Municipal Water System 2009 Annual Report

1. Executive Summary. The following report provides an overview of the City’s Municipal Water System, including a brief history, summary of water sources and water costs, history of MWS water rates, prior year accomplishments, and major initiatives for the coming two years. Those initiatives include the completion of the Mapledale – Van Ruiten Interconnect and the start of construction for our first high capacity well. The report also includes a discussion of the challenges facing the MWS, including the projected loss of all existing wells, our increasing reliance on imported water, and the increasing cost of that water.

2. Definitions. Where used herein:

- “Acre foot” means the amount of water necessary to cover an acre of land to a depth of one-foot. This is the standard unit of volume for large scale water resources.
- “CBMWD” means the Central Basin Municipal Water District.
- “CPUC” means the California Public Utilities Commission, a regulatory body that oversees, among other things, privately held water companies.
- “Ground water” means water pumped from the Water System’s own wells using the System’s own water rights.
- “Imported water” means water obtained from a third-party source.
- “MWS” means the City of Bellflower Municipal Water System.
- “MWD” means the Metropolitan Water District of Southern California.

3. Background. The MWS was established by the City Council in 2007 to operate the water system acquired from Peerless Water Company at a cost of $5.8 million.

   a. The MWS currently serves more than 1,800 customers, or approximately 10% of the City, from eight separate sub-systems in geographically separate areas:

<table>
<thead>
<tr>
<th>System</th>
<th>Customers Served</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>409</td>
</tr>
<tr>
<td>2/3</td>
<td>170</td>
</tr>
<tr>
<td>4</td>
<td>238</td>
</tr>
<tr>
<td>5</td>
<td>161</td>
</tr>
<tr>
<td>6</td>
<td>277</td>
</tr>
<tr>
<td>8</td>
<td>312</td>
</tr>
<tr>
<td>9</td>
<td>243</td>
</tr>
<tr>
<td>Total</td>
<td>1,810</td>
</tr>
</tbody>
</table>
b. The MWS consists of three operating water wells, 74,418 linear feet of distribution pipeline, and several service interconnections to adjacent water providers for primary or standby water supply. The MWS System also controls 986 acre feet of water rights.

c. The MWS’ current estimated service demand is about 815 acre feet per year. Using ground water from both the above water rights and a one-time carry-over (about 100 acre feet) from the immediate prior year, the MWS expects to pump approximately 311 acre feet to its own customers and lease the balance, about 775 acre feet, to other water providers. The balance of our service demand will be met using about 504 acre feet of imported water obtained chiefly from Bellflower-Somerset Mutual Water Company and the MWD.

d. Although the MWS has sufficient water rights to meet customer service demand, the geographic separation of the sub-systems and the limited pumping capacity of the three operating wells require that water be imported from other sources.

e. In July 2008, the City completed the sale of $8.23 million in Certificates of Participation, the proceeds of which will be used to reimburse the City’s general fund for the purchase price of the MWS, and pay for capital improvements to the System’s infrastructure. City Hall and Thompson Park were used as security, and the certificates final maturity is in 2039. The City commenced making interest-only payments in October 2008, and will begin making interest and principal payments in October 2010.

f. Under the direction of the City Manager, the Assistant City Manager oversees strategic planning, financial management, policy development, and capital projects for the MWS. He is aided by representatives of the City’s Public Works and Finance Departments, the City’s contract water program manager, and the City’s contract water system operator.

g. The City’s contract water system operator, Bellflower Somerset Mutual Water Company, is responsible for the day-to-day operation of the Water System.

4. Key Dates. The following are key dates in the history of the City’s acquisition and operation of the Municipal Water System:

