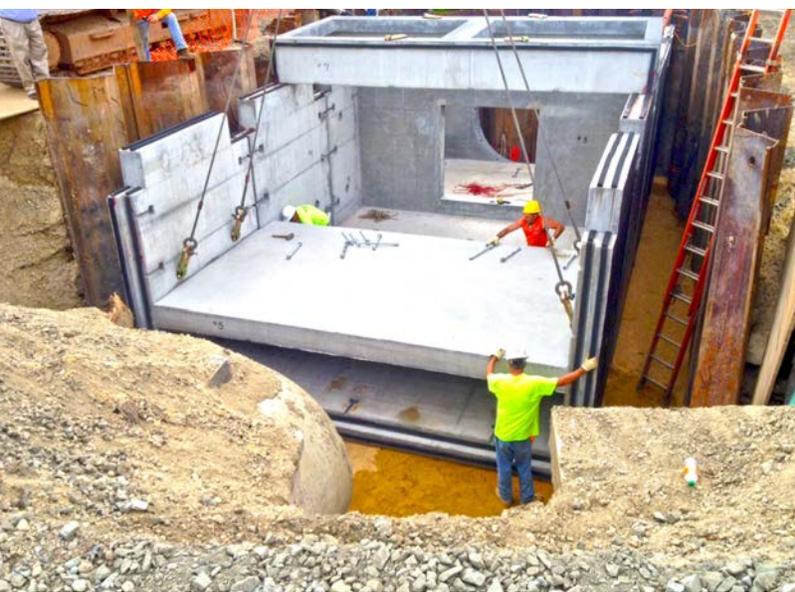




D&B/GUARINO  
ENGINEERS, LLC

# ENGINEERING SERVICES

Facing Challenges. Providing Solutions.



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TREVOSE, PA 19053  
215-244-9972 EXT. 123  
[WWW.DB-ENG.COM](http://WWW.DB-ENG.COM)

# WHO WE ARE

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Since 1965, D&B/Guarino Engineers, LLC (D&B/Guarino) has remained committed to improving the quality of life of our communities by seeking sustainable solutions and implementing innovative technologies. From a single office rooted in wastewater engineering and environmental sciences, we have established ourselves as one of the region's top multi-discipline firms.

D&B/Guarino now offers clients the resources of a diverse group of architects, engineers, construction managers, environmental professionals and various other industry experts, each of whom are unequivocally experienced, consummately skilled and extraordinarily talented at their craft. With an exemplary degree of loyalty, diligence and dedication, we are individuals driven to produce high-quality work for our clients.





# WHAT WE DO

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A **LEGACY** OF WASTEWATER  
MANAGEMENT AND  
ENVIRONMENTAL SOLUTIONS



**WASTEWATER TREATMENT**



**WATER TREATMENT**



**COLLECTION SYSTEMS**



**DISTRIBUTION SYSTEMS**



**ENVIRONMENTAL**



**STORMWATER MANAGEMENT**

# INTEGRATED APPROACH

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Our integrated approach has been developed from over a half-century of hands-on experience and is characterized by unparalleled quality, integrity and innovation. We offer clients and project owners an array of professional services that are located under one roof, allowing us to effectively manage a broad spectrum of projects and positively affect each assignment's scope, schedule and budget.

Serving a broad range of markets throughout six offices in three states, our philosophy emphasizes collaboration both internally and with clients to ensure we develop a unique understanding of each client's specific needs. Carefully considering the efficiency and sustainability of each project on a case-by-case basis, our team applies unique value engineering principles to provide tailored solutions, innovative capabilities and superior work products.



# KEY TEAM LEADERS

## CARMEN F. GUARINO, P.E.



Mr. Guarino is the Chairman of the Board of D&B/Guarino and is an expert in all aspects of the water and wastewater industry. Having direct experience working with many agencies throughout the Mid-Atlantic, including the Philadelphia Water Department (PWD) and Camden County Municipal Utilities Authority (CCMUA), his involvement brings exceptional knowledge in the project management of large municipal water and wastewater projects that consistently proves as invaluable to the team.

