City of Berlin, NH

Memo

To: Mayor and City Council

From: Jim Wheeler, City Manager

Date: October 23, 2020

Re: I&I Reduction: Building Demolition Project

Attached is a contract from Wright-Pierce Engineering for services associated with the building demolition project. The contract is for services in the not to exceed amount of $54,900. We are targeting 12 tax deeded properties as listed in Exhibit A. Two of these properties are not being taken down for I&I reasons. They are being taken down for safety concerns. Neither of these two properties will be eligible for the SRF funding. The cost of demolition of 54 Pleasant should largely be covered through an insurance claim with Primex. The cost of demolition of 758 Second Ave. will be paid for with City funds.

The contract for engineering services is recommended for approval by the Mayor and Council.

168 Main Street
Berlin, NH 03570
603-752-7532
www.berlinnh.gov

ENGINEERING DESIGN PHASE
CONTRACT FOR PROFESSIONAL SERVICES
FOR THE
SANITARY SEWER INFLOW/INFILTRATION REDUCTION: BUILDING DEMOLITION PROJECT

CITY OF BERLIN, NEW HAMPSHIRE

This AGREEMENT made and entered into at Coos County, New Hampshire, this _____ day of _____ 2020 by and between City of Berlin hereinafter called the OWNER, and Wright-Pierce, hereinafter called the ENGINEER.

WITNESSETH:

WHEREAS, the OWNER intends to demolish twelve (12) buildings in the City of Berlin with illicit connections, potential illicit connections, or safety issues as detailed in Appendix A – Scope of Services.

hereinafter called the PROJECT, and

WHEREAS, professional sanitary engineering services will be required for the preparation of plans and specifications and contract documents, and

WHEREAS, such services are of a distinct professional nature and hence not subject to the bidding process,

NOW THEREFORE, in consideration of these premises and of the mutual covenants herein set forth, the OWNER hereby employs the ENGINEER to furnish the following engineering services in connection with the proposed PROJECT; and it is agreed by and between the OWNER and the ENGINEER as follows:

I. Services to be Performed by the ENGINEER

A. Upon execution of this AGREEMENT, the ENGINEER agrees to proceed with all engineering, ~~surveying, drafting, calculations, borings,~~ and other work as required and necessary to develop and produce final plans, specifications, and associated contract documents involved in the construction of treatment works for the Illicit Connection Demolition Project as detailed in attached Exhibit A – Scope of Services

~~as recommended in an Engineering Report dated _____ and/or modified by a Report dated _____.~~ The ENGINEER further agrees that said services shall include, but shall not necessarily be limited to:

1. Plans, Specifications, and Contract Documents

a. The preparation of detailed plans, specifications, and contract documents in accordance with the rules and regulations of the New Hampshire Department of Environmental Services, Water Division, hereinafter called the DIVISION, ready for the receipt of bids and the award of construction contracts for said construction; the work shall also include the preparation of estimates of the cost of construction based on the contract documents. Prepare applications with supporting and associated documents for ~~Federal,~~ State ~~and other~~ grant or loan programs. ~~Assists the OWNER in securing grants or loans by State, Federal and other agency.~~

~~b. The furnishing of all the necessary subsurface investigations and field surveys required for the preparation and completion of approved plans, specifications, and contract documents.~~

c. The furnishing of ~~ten (10)~~ three (3) copies of the final plans, specifications, and contract documents to the OWNER; ~~three (3)~~ one (1) copies of which are to be submitted to the DIVISION. Additional copies to be available at cost to the OWNER.

~~2. Site Acquisitions~~

~~a. Assistance to the OWNER including preparation of documents for the acquisition of lands, easements, and rights-of-way essential to the construction of the PROJECT.~~

II. The OWNER'S Responsibilities

A. Assist the ENGINEER by placing at his disposal all available information pertinent to the PROJECT, including previous reports and other data relative to the reports.

B. Make provisions for the ENGINEER to enter upon public and private lands, municipal facilities and industrial establishments as required to perform work under this AGREEMENT.

