SCOPE OF WORK

Separation of Utilities

Building 74 and James J. Howard Marine Sciences Laboratory
Sandy Hook Gateway National Recreation Area
Highlands, Monmouth County, NJ

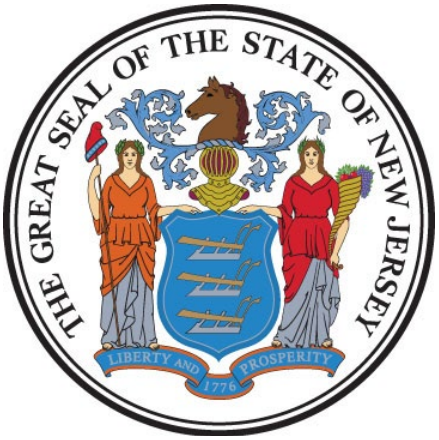
Project No. A1398-00

STATE OF NEW JERSEY

Honorable Philip D. Murphy, Governor
Honorable Tahesha L. Way, Lt. Governor

DEPARTMENT OF THE TREASURY

Elizabeth Maher Muoio, Treasurer



DIVISION OF PROPERTY MANAGEMENT AND CONSTRUCTION

Christopher Chianese, Director

Date: October 30, 2024

Document Format Revision 8-1-2022

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I. OBJECTIVE

The objective of this project is to separate utilities shared by the James J. Howard Marine Sciences Laboratory and Building 74 (Administration Building) at the Sandy Hook Gateway National Recreation Area. Systems to be separated or disconnected include electrical, cooling, HVAC temperature alarms, CCTV cameras and card access systems.

II. CONSULTANT QUALIFICATIONS

A. CONSULTANT & SUB-CONSULTANT PRE-QUALIFICATIONS

The Consultant shall be a firm pre-qualified with the Division of Property Management & Construction (DPMC) in the following discipline(s):

- **P002 Electrical Engineering**

The Consultant shall also have in-house capabilities or Sub-Consultants pre-qualified with DPMC in:

- **P003 HVAC Engineering**
- **P005 Civil Engineering**
- **P007 Structural Engineering**
- **P025 Estimating/Cost Analysis**
- **P031 Archaeology**

As well as, **any and all** other Architectural, Engineering and Specialty Disciplines necessary to complete the project as described in this Scope of Work (SOW).

III. PROJECT BUDGET

A. CONSTRUCTION COST ESTIMATE (CCE)

The initial Construction Cost Estimate (CCE) for this project is $850,000.

The Consultant shall review this Scope of Work and provide a narrative evaluation and analysis of the accuracy of the proposed project CCE in its technical proposal based on its professional experience and opinion.

B. CURRENT WORKING ESTIMATE (CWE)

The Current Working Estimate (CWE) for this project is $1,207,000.

The CWE includes the construction cost estimate and all consulting, permitting and administrative fees.

The CWE is the Client Agency's financial budget based on this project Scope of Work and shall not be exceeded during the design and construction phases of the project unless DPMC approves the change in Scope of Work through a Contract amendment.

C. CONSULTANT'S FEES

The construction cost estimate for this project ***shall not*** be used as a basis for the Consultant's design and construction administration fees. The Consultant's fees shall be based on the information contained in this Scope of Work document and the observations made and/or the additional information received during the pre-proposal meeting.

IV. PROJECT SCHEDULE

A. SCOPE OF WORK DESIGN & CONSTRUCTION SCHEDULE

The following schedule identifies the estimated design and construction phases for this project and the estimated durations. Italicized review times are intended to be consecutive.

PROJECT PHASE	ESTIMATED DURATION (Calendar Days)
1. Site Access Approvals & Schedule Design Kick-off Meeting	**14**
2. Design Development Phase	**60**
• *Project Team & DPMC Plan/Code Unit Review & Comment*	*21*
• *Meeting Among NJ, NPS, NOAA & Designer to Discuss Design*	*1*
Total:	**82**
3. Final Design Phase	**60**
• *Project Team & DPMC Plan/Code Unit Review & Approval*	*21*
Total:	**81**
4. Archaeological Resources Protection Act (ARPA Permit)	**90**
5. Final Design Re-Submission to Address Comments	**7**
• *Project Team & DPMC Plan/Code Unit Review & Approval*	*14*

- *NPS Sign-Off on Final Design* *14*

Total: **35**

6. DCA Submission Plan Review **30**

7. Permit Application Phase **7**

- *Issue Plan Release*

8. Bid Phase **42**

9. Award Phase **28**

10. Construction Phase **150**

11. Project Close Out Phase **30**

Total Project: **589**

B. CONSULTANT'S PROPOSED DESIGN & CONSTRUCTION SCHEDULE

The Consultant shall submit a project design and construction schedule with its technical proposal that is similar in format and detail to the schedule depicted in **Exhibit 'A'**. The schedule developed by the Consultant shall reflect its recommended project phases, phase activities, activity durations.

A written narrative shall also be included with the technical proposal explaining the schedule submitted and the reasons why and how it can be completed in the time frame proposed by the Consultant.

This schedule and narrative will be reviewed by the Consultant Selection Committee as part of the evaluation process and will be assigned a score commensurate with clarity and comprehensiveness of the submission.

V. PROJECT SITE LOCATION & TEAM MEMBERS

A. PROJECT SITE ADDRESS

The location of the project site is:

Building 74 and James J. Howard Marine Science Laboratory
74 Magruder Road
Highlands, New Jersey

See **Exhibit 'B'** for the project site location map.

B. PROJECT TEAM MEMBER DIRECTORY

The following are the names, addresses, and phone numbers of the Project Team members.

1. DPMC Representative:

Name: Youstina Mansy, Project Manager
Address: Division of Property Management & Construction
20 West State Street, 3rd Floor
Trenton, NJ 08608-1206
Phone No: (609) 633-2077
E-Mail: Youstina.Mansy@treas.nj.gov

2. State of New Jersey Representative:

Name: Mark Dae, Chief. Property Management
Address: Division Property Management & Construction
20 West State Street, 3rd Floor
Trenton, New Jersey 08625
Phone No: (609) 984-9711
E-Mail: Mark.Dae@treas.nj.gov

3. National Oceanic and Atmospheric Administration Representative:

Name: Brian Lavin, Facility Operations Branch Chief
Address: Northeast Fisheries Science Center
James J. Howard Marine Sciences Laboratory
74 Magruder Road
Highlands, New Jersey 07732
Phone No: (774) 349-1999
E-Mail: brian.lavin@noaa.gov

Name: Christian Schwenger
NMFS Facilities Portfolio Management and Project Manager
Address: Northeast Fisheries Science Center
James J. Howard Marine Sciences Laboratory
74 Magruder Road
Highlands, New Jersey 07732
Phone No: Cell: (202) 590-8454375-5270
E-Mail: christian.schwenger@noaa.gov

4. National Park Service Representative:

Name:	Karen Edelman, Supervisory Business Management Specialist
Address:	Gateway National Recreation Area 210 New York Avenue Staten Island, New York 10305
Phone No:	(732) 413-5779
E-Mail:	karen_edelman@nps.gov

VI. PROJECT DEFINITION

A. BACKGROUND

NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration (NOAA) within the Department of Commerce. They operate five regional offices, six science centers, and more than 20 laboratories around the United States and U.S. territories. One of those laboratories is the James J. Howard Marine Sciences Laboratory (Lab) located within the Sandy Hook Gateway National Recreation Area in Highlands, New Jersey. The Sandy Hook Gateway National Recreation Area is managed by the National Park Service (NPS).

In 1991, the State of New Jersey entered into a ground lease agreement with the National Park Service to construct and operate the Lab and offices located in the Administration Building (Building 74) across the street. The State then entered into a sublease agreement with NOAA to sublease office space in Building 74 and the Lab. Various utilities were shared between the two buildings.

This arrangement continued until 2023 when ownership of the Laboratory was transferred from the State of New Jersey to NOAA. NOAA vacated Building 74 and now desires to separate utilities shared with Building 74 which is still leased by the State from the NPS. NOAA has provided funding to the State to separate the cooling tower (located at the Lab) and electrical systems (electrical service for Building 74 is provided from the Lab) that are currently connected between the Lab and the Administration Building (Building 74). The State and NOAA have formally agreed to this in an amendment to the sublease agreement.

Ronald A. Sebring Associates, LLC and Schiller and Hersh Associates, Inc. performed a study of Building 74 and outlined general requirements for separation of Building 74 utilities from the Lab. The study goes above and beyond the separation requirements to satisfy the sublease

agreement with NOAA. The report entitled "Utility Separation and Emergency Generator Replacement Study" is shown in **Exhibit 'C'**.

The Study updates previous studies that will be provided to the Consultant for background. Previous studies included upgrades to architectural elements that will not be addressed in this project. This project is focused on cooling tower separation and electrical service separation along with other miscellaneous separation items and replacement of said services to address the needs of Building 74.

With limited exception, the separation and upgrade requirements for the Lab will be the responsibility of NOAA, such as the need for a fire pump. Some rebalancing of the Lab cooling systems will be included in this project, as needed, following cooling tower separation.

There are multiple utilities connecting the two buildings. The State of New Jersey is seeking to separate utilities between the two buildings as part of a plan to turn Building 74 back over to the National Park Service.

B. FUNCTIONAL DESCRIPTION OF THE BUILDINGS

The Lab was built in 1993, replacing a previous laboratory building that was destroyed by fire in the 1980's. Under State ownership, some utilities servicing the Lab were shared with the Administration Building (Building 74) located across the street. Building 74 is a historic building and the Lab and Building 74 are within a historic district.

The electric service into Building 74 is fed from the Lab. A new separate electrical service for Building 74 will be required. In addition, there is an emergency electrical panel in Building 74 that is connected to an emergency generator located at the Lab that provides power to both buildings. The Lab generator will be disconnected from Building 74 in this project.

