system. If within the next year a single dry (critical) year occurs, the SFPUC system deliveries could be reduced by 10 percent as a precaution to continued drought. If within the next three years a critical three-year sequence recurred, the SFPUC system deliveries could be reduced by 10 to 20 percent.

The SFPUC is in the process of identifying 10 mgd of groundwater, recycled water, and conservation programs to reduce the need for rationing when demand levels increase in the future. That will decrease the amount of conservation required in a drought and is currently estimated to be a 10 percent reduction.

4.4 Transfer or Exchange Opportunities

A Water Exchange Agreement was entered into between the City and County of San Francisco's Public Utility Commission (SFPUC) and Turlock Irrigation District (TID) on July 23, 2007. The Agreement allows GCSD to use Pine Mountain Lake as their alternative water supply when the SFPUC shuts down the Hetch Hetchy Mountain Tunnel for durations up to 60 days per year for planned tunnel repair. This alternative water supply can also be used in the event of an unplanned outage of the Mountain Tunnel or during an emergency within the District water treatment system. The Water Exchange Agreement is provided in Appendix D.

Although the District does not have the authority to monitor the collection of rain water from roofs of homes for irrigation, toilet flushing, fire fighting, etc., it is a potential source of water for those uses.

Section 5: Supply and Demand Comparison Provisions

5.1 Supply and Demand Comparison

Table 4 compares current and projected water supply and demand. The

table indicates that in average, dry and critical dry precipitation years GCSD has sufficient water to meet its customer's needs through 2034. The analysis extends only until 2034, at which time a new water agreement will need to be executed between GCSD and SFPUC.

Table 4

WATER SUPPLY CRITICAL DRY PERIOD ANALYSIS									
(Supply from Hetch Hetchy)									
Footnote	*1	*2	*3	*4	*5	*6	*7	*8	*9
Calendar Year	GCSD Demand	Est. Distribution Losses	Total Demand	Total Supply	Reserve	Demand Conservation	District Commitments	Adjusted Reserves	Est.Critical Year Conservation
	(ac ft)	(ac ft)	(ac ft)	(ac ft)	(ac ft)	(ac ft)	(ac ft)	(ac ft)	(ac ft)
2005	674.4	141.6	816.0	2350	1534.0	33.7	224	1343.7	67.4
2006	683.5	143.5	827.0	2437	1610.0	34.2	224	1420.2	68.4
2007	692.6	145.4	838.0	2524	1686.0	34.6	224	1496.6	69.3
2008	701.7	147.3	849.0	2611	1762.0	35.1	224	1573.1	70.2
2009	710.8	149.2	860.0	2698	1838.0	35.5	224	1649.5	71.1
2010	719.9	151.1	871.0	2785	1914.0	36.0	224	1726.0	72.0
2011	727.1	152.7	879.8	2871	1991.2	36.4	224	1803.6	72.7
2012	734.3	154.2	888.5	2957	2068.5	36.7	224	1881.2	73.4
2013	741.5	155.7	897.2	3043	2145.8	37.1	224	1958.9	74.2
2014	748.7	157.2	905.9	3129	2223.1	37.4	224	2036.5	74.9
2015	755.9	158.7	914.6	3215	2300.4	37.8	224	2114.2	75.6
2016	763.1	160.2	923.3	3301	2377.7	38.2	224	2191.9	76.3
2017	770.3	161.7	932.0	3387	2455.0	38.5	224	2269.5	77.0
2018	777.5	163.2	940.7	3473	2532.3	38.9	224	2347.2	77.8
2019	784.7	164.7	949.4	3559	2609.6	39.2	224	2424.8	78.5
2020	791.7	166.3	958.0	3645	2687.0	39.6	224	2502.6	79.2
2021	798.9	167.7	966.6	3688	2721.4	39.9	224	2537.3	79.9
2022	806.1	169.2	975.3	3731	2755.7	40.3	224	2572.0	80.6
2023	813.3	170.7	984.0	3774	2790.0	40.7	224	2606.7	81.3
2024	820.6	172.3	992.9	3817	2824.1	41.0	224	2641.1	82.1
2025	827.8	173.8	1001.6	3860	2858.4	41.4	224	2675.8	82.8
2026	835.0	175.3	1010.3	3903	2892.7	41.8	224	2710.5	83.5
2027	842.2	176.8	1019.0	3946	2927.0	42.1	224	2745.1	84.2
Calendar Year	GCSD Demand	Est. Distributi on Losses	Total Demand	Total Supply	Reserve	Demand Conservation	District Commitments	Adjusted Reserves	Est.Critical Year Conservation
2028	849.4	178.3	1027.7	3989	2961.3	42.5	224	2779.8	84.9
2029	856.6	179.8	1036.4	4032	2995.6	42.8	224	2814.4	85.7
2030	863.7	181.4	1045.1	4075	3029.9	43.2	224	2849.1	86.4

