SCOPE OF WORK

Design Consultant Services

Laboratory, Administration Wing and Warehouse Expansion Project
at the
NJ Public Health Environmental and Agriculture Laboratory
Ewing Township, Mercer County, NJ

Project No. A1360-02

STATE OF NEW JERSEY

Honorable Philip D. Murphy, Governor
Honorable Sheila Y. Oliver, Lt. Governor

DEPARTMENT OF THE TREASURY

Elizabeth Maher Muoio, Treasurer

DIVISION OF PROPERTY MANAGEMENT AND CONSTRUCTION

Christopher Chianese, Director

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I. OBJECTIVE

As the primary occupant at the New Jersey Public Health Environmental Agriculture Laboratory (PHEAL), the New Jersey Department of Health (DOH) has re-envisioned the future of the State's public health laboratory. Consideration has been given to advancements in laboratory diagnostic equipment, reconfigurations and additions, staffing and warehouse storage capacities, the current public health crisis and its emergent demands, forecasting the impact of State services during a future public health crisis and the preparedness of same by addressing advanced program needs.

The PHEAL is also occupied by the Department of Agriculture (Ag) and Department of Environmental Protection (DEP).

The objective of this project is to engage a full-time Design Consultant Firm to perform new or final programming, design and construction administration services to facilitate the renovations, reconfigurations and expansion at the PHEAL.

For the purposes of this design selection the DOH, DPMC, NJBA, Ag, and DEP may be referred to collectively as the "State" or the "Owner"; DOH, DEP and Ag may also be separately and individually referred to as the "Client Agency" or the "Using Agency".

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):

P001 Architecture

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

P002 Electrical Engineering
P003 HVAC Engineering
P004 Plumbing Engineering
P005 Civil Engineering
P009 Soils Engineering
P010 Fire Protection Engineering
P025 Estimating/Cost Analysis
P028 Roofing Inspection

P030 CPM Scheduling
P033 Value Engineering
P048 Security Systems

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). The Consultant's team should have in-house capabilities or Sub-Consultants with Subject Matter Expert (SME) experience in planning and design in public health facilities constructed for diagnostic laboratory testing and Bio Safety Level preparedness. Laboratory planning consultants do not need to be pre-qualified with DPMC.

The Consultant must also have in-house capabilities or retain the services of a Sub-Consultant with extensive experience in the design of diagnostic Health, Environmental, and Agriculture Laboratory Facilities similar to that described in this scope of work. A description of those projects shall accompany the technical proposal submitted for evaluation by the Consultant Selection Committee.

The Consultant(s) shall have the capabilities to provide services that will conform with the established criteria and practices promulgated by the Center for Disease Control and Prevention (CDC), the National Institutes of Health (NIH), the United States Department of Agriculture, the Office of International Epizootis (OIE), the American Association of Veterinary Laboratory Diagnosticians, US Environmental Protection Agency (USEPA), OSHA, and other appropriate Agencies.

III. PROJECT BUDGET

A. CONSTRUCTION COST ESTIMATE (CCE)

The preliminary Construction Cost Estimate (CCE) for this **project is Forty-Five Million Dollars ($45,000,000.00.)**

The Consultant shall use their cost estimating experience to evaluate this CCE and confirm in writing with their technical proposal that the amount agrees with the scope of work described for this project, or provide a detailed description of the reason(s) why it should be changed.

"Construction Cost Estimate" or "CCE" means the estimated cost of construction at time of bid for the Project, this amount does not include the costs of permits and related permitting services, acquisition of land, furnishings, contingencies, Consultant fees/deliverables, CMF fees/deliverables, other Consultant fees/deliverables, and administrative fees, financing costs, and any other similar types of costs. The CCE of record will be prepared by the Consultant in

accordance with the Scope of Work and/or Agreement, and shall be continually updated by the Consultant as set forth in the Scope of Work and/or Agreement.

B. CURRENT WORKING ESTIMATE (CWE)

The initial Current Working Estimate (CWE) **for this project is Sixty-Six Million Dollars ($66,000,000.00.)**

"Current Working Estimate" or "CWE" includes the construction cost estimate or CCE plus the costs of permits and related permitting services, acquisition of land, furnishings, contingencies, Consultant fees/deliverable "Current Working Estimate" or "CWE" includes the construction cost estimate or CCE plus the costs of permits and related permitting services, acquisition of land, furnishings, contingencies, Design Consultant fees/deliverables, CMF fees/deliverables, other Consultant fees/deliverables, and administrative fees, financing costs, and any other similar types of costs. The CWE of record will be adjusted by the Consultant in accordance with the Scope of Work and/or Agreement, and shall be continually updated by the Consultant as set forth in the Scope of Work and/or Agreement.

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. COST ESTIMATING

The Consultant or Sub-Design Consultant(s) providing all of the cost estimates for this project must be pre-qualified with DPMC in the P025 Estimating/Cost Analysis Specialty Discipline.

All cost estimates shall be adjusted for regional location, site factors, construction phasing, building use group, location of work within the building, temporary swing space, and inflation factors based on the year in which the work is to be performed.

All cost estimates must be submitted on a DPMC-38 Project Cost Analysis form at each design phase of the project with a detailed construction cost analysis in CSI format for all appropriate divisions and sub-divisions. The DPMC/New Jersey Building Authority "NJBA" will provide cost figures for those items which are in addition to the CCE such as art inclusion, CMF services, etc. and must be included as part of the CWE. This cost analysis must be submitted for all projects regardless of the Construction Cost Estimate amount.

