RESOLUTION DIRECTING WORK TO DEWBERRY FOR THE MADISON ST AREA INFRASTRUCTURE IMPROVEMENTS CONTRACT PHASE 1 & 2

MOTIONED BY: Kappock
SECONDED BY: Friedrich

WHEREAS, the North Hudson Sewerage Authority (hereinafter "Authority") is a public body, duly formed under the Sewerage Authorities law, constituting Chapter 138 of the Laws of New Jersey of 1946, as amended (Chapter 14A of Title 40 of the New Jersey Statutes Annotated) and possesses the powers set forth therein; and

WHEREAS, Dewberry has been selected under resolution 21-105 to provide engineering services for various capital projects required throughout its service area that must be performed in order to maximize the performance of its waste water treatment facility, the capacity of its combined sewer system and/or to comply with its New Jersey Pollution Discharge Elimination System (NJPDES) permit; and

WHEREAS, Dewberry has submitted a proposal (Exhibit "A") to provide Engineering Services During Construction for the Madison St Area Infrastructure Improvements Contract Phase 1 & 2; and

WHEREAS, the Facilities Review Board has considered this request and proposal and recommends the approval of the full Board.

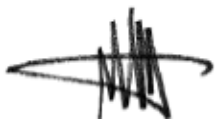
NOW THEREFORE, BE IT RESOLVED that the Authority, as recommended by the Facilities Review Board, directs Dewberry to provide professional engineering services during construction for the Madison St Area Infrastructure Improvements Contract Phase 1 & 2 not to exceed $594,101.68.

DATED: JANUARY 19, 2023

RECORD OF COMMISSIONERS' VOTE

	YES	NO	ABSTAIN
Commissioner Kappock	x		
Commissioner Marotta	x		
Commissioner Gardiner	x		
Commissioner Friedrich	x		
Commissioner Guzman	x		
Commissioner Velazquez	x		
Commissioner Barrera	x		
Commissioner Zucconi	x		
Commissioner Assadourian	x		

THIS IS TO CERTIFY THAT THIS RESOLUTION WAS DULY ADOPTED BY THE NORTH HUDSON BOARD OF COMMISSIONERS ON JANUARY 19, 2023.



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SECRETARY

REQUEST FOR PROPOSAL

MADISON STREET AREA INFRASTRUCTURE IMPROVEMENTS

COMBINED SEWER PHASE 1 AND 2

ENGINEERING SERVICE DURING CONSTRUCTION

JANUARY 10, 2023

Dewberry®

ELECTRONIC SUBMISSION

SUBMITTED BY

Dewberry Engineers Inc.
200 Broadacres Drive, Suite 410
Bloomfield, NJ 07003-3177
973.338.9100

SUBMITTED TO

North Hudson Sewerage Authority
1600 Adams Street
Hoboken, NJ 07030
201.963.6043

Dewberry

Dewberry Engineers Inc.
200 Broadacres Drive, Suite 410
Bloomfield, NJ 07003-3177

973.338.9100
973.338.5860 fax
www.dewberry.com

January 10, 2023

North Hudson Sewerage Authority
600 Adams Street
Hoboken, NJ 07030

RE: Request for Proposal for Madison Street Area Infrastructure Improvements Combined Sewer Phase 1 and 2 Engineering Services During Construction

Dear Sir or Madam,

We understand North Hudson Sewer Authority's (NHSA) commitment to provide quality sewerage services to the City of Hoboken. Dewberry Engineers Inc. understands the importance of this project and is committed to completing this work successfully on-time and within budget.

The project will be managed by our local Bloomfield office which consists of skilled engineers and technical personnel who have experience completing similar projects. Our **Project Manager, Todd Yanoff, PE (NY), CCM**, will serve as primary point of contact to facilitate quality and responsive service to NHSA. He has more than 23 years of construction management experience on numerous projects. Our **Technical Advisor, Rahul Parab, PE, (NY) D.WRE, CFM**, will support Todd and his team. Rahul brings valuable lessons learned and oversight expertise gained from more than 20 years of planning, engineering design and construction experience on flood resiliency projects. He led and managed multi-disciplinary projects – from policy to planning to design and construction. Our **Resident Engineer, Jerry Amoah, PE, ENV SP**, has more than 17 years of construction management experience. Jerry has experience overseeing multi-million-dollar projects for New York City agencies. Jerry's expertise includes quality assurance and control, field supervision, maintenance, and protection of traffic (MPT) inspections, geotechnical construction, soil, concrete, and asphalt pavement construction, electrical, signals, railing, stripping and sign inspections, claims and change order management, project controls, and material testing.

We welcome your detailed review of our qualifications and are looking forward to continuing our relationship with NHSA.

Sincerely,
Dewberry Engineers Inc.

Todd Yanoff, PE (NY), CCM
Project Manager

SECTION 1 - PROJECT UNDERSTANDING/ SCOPE OF WORK

SECTION 1 - PROJECT UNDERSTANDING/SCOPE OF WORK

Dewberry Engineers Inc. (Dewberry) understands North Hudson Sewerage Authority's (NHSA) commitment to provide quality sewerage services to the City of Hoboken. It will be our mission to provide the City of Hoboken with a quality improved combined sewer system as it is a critical component of the City's overall effort to improve flood resiliency. Dewberry is uniquely qualified to provide engineering services during construction (ESDC) for this contract. We have extensive experience providing the scope of services for this project as outlined in the RFP. Our experience will help us complete this project to the satisfaction of each stakeholder.

Through our experience with prior NHSA work, Dewberry recognizes that the existing 19th Century combined sewer system requires strategic upgrades to improve stormwater handling, increase maintainability and provide the control needed to operate a storm resilient City.

We are also aware of the critical importance of safety when constructing water main and drainage structures and roadway scope in a densely populated urban development, and the need to minimize impacts to the public and residents of the City of Hoboken.

We recognize that the RFP has not listed any certification requirements for inspection staff. We want to highlight that our field personnel will have the following certifications which we feel are beneficial to the safe execution of the project based on the scope of work that includes concrete, paving, maintenance & protection of traffic (MPT) and structural fill placement:

- ACI Concrete Construction Special Inspector
- NICET Geotechnical Construction Technician
- Asphalt Paving Construction Technologist
- Traffic Control Coordinator (TCC)

Dewberry is an expert at managing construction challenges such as deep excavations in poor soils, dewatering, and the construction of drainage structures and road improvements in densely populated urban developments. We are confident that bringing this experience to bear on this project will allow our team to meet this project's challenges while minimizing impacts to local businesses and residents of the City of Hoboken.

The primary objective of this project is to perform infrastructure improvements including storm sewer, water main replacement, electrical duct bank relocation and Municipal roadway reconstruction along Madison Street between 9th and 11th Streets, 9th and 11th Street between Jefferson and Monroe , in the City of Hoboken.

Furthermore, the contract scope involves deep excavation, pile driving, drilling, storm sewer and water main pipe installation, concrete placement, precast installation, street light improvements, landscaping, asphalt paving and various roadway reconstruction elements. We understand the special considerations in this contractual work involve traffic control and reconstruction of a local streets while maintaining access to local businesses and residents facing the public Right of Way (ROW). Additionally, we understand the importance of minimizing

NYCDDC Resident Engineering and Inspection Services for Replacement of Trunk and Distribution Water Mains & Combined Sewer Rehabilitation in Bainbridge Avenue

impacts to the traveling public and residents throughout the duration of this work. Our experience working for NYCDDC on various projects in urban developments well positions us to successfully execute this project.

Based on our substantial experience with drainage improvements, municipal roadway reconstruction, and our review of the RFP materials, Dewberry has developed a sequence and systematic approach to the project. The team will provide reviews of the contractor's Critical Path Methodology (CPM) schedule. It will be very important for the project to have a baseline schedule submitted and approved early on. We recommend making this a priority during the pre-construction period. The approved baseline will account for restrictions (e.g., landscaping, asphalt paving, planting) and also closely monitor long lead items.

We will aggressively monitor the schedule during construction and constantly look ahead to identify potential conflicts and obstacles. We will work proactively with the contractor to develop solutions and keep critical activities on schedule.

Most activities will have a lead dependency to avoid/minimize finish-to-start relationships, especially with the pile drilling and pipe installation activities along Madison Street. This will in turn limit the timeframe during trenches are left open, reduce the use of road plates, and minimize potential risks and/or impacts to the public and the community.

Goodwin Street paving operations for East Hartford Roads CEI

Our approach also identifies the following key issues as critical elements to the project:

Safety First - Verifying that the contractor is implementing the requisite safety measures in the project area, especially in and adjacent to the work zone, for vehicular traffic and contractors' construction activities. The contractor will be made aware that construction will be in accordance with the State of New Jersey, OSHA, Construction Safety Act, New Jersey Uniform Construction Code, The High Voltage Proximity Act, and other local, state and federal safety regulations. Pedestrian safety will not be an exception; during each work shift and non-working hours, work locations disturbed will be maintained, restored and made safe for the public.

Our team will conduct field reconnaissance with the contractor to assess the site conditions and establish site-specific Work Zone Traffic Control (WZTC) required for the various work zone setups. Temporary detours and road closures will be coordinated with the City of Hoboken and other agencies having jurisdiction.

The contract documents (Plans, Drawing No. G-3, Note 56) general notes state "CERTAIN UNFORSEEN CONDITIONS SHOULD BE EXPECTED TO OCCUR AND SUCH CONDITIONS WILL REQUIRE CLOSE INTERACTION BETWEEN THE ENGINEER AND THE CONTRACTOR IN ORDER TO RESOLVE THE PROBLEM." Dewberry will work closely with the contractor as the work activities progress, planning out possible scenarios to help identify these conditions and work together to resolve them in a timely and economical manner satisfactory to each stakeholder.

We will verify that the contractor maintains sufficient workers, material, and equipment to complete the project on schedule. Where system shut-downs are required to accommodate the installation of new piping and tie-in connections, proper coordination and planning will be done to facilitate the completion of the work during the required shut-down period.

Our team will enforce strict housekeeping within project limits. Trenches will be backfilled without delay to keep

open trenches to a minimum. If needed, open trenches will be steel plated and barricaded, approvals will be sought prior from the Hudson County Engineering Department.

We will verify that the appropriate quality measures are in place for pile driving operations, concrete placement, pipe installation and connections, backfill operations, connection of light poles and fixtures and transfer of service onto new light poles, and service tie-ins. Hazardous materials, if any, will be removed and disposed of in a safe, legal, and responsible manner.

Additional considerations include compliance of work and materials with applicable codes and regulations covering the work including but not limited to the New Jersey Department of Transportation (NJDOT) Standard Specifications for Road and Bridge Construction and relevant sections of the American Society for Testing and Materials (ASTM). Our inspection team understands the importance of making checks throughout the process and their obligation to quality control and safety. On a daily basis, the team will meet with and coordinate the scheduled work operations with the contractor's supervisory staff and review associated background information and documentation (catalog cuts; detailed product data sheets; material safety data sheets (SDS); design, shop and working drawings; work plans and procedures) to prepare for that day's work activities. Some project specific deliverables, include:

WZTC

Work will include the following:

- Maintaining traffic and providing safe passage for the public, especially during work shift and non-working hours. The contractor's plan will have contingencies for the possible failure of temporary channeling
- Maintaining appropriate surface conditions and drainage facilities
- Enforcing dust and noise control measures
- Keeping the travel-way clear of debris
- Enforcing requirements for flaggers
- Adhering to approved schedules
- Facilitating the removal of snow and ice
- Maintaining traffic control devices

New fire hydrant on the NYCDDC Replacement of Trunk and Distribution Water Mains & Combined Sewer Rehabilitation in Bainbridge Avenue Project

- Monitoring the site to verify that construction materials, vehicles and equipment are not hazards or encumbrances to the public
- Approving lane closure schemes
- Preparing checklists of traffic control devices
- Notifying the contractor promptly of major WZTC deficiencies
- Prohibiting construction materials, vehicles, or equipment from becoming hazardous or unnecessary encumbrances to the public

Asphalt Pavement

Work will include the following:

- The materials, mix, and plant will be approved and coordinated with NJDOT
- Prohibiting placement on wet surfaces
- Verifying adherence to temperature limitations (ambient, surface and mix)
- Monitoring the contractor's schedule regarding seasonal limitations
- Approving pavers and compaction equipment
- Verifying that work adheres to specified placement temperatures
- Verifying the lift thickness and surface tolerances and not exceeded, and roller patterns are adequate to achieve required compaction

Pile Driving/Drilling

Work will include the following:

- Checking for the correct type and length of pile
- Checking pile damage and defects
- Verifying location of piles
- Checking for hazards and safety related to pile operations
- Checking equipment positions and related work zone setup
- Checking proper lifting and handling of piles
- Reviewing soil borings for expected driving or drilling conditions
- Confirming minimum driven length as required by plans and specifications

Concrete

Work will include the following:

- Inspecting forms for adequacy and placement of reinforcing steel for conformance with tolerances
- Approving materials, mix, and plant before use
- Verifying that concrete is batched and delivered using approved methods
- Recording mixing revolutions for transit mixed concrete to verify compliance with specifications
- Checking concrete slump temperature and air content for compliance with specifications
- Verifying that concrete batch and discharge times comply with specifications
- Concrete batch and discharge times for compliance with specifications
- Enforcing adherence to weather limitations
- Approving equipment for placing and finishing concrete
- Verifying that concrete lift thicknesses and surface tolerances not exceeded
- Confirming that curing methods and durations employed are appropriate for the placement
- Performing onsite sampling of concrete
- Form removal will be as specified
- Precast elements will be inspected for shipping damage and veryfing that they are erected in accordance with approved procedures

Alteration, Rehabilitation or Replacement of Drainage Structures

We will verify that pipe is laid to line and grade, and laid on specified bedding. Pipe joints will be as specified. Alteration of structures will be as shown on the plans. We will check that adjustment rings and frames are compatible with existing castings.