C. The OWNER also agrees to comply with DIVISION and Federal requirements (where applicable) and further agrees to acquire with the assistance of the ENGINEER all the necessary easements, options or outright purchases of land for the locations of said treatment works as shown on the contract plans. The provisions of this section shall be satisfied prior to submission of documents referred to in III (A) below. It is also understood that no approvals of reports or plans and specifications or other associated documents will be made by the DIVISION without fulfillment of this requirement.

III. Time Of Completion

A. The ENGINEER agrees that he will submit to the DIVISION for approval after modification or revision as recommended by the DIVISION and agreed to by the ENGINEER, the completed final plans, specifications, contract, and associated documents in compliance with the current issue of the DIVISION's standards of design within 150 consecutive calendar days following the execution of this AGREEMENT, and deliver same to the OWNER within 14 calendar days following the date of final approval by the DIVISION.

B. It is agreed by the parties to this contract that failure by the ENGINEER to complete the work within the time stipulated under III, A, above may be considered sufficient basis for the debarment of the ENGINEER from the DIVISION'S Roster of Prequalified Engineers as provided for under New Hampshire Code of Administrative Rules Env-Wq 603.08, or the Assessment of liquidated damages as provided for under RSA 485-A: 4, XII.

IV. Compensation to be Paid the ENGINEER

A. Method of Payments - Amounts of Fees

1. Payment to the ENGINEER, for services rendered, shall be according to the following schedule:

Monthly billing based on hours and rates by labor category with mark-up and incidental expenses in accordance with the attached fee schedule.

2. The OWNER agrees to pay and the ENGINEER agrees to accept for all services under this AGREEMENT, a fee not to exceed

Fifty-four Thousand Nine Hundred Dollars ($54,900.00).

3. If separate documents are required for additional construction contracts on this PROJECT, an additional fee as approved by the DIVISION shall be paid to the ENGINEER.

4. Prior to formal approval of contract documents by the DIVISION, the ENGINEER shall make such revisions in them as recommended by the DIVISION and agreed to by the ENGINEER without additional compensation. After formal approval, if it becomes necessary to revise the contract documents for reasons beyond the control of the ENGINEER, payment for such revision or revisions shall be made to the ENGINEER subject to approval by the DIVISION.

~~B. Limits of All Payments~~

~~1. The ENGINEER hereby assures the OWNER and agrees that the following fee for his services (exclusive of surveys, borings, and certain special services which follow) in connection with the preparation of final plans, specifications, and contract documents and other work as generally described under I(A) is adequate to complete the assignment and shall not exceed~~

~~_____~~

~~_____ Dollars~~

~~($_____).~~

~~2. It is also agreed that payment to the ENGINEER for services in relation to engineering surveys, including layout and logging of borings, probings or seismic surveys, together with plats and project related special services shall be at actual cost. Actual cost shall include compensation to the ENGINEER for his work performed on these services. The ENGINEER further agrees that the work proposed under this item is enough to satisfactorily complete the contract documents and that the moneys to be paid under this item are adequate for the work proposed and shall not exceed~~

~~_____~~

~~_____ Dollars~~

~~($_____).~~

~~3. It is again agreed that payment to the ENGINEER for services in relation to subsurface exploration, including borings, probings or seismic surveys, shall be at actual cost as defined in IV (B) 2. The ENGINEER further agrees that the work proposed under this item is enough to satisfactorily complete the contract documents and that the moneys to be paid under this item are adequate for the work proposed and shall not exceed~~

~~_____~~

~~_____ Dollars~~

~~($_____).~~

~~4. It is also agreed that payment to the ENGINEER for services in relation to cadastral surveys and other work associated with the acquisition of lands, easements, and rights-of-way essential to the construction of the PROJECT shall be at actual cost as defined in IV (B) 2. The ENGINEER further agrees that the work proposed under this item is enough to provide adequate sites, easements, and rights-of-way to permit the unencumbered construction, operation, and maintenance of the completed project without interference in any way. The ENGINEER also assures the OWNER that the moneys to be paid under this item are adequate for the work proposed and shall not exceed~~