There is a temporary generator located at Building 74 that provides back-up power to the fire pump in the basement. The fire pump serves the Lab and Building 74. The fire pump cannot be separated from the Lab until the Lab get its own fire pump, to be procured through a separate project by NOAA. As of this writing, NOAA is close to completing installation of a fire pump for the Lab and will disconnect piping coming from Building 74 on the Lab side. It is also expected that piping on the Building 74 side will be disconnected and capped in a separate project and is not part of this scope.

The temporary generator at Building 74 will continue to back up the fire pump for Building 74 until it can be replaced by a permanent generator that will also back up the Building 74 emergency panel. This consultant will be required to include a new emergency generator at Building 74 to provide backup power to the Building 74 fire pump, emergency lighting fixtures and exit signs.

The chiller located in Building 74 uses the cooling tower at the Lab. The Sebring study (**Exhibit 'C'**) recommended replacing the Building 74 chiller with an outdoor air-cooled chiller. However, the State will replace the cooling tower at the Lab with an in-kind cooling tower for Building 74. The new cooling tower will be located on an exterior raised platform, along with the new generator, to be constructed for the purpose of raising the equipment above the design flood elevation. The existing chiller will be disconnected and the remaining cooling tower at the Lab will require re-balancing, as needed, of the condenser water pumps and piping setup.

Other systems to be disconnected include HVAC temperature alarms that connect Building 74 to the Lab for monitoring purposes, a shared security camera system, and a shared card access system. NOAA will upgrade these systems for the Lab as necessary.

Since the site is historic, some archaeological investigation may be required during construction of the raised platform. This will be addressed though an allowance.

VII. CONSULTANT DESIGN RESPONSIBILITIES

A. DESIGN REQUIREMENTS

1. General:

The Consultant shall review the updated study by Ronald A. Sebring Associates, LLC entitled "Utility Separation and Emergency Generator Replacement Study" and "Updated Physical Condition Study" by Schiller and Hersh Associates, Inc. shown in **Exhibit 'C'** and provide design, specification, bid/award and construction administration services to separate utilities between the Administration Building (Building 74) and the James J. Howard Marine Sciences Laboratory. All work shall be coordinated with the National Park Service (Karen Edelman), the owners of the building and site.

2. Electric Service:

The Consultant shall provide the design for new electric service to Building 74. Coordination with the electric utility provider (Jersey Central Power and Light) and the National Park Service will be necessary as JCP&L may dictate construction specifications. Any shutdowns shall be coordinated with Lab staff (Brian Lavin).

3. New Generator:

The Consultant shall provide the design for a new diesel fueled generator, including the fuel tank, new ATS switch and associated equipment for Building 74 to back up the fire pump and life safety emergency panel. The generator at the Lab shall be disconnected from Building 74. Wiring to the Lab shall be disconnected and pulled out.

The new generator shall be elevated above the flood hazard elevation. The Consultant is responsible for determining the flood hazard elevation.

The existing temporary generator at Building 74 is a rental unit and will be picked up by the rental company when no longer needed.

4. Cooling System:

The cooling tower at the Lab shall be disconnected from Building 74. It shall be replaced by a new cooling tower and associated equipment located at Building 74. The condenser water pumps and cooling tower at the Lab shall be rebalanced to serve the Lab as needed.

5. Raised Platform:

The new generator and cooling tower are expected to be placed on a raised platform. The Consultant shall provide the design to construct the raised platform to place the equipment above the flood hazard elevation. The Consultant is responsible for determining the flood hazard elevation and conducting any geotechnical testing to design the foundation of the platform.

The new platform shall be located so that it does not face the parade ground and minimizes impacts on the cultural landscape.

6. Archaeological Allowance:

The Consultant shall estimate the cost to provide archaeological services, including applying for and procuring the Permit for Archeological Investigations per the Archaeological Resources Protection Act (ARPA Permit), and observation during construction of the raised platform and place that amount in its fee proposal line item entitled **"Archaeological Allowance"**.

Any funds remaining in the allowance will be returned to the State at the close of the project.

7. Floodplain Statement of Findings Allowance:

New construction may require a Floodplain Statement of Findings (FSOF) for NPS compliance with Executive Order 11988, "Floodplain Management" and Executive Order 13690,

"Establishing a Federal Flood Risk Management Standard and Process for Further Soliciting and Considering Stakeholder Input".

The FSOF describes the proposed project, project site, floodplain determination, use of floodplain, investigation of alternatives, flood risks, and mitigation for the continued use of facilities within the floodplain.

The Consultant shall estimate the cost to provide a Floodplain Statement of Findings and comply with Executive Order 11988 and Executive Order 13690 and place that amount in its fee proposal line item entitled **"Floodplain Statement of Findings Allowance"**.

Any funds remaining in the allowance will be returned to the State at the close of the project.

8. HVAC Temperature Alarms:

The HVAC temperature alarms feeds from Building 74 to the Lab are no longer required and shall be disconnected.

9. CCTV Cameras:

The Building 74 CCTV camera system shall be disconnected from the Lab.

10. Card Access System:

The Building 74 card access system shall be removed and disconnected or re-programmed out from the Lab.

11. Prior Approvals:

The Consultant shall work with the National Park Service to obtain National Historic Preservation Act Section 106 Compliance sign off since Building 74 is a historic building and both the JJH Lab and Building 74 are within a National Historic Landmark District.

The Consultant shall be responsible for obtaining any other approvals that may be required, including but not limited to, Coastal Area Facilities Review Act (CAFRA).

12. Utility Markouts:

The 811/One Call system shall be used for marking out utilities prior to construction. However, the contract may need to hire a separate company to perform mark outs in the area.

The National Park Service (NPS) will supply maps for water, sewer and fiber lines.

Any damage caused by excavation will be the contractors' responsibility to repair under NPS supervision.

14. Removal of Debris:

Any equipment or debris not otherwise designated by the National Park Service for retention will be removed and properly disposed of outside the park by the contractor.

15. Notice to Proceed:

No construction shall commence until issuance of a Notice to Proceed from the National Park Service.

B. DESIGN MEETINGS & PRESENTATIONS

1. Design Meetings:

Conduct the appropriate number of review meetings with the Project Team members during each design phase of the project so they may determine if the project meets their requirements, question any aspect of the contract deliverables, and make changes where appropriate. The Consultant shall describe the philosophy and process used in the development of the design criteria and the various alternatives considered to meet the project objectives. Selected studies, sketches, cost estimates, schedules, and other relevant information shall be presented to support the design solutions proposed. Special considerations shall also be addressed such as: Contractor site access limitations, utility shutdowns and switchover coordination, phased construction and schedule requirements, security restrictions, available swing space, material and equipment delivery dates, etc.

It shall also be the responsibility of the Consultant to arrange and require all critical Sub-Consultants to be in attendance at the design review meetings.

Record the minutes of each design meeting and distribute within three (3) calendar days to all attendees and those persons specified to be on the distribution list by the Project Manager.

2. Design Presentations:

The minimum number of design presentations required for each phase of this project is identified below for reference:

Design Development Phase: One (1) oral presentation at phase completion.

Final Design Phase: One (1) oral presentation at phase completion.

C. EXISTING DOCUMENTATION

Copies of the following documents will be provided to each Consulting firm at the pre-proposal meeting to assist in the bidding process.

- DPMC Project A1105-00: **Process Boiler Replacement**, As-Built 6/21/2011, M&E Engineers, Inc.
- DBC Project P583: **Lab Building**, 25 September 1989, Beyer Blinder Belle Architects & Planners
- DBC Project P583: **Utility & Drainage Plan**, 1/13/1989, Paulus Sokolowski and Sartor Consulting Engineers
- Physical Condition Study Office Building #74, November 2, 2021, Ronald A. Sebring Associates, LLC

Review these documents and any additional information that may be provided at a later date such as reports, studies, surveys, equipment manuals, as-built drawings, etc. The State does not attest to the accuracy of the information provided and accepts no responsibility for the consequences of errors by the use of any information and material contained in the documentation provided. It shall be the responsibility of the Consultant to verify the contents and assume full responsibility for any determination or conclusion drawn from the material used. If the information provided is insufficient, the Consultant shall take the appropriate actions necessary to obtain the additional information required.

All original documentation shall be returned to the provider at the completion of the project.

VIII. PERMITS & APPROVALS

A. NJ UNIFORM CONSTRUCTION CODE PLAN REVIEW AND PERMIT

Note: The project will be reviewed by the National Park Service subject to the following codes and standards:

2024 International Building Code and 2023 NFPA 70 (NEC), per National Park Service requirement, including the 2024 ICC Codes.

The more stringent requirement will be applied in the event there is a conflict between the 2024 IBC and the NJ UCC requirements.

The project construction documents must comply with the latest adopted edition of the NJ Uniform Construction Code (NJUCC).

The latest NJUCC Adopted Codes and Standards can be found at:

http://www.state.nj.us/dca/divisions/codes/codreg/

1. NJ Uniform Construction Code (NJUCC) Plan Review

Consultant shall estimate the cost of the NJUCC Plan Review by DCA and include that amount in their fee proposal line item entitled **"Plan Review and Permit Fee Allowance"**, refer to paragraph XI.A.

Upon approval of the Final Design Phase Submission by DPMC, the Consultant shall submit the construction documents to the Department of Community Affairs (DCA), Bureau of Construction Project Review to secure a complete plan release.

