

DELAWARE ENGINEERING, P.C.

FIRM PROFILE

Delaware Engineering offers a qualified professional and technical staff working together to provide civil and environmental engineering expertise to meet the infrastructure and environmental challenges faced by communities and private businesses. Delaware Engineering has a proven track record in developing successful infrastructure projects, securing affordable funding, and coordinating multiple community efforts so that the “whole is greater than the sum of the parts.” We believe that in many communities modest infrastructure improvements can be leveraged to build comprehensive economic development strategies. Building on a strong background in municipal engineering, principally water and wastewater engineering, the firm has transitioned to offer a broad range of environmental services, including landfill design and closure, industrial decontamination and demolition, groundwater and soil remediation, wetland and ecological assessment, and environmental review and permitting.

Delaware Engineering Services was founded in 1987 and incorporated three years later as a Professional Corporation. The firm has grown to a staff of 50 professionals in our Oneonta, Albany, and Walton, New York offices. Delaware Engineering has worked hard over the years to build a business based on the philosophy that customers appreciate the value of “old time” civil engineering blended with modern technology and personal attention. We consistently deliver well-designed, functional services by working closely with our clients from conception through operations.

Our technical staff is comprised of professional and graduate engineers, senior environmental scientists, chemists, geologists, biologists, planners, computer aided design and geographic information system specialists. Our professionals are solution oriented and extremely adept at navigating New York’s funding and regulatory maze. Several of our senior managers gained their regulatory experience while employed by the NYS Department of Environmental Conservation and Department of Health. In addition to direct employment experience, our engineers and scientists have established working relationships with New York State, New York City and major municipal representatives.

Our client base and project experience are diverse, reflecting the expertise and reliability of our professional staff. Our growing client list and high percentage of repeat customers are a strong demonstration of our commitment to the environment and customer satisfaction. We look forward to solving the continuing challenges faced by our customers into the 21st century.

DELAWARE ENGINEERING, P.C.

FACT SHEET

HISTORY:

Founded in 1987, Delaware Engineering, P.C. is a New York State Professional Corporation licensed to practice engineering with offices in Albany, Oneonta, and Walton, New York.

STAFF RESOURCES:

Total Staff = 50 professional, technical and support staff.

Civil Engineers:	25
Elect/Mech Engineers:	2
Environmental Scientists:	5
Planning/Permitting/GIS:	3
Drafting/CAD:	5
Construction Managers/Support	<u>10</u>
TOTAL:	50

PRACTICE AREAS:

Delaware Engineering, P.C. provides civil and environmental engineering and science in the following areas:

- Water/Wastewater
- Transportation Infrastructure
- Environmental Remediation (RI/FS)
- Solid & Hazardous Waste
- Building Decontamination/ Demolition
- Planning/Economic Development
- Wetland Delineations
- Environmental Chemistry/Data Management
- Permitting/SEQR
- Municipal & Industrial Buildings
- Environmental Site Assessments
- Construction Management

SPECIALIZED RELATIONSHIPS:

Engineering and professional staff at Delaware have extensive experience as:

- Traditional consultants as an adjunct to clients' engineering/professional staff
- Extension of clients' staff, working at client facilities
- Term agreement managers and engineers for multi-year contracts with NYSDEC and NYSOGS
- Representatives of clients before federal, state and local agencies

REPRESENTATIVE CLIENTS:

Our diverse and growing client base includes state agencies, municipalities, and industry:

INSTITUTIONS:

- DASNY
- NYS ORMDD
- NYS OMH
- SUNY
- SUCF
- Hartwick College
- Cornell University

MUNICIPALITIES:

- Catskill, Adirondack, Capital Region communities
- County IDAs & Economic Development Agencies
- Fort Edward, Keeseville, Glens Falls, Coxsackie, Town of Amsterdam, Windham, Hunter, Middleburgh, Guilderland, Fishkill, Glenville, Castleton, Margaretville, Stamford, Waterford

INDUSTRY:

- International Paper
 - Consolidated Edison
 - General Electric
 - Waste Management
 - IBM
 - Atlas Copco
 - Burmah Castro
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DELAWARE ENGINEERING, P.C.
CONTACT INFORMATION

