

Bethpage Water District And H2M Install One Of The First Perchlorate Removal Plants In New York State

The Bethpage Water District and Holzmacher, McLendon & Murrell, P.C. (H2M) recently completed one of the first drinking water treatment systems for perchlorate removal approved in New York State. The water treatment plant was approved for operation in July 2008 by the Nassau County and New York State Departments of Health.

Naturally occurring and man-made, perchlorate is typically found in the form of salts such as ammonium perchlorate, potassium perchlorate, sodium perchlorate and lithium perchlorate (less common). It persists in the environment when solid salts of perchlorate dissolve in water. With a chemical composition similar to common table salt, perchlorate is extremely soluble, making it difficult to remove from water by conventional



Protection Agency continues to study the prevalence, health effects and exposure pathways of perchlorate, so a federal drinking water standard has not been set. New York State has set an action level of 18 micrograms per liter (ug/l) for perchlorate, which if reached would require a well to be either treated or removed from service.

H2M successfully completed a year long small scale pilot study that was a cooperative effort with Bethpage, Hicksville, Plainview and West Hempstead Water Districts; finding a cost-effective solution to remove perchlorate through a fixed bed ion exchange process

was attainable. The Bethpage Water District decided to implement the treatment process for one of its supply wells which had trace levels of perchlorate well below the 18 ug/l action level. Although there is no federal standard, the District wished to be out in front of the treatment technology in anticipation of a standard, while at the same time providing drinking water of the highest quality. With the new perchlorate removal system successfully in place and operating, a now proven treatment technology is available to the District and other water suppliers in New York State for the removal of perchlorate once a drinking water standard is set.

“The Bethpage Water District has proven to be proactive in providing the highest quality water possible.”

treatment processes. Perchlorate is extremely mobile in groundwater environments and can persist for very long periods of time due to the strong chloride-oxygen chemical bond.

Man-made perchlorate is most commonly used as the oxidizer and the primary ingredient in solid rocket fuel. Other uses are for fireworks, road flares, munitions, air bag inflator charges and matches. Perchlorate is also an impurity in chemical fertilizers and agricultural chemical compounds. The United States Environmental



“Even though perchlorate is not yet regulated by the EPA, the Bethpage Water District has proven to be proactive in providing the highest quality water possible. The implementation of one of the first perchlorate removal plants approved in New York State is another step towards achieving its goals,” said Richard W. Humann, P.E., Vice President, at H2M.

Not Just Another Paint Job



Incorporated Village of Freeport, NY

Repainting your living room can be considered a big project for some people. Repainting the exterior of your house is an ever bigger project. But how about repainting a 1 million gallon water storage tank that is over 150 feet tall?

Over the past several months, H2M's water supply engineering and coating

inspection department has assisted public water suppliers with the repainting of several water storage tanks that service our communities.

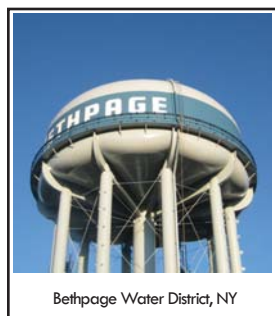
Many water storage tanks are constructed of steel. If properly coated with the correct paint system, a tank can have a useful life of over 100 years. However, just like the exterior of your home, the tanks need to be repainted on a periodic basis to protect the structure from the environment. In the past, repainting was normally required every 12 to 15 years. With recent improvements to tank paint coating systems and with proper application procedures, we can expect an increase in the period between repainting to 15 to 20 years.



Hicksville Water District, NY

A typical tank painting project includes a full containment system that "tents" the entire tank to prevent blast material and coatings from blowing off the site and impacting the surrounding community; hazardous material abatement; lead disposal systems; sand blasting and paint spraying systems. The coating system being utilized includes zinc based primers, epoxies and polyurethanes that can cost upwards of \$100 per gallon. A typical tank may require over 2000 gallons of paint to properly coat the tank's interior and exterior.

With the cost of sand blasting and rehabilitating the interior and exterior of a tank costing upwards of \$2 million, it is imperative that it is done correctly. H2M's tank inspection staff have the required certifications issued by the National

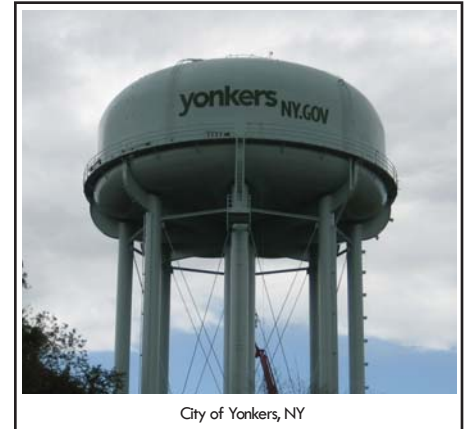


Bethpage Water District, NY

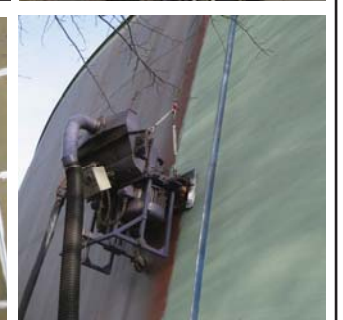
Association of Corrosion Engineers (NACE) to assist them in providing effective construction observation services for the rehabilitation of tanks in the Tri-State Area over the past several months.