## STEVEN A. FANGMANN, P.E., BCEE



Mr. Fangmann, Chief Executive Officer of D&B/Guarino, leverages over four decades of professional engineering and project management experience in the operation, design and construction management of wastewater treatment and collection systems. A recognized thought leader of his discipline, his familiarity with the unique needs of wastewater treatment plants allows him to skillfully coordinate with project teams, clients and contractors to provide innovative solutions that allow clients to meet or exceed their project schedule milestones.

**Contact:** [sfangmann@db-eng.com](mailto:sfangmann@db-eng.com)

## ROBERT F. SERPENTE, P.E., BCEE



Mr. Serpente has 45 years of experience and has been an integral part of D&B/Guarino for nearly three decades, during which he has been responsible for a wide range of projects relating to wastewater collection and treatment, water treatment and distribution, pipeline engineering, and water and wastewater residuals treatment and disposal. Prior to joining the firm, he served PWD as plant and project engineer, superintendent of the 185 MGD Southwest Water Pollution Control Plant (WPCP) and manager of the 3,000-mile sewer collection system.

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## OLEG ZONIS, P.E.



Mr. Zonis' professional experience includes over 20 years in the civil and environmental engineering field and has undertaken an array of D&B/Guarino projects relating to wastewater collection, treatment, distribution, reuse, residual treatment, and odor control. During his tenure with the firm, he has worked directly with many agencies, including CCMUA, PWD and Lower Bucks County Joint Municipal Authority. Prior to joining the firm, he was the process control engineer for PWD at the Southwest WPCP

**Contact:** [ozonis@db-guarinoengineers.com](mailto:ozonis@db-guarinoengineers.com)

## JANET MILES



Ms. Miles has over 30 years of experience in the wastewater field, ranging from wastewater collection system operations and maintenance to permitting, project management, benchmarking and best practices. Throughout her career, she has performed various duties for municipal, investor-owned and privatized systems, including the City of Camden and CCMUA, and has specialized knowledge of local regulatory agencies throughout the Mid-Atlantic to assist in the preparation of any required permits and reports.

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# CAMDEN COUNTY MUNICIPAL UTILITIES AUTHORITY



## MAJOR SERVICES PROVIDED

- » Environmental Engineering
- » Combined Sewer Overflow Program
- » Construction Inspection Services
- » Asset Management
- » Construction Management
- » Design Services During Construction
- » Force Main Extensions and Design
- » Pump Stations Design
- » Permit Applications
- » Stormwater Management