ALBANY OFFICE

28 MADISON AVENUE EXTENSION ■ ALBANY NY 12203
PHONE 518.452.1290 ■ FAX 518.452.1335

ONEONTA OFFICE

8-12 DIETZ STREET ■ ONEONTA NY 13820
PHONE 607.432.8073 ■ FAX 607.432.0432

WALTON OFFICE

6 TOWNSEND STREET ■ WALTON NY 13856
PHONE/FAX 607.865.9235

WASTEWATER TREATMENT AND COLLECTION SYSTEMS

New Wastewater Treatment Plant/Collection System, Village of Hunter, New York

Delaware Engineering is currently providing planning and design services for a new 325,900-gallon per day wastewater treatment plant and sewage collection system in the Village of Hunter. The treatment plant and collection system are funded by the New York City Watershed New Infrastructure Program. The facility will include a mechanical primary process followed by activated sludge secondary treatment and filtration with continuously backwashed upflow DualSand filters for tertiary filtration prior to surface discharge. The project cost will be between \$16,000,000 and \$19,000,000.

New Wastewater Treatment Plant/Collection System, Town of Windham, New York

Delaware Engineering is currently providing planning and design services for a new 375,000-gallon per day wastewater treatment plant and sewage collection system in the Town of Windham. The treatment plant and collection system are funded by the New York City Watershed New Infrastructure Program. The facility will include a mechanical primary process followed by activated sludge secondary treatment and filtration with continuously backwashed upflow DualSand filters for tertiary filtration prior to surface discharge. The project cost will be between \$19,000,000 and \$23,000,000.

New Wastewater Treatment Plant/Collection System, Village of Fleischmanns, New York

Delaware Engineering is currently providing planning and design services for a new 160,000-gallon per day wastewater treatment plant and sewage collection system in the Village of Fleischmanns. The treatment plant and collection system are funded by the New York City Watershed New Infrastructure Program. The facility will include a mechanical primary process followed by activated sludge secondary treatment and filtration with continuously backwashed upflow DualSand filters for tertiary filtration prior to surface discharge. The project cost will be between \$ 9,000,000 and \$ 11,000,000.

New Wastewater Treatment Plant/Collection System, Town of Shandaken, New York

Delaware Engineering is currently providing planning and design services for a new 185,000-gallon per day wastewater treatment plant and sewage collection system in the Hamlet of Phoenicia. The treatment plant and collection system are funded by the New York City Watershed New Infrastructure Program. The facility will include a mechanical primary process followed by activated sludge secondary treatment and filtration with either continuously backwashed upflow DualSand filters or microfiltration for tertiary filtration prior to surface discharge. The project cost will be between \$9,000,000 and \$11,000,000.

Village of Delhi, Wastewater Treatment Plant Upgrade to comply with NYC Watershed Rules and Regulations

This project involves the design and construction supervision for the upgrade of the Village of Delhi WWTP. The existing plant is a trickling filter which will be converted to a Sequencing Batch Reactor plant that will use the Continuously Backwashed Upflow DualSand Filter System for tertiary treatment. The plant's current SPDES discharge limit of 500,000 gpd will be increased to 800,000 gpd to accommodate the inclusion of another currently permitted discharge. This step required negotiation with the NYCDEP, the Village and the owner of the permitted discharge. The Delhi WWTP is located in a phosphorus restricted basin, therefore the expansion required a variance and accepting a lower phosphorus limit on the total expanded flow.

Village of Walton Wastewater Treatment Plant Upgrade, Walton, New York

This project involves the upgrade of the 1.7 MGD activated sludge wastewater treatment plant owned and operated by the Village of Walton. The upgrade is mandated under the Rule and Regulations for the protection of the New York City Watershed and includes the design and installation of a 1 MG equalization tank and the addition of tertiary treatment and backup systems for power and disinfection.

Village of Stamford Wastewater Treatment Plant Upgrade, Stamford, New York

This project involves the upgrade of the 0.5 MGD activated sludge wastewater treatment plant owned and operated by the Village of Stamford. The upgrade is mandated under the Rule and Regulations for the protection of the New York City Watershed and includes the design and installation of a tertiary treatment and backup systems for power and disinfection.