~~_____~~

~~_____ Dollars~~

~~($_____).~~

V. Additional Covenants

A. The ENGINEER agrees to provide in active charge of this PROJECT for the life of the contract a Project Engineer who is a permanent employee of the ENGINEER and who is a "qualified sanitary engineer" as defined under the DIVISION'S "Rules and Regulations for the Prequalification of Consulting Engineers." The Project Engineer shall be*

Matthew Burns, PE
(name and address)
75 Washington Ave, Suite 202, Portland Maine 04101

* *Resume clearly describing the candidate's qualifications for the assignment is appended for convenience of reference.*

Any proposed change in identity of the Project Engineer on the PROJECT shall first be approved by the DIVISION before transfer of responsibility is made. Failure of the ENGINEER to abide by the above covenant may be considered basis for debarment of the ENGINEER from the DIVISION'S Roster of Prequalified Consulting Engineers as provided for under New Hampshire Code of Administrative Rules Env-Wq 603.08.

B. The ENGINEER agrees to be solely responsible for all bills or claims for payment for services rendered by others and for all services and materials employed in his work, and to indemnify and save harmless the OWNER, and all of the OWNER'S officers, agents and employees against all suits, claims or liability of every name and nature arising out of or in consequence of the negligent acts or failures to act of the ENGINEER or others employed by him in the performance of the work covered by this AGREEMENT.

C. The ENGINEER further agrees to procure and maintain at his expense such workmen's compensation insurance as is required by the statutes and public liability insurance in amounts adequate to provide reasonable protection from claims for bodily injury, death or property damage which may result from his performance and the performance of his employees under this AGREEMENT.

D. All documents, including original drawings, design calculations, work sheets, field notes, estimates, and other data shall remain the property of the OWNER, and shall be transmitted to the OWNER in clean and orderly condition on demand; however, these may be left in the possession of the ENGINEER at the OWNER'S discretion.

E. The ENGINEER shall not sublet, assign or transfer any part of the ENGINEER's services or obligations (except surveys and borings and other special services) under this AGREEMENT without the prior approval and written consent of the OWNER.

F. It is further agreed that the ENGINEER will assist the OWNER or his authorized agent in providing the DIVISION with clear documentation certifying that the necessary easements, options or outright purchases of land have been secured to provide for location of treatment works and other associated structures and equipment as shown on the contract plans or described in the specifications. Similar documentation will be submitted on approvals from the State Department of Transportation and/or other state agencies regarding location of treatment works within rights-of-way and other lands under their jurisdiction.

VI. Termination

A. The OWNER shall have the right at any time for any reason whatsoever to interrupt or terminate any part of or all of the work required of the ENGINEER under this AGREEMENT, with a seven (7) day written notice of such interruption or termination transmitted to the ENGINEER by the OWNER. In the event of termination of any part of or all of this AGREEMENT, without fault on the part of the ENGINEER, the ENGINEER shall be entitled to compensation for all work performed to the satisfaction of the DIVISION and the OWNER, and pursuant to this AGREEMENT. In order that the ENGINEER shall receive payment under termination notice of any part of the work, all plans, drawings, tracings, field notes, estimates, specifications, proposals, sketches, diagrams, and calculations, together with all other materials and data collected or prepared in connection with the PROJECT shall be transmitted to the OWNER in a form acceptable to the OWNER and DIVISION.

IN WITNESS WHEREOF, the parties hereto have affixed their hand and seals at Coos County, New Hampshire, the day, month, and year first above written.

ENGINEER:

_____

By: Paul F. Birkel, PE, Senior Vice President
(Authorized Representative*)

Date: _____

OWNER:

_____

By: James A. Wheeler, PE, City Manager
(Authorized Representative*)

Date: _____

APPROVED: **

_____
Department of Environmental Services - Water Division

By: Dennis Greene, PE, Sanitary Engineer
(Authorized Representative)

Date: _____

* *Signatures should be supported by appropriate document.*

** *It is agreed that as an act in furtherance of its statutory authority to approve engineering agreements for treatment works, the DIVISION's approval does not impose any contractual obligation or liability on the State of New Hampshire, the Department of Environmental Services or the Division.*