2031	870.9	182.8	1053.7	4118	3064.3	43.5	224	2883.8	87.1
2032	878.1	184.4	1062.5	4161	3098.5	43.9	224	2918.4	87.8
2033	885.3	185.9	1071.2	4204	3132.8	44.3	224	2953.1	88.5
2034	892.6	187.4	1080.0	4247	3167.0	44.6	224	2987.6	89.3

NOTES
Critical Dry Period Water Supply Analysis

Notes:

*1 The actual GCSD Treatment Plant Production for 2009, increased by 1.0% annually thereafter.

*2 Water loss difference of 21% is the difference between what is purchased from SFPUC versus what is sold to GCSD customers.

*3 The total demand column is the GCSD customer demand plus water loss in the distribution system.

*4 Total supply is taken directly out of the 1964 Agreement between GCSD and SFPUC.

*5 The uncommitted reserve is the difference between total supply and total demand.

*6 The demand conservation for low flow showers, ultra low flush toilets, low water use washers, and other conservation measures is assumed to be 5% of customer demand.

*7 It has been assumed that Pine Mountain Lake undeveloped lots and other developable areas in the District will be the equivalent of 1,000 homes and a reserve has been set aside for that.

*8 Adjusted reserves are the reserves plus the demand conservation minus District committed water.

*9 Estimated critical year conservation would be voluntary conservation, is assumed to be 10%, but is not included in adjusted reserves.

Section 6: Water Demand Management Measures

This section discusses water conservation measures being implemented by GCSD. GCSD does not directly budget for conservation programs. Cost for the Water Demand Management Measures (DMM) or programs are folded into the public information and maintenance budgets.

Existing ordinances and policy permit the District to allocate the delivery of available water supplies among its water users. The annual allocation of water during a critical year is based upon projections of residential, municipal, commercial and industrial use. The next highest priority is for maintaining fire protection. The last priority includes the delivery of water for gardens and agriculture.

6.1 DMM 1 - Water Survey Programs

GCSD is planning to engage the Master Gardener program, which provides free residential water use surveys to customers upon request. The Master Gardeners can also provide landscape surveys, including sprinkler system efficiency, distribution uniformity, seasonal scheduling and repairs or improvements.

GCSD will track the number of surveys performed annually beginning in 2013.

6.2 DMM 2 - Residential Plumbing Retrofit

GCSD plans (in 2011) to offer water-saving kits free upon customer request. The water-saving kits include free showerhead replacements and a device for reducing toilet flush water for regular toilets.

GCSD will track the number of kits requested annually. In addition to the water-saving kits, GCSD will be offering a rebate program for ultra-low-flush toilet replacement in 2012 (see DMM 14).

6.3 DMM 3 - System Water Audits, Leak Detection and Repair

GCSD will have an acoustical water leak detection system and repair program in 2010. Records will be kept annually on water production versus consumption to track unaccounted water in the system (see Table 4). GCSD will budget each year to repair distribution system pipelines.

In addition, a new automated meter reading system will be implemented in 2010. The new system will allow the District to identify when a customer's meter has not stopped for 1 hour in 7 days. That will allow us to audit the meters at least monthly when the meters are ready to identify and stop customer leaks.

6.4 DMM 4 - Metering with Commodity Rates

GCSD's water systems are fully metered and GCSD's rates and charges include increasing commodity rates as usage increases. The tiered rate structure is provided in Appendix E.

The District will amend its ordinance with this plan adoption and the successful completion of a proposition 218 process. The amendment will increase the residential variable rates of water when we are in a Stage 3 drought. A Stage 3 drought is one in which mandatory rationing is warranted. Presently, the District has a four-tier rate structure. The first tier is the lifeline tier and includes a volume per month of 0-4000 gallons. The first tier rate will not be impacted by the ordinance. The second, third, and fourth tier rates will be doubled over the existing rates during the Stage 3 drought. This pertains to residential customers only.

During a Stage 3 drought, commercial, industrial, and public facilities will be audited to determine a base line use. Once established, a tier structure will be implemented. Examples of mitigations may include posting notices that state that we are in a Stage 3 drought and that conservation is extremely critical, serving water in restaurants only when patrons request or similar strategies. Establishing a lifeline tier for commercial developments is too complex and thus the reason for other strategies.

