

Mount Laurel Township Municipal Utilities Authority

Quarterly Report



1st Quarter 2013 (January to March)

Mission Statement:

“Provide safe, dependable and affordable water and wastewater services to our customers in an environmentally conscious manner while remaining committed to our community’s needs.”

Authority Members

Chairman	James A. Misselwitz
Vice Chairman	Geraldine Nardello
Secretary	Elwood Knight
Member	Christopher Smith
Executive Director	Pamela J. Carolan, P.E.

Total Number of Customer Accounts: 17,933

Sewer Department

Sanitary Sewer System Summary:

The Mount Laurel MUA wastewater service area previously ran congruent with the Township boundary; however the NJ Department of Environmental Protection (NJDEP) is requiring modifications to the service area. The County of Burlington has been designated as the agency governing Water Quality Management Planning for all communities within Burlington County. A modified service area for the Mount Laurel MUA is expected to be issued in the next few months. Approximately 95% of residential properties and 98% of commercial properties are currently connected to our sanitary sewer system. We treat all sewage generated within the Township at the Hartford Road Water Pollution Control Facility with the exception of the southwestern area (Laurelwood, Countryside, and Roland/Fellowship industrial area); in these areas, we collect the sewage and pump it to the Camden County MUA for treatment. Some premises (primary residential) continue to be serviced by privately owned and operated septic systems, which fall under the jurisdiction of the Burlington County Health Department.

Our Sanitary Sewer Facilities:

Wastewater Treatment Plant (Hartford Road Water Pollution Control Facility):

Hydraulic Capacity of 6 Million Gallons per Day (MGD)

Advanced secondary treatment using extended aeration and UV disinfection with discharge to the mainstem Rancocas Creek

Sludge dewatered on-site with bio-solids disposal at the Burlington County Composting Facility

Collection System:

41 sanitary sewer pump stations

32 miles of pressure mains (8”-24” diameter)

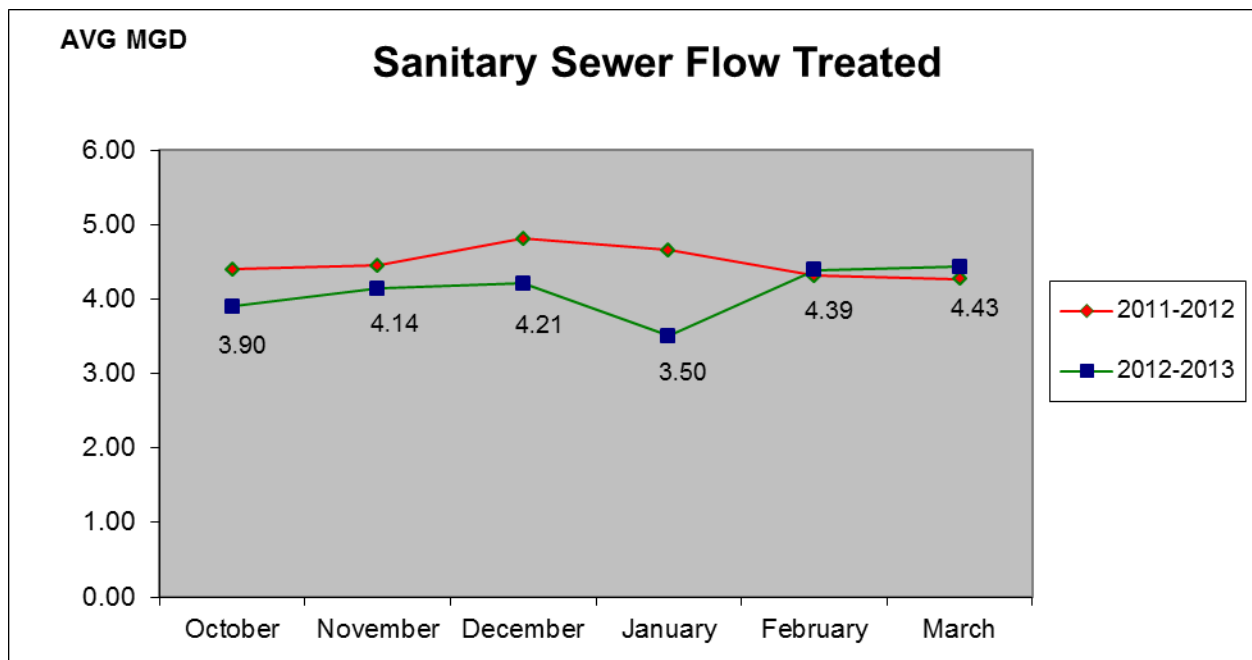
150 miles of gravity mains (8”-12” diameter)

3900 manholes

Our Sanitary Sewer Operations:

Treatment System

Throughout the years, the MUA has owned and operated three wastewater treatment plants. The Ramblewood facility was demolished in 1989 and the Rancocas Woods plant in 1993. Sanitary sewage from both of these plants were redirected to our only remaining wastewater treatment facility (Hartford Road Water Pollution Control Facility). This facility was originally constructed in 1970. Over the years, the facility has undergone a major transformation with over five capacity expansions and level of treatment upgrades during its lifetime. The present treatment process began operation in 1996 with a construction cost of over \$17 million. A \$2 million new headworks treatment train was constructed in 2007. Numerous renewal and replacement projects have occurred in recent years and will continue. The ultraviolet disinfection system is scheduled for complete replacement this year as the existing system approaches the end of its useful life; estimated construction cost for this project is approximately \$1,000,000.

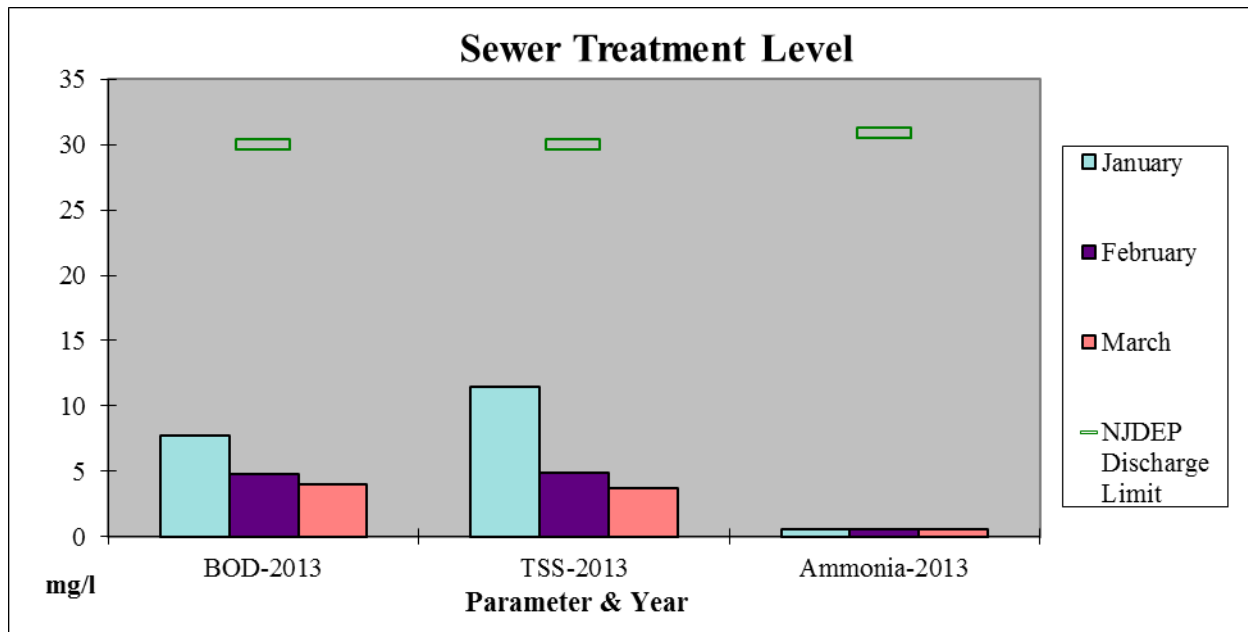


Total Treated in Quarter = 368.89 Million Gallons (MG)
= 4.10 Million Gallons Per Day (MGD) on average

The MUA applied for the renewal NJ Pollution Discharge Elimination System (NJPDES) permit in early 2011. NJDEP issued the final draft permit on January 29, 2013, with an effective date of March 1, 2013. The permit expires on February 28, 2018. The revised permit includes increased sampling frequencies for numerous parameters and sampling requirements for over a dozen additional parameters. The MUA's additional annual laboratory expense will increase by approximately \$5,000 with implementation of the newly revised permit.