D. CONSULTANT'S FEES

The CWE and CCE 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 project shall be designed, bid and construction completed including project closeout within Twenty-seven (27) months from DPMC's "Notice to Proceed" (NTP) date to the Consultant.

The following schedule identifies the estimated design and construction phases for this project and the estimated durations.

PROJECT PHASE	ESTIMATED DURATION (Calendar Days)
1. Site Access Approvals & Schedule Design Kick-off Meeting	**14**
2. Program Phase including Review of Existing Documentation/Client Agency Charrettes	**90**
• *Project Team & DPMC Plan/Code Unit Review & Comment*	14
3. Schematic Design Phase	**30**
• *Project Team & DPMC Plan/Code Unit Review & Comment*	14
4. Design Development Phase	**30**
• *Project Team & DPMC Plan/Code Unit Review & Comment*	14
5. Final Design Phase	**30**
• *Project Team & DPMC Plan/Code Unit Review & Approval*	14
6. OSC Review/Final Design Re-Submission to Address Comments	**30**
• *Project Team & DPMC Plan/Code Unit Review & Approval*	14
7. DCA Submission Plan Review	**30**
8. Permit Application Phase	**7**
• *Issue Plan Release*	
9. Bid Phase	**42**

10. Construction Bid / Award Phase	**28**
11. Construction Phase	**390**
12. Project Close Out Phase	**30**

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:

New Jersey Public Health Environmental Agriculture Laboratory (NJPHEAL)
NJSP Campus
3 Schwarzkopf Drive
Ewing Township, 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: Richard Flodmand, Deputy Director

Address:	Division of Property Management & Construction 33 West State Street, 9th Floor Trenton, NJ 08608-1206
Phone No:	(609) 984-3629
E-Mail:	richard.flodmand@treas.nj.gov

2. New Jersey Building Authority Representative:

Name:	Phil Johnson, Sr. Project Manager
Address:	NJ Building Authority 50 West State Street, 2nd fl Trenton, NJ 08625
Phone No:	(609) 984-0681
E-Mail:	phillip.johnson@treas.nj.gov

Name:	Vincent Campanella, Chief of Construction
Address:	NJ Building Authority 50 West State Street, 2nd fl Trenton, NJ 08625
Phone No:	(609) 943-4831
E-Mail:	vincent.campanella@treas.nj.gov

3. Department of Health Representative:

Name:	Rosalind Finney, Division Director
Address:	Department of Health Public Health and Environmental Laboratories 3 Schwarzkopf Drive Ewing, NJ 08628
Main Phone No:	(609) 718-8012
Desk:	(609) 718-8005
Email:	rosalind.finney@doh.nj.gov

4. NJ Public Health Environmental and Agriculture Laboratory Representative:

Name:	David Markunas, Facilities Operations Manager
Address:	NJ Public Health Environmental and Agriculture Laboratory 3 Schwarzkopf Drive West Trenton, NJ 08628
Phone No:	(609) 406-6864
E-Mail:	david.markunas@treas.nj.gov

VI. PROJECT DEFINITION

A. BACKGROUND

The New Jersey Public Health, Environmental and Agriculture Laboratory (PHEAL) opened in 2011 and the main building is a four-story steel framed building currently occupied by the Department of Health (DOH), Department of Agriculture's (Ag) laboratories, and the Department of Environmental Protection (DEP). In addition, there are two (2) out-buildings: a one-story pre-screening structure known as the All Hazard Response Facility (AHRF) occupied by DOH and a one-story greenhouse occupied by Ag.

In 2021 under project A1360-00, the Department of Health procured the services of HDR Inc. to perform a programming and feasibility study for the expansion of the laboratory, administration and warehouse spaces at the PHEAL. Originally, HDR was tasked with analyzing potential options to add 60,000 square feet of laboratory space, 10,000 square feet of administrative space and 10,000 square feet of warehouse space. Additional consideration was given to vehicular access, parking and reuse of the mostly unused AHRF building. HDR received preliminary data from utilities to support the expansion.

Vision statements from DOH and Ag were incorporated into plans that resulted in three options known as Test Fits. Test Fit #1 satisfied the original request for lab, administrative and warehouse space as a direct inline extension of existing components on site. Test Fit #2 satisfied vision statements to accommodate program growth resulting in a projected 74,000 square feet of additional lab space compared to the 60,000 that was originally requested. Administrative and warehouse additions would remain at 10,000 square feet each. Test Fit #3 satisfied the same program growth as in Test Fit #2 but split the lab and warehouse space expansion on east and west sides on the building. This approach was thought to allow for incremental expansions as funding becomes available.

Cost estimates for all three Test Fits significantly exceeds available funding. As a result, this project will begin with a new or final programming phase that will seek a reduced laboratory expansion to match available funding. The Department of Agriculture and Department of Environmental Protection will not be participating in the expansion. The original request for 10,000 square feet of additional administrative space and 10,000 square feet of additional warehouse space will remain.

The HDR report entitled *"Laboratory and Administration Wing Expansion Programming & Feasibility Study"* will be provided to the Consultant.