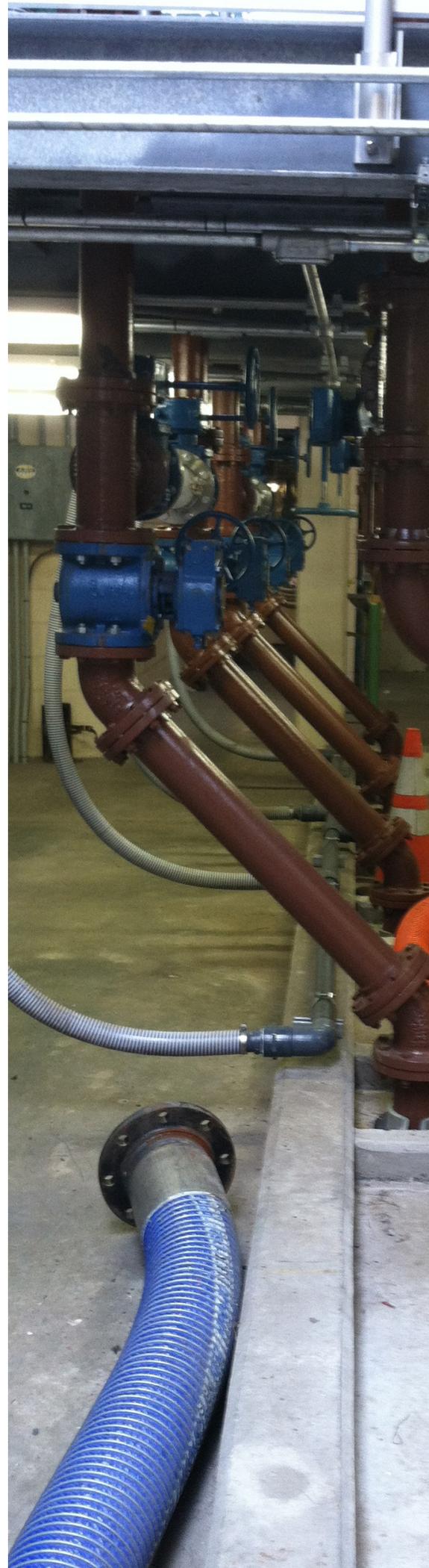
## OPERATIONS ASSISTANCE / PERFORMANCE IMPROVEMENTS CAMDEN, NJ



D&B/Guarino has been providing annual general engineering services to CCMUA's 80 million gallons per day (MGD) Delaware No. 1 Water Pollution Control Facility (WPCF) for over a decade. Engineering services include specific tasks to be conducted on an annual basis, such as the preparation of a customized renewal and replacement report that incorporates condition codes, recommended actions and established costs for major plant equipment and buildings; and providing operations assistance, such as making improvement recommendations for the primary and secondary settling tanks and aeration tank operations, which led to the increased plant performance, improvements in the plant effluent and reduction of odors. D&B/Guarino also provided assistance with the development and implementation of CCMUA's award-winning Environmental Management System.

## CROSS KEYS ROAD PUMP STATION CAMDEN, NJ

D&B/Guarino designed a new 7.3 MGD pump station to transfer wastewater from the Atlantic Basin portion of Camden County to the CCMUA Wastewater Treatment Plant that discharges into the Delaware River. The design services included site investigation and data collection, review of aerial photographs to develop alternative sites for the pump station, and a topographic survey to develop a base plan for the pump station site identifying all utilities, aboveground features and paving features. Utilizing all field work, D&B/Guarino developed a Technical Design Report that established design criteria for the pump station, construction materials, preliminary plans, construction cost estimate, construction schedule and needed permits. This work was followed by developing bid documents and providing bid and construction design services during construction.



# CAMDEN COUNTY MUNICIPAL UTILITIES AUTHORITY



## COUNTY FORCE MAIN EXTENSION

CAMDEN, NJ

D&B/Guarino provided planning, design and design services during construction for the installation of 40,700 linear feet of 30-inch ductile iron force main and 4,200 linear feet of 30-inch PVC gravity sewer extension. The project increases system capacity by directing an additional 7.5 MGD of sewage to the CCMUA's existing Delaware No.1 WPCF, ultimately allowing for the further development of the southern portion of Camden County.



## SLUDGE DRYING FACILITY

CAMDEN, NJ

D&B/Guarino provided planning, design and construction management services for a 220 wet tons per day indirect sludge drying facility, as well as a biofilter and carbon filter odor control system. The project successfully minimized sludge disposal and odor generation at CCMUA's Delaware No. 1 WPCF.

# COMBINED SEWER OVERFLOW SYSTEM IMPROVEMENTS

CAMDEN AND GLOUCESTER, NJ

D&B/Guarino provided construction management services for improvements to the combined sewer overflow (CSO) systems within the Cities of Camden and Gloucester. D&B/Guarino managed construction and startup of netting facilities and consolidation of outfalls for three separate CSO improvement projects totaling \$20 million.

# AD/CHP FACILITIES AT DELAWARE NO. 1 WASTEWATER TREATMENT FACILITY

CAMDEN, NJ

D&B/Guarino was retained to provide balance-of-plant design, including the re-purposing of existing wastewater treatment facility (WWTF) systems, and assembled the overall design and specification package for the \$69 million Anaerobic Digestion/Combined Heat and Power (AD/CHP) project. The new facilities convert 44 dry tons of biosolids to biogas per day, which will then be used to produce up to four megawatts of electricity to operate the WWTF. D&B/Guarino also provided construction management services, overseeing the installation and testing of the equipment and systems and coordinating between plant operations and general contractors.

