



REGULAR MEETING OF THE
GREATER NEW HAVEN WATER POLLUTION CONTROL AUTHORITY
BOARD OF DIRECTORS
WEDNESDAY, SEPTEMBER 14, 2022 6:00 P.M.
260 EAST STREET
NEW HAVEN, CONNECTICUT

AGENDA

1. Approval of minutes of July 13, 2022 – Regular Meeting.
2. Public participation relating to agenda items.
3. Consideration and approval of a resolution authorizing the Executive Director, Sidney J. Holbrook, to negotiate, execute and deliver a task order with H.W. Lochner, Inc. to complete inspection and load rating of the Authority's utility bridge, over the Metro-North Railroad New Haven Line, supporting the Union Street pump station force main, for an aggregate amount not to exceed \$75,000.00.
4. Consideration and approval of a resolution authorizing the Executive Director, Sidney J. Holbrook, to negotiate, execute and deliver an agreement with the Connecticut Department of Emergency Services and Public Protection for grant funding to the Authority (in an aggregate grant amount not to exceed \$1,002,600) for a wind retrofit project at the East Shore Water Pollution Abatement Facility and 260 East Main Street, for an aggregate amount not to exceed \$1,114,000.00.
5. Consideration and approval of a resolution authorizing the Executive Director, Sidney J. Holbrook, to negotiate, execute and deliver an agreement with C.J. Fucci Construction for CWF Project 2012-04 Yale Campus Trumbull Street Area Sewer Separation Phase 2, for an aggregate amount not to exceed \$18,119,057.00.

6. Consideration and approval of a resolution authorizing the Executive Director, Sidney J. Holbrook, to negotiate, execute and deliver an agreement with Brown and Caldwell for professional services related to improvements to the grease receiving and processing system at the East Shore Water Pollution Abatement Facility, for an aggregate amount not to exceed \$400,000.
7. Executive summary and department updates and presentations.
8. Consideration and approval, as necessary, of any other new business of the Authority.
9. Call to the public.
10. Adjournment.



Greater New Haven Water Pollution Control Authority

260 East Street New Haven, CT 06511
203.466.5280 p 203 772.1564 f www.gnhwpca.com

MEMORANDUM

DATE: September 1, 2022

TO: Sidney J. Holbrook

FROM: Thomas Sgroi, PE
Director of Engineering

RE: Task Order Recommendation
H.W. Lochner, Inc. (Lochner)
Inspection, Load Rating and Repair Recommendations
Utility Bridge Over Metro-North Railroad New Haven

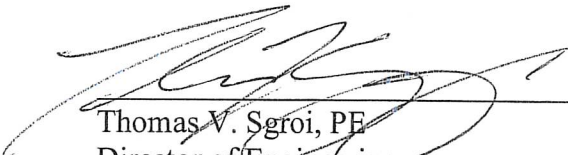
Sid:

I request that the above-mentioned recommendation be added to the September 14, 2022 Board Agenda for resolution.

This request includes costs for performing a detailed inspection of the Authority's Utility Bridge over Metro North Railroad providing Union St Pump Station forcemain support. Lochner will perform inspection, complete a load rating and provide repair recommendations. Within the scope are direct costs associated with Metro Norths required Flagman, Groundman and Safety Training along with ancillary costs such as traffic control and lighting. Lochner will complete this work in accordance with the proposal dated August 17, 2022.

I recommend approval of a Lochner Task Order in the amount not to exceed \$75,000.

The project is budgeted 100% from the Authority's Approved Engineering Dept Operating Funds.



Thomas V. Sgroi, PE
Director of Engineering

ecopy: Gabe Varca
Lou Criscuolo
Gary Zrelak
Joe Megale

LOCHNER

H.W. Lochner, Inc.
55 Hartland Street
Suite 401
East Hartford, CT 06108
Phone: 860-760-5840

August 17, 2022

www.hwlochner.com

Mr. Thomas V. Sgroi, P.E.
Director of Engineering
Greater New Haven Water Pollution Control Authority
260 East Street
New Haven, CT 06511

Subject: Task Order No. HWL12
Scope and Fee Proposal –Utility Bridge over Metro-North Railroad New Haven
Mainline M.P. 72.48

Dear Mr. Sgroi:

As directed, enclosed please find a complete cost proposal for the work associated with the bridge inspection and load rating for the utility bridge supporting the sewer and gas lines over Metro-North Railroad's New Haven Line in New Haven. The following is enclosed for your review and use.

- Complete cost proposal including direct costs
- Allowable Classification Escalation
- Scope of Services

If you have any questions or require additional information, please contact the undersigned.