B. FUNCTIONAL DESCRIPTION OF THE BUILDING

1. Building Description:

The PHEAL main building is comprised of approximately 191,002GSF including areas such as 157,009SF of diagnostic laboratory/administration space, approximately 27,016SF of mechanical area including the MER level mechanical room (16,330SF) and the ground floor level mechanical/electrical room area 10,686SF, approximately 6,977SF total of assembly area including Dining Room (1,422SF), Lobby (3,325SF), Auditorium (2,230SF) and approximately 3,610SF of warehouse including 857SF of warehouse mezzanine.

2. Department of Health:

The Department of Health's (DOH) Division of Public Health and Environmental Laboratories (PHEL) occupies the largest portion of the building. PHEL is comprised of three Service Units and five Programs. The three service units are Public Health Laboratory Services (PHLS), Environmental and Chemical Laboratory Services (ECLS) and Clinical Laboratory Improvement Services (CLIS.) The five programs are Laboratory Outreach Program, Administration, Fiscal Services, Laboratory Information Management Systems (LIMS,) and Quality Assurance (QA.) PHLS and ECLS perform all of the diagnostic and environmental testing. PHLS has laboratories on the second and third floor, while ECLS has laboratories on the first and fourth floor. All Specimen/Sample receiving for both units are on the first floor. LIMS and QA occupy the third and fourth floor while supporting all laboratory functions. CLIS, Laboratory Outreach Program, Administration, Fiscal Services all occupy the administrative space on the second floor.

Programs within Public Health Laboratory Services (PHLS) include:

Newborn Screening Program:

- State mandated program
- Performs clinical screening for 56 different congenital disorders in all newborns in NJ within 48 hours of birth, in support of obstetricians, pediatricians and the NJDOH Family Health Services counselling program.

Microbiology Program including:

- Diagnostic testing for sexually transmitted diseases and tuberculosis programs supporting Chest Clinics and STD clinics across the state and the NJDOH HIV/STD/TB Control Program.

- Surveillance and outbreak testing for foodborne, waterborne and environmental diseases in support of the NJDOH DEEOH Communicable Disease Service
- Quality Control testing for pathogens to support quality control for milk production within NJ dairies and potable water testing in compliance with EPA, USDA and FDA regulations.

Virology Program providing:

- Surveillance testing for respiratory viruses, such as influenza and SARS-CoV-2 in support of the CDC/WHO vaccine development programs.
- Surveillance testing for vector-borne diseases in support of the NJ Mosquito Control Commission.
- Surveillance testing for rabies in wildlife and domestic animals in support of NJ DEEOH Veterinary Services and local animal control efforts.
- Human diagnostic serologic testing and outbreak testing for vector-borne and vaccine-preventable viruses, such as measles, mumps, rubella, hepatitis A, B and C, West Nile, EEE, Zika, Powassan and St. Louis Encephalitis viruses.

Biothreat Response Program providing:

- Rapid response to rule out of biothreat agents in hospitalized humans such as anthrax, tularensis, plague, brucellosis, glanders and melioidosis and other high consequence pathogens such as Ebolavirus and Zika Virus.
- Rapid response for testing white powders in support of law enforcement investigations to rule out biothreat agents and ricin.
- Testing for markers of antimicrobial resistance as a component of the ARLN – Antimicrobial Resistance Laboratory Network.
- Participation in FDA Food Emergency Response Network (FERN), for testing biothreat agents in food.
- Participation in the FDA COVID wastewater testing project.

Client Services providing:

- Specimen receipt, processing and handling, packaging and shipping
- Client information regarding specimen collection, handling and transport
- Access to emergency and on demand courier services
- Tracking of specimens from receipt through analysis to reporting
- Materials management for PHEL and for Clients – maintains warehouse

Laboratory Information Management Systems (LIMS)

- team is responsible for sample data as it comes into and out of the Laboratory for testing and reporting.
- LIMS needs of Public Health, Newborn Screening, CLIS and any other specialized projects.

- CDC Data Modernization initiative, this group is modernizing / streamlining many of the outdated manual methods and data flows within the laboratory; to provide the best experience possible for our patients and providers.

Programs within Environmental Chemical Laboratory Services (ECLS) include:

Potable water testing for the over 100 organic and inorganic chemical contaminants in drinking water in support of Safe Drinking Water Act
Medical marijuana testing program to assurance levels of active ingredients and lack of contaminants
Chemical Threat response program which together with the Biothreat Response program is part of a national Laboratory Response Network (LRN) composed of local, state, regional, national and international laboratories poised to provide articulated services in an emergency
Newly initiated Biomonitoring Program which will be establishing baseline levels of environmental chemicals in NJ residents and prenatal screening for toxic metals in highly-risked subpopulations (expectant mothers and newborns).
Newly initiated NJ Food Testing Program which is expanding PHEL laboratories' capacity and capabilities of human food testing in support of an integrated food safety system in NJ as week as to support FDA's Food Emergency Response Network (FERN).
New initiative of safe drinking water to children in NJ. The NJDOH and the NJ Department of Children and Families will jointly conduct the program and test drinking water for lead and copper levels in childcare centers throughout the NJ and ensure safe water is provided to children.

Programs within Clinical Laboratory Improvement Services (CLIS) include:
Assures the quality, efficacy and adequacy of clinical laboratories and blood banks throughout the state through the promulgation, education, and enforcement of federal and state rules and regulations.