On February 7, 2013 a problem with several of the remote transmitting units (RTU) associated with multiple pump and motor controls surfaced at the treatment plant. The plant's internal pumping station became inoperable which resulted in a minor spill, which was reported to NJDEP. Controls for the return activated sludge pumps were also inoperable. Treatment plant operations were temporarily modified using a spare RTU along with RTUs from various parts of our treatment operations in order to place key

facilities back in service (site pump station and RAS pumps). Modifications were made to other key equipment (orbital aerators and WAS pumps) so that they can temporarily operate in a steady state. Final modifications were completed by the end of February and plant operation was returned to standard for this time of year.



Our wastewater treatment facility consistently produces an effluent discharge, which is substantially better than required NJDEP limitations. Although we routinely sample for dozens of parameters (hundreds at certain times of year) the three chosen parameters of BOD₅, TSS, Ammonia Nitrogen are standards for the industry deemed representative of general treatment plant operations.

Reclaimed Water for Beneficial Reuse

Due to the overall high quality effluent from our wastewater treatment plant operations, in 2003 the MUA obtained a permit from the NJDEP for reuse of wastewater effluent for various applications within Mount Laurel. The reuse requirements in the new NJPDES permit have changed. The MUA will now use the renewed water (treated wastewater treatment plant effluent) for the wastewater treatment plant site utility water system, pumping equipment seal water, process equipment wash down, sewer main cleaning, fire protection for the wastewater treatment plant and the Mount Laurel Township leaf composting area, and vehicle washing. Use of renewed water reduces the quantity of potable (drinking) water required at the wastewater treatment plant and other MUA operations.

Televising & Cleaning of Sewer Mains:

The MUA owns and operates a sewer camera truck for internally televising sewer mains. This equipment enables us to detect and monitor corrosion, leaks, roots, and grease buildup, so that corrective action can occur before emergencies arise. The MUA can then use its sewer jetting equipment to clean sewer mains of grease buildup and silt. All video documentation is cataloged and used in evaluating the timing for repairs and capital replacement projects of mains. For fiscal year 2013, we will be awarding a contract to have over 94,000 linear feet of sewer main televised, this work will be scheduled to begin in May 2013 and be completed by June 30, 2013. Our plan is to continue scheduling of additional areas each year, keeping to a 6-8 year cycle for the entire Township (see Capital Projects section for additional information).

Other Sewer Related Items:

Responded to and resolved sewer service calls from 44 customers during the quarter

4 Sewer Vent Cap Broken/Missing

1 Bad Odor In Area/Home

1 Broken/Noisy Manhole Lid

1 Manhole Overflowing

21 Sewer Line Back Up

- MUA personnel checked our facilities to confirm proper operation of our system. In all cases, backups were determined to be within the property owner's lateral. We performed courtesy plunging of vents where applicable. The most common causes of clogged laterals are root formation and grease buildup. Owners advised to contact plumbers to ameliorate.

14 Vent Overflowing

- MUA personnel plunged the vents and broke blockages in the customer's lines.

1 Private Sewer System Backup

- 664 Mount Laurel Road had operational problems with their private sanitary sewer ejector pump, which resulted in a small spill.

MUA Sewer Backups or Breaks:

Two sanitary sewer spills occurred at the end of February in one week for unrelated reasons; this is unusual as we typically only experience 10 or less in any year. The first was on February 26th during the evening at the intersection of Winston and Heather (in Laurelwood), resulting in a spill of about 250 gallons. This was a direct result of operator error when performing repairs at the Laurelwood PS earlier in the day. The second occurred midday on February 27th on Larchmont Place (Lincoln at Larchmont apartments), resulting in a spill of about 50 gallons. The cause was a blockage due to grease. The location of this blockage was not at one of our typical grease "hot spots" as those are monitored and cleaned by our personnel on scheduled intervals; however we will continue to monitor this area for addition to the list as appropriate. As is our standard practice, both spills were reported to DEP via their phone hotline with written follow up.

A forcemain occurred break in Stonegate (Sawmill Drive) on March 31st. The ultimate cause was determined to be water hammer from a broken spring on a check valve in the Stonegate PS coupled with slight external pipe deterioration. This area is also known to have acidic soils which deteriorate the exterior surfaces of buried ductile iron pipe.



Forcemain in Stonegate – Hole



Forcemain in Stonegate - Repaired

Other Operational Issues:

Part of the new slip lining in Ramblewood Parkway came off and clogged a pump at Ramblewood Pump Station. We are investigating causes for the failure and will charge the contractor for damage/repairs.



Ramblewood PS – Slip Lining from
Ramblewood Parkway Came Off

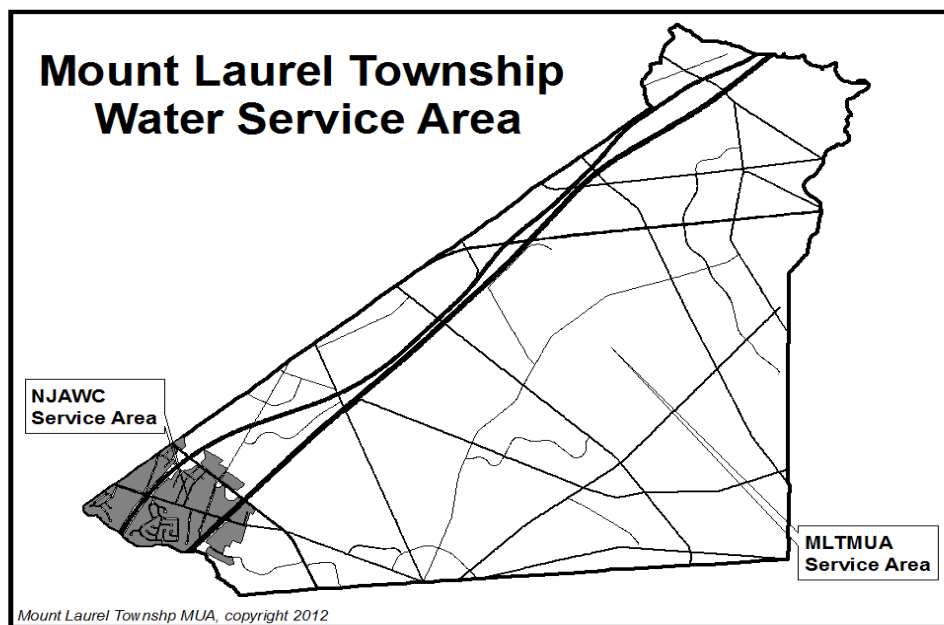
Orchard Pump Station (PS) continues to have operational issues, which now cause approximately 10 hours per week additional manpower to manage. Design for rehabilitation of the pump controls and site work began in July 2012, with contract bidding scheduled for June 2013. Total cost including engineering and permits is estimated at \$250,000 (see Capital Project section for additional information).

The pumps at Atrium PS continue to clog and must be manually pulled and cleaned each week. This results in approximately 5 hours additional weekly manpower for operation of this station in addition to the emergency work due to high-level alarms. A better interim operational setup is under evaluation and will continue until permanent improvements to this station can be accommodated in the budget, anticipated in FY15.

Water Department

Water System Summary:

The Mount Laurel Township MUA services the majority of Mount Laurel for water service with the exception of the southwest corner, NJ American Water Company (NJAWC) franchise area. Water supply within the Mount Laurel service area comes from several sources: The Potomac-Raritan-Magothy aquifer system, the Kirkwood-Cohansey aquifer, and the Delaware River. Previous annual water demand ranged between 1400 million gallons per year (MGY) and 1900 MGY. Our actual customer water usage for 2012 was 1532 MG, in the same use range as 2011 (at 1480 MG). The MUA supplied this water from its own wells (allocation limited to 717 MGY by Critical Water Supply Area # 2 regulations) and via water purchase agreements with the NJAWC and Willingboro MUA (WMUA) (with sale to the Evesham MUA (EMUA)). The MUA withdrew all of its 717 MG ground water allocation (602 MG to service), to satisfy 40% of total customer demand. The remaining 60%, almost a billion gallons of water, was purchased from NJAWC & WMUA to make up the allocation shortfall. The MUA continues to work on alternative supplies of water in order to meet the current and increasing needs of the community. Customer use in 2013 is trending very similar to use in 2012.