H2M's tank inspection staff also provides annual and semi-annual inspections of over 100 water storage tanks.

So the next time you drive by the elevated water storage tank in your community, remember that the tank will continue to remain in service for over 100 years if properly maintained.



City of Yonkers, NY



United Water, New Jersey

H2M Planning a GREEN Wastewater Treatment Facility

SUNY Stony Brook at Southampton Campus

H2M is planning and designing a “Green” wastewater treatment facility for the SUNY Stony Brook - Southampton Campus.

The treatment facility will replace the existing on-site septic systems and provide capacity for proposed facilities envisioned in the current Master Plan. The new facility is required by the Suffolk County Department of Health Services (SCDHS) in order for the campus to treat the additional wastewater anticipated from the increase in future enrollment. This project is being undertaken by the State University Construction Fund (SUCF) because the State University of New York at Stony Brook (SUNY) has projected an increased enrollment at the newly acquired Southampton Campus.



A unique aspect of the facility is that it will be an integral part of the sustainability education curriculum being offered by the University. To accomplish this, a classroom and laboratory will

be included within the treatment facility.

A greenhouse, along with multiple ecological pilot treatment processes will utilize plants and animals as a means of treating wastewater.



H2M has been retained by the State University Construction Fund (SUCF) to provide the planning, design, and construction phase services for a new wastewater reclamation facility for an ultimate design flow of 135,000 gallons per day. The new treatment facility will incorporate numerous elements of sustainable design in accordance with the State University of New

York Energy and Sustainability Policy.

The wastewater treatment process will employ the use of Membrane BioReactor (MBR) technology to provide a high quality effluent, suitable for wastewater reuse. This aspect of the facility is consistent in keeping with the goal of the campus to promote sustainability. The treatment system building will also include an educational facility/learning center.

In addition, the facility will be designed and constructed to achieve Leadership in Energy and Environmental Design (LEED) silver certification. Unique design concepts will include; a green roof; advanced wastewater technologies; innovative dealings with rain water; low emitting materials & VOC coating; reduced light pollution; maximized daylight; optimized energy performance to seek at least 20% energy reduction; and improved ventilation & indoor air quality.

These components will be adjacent to the conventional wastewater treatment plant area of the facility, so that students can learn about both technologies. The new facility will also include a comprehensive signage program built into the building's spaces to educate the occupants and visitors of the benefits of green buildings. This program may include windows to view energy-saving mechanical equipment or signs to call attention to green features. Educational outreach programs or guided tours will be developed to focus on sustainable living, using the facility as an example.

The initial use of recycled water will be for maintenance cleaning of the wastewater treatment plant. It will also likely be used for campus site irrigation at some point in the future. Another long-term planned use is to supply re-use water to the flush toilets located within new campus buildings.

Once constructed, this will be the first “GREEN” wastewater treatment facility in New York State, and the first with the capability of reusing treated effluent on campus.



H2M Celebrates Historic Anniversary

H2M celebrated its 75th anniversary this summer with a breakfast reception at our Melville headquarters. Attended by dozens of elected officials and representatives, the celebration was marked by the unveiling of an anniversary banner on the front lawn of the building.

"This has been a truly momentous year," said John Molloy, H2M's president and CEO. "H2M is proud of our long and distinguished history of providing clients with the best possible service in the fields of engineering, architecture, planning, environmental services and laboratory testing."

Throughout 2008, H2M has been commemorating their banner year with several special charitable donations, employee appreciation days and the launch of our anniversary logo.

Special guests at the Anniversary Celebration included: New York State Senator Carl Marcellino, New York State Assemblyman Andrew P. Raia, Town of Islip Supervisor Phil Nolan, Town of North Hempstead Supervisor Jon Kaiman, Town of Huntington Councilman Mark Cuthbertson, Town of Huntington Councilman Stuart P. Besen, Town of Huntington Councilwoman Susan A. Berland, Town of Huntington Councilwoman Glenda Jackson, Town of Huntington Town Clerk Jo-Ann Raia, Incorporated Village of Bayville Mayor Victoria Siegel, Village of Patchogue Mayor Paul V. Pontieri, Town Of Babylon IDA Bob Stricoff, and Mr. and Mrs. Robert G. Holzmacher.

Working out of his home in Bethpage, Henry G. (Gus) Holzmacher started the company in 1933, which has helped design and implement projects throughout Long Island's communities – from sewage and water treatment facilities, fire houses, schools, road reconstruction and traffic surveys, to safety and environmental site assessments and remediation.



Holzmacher, McLendon & Murrell, P.C.

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H2M's president and CEO John Molloy and Robert G. Holzmacher (son of founder Henry G. Holzmacher) unveil the new anniversary banner outside the company's Melville headquarters.

Today, H2M provides multi-disciplined engineering, architecture, environmental services, civil/site, structural and transportation engineering, mechanical/electrical/plumbing engineering, water supply/water resources, wastewater engineering, waste management, hydrogeology/geology, land use planning, surveying, construction administration, GIS and digital infrastructure management, in-house or on site federal and state certified training courses, and full laboratory testing and analysis.

H2M prides itself on the breadth of its comprehensive in-house service capabilities and currently maintains staff resources of over 260 professionals.