CLIA Program: Regulates, certifies, surveys and enforces under Clinical Laboratory Improvement Amendments of 1988 (CLIA) all laboratories that perform testing on human specimens in New Jersey to fulfill the terms of the federal CLIA 88 contract with the Centers for Medicare and Medicaid Services.

State Clinical Laboratory Licensing Program: Revises, follows, educates, investigates, licenses and enforces the state statutes and regulations pertaining to the regulation of clinical laboratories in the state under N.J.S.A 45:9-42.46 (P. L.1975, c. 166) and N.J.A.C. 8:44-2.1 (Chapter IV of the State Sanitary Code).

Blood Bank Licensing/Regulatory Compliance Program: Licenses, revises, follows, implements, educates, investigates and enforces the state statutes and regulations pertaining to the operation of blood banks in the state under N.J.S.A. 26:1A-7 and 26:2A-7 and N.J.A.C. 8:8-1.1 et seq. (Collection, Processing, Storage and Distribution of Blood).

Programs within Administrative Services:

Administrative Support Services

Oversees all administrative functions for PHEL including Human Resources, Purchasing and Facilities Management. Works with PHEL programs and with NJDOH Offices of Administrative Services, Human Resources, Employee Relations, Occupational Health, Payroll, Financial and General Services and Legal Services to assure all operations followed by PHEL management and staff are in accordance with NJDOH policies and procedures and with applicable federal requirements.

- **HR Liaison** – supports all hiring, firing, timekeeping, performance reviews, disciplinary actions within the PHEL. Liaises with NJDOH HR, Payroll, Benefits, Pensions and Occupational Health.
- **Purchasing** – support all purchasing of reagents, supplies and equipment. Works with vendors and Financial and General Services to assure materials are acquired and bills are paid on a timely basis. Collects fees from NJ Laboratory Licensing Program and Newborn Screening program from hospitals. Assists in monitoring health service grants. Assists in preparation of MOAs and contracts.
- **Facilities Management** – supports building maintenance, overseeing daily operations of Working Buildings staff and housekeeping. Contracts with vendors for built in equipment maintenance. Responds to programmatic and administrative needs for changes to floorplans, and service needs. Provides emergency support as defined in the COOP.

Quality Assurance Program

Quality Assurance Program develop processes that Public Health and Environmental Laboratories (NJ PHEL) follow to ensure quality throughout the pre-analytic, analytic, and post-analytic phases of testing to meet the requirements of various regulatory agencies. The program allows the capability to detect problems in the laboratory's systems and to identify opportunities for system improvement.

Laboratory Outreach Program oversees:

- **An Internship Program** providing opportunities for graduate and undergraduate college students in public health, computer and information science, chemistry, biology, technology and other majors to expand their knowledge, skills and work experience through participation in project-based internships.
- **A two-year post-doctoral fellowship program** in molecular microbiology in collaboration with RWJ Barnabus healthcare offering a variety of workforce experiences in science, management, education and public service to prepare hospital and public health laboratory leaders. The program is offered in conjunction with the APHL and an application for the ASM ABMM accreditation is underway. Fellowships offered through the APHL and provided at NJDOH are also administered through this program.

- **In-house workforce development and training program** to assure PHEL complies with all mandatory training requirements of federal agencies such as CMS, FDA, USDA, EPA and DOT. Professional development classes, both inhouse developed and through professional associations and public agencies. An HIT request has been made for the Learning Management System App within the Microsoft platform.
- **Training and education for clinical laboratory personnel**. Webinars on scientific, regulatory and public health topics in development. Topics to include: Respiratory Virus Surveillance, Tick-borne Vectors in New Jersey, Biomonitoring for Heavy Metals, PFAS in Drinking Water in NJ, Preparedness and Response to Bioterrorism and Chemical Terrorism Threats and LPS and SKIDS testing in NBS.
- **WEB Editorial Board**. The Outreach program conducts and oversees approval of content for posting the PHEL webpage with approval from the Service Directors and Medical Directors.
- **Grants Management**. Oversees preparation of applications, workplans, budgets, reports, and other associated grant management requirements.
- **Supports other administrative activities** such as BioThreat Response administration and outreach to partners for operational changes such as moving to electronic test ordering and reporting (Copia)

3. Department of Agriculture:

Department of Agriculture (Ag) services within the facility include:

- Animal Health Laboratory; conducts a wide variety of tests to protect animal health and public health, including veterinary bacteriology, virology, serology, pathology and histology. The laboratory operates Ag BSL-3 and necropsy facility.
- Plant Industry Laboratory; performs insect and disease diagnostic tests to support our regulatory survey and certification programs; plant virus testing for certification programs; seed germination and vigor testing; and feed and fertilizer testing.

4. Department of Environmental Protection:

Department of Environmental Protection Services within the facility include:

- Bureau of Air Monitoring
- Pesticide Evaluation/Monitoring

VII. DESIGN REQUIREMENTS

A. GENERAL – FINAL PROGRAMMING REQUIREMENTS

The Consultant shall review the HDR report entitled *"Laboratory and Administration Wing Expansion Programming & Feasibility Study"*, evaluate existing documentation, perform independent findings and provide final programming resulting from charrettes with the Client Client Agency and final design services to facilitate a construction project at the PHEAL that includes but is not limited to the following:

1. Warehouse Expansion
2. Administration Wing Expansion
3. Laboratory Expansion
4. Evaluate the existing emergency power generator equipment for 100% coverage at the existing facility plus the 100% of the planned expansions areas.
5. Based on the existing facility's planned security upgrades, design for installation of systems duplicating the security upgrades at the planned expansion areas.