Our Water Facilities

Elbo Lane Groundwater Treatment Plant (Wells 3, 4 & 6, with capability of well 7 ASR)

- This facility treats our native groundwater (from the lower Potomac-Raritan-Magothy aquifer) by removing naturally occurring minerals such as iron and manganese. In addition, we adjust pH, water hardness, disinfect and add fluoride. Many area water providers do not provide treatment other than required disinfection, which affects operating expenses and water rates. The facility began operation in 2007.
- Peak treatment capacity of 5.3 Million Gallons per Day (MGD) for summer months. Due to NJDEP allocation withdrawal limitations, actual operational level of 0 – 1.2 MGD during remainder of year.

Aquifer Storage and Recovery Well (Well # 7)

- This facility augments our water supply sources in the high summer months. Treated water from our distribution system is pumped into the well in the winter when demand is low and supply is plentiful, and then withdrawn during times of peak demand during the summer. This facility began full-scale operation in 2004.
- Approximately 200 MGY total storage capacity, 1.3 MGD recharge, 3 MGD recovery capacity

Distribution System

2 elevated water storage tanks; capacity of 500,000 gallons and 1 million gallons

2 ground level water storage tanks; each with a capacity of 1 million gallons

200 miles of water main

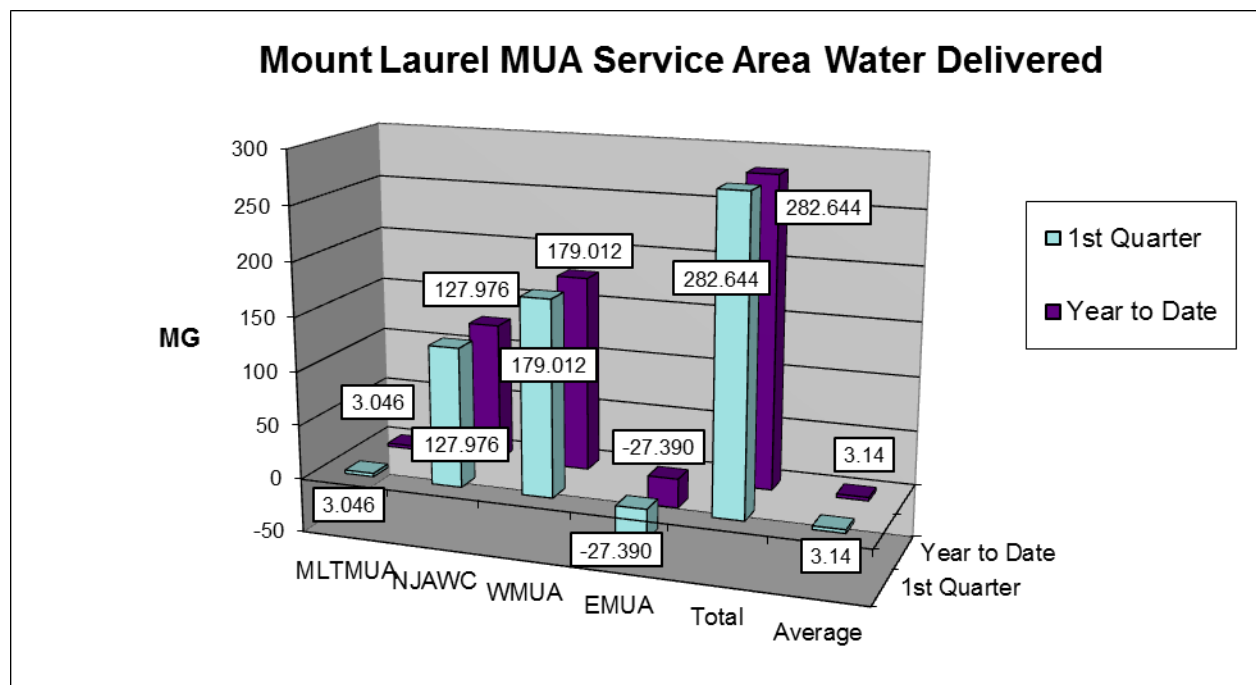
1529 fire hydrants

2918 water valves

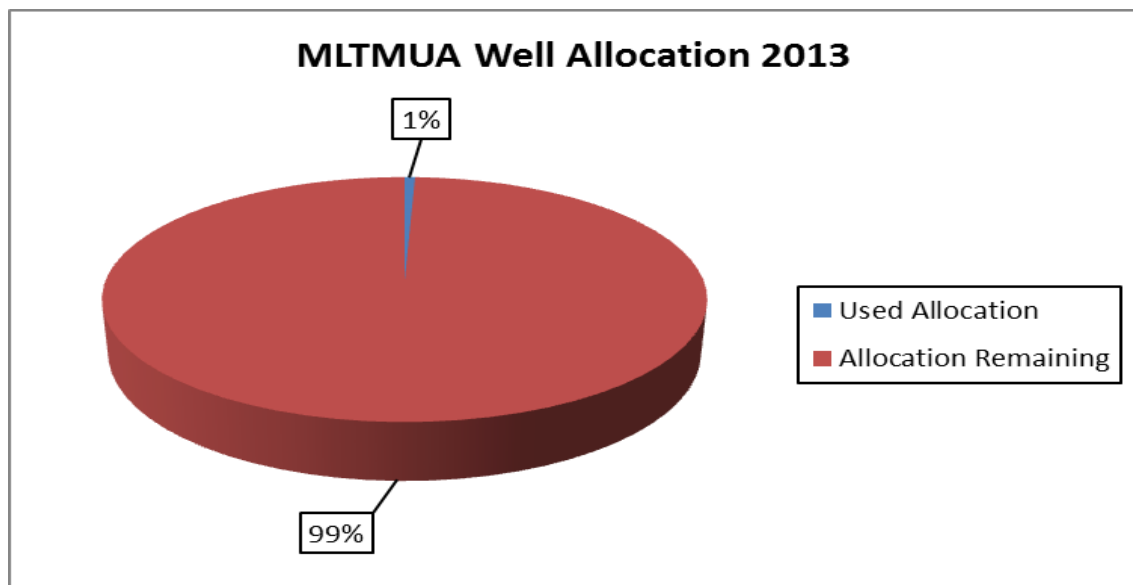
5 bulk interconnections; Willingboro MUA, Evesham MUA, NJ American Water (3)

8 stand-by interconnections; Evesham MUA (4), Moorestown Township (2),
Maple Shade Township (1), NJ American Water (1)

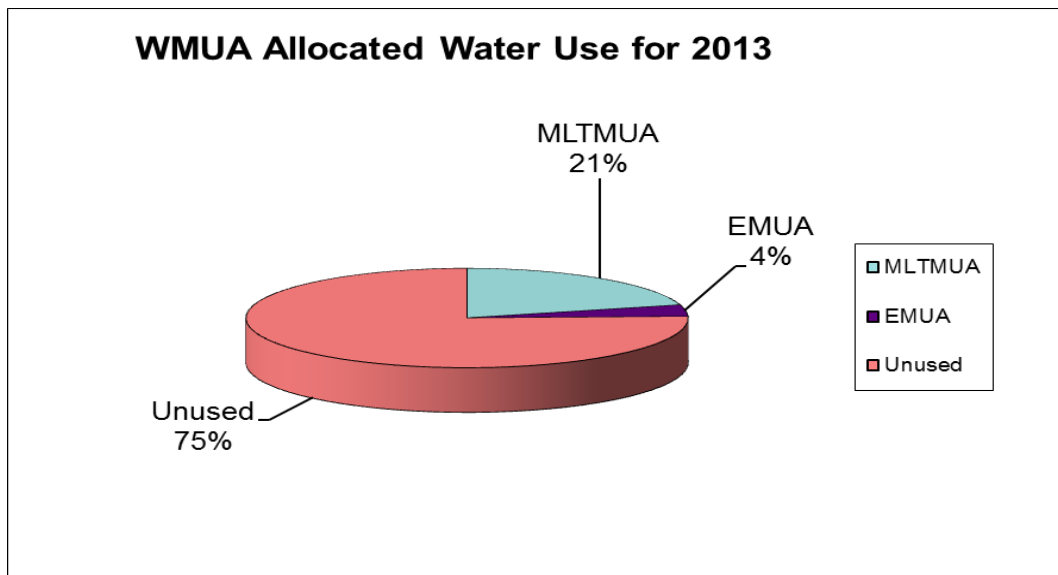
Water Operations



The total amount of water supplied to MLTMUA customers during the quarter was 282.644 MG. The average daily use for the quarter was 3.14 MGD. Historical Daily Peak water usage by Mount Laurel MUA customers occurred on July 23, 2001 when a total of 9.380 MGD was utilized (10.07 MGD including water passed to EMUA). Historically the peak monthly use for Mount Laurel customers was 216.40 MGM, which occurred in July 2011.