# BIOFILTER ODOR CONTROL SYSTEM

CAMDEN, NJ

D&B/Guarino designed upgrades to the multiple existing chemical scrubber systems servicing the sludge processing and storage facility. The upgrade included the design of a single 120,000 cubic feet per minute biofilter system to replace the chemical system.

# PRELIMINARY TREATMENT FACILITY INFLUENT STRUCTURE REHABILITATION

CAMDEN, NJ

After evaluating deteriorating concrete and damage caused by a hydrogen sulfide environment, D&B/Guarino designed the repairs to the facility, which includes the installation of an 80 MGD sewer bypass system; 55,000 square feet of concrete cleaning; repair and coating; replacement of damaged stop logs; and rehabilitation of the sluice gates.



# CITY OF CAMDEN



## MAJOR SERVICES PROVIDED

- » Water Main Replacement and Design
- » Sewer Design, Reconstruction and Rehabilitation
- » Sanitary Sewers Ranging from 8 inches to 54 inches
- » Sewer Assessment
- » Construction Management

## SEWER CONDITION ASSESSMENT

### CAMDEN, NJ

D&B/Guarino was contracted to provide structural assessment on the brick and concrete sewer segments located in the City of Camden. D&B/Guarino evaluated 700,000 linear feet of sewer ranging from 8 to 72 inches, and provided recommendations for rehabilitation and reconstruction.

## WATER MAIN REPLACEMENT AND DESIGN

### CAMDEN, NJ

D&B/Guarino provided planning, design and bidding services for the replacement of water mains—ranging in size from 6 inches to 20 inches—at various locations throughout the City of Camden. The design encompassed over 30,000 feet of ductile iron pipe with new valves, hydrants and interconnections with local main, railroad crossings and coordination with other utilities.

## SEWER RECONSTRUCTION DESIGN

### CAMDEN, NJ

D&B/Guarino provided design services, permitting and design services during construction for the reconstruction of 61,000 feet of sewers throughout the City of Camden. The varying scopes have included design for cured-in-place-pipe (CIPP) lining for an interceptor sewer; rehabilitation of brick sewer; PVC and reinforced concrete gravity combined and separate sanitary sewers of various sizes between 12 and 72 inches; the relocation of water mains; and coordination with utilities. Services also included coordination with the New Jersey Department of Environmental Protection, site surveying, preparation of a Soil and Erosion Control Plan, a plan to maintain waste and storm flow, and permitting requirements.



# ATLANTIC COUNTY UTILITIES AUTHORITY



## MAJOR SERVICES PROVIDED

- » Wastewater Treatment Plant Design
- » Odor Control System Improvements
- » Underground Fuel Storage Tank Removal
- » Fuel Monitoring System Upgrades
- » Fuel Storage Replacements
- » Design Services

## CITY ISLAND WATER POLLUTION CONTROL PLANT ACTIVATED SLUDGE PLANT IMPROVEMENTS ATLANTIC CITY, NJ

D&B/Guarino was retained by the Atlantic County Utilities Authority (ACUA) to provide professional engineering services for four separate improvement projects at the 40 MGD wastewater treatment facility:

- » Replacement of two existing plant water pumps and motor sets with three new pumps and motor sets, pipe modifications and related electrical and control systems.
- » Abandonment and removal of two underground steel fuel oil storage tanks to be replaced with new, aboveground concrete fuel oil storage tanks and spill containment.
- » Installation of new 12-inch diameter fiberglass duct and plenum with louvers to connect existing odor control fans to the "B" incinerator combustion air fan intake.
- » Replacement of the existing piping and select buried process valves around the plant.

The facility treats the wastewater of 14 municipalities within Atlantic County, as well as the sludge and septage generated throughout the county. Incoming wastewater is collected using over 60 miles of force main that discharges into the facility and the clean effluent wastewater is then discharged to the Atlantic Ocean via an ocean outfall pipe and diffuser system.