The final programming and final design shall be based on the available funding as described in Section III, Project Budget, A. Construction Cost Estimate (CCE) of this scope of work.

The Consultant shall meet with the Project Team Members and representatives of the PHEAL to schedule the site visits and approve the procedures necessary to assess the facility and its systems. Surveys, measurements, photographs and other data collection methods shall be performed in such a way to minimize disruption to the building occupants and operation of the facility. A structured process shall be developed that will document the condition of each assessed facility component.

The Consultant shall review the vision statement from the Department of Health as shown in **Exhibit 'C'** and conduct interviews with Department Staff and provide new or final programing and design documents for renovation, reconfiguration and expansion of the existing PHEAL facility.

The Consultant shall provide professional services including all labor and material necessary to furnish all tasks and deliverables as described in this SOW.

Field Investigations

The Consultant shall visit the project site only after making arrangements with the DPMC/NJBA and the Client Agency , who will coordinate the site visit with the appropriate staff.

All available information pertaining to existing conditions will be made available to the Consultant by the DPMC/NJBA and the Client Agency.

The Consultant shall be responsible for going through the existing condition drawing files to evaluate and verify existing file information.

Field investigations made by the Consultant shall identify all conditions and dimensions that might affect and/or be affected by the proposed work.

Field investigations shall be thorough and detailed to ensure accurate representation of existing conditions. The Consultant shall not rely solely on existing information, such as utility or record drawings, for the new design, but shall verify all critical existing information and capacity.

The Consultant shall meet with all local utility entities currently servicing the facility and identify the feasibility or not, if existing systems can sustain the proposed facility renovation, reconfiguration and/or expansion or if new utility infrastructure will be required.

The Consultant shall be held responsible for poor or inadequate field investigations that result in unsatisfactory design and extended costs and time for construction at no cost to the State.

New or Final Programming

This task shall involve new or final programming charrettes to accomplish this task, collectively, involving all Client Agencies. Design charrettes shall be performed at the project site with the Client Agencies, DPMC/NJBA, and Consultant Team.

This methodology contributes to a collaborative and integrated planning process that leverages the collective knowledge and input of the Client Agencies in conjunction with the creativity and technical building expertise of Consultant Team.

The charrettes shall include but are not limited to the following: the Client Agencies, DPMC/NJBA, Design Consultant Team and others as approved by the State. At a minimum, the charrettes shall examine including but not limited to the following: required modifications to building systems (base building and expansion), modifications to controls systems and associated hardware, modifications to in-room equipment, diagram people, material, process, product and material flows, diagram of modified floor plan, diagram of airflows, updated equipment schedule, and test fit of user equipment.

The charrettes shall include but are not limited to the final programming involving 1) renovations and/or reconfigurations of select existing diagnostic laboratory testing areas resulting in its improved functionality, the procurement and placement of more efficient diagnostic laboratory testing equipment in support of the current pandemic and future pandemics 2) expand the administration wing in support of the current pandemic and future pandemics and 3) expand the existing warehouse in order to maintain long-term inventory of public health equipment and/or supplies in support of the current pandemic and future pandemics.

The intent of the charrettes is to reduce rework and unproductive sideline and dead-end efforts by creating short design feedback loops and to create a shared vision for the project via an open, integrative and collaborative process.

The Consultant shall develop concept designs and associated workflows in conjunction with the end-users. Concept design and workflow development shall be done with an understanding of existing utility limitations. With input of the Client Agencies, this may require the need to develop more than one concept design which will allow the Client Agencies to explore the presented scenarios and select the design that best accommodates the requirements of this project and its available funding.

The Consultant shall develop a minimum of two (2) concept designs. The concept design shall be submitted in PDF Format and CAD/Revit/BIM. Five (5) printed hardcopy deliverables as well as a digital copy in pdf format will be required of the Consultant. This includes any supplemental documents if any changes are made as part of the final programming process. At least one hardcopy shall have signature lines on cover sheet (with the same signatories).

The Consultant shall perform a Test Fit of existing and required new equipment to ensure that intended layout can accommodate the equipment, as well as the associated Building Systems requirements.

The Test Fit (with equipment) shall include virtual reality/3D session(s) with the user(s) to help the users better understand the design layout and spatial concept in 3D format. This effort shall occur at the project site.

The Consultant shall provide an experienced charrette facilitator to manage these events and maximize the productivity of the sessions.

The number, duration and focus of the charrettes will be developed by the Consultant in conjunction with the State. For bidding purposes, the State envisions the **New or Final Program Phase/Review of Existing Documentation including the charrette** sessions completed within Ninety (90) calendar days from the issuance of the Notice to Proceed (NTP) date from DPMC to the Consultant.

Other New or Final Programming Requirements

The Consultant shall perform an assessment of the existing utility infrastructure and other systems to verify that Mechanical, Electrical & Plumbing (MEP), Building Security, Facility Perimeter Security, Site and Civil local utility requirements associated with the new concept design(s) can be accommodated considering existing utility limitations to the area. The existing utility infrastructure has limitations; the concept design(s), along with these limitations shall be investigated to verify and ensure that the new concept design(s) can accommodate both user and facility requirements.