- Circa 1940: Peerless Land and Water Company founded
- December 14, 1999: Pending CPUC approval, Southern California Water Company and Peerless Water Company enter into merger agreement
- May 22, 2000: Southern California Water Company and Peerless Water Company submit joint application to CPUC for approval of merger
- July 7, 2000: City sends letter to CPUC expressing concern about merger
- October 2000: Peerless customers ask that City intervene to block merger
- October 9, 2000: Public comments made at City Council meeting requesting City’s action to block merger
October 9, 2000  City Council adopts resolution opposing the proposed merger
October 10, 2000  City sends letter to Peerless Water customers regarding merger
October 17, 2000  CPUC conducted a “Public Participation Hearing” in Bellflower
October 23, 2000  Public comments made at City Council meeting requesting City’s action to block merger
November 27, 2000  Public comments made at City Council meeting requesting City’s action to block merger
November 13, 2000  City Council ordered a letter sent to Peerless customers with CPUC contact information
November 8, 2001  CPUC denied the proposed merger
August 2002  City began formal negotiations for price and terms of payment for Peerless Water System
November 25, 2002  City Council approved an agreement (AFN 348) with Bucknam and Associates for water system consulting and engineering services
August 23, 2004  City Council approved the issuance of Negative Declaration for the acquisition of the Peerless Water Company water system
May 24, 2004  City Council authorized 1) making an offer to purchase and negotiate for the acquisition of Peerless Water Company assets in the City of Bellflower; 2) taking necessary actions to permit the City Council to consider the issuance of water revenue bonds for the acquisition; and 3) negotiating agreement(s) with Bellflower Somerset Mutual Water Company pertaining to the operation of the water system after acquisition
February 2004  Responsibility for oversight of the City’s acquisition of Peerless Water Company was assigned to the Assistant City Manager
December 13, 2004  City Council initiated action to condemn Peerless Water Company
February 2005  City suspended negotiations to purchase Peerless Water System
May 2005  City entered into litigation with Peerless Water Company
June 2006  Bellflower Public Financing Authority (BFA) created
5. **Statewide Drought.** At the close of California’s 2009 “wet” season, our statewide drought continues. While above average precipitation in February and March have helped, an average October, and significantly below average precipitation in November, December and January have led to a third dry year.

As of April 28, 2009, the statewide snowpack, the source of one-third of California’s water supply, stood at 68% of average, substantially below historic averages.

Beginning in May 2008, Governor Schwarzenegger issued a series of Executive Orders, including the proclamation of a “condition of statewide drought,” directing the Departments of Water Resources and Public Health to take immediate steps to conserve water and calling upon local water agencies to take aggressive, immediate action to reduce water consumption locally and regionally.

The drought continues and stored water reserves continue to decline; the price for “imported” water has increased. Despite increased prices and voluntary conservation efforts, more aggressive water conservation measures are needed to prevent further loss of water reserves and potential water rationing.

6. **Water Conservation.** Although the City in the past has principally relied on voluntary water conservation measures, faced with a statewide drought, the increasing cost of imported water, and the Governor’s call for more aggressive water conservation measures, the City
has adopted mandatory water conservation measures. The ordinance includes new regulations for hose watering, watering lawns and landscaping, indoor plumbing and fixtures, washing vehicles, drinking water in restaurants, and bi-annual reporting by the Director of Public Works, while retaining existing language for water-efficient landscaping, and adoption of emergency measures by resolution. The new ordinance will take effect in August 2009.

7. **Water Sources.** Water used by Bellflower customers is either “groundwater” (i.e., water pumped from a well) or “imported water” (i.e., water transported via aqueduct or pipe from a remote source - Colorado River, Sacramento Delta, etc.). These water supplies are not unlimited, therefore it is necessary to conserve water and prevent the unnecessary and wasteful use of these limited resources.

The City is served by four retail water providers, each of whom rely on a combination of groundwater and imported water sources:

<table>
<thead>
<tr>
<th>Water Provider</th>
<th>Percent of City Served</th>
<th>Service Demand</th>
<th>Water Source</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Groundwater</td>
</tr>
<tr>
<td>Bellflower Municipal Water System¹</td>
<td>10%</td>
<td>815 af/yr</td>
<td>38%</td>
</tr>
<tr>
<td>Bellflower-Somerset Mutual Water Company</td>
<td>61%</td>
<td>5,703 af/yr</td>
<td>77%</td>
</tr>
<tr>
<td>Park Water Company²</td>
<td>25%</td>
<td>2,337 af/yr</td>
<td>20%</td>
</tr>
<tr>
<td>Bellflower Home Gardens Water Company</td>
<td>4%</td>
<td>420 af/yr</td>
<td>0%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>9,275 af/yr</td>
<td>56%</td>
</tr>
</tbody>
</table>

8. **Water Costs.** The cost of water is determined by its source. Ground water (i.e., water pumped from the MWS’ own wells) is the least expensive. Imported water (i.e., water from a third party) is more expensive, and the price is determined by the provider.

Relatively speaking, the least expensive imported water is that provided by the MWD. Unfortunately the MWS cannot buy water directly from the MWD as the MWS has no direct connection to the MWD’s infrastructure. MWD water must pass through third-party provider systems to get to the MWS, and those providers charge a premium (up to “whatever the market will bear”) for the use of their system. While the MWD rate is scheduled to increase 21.1% on September 1, 2009, and projected to increase by 21.5% on January 1, 2011, CBMWD will increase its Administrative Surcharge on July 1, 2009, January 1 and July 1, 2010, and January 1, 2011.