Stripping and Signing

Work will include the following:

- Confirming that marking plans are submitted and approved
- Checking materials for conformance with the "approved submittals"
- Checking pavement cleaning to prevent loss of marking adhesion
- Verifying that the erection of new signs and removal of existing signs provide the necessary guidance to the traveling public
- Field inspecting signs for workmanship and finish
- Checking location, elevation and orientation of signs
- Surveying the condition of existing signs to be relocated, if needed

The above information will be well documented in the Dewberry's Team's Daily Inspection Report (IR). The Resident Engineer will confirm that field inspector(s) prepare inspection reports promptly, completely, and consistently.

Proposed Team

The Dewberry Team is an ideal partner to successfully deliver this project. Our team offers senior staff with extensive CM delivery credentials as well as design experience in the constructed components of this project. The personnel proposed for the project were selected based on their level of experience with similar work and their in-depth knowledge of the area with the accompanying specific challenges at hand. A project team organization chart and comprehensive resumes for each key person are provided in Section 4 of this proposal.

APPENDIX A - SCOPE OF WORK

The responsibilities referenced in this request for proposal will be by the Services During Construction Engineer (Engineer). The Engineer will provide the following scope of service for the project.

Construction Phase Services

The engineer will perform services during construction as described below:

Task 1 - Contract Execution and Pre-Construction Meeting

- Prepare and distribute the necessary paperwork required for execution of the Contract between the Contractor and the Authority
- Provide three paper copies of the Contract for execution
- Schedule and conduct a pre-construction conference with the Authority, Contractor, and key stakeholders
- Prepare minutes of the pre-construction conference and distribute same
- Prepare and issue a Notice to Proceed to the Contractor

Task 2 – Resident Engineering/Inspection

The engineer will provide a full time resident engineer and inspector to perform the services described below:

- Observe the on-site construction work when the Contractor's field activities are in progress to verify that the work is being completed in accordance with the contract documents. This includes, but is not limited to, the removal of excavated materials, installation of support of excavation systems, construction dewatering and groundwater treatment and disposal operations, concrete placement, precast structure placement, conveyance pipe installation, and electrical, mechanical and HVAC work
- Coordinate with the Contractor and City of Hoboken regarding street closures and maintenance of traffic control and pedestrian flow
- Maintain project records, diaries, daily inspection reports/photographs and documents
- Conduct inspections of the work and develop punch lists
- Witness and record the results of functional and performance tests
- Respond to public complaints, including contacting complainants, determining solutions; prepare letters, etc., in accordance with the Authority's policies, which requires timely action by the engineer

Task 3 - Authority's Agent During Construction

The Engineer will perform the following:

- Aid the NHSA's General Contractor to obtain construction permits from the City of Hoboken
- Act as the Authority's Agent with regard to the Contractor's compliance with the contract documents
- Oversight of the Contractor's compliance with NJDEP's program for Socially and Economically Disadvantaged individuals and generate, review, and submit required forms to NJDEP for this program
- Act as Authority's Agent with regard to the Authority's and Contractor's compliance with New Jersey Department of Treasury Office of Equal Opportunity and Public Contract Assistance requirements
- Engineer will generate, review and submit required forms to the NJDEP for this program
- Obtain and keep on file records related to the NJDEP's program for Socially and Economically Disadvantaged individuals and the New Jersey Department of the Treasury Office of Equal Opportunity and Public Contract Assistance requirements
- Obtain and keep on file certified payroll records obtained from the Contractor
- Obtain and keep on file the initial project workforce report and the monthly manning reports
- Submit two paper copies of the Contractor's complete payment application and two additional paper copies of the Engineer's invoice to provide Services During Construction to the Authority's designated representative on a monthly basis

- Administer the American Iron and Steel provisions of the contract documents
- One year after the final acceptance of the work, prepare, execute and submit to the Authority and NJDEP a certificate of performance on NJDEP form CCS-006
- Administer the permits and approvals obtained for the project; including, but not limited to: NJDEP Flood Hazard Area Permit, HEP – Soil Erosion and Sediment Control certificate, Construction Permits, and Zoning certificate

Task 4 - Construction Administration

The Engineer will provide administration of the Contract and represent the Authority in observing the Contractor's compliance with the contract documents. The Engineer will perform the following:

- Review the Contractor's health and safety plan
- Coordinate with the various utility companies
- Meet with the Contractor's representatives and the Authority to assist in implementing the construction progress. The Engineer will act as initial interpreter of the requirements of the contract documents and judge the acceptability of the work and make decisions on claims of the Authority and Contractor relating to the acceptability of the work or the interpretation of the requirements of the contract documents pertaining to the execution and progress of the work
- Conduct every other week progress meetings with the Contractor to review and record the progress of the work, and to resolve any problem with the project. Conduct additional meetings as necessary to resolve conflicts or specific problems. A Project Manager for the Engineer will chair meetings and submit minutes of meetings to attendees
- Review, certify and process the Contractor's payment requests on a monthly basis. Prepare a payment application cover letter, engineer's summary payment certificate, Authority payment voucher and submit with recommendations and supporting documentation to the Authority for processing
- Submit a monthly progress report prepared in accordance with the Authority's format outlining pertinent activities during the month including, but not limited to, work performed, milestones, problems, pending change orders and claims, and time delays. The monthly progress report will contain a financial summary of the Construction contract as well as a financial summary of the Engineer's contract with the Authority. Submit the monthly progress report to the Authority one week prior to the Board meeting
- Be present at the Authority's facility service committee meetings on an as needed basis to discuss problems with the project, present construction change orders and answer questions from the Authority on the project
- Provide construction management supervision and control of the resident inspection team to confirm quality control and assist with problems
- Provide technical interpretations of the contract documents and evaluate requested deviations from the approved design or specifications per the division of work responsibilities for the engineer and design engineer
- Maintain project records, diaries and documents
- Respond to Contractor Requests for Information (RFIs) and provide written responses to the Contractor
- Provide technical review of shop drawings, diagrams, illustrations, catalog data, schedules and samples, the results of tests and inspections, and other data which the Contractor is required to submit. Submitted material will be reviewed for general conformance with the design concept of the project and general compliance with the information given in the contract documents. Such review is not intended as an approval of the submittals if they deviate from the contract documents or contain errors, omissions, and inconsistencies, nor is it intended to relieve the contractor of his full responsibility for contract performance, nor is the review intended to confirm or guarantee lack of inconsistencies, errors, and/or omissions between the submittals and the contract requirements
- Prepare and administer necessary field orders
- Prepare and administer necessary work change directives

- Assist in negotiating, with the Contractor, the scope and cost of a reasonable and customary number of change orders. Prepare such change orders as may be required and submit them to the Authority for approval. Following approval by the Authority and the Contractor, administer same with the Contractor. Submit change orders to the NJDEP Municipal Finance and Construction Element for their review and approval
- Administer allowance items in the Contract
- Meet with representatives of the Authority and appropriate regulatory agencies when requested and necessary for consultation or conferences in regard to construction of the project
- Recommend the acceptability of the work and issue a certificate of substantial completion along with a punch-list upon the Contractor achieving the project milestones
- Prepare routine letters, memorandum, reports, change orders and miscellaneous paperwork as directed by the Authority for signature by the Authority
- Respond to public complaints, including contacting complainants, determining solutions, prepare letters, etc., in accordance with the Authority's policies and procedures, which requires timely action by the Engineer
- Make a final review of the construction to determine if the work was completed in conformance with the intent of the contract documents. Facilitate a final inspection of the work by the Contractor, Authority, NJDEP and other appropriate regulatory agencies so they may make the final observation of the construction
- Upon final acceptance of the work, prepare and submit a certification to the New Jersey State Department of Environmental Protection certifying that the project has been completed in accordance with the intent of the Contract Documents. Engineer will use NJDEP form WQM-005 to certify the work
- Review record drawings provided by the Contractor of changes to the work
- Prepare a final set of record drawings in electronic format
- Provide appropriate technical assistance during start-up, functional testing, and performance testing. Verify operation of individual valves, common equipment and individual systems and subsystems
- Facilitate training of the Authority's Operations Firm by the equipment manufacturer's representatives. Provide training to the Authority's Operations Firm on the operation of the entire facility as a system
- Prepare a project-specific operations and maintenance manual to include an overall process operational description, ancillary system operational descriptions, and individual maintenance needs
- Assist in negotiating final payment for construction and submit a final letter report upon which final settlement and termination of the Construction Contract can be based. Document proceedings of final settlement negotiations and record basis for final payment
- Prior to recommending release of final payment, verify that the Contractor has furnished administrative items required by the contract documents, and verify there are no outstanding liens, or claims
- Prepare and submit required close-out documentation required for each permit that has been, or will be, necessary for the project. These include, but are not limited to, local construction permits
- The Engineer will provide the Authority with a complete electronic file in PDF format of each document that they prepared on behalf of the Authority that is included in this RFP