As of July 25, 2022, the Department of Community Affairs (DCA) is only accepting digital signatures and seals issued from a third party certificate authority. The DCA ePlans site can be found at:

https://www.nj.gov/dca/divisions/codes/offices/ePlans.html

Procedures for submission to the DCA Plan Review Unit can be found at:

https://www.state.nj.us/dca/divisions/codes/forms/pdf_bcpr/pr_app_guide.pdf

Consultant shall complete the "Project Review Application" and include the following on Block 5 as the "Owner's Designated Agent Name":

Trevor M. Dittmar, DPMC
PO Box 235
Trenton, NJ 08625-0235
Trevor.Dittmar@treas.nj.gov 609-984-5529

The Consultant shall complete the NJUCC "Plan Review Fee Schedule", determine the fee due and pay the NJUCC Plan Review fees, refer to Paragraph X.A.
The NJUCC "Plan Review Fee Schedule" can be found at:

http://www.state.nj.us/dca/divisions/codes/forms/pdf_bcpr/pr_fees.pdf

2. NJ Uniform Construction Code Permit

Upon receipt of a complete plan release from the DCA Bureau of Construction Project Review, the Consultant shall complete the NJUCC permit application and all applicable technical sub-code sections. The "Agent Section" of the application and certification section of the building

sub-code section shall be signed. These documents, with **six (6) sets of DCA approved, signed and sealed construction documents** shall be forwarded to the DPMC Project Manager.

The Consultant may obtain copies of all NJUCC permit applications at the following website:

http://www.state.nj.us/dca/divisions/codes/forms/

All other required project permits shall be obtained and paid for by the Consultant in accordance with the procedures described in Paragraph VIII.B.

3. Prior Approval Certification Letters:

The issuance of a construction permit for this project may be contingent upon acquiring various "prior approvals" as defined by N.J.A.C. 5:23-1.4. It is the Consultant's responsibility to determine which prior approvals, if any, are required. The Consultant shall submit a general certification letter to the DPMC Plan & Code Review Unit Manager during the Permit Phase of this project that certifies all required prior approvals have been obtained.

In addition to the general certification letter discussed above, the following specific prior approval certification letters, where applicable, shall be submitted by the Consultant to the DPMC Plan & Code Review Unit Manager: Soil Erosion & Sediment Control, Water & Sewer Treatment Works Approval, Coastal Areas Facilities Review, Compliance of Underground Storage Tank Systems with N.J.A.C. 7:14B, Pinelands Commission, Highlands Council, Well Construction and Maintenance; Sealing of Abandoned Wells with N.J.A.C. 7:9D, Certification that all utilities have been disconnected from structures to be demolished, Board of Health Approval for Potable Water Wells, Health Department Approval for Septic Systems. It shall be noted that in accordance with N.J.A.C. 5:23-2.15(a)5, a permit cannot be issued until the letter(s) of certification is received.

4. Multi-building or Multi-site Permits:

A project that involves many buildings and/or sites requires that a separate permit shall be issued for each building or site. The Consultant must determine the construction cost estimate for *each* building and/or site location and submit that amount where indicated on the permit application.

5. Special Inspections:

In accordance with the requirements of the New Jersey Uniform Construction Code N.J.A.C. 5:23-2.20(b), Bulletin 03-5 and Chapter 17 of the International Building Code, the Consultant shall be responsible for the coordination of all special inspections during the construction phase of the project.

Bulletin 03-5 can be found at:

http://www.state.nj.us/dca/divisions/codes/publications/pdf_bulletins/b_03_5.pdf

a. Definition:

Special inspections are defined as an independent verification by a certified Special Inspector for **Class I buildings and smoke control systems in any class building**. The special inspector is to be independent from the Contractor and responsible to the Consultant so that there is no possible conflict of interest.

Special inspectors shall be certified in accordance with the requirements in the New Jersey Uniform Construction Code.

b. Responsibilities:

The Consultant shall submit with the permit application, a list of special inspections and the agencies or special inspectors that will be responsible to carry out the inspections required for the project. The list shall be a separate document, on letter head, signed and sealed.

B. OTHER REGULATORY AGENCY PERMITS, CERTIFICATES AND APPROVALS

The Consultant shall identify and obtain all other State or Federal Regulatory Agency permits, certificates, and approvals that will govern and affect the work described in this Scope of Work. An itemized list of these permits, certificates, and approvals shall be included with the Consultant's Technical Proposal and the total amount of the application fees should be entered in the Fee Proposal line item entitled, **"Plan Review and Permit Fee Allowance."** Such review must be undertaken in accordance with The National Environmental Policy Act of 1969 (NEPA), 42 U.S.C. §§ 4321 et seq.

The Consultant may refer to the Division of Property Management and Construction "Procedures for Architects and Engineers Manual", Paragraph "**9. REGULATORY AGENCY APPROVALS"** which presents a compendium of State permits, certificates, and approvals that may be required for this project.

The Consultant shall determine the appropriate phase of the project to submit the permit application(s) in order to meet the approved project milestone dates.

Where reference to an established industry standard is made, it shall be understood to mean the most recent edition of the standard unless otherwise noted. If an industry standard is found to be revoked, or should the standard have undergone substantial change or revision from the time that the Scope of Work was developed, the Consultant shall comply with the most recent edition of the standard.

IX. ALLOWANCES

A. PLAN REVIEW AND PERMIT FEE ALLOWANCE

The Consultant shall obtain and pay for all of the project permits in accordance with the guidelines identified below.

1. Permits:

The Consultant shall determine the various permits, certificates, and approvals required to complete this project.

2. Permit Costs:

The Consultant shall estimate the application fee costs for all of the required project permits, certificates, and approvals (excluding the NJ Uniform Construction Code permit) and include that amount in its fee proposal line item entitled **"Plan Review and Permit Fee Allowance"**, refer to Paragraph IX.A. A breakdown of each permit and application fee shall be attached to the fee proposal for reference.

NOTE: The NJ Uniform Construction Code permit is excluded since it will be paid for by the State.

3. Applications:

The Consultant shall complete and submit all permit applications to the appropriate permitting authorities and the costs shall be paid from the Consultant's permit fee allowance. A copy of the application(s) and the original permit(s) obtained by the Consultant shall be given to the DPMC Project Manager for distribution during construction.

4. Consultant Fee:

The Consultant shall determine what is required to complete and submit the permit applications, obtain supporting documentation, attend meetings, etc., and include the total cost in the base bid of its fee proposal under the "Permit Phase" column.

Any funds remaining in the permit allowance will be returned to the State at the close of the project.

B. ARCHAEOLOGICAL ALLOWANCE

The Consultant shall estimate the cost to provide archaeological services, including investigation and observation during construction of the raised platform and place that amount in its fee proposal line item entitled **"Archaeological Allowance"**.

Any funds remaining in the allowance will be returned to the State at the close of the project.

C. FLOODPLAIN STATEMENT OF FINDINGS ALLOWANCE

The Consultant shall estimate the cost to provide a Floodplain Statement of Findings and comply with Executive Order 11988 and Executive Order 13690 and place that amount in its fee proposal line item entitled **"Floodplain Statement of Findings Allowance"**.

Any funds remaining in the allowance will be returned to the State at the close of the project.

X. SOW SIGNATURE APPROVAL SHEET

This Scope of Work shall not be considered a valid document unless all signatures appear in each designated area below.

The Client Agency approval signature on this page indicates that they have reviewed the design criteria and construction schedule described in this project Scope of Work (including the subsequent contract deliverables and exhibits) and verifies that the work will not conflict with the existing or future construction activities of other projects at the site.

SOW PREPARED BY: James Wright 10/30/2024
JAMES WRIGHT, MANAGER DATE
DPMC PROJECT PLANNING & INITIATION

SOW APPROVED BY: Mark Dae 10/31/2024
MARK DAE, CHIEF, BLDG MGMT. & OPERATIONS DATE
DIV PROPERTY MGT & CONSTRUCTION

SOW APPROVED BY: Youstina Mansy 11/1/2024
YOUSTINA MANSY, PROJECT MANAGER DATE
DPMC PROJECT MANAGEMENT GROUP

SOW APPROVED BY: Conditionally approved provided that no additional financial obligations are due by NOAA. LAVIN.BRIAN.GEORGE.14100232341 Digitally signed by LAVIN.BRIAN.GEORGE.14100232341 Date: 2024.11.08 16:29:14 -05'00'
BRIAN LAVIN, FAC. OPERATIONS BRANCH CHIEF DATE
JAMES J. HOWARD MARINE SCIENCES LABORATORY

SOW APPROVED BY: EMINA SENDICH Digitally signed by EMINA SENDICH Date: 2025.03.03 18:31:01 -05'00'
KAREN EDELMAN, SUPV. BUS. MGMT. SPECIALIST DATE
GATEWAY NATIONAL RECREATION AREA

SOW APPROVED BY: Jeanette M Barnard 4.15.25
JEANETTE BARNARD, DEPUTY DIRECTOR DATE
DIV PROPERTY MGT & CONSTRUCTION

XI. CONTRACT DELIVERABLES

The following are checklists listing the Contract Deliverables that are required at the completion of each phase of this project. The Consultant shall refer to the DPMC publication entitled "Procedures for Architects and Engineers," 3.0 Edition, dated September 2022 available at https://www.nj.gov/treasury/dpmc/Assets/Files/ProceduresforArchitectsandEngineers.pdf for a detailed description of the deliverables required for each submission item listed. References to the applicable paragraphs of the "Procedures for Architects and Engineers" are provided.

Note that the Deliverables Checklist may include submission items that are "S.O.W. Specific Requirements". These requirements will be defined in the project specific scope of work and included on the deliverables checklist.