The Consultant shall provide recommendation(s) for the optimization of existing infrastructure while meeting the design requirements. As part of this project, the Consultant shall perform an analysis including but not limited the following:

1. Structural Analysis: Analyze existing structural conditions and provide deficiency analysis and/or recommendations for the location of equipment with special loading requirements.
2. Architectural Analysis
3. HVAC Equipment/Controls Analysis
4. Ductwork Analysis (including but not limited to a deficiency analysis and/or recommendations for filtration equipment/upgrades due to the COVID-19 pandemic)
5. Electrical Equipment Analysis
6. Fire Protection Equipment/Analysis
7. Telecommunications & Audio Video Equipment Analysis
8. Site Plan Analysis (including but not limited to the delineated location of lab expansion)
9. Civil Engineering Analysis
10. Facility Perimeter Security Barrier Analysis
11. Ewing-Lawrence Sewerage Authority (ELSA) Utility Capacity Analysis
12. Public Service Electric & Gas (PSEG) Utility Capacity Analysis
13. Trenton Water Works (TWW) Utility Capacity Analysis
14. Verizon Equipment and Capacity Analysis
15. Evaluate additional parking for proposed expansion workforce
16. The Consultant shall perform a detailed and itemized cost estimate consistent with CSI and shall provide recommendation(s) based on what options most benefit the proposed renovation, reconfiguration and/or expansion.
17. The Consultant shall perform a preliminary but detailed design and construction schedule based on what options most benefit the proposed renovation, reconfiguration and/or expansion.

B. CONSULTANT SCHEDULE & PAYMENT REQUISITION SYSTEM

Within fourteen (14) calendar days of the issuance of "Notice to Proceed," the Consultant shall meet with the DPMC/NJBA and the Construction Management Firm (CMF) to develop a detailed cost loaded Design Critical Path Method (CPM) Schedule for the design of the project. The Consultant shall furnish all information necessary for the CMF (in the opinion of the CMF) to prepare the detailed Design CPM Schedule. This information shall include, but not be limited to detailed task descriptions, task time durations, task sequencing, manpower required for each task, by discipline. The schedule shall reflect the Consultant's detailed plan for meeting the mandatory milestones required for the project.

The level of detail for this schedule shall be determined by the CMF and shall include, as a minimum each activity required for the development of each deliverable document for each project phase; the preparation of each submittal package required for State review; all required State activities, estimates, reviews and input; and the coordination of drawings between the various design disciplines. The schedule shall identify the drawings and documentation to be

included in each design phase submittal. Each design phase shall be in full compliance with the Mandatory Milestone dates.

Following completion of the detailed Design CPM Schedule, it will be reviewed by the State for compliance with project scheduling requirements. If the schedule is found to be non-compliant with contract requirements, the Consultant shall meet with the CMF to make any revisions necessary to remove State objections and re-submit the schedule for State review and approval. Once the schedule has been approved by the State, it will be issued as the official project Design CPM Schedule and will be used by all Team Members to ensure that all milestone dates are being met for the project.

Following approval of the Design CPM Schedule, the Consultant will meet with the CMF to cost load all activities shown on the Design CPM Schedule. The activity cost loading shall reflect a fair and reasonable prorating of the contractual design fee overall Design CPM Schedule activities, and shall total the Consultant's contract amount. The schedule cost loading will be submitted to the State for approval. No payment to the Consultant shall be made until the Design CPM Schedule cost loading is approved by the State.

Once each month, the Consultant shall meet with the CMF to review design status and update the detailed design schedule. If the Design CPM Schedule updating shows design slippage, the Consultant shall meet with the CMF to develop a recovery plan to regain any unauthorized lost time.

Each updating of the Design CPM schedule shall calculate the Consultant's monthly payment requisition based upon the progress reported for the month, and the approved activity costs. The costs calculated from the CPM updating shall be transferred to the State's Consultant payment form by the Consultant and shall constitute the Consultant's monthly payment requisition.

C. CONSULTANT DESIGN SCHEDULE

The Consultant shall complete each phase of its work in accordance with the mandatory milestones set forth in Section IV of this Statement of Work. Time is of the essence for this effort. The design work shall be accomplished in accordance with the approved Design CPM Schedule. The Consultant acknowledges the potential additional costs that the State may sustain, including costs incurred in extended rental of temporary facilities, and time extensions to contractors or other Consultants, if the Consultant does not perform its services timely and, at a minimum, in accordance with the mandatory milestones as set forth in the approved Design CPM Schedule.
Notwithstanding anything herein to the contrary, if the Consultant is delayed in performing its work because of causes beyond the control of Consultant, a time extension may be granted to the Consultant. However, lack of available manpower of Consultant shall not be a basis for a time extension.

The Consultant shall give written notice of such delay to Owner within seven (7) days from the occurrence of the delay. In such event, Owner and Consultant shall use their best efforts to make sure that the Consultant's work is performed according to the approved Design CPM. Consultant acknowledges Owner's right to revise the approved Design CPM Schedule if necessary. Owner acknowledges that these changes may impact delivery dates as set forth in the approved Design CPM Schedule. Any revisions to the approved Design CPM Schedule shall not constitute a basis for any amendment to the Consultant's contract.

Any such sums for which the Consultant is liable may be deducted by the Owner from any moneys due or to become due to the Consultant.