Very Truly Yours,

LOCHNER



Harry F. Martindale, P.E.
Associate Vice President

GREATER NEW HAVEN WATER POLLUTION CONTROL AUTHORITY

TASK ORDER NO. HWL12

LOCHNER SCOPE OF WORK

INSPECTION, LOAD RATING AND REPAIR RECOMMENDATIONS FOR UTILITY BRIDGE OVER METRO-NORTH RAILROAD NEW HAVEN MAINLINE M.P. 72.48 NEW HAVEN, CT (JULY 19, 2022)

Assignment Background

GNHWPCA is the owner of a utility bridge that carries a sewer force main over the Metro-North Railroad (MNR) in New Haven. The structure is located immediately north of the Water Street Bridge and was constructed circa 1960 with modifications made in 1988 when a gas main was added to the structure. The bridge is a steel truss supported on concrete substructure with a span length of 170'. The substructure is shared with the adjacent highway bridge.

GNHWPCA recognizes the importance of regular inspections and maintenance on their infrastructure for safety and reliable operations and has approached Lochner to perform a bridge inspection, assessment and update to the load rating, and preparation of a recommendations letter discussing repairs and rehabilitation measures to bring the structure to a state of good repair.

To meet the goals set by GNHWPCA, the following tasks are required.

Task Summary

Task 1: Data Collection and Review

Task 2: Railroad Coordination/Entry Permit

Task 3: Utility Bridge Inspection

Task 4: Utility Bridge Load Rating

Task 5: Recommendations Letter

Detailed Description of Work

Task 1 – Data Collection and Review

Lochner will collect, compile and review available information pertinent to the assignment including but not limited to the following: original construction bridge plans; bridge modification plans; past Bridge Inspection Reports; 2014 Bridge Load Rating; MNR New Haven Line Track and Catenary Plans; and site plans.

Task 2 – Railroad Coordination/Entry Permit

Lochner will coordinate with MNR as required to access the bridge site for the inspection. This coordination will include obtaining an Entry Permit from MNR, obtaining the railroad protective liability insurance required to enter the railroad right-of-way, completing required MNR safety training for field staff and arranging the MNR railroad protective services to support the inspection. Railroad protective services are expected to include both flagmen and groundmen to de-energize the catenary below the utility bridge.

Task 3 – Utility Bridge Inspection

Lochner will perform a hands-on inspection of the bridge following standard practices for same. The inspection shall be documented in report format including sketches, photographs and descriptions that describe the overall condition of the structure as well as detailed condition of individual structural elements including the trusses, floor system, bracing, walkway, cable rails, bearings, and abutments. In addition, the inspection shall include the sewer force main and hangars where visible. This bridge inspection is not intended to serve as an inspection of the gas main supported on the bridge which is addressed by others.

It is expected that the inspection will be performed at off-peak times for the railroad that will be at night or on a weekend. For purposes of establishing a budget, it is expected that two shifts will be required for the field work given the need for staged de-energizing of the catenary for access to the entire bridge.

Task 4 - Utility Bridge Load Rating

Lochner will update the Bridge Load Rating prepared in 2014 based on the conditions identified from the inspection performed under Task No. 3 and considering updates to industry standards for structural evaluation and load rating since the 2014 evaluation. An updated Load Rating Report including calculations will be provided.

Task 5 – Recommendations Letter

Lochner will perform an engineering assessment of the structure that considers condition, structural capacity and the expected reliability of the bridge in serving its function. Lochner will prepare a recommendations letter and attachments identifying and prioritizing needed short term repairs and longer-term rehabilitation measures. Engineer estimates of cost for repairs and rehabilitation will be provided as a guide for capital planning purposes.

GREATER NEW HAVEN WATER POLLUTION CONTROL AUTHORITY
 Inspection and Load Rating of Utility Bridge over Metro-North Railroad New Haven Mainline M.P. 72.48
 Task Order No. HWL12

ESTIMATED HOURS/COST TO PERFORM WORK

8/17/2022

H. W. LOCHNER INC.					
	Sr. PROJECT MANAGER	SENIOR ENGINEER	ENGINEER	JNR. ENGR/ TECHNICIAN	SUBTASK TOTAL
TASK 1 - DATA COLLECTION AND REVIEW					
1. Collect data, and review as preparation for inspection and rating work	8	4	0	0	12
					0
SUBTOTAL, TASK 1	8	4	0	0	12
TASK 2 - RAILROAD COORDINATION/ENTRY PERMIT					
1. Obtain Entry Permit and associated Railroad Protective Liability Insurance	6	0	0	0	6
2 Coordinate Railroad Protective Services	0	0	4	0	4
3 MNR Railroad Safety Training	0	1	1	0	2
SUBTOTAL, TASK 2	6	1	5	0	12
TASK 3 - UTILITY BRIDGE INSPECTION					
1. Prepare and perform bridge inspection.	2	40	40	0	82
2 Prepare Inspection Report	2	32	32		66
SUBTOTAL, TASK 3	4	72	72	0	148
TASK 4 - UTILITY BRIDGE LOAD RATING					
1. Structural analysis and load rating for as-built and as-inspected conditions	0	12	16	8	36
2 Prepare Load Rating Report	4	12	16	8	40
SUBTOTAL, TASK 4	4	24	32	16	76
TASK 5 - RECOMMENDATIONS LETTER					
1. Develop recommendations addressing maint., rehab. and future inspection needs.	4	8	12	8	32
SUBTOTAL, TASK 5	4	8	12	8	32
TOTAL HOURS (TASKS 1 AND 5)					
	26	109	121	24	280
Hourly Rate (per Exhibit A)	\$107.79	\$78.68	\$47.44	\$38.39	N/A
Exhibit A Hourly Classification Rate Adjustment	9.86%	4.72%	10.31%	1.38%	
Total Direct Salary	\$3,078.87	\$8,980.91	\$6,332.06	\$934.07	\$19,325.92
B,F,O & Profit Multiplier	2.80	2.80	2.80	2.80	N/A
TOTAL COST	\$8,620.84	\$25,146.56	\$17,729.76	\$2,615.41	\$54,112.57
LOCHNER DIRECT LABOR: \$19,325.92					
BF&O @ 150.00%: \$28,988.88					
TOTAL LABOR: \$48,314.79					
PROFIT @ 12%: \$5,797.78					
DIRECT COSTS \$16,210.00					
TOTAL = \$70,322.57					
</					