This project includes the following phases with the deliverables noted as "Required by S.O.W" on the Deliverables Checklist:

- **DESIGN DEVELOPMENT PHASE**
- **FINAL DESIGN PHASE**
- **PERMIT APPLICATION PHASE**
- **BIDDING AND CONTRACT AWARD**
- **CONSTRUCTION PHASE**
- **PROJECT CLOSE-OUT PHASE**

XII. EXHIBITS

A. SAMPLE PROJECT SCHEDULE FORMAT
B. PROJECT SITE LOCATION MAP
C. SEBRING/SCHILLER AND HERSH STUDY
D. PHOTOS

END OF SCOPE OF WORK

DPMC Project No.: A1398-00

Deliverables Checklist
Design Development Phase

A/E Name: _____

A/E Manual Reference	Submission Item	Required by S.O.W.		Previously Submitted		Enclosed	
		Yes	No	Yes	No	Yes	No
14.4.1.	A/E Statement of Site Visit						
14.4.2.	Narrative Description of Project						
14.4.3.	Building Code Information Questionnaire						
14.4.4.	Space Analysis						
14.4.5.	Special Features						
14.4.6.	Catalog Cuts						
14.4.7.	Site Evaluation						
14.4.8.	Subsurface Investigation						
14.4.9.	Surveys						
14.4.10.	Arts Inclusion						
14.4.11.	Design Rendering						
14.4.12.	Regulatory Approvals						
14.4.13.	Utility Availability						
14.4.14.	Drawings (6 Sets)						
14.4.15.	Outline Specifications (6 Sets)						
14.4.16.	Current Working Estimate/Cost Analysis						
14.4.17.	Project Schedule						
14.4.18.	Formal Presentation						
14.4.19.	Plan Review/Scope of Work Compliance Statement						
14.4.20.	Design development Phase Deliverables Checklist						
S.O.W. Reference	**S.O.W. Specific Requirements**						

This checklist shall be completed by the Design Consultant and included as the cover sheet of this submission to document to the DPMC the status of all the deliverables required by the project specific Scope of Work.

_____ _____

Consultant Signature Date

DPMC Project No.: A1398-00

Deliverables Checklist
Final Design Phase

A/E Name: _____

A/E Manual Reference	Submission Item	Required by S.O.W.		Previously Submitted		Enclosed	
		Yes	No	Yes	No	Yes	No
15.4.1.	A/E Statement of Site Visit						
15.4.2.	Narrative Description of Project						
15.4.3.	Building Code Information Questionnaire						
15.4.4.	Space Analysis						
15.4.5.	Special Features						
15.4.6.	Catalog Cuts						
15.4.7.	Site Evaluation						
15.4.8.	Subsurface Investigation						
15.4.9.	Surveys						
15.4.10.	Arts Inclusion						
15.4.11.	Design Rendering						
15.4.12.	Regulatory Approvals						
15.4.13.	Utility Availability						
15.4.14.	Drawings (6 Sets)						
15.4.15.	Outline Specifications (6 Sets)						
15.4.16.	Current Working Estimate/Cost Analysis						
15.4.17.	Project Schedule						
15.4.18.	Formal Presentation						
15.4.19.	Plan Review/Scope of Work Compliance Statement						
15.4.20.	Final Design Phase Deliverables Checklist						
S.O.W. Reference	**S.O.W. Specific Requirements**						

This checklist shall be completed by the Design Consultant and included as the cover sheet of this submission to document to the DPMC the status of all the deliverables required by the project specific Scope of Work.

_____ _____

Consultant Signature Date

DPMC Project No.: A1398-00

Deliverables Checklist
Permit Application Phase

A/E Name: _____

A/E Manual Reference	Submission Item	Required by S.O.W.		Previously Submitted		Enclosed	
		Yes	No	Yes	No	Yes	No
16.1.	N.J. UCC Permit Application						
16.4.	Drawings, Signed and Sealed (6 Sets)						
16.5.	Specifications, Signed and Sealed (6 Sets)						
16.6.	Current Working Estimate/Cost Analysis						
16.7.	Project Schedule						
16.8.	Plan Review/Scope of Work Compliance Statement						
16.9.	Permit Application Phase Deliverables Checklist						
S.O.W. Reference	**S.O.W. Specific Requirements**						

This checklist shall be completed by the Design Consultant and included as the cover sheet of this submission to document to the DPMC Project Manager the status of all the deliverables required by the project specific Scope of Work.

_____ _____

Consultant Signature Date

DPMC Project No.: A1398-00

Deliverables Checklist
Bidding and Contract Award Phase

A/E Name: _____

A/E Manual Reference	Submission Item	Required by S.O.W.		Previously Submitted		Enclosed	
		Yes	No	Yes	No	Yes	No
17.1.1.	Notice of Advertising						
17.1.2.	Bid Proposal Form						
17.1.3.	Bid Clearance Form						
17.1.4.	Drawings (6 Sets)						
17.1.5.	Specifications (6 Sets)						
17.1.6.	Construction Schedule						
17.3	Pre-Bid Conference/Mandatory Site Visit						
17.3.1.	Meeting Minutes						
17.4	Bulletins						
17.5	Post Bid Meeting						
17.6.	Contract Award "Letter of Recommendation"						
17.8.	Bid Protests - Hearings						
17.9.	Bidding and Contract Award Phase Deliverables Checklist						
S.O.W. Reference	**S.O.W. Specific Requirements**						

This checklist shall be completed by the Design Consultant and included as the cover sheet of this submission to document to the DPMC the status of all the deliverables required by the project specific Scope of Work.

_____ _____

Consultant Signature Date

DPMC Project No.: A1398-00

Deliverables Checklist
Construction Phase

A/E Name: _____

A/E Manual Reference	Submission Item	Required by S.O.W.		Previously Submitted		Enclosed	
		Yes	No	Yes	No	Yes	No
18.2.	Pre-Construction Meeting						
18.3.	Submittal Log						
18.4.	Construction Schedule						
18.5.	Project Progress Meetings						
18.7.	Contractor's Invoicing and Payment Process						
18.8.	Contractor Submittals						
18.10.	Testing						
18.11.	Shop Drawings (6 Sets)						
18.12.	As-Built & Record Set Drawings (6 Sets)						
18.13.	Change Orders						
18.14.	Construction Photographs						
18.15.	Field Observations						
18.17.	Construction Phase Deliverables Checklist						
S.O.W. Reference	**S.O.W. Specific Requirements**						

This checklist shall be completed by the Design Consultant and included as the cover sheet of this submission to document to the DPMC the status of all the deliverables required by the project specific Scope of Work.

_____ _____

Consultant Signature Date

DPMC Project No.: A1398-00

Deliverables Checklist
Project Close-Out Phase

A/E Name: _____

A/E Manual Reference	Submission Item	Required by S.O.W.		Previously Submitted		Enclosed	
		Yes	No	Yes	No	Yes	No
19.3.	Development of Punch List and Inspection Reports						
19.5.	Determination of Substantial Completion						
19.6.	Correction/Completion of Punch List						
19.7.	Submission of Close-Out Documentation						
19.7.1.	As-Built and Record Sets of Drawing (6 Sets)						
19.8.	Final Payment						
19.9.1.	Contractors Final Payment						
19.9.2.	A/E's Final Payment						
19.10.	Project Close-Out Phase Deliverables Checklist						
S.O.W. Reference	**S.O.W. Specific Requirements**						

This checklist shall be completed by the Design Consultant and included as the cover sheet of this submission to document to the DPMC the status of all the deliverables required by the project specific Scope of Work.