EXHIBIT A – SCOPE OF SERVICES

FOR DESIGN AND BIDDING PHASES FOR THE SANITARY SEWER INFLOW/INFILTRATION REDUCTION: BUILDING DEMOLITION PROJECT FOR THE CITY OF BERLIN, NH

Statement of Purpose

The City of Berlin, NH has received $500,000 in State Revolving Fund loans to demolish City-owned buildings that have illicit connections that allow stormwater into the sewer system. The City has asked Wright-Pierce to provide professional engineering services for the design and bidding phases for the demolition of twelve (12) buildings in the City of Berlin with illicit connections, potential illicit connections, or safety issues. The sewer connections and illicit discharge connections for the demolished buildings will be permanently removed and sealed/capped to prevent future discharge to the existing sewer from those properties. Buildings to be included are listed below:

Number	Address
1.	615 Burgess Street
2.	377 Burgess Street
3.	399 Burgess Street
4.	671 Cheshire Street
5.	190 Glen Avenue
6.	576 Goebel Street
7.	54 Pleasant Street
8.	592 Rockingham Street
9.	825 Second Avenue
10.	758 Second Avenue
11.	4 Bell Lane
12.	446 Hillsboro Street

Scope of Services

The following tasks comprise the Scope of Services that Wright-Pierce will perform for this design and bidding phase services contract:

Task 1 – Design Phase

1. Task 1a – Environmental Review
    a. Wright-Pierce will update the draft Environmental Review template previously developed and submitted with the City's SRF application to New Hampshire Department of Environmental Services (NHDES). Updates will incorporate the final list of buildings to be included in the project and will include up to twelve (12) buildings. Wright-Pierce will submit the updated Environmental Review to DES.
    b. It is expected that the Division of Historical Resources (DHR) will have comments and potentially 'Adverse Effect' rulings on some or all of the buildings to be demolished. Wright-Pierce will conduct one site visit to view the proposed buildings with City staff and DHR. If a site visit is not possible due to Covid-19,

Wright-Pierce will conduct a conference call with the City and DHR to review each proposed building listed above.

c. Wright-Pierce will coordinate with the City and DHR to develop mitigation efforts for each building as necessary. Wright-Pierce will summarize the mitigation efforts into a Memorandum of Understanding between the City of Berlin, EPA, and DHR as necessary. Up to twelve (12) mitigation efforts (one per building) will be included.
d. Because the level of effort required for Tasks c above is unclear, Wright-Pierce has included 36 hours of staff time for this effort. If Wright-Pierce determines that the level of effort to complete this task will exceed 36 hours, Wright-Pierce will notify the City to reevaluate Wright-Pierce's level of involvement.

2. Task 1b – Hazardous Materials Survey
    a. Wright-Pierce's subconsultant will perform asbestos and lead surveys at up to ten (10) individual building locations identified above.
    b. Hazardous materials surveys have been previously completed at two (2) properties by Acadia Contractors (671 Cheshire Street and 54 Pleasant Street). The City shall provide Wright-Pierce with copies of these completed surveys for inclusion by Wright-Pierce into the Contract Documents.
    c. Findings of the hazardous materials surveys will be included in the Bidding Documents. Abatement will be performed by the General Contractor (or subcontractor) as part of the construction project.
3. Task 1c – Final Design
    a. Wright-Pierce will prepare for incorporation in the Bidding Documents final Specifications. Specifications will conform to the NHDES front-end specification requirements for SRF-funded projects. Project-specific demolition specifications will be based on the City of Berlin's previous specifications used for demolition projects.
    b. Develop 90% Specifications.
    c. Submit 90% Specifications to the City and New Hampshire DES for review along with an opinion of probable construction cost (one paper set of Specifications, along with one electronic version in .pdf format). Cost estimates will be based on past building demolitions conducted in Berlin, adjusted for 2020 costs.
    d. Conduct one (1) teleconference with the City to review comments on the 90% deliverable.
    e. Incorporate comments from the 90% review meeting and DES review comments into the 100% specifications.
    f. Submit 100% Specifications to New Hampshire DES for final review and authorization to advertise project, along with an opinion of probable construction cost (one paper sets of Specifications, along with one electronic version in .pdf format).