CBMWD’s retail rate for treated domestic water charges include the MWD Tier 1 rates plus and additional Administrative Surcharge on top of MWD’s rates. The following is a breakdown of the current and proposed rate structures for both as well as their total and % differentials both incremental and cumulative for each period indicated in the table.

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¹ Prior to the loss of Well 17, groundwater accounted for 50% of the water delivered, and 50% was imported. The loss of Well 17 represented a loss of 12% of our service demand and 30% of our pumping capacity.
² Park Water Company’s service demand is extrapolated from data for its Bellflower-Norwalk service area. Percent served and water source data is specific to Bellflower.
Municipal Water System 2009 Annual Report (Continued)

### Central Basin Municipal Water District Rates

<table>
<thead>
<tr>
<th>Category</th>
<th>Current</th>
<th>Jul 09</th>
<th>Sep 09</th>
<th>Jan 10</th>
<th>Jul 10</th>
<th>Jan 11</th>
</tr>
</thead>
<tbody>
<tr>
<td>MWD Tier 1 Rates(^3)</td>
<td>$579/af</td>
<td>$579/af</td>
<td>$701/af</td>
<td>$701/af</td>
<td>$701/af</td>
<td>$852/af</td>
</tr>
<tr>
<td>MWD Readiness-to-Serve Charge(^4)</td>
<td>$12/af</td>
<td>$12/af</td>
<td>$18/af</td>
<td>$18/af</td>
<td>$18/af</td>
<td>$18/af</td>
</tr>
<tr>
<td>CBMWD Rates Administrative Surcharge(^5)</td>
<td>$44/af</td>
<td>$62/af</td>
<td>$62/af</td>
<td>$72/af</td>
<td>$92/af</td>
<td>$92/af</td>
</tr>
<tr>
<td>Totals</td>
<td>$635/af</td>
<td>$653/af</td>
<td>$781/af</td>
<td>$791/af</td>
<td>$811/af</td>
<td>$962/af</td>
</tr>
<tr>
<td>% Incremental</td>
<td>0.00</td>
<td>2.83</td>
<td>19.60</td>
<td>1.28</td>
<td>2.53</td>
<td>18.62</td>
</tr>
<tr>
<td>% Cumulative</td>
<td>0.00</td>
<td>2.83</td>
<td>22.99</td>
<td>24.57</td>
<td>27.72</td>
<td>51.50</td>
</tr>
</tbody>
</table>

**Note:** These rates are based upon information on the MWD website and from the latest CBMWD rate increase proposal, CBMWD Resolution No. 06-09-760, June 24, 2009.

Current and estimated future costs are:

### MWS Current and Estimated Future Water Costs

<table>
<thead>
<tr>
<th>Source</th>
<th>Provider</th>
<th>MWS % Used</th>
<th>Rate per Acre Foot(^6)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Provider</td>
<td>Current</td>
<td>Sep 09</td>
</tr>
<tr>
<td>Ground Water</td>
<td>Municipal Water System(^7) (^8)</td>
<td>34%</td>
<td>$264</td>
</tr>
<tr>
<td></td>
<td>MWD via CBMWD(^9)</td>
<td>0%</td>
<td>$635</td>
</tr>
<tr>
<td></td>
<td>Bellflower Somerset Mutual Water Company(^10)</td>
<td>54%</td>
<td>$700</td>
</tr>
<tr>
<td></td>
<td>Park Water Company(^11) (^12)</td>
<td>12%</td>
<td>$1,440</td>
</tr>
</tbody>
</table>

9. **Water Rates.** Water rates have been raised twice since the MWS began operations in January 2007. The rates were raised in June 2007 and again in June 2008. Assuming the average customer uses 3,600 cubic feet of water per bimonthly billing period, in January 2007 the average Peerless customer paid $88.36 per bimonthly billing period. Presently the average MWS customer pays $148.53 per bimonthly billing period. The total increase, while significant, amounts to roughly $1 per day. The ultimate cost is roughly one-half penny for every gallon of water used by the consumer.

Pursuant to Paragraph 9 of the Amended Operating Agreement between the City of Bellflower and Bellflower-Somerset Mutual Water Company (the "Operator), the Operator

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\(^3\) January 2011 rate is presently projected, but not yet formally proposed or adopted.

\(^4\) MWD has not yet announced any change to its Readiness-to-Serve Charge for July 2010 or January 2011.

\(^5\) July 2010 rate is presently proposed, but not yet formally adopted.

\(^6\) Upon completion of a high capacity well, although water would still have to be delivered via third-party systems, the cost would be substantially reduced (i.e., at current rates the cost to provide MWS groundwater from a high capacity well via the Bellflower-Somerset system would be $329/AF).