6.5 DMM 5 - Large Landscape Conservation Programs

GCSD reviews all landscape plans proposed for new developments in coordination with the County Planning and Building Department. Drought tolerant native plants are recommended along with downsized turf areas. However, as the District is located within a heavily forested area, the number of residences with turf is limited.

6.6 DMM 6 - High-Efficiency Washing Machine Rebate Programs

GCSD does not presently offer a rebate on high-efficiency washing machine replacement. We are currently discussing this option.

6.7 DMM 7 - Public Information Programs

GCSD promotes public awareness of water conservation through brochures, bill inserts, letters, and newspaper articles. Appendix F displays a sample of public information piece distributed by GCSD. In addition to brochures, inserts and letters, GCSD's website (www.GCSD.org) provides information on water conservation, and links to local, state, and federal agencies for additional information.

6.8 DMM 8 - School Education Programs

Both Tenaya Elementary School and Tioga High School are located within the District's boundaries. In the past, the District has provided some school education programs and plans to continue these programs in the future. One school per year on a rotational basis will be targeted starting in 2010.

6.9 DMM 9 - Conservation Programs for Commercial, Industrial and Institutional

GCSD offers to review plans for new commercial, industrial, and institutional customers. In addition, GCSD will provide water use audits to any requesting commercial, industrial, or institutional customer.

6.10 DMM 10 - Wholesale Agency Programs

GCSD does not currently receive support for the DMMs from any wholesale agency.

6.11 DMM 11 - Conservation Pricing

In order to promote effective water conservation, GCSD uses a tier structure for water service rates. Current water service charges and rates are included in Appendix E. Sewer rates are also based on water usage as shown in Appendix E.

6.12 DMM 12 - Water Conservation Coordinator

GCSD does not have a Water Conservation Coordinator. Most water conservation education is done by the General Manager and District Engineer.

6.13 DMM 13 – Water Waste Prohibition

GCSD enforces the “no waste” section of its Water Ordinance, as noted in Appendix G. The regulation restricts certain uses of water during dry and critical drought years. Specific measures include:

- Fire hydrant flow testing prohibited
- Outside water usage restricted between 12:00 noon and 7:00 p.m.
- Unattended watering prohibited
- Shortened irrigation season
- Car, boat, building, and trailer washing restrictions
- Restrictions on the washing of sidewalks and driveways
- Restrictions on filling of swimming pools and hot tubs
- Restrictions on use of potable water for sewer flushing, dust control, earth compaction and other construction use

6.14 DMM 14 - Residential Ultra-Low-Flush Toilet Replacement Programs

A residential plumbing retrofit is being planned for 2012. GCSD will be offering a program that provides for the payment of $50 for each standard toilet that is replaced with an ultra-low-flush toilet. In addition to the rebate program, new construction requires the installation of ultra-low-flush toilets.

6.15 DMM 15 – Drought Tolerant Plant Programs

A drought tolerant plant program will be started in 2013. The drought tolerant plant program will be used to educate customers on how to landscape with drought tolerant plants and will also be used to encourage customers to convert lawns to drought tolerant landscaping.

6.16 DMM 16 – Grey Water Support

Although GCSD does not have the regulatory authority to allow grey water systems and conversion of existing systems to grey water systems, the District will support the use of such use.

Section 7: Water Shortage Contingency Plan

7.1 Water Shortage Contingency Plan

GCSD follows a three-phase conservation and rationing program to meet a water shortage situation. The three-stage plan includes voluntary water rationing through the use of its 4 tiered rate structure.

7.2 Stages of Action

GCSD has developed and amended its ordinance for a three-phase rationing plan to invoke during declared water shortages. The plan includes voluntary rationing, depending on the causes, severity, and anticipated duration of the water supply shortage.

7.3 Water Shortage Stages and Triggering Mechanisms

Stage 1 of the three-phase rationing plan includes on-going water management. This phase encourages waste reduction in everyday use, common sense water use, and public education and awareness activities. The goal of Stage 1 is to reduce water usage by 10 percent. Water conservation measures for this phase are on a voluntary basis.

Stage 2 is a voluntary stage and includes system-wide demand reductions of 11-20 percent. During this stage, a life line rate of 4000 gallons per month is allotted to each customer. The life line rate will be the same as the current District's Tier 1 rate. In Stage 2, water rates in Tiers 2, 3, and 4 will be doubled.