D. CONSTRUCTION BID SUMMARY SCHEDULE

The Consultant; in conjunction with the CMF, shall develop a Construction Bid Summary Schedule for use in the specification portion of the Contractors bid document. This schedule shall contain at a minimum, the major activities and the duration for each trade specified for the project. This schedule will be used by the DPMC/NJBA Project Team for planning purposes and as a guide by the Contractors during their bidding phase. Based on information obtained during the pre-design and design phases, the schedule shall be updated to reflect all special sequencing and/or phased construction requirements needed to complete the project in the time frame specified by the Owner.

E. CONTRACTOR CONSTRUCTION CPM SCHEDULE

The Construction Management Firm (CMF) retained by DPMC will be responsible to produce a cost loaded critical path method (CPM) scheduling system for use by the Contractors during the Construction Phase of the project. The Contractors shall provide all the information necessary for the CMF to develop the CPM network plan and shall agree that the schedule is the designated plan for completion of all work in the allotted times indicated. Construction logic and activity time durations shall be established by all Contractors consistent with contact requirements and reflective of proper coordination between trades. The level of detail to be reflected on the CPM schedule shall be established by the CMF.

The Contractor shall indicate formal acceptance of the schedule by signing the finalized initial network diagrams and computer schedule listing and shall utilize the plan in planning, coordinating and performing the work under this contract (including all activities of Sub-Contractors, equipment vendors and suppliers).

The Design Consultant shall refer to the "Instruction to Bidders and General Conditions", as amended, Article 6, for additional CPM requirements for this project.

F. DESIGN DOCUMENT REQUIREMENTS

This section of the Scope of Work is intended as a guide for the Consultant to understand the overall basic design requirements of the project and is not intended to identify each specific design component related to code and construction items. The Consultant shall provide those details during the design phase of the project ensuring that they are in compliance with all applicable codes, regulating authorities, and the guidelines established in the DPMC Procedures for Architects and Engineers Manual.

The Consultant shall understand that the design documents submitted to NJDCA shall go beyond the basic requirements set forth by the Uniform Construction Code NJAC 5:23-2.15(e). Drawings and specifications shall provide detail beyond that required to merely show the nature and character of the work to be performed.

The construction documents shall provide sufficient information and detail to illustrate, describe and clearly delineate all methods of construction required for this project. The documents shall be of sufficient quality and contain the appropriate amount of design detail and information necessary for all Contractors to bid on one design concept provided by the Design Consultant.

G. BID DOCUMENT REQUIREMENTS

1. Single Prime Contract:

The bid documents for this project shall be prepared to advertise and bid this project as a "single prime" contract. Therefore, the Consultant shall estimate all costs under a "single prime" scenario and include that lump sum amount in the base bid of their fee proposal.

2. Separate/Early Bid Package Contracts:

There is a possibility that the bid documents may be prepared to advertise separate/early bid packages. Therefore, the Consultant shall estimate all costs associated with preparing a minimum of three separate/early bid packages and enter that amount on the fee proposal line item entitled **"Separate/Early Bid Package Allowance."**

The Consultant will also assist in an analysis to determine if separate/early bid packages should be advertised to compress the project schedule and/or to address long-lead items that may have a negative impact on the project schedule. Additionally, the Consultant will assist in an analysis to determine if the bid schedule should be adjusted to allow for a more advantageous bid market. These analyses are to be completed during the Final Programming Phase and Design Development Phase. Other options recommended by the Project Team members may require additional analysis.

Examples of bid packages include:

EBP #1 Site Work/Concrete/Structural Steel & Metal Decking,

EPB# 2 Pre-purchase Emergency Power Generator & Related Equipment,
EPB# 3 Pre-purchase Lab Casework and
EPB #4 Pre-purchase Lab Refrigerators & Freezers

The Consultant shall provide a cost breakdown detailing all costs associated with the possibility of separate/early bid packages. These detailed breakdowns are required as a deliverable during the Program Phase.

H. PRE-DESIGN CONFERENCE MEETING

Prior to the start of this design phase of the project, the Consultant shall meet with the members of the Client Agencies, NJOIT, NJISU and the DPMC/NJBA Project Team to coordinate the following items:

1. Existing Documentation:

Obtain and review all available design documents, reports, studies, equipment manuals, etc. that are related to this project. It shall be the Consultant's responsibility to become familiar with the contents of the documents and verify the accuracy of the information provided including the history of changes if appropriate. Any drawings provided by the DPMC/NJBA or the Client Agency are for informational purposes only and must be field verified by the Consultant prior to use.

2. Project Directory:

Develop a project directory that identifies the name and phone number of key designated representatives who may be contacted during the design and construction phases of this project.

3. Project Schedule:

Review and update the project design and construction schedule with the DPMC/NJBA Project Team members.

4. Scope of Work:

Review the design and construction administration service requirements contained in this Scope of Work document with the DPMC/NJBA Project Team members. Items such as: special sequencing or phased construction requirements, special hours for construction based on Client Agency programs or building occupancy, security issues, delivery dates of critical or long lead items, utility interruptions or shut down constraints for tie-ins, weather restrictions, and coordination with other project construction activities at the site shall be addressed.

This information and all general administrative information; including a narrative summary of the work for this project, ***shall be included in Division 1*** of the specification.