SECTION 2 - COST ESTIMATE FOR ENGINEERING SERVICES

SECTION 2 - COST ESTIMATE FOR ENGINEERING SERVICES

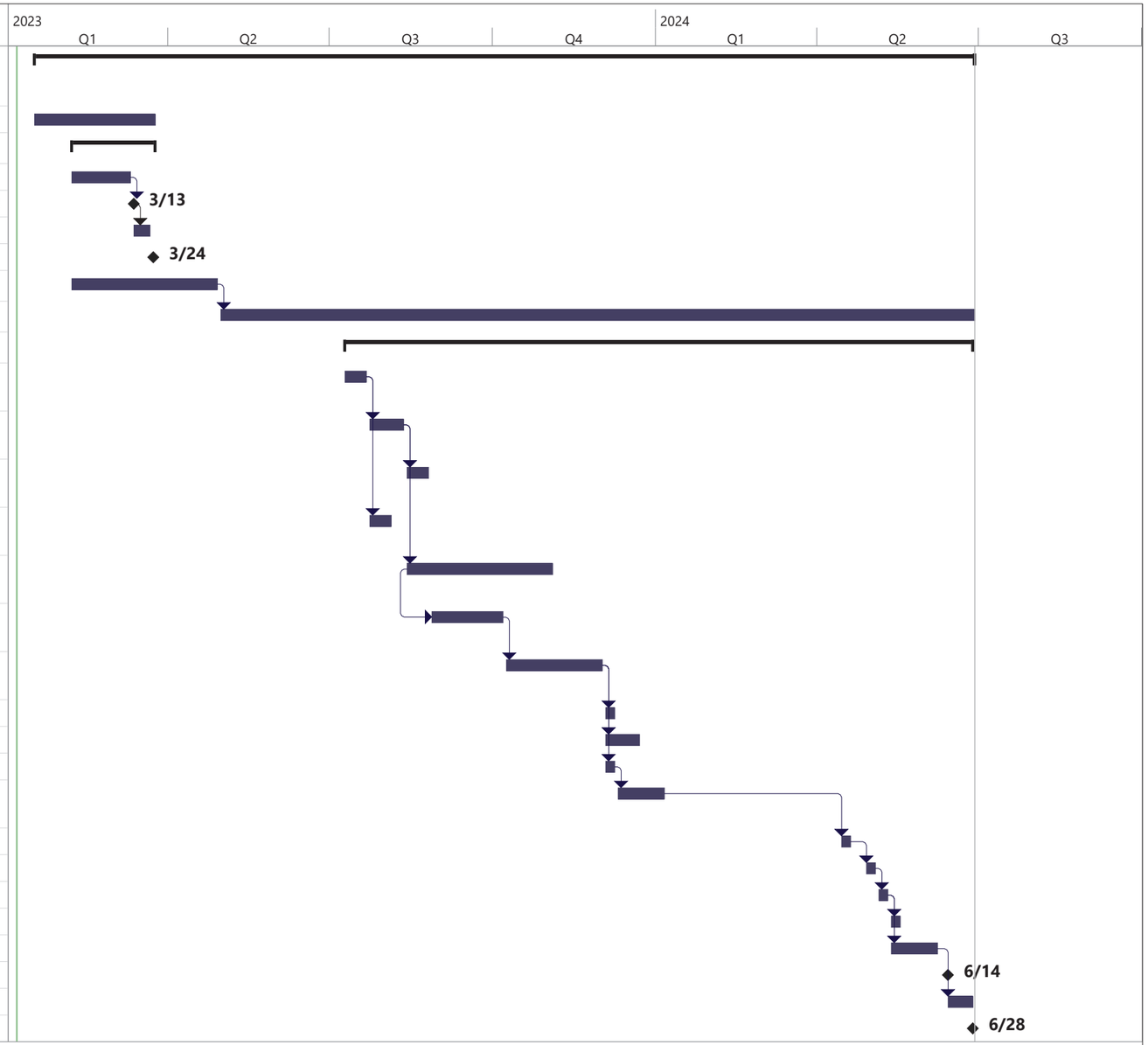
PHASE	TASK DESCRIPTION	PROPOSED HOURS	PROPOSED COST
CONSTRUCTION PHASE SERVICES, PHASE 1			
Task 1	Pre-Construction Meeting	30	$5,192.11
Task 2	Resident Engineering/Inspection	500	$76,806.40
Task 3	Authority's Agent During Construction	60	$10,202.62
Task 4	Construction Administration	80	$14,134.84
	Other Direct Costs	N/A	$750.00
BID PHASE SERVICES, PHASE 2			
	Bid Services - Labor	80	$13,668.80
	Bid Services - Labor Direct Cost	N/A	
CONSTRUCTION PHASE SERVICES, PHASE 2			
Task 1	Contract Execution and Pre-Construction Meeting	100	$16,999.71
Task 2	Resident Engineering/Inspection	1700	$256,435.31
Task 3	Authority's Agent During Construction	200	$35,731.69
Task 4	Construction Administration	650	$113,430.20
	Other Direct Costs	N/A	$750.00
DESIGN ENGINEER PROFESSIONAL SERVICES			
	Design Engineer Services		$50,000.00
		TOTAL PROPOSED COST	**$594,101.68**

Note 1 - Mott MacDonald Engineering Services includes submittal reviews for the technical, non-administrative specification sections in both contracts. Services also include responding to RFIs for these same divisions and Design Engineer related RFCs during the bid phase.

SECTION 3 - DETAILED PROJECT SCHEDULE

SECTION 3 - DETAILED PROJECT SCHEDULE

ID	Task Name	Duration	Start	Finish
1	**Madison Street Area Infrastructure Improvements Combined Sewer Phase 1 and 2**	**380 days**	**Mon 1/16/23**	**Fri 6/28/24**
2	**Phase 1 Contract Administration**	**50 days**	**Mon 1/16/23**	**Fri 3/24/23**
3	**Phase 1 Construction**	**35 days**	**Mon 2/6/23**	**Fri 3/24/23**
4	Relocate PSEG Elect. Duct Bank, Expand (2) Elect. MH	25 days	Mon 2/6/23	Fri 3/10/23
5	**Substantial Completion**	0 days	Mon 3/13/23	Mon 3/13/23
6	Complete Punchlist and As-built	7 days	Mon 3/13/23	Tue 3/21/23
7	**Phase 1 Final Completion**	0 days	Fri 3/24/23	Fri 3/24/23
8	**Phase 2 Bid Services**	**60 days**	**Mon 2/6/23**	**Fri 4/28/23**
9	**Phase 2 Contract Administration**	**305 days**	**Mon 5/1/23**	**Fri 6/28/24**
10	**Phase 2 Construction**	**254 days**	**Mon 7/10/23**	**Fri 6/28/24**
11	At Monroe & 9th St.: Excavate & Install 16" DIP, 12" DIP, Type B Inlets & MH, Backfill & Temp. Pave	10 days	Mon 7/10/23	Fri 7/21/23
12	Along 9th Betw. Monroe & Madison: Excavate & Install 8" DIP Water Main, Backfill & Temp. Pave	15 days	Mon 7/24/23	Fri 8/11/23
13	At Jefferson & 9th St.: Excavate & Install 16" DIP, 12" DIP, & Type B Inlets, Backfill & Temp. Pave	10 days	Mon 8/14/23	Fri 8/25/23
14	At Madison & 9th St.: Excavate & Install 16" DIP, 12" DIP, Type B Inlets & MH, Backfill & Temp. Pave	10 days	Mon 7/24/23	Fri 8/4/23
15	Along Madison St.: Excavate, Demo Existing Flushing Chamber, Install Piles	60 days	Mon 8/14/23	Fri 11/3/23
16	Along Madison St., Betw. 9th & 10th St.: Install 36" CCFRPM, 16" DIP WM, MHs,Type B Inlets, Backfill & Temp. Pave	30 days	Mon 8/28/23	Fri 10/6/23
17	Along Madison St., Betw. 10th & 11th St.: Install 42" CCFRPM, 16" DIP WM, MHs,Type B Inlets, Backfill & Temp. Pave	40 days	Mon 10/9/23	Fri 12/1/23
18	Install New Hydrants on Madison St, & on 11th St.	5 days	Mon 12/4/23	Fri 12/8/23
19	Roadway Reconst. on Madison St, 9th St. & 11th St.	15 days	Mon 12/4/23	Fri 12/22/23
20	Perform Interim Electrical Work	5 days	Mon 12/4/23	Fri 12/8/23
21	Demo Sidewalk & Curb, Install Clean out & Risers, New Sidewalk & Curb	20 days	Mon 12/11/23	Fri 1/5/24
22	Base Pave on Madison St., 9th St. & 11th St.	5 days	Mon 4/15/24	Fri 4/19/24
23	Mill Top Course on 9th St. & on 11th St.	5 days	Mon 4/29/24	Fri 5/3/24
24	Top Course Pave on 9th St.,11th St. & Madison St.	5 days	Mon 5/6/24	Fri 5/10/24
25	Install Traffic Stripes on 9th St., Madison St., & 11th St.	5 days	Mon 5/13/24	Fri 5/17/24
26	Install Landscaping & Lighting on 9th, Madison & 11th St.	20 days	Mon 5/13/24	Fri 6/7/24
27	**Substantial Completion**	0 days	Fri 6/14/24	Fri 6/14/24
28	Complete Punchlist Work	10 days	Fri 6/14/24	Thu 6/27/24
29	**Phase 2 Final Completion**	0 days	Fri 6/28/24	Fri 6/28/24



Project: Madison St Area Infrast
Date: Fri 1/6/23

Task
Split
Milestone
Summary
Project Summary
Inactive Task
Inactive Milestone
Inactive Summary
Manual Task
Duration-only
Manual Summary Rollup
Manual Summary
Start-only
Finish-only
External Tasks
External Milestone
Deadline
Progress
Manual Progress

SECTION 4 - PERSONNEL ASSIGNED TO THE PROJECT

SECTION 4 - PERSONNEL ASSIGNED TO THE PROJECT

We carefully selected key members who are highly skilled, knowledgeable and possess the training, education, expertise and judgment to provide quality professional service for this project. Resumes for these individuals, as well as a project team organization chart, are provided as part of this Exhibit.

Key Members Brief Relevant Experience

TODD YANOFF, PE (NY), CCM - PROJECT MANAGER

Todd Yanoff has 23 years of diverse construction, engineering and surveying experience. His construction management experience includes pump stations, water/wastewater facility upgrades, dams, tunnels, aqueducts, and CSOs. He served as the Construction Manager for the highly successful NYCDEP Gilboa Dam project and brings valuable lessons learned and management oversight expertise.

JERRY AMOAH, PE, PMP, ENV SP - RESIDENT ENGINEER

Jerry Amoah has 17 years of construction management experience. Jerry has experience overseeing multi-million-dollar projects for New York City agencies. His areas of expertise include quality assurance and control, field supervision, maintenance, and protection of traffic (MPT) inspections, geotechnical construction, soil, concrete, and asphalt pavement construction, electrical, signals, railing, stripping and sign inspections, claims and change order management, project controls, and material testing.

RAHUL PARAB, PE (NY), D.WRE, CFM - TECHNICAL ADVISOR

Rahul Parab has 21 years of planning, engineering design and construction experience on flood resiliency projects. He led and managed multi-disciplinary flood resiliency projects – from policy and planning to design and construction. His portfolio includes several multi-billion dollar coastal flood resiliency projects in the US. He served as a lead peer reviewer and project manager on coastal resiliency projects designed by USACE-New York District.

KENNETH LUND-PEARSON, ASCE III - INSPECTOR

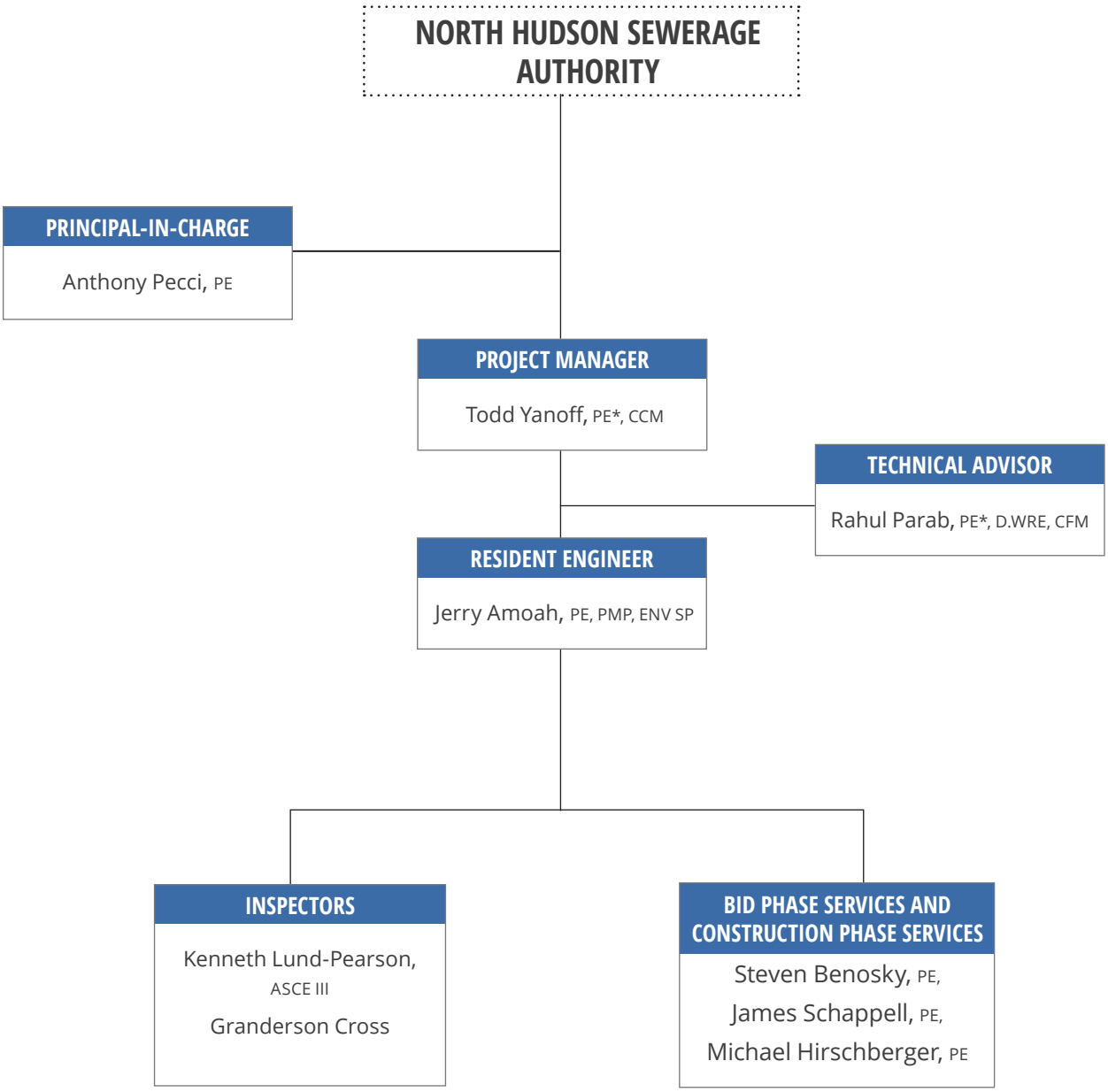
Kenneth Lund-Pearson has 52 years of extensive and diverse experience in various construction and engineering disciplines. He served as resident engineer on various projects that include storm and sanitary sewers, pumping stations, rehabilitation of roadways, streetscape projects, utilities, with MPT on state highways, including coordination with counties and local municipalities.