Stage 3 is a voluntary stage and includes system-wide demand reductions of more than 20 percent. During this stage, a life line rate of 4000 gallons per month is allotted to each customer. The life line rate will be the same as the current District's Tier 1 rate. In Stage 3, water rates in Tiers 2, 3, and 4 will be tripled.

7.4 Water Allotment Methods

GCSD implements an emergency water delivery rate schedule at Stage 2 of the water conservation plan. A life line rate is established covering the first 4000 gallons of water usage per month.

7.5 Mandatory Prohibitions on Water Wasting

Examples of mandatory prohibitions include:

- Washing of sidewalks, walkways, etc.
- Washing cars, boats, trailers, etc.
- Watering lawns/landscapes
- Decorative fountains, pools, recreational ponds
- Filling of new or existing swimming pools and hot tubs

- Gutter flooding
- Sewer flushing, dust control, earth compaction, etc.
- Unattended watering

7.6 Excessive Use Penalties

During the Stage 2 and 3 water reductions, customers who abide by the life line tiered rate structure are not penalized. However, during the Stage 2 and 3 stages, if the life line tiered rate structure is not followed, drastic changes in customers water bills can occur. This method is self-policing.

Section 8: Information on Recycled Water and its Potential for Use as a Water Source in GCSD's Service Area

A large portion of the wastewater in Big Oak Flat, Groveland, and Pine Mountain Lake is collected, treated and used for irrigation of the Pine Mountain Lake Golf Course. A smaller portion of recycled water is used on the District's spray fields. A portion of the spray fields are used for animal grazing.

8.1 Wastewater System Background

In 1972, the State Water Quality Control Board (RWQCB) adopted the Clean Water Act. The Act required the communities of Big Oak Flat, Groveland, and Pine Mountain Lake to collect raw sewage and provide a treatment process that would provide secondary treatment.

The District decided to provide one regional facility for treatment. The recycled water facility was constructed in three principal stages. The first stage of construction was finished in 1976, and the second and third stages were completed in 1982 and 1986.

The 1976 original treatment process design included headworks communitors, a grit chamber, an activated sludge contact stabilization process, chlorine disinfection, aerobic sludge digestion and drying beds. The original plant was permitted for an average flow of 150,000 gallons per day and a peak wet weather flow of 220,000 gallons per day.

In the 1980's the plant was expanded in two stages. The permit included an average daily dry weather flow of 400,000 gallons per day and a peak wet weather flow of 500,000 gallons per day. The improvements included rotary screens, an equalization basin, extension of the chlorine contact chamber, and four new biosolids drying beds.

Today, the treatment process includes primary treatment by screening, equalization for diurnal flow regulation, secondary treatment by the activated sludge contact stabilization process, clarification and chlorine disinfection of the effluent. The recycled water is then pumped to two reservoirs for storage until the water is sent to either the Pine Mountain Lake Association's golf course or to the District's spray fields. Sludge solids from the secondary process are stabilized by aerobic digestion and then dried on covered sand beds. The dried biosolids are then disposed of by land application on the District's spray fields.

8.2 Description of Existing System for Reuse of Recycled Water

The existing Regional Recycled Water System, owned by GCSD, consists of 35 miles of wastewater collection gravity pipelines ranging in size from 6 to 12-inches. The District has 7 miles of pressure pipelines that range in diameter from 4 to 12 inches. GCSD has two recycled water reservoirs. Reservoir 1 has a volume of 14 acre-feet and Reservoir 2 has 170 acre-feet. The recycled water pump station has a 75-horsepower pump. The 6-inch diameter recycled water pressure pipeline to the golf course is 4,200 feet long. Once the water gets to the golf course, the recycled water enters a 3-million-gallon open reservoir operated by the Pine Mountain Lake Association. The Pine Mountain Lake Association then pumps the recycled water to the irrigation system serving the 110-acre golf course.

During the winter months the recycled water is stored in Reservoir 2 and, if necessary, Reservoir 1. The golf course and the spray field irrigation demands account for 100% of the recycled water used. When recycled water volume is depleted in the late summer months, typically September or October, then the golf course uses Pine Mountain Lake raw water as their irrigation source. The spray fields also dry up and animal grazing is discontinued in late summer.