GREATER NEW HAVEN WATER POLLUTION CONTROL AUTHORITY
Inspection and Load Rating of Utility Bridge over Metro-North Railroad New Haven Mainline M.P. 72.
Task Order No. HWL12

8/17/2022

SUMMARY OF EXPECTED REIMBURSABLE DIRECT COSTS

H. W. LOCHNER EXPENSE	ESTIMATED COST
1. Mileage (field work, meetings) 500 MILES @ \$0.625	\$350.00
2. Printing/Reproduction - Reports	\$500.00
3. Railroad Protective Liability Insurance	\$3,000.00
4. MNR Railroad Safety Training	\$60.00
5. Metro-North Railroad Flagman and Groundman Support Services - 3 shifts at \$3000	\$9,000.00
6. New Haven Police - Traffic Support Services* - 3 shifts at \$1000	\$3,000.00
7. Generator/Light Plant Rental for Night Inspection - 3 shifts at \$100	\$300.00
	<hr/>
	\$16,210.00

* Traffic Support Services May not be Necessary Depending on Access

Total = \$16,210.00



Greater New Haven Water Pollution Control Authority

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MEMORANDUM

DATE: September 1, 2022

TO: Sidney J. Holbrook

FROM: Thomas Sgroi, PE
Director of Engineering

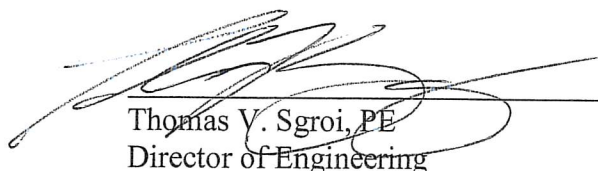
RE: **Grant Award**
Recommendation to accept a Grant Award from FEMA to support funding
GNHWPCA Hurricane Wind Retrofit at both the East Shore Water Pollution
Abatement Facility and at 260 East Street

Sid:

I request that the above-mentioned recommendation be added to the September 14, 2022 Board Agenda for resolution.

The Engineering Department recommends executing an agreement with the State of Connecticut Department of Emergency Services and Public Protection that will provide up to \$1,002,600 in grant funding for a wind retrofit project at an estimated \$1,114,000.

This grant will fund the design, purchase, removal and installation of windows, doors, and roof retrofits to meet requirements of a critical facility in a wind-borne region. A total of 9 buildings meeting the design criteria will have partial retrofits to include windows, doors and/or roof improvements.



Thomas V. Sgroi, PE
Director of Engineering

ecopy: Gabe Varca
Lou Criscuolo
Gary Zrelak
Joe Megale
Isabella Schroeder

Terms and Conditions

Major Disaster: FEMA-DR-4580-CT

Hazard Mitigation Grant Program Project Number: 4-R

Project Name: GNHWPCA Hurricane Wind Retrofit at ESWPAF and 260 East Street

Project Location:

SITE 1: BEGIN: 41.305978, -72.910574 ESWPAF at 345 East Shore Parkway at the Operations, Maintenance, Inlet Works, Substation 2, Substation 3, Garage, and Generator building.

SITE 2: BEGIN: 41.305978, -72.910574 GNHWPCA Admin building, which serves as an EOC at 260 East Street.

Project Description / Scope of Work: SITE 1: BEGIN: 41.305978, -72.910574 ESWPAF at 345 East Shore Parkway at the following buildings: Operations, Maintenance, Inlet Works, Substation 2, Substation 3, Garage, and Generator building. The Operations building will also be retrofitted for a door. The roof retrofits will be performed at Substation 3, Inlet Works, Generator and Chlorine Buildings. SITE 2: BEGIN: 41.305978, -72.910574 GNHWPCA Admin building, which serves as an EOC at 260 East Street will be retrofitted for windows and a door.

This grant will fund the design, purchase, removal and installation of windows, doors, and roof retrofits to meet requirements of a critical facility in a wind-borne region. The designs will be in conformance with ASCE 7, FEMA P-577, the City of New Haven, and State of CT Building Codes, specifically the new / amended section R301.1.1 (Wind Design Criteria), 2018 International Building Code (IBC), and the International Existing Building Code (EBC). The project is estimated to be completed in twenty-four (24) months.