IBM Somers Office Complex Wastewater Treatment Plant Upgrade, Somers, New York

This facility is located within the New York City Watershed and must be upgraded to include tertiary treatment and backup systems to comply with Watershed Rules and Regulations. Delaware Engineering staff worked with the owner and the NYCDEP to fast-track design and bidding of the equipment for this upgrade project. Delaware Engineering is providing planning, permitting, regulatory compliance, design, bid documents, bid assistance, construction supervision, and startup and testing services.

Wastewater Treatment Plant Upgrade and Sewer Line Replacement/Repairs, OMRDD Taconic DDSO, Camp Harriman, Jewett, New York

Located within the New York City Watershed, the wastewater treatment plant at Camp Harriman is subject to upgrade under the Watershed Rules and Regulations. Delaware Engineering staff are responsible for both the upgrade of the treatment plant as well as the design and implementation of a correction action program to reduce inflow and infiltration into the Camp's collection system. The corrective action program, which involves the replacement of 30-year old asbestos concrete piping as well as the repair and/or replacement of numerous manholes, has been designed and was completed in the Spring of 2001. The subsurface discharge alternative to the upgrade of the treatment plant has recently been approved by DEP, resulting in significant cost savings in the project budget.

Wastewater Treatment Plant Upgrade, Camp Nubar, Delaware County, New York

Delaware Engineering, P.C. is pleased to have been selected to provide engineering services for the upgrade of the Camp Nubar Wastewater Treatment System. Camp Nubar operates a 0.0125 MGD wastewater treatment system for which investigation for subsurface disposal are progressing. Delaware Engineering is responsible for evaluating upgrade alternatives and providing design, permitting and construction phase services for the selected upgrade alternative.

Wastewater Treatment DualSand™ Pilot Studies, Delhi and Stamford, New York

Completed in June 1995, the Village of Delhi DualSand™ Pilot Study was the first of a series of advanced wastewater treatment pilot projects in concert with NYCDEP. The successes realized in Delhi and followed by continued achievements in Stamford in June 1996 lead to the final study conducted in Stamford and completed in November of 1997. Results are significant to the necessary upgrade of the 105 or more West of Hudson Watershed WWTP facilities and will lead to satisfaction of the regulatory requirements stipulated by the Watershed Memorandum of Agreement.

Temporary Wastewater Treatment Plant, Village of Pine Hill, New York

Delaware Engineering was instrumental in the coordination, design and construction management of this fast tracked 1.25 MGD temporary facility. This watershed community project was strategic to the final \$30,000,000 upgrade program for the Pine Hill facility.

City of Oneonta Wastewater Treatment Plant Upgrade, Oneonta, New York

This 5.0 MGD wastewater treatment facility was upgraded to meet ammonia standards as required by NYSDEC along the Susquehanna River. The project consisted of nine new biological units [RBC's] and sludge dewatering. Project cost: \$2,200,000.

Town of Owego Wastewater Treatment Plant Upgrade, Owego, New York

This wastewater treatment facility project encompasses the upgrade of the 2.0 mgd plant including the planning, design and construction of the building. The project involves treatment of a high strength industrial waste similar to milk in its organic content and ability to consume oxygen. Our firm has a key role along with the Town, Hadco Corporation and NYSDEC in bringing the project in on budget. Project cost: \$4,000,000.

City of Cortland Wastewater Treatment Plant, Cortland County, New York, US

This facility, which was plagued by non-compliance for over ten year, was upgraded under a NYSDEC consent order. The plant process was changed from a physical-chemical plant to a biological facility. With a design flow of 9.0 MGD, the project was completed \$3 million under budget. Project cost: \$10,000,000.

New Wastewater Treatment Plant, Suncastle, Lake George, New York

For the Suncastle Timeshare residential development wastewater treatment system, Delaware staff designed an extended aeration, activated sludge treatment plant designed for a peak daily flow of 35,500 gpd with an effective operating treatment range of 27,000 to 40,000 gpd. The treatment system consists of two concrete 35,000-gallon aeration tanks operating in parallel, capable of operating in a sequence batch mode during extended low flow periods. After optimum aeration, the wastewater gravity feeds to two 7,200-gallon clarifier tanks. After solids settlement, the clarified water gravity to a Dynasand filtration unit and then to a clear well. Setttable solids are removed from each clarifier by a 4-inch airlift pump and stored in two 9,000-gallon concrete digesters. Filtered water is chemically treated after filtration and pumped by a submersible pump to a subsurface absorption bed sized to satisfy state and local application rate codes.