_____ _____

Consultant Signature Date

February 7, 1997
Rev.: January 29, 2002

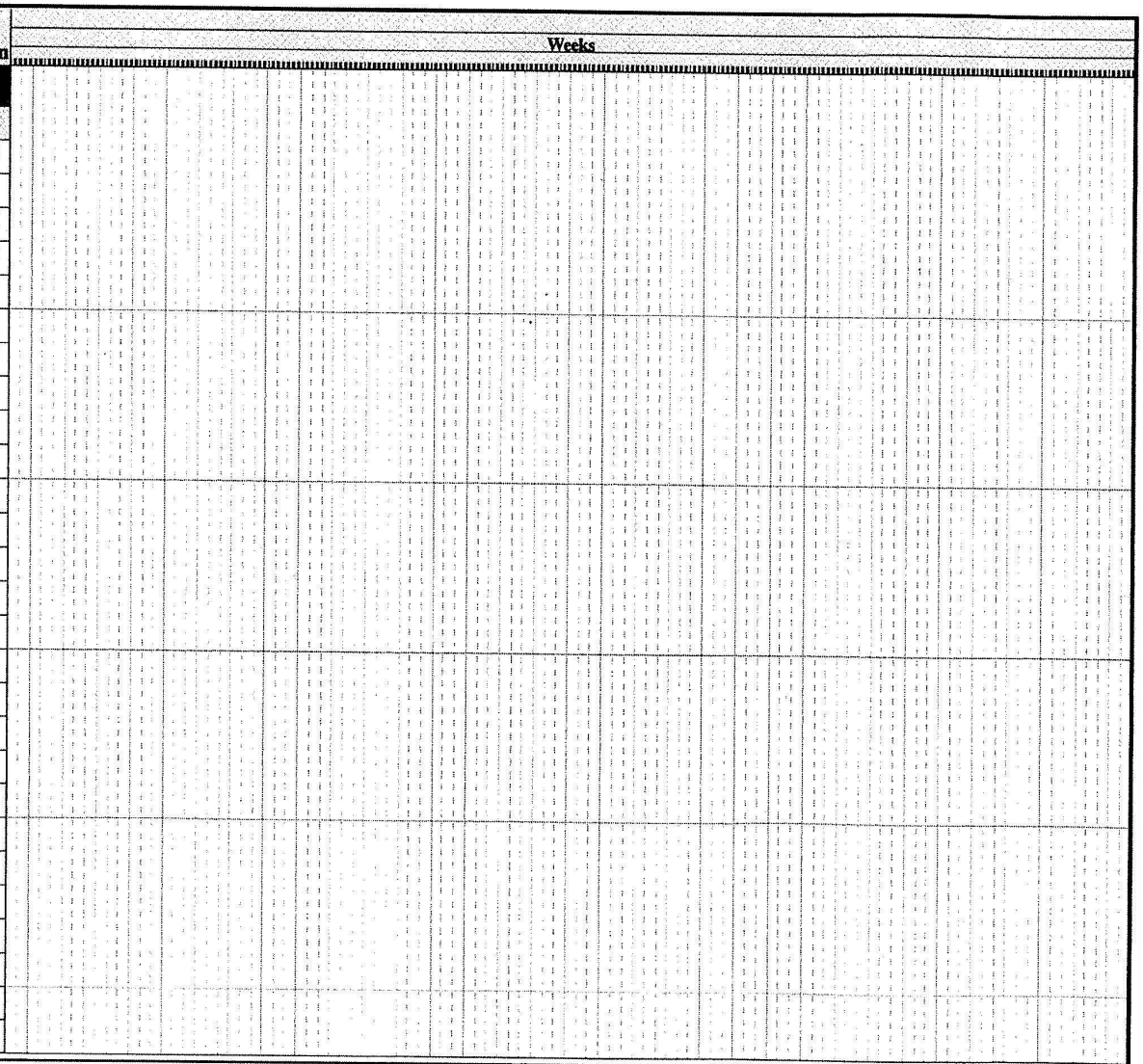
Responsible Group Code Table

The codes below are used in the schedule field "GRP" that identifies the group responsible for the activity. The table consists of groups in the Division of Property Management & Construction (DPMC), as well as groups outside of the DPMC that have responsibility for specific activities on a project that could delay the project if not completed in the time specified. For reporting purposes, the groups within the DPMC have been defined to the supervisory level of management (i.e., third level of management, the level below the Associate Director) to identify the "functional group" responsible for the activity.

CODE	DESCRIPTION	REPORTS TO ASSOCIATE DIRECTOR OF:
CM	Contract Management Group	Contract Management
CA	Client Agency	N/A
CSP	Consultant Selection and Prequalification Group	Technical Services
A/E	Architect/Engineer	N/A
PR	Plan Review Group	Technical Services
CP	Construction Procurement	Planning & Administration
CON	Construction Contractor	N/A
FM	Financial Management Group	Planning & Administration
OEU	Office of Energy and Utility Management	N/A
PD	Project Development Group	Planning & Administration

EXHIBIT 'A'

Activity ID	Description	Rspn
<PROJ>		
Design		
CV3001	Schedule/Conduct Predesign/Project Kick-Off Mtg.	CM
CV3020	Prepare Program Phase Submittal	AE
CV3021	Distribute Program Submittal for Review	CM
CV3027	Prepare & Submit Project Cost Analysis (DPMC-38)	CM
CV3022	Review & Approve Program Submittal	CA
CV3023	Review & Approve Program Submittal	PR
CV3024	Review & Approve Program Submittal	CM
CV3025	Consolidate & Return Program Submittal Comments	CM
CV3030	Prepare Schematic Phase Submittal	AE
CV3031	Distribute Schematic Submittal for Review	CM
CV3037	Prepare & Submit Project Cost Analysis (DPMC-38)	CM
CV3032	Review & Approve Schematic Submittal	CA
CV3033	Review & Approve Schematic Submittal	PR
CV3034	Review & Approve Schematic Submittal	CM
CV3035	Consolidate & Return Schematic Submittal Comment	CM
CV3040	Prepare Design Development Phase Submittal	AE
CV3041	Distribute D. D. Submittal for Review	CM
CV3047	Prepare & Submit Project Cost Analysis (DPMC-38)	CM
CV3042	Review & Approve Design Development Submittal	CA
CV3043	Review & Approve Design Development Submittal	PR
CV3044	Review & Approve Design Development Submittal	CM
CV3045	Consolidate & Return D.D. Submittal Comments	CM
CV3050	Prepare Final Design Phase Submittal	AE
CV3051	Distribute Final Design Submittal for Review	CM
CV3052	Review & Approve Final Design Submittal	CA
CV3053	Review & Approve Final Design Submittal	PR
CV3054	Review Final Design Submitl for Constructability	OCS



NOTE:
Refer to section "IV Project Schedule" of the Scope of Work for contract phase durations.

DBCA - TEST

Sheet 1 of 3

Bureau of Design & Construction Services

EXHIBIT 'A'

Activity ID	Description	Rspn	Weeks
CV3055	Review & Approve Final Design Submittal	CM	
CV3056	Consolidate & Return Final Design Comments	CM	
CV3060	Prepare & Submit Permit Application Documents	AE	
CV3068	Prepare & Submit Bidding Cost Analysis (DPMC-38)	CM	
Plan Review-Permit Acquisition			
CV4001	Review Constr. Documents & Secure UCC Permit	PR	
CV4010	Provide Funding for Construction Contracts	CA	
CV4020	Secure Bid Clearance	CM	
Advertise-Bid-Award			
CV5001	Advertise Project & Bid Construction Contracts	CP	
CV5010	Open Construction Bids	CP	
CV5011	Evaluate Bids & Prep. Recommendation for Award	CM	
CV5012	Evaluate Bids & Prep. Recommendation for Award	AE	
CV5014	Complete Recommendation for Award	CP	
CV5020	Award Construction Contracts/Issue NTP	CP	
Construction			
CV6000	Project Construction Start/Issue NTP	CM	
CV6001	Contract Start/Contract Work (25%) Complete	CON	
CV6002	Preconstruction Meeting	CM	
CV6003	Begin Preconstruction Submittals	CON	
CV6004	Longest Lead Procurement Item Ordered	CON	
CV6005	Lead Time for Longest Lead Procurement Item	CON	
CV6006	Prepare & Submit Shop Drawings	CON	
CV6007	Complete Construction Submittals	CON	
CV6011	Roughing Work Start	CON	
CV6012	Perform Roughing Work	CON	
CV6010	Contract Work (50%+) Complete	CON	
CV6013	Longest Lead Procurement Item Delivered	CON	
CV6020	Contract Work (75%) Complete	CON	

NOTE:
Refer to section "IV Project Schedule" of the Scope of Work for contract phase durations.

Bureau of Design & Construction Services

EXHIBIT 'A'

Activity ID	Description	Rspn	Weeks
CV6014	Roughing Work Complete	CON	
CV6021	Interior Finishes Start	CON	
CV6022	Install Interior Finishes	CON	
CV6030	Contract Work to Substantial Completion	CON	
CV6031	Substantial Completion Declared	CM	
CV6075	Complete Deferred Punch List/Seasonal Activities	CON	
CV6079	Project Construction Complete	CM	
CV6080	Close Out Construction Contracts	CM	
CV6089	Construction Contracts Complete	CM	
CV6090	Close Out A/E Contract	CM	
CV6092	Project Completion Declared	CM	

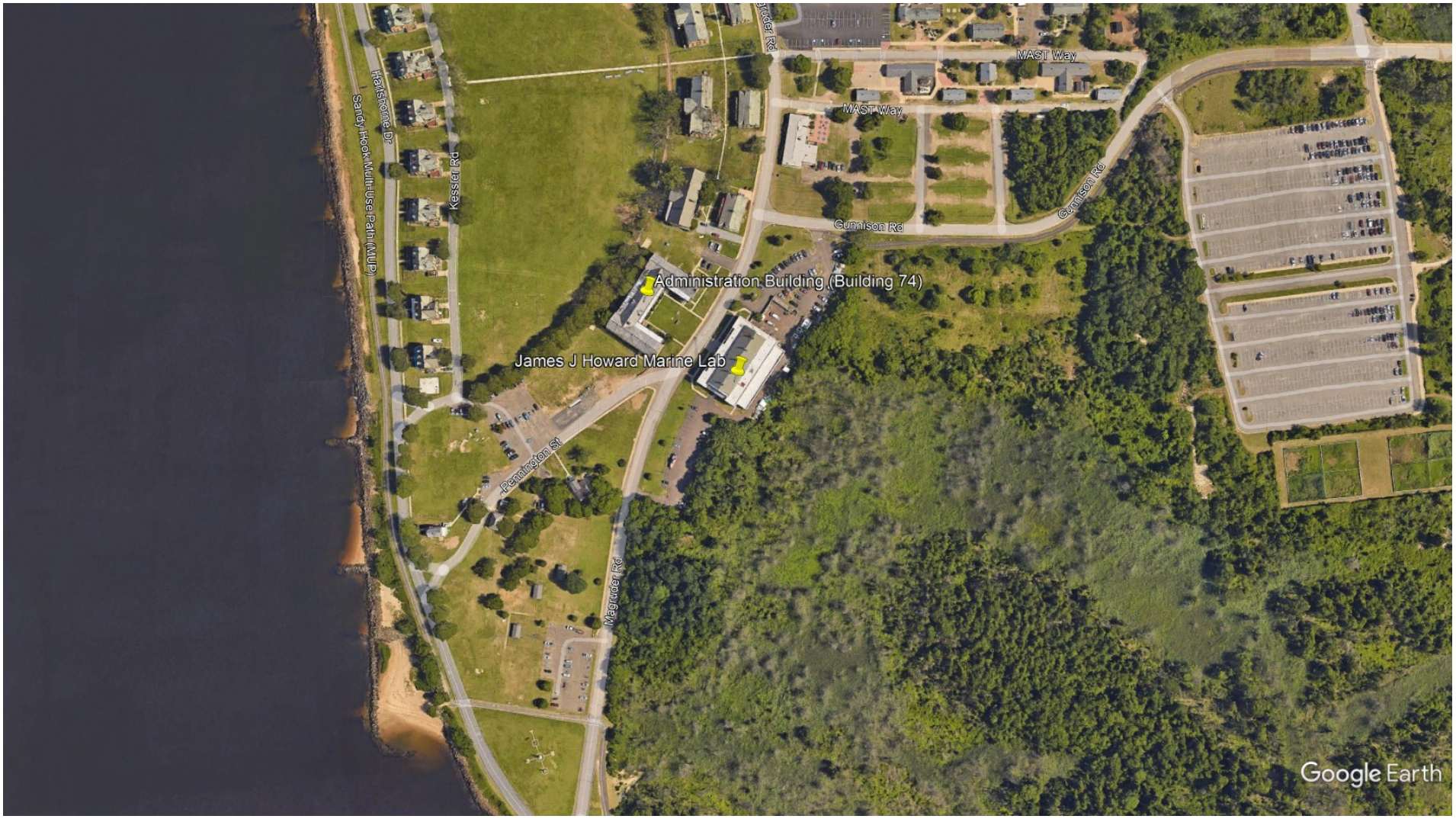
NOTE:
Refer to section "IV Project Schedule" of the Scope of Work for contract phase durations.