The MUA reserves its own well allocation for peak months and utilizes NJAWC during non-peak months when the purchase expense is least costly. This must be done to meet operational demands as well as for cost considerations.



- Assumed Total Gross Available from WMUA = 730 MG
- 547.5 MG is allotted to Mount Laurel MUA
- 182.5 MG is allotted to Evesham MUA via a 1989 purchase agreement between WMUA, MLTMUA and EMUA

Water Quality in the Mount Laurel MUA Water System:

We test the water in Mount Laurel year round, which includes daily operational sampling through compliance monitoring dictated by both state and federal regulations. In all cases, the water is consistently within or exceeds regulated parameters. This confirms that the water delivered to our customers is safe for use as potable water. We will continue to be sensitive to changes in water quality and regulatory compliance in order to protect all who use our water.

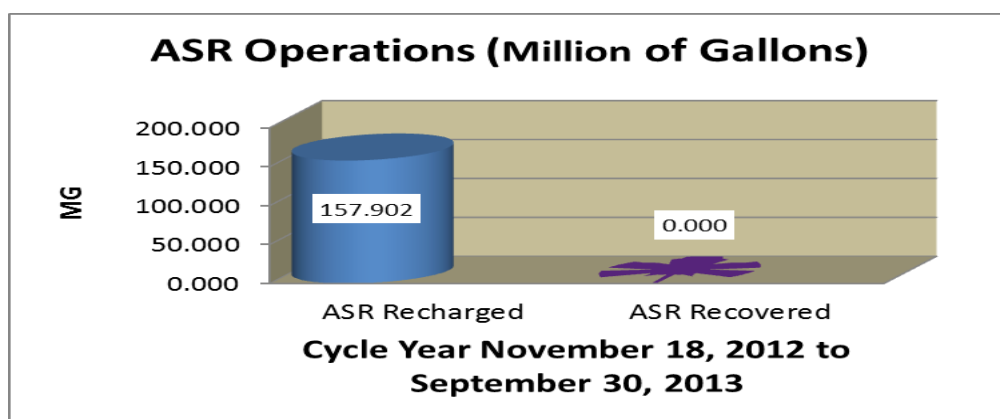
At times, our customers contact us regarding issues with their water quality. The three distinct categories of water quality that our customers bring to our attention are taste and odor, discoloration, staining, and particles in the water. We find most problems occur locally and the causes accredited to a handful of factors, which include water main breaks, hydrant use (legal and illegal), system maintenance work, and occasionally changes in water use. The remainder of the calls are further identified within the customer's premise such as: hot water tanks (need flushing or have disintegrating dip tubes-a manufacturing defect from 1993-1996), and undersized or improperly installed point of use filtration systems.

Our Water System Operations

Aquifer Storage and Recovery Well (ASR):

In 2004, production Well # 7 was converted to an Aquifer Storage and Recovery Well (ASR). Approximately 200 Million Gallons (MG) of system potable water can be pumped into the well during the winter season (October-April), when the purchase of water from New Jersey American Water Company (NJAWC) is the least expensive. Between May and September, the entire recharge quantity is withdrawn, conditioned and supplied to the water distribution system to supplement supplies during peak use time.

The plan for 2012-2013 cycle is to recharge 211 MG of water. Recharging for this cycle began on November 18, 2012: Total amount recharged thru March 31, 2013 for this cycle is 157.902 MG. We received approval from the NJDEP to carry 11 MG of unrecovered water from our 2011-2012 cycle year into 2012-2013 as the value of this water is over \$30,000.



On January 11, 2013, ASR recharge had to be discontinued for almost 2 weeks due to sample results for hexachlorobenzene and the NJPDES permit. Additional testing was performed and found within acceptable NJDPES limits. As a result of this incident, we modified our protocol for hexachlorobenzene sampling and determined that the source was from the NJAWC supply. Additional steps must occur in order to limit mandatory shutdown of this type in the future.

Production Well # 6:

Well #6 continued to have problems this operating season upon start up. The well intermittently shuts down and will not power back up. The problems appear related to either the Motor Control Center (MCC) or the SCADA controls. Two technical support teams were again called in to trouble shoot and some components were replaced, yet the operational problems continued. Additional evaluation of the MCC is scheduled to occur shortly. The well remains out of service. The well is needed at full operational status by May 1st.

Production Well #4 Rehabilitation:

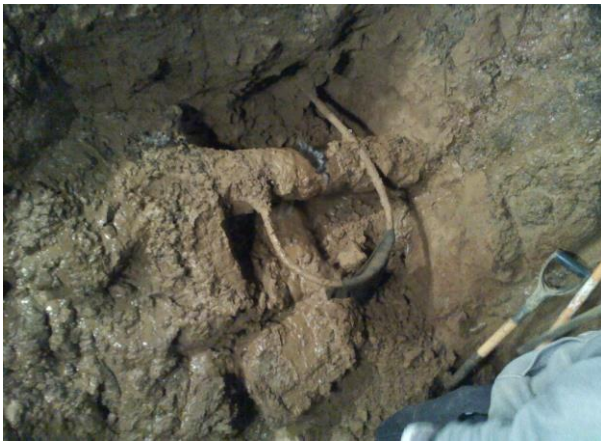
The well is not in service. Work continues and the contractor is on schedule for the required April 8th start-up of the well. Additional information in the Capital Projects section of this report.

Water System Personnel Shine:

On February 12th, our water department personnel accomplished our normal daily tasks (ASR & station operations, sample collection, meter appointments, service calls and mark outs) and they also completed work that would have otherwise been performed by outside contractors at a premium cost. This additional work included a chemical injector pipe tap at the ASR well and repair of three emergency water main breaks.

Our water treatment personnel shutdown the ASR well, drained the pipework, tapped the main, installed the chemical injector, connected the NAOH system to the new tap, recharged the main and put the facility back in service by 3:30 pm. One employee stayed to perform water quality testing and made adjustments to NAOH System for an additional two hours.

Our water distribution personnel performed two emergency water main repairs located at Charleston Court and Decatur Drive during the same time period. At 3:30pm, a combined distribution and treatment crew worked together to perform the third emergency repair on Lincoln Drive between 3:30pm and 8:30pm that evening. All three repairs were performed with only a 2.5-hour impact to any of the customers in the affected areas.



Cracked watermain on Lincoln Drive: The crack was located near the service line for 710. Our employees successfully repaired the water main without damaging the homeowner's service line (in photo: the service line is the U shaped bent copper pipe).

The pipe tap at the ASR was performed at a cost of about \$700 (tools, material and labor), compared to a cost estimate from an outside contractor in the amount of \$2400. The water main repairs were done at a cost of about \$2227 (material, equipment & labor), compared to a contractor cost that would have been close to \$7300. This resulted in an overall savings to the Authority of approximately \$6,800. We also illustrated how our workforce can perform at a high level of competence when they work together as a team.

Upgrade of Our Water Meters within Customer Premises:

We continue the process of upgrading water meters in homes (over a 10-year period) to a metering unit that offers many benefits to the customers and the MUA. The new units are read by our personnel utilizing radio communication. This allows our reader to gather the meter reading without entering the property as most reads can be obtained from the sidewalk area. The upgraded meters provide all of the capabilities of the current meter with the addition of advanced leak detection capabilities. These meters continuously record usage, however in order to conserve electronic life, the visible readout goes into “rest” mode when not needed. To view the meter reading at any time, the customer must wake up the readout by simply shining a flashlight on the meter face.

In order for new meters to be installed, customer water shut off valves must be in proper working order. At times the valves malfunction due to corrosion, shifting of the valve box and for other reasons. We’ve located a number of non-operable or malfunctioning shut off valves and are in the process of notifying homeowners of required repairs.

Water Distribution System: (This Quarter)

Work Performed:

- 19 System breaks / Service leaks repaired / Valve repairs
- 14 Curb boxes located / repaired (Part of FY2013 Meter Change Out Program)
- 151 Meter change outs (FY2013 Meter Change Out Program)
- 27 Meters/ Touch Pads repaired / replaced
- 12 New Meter Connections
- 102 Shut-offs (For Non-Payment), 557 Door Notices Delivered
- 3 Hydrants painted, repaired or replaced (Preventive Maintenance)
- 2 Hydrant Flushed (Preventive Maintenance)
- 1 Blowoff flushed (Preventive Maintenance)
- 622 Main line valves exercised (Preventive Maintenance)

Water System Breaks / Repairs Occurred:

Repaired by MUA Crew

Pipes (Crack)

Saint David Drive
Cambridge Road
South Saint Andrews Drive
Camellia Lane & North Lake Drive
Charleston Court
Decatur Drive
Lincoln Drive (see pictures on previous page)
Liberty Road
Rancocas Blvd.