STEVEN BENOSKY, PE - BID PHASE SERVICES AND CONSTRUCTION PHASE SERVICES

Steven Benosky has 27 years of experience in the evaluation and design of sanitary facilities including sewer mains and interceptors, pump stations, and infiltration and inflow studies; drainage systems and flood control projects including hydrologic and hydraulic modeling; and the inspection and design of various types of dams.

JAMES SCHAPPELL, PE - BID PHASE SERVICES AND CONSTRUCTION PHASE SERVICES

James Schappell has experience working for both public and private clients in many different facets of the industry including potable water treatment, distribution and transmission, as well as wastewater treatment, conveyance and collection. He served on projects in phases from planning to design, and through construction and gained additional industry experience by successfully managing the operation of a municipal water and wastewater system.



* New York State PE

Todd Yanoff, PE*, CCM

PROJECT MANAGER

As Vice President and Department Manager of Water/Wastewater Construction Services, Todd has diverse experience including infrastructure work on tunnels, dams, aqueducts, CSOs and other water/wastewater facilities including pump stations. Todd is especially adept at organizational and operational assessments and managerial and strategic planning for the effective delivery of projects and major construction initiatives. He is intimately familiar with DEP SOPs, policies, standards, and guidelines. Todd has significant experience with complex projects and understands the driving imperatives of DEP. He served as the Construction Manager for the highly successful Gilboa Dam project and is currently serving as the project manager on two North Hudson Sewerage Authority projects - 11th street combined sewer cleaning and Park Avenue Siphon Access REI projects. He brings valuable lessons learned and management oversight.

11th Street Combined Sewer Cleaning, North Hudson Sewerage Authority (NHSA), Hudson County, NJ, Project Manager. Responsible for overseeing the cleaning and inspecting approximately 2,900 linear feet of combined sewer ranging in diameter size from 48-inch to 96-inch within 11th Street located in Hoboken, New Jersey. The project also includes the installation of eight access structures to be installed at specific locations as shown on the Contract drawings. In addition, the existing access structures will be sealed and abandoned.

Park Avenue Siphon Access REI, NHSA, Hudson County, NJ, Project Manager. Responsible for overseeing the constructing a Precast Access Chamber on the Park Avenue Siphon along Park Avenue in Weehawken, New Jersey. The access chamber and associated valves will allow for the isolation and cleaning of the Park Avenue Siphons. The project consists of the procurement and installation of a new 16-feet by 10 feet wide Precast Access Chamber, one 12-inch insertion valve and one 24-inch insertion valve, and procurement and one 12-inch Wedge Gate Valve and one 24-inch Wedge Gate Valve.

DEL-424-CM Construction Management Services for the Reconstruction of Honk Falls Dam, New York City Department of Environmental Protection (DEP), Napanoch, NY, Construction Manager. Providing construction management services for the decommissioning and reconstruction of the Honk Falls Dam. The DEP is charged with the responsibility of the overall operation and maintenance of the vast water and wastewater infrastructure serving New York City (NYC). The project scope includes lowering the dam by approximately 12 feet and stabilizing it with new anchor bars and a concrete spillway cap. In addition, the scope also includes stream and wetland restoration of Rondout Creek.

Reconstruction of Gilboa Dam, North End of the Schoharie Reservoir in the Northern Catskill Mountains, DEP, Gilboa, NY, Project Manager/ Construction Manager. This $400-million dam and reservoir are important elements in providing reliable water supply to New York City. The cyclopean concrete dam was reconstructed with a movable gate system and refaced and strengthened with more than 120,000 cubic yards of concrete and post tensioned multi-long strand anchors. Project CAT- 212C Low Level Outlet involved the construction of a 9-foot-diameter micro-tunnel and required coordination between several agencies.

- **EDUCATION**
  BS • New Jersey Institute of Technology • Engineering Technology • 2006

  BS • New Jersey Institute of Technology • Civil Engineering • 2000

- **REGISTRATIONS**
  Professional Engineer • NY

  Certified Construction Manager

  OSHA 30-Hour Construction Safety and Health Training Course

  * New York City PE

- **YEARS OF EXPERIENCE**
  Dewberry • 12

  Prior • 11

- **AFFILIATIONS**
  Association of State Dam Safety Officials (ASDSO)

  New York Water Environment Association (NYWEA)

  American Council of Engineering Companies (ACEC)

  * New York State PE

Todd Yanoff, PE,* CCM

PROJECT MANAGER

Reconstruction of Gilboa Dam and Associated Facilities CAT 212D Shandaken Tunnel Intake Chamber Rehabilitation, DEP, Gilboa, NY, Construction Manager. This Wick's Law project included replacement of the existing flow control gates, temporary bypass installation and extensive coordination for portions of work under full shutdown. Sediment removal/ dredging was required at the intake to clear the area for bar rack replacement, and intake work. Superstructure interior work included hazardous material abatement, relocation of instrumentation room, demolition, replacement of existing systems, new facility monitoring system, electrical upgrades, new HVAC and plumbing, security upgrades, and water quality monitoring system installation. Major architectural work and historical treatment procedures included new slate roof, masonry restoration, balcony reconstruction and repair of historical windows.

Construction Management Services for Gilboa Dam Reconstruction, DEP, Schoharie County, NY, Resident Engineer. Work for this $400-million project included site preparation, general reconstruction, intake improvements to be done simultaneously with general reconstruction. Performed administrative services that included safety, quality control, cost, progress and CPM scheduling. Supervised inspection staff, subconsultant personnel and testing laboratories. Negotiated item overruns and contract plan deficiencies/changes with the contractor prior to forwarding the change order. Coordinated work with the general contractors and maintained daily contact with the client and other agencies to keep them informed and to maintain open, effective lines of communication. In charge of permit tracking database which consisted of permits with NYSDOT, NYSDEC, U.S. Army Corps of Engineers, Historical Society, and the Town of Gilboa. Supervised the preparation of project records and accounting of contract monies. Reviewed and approved documents including SWPPP reports, inspection reports, change of plans and as- builts. Rectified quantity discrepancies and oversaw the preparation of contractor payment estimates. Aided in future Gilboa Dam project plan review and overall constructability review for these projects.

Citywide 3A, DEP, Various Locations, NY, Project Executive. Managed the construction of capital improvements at various DEP facilities; services were completed at several WWTPs. Assignments were assigned through task orders from various DEP bureaus including the Bureau of Wastewater Treatment, Bureau of Water and Sewer Operations and Bureau of Water Supply. Provided technical assistance to the Bureau of Engineering Design and Construction such as furnishing experienced staff for project management, resident engineering, inspection and project operations. Todd also managed full-time, on-site management for each assignment to coordinate and supervise contractors, scheduling, constructability review, construction inspection, quality assurance, site safety, and environmental compliance, among others. In addition, monitored equipment, material, shop drawings, preliminary and final field tests, determine the acceptability of field tests in conformance with the construction contracts.

Term Agreement for Construction Inspection Services (D214163), New York State Thruway Authority, New York Division, NY, Contract Manager. Construction inspection support services for horizontal and vertical construction contracts and other types of contracts under a three-year term agreement. Provided experienced staff under this contract that fall outside of NYSTA's capital program to supplement NYSTA's staff as needed. A key issue of this contract was responsiveness, safety, and maintenance and protection of traffic. Identified appropriate personnel and responded immediately for emergency assignments.

Jerry Amoah, PE, PMP, ENV SP

RESIDENT ENGINEER

Jerry Amoah is a Resident Engineer with more than 17 years of construction management experience. Jerry has experience overseeing multi-million-dollar projects for New York City agencies. He also served as a Projects Controls Engineer, Senior Office Engineer, and Chief Inspector on major infrastructure projects. Experience includes quality assurance and control, field supervision, maintenance, and protection of traffic (MPT) inspections, geotechnical construction, soil, concrete, and asphalt pavement construction, electrical, signals, railing, stripping and sign inspections, claims and change order management, project controls, and material testing.

- **EDUCATION**

  MBA • Montclair State University • Business Administration • 2013

  MS • New Jersey Institute of Technology • Engineering Management • 2011

  BS • New Jersey Institute of Technology • Civil Engineering • 2011

- **REGISTRATIONS**

  Professional Engineer • NY, NJ, PA

  PMI Project Management Professional (PMP)

  ISI Certified Envision Sustainability Professional

  NICET III (Highway Construction)

  NICET III (Geotechnical Eng. Tech Construction)

  OSHA 30-Hour

  PCI Level II Plant Quality Personnel Certification

  ACI Concrete Construction Special Inspector

  ACI Concrete Field Testing Technician, Grade I

  NJSAT HMA Construction Technologist Certification

Replacement of the Astoria Boulevard Bridge over the Brooklyn-Queens Expwy BQE (I-278), NYSDOT, Queens, NY, Resident Engineer. Responsible for supervising the construction inspection and management services for the replacement of the Astoria Boulevard Bridge over the BQE (I-278) Eastbound Ramp to the Grand Central Parkway. The existing bridge had a highly skewed orientation with a unique steel framing system perpendicular to the skew. Project involved use of a temporary pedestrian bridge; replacement of the concrete deck with a value engineered pre-cast concrete deck panels and a stage line carrier beam ($1-million net savings) to avoid using temporary vehicular bridge. Replacement of the steel superstructure with metalized steel girders; rehabilitation of concrete substructure (abutments, wingwalls, bridge seats, and pedestals); installation of seismic resistant bearings; reconstruction of approach slabs, Portland Cement Concrete (PCC) pavement, HMA pavement, parapet, and new bridge railing and pedestrian fence, site restoration and related works. Work was performed while maintaining two-lanes of traffic.

Replacement of Route 52 Causeway, Contract B, NJDOT, Ocean City, NJ, Office Engineer/Senior Construction Inspector. Responsible for maintaining contract documents, control project under runs and overruns, monitor potential claims, and work orders, and perform QA checks for compliance. Process monthly estimates and change orders. Reviewed field inspector reports for work progress and payments, prepare progress and final reports for Clients Federal Highway Authority (FHWA) and NJDOT. Organize and memorialize weekly issues and progress meetings, review submittals. Processed and reviewed subcontractors (59 subconsultants) and multiple subcontract agreements.

Rehabilitation of the Manhattan Bridge, Contract 15, NYCDOT, New York, NY, Assistant Resident Engineer/Senior Office Engineer. This $76-million bridge structural and component rehabilitation of the Manhattan Bridge project focused on 14 main work tasks ranging from miscellaneous painting of structural steel elements; railing and fencing replacement; ornamental steel component replacement; transit track rehabilitation task coordination; roadway joint and drainage trough improvements; trench drain grating replacement; gusset plate and subway floor beam rehabilitation; cable housing maintenance repairs; anchorage work platform replacement; standpipe system rehabilitation.

Jerry Amoah, PE, PMP, ENV SP

RESIDENT ENGINEER

- **REGISTRATIONS (CONT.)**
  Traffic Control Coordinator Designation

  PTI Unbonded PT Installation Level 1

  PTI Unbonded PT Repair Level 1

- **YEARS OF EXPERIENCE**
  Dewberry • 1

  Prior • 17

Public Service Electric & Gas PSE&G – Various Projects, NJ, Project Controls Engineer. Responsible for project budget and cost aspects of each project. Maintained record of daily accruals, tracked Key Performance Indicator (KPI), and prepared monthly forecasts of work to be accomplished. Assisted with the preparation and oversight of the project scope, project execution plan & schedule, and coordination with the Contractors. Assisted with the project management to including integration of cost and schedule. Implemented standard cost, schedule and risk programs, processes, and practices to confirm that the projects were performed in accordance with approved budgets and schedules. Developed and managed project budget and annual budget. Performed financial analysis for cost variance, cash flow and forecasting. Performed variance analyses; provided performance reports; managed project changes.