DBCA - TEST

Sheet 3 of 3

Bureau of Design & Construction Services

EXHIBIT 'A'



Project Site Location Map

James J. Howard Marine Lab

EXHIBIT ‘B’

UTILITY SEPARATION AND EMERGENCY GENERATOR REPLACEMENT STUDY

Office Building #74
James J. Howard Marine Science Laboratory
Fort Hancock, Sandy Hook
Middletown Township Monmouth County, NJ

Prepared by: **Ronald A. Sebring Associates, LLC**
1000 Washington Street, Suite 201
Toms River, New Jersey, 08753

May 15, 2024

EXHIBIT 'C'

TABLE OF CONTENTS

EXHIBIT 'C'

Executive Summary

- In 1991, simultaneously, with the completion of the Marine Science Laboratory Building and relocation to Office Building #74, the State of New Jersey entered into a lease agreement with the United States Department of the Interior, National Park Service, for both buildings.
- The afformentioned lease agreement included a maintenance agreement establishing standards for maintenance of the buildings by the State of New Jersey.
- Ronald A. Sebring Associates, LLC., was commissioned by the New Jersey Department of the Treasury, Division of Property Management and Construction (DPMC) to conduct a Physical Conditions Assessment to determine the required work at the Marine Science Laboratory Building to comply with the lease agreement. The Conditions Assessment was completed in July of 2021. The information in this Study supplements the Assessment.
- Building #74 and the NOAA Marine Science Laboratory Building, located across Magruder Road, have multiple shared utilities and infrastructure that will need to be separated to allow Buildiing #74 to stand alone.
- The existing emergency generator located adjacent to Building #74 serves only the existing fire pump.
- The existing generator is to be replaced with a new deisel-fired generator capable of powering the fire pump and the emergency panel within Building #74. The new generator should be equipped with a sub-base day tank.
- The Site is located within a flood zone and the new generator and sub-base tank will need to be elevated to above design flood elevation.
- The estimated cost for the separation of the utilities between the subject buildings and provision and installation of a new emergency generator, including the required elevated platform and related work, is approximately $2,374,513.

INTRODUCTION

In 1991, simultaneously with the completion of the Marine Science Laboratory Building and renovation to Office Building #74, the State of New Jersey entered into a lease agreement with the United States Department of Interior, National Park Service, for both buildings. In July of 2021 a Conditions Assessment Study was conducted in order to update and supplement the previous 2016 Physical Condition Study prepared by Ronald A. Sebring Associates, LLC. The original Physical Conditions Study was prepared in response to the State of New Jersey seeking to terminate their lease agreement with the United States Department of Interior. The lease agreement included a maintenance agreement establishing standards for maintenance of the buildings by the State of New Jersey.

This Utility Separation and Emergency Generator Replacement Study supplements the previously prepared Assessment Study and includes recommendations to allow Building #74 to be completely independent and not relying on shared utilities and infrastructure from the NOAA Marine Science Laboratory Building, located across Magruder Road. Also included is the provision of a new diesel-fired emergency generator capable of powering the fire pump and the emergency panel within Building #74.

Construction cost estimates are included for the recommended improvements.

AERIAL VIEW OF BUILDINGS

EXHIBIT 'C'

SEPARATION OF UTILITIES

There are multiple utilities and infrastructure that will need to be separated from the NOAA Marine Science Laboratory Building so that Building #74 can stand alone. These include the fire pump, cooling tower, the electrical service, emergency generator, life safety automatic transfer switch, HVAC temperature alarms, card access control system, and security cameras.

The requirements and recommendations for the separation of these utilities and infrastructure items are included in the Updated Physical Condition Study, Building #74, James J. Howard Marine Science Laboratory, Fort Hancock, Sandy Hook, Revised April 22, 2024 by Schiller and Hersh Associates, Inc. presented in Appendix "A". The recommendations are summarized below.

The water-cooled chiller at Building #74 uses the cooling tower at the NOAA Marine Science Laboratory Building. It is recommended that the existing water-cooled chiller at Building #74 be replaced with a new outdoor air-cooled with remote/indoor barrel setup so draining in the winter is not required. The condenser water piping will need to be capped and bypassed and the existing condenser water pumps removed from the building. The new Building #74 air cooled chiller will be required to be elevated above the design flood elevation on a platform. It is recommended that the chiller be placed on the same platform as the new emergency generator.

The fire pump located in Building #74 serves both Building #74 and the NOAA Marine Science Laboratory Building. To provide separation, a new fire pump will need to be installed in the NOAA Marine Science Laboratory Building by NOAA. This will impact their electrical service and generator. Further, NOAA will need a new sprinkler water service and the existing piping will need to be disconnected, drained, and capped from Building #74.

The existing 800A, 277/480V, 3-phase, 4-wire service for Building #74 is fed from the NOAA Marine Science Laboratory Building. A new electrical service for Building #74 will need to be installed by JCP&L. JCP&L will likely include only the primary setup and transformer. A Contractor will still need to install the primary conduits, transformer pad setup, secondary conduits and cabling, and required CT cabinet for metering. The final location and configuration will depend on JCP&L's transformer location and intercepting the existing underground conduits from NOAA to Building #74.

There are existing HVAC Temperature Alarms that connect from Building #74 to the NOAA Marine Science Laboratory Building for monitoring purposes. These alarms are no longer required and should be disconnected.

The security camera system is shared between the NOAA Marine Science Laboratory Building and Building #74. It is recommended to install a new IP-based security camera system with an NVR (network video recorder) for Building #74, including wiring & cameras. NOAA will be required to install/upgrade their own security camera system.

EXHIBIT 'C'

The card access control system is currently shared between the NOAA Marine Science Laboratory Building NOAA and Building #74. Building #74 is equipped with card reader access controls at the main entrance doors. The card access system can be removed from Building #74 or a new IP-based card access system installed.

The existing life safety automatic transfer switch (ATS) within Building #74 is fed from the generator at the NOAA Marine Science Laboratory Building. It is recommended that a new generator be provided at Building #74 that feeds both the fire pump ATS and also the life safety emergency panel via a new ATS switch located in the basement of building #74.

EMERGENCY GENERATOR

There are multiple utilities and infrastructure that will need to be separated from the NOAA Marine Science Laboratory Building so that Building #74 can stand alone. These include the fire pump, cooling tower, the electrical service, emergency generator, life safety automatic transfer switch, HVAC temperature alarms, card access control system, and security cameras.

The existing emergency generator located adjacent to Building #74 serves only the existing fire pump within the building. The life safety automatic transfer switch (ATS) located in Building #74 is fed from the emergency generator at the NOAA Marine Science Laboratory Building. To provide dedicated emergency power for Building #74 fire pump and the life safety emergency systems, the existing generator will need to be replaced with a new appropriately sized generator.

EXISTING EMERGENCY GENERATOR

EXHIBIT 'C'

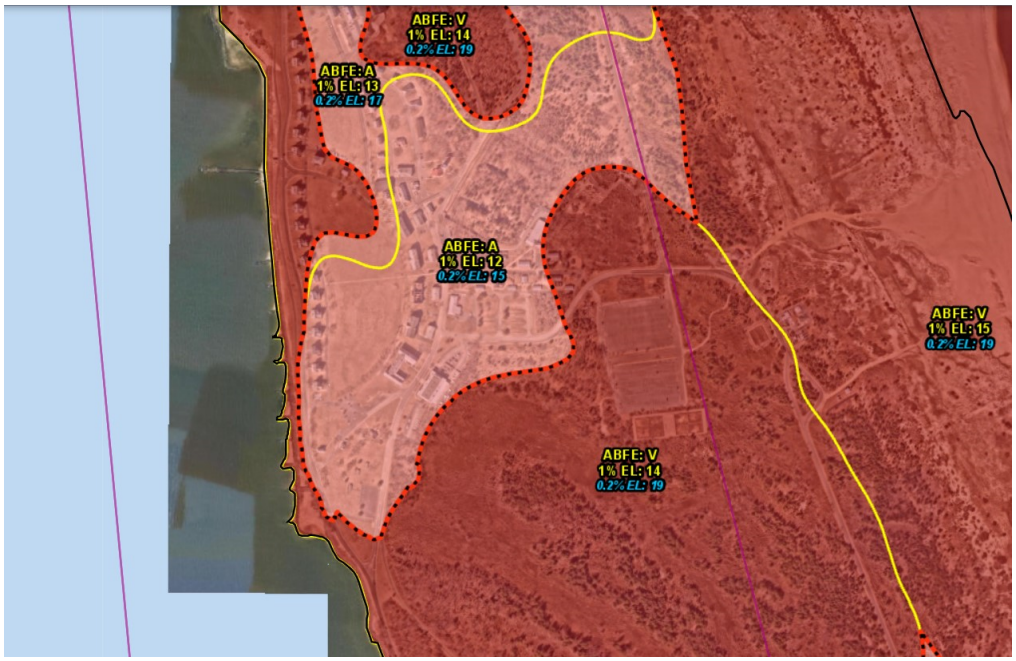
The new generator should be a diesel-fired generator capable of powering the fire pump and the emergency panel within Building #74. The new generator should be equipped with a sub-base day tank. Diesel fuel is recommended as natural gas is not available at the site and large propane tanks would be required for the relatively small generator.