\(^7\) MWS' rate per acre foot includes electrical service, chemical treatment, and the Water Replenishment District's (WRD) recharge assessment; it does not include repair, maintenance, labor or depreciation.

\(^8\) The projected rates per acre foot assume no increase to the MWS' cost of production, or the third-party providers' service charge. Both are likely to increase over time.

\(^9\) If the MWS is unable to keep its existing wells in service, the percent of imported water used will increase dramatically.

\(^10\) The MWS has no direct connection to the MWD or CBMWS and must import water through third party providers.

\(^11\) BSMWC's surcharge is currently $65/AF.

\(^12\) Park Water Company's surcharge is currently $805/AF.

\(^13\) Once Mapledale-Van Ruiten Interconnect is completed, except for emergencies, MWS will no longer import water from Park Water Company.
Municipal Water System 2009 Annual Report (Continued)

must “by April 10 of each year...provide the City with a schedule of the proposed Water Rates for the ensuing Water Year.” The Operator is required to do so, whether or not any rate change is proposed.

The following is a summary history of the water rate changes made since the City’s acquisition of the MWS in January 2007.

<table>
<thead>
<tr>
<th>Service Charge 14</th>
<th>Commodity Charge 15</th>
<th>Average Cost 16</th>
<th>% Change From Prior</th>
<th>% Change From Initial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial Rate</td>
<td>$26.44</td>
<td>$1.720</td>
<td>$88.36</td>
<td>NA</td>
</tr>
<tr>
<td>2007</td>
<td>$68.98</td>
<td>$2.051</td>
<td>$142.82</td>
<td>62%</td>
</tr>
<tr>
<td>2008</td>
<td>$71.74</td>
<td>$2.133</td>
<td>$148.53</td>
<td>4%</td>
</tr>
<tr>
<td>2009</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
<td>NA</td>
</tr>
</tbody>
</table>


a. Decommissioning and Closure of 12 Inoperative Wells. 12 of 16 water wells acquired from Peerless Water Company were found abandoned or permanently inactive, but not properly decommissioned in accordance with County and State regulations. By properly closing the wells we eliminated a potential source of water contamination, potential liability due to accident or injury, and made the properties available for sale or “quit-claim” to the underlying property owners. Completed in November 2008.

b. System Interconnection at Lakewood and Walnut. The MWS’ Zone 1 (bounded by Lakewood Boulevard, the City’s westerly border, Walnut Street, and Dunbar Street) provides water from two active wells, but is not connected to alternate sources. The interconnection completed in June 2008 connects Zone 1 to Bellflower-Somerset Mutual Water Company’s 12-inch distribution line at the corner of Lakewood Boulevard and Walnut Street. The new interconnect ensures redundancy of water service, including fire flow, in case of equipment or power failure, or in the event of a disaster or other emergency.

c. Replacement of Well 8’s Expansion Tank and Pump. Completed emergent replacement of the expansion tank at Well No. 8. In September 2008, the expansion tank at Well No. 8 failed which resulted in the well being taken off-line until the tank could be replaced. Replacement of the tank was completed in February 2009. In March 2009, we discovered that Well 8 was contaminated by lubricating oil leaking from the well pump’s seals, and that the pump was beyond repair. The pump was replaced with the pump recently purchased for Well 17 and the well returned to service in June 2009.


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14 Bimonthly service charge for 5/8 x 3/4-inch meter
15 Per 100 cubic feet of water used; 100 cubic feet of water is equal to 748 gallons
16 Assumes water use is 3,600 cubic feet (26,930 gallons) per bimonthly billing period using a 5/8 x 3/4-inch meter
Municipal Water System 2009 Annual Report (Continued)

e. **Service Connections.** Replaced 246 customer service connections.

f. **Water Meters.** Replaced 363 water meters.

g. **System Flushing.** Continued regular system flushing on a six-month cycle.

11. **Major Initiatives for 2009 – 2011.**

a. **Grants and Loans.** Continue our aggressive pursuit of federal grant and loan funds needed to rebuild the Water System.

b. **Complete the Mapledale to Van Ruiten Interconnect.** The MWS’ Zone 9 (bounded by Foster Road, Regentview Avenue, Greenhurst Street, and the San Gabriel River) has no active wells. The sole source of water for this zone is an inter-connection to Park Water Company which sells water imported from the Metropolitan Water District (MWD) to the MWS at retail prices. The interconnection would tie Zone 9 to Bellflower-Somerset Mutual Water Company’s 12-inch distribution line at McNab and Mapledale via approximately 2,500 linear feet of new pipe. The new interconnect would allow the MWS to purchase water at substantially reduced cost, and with increased reliability and redundancy. The project is expected to be complete by November 1, 2009.

c. **Begin Construction of High Capacity Well #1.** The MWS has three active wells, all old, shallow (less that 300 feet), and of limited capacity. Three of these wells exceed the secondary maximum contaminant level for manganese and must either be replaced or provided with expensive treatment equipment at a cost of more than $100,000 per well.