Federal Funding: The federal funding provided for this project is **\$1,002,600.00** which is **90** percent of the total approved project cost of **\$1,114,000.00**.

Overview. The following sections of this document set forth the various terms and conditions for the referenced project above under the Hazard Mitigation Grant Program (“**HMGP**”) with which both the recipient and subrecipient must comply. Failure to comply with these terms and conditions could jeopardize the federal funding provided and result in the total or partial termination of the Federal award and disallowance of some or all costs.

I. General Terms and Conditions

The recipient and subrecipient must comply with the terms and conditions set forth in the FEMA-State Agreement and the 2021 Department of Homeland Security Standard Terms and Conditions v11.4.

II. Environmental and Historic Preservation Terms and Conditions

The recipient and subrecipient must:

- A. Comply with all applicable federal, state, and local environmental and historic preservation laws and obtain all required federal, state, and local permits and clearances before work commences.

- B. Comply with the terms and conditions set forth in the attached Record of Environmental Consideration ("REC") for the project.
- C. Comply with the Programmatic Agreement between FEMA and the State concerning Section 106 of the National Historic Preservation Act and any memorandum of agreement and/or secondary programmatic agreement entered for the project.
- D. Obtain FEMA environmental and historic preservation (EHP) review before commencing any change in the scope of work for the project.
- E. Monitor ground disturbance activities during construction and, if any potential archeological resources are discovered, immediately cease construction in that area and notify the State and FEMA.

III. Administrative Requirements Terms and Conditions

- A. The recipient and subrecipient must comply with the requirements of 2 C.F.R. pt. 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards*. This includes, among other things, the requirement to comply with the procurement standards at 2 C.F.R. §§ 200.317-326.
- B. Before making any change to the FEMA-approved budget for this project, the recipient must request prior written approval from FEMA where required by 2 C.F.R. § 200.308. If the total HMGP grant award for this declaration has an approved budget greater than the simplified acquisition threshold (currently \$250,000), the recipient may not transfer funds for non-construction projects among direct cost categories, programs, functions, or activities without prior written approval from FEMA where the cumulative amount of such transfers exceeds or is expected to exceed ten percent (10%) of the total budget for the entire HMGP grant award that FEMA last approved.
- C. The recipient must obtain FEMA review and approval before the recipient or subrecipient commences work on any change in the approved scope of work for the project.
- D. Prime Award Period of Performance; **JAN 12, 2021, to OCT 9, 2025**. FEMA established the project completion deadline for all sub-awards under DR 4580-CT HMGP as **APR 12, 2025**. The Prime Award closeout reporting, and liquidation deadline (120-days from the POP end date) is **FEB 6, 2026**.
- E. Management costs are indirect costs and administrative expenses that are reasonably incurred by a Recipient or Subrecipient in administering an award or subaward. A list of the costs allowed as management costs are identified in HMA Guidance (2015), Part III E.1.5 Management Costs, 44 C.F.R Part 207, and 2 C.F.R Subpart E Cost Principles. The Town of New Haven has not applied for Management Costs.
- F. Intended Purpose: Federal award dollars must be used for their intended purpose. Recipients of a federal award have been awarded funds to carry out the goals and objectives identified in the award. These funds are subject to certain regulations, oversight, and audit. Recipients are stewards of federal funds, must account for costs and justify expenditures. When a non-federal entity receives federal award dollars they are entrusted with the appropriate expenditure. The following actions are violations to federal awards and are subject to criminal prosecution, fines, restitution, and civil penalties:

- a) Charging personal expenses as business expenses against the award.
 - b) Charging for costs which have not been incurred or are not attributable to the award.
 - c) Charging for inflated labor costs or hours, or categories of labor which have not been incurred (for example, fictitious employees, contractors or consultants).
 - d) Falsifying information in grant applications or contract proposals.
 - e) Billing more than one federal award or contract for the same work.
 - f) Falsifying test results or other data.
 - g) Substituting approved materials with unauthorized products.
 - h) Misrepresenting a project's status to continue receiving government funds.
 - i) Charging higher rates than those stated or negotiated for in the bid or contract
 - j) Influencing government employees to award a grant or contract to a particular company, family member, or friend.
- G. Conflict of Interest. As required per 2 C.F.R. § 200.112, the non-federal entity must disclose in writing any potential conflict of interest to the federal awarding agency or pass-through entity if the effects of the potential or actual conflict of interest cannot be avoided, neutralized, or mitigated before award, in which the employee, officer or agent must recuse themselves or otherwise is not eligible to participate in the award. Where there is an organizational conflict, the prospective Recipient is not eligible for the award.
- H. Duplication of Benefits: HMA funds cannot duplicate funds received by or available to recipient or subrecipient from other sources for the same purpose. Examples of other sources include insurance claims, other assistance programs (including previous project or planning grants and subawards from HMA programs), legal awards, or other benefits associated with properties or damage that are subject of litigation. A detailed description is in HMA Guidance (2015), Part III. Eligibility information: D.5 Duplication of Benefits.
- I. The non-federal entity must submit, no later than 90 calendar days after the end date of the sub-award period of performance, all financial, performance, and other reports as required by the terms and conditions of the Federal award, unless the Federal awarding agency authorizes an extension. The closeout period is not part of the sub-award period of performance, costs incurred during this 90-day period are not allowed and will not be reimbursed.