Task 2 – Bidding Phase

1. After acceptance by the City of the Bidding Documents and the most recent opinion of probable construction cost as determined in the Final Design Phase, and upon written authorization by the City to proceed, Wright-Pierce shall:
    a. Assist the City in advertising and obtaining bids for the project. The cost for advertisement in papers selected by the City has not been included.
    b. Receive and process Contractor fees for purchase of Bidding Documents and maintain a record of prospective bidders to whom Bidding Documents have been issued.
    c. Prepare for and host one pre-bid teleconference.
    d. Prepare required addenda to the bid documents as appropriate to clarify, correct or change the Bidding Documents based on questions received at the pre-bid conference or by written requests for information during the bid period. Issue addenda to the registered plan holders based on list maintained by Wright-Pierce. This Scope of Services assumes that up to two addenda will be issued.
    e. Review all bids and prepare bid tabulation. City will conduct bid opening and send results to Wright-Pierce for review.
    f. Review the qualifications of the apparent low bidder(s) and compliance with other contract requirements. Report on the results of the reviews and issue a bid evaluation letter for the City's review and consideration.

Assumptions

1. This Scope of Services assumes that the individual buildings to be demolished will be completed as one design package (i.e. one set of Specifications). If separate design packages for each building are desired by the City, additional design fee would be required.
2. This Scope of Services assumes that the project will be included in the New Hampshire State Revolving Fund (SRF) program. This Scope of Services includes contract requirements such as Davis-Bacon wage rates, American Iron and Steel, New Hampshire DES supplementary conditions, etc. to meet funding agency requirements. The Contract documents will meet the eligibility requirements of the New Hampshire State Aid Grant (SAG) program. This Scope of Services precludes the preparation of SAG/SRF applications.
3. Final Design 90% submittal and 100% submittal will be submitted to NH DES for review by their Design Review and Construction Management sections. Three weeks of review time by DES for each submittal has been assumed in the project schedule.
4. The Scope of Services does not include any environmental permitting. If environmental permitting is required, additional design fee would be required.
5. This Scope of Services is based on the twelve (12) buildings listed above. If additional buildings are added to the project scope, additional design fee would be required.

Schedule

Wright-Pierce will commence work on this project upon receipt of an executed Agreement and Notice to Proceed (NTP) from the City. Once underway, we propose the following schedule that would allow the City to be prepared for construction work to begin in 2021. The proposed schedule is as follows:

Milestone	Number of Calendar Days from NTP
• Signed Agreement / Notice to Proceed (NTP)	0
• Submit Updated Environmental Review	14
• Complete Hazardous Materials Survey	90
• Submit 90% Drawings and Specifications	120
• Submit Signed and Stamped 100% Bidding Documents to DES for Authorization to Bid	150

75 Washington Avenue, Suite 202
Portland, ME 04101
207.761.2991 | www.wright-pierce.com

Wright-Pierce Certificate of Vote

I, Ryan T. Wingard, hereby certify that I am the duly elected Clerk of Wright-Pierce.

I certify that the following is a true copy of a vote taken at a meeting of the board of directors of the corporation, duly called and held on April 8, 2020, at which a quorum of the board was present and voting.

VOTED:

That any one or all of the following officers of Wright-Pierce, on behalf of the corporation, are authorized to execute all Wright-Pierce contracts, both service agreements and general contractual obligations:

- Paul F. Birkel, Vice President
- John W. Braccio, President/CEO
- Richard N. Davee, Vice President
- Michael D. Giggey, Vice President
- Steven C. Hallowell, Vice President
- Edward J. Leonard, Vice President
- John R. Nelson, Vice President
- Christopher N. Pierce, Vice President
- Richard G. Protasowicki, Vice President
- Laura J. Riley, Vice President/Treasurer/CFO
- Timothy R. Vadney, Vice President
- Ryan T. Wingard, Vice President/Clerk

I hereby certify that said vote has not been amended or repealed and remains in full force and effect.