The required generator is estimated at 150kW, diesel with a sound attenuating enclosure and 24 hour sub-base tank. The size of this type of generator would be approximately 139”L x 46”W x 101”H and is estimated to weigh approximately 10,500 lbs with a full sub-base tank. A minimum of 48” clearance must be provided on all sides around the entire generator.

Since the proposed new chiller also must be located above the design flood elevation, it is recommended that the chiller be mounted on the same platform as the new generator. Chillers vary greatly in size and configuration. A possible unit would be a Carrier 30RAP 100 ton chiller which measures 191”L x 88”W x 78”H and weighs approximately 5,000 lbs.

The Site is located within a flood zone and the new generator and sub-base tank will need to be elevated to above design flood elevation. Advisory FEMA flood information is to be utilized for the determination of the regulatory flood hazard elevation for the design of the emergency generator and chiller placement. State rules define FEMA mapping as the effective, preliminary, or Advisory map, whichever provides a more conservative regulatory area of elevation. In Sandy Hook, that is the Advisory FEMA information. Generators are to be designed to the 500-year (0.2%) flood elevation. Based on review of the available mapping, the Base Flood Elevation (BFE) is +15.0’. The Design Flood Elevation adds +2.0’ to the BFE and is therefore +17.0’. This determination must be verified at the time of design.

No accurate surveys are available that show the actual grade elevations adjacent to the building. Using Google Earth as a reference the adjacent grade appears to be about +6.0’. Therefore, the generator and chiller will need to be mounted on an elevated structure with its platform at approximately 11’ above grade. A metal walkway/platform with safety rails will be required for access to the service areas of the equipment and metal stairs/railings to access the platform.



ADVISORY FEMA FLOOD MAP

The soil conditions will likely require that pile foundations be utilized to support the elevated structure. Because wind and seismic forces will impact the structure and the foundation, geotechnical investigation and reporting will be required to determine the values required for structural design of the foundation.

To provide for the placement of both the new generator and chiller and the required clearances, an approximate 24' x 24' elevated platform should be provided. Depending on the capacity of the sub-base day tank, the Fire SubCode Official may require that the area surrounding the generator be free of combustible materials. Grass and vegetation is considered combustible and therefore the placement of geotextile and stone at grade surrounding the platform may be required. Convenience outlets will need to be provided at the platform for service.

PRIOR APPROVALS

The professional responsible for the design will need to determine and verify all required prior approvals for the work. Known required prior approvals include Historic Preservation Office (National Park Service) review and approval, and DEP approval for construction within the coastal zone under the Coastal Area Facilities Review Act (CAFRA). It is likely that archaeological investigation during design and archaeological observation during construction excavation will be required by the Historic Preservation Office.

EXHIBIT 'C'

CONSTRUCTION COST ESTIMATES

Separation of Utilities and Infrastructure (Refer to Appendix A for additional description of included work for each item)

Sprinkler Main Disconnection to Separate Fire Pump	$ 5,000.
New Chiller	$ 600,000.
Electrical Service	$ 275,000.
Disconnect Automatic Transfer Switch (ATS)	$ 50,000.
Disconnect HVAC Temperature Alarms	$ 5,000.
New IP-Based Security Camera System to Replace Existing	$ 150,000.
New IP-Based Card Access Control System to Replace Existing	$ 30,000.
Total Separation of Utilities/Infrastructure for Building #74	$1,115,000.

New Emergency Generator
(Platform to support both generator and chiller)

New Generator with Sub-Base Tank	$ 250,000.
New Pile Foundation (assume 40' piles augured)	$ 15,000.
New Steel Elevated Platform Beams	$ 16,000.
New Steel Elevated Platform Grating	$ 18,000.
New Steel Bracing	$ 6,000.
New Steel Elevated Platform Connections	$ 4,500.
New Guardrails and Kick Plate	$ 7,000.
New Stair	$ 12,000.
Concrete Pad at Base of Stair	$ 3,000.
New 7,056 Square Feet Landscape Stone	$ 7,000.
Equipment	$ 10,000.
Total New Generator for Building #74	$ 348,500.

Subtotal	$1,463,500.
Contingency (+10%)	$1,609,850
General Conditions (+10%)	$1,770,835
Overhead (+15)	$2,036,460
Profit (+10%)	$2,240,106.
Escalation to Mid-Construction (+6%)	$2,374,513.
Total Separation of Utilities/Infrastructure and New Emergency Generator	**$2,374,513.**

END OF STUDY

EXHIBIT 'C'

APPENDIX “A”

Updated Physical Condition Study

Building #74, James J. Howard Marine Science Laboratory

Fort Hancock, Sandy Hook

Revised April 22, 2024, by Schiller and Hersh Associates, Inc.

EXHIBIT 'C'

SCHILLER AND HERSH ASSOCIATES, INC.
Consulting M/E/P Engineers

636 Skippack Pike, Suite 200
Blue Bell, PA 19422

P: 215.886.8947
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www.schillerhersh.com

Updated Physical Condition Study
Building #74
James J. Howard Marine Science Laboratory
Fort Hancock, Sandy Hook
Middletown Township, Monmouth County, NJ

S&H Project 2125A
Date: June 29, 2021
Revision 1: November 2, 2021
Revision 2: April 22, 2024

Background Information:

S&H was hired by Ronald A. Sebring Associates to perform this study. The primary intent of this study is to update the previous July 16, 2016 Physical Condition Study based on current conditions of the facility found during our walk-thru on April 8, 2021. The intent of the original study was to evaluate the building based on the maintenance agreement in place between the State of New Jersey and the United States Department of the Interior, National Park Service. The maintenance agreement requires that:

> *"All plumbing, heating, cooling and utility systems shall be maintained within the applicable State and Federal standards including the National Building Code and the National Fire Code.*
>
> *All fire, security, and sprinkler systems shall be maintained according to the Manufacturer's standards and inspected and certified as fully operable at least once per year."*

Further, the secondary intent of this report is to outline the general requirements for separation of the building #74 utilities from the NOAA building across the street. There are multiple utilities associated with Building #74 that are supported by the NOAA building across the street and visa-versa.

The walk-thru and report are based on visual and readily observable conditions only; no destructive investigation was performed.

Mechanical (HVAC) Systems:

The building is heated and cooled with a 2-pipe system which provides either hot water from the boiler or chilled water to coils in air handling units. The piping system is in good condition, however several leaks were found, and insulation on pipes is in fair condition. The larger rooms and general areas are heated, cooled and ventilated by air handlers. Fan-coil cabinet units are installed in smaller offices and corridors, but lack outside air ventilation. The air handlers and cabinet heaters are all operational, in good condition, and have been well maintained.

EXHIBIT 'C'

An oil-fired cast iron boiler is installed in the basement mechanical room. The boiler produces heating hot water, and hot water pumps circulate the hot water to the heating coils in the air handlers and cabinet units in the heating season. In the summer, isolation valves are closed to the boiler and opened to chilled water pumps to provide chilled water from the chiller to the air handling and cabinet unit coils. The chilled water circulation pumps are operational and in good condition.

The original fire-tube boiler installed, was replaced with a new oil-fired cast iron boiler in 2010. The new cast iron boiler has the same heating capacity as the original boiler, and was replaced in accordance with the New Jersey Uniform Construction Rehabilitation Sub-Code. The newer cast iron boiler is in good condition, is well maintained, and provides enough hot water to heat the building. The new boiler was inspected and registered by the New Jersey Department of Labor and Industry Boiler Division when it was installed, and is inspected annually.

There is an existing underground fuel oil tank that is being monitored by a Veeder-Root TLS-350 panel, which at the time of the site visit reported all functions were normal. The exact fuel tank size is not know, but it is believed to be about 6,000 gallons. There is also a dual-fuel oil pump set that circulates fuel oil from the tank to the boilers and domestic water heater.

The chiller is original, operational, and is in poor condition. The chiller has two screw compressors with independent refrigerant circuits to make chilled water to cool the building. The 60-Ton larger compressor is now providing the chilled water for this building; the smaller 50-Ton compressor is burned out, and cannot be repaired or replaced. The chiller manufacturer is out of business, and repair parts for the chiller are no longer available.

There are two condenser pumps that circulate water from the chiller to a common cooling tower near the NOAA Laboratory building across the street. The pumps are operational and have been maintained in good condition.

There is a central Honeywell Automatic Temperature Control (ATC) System that provides control of the building heating and cooling equipment. The system provides for individual programmable thermostats that are used to control each air handler and each cabinet unit, control for boiler and chiller supply water temperatures, and control the temperature set points in the building during occupied or unoccupied time periods. The ATC system is original, fully operational, and has been well maintained with any failed control components replaced with new. The control system and parts for it are still supported by Honeywell. There are also (2) air compressors in the mechanical room that support the pneumatic control system in the building, namely the pneumatically controlled valves on the air handling units, fin tube and cabinet unit heaters. At least one of the air compressors in the mechanical room was working at the time of the visit, but it is not clear if the second air compressor is operational or not.

A number of exhaust fans were added to the building, since the original construction, for the purposes of lab exhaust. Depending on the future use of the rooms, these exhaust fans could be removed from the building, but a re-balancing of the air systems would be required.