The City’s highest priority capital project is the installation of a high capacity well to serve the needs of our MWS customers as well as the community at-large. A typical high capacity well operating at 50% capacity should be able to pump 2,500 acre feet/year or 300% percent of the MWS’ demand. The new well would enable the MWS to pump its own water rights, which are sufficient to meet the needs of its customers, with an estimated annual savings/income of $338,000 per year, including lease of excess pumping capacity. These profits and savings would ultimately be passed to our customers. The estimated cost of the high capacity well is $2.32 million, with an estimated $927,000 available in federal grants and up to $729,000 in unallocated Certificates of Participation (COPS) proceeds. An additional $664,000 is required from a source yet to be determined.

On March 9th we received EPA’s approval of a Categorical Exclusion for the high capacity well. Final plans are underway for construction of a high capacity well at the City’s Maintenance Yard. We expect to publish an RFP for engineering and other related services in May 2009, and have the design complete by September 2009. Subject to the availability of funds, construction should start in early 2010, and the well on-line in early 2011.

d. **Water System Reconstruction - Planning.** Begin planning for the phased reconstruction of the water system, including replacement of water mains, hydrants, meters and service connections.
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e. **Water System Reconstruction – Phase 1.** Subject to the availability of funds, begin Phase 1 of the reconstruction of the Water System.

f. **Service Connections.** Continue program for phased replacement of customer service connections.

g. **Water Meters.** Continue program for phased replacement of water meters.

h. **System Flushing.** Continue regular system flushing on a six-month cycle.

12. **Challenges.**

a. **Failure of Existing Wells.** Of the four operating water wells purchased in January 2007, one has subsequently failed and the other three are contaminated and must be permanently taken out-of-service by October 2011.

   1. **Failure of Well 17.** Well 17 was the MWS’ newest, deepest, and highest producing well (139 a/f/yr); serving customers in the Zone 8 service area (southeast corner of the City). In March 2008 the well’s pumping rate dropped dramatically, resulting in severe strain on pump motor and a decision to take the well off-line for investigation and repair.

   The well’s failure was due to the collapse of the bottom portion of the well casing, and bacterial (pseudomonas stutzeri) contamination. After an exhaustive effort it was determined that the well was beyond economical repair. In May 2009, Well 17 was permanently taken out-of-service. The effort to save Well 17 cost approximately $50,000 in direct costs plus $30,000 in increased costs for imported water.

   2. **Manganese Contamination of Wells 2, 3, and 8.** Wells 2, 3, and 8 each have manganese contamination above the maximum permissible levels and must either be replaced or provided with expensive treatment equipment at a cost of more than $100,000 per well. The California Department of Public Health (CDPH) has given the MWS until 2011 to 1) replace the wells, 2) treat the water, or 3) replace the wells’ output with imported water.

b. **Increasing Cost of Imported Water.**

   1. **Water Imported to Meet Regular Demand.** On September 1, 2009, the MWD will implement a 21.1% rate increase. Since the MWS imports about 66% of the water needed to serve its customers from the MWD, the pending rate increase will result in an approximate 7% increase to operating costs in FY 2009-10 and a 15% increase in FY 2010-2011 (based on the 2008-09 operating budget, $26,708 in FY 2009-10, and $57,233 in FY 2010-2011). By January 1, 2011, MWD/CBMWD rates are expected to rise by 51.52% over current rates.

   2. **Water Imported to Replace Groundwater Pumping Capacity.** The loss of Well 17 and the significant time off-line by Well 8 during 2008-09 has resulted in an increased need for imported water. The estimated annual cost of imported water necessary to replace these wells’ normal pumping capacity is $60,000 at current rates of which $30,000 is a permanent increase.
c. **Requirement to Make Principal and Interest Payments.** Beginning in October 2010, the City must begin making principal payments to the holders of the Certificates of Participation (COP) issued in July 2008, at an initial additional annual cost of $135,000.

d. **Ongoing Replacement of Meters and Service Connections.** The MWS remains committed to an ongoing program for the replacement of known existing bad meters and service connections. These efforts are designed on one hand to ensure that we correctly bill our customers for the amount of water used; and on the other to improve the quality of the water delivered.