Line Valve Repair

(2) North Lake Drive & East Bluebell Lane

Pipe (Hole)

Amsterdam Road



Cracked Watermain South Saint Andrews Drive



Cracked Watermain - Rancocas Blvd.

Several water main breaks this quarter required special attention and/or coordination. Coordination of the repair on North Lake Drive spanned several days in order to accommodate the schedule for a nearby water intense business customer. We used door notices and our reverse 911 calling system to notify customers. On Rancocas Blvd. customers were shut off without warning due to impending flooding of homes. Discovery of the water main break and repair lasted over 24 hours on Amsterdam Road due to complications with the local groundwater underdrain system.

Hydrant Valve Repair

Northlake Dive & Gardenia Lane Hydrant No. F9-08

Yarmouth Drive & Danebridge Drive Hydrant No. H21-05

Sorrel Run & Sorrel Run Hydrant No. K14-02



Sorrel Run Hydrant Valve Leaking

Hydrants & Blow Offs Repaired & Replaced: (non-emergency)

- Replaced Hydrant No. F9-07 East Daisy Lane - Worn Out
- Repaired Hydrant No. F20-01 Route 38 & Ark Rd - Hit By Car
- Repaired Hydrant No. B8-01 Church Street & Hooten Road - Hit By Car
- Repaired Hydrant No. B23-01 Centerton Road - Hit By Car

Miscellaneous Repairs

- Repaired Valve Boxes:
 - Union Mill Road & Laurel Lane
 - Union Mill Road & Academy Drive
 - Amaryllis Blvd. & Bittersweet Drive
 - Route 38 & Midlantic Drive
- Repaired Curb Stop Boxes at customer expense:
 - Cambridge Drive – For Meter Change Out
 - Ralston Drive - For Meter Change Out
 - Bretton Way - For Meter Change Out
- Repaired Sink Hole - Cambridge Road & Lafayette Road
- Repaired Valve at Willingboro Interconnection
- Delivered & graded 2 CY of top soil on West Bluebell Lane – Site of previous water main break

The MUA saved approximately **\$28,236.00** on repairs for the 1st Quarter 2013 by performing work previously contracted.

Repaired by Outside Contractor:

Pipe (Crack)

Canterbury Road

East Bluebell Lane & Northlake Drive

Capped & Plugged Watermains:

Stokes Road

Wharton Road

Service Leaks/ Fire Hydrants on Private Lines:

The following repairs were initiated by the MUA either as potential main breaks or in the name of public safety. All costs were borne by the owners of these facilities:

- Colonial Pipe Line (Service Leak)

Other Water Related Items:

We assisted NJAWC with a troubling water main break on their system near Springdale Road. Many attempts were made by NJAWC to repair the leak since October 2012. We provided a water source to NJAWC to back feed their customers. Since metering of the water used was not possible, NJAWC provided reimbursement for the water and inconvenience by way of a one-time credit of \$1378.00 to our water bill.

The MUA responded to 109 water service calls of the following types:

5 Potential Water Main Break

- Saint David Drive - MUA personnel confirmed a water main break
- Canterbury Road - MUA personnel confirmed a water main break
- Rancocas Boulevard - MUA personnel confirmed a water main break
- Amsterdam Road - MUA personnel confirmed a water main break
- Liberty Road - MUA personnel confirmed a water main break

3 Water Field Service

- Hollowwell Way – Customer called regarding high usage on his meter. MUA Personnel went to the property, took a meter reading, and compared the reading received to the reading we had billed to.
- Burnamwood Drive – Customer call and stated meter had been changed out and the air vent for dryer was dislodged in the process and dryer air was blowing into the laundry room. MUA Personnel went to the property and connected the hose back to the dryer.
- Beach Road – Customer called and needed us to come to the property to bleed the water line from the house because of poor water quality. MUA Personnel blew off the main at the blowoff in front of the property and checked with the customer and the water quality had improved.

13 emergency shut off / on
3 frozen pipes/meter
5 cloudy/rusty/smelly water
1 low water pressure
1 no water

3 meter leaking/broken
6 lid missing/ broken
6 hydrant broken / leaking
1 curb box misc. (sink hole)
53 turn on water (off for non payment)

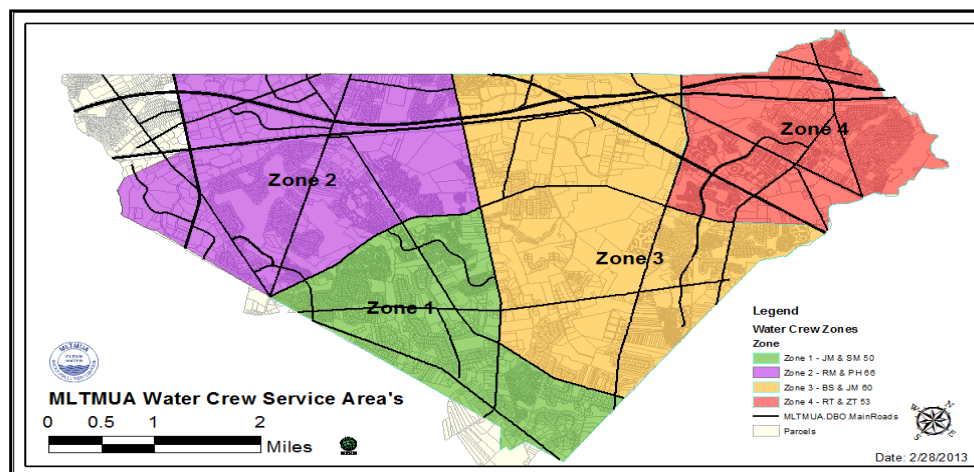
2 ground water
5 service leaks
1 wire broken to t/p
1 bad taste in water

We also received a number of calls from customers about their water pipes freezing at the end of January. We assist as best as we can however the freezing issue is a homeowner plumbing problem, not MUA. This is typical in Tricia Meadows where our meters are not always properly protected under the trailer units; however none of the calls were from Tricia Meadows customers this round which is unusual.

Our customers are reminded that ownership and maintenance of the service lateral from the main to the premise is the responsibility of the property owner.

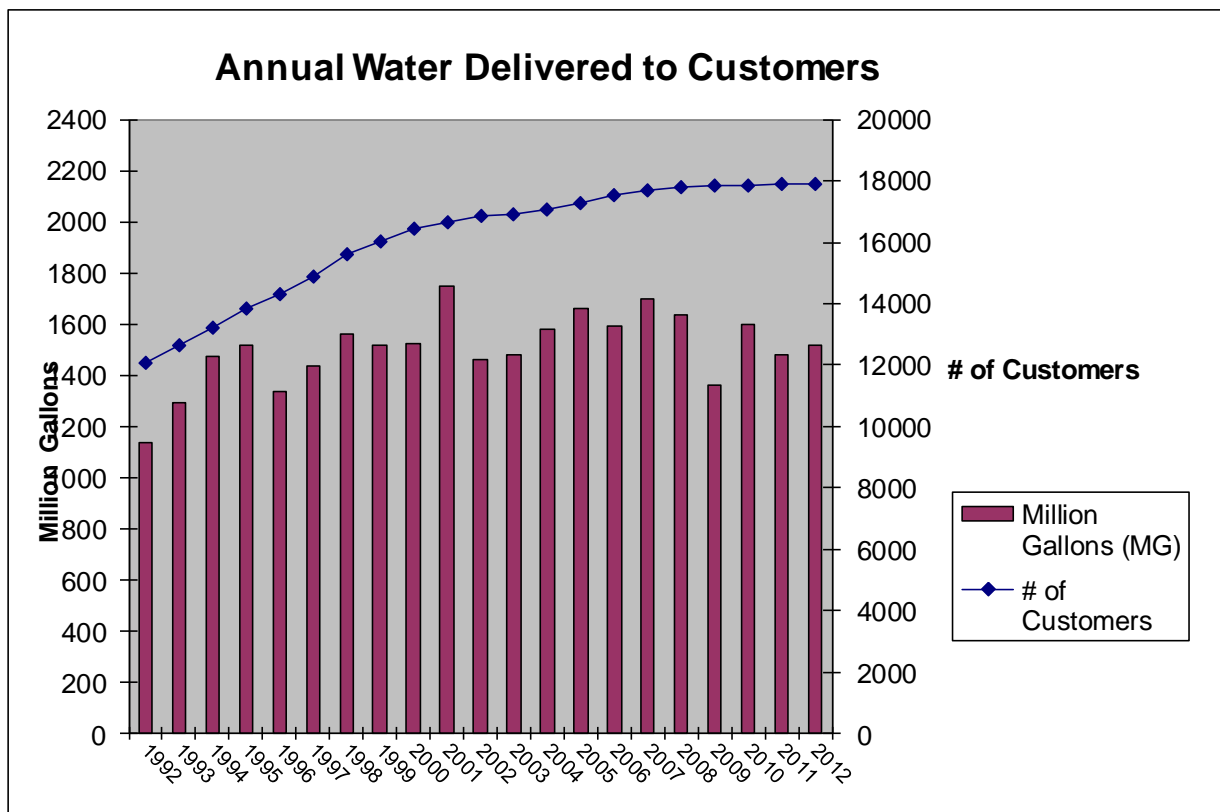
Water Distribution System O&M Teams:

Our water distribution employees have divided into teams of two and have been assigned to zones with specific areas of responsibility. Some items assigned are: maintaining and exercising water valve boxes, painting and maintenance of fire hydrants and asset evaluation and update for our asset management program.