IV. Programmatic Terms and Conditions

The recipient and subrecipient must:

- A. Comply with 44 C.F.R. pt. 206, subpart N, the *Hazard Mitigation Assistance Guidance* (2015), and all other applicable FEMA policies.
- B. Contribute a non-federal cost share of at least 10 percent of the total approved project cost.
- C. In accordance with the *Coset Effectiveness Determination for Non-Residential Hurricane Wind Retrofit Measures* funded by FEMA dated MAR 1, 2018.
 - a. All retrofitted structures in the scope of work will comply with all codes and requirements listed.
 - b. The scope of work is considered eligible under Option 1
 - c. Final mitigation costs must remain less than 10% of the building replacement value (BRV)

Disaster/Emergency/Program/Project Title:
DR-4580-CT p# 4-R HMGP Non-Residential Hurricane Wind Retrofit

Recipient: CT DESPP

FEMA Grants Management Specialist: Regina Zwinklis

Subrecipient: New Haven

V. Acknowledgements

Signature Recipient

Signature Subrecipient

Print Name and Title

Print Name and Title



MEMORANDUM

DATE: September 1, 2022

TO: Sidney J. Holbrook

FROM: Thomas Sgroi, PE
Director of Engineering

RE: Contract Award Recommendation
CJ Fucci Construction
Yale Campus / Trumbull Street Area Sewer Separation Project: Phase 2
New Haven

Sid:

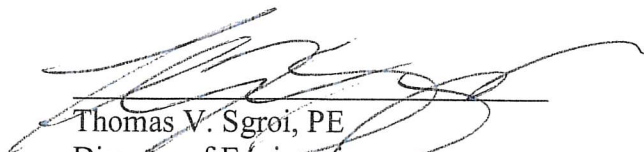
I request that the above-mentioned recommendation be added to the September 14, 2022 Board Meeting Agenda for resolution.

The purpose of this project is to separate and reduce CSO's to the Mill River by connecting new storm drainage to previous separation projects including the most recently completed separation performed by the Authority in 2012 and 2013. (Yale Campus / Trumbull Street Phase 1a and b. (see attached map for work area) The work consists of the installation of approximately 5,000 linear feet of storm drainage pipe ranging from 15" to 42" by open cut excavation including manholes, catch basins, and other appurtenances along with surface restoration. The contract duration is expected to be two years.

Contingent upon DEEP approval and verification of bid submission, I recommend approval of the low bidder, C.J. Fucci Construction, in the amount shown on the attached bid list summary **\$16,471,870** plus a 10% contingency **\$ 1,647,187** for a total amount of **\$ 18,119,057**.

The project is 100% DEEP Clean Water Fund (CWF) Eligible as follows:

- 50% DEP CWF Grant
- 50% DEP CWF 2% Loan (60% GNHWPCA Share, 40% City of New Haven Share)



Thomas V. Sgroi, PE
Director of Engineering

cc: Gabe Varca (e-copy)
Gary Zrelak (e-copy)
Mario Ricozzi (e-copy)
Luigi DiMonaco (e-copy)

[illegible]

CONSTRUCTION NOTIFICATION WORK IN YOUR NEIGHBORHOOD



PROJECT CWF 2012-04: YALE CAMPUS TRUMBULL STREET AREA SEWER SEPARATION PHASE 2

PROJECT AREA: NEW HAVEN - WARDS 7,9,21, AND 22

PROJECT OVERVIEW

As part of the implementation of the City of New Haven Long Term Control Plan, the second phase of the Yale Campus Trumbull Street Area Sewer Separation will include a combination of traditional gray infrastructure and green infrastructure. This will reduce the flow of stormwater into the combined sewer system, allowing for more flow to reach the treatment plant and will reduce overflows to the Mill River.

BENEFITS

- Reduction of CSO events to the Mill River from Regulator 011.

IMPACTS

- Daytime construction is anticipated with lane reductions and occasional roadway closures.
- Signs will be erected to maintain safety of residents and workers.
- Traffic will be guided by police and/or flagman as per City/State requirements.

TIMING AND COORDINATION

Construction Start: Spring 2023

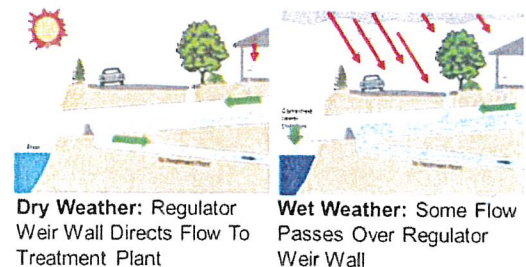
Duration: Construction is expected continue into 2025

Schedule: Mon-Fri from 7 AM to 6 PM. There may be limited Weekend or Night Work depending on final permitting requirements.