8.3 Recycled Water Currently Being Used

Essentially, all 167 acre-feet of the recycled water produced by the District every year is utilized. Some of the recycled water does evaporate in the open storage reservoirs. As mentioned previously, the Pine Mountain Lake Golf Course consumes most of the recycled water (135 acre-feet), with the second largest consumer being the District's spray fields (15 acre-feet). The Golf Course total water use for an average year is approximately 400 acre-feet. An analysis done in the agreement between PMLA and GCSD states that PMLA golf course could use up to 200 acre-feet of recycled water per year. In addition, a recycled water connection has been installed at the District for GCSD tanker trucks to fill up for dust control and construction

uses on the District's property. In 2008, a connection was also put in so that Cal-Fire could use recycled water for firefighting purposes.

Meetings between GCSD personnel and the Pine Mountain Lake Association are held periodically to determine any recycled water delivery constraints or scheduling problems. Based on effluent quantities in storage at a given time, the Pine Mountain Lake Association is notified of any concerns or unusual problems that could affect their operations. The Association is also provided with information relating to public health concerns and reuse restrictions.

All recycled water use is metered. Flow rates and totals for each meter are recorded. Isolation valves are used to direct where the water will be delivered.

8.4 Other Potential Recycled Water Uses

Other potential uses of recycled water include:

1. Grey water on private properties
2. Wetlands on GCSD property
3. Expanded spray fields on GCSD property

The District Board of Directors has directed staff to review the potential for future use of recycled water for other purposes.

Section 9: Providing Water to Proposed Developments

9.1 Low Income Preferences

Pursuant to Government Code Section 65589.7, it is the District's policy to grant a priority to those developments seeking water or sewer service which include housing units affordable to lower income households. To further this policy, GCSD adopts the following procedures.

9.2 Procedure to Implement Preference Policy

A. GCSD will not deny or condition the approval of an application for services to, or reduce the amount of service for, a proposed development that includes housing units affordable to lower income households unless GCSD makes a specific written finding that the denial, condition, or reduction is necessary due to the existence of one or more of the following:

1) GCSD does not have "sufficient water supply" as defined in paragraph (2) of subdivision (a) of Section 66473.7, or is operating under a water shortage emergency as defined in Section 350 of the Water Code, or does not have sufficient water treatment or distribution capacity to serve the needs of the proposed development, as demonstrated by a written engineering analysis and report.

2) GCSD is subject to a compliance order issued by the State Department of Public Health that prohibits new water connections.

3) If the proposed development seeks sewer service, and if GCSD does not have sufficient collection treatment or reclamation capacity, as demonstrated by a written engineering analysis and report on the condition of the collection treatment, or reclamation works, to serve the needs of the proposed development.

4) If the proposed development seeks sewer service, and if GCSD is under an order issued by the Regional Water Quality Control Board that prohibits new sewer connections.

5) If the applicant fails to agree to reasonable terms and conditions

relating to providing service generally applicable to development projects seeking service from GCSD, including but not limited to the requirements of local, state, or federal laws, and regulations or payment of a fee or charge.

For the purposes of this Section, the following definitions apply:

1) "Proposed developments that include housing units affordable to lower income households" means that dwelling units will be sold or rented to lower income households, as defined in Section 50079.5 of the Health and Safety Code, at an affordable housing cost, as defined in Section 50052.5 of the Health and Safety Code, or an affordable rent, as defined in Section 50053 of the Health and Safety Code.

2) "Water or sewer services" means supplying service through a pipe or other constructed conveyance for a residential purpose, and does not include the sale of water for human consumption by a water supply to another water supplier for resale. As used in this section, "water service" provided by a public agency applies only to water supplied from public water systems subjected to Chapter 4 (commencing with Section 116275) of Part 12 of Division 104 of the Health and Safety Code.

B. All proposed development projects including housing units affordable to lower income households, to which none of the above exceptions apply, will be required to submit a cover sheet outlining both the number and percentage basis number of housing units affordable to lower income households included in the proposal.

Groveland Community Services District
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NOTICE OF PUBLIC MEETING
OF THE GROVELAND COMMUNITY SERVICES DISTRICT
REGARDING ADOPTION OF THE
2010 URBAN WATER MANAGEMENT PLAN

NOTICE IS HEREBY GIVEN that a public meeting will be held by the Board of Directors of the Groveland Community Services District (GCSD) on Tuesday, March xx, 2009 at 7:00 p.m., in the Board room at the District office at 18966 Ferretti Road, Groveland, California, for consideration of the 2010 GCSD Urban Water Management Plan.

The objective of this meeting will be to inform and receive public input regarding the 2010 Urban Water Management Plan. This meeting will present information about the Urban Water Management Plan for review by the public and will also provide an opportunity for the public to comment.

Information will be available for review on March x, 2009 at the GCSD office, 18966 Ferretti Road, Groveland, CA and on the District web site at www.gcsd.org.