Water Supply Availability Summary:

The MUA continually monitors available water supply for the community by way of MUA customer historical use records and by using New Jersey Department of Environmental Protection (NJDEP) Bureau of Safe Drinking Water (BSDW) standards. Over time, actual water used by our customers is increasing proportionally to the increase in total number of customers. Large annual variations are primarily due to changes in weather (temperature/rainfall) as indicated with 2001 and 2012 use.



The NJDEP BSDW also tracks and calculates available water supply and demand by each water supplier. Although the BSDW calculations relate to actual use and supply availability, the customer demand figures used by BSDW are not the same as the actual historical use records. In addition, in August 2007, the BSDW unilaterally reduced our estimated available supply capacity by 280 million gallons per year (MGY) because of conversations with NJAWC regarding our off-peak purchase contract. However due to the economic downturn, water required by our customers has waned. Coupled with NJDEP approval of a contract modification for the NJAWC water purchase, on paper the MUA has minimal excess available water capacity to service new connections. Through our combination of water supply sources: our Elbo plant and purchased water contracts, the MUA continues to have adequate capacity to supply our customers.

Water Allocation Program Interest ID #5193X:

Term – 2/1/2007 to 1/31/2017

Diversions –

Permit No. 5193 for Ground Water = 5800 gpm, 165.2 MGM, 717.452 MGY via wells 3, 4, 6 and ASR 7

Permit No. 5400 for Surface Water = 4200 gpm, 186 MGM, 1237.548 MGY via proposed Rancocas intake. The overall annual allocation will be subject to adjustment based upon safe yield.

The MUA is continuously compliant with allocation limitations.

Water Supply Plan:

1. Implement ASR to augment summer requirement while reducing summer dependency on purchased water – complete
2. Replace out of date water treatment plants with one facility and controls for source management – increase monthly allocation for summer use - complete
3. Construct a new alternative water supply source within Mount Laurel to reduce water purchases from other suppliers – NJDEP allocation was obtained. Timing of design/construction of this project must be coordinated with existing water purchase agreements.

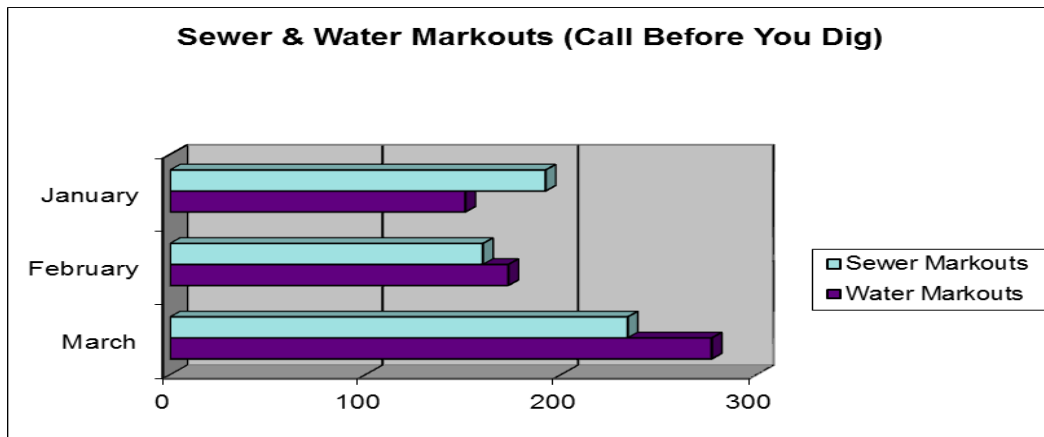
The second step in our three-part plan for the water supply system was completed in July 2007 and December 2011 and is functioning as expected.

Looking Forward:

The MUA has been actively pursuing alternative sources of water to meet user demand. Currently, the MUA must purchase large quantities of water from other water purveyors to make up the difference between customer demand and permitted withdrawal from the Potomac-Raritan-Magothy aquifer. We believe the development of less expensive alternatives is possible. Several have been identified. If the we receive approval from the appropriate regulatory agencies and develop these alternatives, particularly the building of a surface water treatment plant (as noted in #3 above), the operating expense for the purchase of water from outside purveyors can be significantly reduced. Capital expenditures for a new plant will be significant; however overall lifecycle cost should be less than current supply sources.

Water & Sewer Mark Outs

The MUA receives all requests for Mark Outs when digging is involved anywhere in Mount Laurel Township. The MUA pays for participation with the 1-800-272-1000 call before you dig service for verification management. Each request is reviewed by MUA field personnel to determine if a mark out is required. When a mark out is required, MUA field personnel are dispatched to each request location to identify MUA underground facilities. Even though the number of mark outs required has reduced in the past several years due to a decrease amount of new construction within Mount Laurel, mark outs continue to require a noticeable amount of manpower.



1203 Mark Out Requests Received for the Quarter

601 Mark Outs Performed by the Water Department

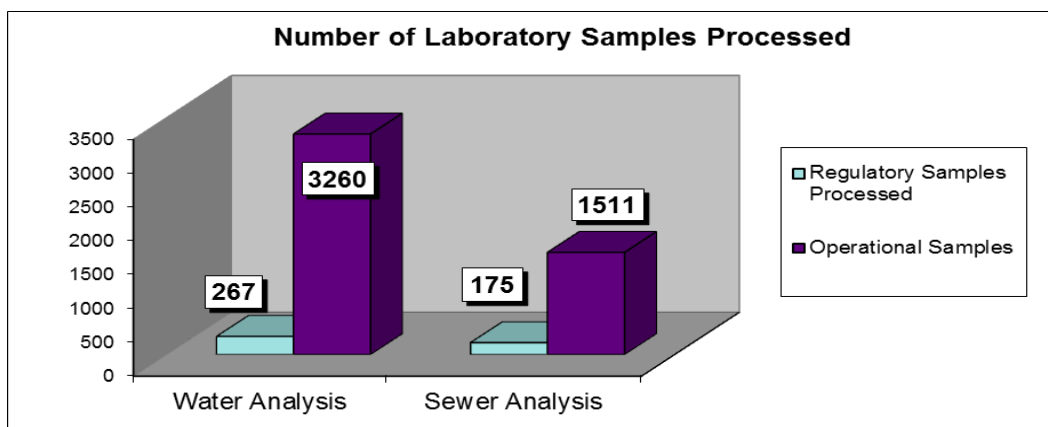
586 Mark Outs Performed by the Sewer Department

1187 Total Mark Outs Performed by the Water & Sewer Departments

Other MUA Departments

Certified Laboratory:

The number of regulatory samples processed conforms to the requirements set forth by regulation or permit requirement. Additional operational samples (not required) are performed in order to refine treatment capability and to detect and react to changes in quality.



- Due to the large number of water main breaks in areas where the mains are considered new (less than 20 years of age), several years ago the Authority began performing soil analysis at water main breaks. We have found a direct correlation with acidic soils and fluctuating ground water conditions with the occurrence of main breaks. Our lab continues to analyze this data so that our engineering department can utilize the data in conjunction with planned water main replacements and rehabilitations. Performed soil analysis this quarter at the following locations:

Saint David Drive	Haines Road	Sheffield Land & Sheffield Court
Canterbury Road	Saint Andrews Drive	North Lake Drive & East Bluebell Lane
Cambridge Road	Sorrel Run & Sorrel Run	

Vehicle Maintenance & Power Equipment:

The MUA maintains 39 Vehicles in its fleet, 17 pieces of equipment and 57 generators for emergency standby power. The MUA facilities are supplied with 100% backup emergency power via diesel powered standby generators. This enables the MUA to operate all facilities at full capacity during power failures or during periods of low voltage (brown outs). This is particularly important during storm events, when wastewater-pumping volume increases due to infiltration and inflow into the sanitary system.