Replacement of the Belt Parkway Gerritsen Inlet Bridge, NYCDOT, Brooklyn, NY, Assistant Resident Engineer. This $110-million bridge replacement project included concrete deck, steel girders, floor beams and stringers, approaches, concrete substructure, closure walls, timber piles, concrete piers and caps, columns, abutments, wingwalls, streetlighting, asbestos transit ducts. New construction work included embarkment construction, the installation of new fender systems, superstructures with median and facial barriers, abutments and approaches, guide rails, and sign structures, stormwater, and drainage facilities to include 42-inch diameter pipe outlet structures. Work was performed while maintaining three-lanes of traffic.

Replacement of Willis Avenue Bridge, Manhattan and Bronx, NY, NYCDOT, Senior Construction Inspector. Responsible for QA/QC for the concrete batching process for the project. Coordinated and supervised the implementation NYSDOT and NYCDOT quality assurance and control protocols for concrete plant batching. He also provided measures for technical matters related to concrete batching procedures and client requirement for the project needs to verify quality and make timely proactive decisions to eliminate potential issues.

Port Newark Corbin Street Flyover, Newark NJ and Ground Zero Reconstruction, PANYNJ, Manhattan, NY, Geotechnical Construction Inspector. Responsible for the subsurface exploration of the World Trade Centre Ground Zero Reconstruction and The Corbin Street Flyover Bridge. Coordinating field activities to collect relevant data needed for Geotechnical engineering studies and design considerations. Work included test pits and borings, soil sampling, environmental sampling, packer testing, rock coring, undisturbed soil sampling, field permeability testing and laboratory testing of soil.

Various Clients and Projects NY & NJ, Geotechnical Construction Inspector. Responsible for laboratory testing: soil, aggregates, concrete, masonry, and fireproofing material; field construction-phase observation and testing: earthwork, utility backfill, retaining wall, sub grade for roads and buildings, HMA pavements, concrete, structural steel, soil/ground improvement, pile inspection and bio-retention/detention ponds; and geotechnical exploration including site reconnaissance, test pits, borings, and rock coring.

Rahul Parab, PE*, D.WRE, CFM

TECHNICAL ADVISOR

Rahul Parab has more than 21 years of planning, engineering design and construction experience on flood resiliency projects. He led and managed full life cycle of multi-disciplinary flood resiliency projects – from policy and planning to design and construction - for a range of clients including NYC, NYS, FEMA, USACE and others. His project portfolio includes several multi-billion dollar coastal flood resiliency projects in the US. He is a recognized leader with exceptional integration skills who led his projects to receive ACEC New York and national awards. He served as a lead peer reviewer and project manager on coastal resiliency projects designed by USACE-New York District.

NHSA 11th Street Combined Sewer Cleaning, North Hudson Sewerage Authority, Hudson County, NJ, Technical Advisor. Work involves cleaning and inspecting approximately 2,900-LF of combined sewer ranging in diameter size from 48-inch to 96-inch within 11th Street located in Hoboken, New Jersey. The project also includes the installation of eight access structures to be installed at specific locations as shown on the Contract drawings. In addition, the existing access structures will be sealed and abandoned.

Rebuild-By-Design Climate Resiliency Study and Environmental Impact Statement, NJ TRANSIT, Hoboken, NJ, Chief Engineer and Deputy Project Manager. Responsible for feasibility assessment and preliminary design of the coastal flood risk reduction system and stormwater management system that would reduce flood risks from coastal storm surge and rainfall events in the City of Hoboken and parts of Weehawken and Jersey City. Responsibilities included oversight of the development of integrated coastal and stormwater models, integration of urban design and landscape architectural elements into engineering design of coastal flood risk reduction system consisting of flood walls, berms and gates closure structures, and multidisciplinary team coordination covering all aspects of engineering, architecture, urban design, landscape architecture and environmental disciplines.

Red Hook Integrated Flood Protection System Feasibility Study, NYCEDC, Brooklyn, NY, Project Manager. Responsible for project management of nine subconsultants that were part of the team and provided technical guidance to the project delivery team for conducting a feasibility study that involved developing a comprehensive flood management system to reduce flood risks from coastal storm surge in Red Hook. The final chosen integrated flood protection systems are located in two areas within Red Hook – Beard Street and Atlantic Basin – and are designed to protect Red Hook from a 10-year coastal storm surge and one foot of Sea Level Rise. Led the participation for the Dewberry team in community engagement and inter-agency stakeholder engagement to confirm that feedback was incorporated into the final project solution. Pioneered the development of an innovative coastal flood protection solution that eliminates the need for a deployable system. Verified that the project met FEMA's HMGP application criteria as well as the City's design criteria to build various components of the flood protection system.

- **EDUCATION**
  - MS • University of Toledo • Civil Engineering • 2003
  - BS • Mumbai University • Engineering • 2001
- **REGISTRATIONS**
  - PE • NY, TX
  - Certified Floodplain Manager
  - Diplomate, Water Resources Engineer
  - * New York State PE
- **YEARS OF EXPERIENCE**
  - Dewberry • 9
  - Prior • 12
- **AFFILIATIONS**
  - New York Water Environment Association
  - New York State Floodplain and Stormwater Managers Association
  - Society of American Military Engineers
  - American Academy of Water Resources Engineers
  - American Society of Civil Engineers
  - North Carolina Association of Floodplain Managers
  - Association of State Floodplain Managers

Rahul Parab, PE*, D.WRE, CFM

TECHNICAL ADVISOR

Benefit-Cost Analysis for FEMA's Pre-Disaster Mitigation Grant Funding for City of Hoboken's Northwest Resiliency Park, Hoboken, NJ. Project Manager. Responsible for performing a Benefit-Cost Analysis (BCA) for the City of Hoboken's funding application for a new $90-million Northwest Resiliency Park comprising stormwater detention features to manage up to one million gallons of rainfall runoff. Led the analysis to estimate project benefits through use of Infoworks ICM hydrologic and hydraulic model, performed BCA using FEMA's BCA software, and provided a memo with the analysis to demonstrate the cost-effectiveness of the proposed project.

Preliminary Design Services for Design and Testing of New York City's Climate Resiliency Design Guidelines, NYCDDC, Citywide, NY, Project Manager. Responsible for leading a multidisciplinary team of architects, engineers, landscape architects and economists to provide design review services for the development and testing of preliminary Climate Resiliency Design Guidelines for New York City capital projects across the five boroughs. Work also included development of updated climate guidelines, BCA, analyzing effects of climate change stressors on design of variety of infrastructure typology (24 pilot sites consisting of roadways, complex critical facilities, buildings, piers) and developing conceptual solutions to make infrastructure resilient and sustainable in anticipation of future climate change.

Oakwood Beach Flood Resiliency Study, New York State Office of General Services, Staten Island, NY, Deputy Project Manager. Responsible for day to day project management activities, internal coordination with a multidisciplinary team of coastal, water resources, civil, geotechnical and environmental engineers; managing sub-consultants; stakeholder coordination; providing weekly report updates and developing monthly progress reports; client presentations and other activities. Technical Leader responsible for design of integrated flood protection system consisting of rock revetment, floodwalls, tide gates and others to mitigate the coastal and rainfall flooding within the Oakwood Beach area. Tasks included development of hydrologic and hydraulic models, analysis of flood protection system for climate change, developing cost estimates, and report writing.

Design of Integrated Coastal Flood Protection for Long Beach WWTP, City of Long Beach, NY, Coastal Engineer. Responsible for evaluating appropriate design flood elevation with criteria from Code of Federal Register (CFR44 65.10). Performed coastal wave overtopping calculations using Eurotop model; accounted for sea-level rise and developed a summary report and detailed plans and specifications for the installation of approximately 2,300-LF of bulkhead along the immediate bayfront on the northern waterfront, and approximately 4,400-LF of a deployable flood barrier and/or permanent flood wall along the southern side of the City of Long Beach to protect critical maintenance, water, wastewater and power facilities from storm related flooding similar to what occurred during Superstorm Sandy.

Flood Insurance Study and RISK MAP Studies in FEMA Region IV and VI, Federal Emergency Management Agency, Project Manager and Technical Lead. Performed 15+ Flood Insurance and RISKMAP studies within FEMA Regions IV and VI. Each project involved managing staff engineers and GIS analysts, managing budget and schedule, engineering analysis, QA/QC, report preparation and extensive coordination with USACE.

Kenneth Lund-Pearson, ASCE III

INSPECTOR

Kenneth Lund-Pearson has extensive and diverse experience in various construction and engineering disciplines of construction and engineering implementing state and county funding. He served as resident engineer on various projects that include storm and sanitary sewers, pumping stations, rehabilitation of roadways, streetscape projects, utilities, with MPT on state highways, including coordination with counties and local municipalities.

- **EDUCATION**
  Certificate • Rutgers University • Municipal Engineering Construction Inspection I

  Certificate • Rutgers University • Municipal Engineering Construction Inspection II

- **REGISTRATIONS**
  NJSAT Asphalt Paving Construction Technologist

  ACI Concrete Field Testing Technician – Grade 1

  Rutgers Traffic Control Coordinator

  OSHA 10-hour Construction Safety

  OSHA Confined Space Entry

- **YEARS OF EXPERIENCE**
  Dewberry • 19

  Prior • 33

11th Street Combined Sewer Cleaning, North Hudson Sewerage Authority, Hudson County, NJ, Inspector. Work involves cleaning and inspecting approximately 2,900-LF of combined sewer ranging in diameter size from 48-inch to 96-inch within 11th Street located in Hoboken, New Jersey. The project also includes the installation of eight access structures to be installed at specific locations as shown on the Contract drawings. In addition, the existing access structures will be sealed and abandoned.

Park Avenue Siphon Access REI, North Hudson Sewerage Authority, Hudson County, NJ, Inspector. Constructing a Precast Access Chamber on the Park Avenue Siphon along Park Avenue in Weehawken, New Jersey. The access chamber and associated valves will allow for the isolation and cleaning of the Park Avenue Siphons. The project consists of the procurement and installation of a new 16-feet by 10 feet wide Precast Access Chamber, one 12-inch insertion valve and one 24-inch insertion valve, and procurement and one 12-inch Wedge Gate Valve and one 24-inch Wedge Gate Valve.

Distribution System Improvement Charge Assistance, New Jersey American Water (NJAW), Various Locations, NJ, Resident Engineer. Provided full-time construction inspection and miscellaneous support services to supplement the NJAW construction inspection staff on an as-needed basis. Services included construction inspection relating to various water system improvements performed in accordance with the Board of Public Utilities (BPU) Distribution System Improvement Charge (DSIC) Program. Also assisted with water sampling and testing, and performing hydrant flow tests.

Knoll Pumping Station, Township of Parsippany-Troy Hills, Parsippany-Troy Hills, NJ, Construction Inspector. Engineering services as a result of the NJDEP issuing a 2005 Administrative Consent Order requiring the Township to find more water by June 1, 2006. Analyzed available options and assisted the Township in developing an innovative long-term solution – to construct a pumping station to tie into the Jersey City reservoir and enable the Township to "bank" water for withdrawal during peak periods. The Knoll Pumping Station includes three 1,045-GPM vertical turbine pumps, variable frequency drives, an emergency generator, two 12-inch wet taps on two 72-inch steel mains, and a SCADA system.