Attest:

Ryan T. Wingard, Clerk

April 9, 2020

WRIGHT PIERCE 1954 MAINE

WRIGHT-PIERCE
Engineering a Better Environment

COST OR PRICE SUMMARY FORMAT FOR SUBAGREEMENTS UNDER NH SAG & SRF	Form Approved DES 02/06

PART I - GENERAL

1. GRANTEE / LOANEE City of Berlin, New Hampshire	2. GRANT/LOAN NO. CITY TO PROVIDE
3. NAME OF CONTRACTOR OR SUBCONTRACTOR Wright-Pierce	4. DATE OF PROPOSAL October 2020
5. ADDRESS OF CONTRACTOR OR SUBCONTRACTOR (Include ZIP)	6. TYPE OF SERVICE TO BE FURNISHED Professional Engineering Services

PART II - COST SUMMARY

7. DIRECT LABOR (Specify labor categories)	HOURS	HOURLY RATE	ESTIMATED COST	TOTALS
Principal in Charge	6	$65.00	$390	
Project Manager	86	$38.50	$3,313	
Project Engineer	80	$31.25	$2,502	
GIS Engineer	26	$33.16	$863	
Administrative Assistant	20	$22.00	$440	
QA/QC Manager	16	$61.95	$992	
DIRECT LABOR TOTAL:				$8,500

8. INDIRECT COSTS (Specify indirect cost pools)	RATE	X BASE =	ESTIMATED COST	
	1.68	$8,500	$14,280	
INDIRECT COSTS TOTAL:				$14,280

9. OTHER DIRECT COSTS				
a. TRAVEL			ESTIMATED COST	
(1) TRANSPORTATION			$100	
(2) PER DIEM				
TRAVEL COSTS TOTAL:			$100	
b . EQUIPMENT, MATERIALS, SUPPLIES *(Specify categories)*	QTY	COST	ESTIMATED COST	
Phone, fax, printing, copies, postage, CADD			$1,000	
EQUIPMENT SUBTOTAL:			$1,000	
c. SUBCONTRACTS			ESTIMATED COST	
Hazardous Materials Surveys			$27,610	
SUBCONTRACTS SUBTOTAL:			$27,610	
d. OTHER (*Specify categories)*			ESTIMATED COST	
OTHER SUBTOTAL:			$0	
e. OTHER DIRECT COSTS TOTAL:				$28,710
10. TOTAL ESTIMATED COST				$51,490
11. PROFIT				$3,410
12. TOTAL PRICE				$54,900

PART III - PRICE SUMMARY

13. COMPETITOR'S CATALOG LISTINGS, IN-HOUSE ESTIMATES, PRIOR QUOTES (Indicate basis for price comparison)	MARKET PRICE (S)	PROPOSED PRICE

PART IV - DIRECT LABOR BY CATEGORY

14. INSERT THE APPROPRIATE WORK CATEGORY IN THE TABLE BELOW. WORK CATEGORIES WOULD INCLUDE BUT NOT BE LIMITED TO THOSE CATEGORIES SHOWN IN THE CONTRACT DOCUMENTS SUCH AS DESIGN, SURVEY, SUBSURFACE, CADASTRAL, O&M MANUAL, ADMINISTRATION, INSPECTION, RECORD DWGS, START-UP, SPECIAL SERVICES, ETC.

Work category	Final Design	Bidding		Total Hours	Rate	Cost
Principal in Charge	6	0		6	$65.00	$390
Project Manager	70	16		86	$38.50	$3,313
Project Engineer	58	22		80	$31.25	$2,502
GIS Engineer	20	6		26	$33.16	$863
Administrative Assistant	10	10		20	$22.00	$440
QA/QC Manager	16	0		16	$61.95	$992
Total - Direct Labor Cost						$8,500