Each generator operates under load once per week. During Philadelphia area poor air quality days, exercising of generators must be postponed until air quality is within normal range. In addition, all standby generators are load-banked once every two/three years; this important service was previously performed once/year, but lack of manpower has required us to reallocate resources. We hope to resume our former schedule in the next few years.

Safety:

On December 26, 2012 pump station crew U-70 was inspecting and performing maintenance on Bridlewood pump station. After one of the operators completed the inspection of the dry well, and was climbing back up the fixed ladder (26') to the surface of the station he lost the feeling in his right leg. The operator was wearing a full body harness and was connected to an anti-fall with retrieval capability with another operator serving as the standby person, so he was not in danger of falling but needed assistance getting out of the dry well. The standby person could not safely remove the operator by himself, so he contacted 911. Police were first to arrive and assisted removing the operator. The EMT's and Paramedics and evaluated the employee and identified the problem to be low blood sugar. The employee got some sugar in his system and was able to return to the treatment plant to finish he day there.

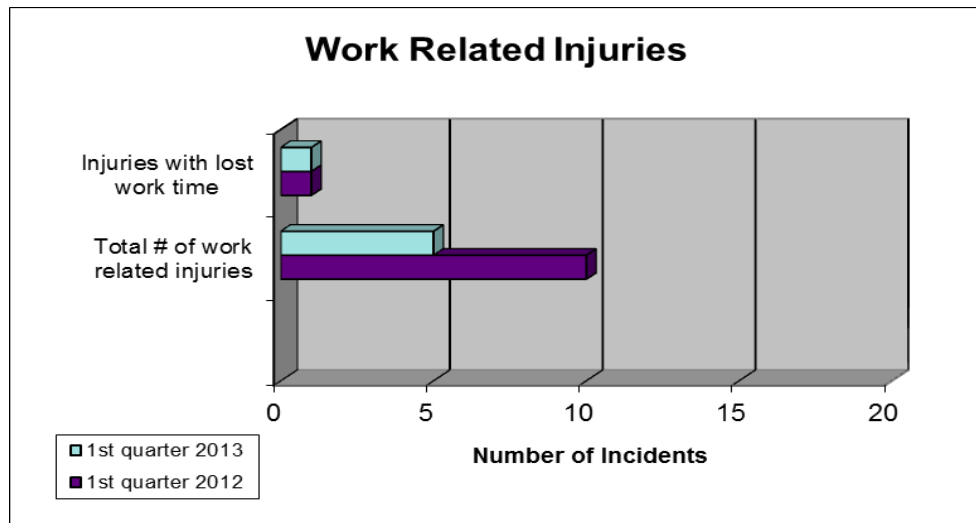
There were 5 minor injuries; one resulted in lost time this quarter:

Lost Time:

- ❖ An employee felt something "pop" in lower of his back while bent over removing a sump-pump at Brentwood Pumping Station.

No Lost Time:

- ❖ An employee injured his lower back by slipping on ice while unlocking the gate at Brentwood Pumping Station.
- ❖ An employee strained the middle of his back a left shoulder after pulling rags from the barscreen at Stonegate Pumping Station
- ❖ An employee strained his left side and back climbing down the ladder at East Park PS
- ❖ An employee strained his middle back and right shoulder after slipping on ice while exiting a truck at the wastewater treatment facility.



Other Safety Related Items:

- ❖ Our workers compensation carrier performed annual audit.
- ❖ Post Sandy follow up and resiliency meetings

Safety Training/Inspections:

Our sewer department & electrical personnel attended operations & safety training for our new crane truck. The truck is a replacement vehicle, which will be used primarily to remove/reinstall pumps and motors from our unground pumping stations. The training covered:

- | | |
|-----------------------|---|
| Crane Operations | Proper use of Block and Hook |
| Crane Safety | Proper Cable Care and Maintenance |
| Vehicle Positioning | Personal Safety Equipment Requirements |
| Outrigger Placement | Instructions on Crane Angles and Loads |
| Crane Inspection | Instructions on Crane Restrictions |
| Securing Working Zone | Electrical Hazards and Overhead Hazards |



Human Resources:

Our employees are licensed water & wastewater professionals. We have 28 MUA employees holding a total of 56 NJDEP licenses for operation of water and/or wastewater systems. The MUA must employ and designate a licensed operator for each of our four areas of service: Water Distribution (level W-3), Water Treatment (level T-4), Wastewater Collection (C-3), Wastewater Treatment (S-3). Employment of additional licensed operators in all operational areas adds value to the service we provide to the community.

13 operators with level 1 licenses, for operating systems with 101 to 1,500 people
24 operators with level 2 licenses, for operating systems with 1,501 to 15,000 people
11 operators with level 3 licenses, for operating systems with 15,001 to 50,000 people
8 operators with level 4 licenses, for operating systems with 50,001 or more people

- In addition we employ 2 ASE certified (Automotive Service Excellence) mechanics, 2 Journeyman Electricians and a Professional Engineer.
- Members of our staff have formal post-secondary education in the following disciplines:

Finance/Accounting	Chemistry	Computer Science
Business Management	Safety	Civil & Environmental Engineering
Automotive Services	Electrical	
- 01/11/13 – Seven students (2 of our own employees) from the Advanced Water Class toured our water plant. Students were provided with a general overview and operational capabilities for our water distribution system and water plant.

Finance Department:

User Fees billed: \$ 3,950,657.65

User Fees budgeted: \$ 3,909,500.00

User Fees collected: \$ 3,982,835.67

Expenditures for the quarter:

Accounts Payable \$ 1,982,949.04

Payroll (including
tax liabilities) \$ 929,181.41

Debt service \$ 1,547,779.14

Capital Projects \$ 745,099.39

Total Expenditures: \$ 5,205,008.98

Public Education:

- 03/11/13 – 30 Engineering students from Drexel at BCC, Fluids Mechanics Class of the Mechanical Engineering Program toured our facilities during a 5-hour program provided by the MUA. The main lesson of the tour was “how does it really work in the field”, a component to their education to impress upon the students the importance of recognizing the relationships between theory and practice.



Clarifier at the water plant



Filter room at water plant



Orbal tank at sewer plant



RAS/WAS pump room at sewer plant



March 11, 2013 Drexel Fluid Mechanics Class

Shared Services:

Underdrains:

The MUA and Mount Laurel Township have a maintenance and operational agreement for the lower level underdrain systems located in the Ramblewood developments. The agreement stipulates that the MUA will check operation of the Township's six underdrain pump stations and the discharge inverts and outfalls from the Ramblewood underdrain system. Improvements to the underdrain system remain the responsibility of the Township. Underdrain related service calls are handled by the MUA. Service calls from areas not covered by the agreement have increased recently; the MUA continues to respond to these calls too. The shared services agreement requires that the Township reimburse the MUA for these services, which average about \$25,000/year.

The MUA is working with Mount Laurel Township to improve the underdrain plans. This project will continue until the MUA is confident that all known upper level and lower level underdrains are adequately mapped.

01/02/13 – 01/09/13 Charleston Court, Norwood Rd and Ridgewood Terrace

We received a call from a customer at 524 Charleston Court that the basement was taking on water. After visiting the area, we concluded that the cause was a blockage in the underdrain system. We worked for 2 days to break the blockage, were unsuccessful and determined that a pipe could be broken so we called in a repair contractor. Due to markout restrictions, the repair was scheduled for January 10th. We continued to bypass the underdrain system in the interim so additional basements would not flood. In the meantime, the MUA performed additional jetting; we were finally successful on January 8th. However later in the day on January 8th, calls from homes on Norwood and Ridgewood indicated they were taking on water too, indicating an additional blockages present in the system or that the original blockage moved down stream.

By the end of business on January 9th, all blockages were broken and basements were no longer taking on water; therefore the contractor pipe repair was cancelled. Actual expenses were \$3600, estimated additional costs of \$7,000 if the contractor was needed. The MUA saved the Township substantial expense and performed faster than the contractor alternative by continuing to pursue and ultimately rectifying the situation.