Vincent Place Stormwater Pumping Station, Borough of Teterboro, Teterboro, NJ, Construction Inspector. The 175 cubic feet per second (cfs) Vincent Place stormwater pumping station building included concrete masonry and brick exterior walls, windows and architectural louvers to fit the surrounding residential area, a wooden

Kenneth Lund-Pearson, ASCE III

INSPECTOR

asphaltic shingled pitched roof, and a separate interior room to house the generator and electrical equipment. Work included design of 84-inch storm drains, detailed layout of the pump station facility, including 6-72inch screw pumps, coordination of electrical, structural, and architectural work, and the demolition of two existing pump stations. This project received a 2006 Honor Award from the New Jersey Chapter of the American Consulting Engineers

Grand View on Hudson, SUEZ North America, Hudson County, NY, Construction Inspector. Responsible for services pertaining to the cleaning and lining of approximately 8,000-LF of circa 1900 12-inch cast iron water main. The lining process was completed using a Warren Environmental two-part thixotropic epoxy which was installed with a centrifugally spun applicator. The project required phased bypass piping to provide temporary water service to over 100 residents during the lining installation process. Dewberry coordinated the sampling and disinfection to receive approval from the local department of health to verify conformance with applicable regulations. The project also included coordinated shutdowns and relocation of several sections of the 12-inch water main to accommodate a future County roadway reconstruction project and associated storm infrastructure.

Improvements to Pocahontas Lake Dam, Morristown, NJ, Construction Inspector. Responsible for inspecting the installation of a state-of-the-art anchoring system, as well installation of strengthening of earthen abutments, erosion protection for abutments and crib type training walls for a post-tensioned soil anchor system for stabilization of a concrete spillway structure, and other dam safety related improvements to the Pocahontas Dam, a high hazard dam. The contract also involved design for strengthening of earthen abutments, erosion protection for abutments and crib type training walls along the Whippany River downstream. Dewberry was responsible for preparing designs and construction documents, including geotechnical (soil borings and stability calculations), structural and civil engineering, as well as dam safety, wetlands, and soil erosion permit applications.

Township of Parsippany-Troy Hills, NJ, Construction Inspector. Engineering services for projects involving roadway improvements and water system improvements, including pumping stations, storage tanks, and the distribution system.

Borough of Bloomingdale, NJ, Construction Inspector. Inspected various roadway improvement projects and the downtown streetscape improvements, Oakwood Lake playground and nature walk, Sloan Park playground and site work, miscellaneous water/sewer system improvements, and inspection and oversight of new connections to the municipal water and sewer systems by private property owners.

Cedar Crest Village, Erickson Retirement Communities, Pequannock Township, NJ, Construction Inspector. Engineering services to determine the best method for supplying water and disposing of sewage for Cedar Crest Village, a continuing care retirement community consisting of approximately 1,500 residential units, 200 assisted living units and 300 skilled nursing units. Evaluated water supply sources; designed a water booster station consisting of twin 500 GPM horizontal end suction pumps with variable frequency drives, an emergency generator and SCADA system; a 0.5 million gallon ground level water storage tank with an internal circulation system (consisting of 8,000 feet of 8-inch to 16-inch ductile iron mains, including a 250-foot-long jack and bore trenchless crossing).

Granderson Cross

INSPECTOR

- **EDUCATION**
  BS • State University of New York at Buffalo • Mechanical Engineering
- **YEARS OF EXPERIENCE**
  Dewberry • <1
  Prior • 2

Granderson Cross is an inspector with experience in paving, mill and fill, stripping, clearing and grubbing, and loop installation.

Field Engineer, Various Projects, Newburg, New York.

Responsibilities included the following:

- Coordinated with contractors and subcontractors to verify that performed work was completed in accordance with the outlined plans
- Created reports and payment items to be approved by Chief Inspector
- Utilized Microsoft Excel to keep track of ongoing operations, as well as help the office organize various quantities either measured, paid out or pending
- Projects include pavement striping and markings (I-95, GSP), paving operations (I-95, GSP), and assisting traffic control (I-95, GSP)

Field Engineer, Various Project, Harrison, NY.

Responsibilities included the following:

- Sole inspector for stripping project that included parts of I-87/I-95/I-287
- Assisted with estimates for stripping project
- Created reports and payment items to be approved by the Engineer-in-Charge

New York State Thruway Authority, Trainee Inspector.

Responsibilities included the following:

- Confirming that the work done on site is completed as per the project's drawings and specifications.
- Reading and referencing plan drawings, as well as measuring and recording quantities of materials used and the quality of said materials.
- Submitting an engineering report on the assigned tasks observed for the day, as well as submitting payment items for work completed on site so the contractor gets paid.

Steven Benosky, PE

BID PHASE SERVICES AND CONSTRUCTION PHASE SERVICES

Steven Benosky provides civil engineering services to a variety of public and private clients. His experience includes the evaluation, design, and permitting of potable water facilities including water mains, pump stations, water tanks, and treatment facilities. He also has experience in the evaluation and design of sanitary sewage facilities including sewer mains and interceptors, pump stations, and infiltration and inflow studies; drainage systems and flood control projects including hydrologic and hydraulic modeling; and the inspection and design of various types of dams.

- **EDUCATION**
  BS • Civil Engineering • Clarkson University • 1995
- **REGISTRATIONS**
  PE • NJ, NY, MA
  NJDEP Flood Hazard Area Program Certificate
- **YEARS OF EXPERIENCE**
  Dewberry • 21
  Prior • 6
- **AFFILIATIONS**
  American Council of Engineering Companies of New Jersey Water and Wastewater Committee
  Association of State Dam Safety Officials
  Water Environmental Federation, Member
  American Water Works Association, Member

Route 7 Wittpenn Bridge over the Hackensack River, New Jersey Department of Transportation, Jersey City and Kearny, NJ. Water Resources Engineer. Design of a new stormwater pump station consisting of three large vertical turbine pumps and two smaller submersible pumps. The pump station, rated for 80 cfs, prevents flooding of Route 7 and surrounding areas. This $730-million project involves highway design, drainage, utilities, complex maintenance and protection of traffic, and final design documents for replacement for the Route 7 Wittpenn Bridge over the Hackensack River and related approach interchange work.

Route 46 Little Ferry Circle Stormwater Pumping Station, NJDOT, Little Ferry, NJ. Project Engineer. Responsible for the design of the 106 cubic feet per second (cfs) pump station including the selection of pumps, wet well layout, mechanical bar screen, and pump discharge piping and outfalls for this 50-foot by 30-foot stormwater pumping station for Route 46 Little Ferry Circle roadway improvements. This western section approach to the Route 46 Bridge over the Hackensack River has a history of periodic flooding, with low-lying storm sewer systems discharging to the tidally influenced river. Included coordination with NJDOT and submission of permits to NJDEP and NJDCA.

Vincent Place Stormwater Pumping Station, Borough of Teterboro, NJ. Engineer. Responsible for preparing plans and specifications and overseeing construction of the 175 cfs Vincent Place stormwater pumping station. Work includes the design of 84-inch storm drains, detailed layout of the pump station facility including six 72-inch screw pumps, coordination of electrical, structural, and architectural work, and the demolition of two existing pump stations.

Port Elizabeth Phase II Water System Stage I Study, Port Authority of New York and New Jersey (PANYNJ), Union County, NJ. Senior Engineer. This project involved a study to establish the overall condition of the existing water distribution system, present alternatives for improvements, and estimate rehabilitation costs. The scope of work included developing a computer model of the system, evaluating the adequacy of the fire suppression system including the fire pump building and the need for fire-water storage tanks, and proposing a water distribution system to support the future layout of the Elizabeth Port Authority Marine Terminal.

World Trade Center (WTC) River Water Pump Station Upgrades Sluice Gate Replacement, Stage I, PANYNJ, New York, NY. Project Manager. Responsible for civil, structural, mechanical, and electrical engineering for conceptual design, alternative evaluation, and development of a construction cost estimate for this

Steven Benosky,
PE

BID PHASE SERVICES AND CONSTRUCTION PHASE SERVICES

project that involves the replacement of the sluice gates controlling the water flow as part of the WTC Central Chiller Plant's cooling operations.

John F. Kennedy International Airport (JFK) Rehabilitation/Replacement of Water Distribution Systems, PANYNJ, Stage I, Queens, NY. Project Manager. Responsible for preparing Stage I Design Development Report to rehabilitate and/or replace the existing low, intermediate, and high-pressure water distribution systems at JFK. The deliverable included conceptual design schemes with construction method alternatives for the replacement and or rehabilitation of the 8-inch to 30-inch water mains, replacement of the 25,000 GPM booster pump station, construction schedules, staging/phasing plans, and cost estimates for each design scheme.

EWR Terminal "A" Redevelopment Program Airside Utility and Paving South Phase I, NJDEP Land Use Regulation Program Permitting, PANYNJ, Union County, NJ. Project Engineer. Responsible for obtaining the NJDEP FHA permit, performing associated supporting calculations including, but not limited to, updating the existing unsteady-state hydrologic/hydraulic Hydraulic Engineering Center River Analysis System (HEC-RAS) model of the Peripheral Ditch for proposed conditions, analyses to demonstrate compliance with the stormwater management rules, and performance of zero-net-fill calculations. Also responsible for permitting services in support of the Somerset Union Soil Conservation District Soil Erosion and Sediment Control (SESC) Plan certification including necessary stormwater analyses.

EWR Terminal "A" Redevelopment Program - Bridges N61, N62, N63, and At-Grade Roadways NJDEP Land Use Regulation Program Permitting, PANYNJ, Essex and Union Counties, NJ. Project Engineer. Responsible for preparing technical documents related to the FHA permit application for EWR-154.395 (Bridges N61, N62, N63, and At-Grade Roadways) including analyses to demonstrate compliance with the stormwater management rules, and performance of zero-net-fill calculations.

Molly Pitcher Service Area Pump Station, NJTA, Cranbury Township, NJ. Task Manager. Responsible for designing a sanitary pump station for the service area to replace the existing Monroe Township Utilities Department pump station. The pump station is a submersible type pump station with a wet well with two submersible pumps and a comminutor, a valve/meter vault, an exterior emergency standby generator, and an exterior Bioxide odor control feed system.

James Schappell, PE

BID PHASE SERVICES AND CONSTRUCTION PHASE SERVICES

- **EDUCATION**
  BS • Civil Engineering • Rutgers University • 2015
- **REGISTRATIONS**
  PE • NJ, NY
  OSHA 10-Hour Construction Safety and Health • 2021
  NYCDDC Water Main Inspection Certification
- **YEARS OF EXPERIENCE**
  Dewberry • 4
  Prior • 3
- **AFFILIATIONS**
  American Water Works Association
  New Jersey Water Association

James Schappell is a water/wastewater engineer who has experience working for both public and private clients in many different facets of the industry including potable water treatment, distribution and transmission, as well as wastewater treatment, conveyance and collection. He served on projects in phases from planning to design, and through construction and gained additional industry experience by successfully managing the operation of a municipal water and wastewater system. In addition, James has a background in land surveying where he has experience in producing boundary, topographic, and as-built surveys, and experience performing construction stakeouts.

CCTV Rev-Sewer Rehabilitation, Phase 1-2, Jersey City Municipal Utilities Authority, Jersey City, NJ, Project Manager. Responsible for reviewing CCTV footage to identify deficiencies within the new/rehabilitated sewer pipes as part of JCMUA's multi-phase sewer separation program to reduce combined sewer overflows. This program involves constructing new sewers and rehabilitating existing sewers in various Jersey City streets.

New York Master Service Agreement, Suez Water, Various Locations, NY and NJ, Project Manager. Responsible for coordinating surveys, producing detailed plans, specifications, engineering reports and cost estimates, obtaining permits, and providing construction inspection for water main replacement projects.

Linden Street Lead Service Line Replacement (LSLR) Engineering Inspection Services, SUEZ Water New Jersey, Teaneck, NJ, Project Manager. Replacement/upgrade of approximately 2,500-LF of 4-inch water main with new 8-inch ductile iron water main, transferring/renewal of approximately 84 services, replacing four hydrants, and tie-over/cut and caps at six intersections. Services included coordinating dig and determining efforts for the existing services; assisting SUEZ in notifying customers of the LSLR program; coordinating with the contractors for customers opting in to the program; and full-time construction inspection of project, including preparation of daily inspection reports, assisting with compliance with SUEZ's LSLR program, documenting new assets, materials tracking, collection of field data, and reviewing potential change orders and monthly payment applications.

Water Main Rehabilitation with Spray Epoxy Liner, Suez Water, Grand View-on-Hudson, NY, Project Manager. Construction administration and inspection services for the cleaning and lining of approximately 8,000-LF of circa 1900 12-inch cast iron water main. The lining process was completed using a Warren Environmental two-part thixotropic epoxy which was installed with a centrifugally spun applicator. The project required phased bypass piping to provide temporary water service to over 100 residents during the lining installation process. Dewberry coordinated the sampling and disinfection to receive approval from the local department of health to verify conformance with applicable regulations. The project also included coordinated shutdowns and relocation of several sections of the 12-inch water main to accommodate a future County roadway reconstruction project and associated storm infrastructure.