New Wastewater Treatment Plant, Kent Manor, Carmel, New York

The Kent Manor residential development wastewater treatment system consists of an extended aeration, activated sludge treatment plant designed for a peak daily flow of 280,000 gpd with an effective operating treatment range is 20,000 to 500,000 gpd. From the equalization tank, wastewater is directed to two parallel 54,000-gallon aeration tanks. After optimum aeration, wastewater gravity feeds to four 7,200-gallon clarifiers. Clarified water then gravity drains through a Dual Sand filtration unit consisting of two continuous backwash units connected in series, and then to wet well. Setttable solids are removed from each clarifier by a 4-inch airlift pump and stored in a 32,000-gallon digester. Filtered water is chemically treated after filtration and discharged to a nearby stream.

DRINKING WATER TREATMENT AND DISTRIBUTION SYSTEMS

Water Filtration System, City of Glens Falls, New York

Delaware staff provided design and construction management services for the construction of a new 7.2 MGD water filtration plant. The project also included the installation of new pumps and a SCADA system which uses a radio transmitter to provide control data from an offsite pumping station to the treatment plant. The filtration system is capable of meeting or exceeding the requirements of the New York State Sanitary Code, including applicable federal guidelines and regulations (i.e., IESWTR, M/DBP Rule, TCR and FBR). The plant is fully operational and meeting all requirements.

Water Distribution and Storage System, Town of Amsterdam, New York

Delaware staff completed the design and construction of several water distribution system extensions and 250,000 gallon capacity water storage tank for the Town of Amsterdam, New York. This project involved all aspects of planning and design, including the procurement of regulatory permits and approvals, procurement of project funding, and development of detailed design documents. The project included the installation of a waterline extension from the existing 20-inch water main on Route 30 to Wallins Corners Road and along Wallins Corners Road east to Midline Road, an estimated 5,700 lineal feet of waterline. Project also included installation of replacement pumps in the existing Harrower Pump Station, valves, hydrants and other appurtenances.

Water Filtration Plant Design, Village of Canajoharie, New York

Delaware provided engineering design for a 1.5-MGD slow sand filtration plant for the Village of Canajoharie. The design included improvements to the supply and distribution system aimed at resolving long term water quality and pressure problems in the Village. The project included the installation of a new pumping station, modifications to an existing stand pipe, and installation of monitoring and radio telemetry control systems at various pumping systems and storage towers. Staff directed set-up, initiation and analysis of a slow sand filtration pilot study of the Village water supply. Delaware prepared bid documents, coordinated funding through the DWSRF program and provided construction management. The plant is fully operational and meeting all requirements.

Water Distribution and Storage System Improvements, Village of Middleburgh, New York

Delaware was retained by the Village of Middleburgh to evaluate their existing water supply and distribution system and design the necessary improvements to improve water quality and increase water pressure. The project is funded through a DWSRF grant/loan and includes replacement of an old water tank with a new ½ million gallon storage tank, and installation of a secondary back-up well and new secure water main crossing under the Schoharie Creek. The existing well house will be rebuilt and flood-proofed, and the well and storage tanks will be automated to eliminate manual operations. Water will be extended to homes with contaminated wells and unserved areas of the Village and old, undersized and corroded mains will be replaced. The project is anticipated to be complete and operational by the fall of 2005.

Water Evaluation and Treatment Upgrade, The Sagamore Resort, Bolton Landing, NY

Delaware prepared an engineering study of water usage at the Sagamore Resort in 2003 in order to evaluate the effectiveness of water reduction renovations. In 2004, Delaware designed UV disinfection water system upgrades for 3 separate buildings at the golf course complex. The project construction was completed in house by the Sagamore Maintenance Department.

Water Supply, Treatment and Distribution Improvements, Village of Keeseville, NY

Delaware Engineering was engaged by the Village of Keeseville to provide an evaluation of the current water supply and distribution system with recommendations for supply sources, treatment requirements and technologies and distribution system upgrades. Once recommendations were reviewed and alternatives selected, Delaware staff designed a new filtration plant and distribution system line replacements. The ground storage tank is a glass fused steel tank with a capacity of 300,000 gallons. Distribution system improvements included approximately 18,000 linear feet of pipeline and rehabilitation of an existing ground storage tank and tank control equipment. Delaware prepared bid documents, assisted with bidding, coordinated funding through the DWSRF program and provided construction management. The plant is fully operational and achieving all specifications for water quality.