Mechanical (HVAC) Maintenance Issues:

1. A leak was observed in the piping system in the mechanical room in the basement. Estimated repair cost: $5,000.

2. A leak was observed in the piping in a Northwest basement room along the main corridor. The insulation is also damaged due to the leak. Estimated repair cost: $5,000.

3. Multiple leaks were observed in the piping in a Northwest basement room along the main corridor. The insulation is also damaged due to the leak. Estimated repair cost: $6,000.

4. Confirm second air compressor is operating correctly. Estimated repair cost: $500.

5. Confirm all inspections have been completed for 2024, including the boiler inspection. Estimated repair cost: $1,500.

6. There is (1) McQuay fan coil on the second floor that has a rusted top and enclosure. Estimated repair cost: $3,500.

7. There are (2) McQuay fan coil units on the first floor in the Research Library that have rust on the enclosures. Estimated repair cost: $7,000.

8. Replace water-cooled chiller with a new air-cooled chiller. Given the shared cooling tower with the NOAA Laboratory building across the street, it would make the most sense to replace the chiller and condenser water pumps with a new outdoor air-cooled chiller with a remote barrel and new indoor chilled water pumps with VFDs, so the piping and chiller do not need to be drained in the winter. Divorce building #74 from the cooling tower. Estimated replacement cost: $600,000.

Electrical and Lighting Systems:

The main electrical distribution equipment was installed in 1991, and is in good operating condition. The electric service into the building is fed from the NOAA Laboratory building across the street. A 480-volt 3-phase service into the building feeds a main Electrical Distribution Panel in the basement electrical room. Circuit breakers in the EDP Panel feed a Motor Control Center for HVAC equipment, lighting panels, and a transformer. The transformer reduces the voltage to feed 120/208 Volt, 3-phase Sub-Panels, that supply receptacles in the building. The electrical distribution in the building is fully operational and in good condition.

The receptacles throughout the building are all operational. Since it is a commercial business-use building, arc-fault breakers and/or receptacles are not required by code.

The lighting fixtures are well maintained and are operational. The maintenance is good, and any lamps or ballasts are replaced when they fail on an ongoing maintenance program.

New CFL lamps were installed in some light fixtures to replace incandescent lamps. CFL lamps cannot be used in emergency lighting fixtures. Building maintenance personnel will check to

make sure CFL lamps are not installed in existing emergency lighting fixtures, and if they are, they will remove them and install the correct lamps.

There is an independent emergency lighting panel in Building# 74 that provides power to emergency lighting fixtures and Exit signs. This panel is fed from an emergency electrical panel connected to a separate emergency generator, located across the street near the NOAA Laboratory building. The emergency generator provides emergency power to both buildings for the emergency lighting fixtures and the Exit signs whenever normal power fails. The emergency generator and automatic transfer switch, in the NOAA Laboratory building, is serviced and tested on a regular basis and is in good condition.

A new Honeywell fire alarm panel and remote annunciator and devices was installed to replace the original fire alarm system. The new fire alarm system monitors the manual pull stations, the sprinkler fire protection system, the pre-action panel in the Records Room, smoke and heat detectors throughout the building, and heat detectors in the attic, as originally designed, and has new horn/strobe alarms that replaced the devices. The fire alarm system is operational, tested and maintained by SimplexGrinnell annually. However, at the time of the visit, there was a trouble issue with the main fire alarm panel, which was in the process of being addressed.

Lightning protection air terminals are missing on the high brick chimneys on the roof and on two attic air vents.

There are a number of junction boxes and starter boxes in the attic that are missing the covers. All covers should be reinstalled, as per code.

Electrical and Lightning Maintenance Issues:

1. Fix main fire alarm control panel trouble issue. Estimated repair cost: $3,500.

2. Add (2) lightning protection air terminals and obtain an updated master label for the lightning protection system. Estimated repair cost: $7,500.

3. Cover open junction and starter boxes. Estimated repair cost: $750.

4. Confirm all inspections have been completed for 2024. Estimated repair cost: $1,500.

Plumbing Systems:

Overall the plumbing fixtures are operational, in good condition, and are being properly maintained. During the site visit, no leaks or other deficiencies in the plumbing system were observed. There have been no modifications to the plumbing system. There was a sink on the second floor that had a faucet that would not shut-off the water.

The oil-fired domestic water heater is original and is operational, but in poor condition and appears to be leaking. The bottom of the tank appears to be very rusty. Replacement may be required.

There is an existing domestic water booster pump system that was not operational / running. The existing water pressure appears to be at 60-65 psi with the pumps off, so this system may no longer be required, depending on the reliability of the water pressure in the street.

Plumbing Maintenance Issues:

1. Fix leaky faucet on second floor. Estimated repair cost: $1,000.

2. Replace existing oil-fired domestic water heater. Estimated replacement cost: $35,000.

3. Janitor closet sink on the second floor is not draining. Estimated repair cost: $500.

4. Confirm all inspections have been completed for 2024. Estimated repair cost: $1,500.

Fire Protection Systems:

The building is fully sprinklered and has an electric fire pump in the basement to boost the water pressure from the water main, to provide the required design pressure to the sprinkler system in the building and to the NOAA Laboratory building across the street – there is a PIV (post indicating valve) near the street for shut-off to the NOAA building). There is a wet sprinkler system in the lower level, first and second floors, and a dry sprinkler system in the attic. The fire protection system also has fire hose stations on each floor.

The original pre-action halon fire alarm system in the Records Room (Library) was replaced with a new FM-200 clean agent system and pre-action alarm panel. This system is operational.

There is a pre-action sprinkler system in the Research Library on the first floor. This system is operational.

The sprinkler system and fire pump are inspected and tested annually by Simplex-Grinnell, and any deficiencies that were noted have been corrected.

There is a fire service emergency generator installed adjacent to Building #74 that provides standby power to the fire booster pump, if normal utility power is not available. This generator and automatic transfer switch are tested and maintained annually. The generator is operational. The generator enclosure cover is rusting and needs to be painted to maintain the integrity of the enclosure.

The fire protection system is operation and well maintained.

Fire Protection Maintenance Issues:

1. Confirm all inspections have been completed for 2024. Estimated repair cost: $1,500.

Separation of Utilities and Systems:

Building #74 and the NOAA Laboratory building across the street have a number of shared utilities and infrastructure that will need to be separated so Building #74 can be stand-alone.

1. Fire pump: The fire pump located in Building #74, serves both Building #74 and the NOAA building. NOAA will need to install a new fire pump, which will impact their electrical service and generator. Further, NOAA will need a new sprinkler water service and the existing piping will be disconnected & capped from Building #74. Cost estimate for disconnecting, draining and abandoning the sprinkler main to the NOAA building: $5,000.

2. Cooling tower: The Building #74 water-cooled chiller uses the cooling tower at the NOAA building. Replace the existing water-cooled chiller at Building #74 with a new outdoor air-cooled with remote/indoor barrel setup so draining in the winter is not required. Cap-off/bypass the condenser water piping and remove the existing condenser water pumps in Building #74. The NOAA building will be required to rebalance the condenser water system and piping setup for its cooling tower. The new Building #74 air cooled chiller will be required to be elevated above the flood elevation on a platform. Cost estimate for the chiller, refrigerant piping, heat exchanger, chilled water pumps with VFDs, chilled water piping modifications, exhaust setup for refrigerant leaks & SCBA (respiratory protection) and electrical connections: $600,000.

3. Electrical Service: Existing 800A, 277/480V, 3-phase, 4-wire service fed from NOAA to Building #74. Install a new electrical service for Building #74 from JCP&L. JCP&L estimated a cost of $49,019 for the work in 2021, but this would only typically cover the primary setup and transformer. The contractor would still need to install the primary conduits, transformer pad setup, secondary conduits and cabling and required CT cabinet for metering. Location and configuration will depend on JCP&L's transformer location and also intercepting the existing underground conduits from NOAA to Building #74. Estimated costs are as follows: $75,000 for JCP&L costs (2024 estimate) + $200,000 for the primary/secondary conduits & cables, transformer pad and CT cabinet with metering. Total estimated cost is $275,000.

4. Emergency Generator at Building #74: The existing generator has a local day tank for diesel fuel and only serves the indoor fire pump. Install a new diesel-fired generator with a sub-base tank on the proposed elevated platform so the generator is above the flood plain. The generator should have (2) breakers – (1) for the fire pump and (1) for the ATS (see below). Estimated cost is: $250,000.

5. Life Safety Automatic Transfer Switch (ATS) in Building #74: Fed from NOAA's generator to Building #74. Install a new generator at Building #74 (see above) that feeds both the fire pump ATS and also the life safety emergency panel via a new ATS switch in the basement of building #74. Disconnect and pull out the wiring to the NOAA building. Total estimated cost: $50,000.

EXHIBIT 'C'

6. HVAC Temperature Alarms: Feeds from Building #74 to NOAA building for monitoring purposes. No longer required, so these wires / alarms can all be disconnected. Estimated cost: $5,000.

7. Security CCTV Cameras: The camera system is shared between NOAA and Building #74. It is suggested to install a new IP-based security camera system with an NVR (network video recorder) for Building #74, including wiring & cameras. NOAA will be required to install/upgrade their own security camera system. Total estimated cost: $150,000.

8. Card Access System: The card access system is shared between NOAA and Building #74. Building #74 only has card readers at main doors. Consider removing the card access system from Building #74 and re-programming out the doors from the existing system. Use standard keys or install a new IP-based card access system for Building #74. Estimated cost for a new IP-based access control system with head-end panel and selected exterior controlled doors: $30,000.

End of MEPFP Report.

Electrical equipment in Lab from which electricity is fed to Building 74.

EXHIBIT ‘D’

Cooling Towers at Lab from which chilled water is supplied to Building 74.

Chiller equipment at Building 74 to be disconnected.

EXHIBIT ‘D’