James Schappell,

PE

BID PHASE SERVICES AND CONSTRUCTION PHASE SERVICES

Water Main Rehabilitation for Bridge Crossing over NYS Thruway with Primus Liner, Suez Water, Orange County, NY, Project Manager. Design and construction services to rehabilitate approximately 500-LF of a 12-inch water main located under a NYS Thruway overpass. The project was necessitated due to leaks that developed along the water main and required the pipe to be taken out of service. The rehabilitation was accomplished using a composite polyethylene/Kevlar liner which was pulled through the existing water main on the Thruway overpass. The cleaning and lining was completed in less than one week and was successful in restoring the water main to service.

30-inch Water Transmission Main Route Study, New Jersey American Water, Somerville, NJ, Project Engineer. Prepared a report which evaluated route alternatives for an approximately 3,000-LF, 30-inch ductile iron pipe water transmission main though downtown Somerville. The report analyzed four potential routes based on a number of criteria including construction feasibility, utility conflicts, traffic impacts, public inconvenience, restoration requirements, geotechnical constraints, environmental constraints, and overall project costs.

PATCO Industrial Wastewater System Sulfide Mitigation, Delaware River Port Authority (DRPA), Lindenwold, NJ, Project Engineer. Collected system information and analyzed system processes and chemical treatment equipment to produce a report with recommendations for controlling sulfide production within the Port Authority Transit Corporation's industrial wastewater system. The evaluation was successful at mitigating sulfide exceedances by optimizing operational procedures.

Port Elizabeth – Phase II Water System Stage I Study, PANYNJ, Elizabeth, NJ, Project Engineer. Study to determine condition of the water distribution system and the cost to rehabilitate it. The scope of work includes evaluating the adequacy of the fire suppression system including the fire pump station and the need for fire-water storage tanks, and a proposed water distribution system to support future layout of the Elizabeth Port Authority Marine Terminal.

John F. Kennedy International Airport (JFK) – High Pressure Water Valves Rehabilitation and Replacement, PANYNJ, Queens, NY, Project Engineer. Produced contract drawings, engineering estimates and specifications for the Stage III design of the replacement of 20-inch and 30-inch water valves at JFK. Also assisted in the design of custom welded steel couplings which were capable of providing a restrained connection from the riveted steel water main to the proposed replacement gate valve. Following the acceptance of the project by PANYNJ and the award of the contract, provided shop drawing review of contractor submittals.

Cedar Crest Sanitary Sewer Pump Station Upgrades, Cedar Crest Retirement Community, Pompton Plains, NJ, Project Engineer. Produced design and bidding documents for the replacement and upgrade of Cedar Crest's sewer pumping station which services approximately 2,000 residents and approximately 1,000 employees. Design utilized variable frequency drives which were effective in improving system performance while reducing power consumption. Following the bidding award, provided construction phase services to determine that the work being performed was in compliance with the contract documents.

Michael Hirschberger, PE

BID PHASE SERVICES AND CONSTRUCTION PHASE SERVICES

Michael Hirschberger has experience with civil and environmental engineering projects serving local, county, state, and quasi-state government clients. His projects involve water main evaluation and design, booster and fire pump station design, sanitary sewer system design and wastewater treatment plant design. He also has experience in construction inspection of wastewater treatment plant rehabilitation projects and water transmission line installation projects.

- **EDUCATION**
  ME • The Cooper Union for the Advancement of Science and Art • Civil Engineering • 2016

  BE • The Cooper Union for the Advancement of Science and Art • Civil Engineering • 2015
- **REGISTRATIONS**
  PE • NJ, NY
- **YEARS OF EXPERIENCE**
  Dewberry • 3

  Prior • 3

11th Street Combined Sewer Cleaning, North Hudson Sewerage Authority, Hudson County, NJ, Bid Phase Services and Construction Phase Services. Work involves cleaning and inspecting approximately 2,900-LF of combined sewer ranging in diameter size from 48-inch to 96-inch within 11th Street located in Hoboken, NJ. The project also includes the installation of eight access structures to be installed at specific locations as shown on the contract drawings. In addition, the existing access structures will be sealed and abandoned.

Park Avenue Siphon Access REI, North Hudson Sewerage Authority, Hudson County, NJ, Bid Phase Services and Construction Phase Services. Constructing a Precast Access Chamber on the Park Avenue Siphon along Park Avenue in Weehawken, NJ. The access chamber and associated valves will allow for the isolation and cleaning of the Park Avenue Siphons. The project consists of the procurement and installation of a new 16-feet by 10 feet wide Precast Access Chamber, one 12-inch insertion valve and one 24-inch insertion valve, and procurement and one 12-inch Wedge Gate Valve and one 24-inch Wedge Gate Valve.

Master Service Agreement, Suez Water New York, Various Locations, NY and NJ, Staff Engineer. Responsible for coordinating surveys, producing detailed plans, specifications, engineering reports and cost estimates, obtaining permits, and providing construction inspection for water main replacement projects. Also provides engineering services including performing alternatives analyses and chlorine contact time calculations.

World Trade Center (WTC) River Water Pump Station Upgrades Sluice Gate Replacement, Stage I, PANYNJ, New York, Staff Engineer. Supporting civil, structural, mechanical, and electrical engineering for conceptual design, alternative evaluation, and development of a construction cost estimate for this project that involves the replacement of the sluice gates that control the water flow as part of the WTC central chiller plant's cooling operations.

John F. Kennedy International Airport (JFK) – Rehabilitation/Replacement of Water Distribution Systems, Stage I, PANYNJ, Queens, NY, Civil Engineer. This project involves the preparation of a Stage I Design Development Report to rehabilitate and/or replace the existing low, intermediate, and high pressure water distribution systems at JFK. The deliverable will include conceptual design schemes with construction method alternatives, construction schedules, staging/phasing plans, and cost estimates for each design scheme. JFK's existing low and intermediate pressure water systems supply domestic water and fire demands within the airport, including the cargo

Michael Hirschberger, PE

BID PHASE SERVICES AND CONSTRUCTION PHASE SERVICES

facilities. The high pressure water system supplies fire protection for large hangars and the Bulk and Satellite Fuel Farms.

Port Elizabeth – Phase II Water System Stage I Study, PANYNJ, Elizabeth, NJ, Civil Engineer. This project involves a study to establish an overall condition of the existing water distribution system and the cost to rehabilitate it. The scope of work includes developing a computer model of the system, evaluating the adequacy of the fire suppression system including the fire pump building and the need for fire-water storage tanks, and proposing a water distribution system to support future layout of the Elizabeth Port Authority Marine Terminal.

GOSR Village of Suffern, Dormitory Authority State of New York (DASNY), Rockland County, NY, Engineer. Conducted an assessment of where floodwaters enter the water and wastewater treatment plants and opportunities to harden the facilities including relocating vulnerable equipment, electrical modifications, and various flood proofing strategies to prevent or minimize water infiltration. This project was administered through the Governor's Office of Storm Recovery.

Installation of a 16-Inch Water Transmission Line, Westchester Joint Water Works, Town of Harrison and Village of Mamaroneck, NY, Engineer. Responsible for the construction inspection of the installation of a new 10,000-LF 16-inch water transmission line. Duties included taking photographs of construction progress, writing daily reports, drawing sketches, and verifying overall conformance to contract documents.

Upgrades to Primary Settling Tanks, Grass Island Wastewater Treatment Plant, Town of Greenwich, CT, Engineer. Responsible for primary settling tank upgrades at the Grass Island Wastewater Treatment Plant. The scope of work included replacing in-kind the components and equipment of the primary settling tanks and primary sludge pumps at the plant, which needed replacement due to age. Deliverables included a set of construction drawings, specifications, and a construction cost estimate.

Upgrades to Final Clarifiers, Grass Island Wastewater Treatment Plant, Town of Greenwich, CT, Engineer. Responsible for the construction inspection of final clarifiers at the Grass Island Wastewater Treatment Plant. The scope of work included replacing in-kind the components and equipment of the three final clarifiers at the plant, which needed replacement due to age.

Structural Analyses for Proposed Cellular Antennas on Elevated Water Tanks, Suffolk County Water Authority, Suffolk County, NY, Engineer. Installation of cellular antennas on various elevated water tanks throughout Suffolk County. The scope of work included conducting structural analyses and engineering reviews of proposed designs of upgrades to the existing configuration of the cellular antennas of various telecommunications companies installed on the tanks.

Forge River Watershed Sewer Project, Suffolk County Department of Public Works, Mastic and Shirley, Town of Brookhaven, NY, Engineer. Responsible for the planning and design of a new sewer district, with sewers, pump stations, and a wastewater treatment plant. Replacing existing septic systems, the sewer district is expected to greatly reduce the amount of nitrogen being emitted into the nearby Forge River, which feeds into the Great South Bay. The district will connect approximately 1,800 residential properties and 150 businesses.

SECTION 5 - RELEVANT EXPERIENCE OF FIRM

SECTION 5 - RELEVANT EXPERIENCE OF THE FIRM

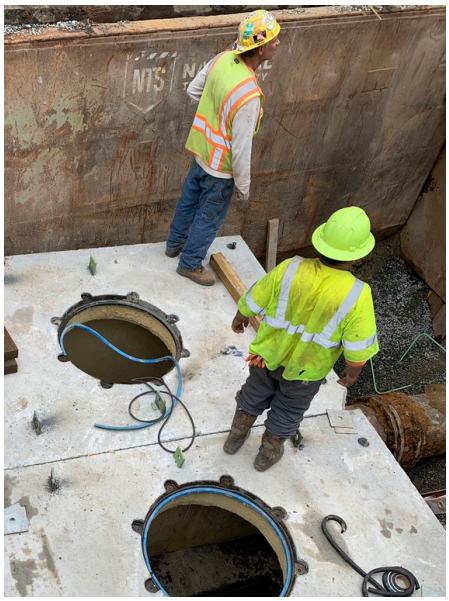
Park Avenue Siphon Access Chamber Resident Engineering Inspection (REI)

WEEHAWKEN, NJ

- **COST** $143,400 (FEE)
- **COMPLETION** Ongoing
- **CLIENT CONTACT**
  Donald Conger III, PE
  North Hudson Sewerage Authority
  Regional Business Manager | BIAF OMFS
  201.963.6043

Dewberry is providing construction engineering services for the construction of this concrete access chamber. The access chamber and associated valves were planned for the isolation and cleaning of the Park Avenue Siphons. The project consists of the following general elements of work:

- Redesign and installation of a new dual level, bi-chambered reinforced steel concrete pressurized Siphon Access Chamber
- Procurement one 24-inch Wedge Gate
- Procurement and installation of Siphon Air Release valves



The planned siphon chamber system involved the addition of valves and a new bi-level pressure chamber over an existing Siphon Sewer, which was the main conveyance of sewage from West New York and Weehaken to NHSA's plant in Hoboken. Dewberry's role was to manage and oversee the construction of the pressure chambers and the valving system. Following preliminary field exploration and redesigns it was determined that the chambers would need to be poured in place and the valve arrangement changed. Dewberry guided the field exploration and redesigns, our inspectors and resident engineers provided guidance and oversight on the critical concrete placement for the pressure chambers, and we provided experienced oversight on changes in the steel design to confirm that the final product met code and NHSA requirements.

Dewberry also oversaw, conveyance pipe changes, phasing the work for sewer flows expected, permitting, and traffic control. The project was located next to the mouth of the Lincoln Tunnel in an extremely complex traffic thoroughfare which required close monitoring to maximize traffic safety to maintain both critical sewer and traffic flows. Activation of the chamber showed issues with the downstream siphon piping and Dewberry's resident engineers and inspector's on short notice managed the siphon repairs and investigations into the issues causing the downstream piping to fail. Also provide recommendations on steps for subsequent projects. This work required flexible response for night work and shift coverage.

As part of the construction administration and REI services Dewberry performed submittal review, redesign management, daily project inspection and documentation, of contractor invoice validation and advancement, management and certification of project change orders, project close out services, and all pertinent meetings.