Water Treatment Plant and Distribution Improvements, Town of Waterford, New York

This ongoing project includes the planning, permitting, design and construction of a new 2.8 mgd water treatment filtration plant to serve the Village and Town of Waterford in Saratoga County. The project includes replacement of the existing treatment system constructed in 1914 with new self cleaning strainers, pre-sedimentation clarifiers, filtration, chemical feed and pumping systems. The project also includes planning, hydraulic modeling, design and construction of two new 1 million gallon water storage tanks, booster pumping facilities and approximately 3 miles of water main replacement. The new treatment plant is designed to harmonize with adjacent historic structures.

Water Treatment and Storage System, Village of Fort Edward, New York

Delaware Engineering was retained by the Village of Fort Edward to plan and design a new water filtration plant and storage facilities. The project, which was funded by DWSRF, included the construction of a new 1.2 MGD water filtration facility and a 200,000 gallon elevated storage tank. The project included conducting a pilot test of the planned filtration technology, preparation of engineering reports and documents necessary to justify project funding from the New York State Environmental Facilities Corporation, and preparation of design documents. Delaware provided full engineering, bidding and construction supervision services.

Water System Improvements, Town of Greenville, New York

Delaware Engineering assisted the Town of Greenville with the implementation of a DWSRF funded water improvement project, which included analysis of source water quality and the design of a new treatment system and distribution system improvements. The Town's groundwater sources are a series of wells that periodically exhibit water quality problems, including clarity, taste and odor. Delaware Engineering staff evaluated the existing water sources and conducted an investigation of new water sources and improvements to the water treatment system. Delaware assisted the Town in determining to continue use of the existing sources, and designed, bid and provided construction supervision for a new treatment system and distribution line improvements.

Water Plant Pilot and Plant Upgrade, City of Norwich, New York

The project included the citing and construction of two new wells, a well house and transmission piping. The project also included a new corrosion control system, pressure filtration and chemical feed systems for the existing treatment plant. Delaware completed design, prepared bid documents, assisted with bidding, and provided construction management. The plant is fully operational and achieving all specifications for water quality.

Water System Pilot, City of Pawtucket, Rhode Island

Delaware Engineering evaluated existing surface water sources and developed a filtration system pilot for Covanta Water Systems of Fairfield, New Jersey. The pilot project was used to demonstrate the feasibility of using the DualSand™ System for treating water to Rhode Island Department of Health drinking water quality standards. The existing water system is a 27 MGD conventional water treatment plant with an average daily flow of 13.26 MGD. Besides the anticipated upgrade of the water system, this project is expected to include an extensive rehabilitation and retrofit of the existing transmission, main and storage systems.

Water System Improvements, Well House Construction & Water Tank Installation, Village of Bainbridge, New York

The water systems improvements included approximately 20,000 linear feet of water distribution lines and the installation of a new 300,000 gallon water tank to meet increasing needs of this residential, commercial and industrial community and afford an excess of one day water storage. The new well and well house will allow the Village to realize significant cost savings by filling during off peak hours.

Water System Improvements, Village of Stamford, New York

The project was DWSRF funded and included the construction of a new 300,000 GPD water treatment filtration plant and the replacement of over 6000 linear feet of century old water distribution lines. Other elements of the project included the addition and replacement of system hydrants and valving, rehabilitation of the 1.5mg water storage reservoir, renovation to the existing surface water supply reservoir and addition of a filtration system for treatment of that surface supply. The treatment process consisted of a DualSand dual stage up flow sand filtration system. The plant serves as a secondary supply to supplement the existing Village well system. Delaware completed design, prepared bid documents, assisted with bidding, and provided construction management. The plant is fully operational and achieving all specifications for water quality.

Well House Construction and Water Line, Village of Northville, New York

The project included the construction of a new 400,000 gallon water tank and the rehabilitation of an existing water tank. The scope of this project also included a new well house, improvements to existing distribution systems and a new transmission main from wells to the well house.