**Due to dynamics of construction schedule, weather and other factors, dates and times are subject to change.*

What Does A CSO Regulator Do?

Combined Sewer Overflow (CSO) Diagram



FOR MORE INFORMATION

Contact the Engineering Department
at: 203-466-5280

engineering@gnhwpc.com

or, visit the GNHWPCA website at
www.gnhwpc.com

Sewer Emergencies (24/7) Call: 203-466-5260

CWF 2012-04 YALE CAMPUS TRUMBULL STREET AREA SEWER SEPARATION PHASE 2
PROJECT WORK LOCATIONS

	Type of Work	Project Area Location (City of New Haven)	Schedule	Status	Wards
1	Storm Piping	Sachem St, Whitney Av, Bradley St, Lincoln St, & Pearl St	2023 to 2025	Construction	7 / 21 / 22
2	Infiltrating Basins and/or Bioswales	Orange St, Bradley St, Eld St, Clark St, Humphrey St, Winchester Av, Nash St, Mechanic St & Edwards St	2023 to 2025	Construction	7 / 9 / 21



Yale Campus Trumbull Street Area - Sewer Separation Phase 2

Proposed Pipeline Construction Area -

Proposed Green Infrastructure Area -



February 2020



Greater New Haven Water Pollution Control Authority

260 East Street New Haven, CT 06511
203.466.5280 p 203 772.1564 f www.gnhwpca.com

DATE: September 7, 2022
TO: Sidney J. Holbrook, Executive Director
FROM: Gary Zrelak, Director of Operations
RE: Task Order Recommendation
Brown and Caldwell
Fats, Oil and Grease (FOG) Receiving Improvements Detailed Design

Sid:

I request that the above-mentioned recommendation be added to the September 14, 2022 Board Meeting Agenda for resolution.

This request is to provide the Authority with professional services for improving the grease receiving and processing system at the East Shore Water Pollution Abatement Facility. This scope of work will be to provide bid documents for the construction of new in-ground tanks, screening equipment and heating equipment to allow for additional processing and storage of grease removed from the pump station wet wells as well as grease trap (FOG) deliveries. The scope will also include removal of an existing underground oil tank and construction of a new above ground tank.

I recommend approval of the attached Brown and Caldwell proposal dated August 15, 2022. The amount of these services shall not exceed Four Hundred Thousand Dollars (**400,000.00**).

This project is budgeted 100% from the Authority's Approved Capital Funds.

Gary Zrelak
Director of Operations

e-copy: Gabe Varca, Director of Finance & Administration
Lou Criscuolo, Deputy Director of Finance and Administration
Tom Sgroi, Director of Engineering
Joseph Megale, Deputy Director of Operations

August 15th, 2022



Detailed Design for Improving Fats Oil and Grease (FOG) Receiving SOW

Mr. Joseph Megale
Greater New Haven Water Pollution Control Authority
260 East Street
New Haven, CT 06512

Subject: Proposed Scope and Fee for detailed design for Improving Fats Oil and Grease (FOG) Receiving

Dear Mr. Megale:

In accordance with your request, Brown and Caldwell (BC or Consultant) is pleased to present this proposal for the design for improving fats, oil, and grease (FOG) receiving station at the East Shore Water Pollution Abatement Facility (ESWPAF).

Project Background

The Authority retained Brown and Caldwell (BC) to complete a conceptual design of a new FOG receiving station at the ESWPAF. The conceptual design consisted of a truck offloading connection to a FOG screening unit, heated holding tanks, and means of pumping decant and concentrated grease to the appropriate existing treatment processes. The conceptual design effort also included evaluation of three different alternatives which mainly consisted of different locations, utilizing above grade storage, existing below grade storage, or new below grade storage. The evaluation resulted in the recommendation of Alternative 3 - Existing FOG Receiving Station Replacement which involves the installation of a new above grade structure to hold the FOG screening unit and two 15,000-gallon buried storage tanks located in the existing grass area adjacent to the existing FOG receiving connection.

Following the recommendation of our evaluation, the Authority has decided to implement the new FOG receiving station at the ESWPAF.

This scope of services includes engineering design services to develop contract documents for the Authority to retain construction firms to build the proposed project.

The FOG receiving station includes the following project elements:

- Demolition of the existing 25,000 gal. fuel storage tank
- 6" Truck offloading connection
- Flo-Beast Screening system to remove debris from the grease as it is received
- Two buried 15,000-gallon capacity receiving tanks
- Storage tank heating system utilizing in-tank heat exchangers
- Pumping systems allowing for the transfer of the concentrated grease/water
- Hot water supply for the screening unit and heating the receiving tanks

- Connection to existing odor control infrastructure
- Selection of above grade fuel storage tank (10,000 gal. or similar) to supply the existing emergency diesel generators
- Development of details and specifications for the new above grade fuel storage tank
- Design of fuel transfer pumping system
- Design of fuel transfer piping to supply the existing generators

This scope of work includes the development of complete bid documents. Design documents will be provided to the Authority which include the completion of the tasks outlined below.