01/17/13 - 407 Saint David Drive - Homeowner called to sump pump running continuously. MUA personnel went to the property to investigate and determined it was an issue with the lower level underdrain and jetted the line to clear the blockage. This property is located in an area where the Township installed an upper level sump pump header, so that the lower level underdrain system could ultimately be abandoned after filling with grout. Ultimately, all homes in this area must be disconnected from the lower level system and re-connected to the sump pump header.

02/12/13 - 536 Perry Drive – We received a call from Mount Laurel Department of Public Works (DPW) stating the homeowner's sump pump is running continuously and needs us to come out and check the underdrain. Our Sewer Department personal found the sump pump running – pumped out the water next to the property and jetted 1460' of underdrains and storm sewers to break an iron blockage and relieve the groundwater backup.

03/02/13 – 2 Brookwood Court - Received call from homeowner that vent was overflowing. Upon inspection, our sewer department personnel determined that there were no problems with the sanitary sewer, but that the upper level underdrain groundwater removal system in the street was full. We jetted the underdrain line; however the underdrain line was surcharged due to high water level in the adjacent retention basin where the underdrain discharges. The Township DPW was notified of the issue. On March 11th, the homeowner contacted us again as the situation had not changed and homeowner was concerned that underdrain pipes were clogged. We again jetted the pipes, but water level did not change. DPW is aware of the situation and will be pursuing options to lower the water level in the basin.

Mount Laurel Township – Miscellaneous:

- As a courtesy for Mount Laurel Township, the MUA Sewer Collections Department cleans out the Pond at PAWS Farm and pumps out the septic tank at Laurel Acres Park the 2nd Tuesday of each month.

Mount Laurel Township - Public Works Department:

02/05/13 - 810 Union Mill Road – Received call from homeowner that there is a problem with the storm drain in front of his mailbox backing up with water. Upon our personnel contacting DPW, DPW requested that we clean out the storm drain. Our personnel jetted/clean the storm drain on February 11th.

02/16/13 – 848 Lafayette Drive – Received call from homeowner that there is a sink hole in street. Our sewer department personnel checked the manholes for dirt or sand, and televised the nearby gravity sanitary sewer main and determined it was not a broken. In addition, our water department personnel verified that the sinkhole was not due to a water main break. The matter was referred to Mount Laurel DPW for further investigation and action.

Switch to Narrow Broad Band 2-way Radios:

Our MUA is now compliant with 12/31/12 Federal deadline to switch to narrow band 2-way radios. In January 2012 we became aware of a Federal requirement no longer permitting use of our existing 2-way radio system; our FCC license for the existing system could not be renewed. Although MUA supervisors and some other key field employees are equipped with mobile phones, we still heavily rely on our 2-way radio system. All MUA vehicles are equipped with 2-way radios and personnel located at our treatment facilities also use them for routine communications. Base stations are also located with Customer Service Representatives for assigning service calls. In addition, Mount Laurel Township utilizes the MUA's FCC license (shares the frequency with the MUA) for its 2-way radios. The MLPD monitors the frequency for emergencies and the radios have also been used during emergency operations. Abandonment of the 2-way radio system was considered and rejected due to the expense associated with alternatives and lack of backup systems. The MUA worked with representatives from the Mount Laurel Office of Emergency Management and Burlington County in obtaining a new FCC license and reprogramming certain radios. The project spanned the entirety of 2012 and was completed by the 12/31/12 as required. Out of pocket expense equipment purchase and modification was \$14,500. Additional manpower expenses of over \$4,000 was associated with license acquisition, reprogramming and installing equipment.

Capital Projects: 1st Quarter 2013

Water

Indigo Drive Water Main Replacement

This project included replacement of 1,120 linear feet of 8" DIP water main, 2 fire hydrants and 41 house service connections in the Holiday Village East development. Since the existing pipe was only 15 years old when it reached the end of its useful service life due to acidic soil conditions, the new main was encased in plastic and has 30 Cathodic protection anodes devices installed to extend its useful life. Although unnecessary to accommodate the water main replacement, the roadway was repaved from curb to curb by the Authority as requested by the Township. The originally installed water main was filled with grout and abandoned in place. The project was finalized in March 2013. We commend our installation contractor, Pioneer Pipe Contractors, on a job well done. Total cost of this project including design, permitting and construction was \$330,000.



New Pipe Installation



Finished Project

Well #4 Pump Rehabilitation and Piping Modifications

This project includes replacement of the well pump, redevelopment of the well, piping modifications, installation of a new flow meter, new electrical control equipment and SCADA system modifications. Construction cost was estimated \$310,000; however bids were received in November 2012, with a low bid of \$358,514. All bids were reviewed, analyzed and found to be accurate. The Authority awarded the contract to the low bidder, Eagle Construction Services at our November 27, 2012 meeting. The contractor has been working diligently to meet the April 8th well operation date. The well can operate manually (without automated controls), and additional work on the floor seal coating is necessary.



Well #4 prior to construction



Well #4 almost complete

Sewer

Orchard PS Rehabilitation-Electrical

The Orchard PS was constructed in 1984, has been in continuous operation since and has not undergone any major rehabilitation. This facility services a large part of the Larchmont developments on the north side of Rt. 38. It is one of the Authority's five largest sewage pumping stations (41 pump stations in all). The station is a metal can type and its electrical controls are corroded as can be expected due to the atmosphere in which they are housed. This project includes new controls and equipment replacement. The total estimated project cost (design, permitting and construction) will be increased to over the original estimate of \$250,000. Construction was originally scheduled to begin in April 2013; however, several questions arose during design which will require supplemental component testing. This will delay design completion for several months. The project is expected to be ready for public bidding after July 2013.

FY13 Cleaning and Videoing of Sanitary Sewer Mains

This project consists of televising ~90,000 feet of sanitary sewer mains of various diameters on Gaither Dr, Church St, Fellowship Rd, Church Rd, East Gate Shopping Center, Briggs Rd, Bishops Gate, Midlantic Dr, Centerton Square, Michaelson Dr, Wagon Wheel Dr, East Coach La, Canterbury Rd, Oxford Pl and Dorchester Rd. The project is part of the Authority's over multi-year assessment of the sanitary sewer system. Work will be performed between 10pm and 6am (low flow period) in order to best observe infiltration and inflow ("leaks") into the sanitary sewer system beginning in May 2013.

FY13 Sanitary Sewer Rehabilitation

Sanitary sewer video projects performed during the last few years identified areas where rehabilitation is necessary. We are using our asset management program to prioritize and schedule repair/rehabilitation of these areas along with previously televised areas and other known issues and is incorporating this information into the Capital Construction Renewal & Replacement Program. This summer, 15 sections of sanitary sewer main will be slip lined. Those areas are located on the following streets: South St. Andrews Dr, West Azalea Dr, Cobblestone Dr, Union Mill Terrace, Williamsburg Way, Cornwallis Dr, Norwood Rd, Heather Dr, Magnolia Rd, Timberline Dr. The estimated project cost is \$250,000.

Hartford Road WPCF-UV Disinfection System

This project includes installation of new ultraviolet disinfection (UV) equipment as a replacement to the existing equipment which began service in 1996 after the latest treatment plant upgrade/expansion. The existing system has seen its fair share of repairs during its 16 years in service. Hydraulics related to the cleaning system have been non-functional for over 2 years causing a large increase in manpower dedicated to keeping the system operational. Computer controls and circuit boards have been previously been replaced and additional repairs to that system are no longer possible. Operational issues related to this equipment have caused an increase in electric usage. In addition, the NJDEP recently approved our New Jersey Pollution Discharge Elimination System (NJPDES) permit in association with our wastewater treatment facility. This permit also regulates the reuse of our treatment plant effluent; the requirements have changed from previous permits.



Existing UV system



Wastewater passing through UV system

At the present time, we are proposing to install a new system in a spare channel in the existing UV tank. After the new equipment is operational, the existing UV equipment will be taken out of service for rehabilitation for future use as backup disinfection. Project cost is estimated at \$1,000,000. Alternatives are currently under evaluation. Conceptual design and layout is underway; final design should be completed so that bidding can occur in June 2013 with contract award in July 2013 when the funds budgeted for construction become available.

Wastewater Pump Station Corrosion Protection

This project includes painting of the internal components of four of our 41 wastewater pumping stations (Lakes, Masons Creek, Union Mill Rd and Millstream), and the recycle tank and filter room ceiling at the Elbo Lane WTP. Bids were received on March 15, 2013. On March 21, 2013 a contract was awarded to the low bidder JP Smith Contractors in the amount of \$67,610.00. Total project cost is estimated at \$170,000. Work is expected to begin in April 2013 and conclude in June 2013.