# LOWER BUCKS COUNTY JOINT MUNICIPAL AUTHORITY



## MAJOR SERVICES PROVIDED

- » 15 MGD WWTP Upgrades
- » Sanitary Sewer System Upgrades, Design and Construction Management
- » Pump Station Improvements, Design and Construction Management

## DIGESTER ROOF REHABILITATION

### LOWER BUCKS COUNTY, PA

D&B/Guarino provided design and construction management services for the rehabilitation of roofs on four Anaerobic Digesters and the Anaerobic Digester Control Building.

## TRENCHLESS SEWER CIPP REHABILITATION

### LOWER BUCKS COUNTY, PA

D&B/Guarino prepared construction bid documents and provided construction management services for the cured-in-place pipe rehabilitation of 97,000 feet of sewer and force main ranging from 8 to 24 inches in diameter. The work targeted sewers crossing streams and those constructed along drainage row and was successful in reducing inflow and infiltration.

## MAIN SEWAGE PUMP STATION REHABILITATION

### LOWER BUCKS COUNTY, PA

D&B/Guarino evaluated and designed the required repairs to the existing 15 MGD main sewage pump station, which had been in operation for more than 50 years. The scope of the repairs included 4,500 square feet of concrete surface cleaning; repair, coating and replacement of the sluice gate, trash rack, safety railing and doors; and the rehabilitation of all dry well piping and valves.

## ADMINISTRATION BUILDING EXPANSION

### LOWER BUCKS COUNTY, PA

D&B/Guarino provided architectural and engineering design, bid phase and construction management services for the modification and expansion of LBCJMA's Administration Building. The project included the construction of a single-story, pre-engineered building system that comprised 2,950 square feet and included Energy Star-compliant mechanical, electrical, plumbing and fire alarm systems.



# PHILADELPHIA WATER DEPARTMENT



## MAJOR SERVICES PROVIDED

- » Stormwater Management
- » Green Infrastructure Design and Implementation
- » Sewer Design, Construction and Rehabilitation
- » Water Main Design and Construction
- » Management Support

D&B/Guarino has been providing general engineering services to the Philadelphia Water Department (PWD) since 2003 and has completed many sewer reconstruction, water main relay and green stormwater design projects. In addition, D&B/Guarino provided management assistance in improving the delivery of capital projects. These projects have collectively included:

- » **Sewer and Stormwater Reconstruction:** Over 26,500 linear feet of sewer reconstruction projects, with pipe diameters ranging from 18 inches to 48 inches.
- » **Water Main Relay Design:** Over 83,500 linear feet of water main relay projects, with ductile iron water main diameters ranging from 8 inches to 36 inches.
- » **Stormwater Green Streets:** Design of six green stormwater infrastructure projects capturing runoff from 8.5 drainage acres.
- » **Stormwater Swales:** Design of two large stormwater infiltration swales and sewer system to control runoff from a 22-acre drainage basin as part of PWD's "Storm Flood Relief" project.
- » **CSO Inflow Analysis along Cobbs Creek:** Site inspections and inflow analysis to determine if CSO outfalls are contributing flow into the interceptors during storm events. Recommendations were provided for control into CSO structures.
- » **Distribution System Optimization Program:** Led the implementation of the American Water Works Association's Partnership for Safe Water Distribution System Optimization Program.
- » **Implementation of Capital Program:** Optimized the capital program by aligning design, construction, conveyance and collector activities to develop a more efficient process for leading a complex project through design, construction, startup and successful operation by the collector or conveyance group.
- » **Created Design Website:** Developed [www.phillywaterdesign.org](http://www.phillywaterdesign.org) to serve as an easy-to-use, easy-to-expand access point for Design and Construction resources. The site hosts the following fully electronic manuals that have been reviewed and updated: Water & Sewer Design Manual; Sewer Standard Details and Specifications; and, Water Main and Corrosion Control Specifications.
- » **Thomas Run CSO Storage Facility:** Converting a 13-foot diameter storm flood relief sewer into a 5.2-million-gallon CSO storage facility, which will eliminate over 400 hours of CSO discharges annually.



## **PENNSYLVANIA**

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