Phase 100 – Project and Design Management

The purpose of this task is to provide for the initiation and overall management of engineering activities. An overall schedule and work plan will be implemented so that work activities are completed in a properly integrated and timely manner. In addition, this task includes those elements necessary to properly manage, lead, and control the Project.

- A project kickoff conference call will be organized to discuss the project goals and objectives, scope of work, deliverables, schedule, critical success factors, and establish lines of communications with the project team.
- A project schedule showing preliminary dates for deliverables and anticipated dates for workshops, QC reviews, meetings, and submittals will be prepared and provided.
- Brown and Caldwell will share monthly status updates with Authority staff and provide information on the activities, information needs, schedule, and budget for the various tasks. The monthly status update will be included with the invoice.
- Conference calls will be scheduled as needed to resolve questions, obtain direction, and communicate with the Authority's staff.
- As part of the Project Management Plan for this project, Brown and Caldwell will develop and implement a quality assurance/quality control (QAQC) program. Senior reviewers will participate and perform internal QAQC review of work products for project deliverables and milestones. Issues identified during the formal internal QAQC review will be addressed prior to submittal to the Authority. Formal QAQC periods will be included in the project schedule and this project schedule will be revisited at all internal team meetings.

Phase 200 – Evaluations

BC will contract with a geotechnical subconsultant to conduct an additional boring in the vicinity of the proposed FOG receiving station and the proposed location for the new fuel storage tank and recommend the design of foundation/pile design below the FOG

receiving tanks/building footprint and fuel storage tank slab support pad. This work is proposed as an allowance (\$24,000).

Deliverables

- Geotechnical Report

Phase 300 – Design Document Packages

BC will prepare detailed design drawings, specifications, and contract documents for a preliminary design package for client review and a final design package for the purpose of public bidding including the following design items:

Phase 300A: FOG Receiving Station

Civil

- Development of site layout for the new receiving station structure (~25' x 36')
- Modification of grading and drainage directly surrounding the structure
- Modification of driveway grading to allow for gravity off-load of FOG trucks and vactor trucks (90' x 90' area)
- Associated yard piping
- Realignment of walkways from the adjacent Admin Building exit

Structural

- Structural design of the FOG receiving building and foundation
 - Includes eyelets above the FOG receiving tanks to assist in removal of equipment
- Structural design of the two 15,000-gallon buried storage tanks and foundation

Architectural

- Architectural design of the receiving building (block and brick construction)
- Evaluation of flood protection measures

Process Mechanical

- Design of the receiving process design includes receiving connection, selection of screening unit configuration and piping to the FOG receiving tanks
- Design of the FOG heating and transfer system, includes:
 - Final selection and sizing of submersible FOG transfer pumps.
 - Design of tank heating system utilizing submersible heat exchangers to raise temperature of tank contents within 8-hours.
 - Design of piping system with automated capability to send discharge from FOG receiving to the primary basins or to existing FOG storage tanks.
- Design of ductwork to connect the screening unit and receiving tanks to the plant's existing odor control system.

Building Mechanical

- Design of system to facilitate supply of hot water to the FOG receiving tank heating system utilizing a new boiler or the existing boilers.
- Design of hot water tank to supply spray water to the FOG screening unit
- Design of FOG receiving system building heating and ventilation

Electrical and I&C

- Design of electrical closet within the off-loading building to house VFDs, transformer and lighting panel
- Design of automated routing of water and concentrated grease from receiving tanks.
- Design of industry standard wet well and pump monitoring

Phase 300B: Fuel Storage Tank Relocation

- Demolition of the existing buried fuel storage tank with specified requirements for permitting and testing during construction.
- Selection of above grade storage tank (10,000 gal. or similar)
- Development of details and specifications for the new above grade fuel storage tank
- Design of transfer pumping system
- Design of transfer piping to supply the existing generators

Preparation of contract specifications including front end and standard technical specifications. Design specification will be prepared using BC standard and Construction Specification Institutes (CSI) 3-part, 50-Division Master Format edited to incorporate GNHWPCA standards for bidding and contracting purposes. A preliminary sheet list is attached to this scope.

Drawings will be prepared using Autodesk AutoCAD and Revit software.

BC will hold a review meeting following submission of the preliminary design package to discuss the design and address any question or comments from the Authority.

The Authority will provide consolidated written comments that will be reviewed at the monthly meeting following the receipt of the deliverable. A 10-day review period will be provided for the Authority for each design deliverable.

BC will prepare an estimate of probable project cost at the preliminary design stage. The estimate will be based on the AACE International Cost Estimate Classification System.

Deliverables

- Estimate of probable project cost with the submission of the preliminary design
- Preliminary design package
- Final design package/bid documents (up to 12 full-size printed copies of plans and specs)

Phase 400 – Bidding Support

BC to assist in obtaining bids and maintaining a record of prospective bidders to whom Bidding Documents have been issued and attend pre-bid conference

Issue addenda as appropriate to interpret, clarify or expand the Bidding Documents.