Eleventh Street Combined Trunk Sewer Access Chambers and Cleaning Project

HOBOKEN, NJ

Dewberry is providing the North Hudson Sewerage Authority (NHSA) with construction management services on a project to add 10 additional Cleaning Access Chambers to Hoboken's Eleventh Street combined trunk sewer. The project added access points to the box sewers in excavation ranging from 3-feet (ft) deep to 14-ft deep. The project was in a narrow main thoroughfare within Hoboken requiring management of many roadway shut downs and close coordination with the community. The areas of excavation included historical streets with sensitive tree lined roads and major schools. The schedule of the project needed to be closely managed and coordinated with the contractor in order to avoid impact to the school. Close coordination was also performed with other paving contracts in the area.

Upon completion of the construction of the additional cleaning access chambers the project then performed the cleaning and inspecting of approximately 2,900 linear feet of combined sewer ranging in size from 4-ft by 4.75-ft box to 7-ft by 4.75-ft box for the full length of eleventh street.

Specific tasks include:

- Contract execution and pre-construction meeting
- Resident engineering/inspection
- Authority's agent during construction
- Construction administration
- Design engineer services (via Mott MacDonald)

- **COST** $149,000 (FEE)
- **COMPLETION** Ongoing
- **CLIENT CONTACT**
  Donald Conger III, PE
  North Hudson Sewerage Authority
  Regional Business Manager | BIAF OMFS
  201.963.6043

REIS for the Installation of Storm and Sanitary Sewers along the Whitestone Expressway Service Road, SE-809

QUEENS, NY

This project installed 7,000-LF of new Flat Top Reinforced Concrete (FTRC) sewers including 9-feet by 9-feet 6-inches, sanitary sewer, Continuous Flight Augur (CFA) piles substituted by drill displacement piles, installation of outfall with tidal flow gate, various sizes of distribution water main, ADA-compliant pedestrian curb ramps and sidewalk, roadway restoration, street lighting, utility relocations, traffic signal work, tree planting and landscaping. Dewberry's REIS tasks included:

- 123,000-LF of drill displacement piles
- 2,957.00-LF of 7'6" x 9' single barrel flat top reinforced concrete storm sewer
- 3,000.00-LF of 9' x 9' single barrel flat top reinforced concrete storm sewer
- 1,500.00-LF of various size RCP III storm sewer
- 1,500.00-LF of various size ESVP sanitary sewers
- 8,000.00-LF of various sizes distribution water main
- 123,000 Tons of wearing course and binder asphalt
- Installation of cofferdam and tide gate on Flushing River
- Installation of street lights and traffic signals
- Installation of various size chambers, siphon chamber, access manholes and standard manholes
- Installation of catch basins and removal of old seepage basins
- Construction of new concrete bus pad
- Interagency coordination (NYCDPR, NYCDOT, NYCOCMC, NYCDOT)
- Extensive community outreach and agency coordination
- Maintenance and protection of traffic

- **COST** $67.5-million
- **COMPLETION** 2018
- **CLIENT CONTACT**
  Lambert Monah, PE
  New York City
  Department of Design
  and Construction
  718.391.2469

REIS for Replacement of Trunk and Distribution Water Mains & Combined Sewer Rehabilitation in Bainbridge Avenue, HED569

BRONX, NY

Dewberry is providing resident engineering inspection services to NYCDDC for the replacement of old cast iron trunk and distribution water mains, and combined sewer rehabilitation in Bainbridge and Jerome Avenues in the Bronx to provide high quality water services to residents and businesses.

This project is a complex undertaking through the area of Community Boards No. 7 and No. 12, which requires extensive coordination with many parties. Primary construction includes installation of 48-inch and 72-inch steel water mains. The project is divided into three phases due to changes in roadway geometry, varying land use, mixed dwellings, and to optimize project staging while minimizing impact to the public during construction. Phase 1 requires the installation of a 72-inch steel water main in Bainbridge Avenue. Phase 2 and 3 roadway work on Jerome Avenue from Holly Lane to East 233rd Street requires a 48-inch water main.

- **COST** $39.4-million
- **COMPLETION** 2023
- **CLIENT CONTACT**
  Lambert Monah, PE
  New York City Department of Design and Construction
  718.391.2469

Reconstruction of Route 1 & 9, Section 28

HUDSON AND BERGEN COUNTIES, NEW JERSEY

Dewberry provided resident engineering and construction inspection services for the Federally-funded $91-million reconstruction of Route 1 & 9 Section 28 from MP 58.0 to MP 63.0 in North Bergen Township, Hudson County, New Jersey and in the boroughs of Fairview, Ridgefield, and Palisades Park in Bergen County, NJ; Federal Project Number NH-0033(259).

Work included roadway construction, widening and realignment, roadway excavation, rock excavation and blasting, milling and resurfacing, Superpave Hot Mix Asphalt (HMA) courses, removal and replacement of concrete pavement, partial depth concrete pavement repairs, sawcut and sealing joints in concrete pavement, cleaning and sealing cracks in concrete surface course. It also involved storm drainage and sanitary sewer systems, pipe and inlet cleaning, extensive gas main and water main installation, concrete curb, 18 traffic signals with ADA compliant pedestrian curb ramps, sidewalk and driveways. Extensive utility relocations, excavation and off-site disposal of regulated waste material, temporary lighting, temporary traffic signal systems, new signalized intersections at 22 locations with left and right turn lanes at local road intersections with Route 1 & 9 were parts of this project. It also included landscaping, signing, temporary and permanent traffic striping and markings, extensive traffic control, nighttime operations and staging sequence. Intelligent Transportation System work included installation of 38-inch round junction boxes and RNM Multiduct Conduit.

The project involved multi-stage construction while maintaining two-way traffic and safe pedestrian access through the work zone that included residential housing and commercial businesses. This five-mile stretch of roadway is heavily traveled and extensive coordination with local police and fire departments, Township and Borough officials and utilities was required to maintain effective communications during construction to keep agencies informed of the staging changes, including community outreach.

- **COST** $91-million
- **COMPLETION** 2016
- **CLIENT CONTACT**
  Eric Neu
  NJDOT
  Region North
  Construction
  973.601.6658

Hudson River Rebuild by Design

HOBOKEN, WEEKHAWKEN, & JERSEY CITY, NEW JERSEY

- **COST** $230-million
- **COMPLETION** 2017
- **CLIENT CONTACT**
  Dennis Reinknecht
  New Jersey Department of Environmental Protection
  609.292.1976

Dewberry performed a feasibility study, preliminary engineering, and a Environmental Impact Statement (EIS) to design a coastal flood risk reduction system along with stormwater management strategies to reduce flood risks for the City of Hoboken and parts of Weehawken and Jersey City.

An interdisciplinary team consisted of engineers, architects, landscape architects, economists, community engagement and others who worked on this two-year long project to evaluate existing site constraints, flood risks, and then developed the optimal coastal flood risk reduction strategy along with stormwater management strategies. Numerous concepts narrowed down to several alternatives where further design factors such as coastal flood and rainfall modelling, utility impacts, subsurface soil conditions, right-of way impacts, traffic/pedestrian flow, construction cost, and benefit cost analysis were evaluated against a no-build alternative, ultimately leading to a recommended alternative that was presented to the community.

An integrated coastal and stormwater model was developed using DHI's MIKE Flood model to evaluate the effectiveness of the proposed coastal flood protection system and interior drainage solutions. The interior drainage solutions comprised green and grey infrastructure that could manage rainfall runoff flow volumes for up to a 25-year, 24-hour duration event during high tide events. The coastal flood protection system consisted of floodwalls, berms and over 20 deployable closure structures that were designed to blend into the dense urban fabric of the city. Use of various types of modular landscape and architectural treatments that blended in-front of the floodwall but could be removed to inspect floodwalls as part of O&M were developed as part of the project.

The $230-million project was designed to meet FEMA's coastal levee accreditation standards and included in-depth analysis to estimate the appropriate Design Flood Elevation (DFE), meet various minimum factors of safety for engineering design and interior drainage analysis that provided the rainfall-induced 1% annual chance FEMA floodplain that would replace the existing coastal floodplain.

Rendering of recommended design alternatives presented to the community. The team of structural and geotechnical engineers, architects and landscape architects worked closely to develop a coastal flood risk reduction system that blended into the dense urban fabric of the study area.

Hudson River Rebuild by Design (Cont.)

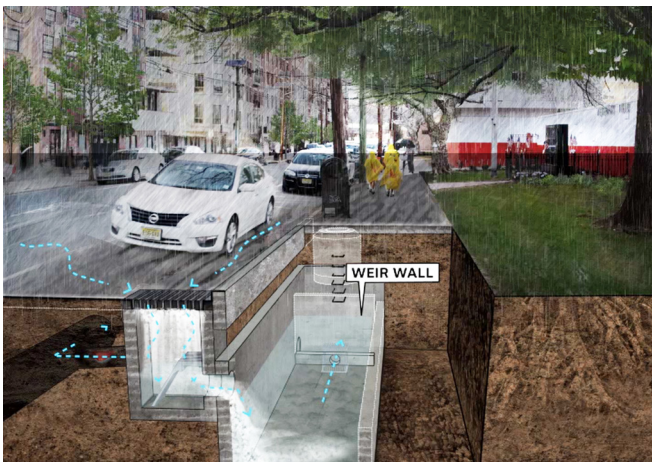
HOBOKEN, WEEKHAWKEN, & JERSEY CITY, NEW JERSEY

Challenge

Presence of high groundwater (with 10 feet from ground surface) prohibited use of direct infiltration interventions

Solution

Customized detention type solutions were developed at ROW and parcel based scale to capture rainfall runoff from parcels and roadways, store runoff during the peak of rainfall, and treat and discharge it to the receiving waterbody or WWTP.



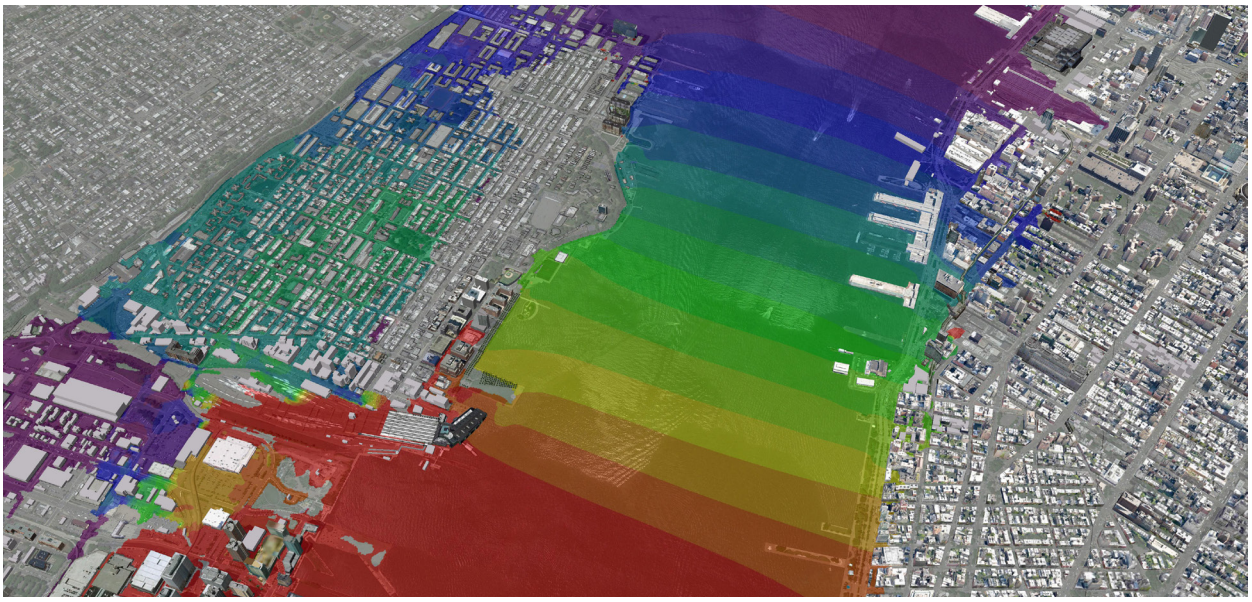
Change to Stormwater Management

Challenge

Implementation of green infrastructure practices which would prohibit the use of parks during construction phase. There are only a handful of parks within the study area and construction in one of these parks would have reduced the availability of park space for the community and residents.

Solution

Green infrastructure retrofits were developed for existing parks with an approach for a phased construction which would have limited the construction zone and allowed for partial park openings during construction. However, due to community concerns and feedback, the proposed green infrastructure retrofit for parks was not continued to avoid community backlash and keep the overall project moving forward on schedule.



Dewberry developed a detailed coastal model to simulate water levels from Hurricane Sandy in Hoboken, NJ

www.dewberry.com