Matthew D. Burns, PE

LEAD PROJECT ENGINEER

Project Assignment: Project Manager

Education
M.S., Civil Engineering, University of Maine

B.S., Civil Engineering, University of Maine

B.A., German, University of Maine

Professional Registration
Maine

Experience
5 Years

Joined Firm
2013

Publications
Burns, M., Maynard, M., Davids, W, Chung, J, and Gaudin, C., "Centrifuge Modelling of Suction Caissons under Orthogonal Double-Line Loading", Physical Modelling in Geotechnics: Proceedings of the 8th International Conference on Physical Modelling in Geotechnics 2014

Presentations
Burns, M., and Taylor, J., "Phase 2 Upgrade to the Merrimack, NH WWTF: Advancing Nutrient Removal", NEWEA Conference, January 2016

Experience Summary

Mr. Burns is a lead project engineer in the Wastewater Practice Group at Wright-Pierce. His responsibilities include evaluation and analysis of existing infrastructure, design of wastewater collection systems, design of wastewater treatment facilities, cost estimating, and construction administration services. A s a lead project engineer, he supports project managers on various projects involving wastewater treatment and collection systems.

Relevant Project Experience

Wastewater Treatment

Wastewater Treatment Plant Phase 1 Upgrade, Bath, ME

Lead project engineer for an ongoing project involving the design, bidding, and construction administration services of a plant-wide $5.6 million facility upgrade. Work includes design of multiple unit processes, including dewatering equipment, solids handling system, and the disinfection system. Developed USDA RD funding application, including Preliminary Engineering Report and Environmental Report resulting in $2.3 million in grant money for the City of Bath.

Facilities Evaluation, Fort Fairfield, ME

Lead project engineer for an ongoing project involving the study of wastewater treatment facility upgrade options. Evaluated wastewater flows and loads and conducted a feasibility study of four different treatment technologies (rotating biological contactors, aerated lagoons, activated sludge, or pump to nearby facility for treatment). Developed USDA RD funding application, including Preliminary Engineering Report and Environmental Assessment. Developed conceptual-level design for a new activated sludge treatment facility.

Wastewater Treatment Plant Phase 3 Upgrade, Merrimack, NH

Lead project engineer for an ongoing project involving the preliminary design of a plant-wide $22 million facility upgrade. Work includes preliminary design and alternatives analysis of multiple unit processes, including clarifier mechanisms, sludge holding tank mixing systems, return activated sludge pumping systems, plant water systems equipment, solids handling system, and the disinfection system.

Wastewater Treatment Plant Phase 1 Upgrade, Brunswick, ME

Project engineer for a project that involved the design, bidding, and construction services of a plant-wide $22 million facility upgrade. Work included design of multiple unit processes, including dewatering feed pumps, plant water system, primary and secondary clarifier drives, and septage mixing systems, and day-to-day construction administration.

Sludge Dewatering and Siloxane Removal Upgrade, Lewiston, ME
Project engineer for a project that involved the design and bidding services of a sludge dewatering upgrade and siloxane removal system. Work included development of technical and front-end specifications, design of the polymer and sludge conveyance system, and sizing of the screw-press dewatering equipment.

Wastewater Treatment Facility Design, Exeter, NH
Project engineer for a project that involved the design services of a plant-wide facility upgrade. Work included design of the headworks screen, grit washer, grit feed pumps, vortex grit removal system, and layout of site piping at the proposed facility.

Merrimack Wastewater Treatment Facility Phase II Upgrade, Merrimack, NH
Project engineer for a project that involved the design, bidding and construction administration services of a plant-wide facility upgrade. Work included development of front-end specifications, utility connection coordination, assisting in the design of sludge pumps, and construction administration phase services.

Berlin Wastewater Treatment Facility Phase II Upgrade, Berlin, NH
Project engineer for a project that involved the design and construction of a Phase 2 treatment plant upgrade. Work included shop drawing reviews for various systems, construction phase services, and preparation of the operations and maintenance manual.

Sunapee Wastewater Treatment Facility Upgrade, Sunapee, NH
Project engineer for a project that involved the design and construction of a treatment plant upgrade. Work included construction phase services, including equipment start-up and certification, and preparation of the operations and maintenance manual.