Consult with and advise Client as to the acceptability of subcontractors, suppliers and other persons and organizations proposed by the prime contractor(s) (herein called "Contractor(s)") for those portions of the work as to which such acceptability is required by the Bidding Documents.

Consult with Client to determine the acceptability of substitute materials and equipment proposed by Contractor(s) when substitution prior to the award of contracts is allowed by the Bidding Documents.

Attend the bid opening, prepare bid tabulation sheets and assist Client in evaluating bids or proposals and in assembling and awarding contracts for construction, materials, equipment and services.

Deliverables

- 100% Bid Documents
- Bid Tabulation
- Recommendation of Award Letter

Assumptions

- No fatal flaws are discovered related to the Alternative 3 concept during the detailed design effort outlined in the *FOG Receiving Concept Design TM* Dated July 29th, 2021.
- The Flo-beast screening unit remains the basis of design following pilot testing.
- The 25,000-gallon buried diesel storage tank is removed prior to construction and remediation/clean-up is not required.
- It is assumed breaching from the new boiler can be tied into the existing exhaust ductwork if design includes a new boiler.
- The FOG receiving station control/SCADA panels will be designed and supplied by owner.
- Additional survey work is not required.
- All permitting activities and required sampling related to the demolition of the existing fuel storage tank will be specified for the contractor to perform. Effort for permitting assistance is not included.
- BC standard specifications and bidding documents will be utilized.
- Performance based dewatering, sheeting or shoring specifications.
- 2D CAD design with 2D deliverables.

- Production of up to 12 full size paper copies of plans and specs

Compensation

BC will provide the base services included in this scope of work for a lump sum fee of \$400,000. Services will be invoiced monthly based on the percentage of the scope complete.

Cost Break Down by Task	
Task	Cost
Task 1 - Project Management/Delivery	\$24,500
Task 2 - Evaluations	\$24,000 (Allowance)
Task 3 - Detailed Design	\$331,500
Task 3A - Detailed Design -FOG Receiving Station	291,500
Civil	\$29,000
Structural	\$44,000
Architectural	\$30,000
Process Mechanical	\$50,000
HVAC	\$57,500
Electrical/I&C	\$81,000
Task 3B- Detailed Design - Fuel Storage Tank Relocation	\$40,000
Task 4 - Bidding Support	\$20,000
TOTAL	\$400,000

Schedule

The estimated time for completion is within 180 calendar days after notice to proceed.

Preliminary Drawing List

FOG Receiving Station Design

Drawing No.	Title
G-00-01	Cover Sheet, Location Plan
G-00-02	Abbreviations
G-00-03	General Notes and Symbols
G-00-04	Civil Notes
G-00-05	Structural Notes
G-00-06	Structural Continued
G-00-07	Process Mechanical Notes and Symbols
G-00-08	Process Mechanical Notes Continued
G-00-09	HVAC Notes
G-00-10	Electrical Notes and Symbols
G-00-11	I&C Notes and Symbols
G-00-12	Fuel Storage Tank Notes and Details
C-05-01	Existing Site Plan
C-05-02	Demolition and Erosion and Sedimentation Control
C-05-03	Site Restoration and Paving Plan
C-05-04	Grading and Drainage Plan
C-05-05	Proposed Site and Yard Piping Plan – North
C-05-05	Proposed Site and Yard Piping Plan – South
S-00-01	Structural Notes
S-00-02	Special Inspections
S-00-03	Typical Details Concrete
S-00-04	Typical Details Masonry
S-00-05	Typ Details – Misc
S-05-01	Fuel Storage Tank Foundation Plan and Sections
S-63-01	Pile Plan
S-63-02	Receiving Station Floor Plan and Roof Plan
S-63-03	Receiving Station Sections
S-63-04	Tank Base and Top Plans
S-63-05	Tank Sections
A-00-01	Code Analysis
A-00-02	Typical Details I
A-00-03	Door Details
A-63-04	Floor Plan and Roof Plan
A-63-05	Elevations
A-63-06	Sections
D-00-01	Typical Details I
D-00-02	Typical Details II
D-63-03	Receiving Station Plan
D-63-04	Receiving Station Sections
D-63-05	Tank Plan
D-63-06	Tank Sections
D-80-07	Admin Building Basement Demo
D-80-08	Admin Building Basement Plan
D-80-09	Admin Building Basement Sections

M-00-01	Typical Details I
M-00-02	HVAC Schematic
M-05-01	Fuel Pump and Sump Details
M-63-03	Receiving Station HVAC Plan
M-63-04	Storage Tank Heating Plan and Sections
M-80-05	Admin Building Basement HVAC Plan
E-00-01	Typical Details I
E-00-02	Typical Details II
E-00-03	Electrical One-line
E-00-04	Control One Line Diagram
E-00-05	Panel Schedule
E-63-05	Receiving Station Electrical Plan
E-80-06	Admin Building Basement Electrical Plan
I-00-01	Typical Details I
I-00-02	Network Architecture Diagram
I-00-03	FOG Screening P&ID
I-00-04	FOG Storage and Pumping P&ID