Haverhill Dewatering Upgrade, Haverhill, MA
Project engineer for a project that involved the design of a centrifuge dewatering upgrade. Work includes determining the most cost-effective polymer system to replace the existing system, design of the conveyor systems, and sizing of the centrate pumps.

Wastewater Treatment Facility Capital Improvement Plan, New London, CT
Project engineer for a project that involved data collection and analysis of wastewater infrastructure. Developed technical memoranda that assessed the current condition of wastewater equipment. Assisted in developing equipment life cycles and replacement/upgrade costs for wastewater equipment as part of the CIP.

Collection System

Sewer System I/I Investigation, Berlin, NH
Lead project engineer for project that involved investigating and locating inflow and infiltration in the sewer collection system through use of continuous and instantaneous flow metering, and by performing home and manhole inspections.

Bridge Street Pump Station and Riverview Road Pump Station Upgrades, Bath, ME
Project Engineer for the design, bidding, and construction services for replacement of two suction-lift pump stations. Work included development of specifications and drawings and Construction Administration, as well as coordination of pre-purchasing equipment to expedite schedule.

Harward Street Pump Station Drainage Area Sewer Rehabilitation, Bath, ME
Lead project engineer for an ongoing project that involves investigating and locating inflow and infiltration in the sewer collection system through use of continuous and instantaneous flow metering, and by performing home and manhole inspections. Developed plans and specifications for rehabilitation of approximately 3,500 feet of gravity sewer mains to mitigate I/I entering the system. Developed USDA RD Funding Application, including Preliminary Engineering Report and Environmental Report.

Harward Street Pump Station Drainage Area Capacity Analysis, Bath, ME
Lead project engineer for an ongoing project that involves development of an InfoSWMM model to estimate sewer main capacity in a critical area subject to CSOs and SSOs. Work included collecting field data to supplement capacity analysis model and verifying model with collected flow meter data.

Sewer System I/I Investigation, Bath, ME
Lead project engineer for an ongoing project that involves investigating and locating inflow and infiltration in the sewer collection system through use of continuous and instantaneous flow metering, and by performing home and manhole inspections. Developed USDA RD Funding Application, including Preliminary Engineering Report and Environmental Report.

Sewer System Relining, Bath, ME
Lead Project Engineer for a project that involved relining of approximately 1,300 feet of gravity sewer mains and repair of multiple manholes to mitigate I/I entering the system.

Biddeford Pump Station Design, Biddeford, ME
Coordinated the design of a new pump station as part of a design-build team, and designed the process and civil related components of the pump station.

Sewer System I/I Investigation, Augusta, ME
Developed and maintained flow meter data software for efficient collection of continuous flow meter data as part of an ongoing investigation to reduce inflow and infiltration into the sewer collection system.

Sewer System I/I Investigation, Camden, ME
Developed and maintained flow meter data software for efficient collection of continuous flow meter data as part of an ongoing investigation to reduce inflow and infiltration into the sewer collection system.

Little Neck Wastewater Facilities Evaluation, Ipswich, MA
Project engineer for study of wastewater collection system, pump stations, and storage tanks. Evaluated wastewater pumping data, water use data, rainfall data, and construction records to estimate potential inflow and infiltration.

GIS Data Collection, Augusta, ME*
Collected and mapped GIS data for citywide wastewater and water infrastructure.

Industrial

Secondary Treatment System MBBR Evaluation Planning, Twin Rivers Paper Company, Madawaska, ME
Developed feasibility report of isolating and inspecting two moving bed bioreactors in series while ensuring that the paper-making process would not be adversely impacted.

Wastewater Sampling Evaluation, Oakhurst Dairy, Portland, ME
Analyzed existing sampling techniques and data to develop recommendations for potential sewer piping modifications and flow metering options to allow for accurate sampling of industrial wastewater flows at the facility.

Effluent Solids Monitoring, FMC Biopolymer, Rockland, ME
Performed data analysis on industrial wastewater flows and loads as compared with municipal flows and loads.

Stormwater Pollution Prevention Plans, ME*
Developed stormwater pollution prevention plans for multiple commercial and industrial facilities throughout Maine.

*Experience from previous employer