5. Site Access:

Develop procedures to access the project site and provide the names and phone numbers of approved escorts when needed. Obtain copies of special security and policy procedures that must be followed during all work conducted at the facility (to be provided by DPMC) and include this information in Division 1 of the specification.

6. Security System Features:

Confirm new security system features with the Client Agency, NJ Intergovernmental Security Unit (ISU) and recommendations in the Security Upgrade Study by Gannett Fleming (Project A1359-00).

7. Information Technology Features:

Confirm new information technology features with the Client Agency and the Office of Information Technology (OIT).

8. Office Furniture:

Confirm new office furniture requirements with the Client Agency

I. SITE ENVIRONMENTAL DESIGN CRITERIA

1. Environmental Impact Statement:

Prepare an Environmental Assessment and submit an Environmental Impact Statement for review and approval by DEP for this project.

2. Soils Contamination Test:

Conduct tests of the construction site soils to determine if there are traces of contamination. If found, describe the Contractor's requirements for removal of the contaminated soils and disposal in an appropriate landfill.

3. Methane Test:

Conduct tests of the construction site for gasses such as, but not limited to: radon, methane, etc. and if found, provide a detailed remediation plan including all necessary design criteria.

J. SITE GEOTECHNICAL DESIGN CRITERIA

1. Geotechnical Data Coordination:

Review all previous geotechnical reports prepared by HOK. This information may be used to determine the extent of services to be provided for this project and may eliminate duplication of work.

It is the Design Consultant's responsibility to confirm any information used in making any determination or conclusion for this project. The Design Consultant assumes full responsibility for any determination or conclusion drawn from this material.

2. Soil Borings:

Obtain soil borings of sufficient quantity to identify the depth of existing rock formations that may impact the excavations for the building, roads and parking lot areas of the site and avoid potential change orders during excavation. The maximum spacing between borings shall not exceed 75 feet. All soil boring data shall be included in the design documents for Contractor reference.

3. Foundation Investigation:

Provide an investigation report that identifies the design criteria selected for the building foundation based on the existing site soil conditions, rock formations, potential water infiltration, and high ground water conditions. Identify the quality assurance measures selected to prevent settlement of the foundation and water infiltration into the building.

4. Rock Formations:

Due to the presence of shallow rock at the site, excavations for foundations and utilities will encounter rock. If the new building design requires deep excavations then controlled blasting may be considered as an option and will require special approval and permits from Agencies such as the US Government Division of Mining. The Consultant shall determine all of the blasting approvals and permitting requirements as part of this project. No blasting will be permitted without written approval from the NJBA.

The final foundation designs shall be based upon the building design and the findings of the geotechnical investigations conducted by the Soils Engineering Firm hired by the Consultant.

5. Water Table:

Identify the elevations of ground and seasonal water tables for the construction site and how they will impact building systems, foundations, and parking lot design. Provide a design to prevent water infiltration.

6. Storm Water Runoff:

Investigate the impact of water runoff with the building location. Describe the techniques to be used to prevent water infiltration into the building such as grading, retaining walls, drainage swales, storm drains, catch basins, drainage piping, sump pumps, waterproofing, etc. Provide all required signed and sealed hydrologic and hydraulic calculations to the NJDCA for record.

7. Soil Erosion and Sediment Control:

Submit the Application for Soil Erosion and Sediment Control Plan Certification to the Mercer County Soil Conservation District Office. The submission and design requirements, documentation, drawings, calculations, etc. required for the application shall conform with the guidelines and procedures published by that District Office. All application fees shall be paid by the Design Consultant.

8. Storm Water:

An adequate storm water management and water quality plan will need to be developed for any increases in runoff as a result of new construction. Upgrading any existing detention basins and/or the construction of new detention basins will be required to handle the increase in impervious coverage and the associated storm water runoff. The detention basins must also be designed to meet current water quality standards. All design calculations shall be submitted to NJDCA for record

It is also likely that some of the existing storm water infrastructure will require replacement and/or repair depending on the site layout and condition of the existing facilities. Site inspections revealed settlement around existing catch basins at the NJSP Division Headquarters Complex.

9. Geotechnical Report:

Provide copies of the geotechnical report containing all of the investigative information, supporting backup data, and summary narratives requested in this section of the scope to DPMC/NJBA and the Client Agency. The Consultant shall make an oral presentation of the geotechnical report contents to the DPMC/NJBA Project Team members at the completion of the Schematic Phase of the project.

K. SITE HARDSCAPE DESIGN CRITERIA

1. Concrete Walkways and Steps:

Concrete walkways, steps and handrails, and handicapped ramps shall be provided from the parking lots to the building and extend around the building for employee and visitor access.

2. Roadways and Parking Lots:

All new roadways designed shall provide adequate vehicle access to the Health, Environmental and Agriculture Laboratory Building, Pre-Screening Building, loading dock and service area, visitor and employee parking lots, emergency egress and fire access lanes.

The design of the new roads, parking lots, curbing and islands shall be in accordance with the current NJDOT Roadway Design Manual. Roadway turning radiuses shall be appropriate for the largest anticipated delivery trucks. The facility parking and roadway circulation shall be configured to provide adequate separation of employees and visitors.

Parking lot and roadway surfaces shall be bituminous concrete and shall have appropriate stripping, signage and lighting. Concrete curbing shall be installed along the edge of all new roadways and around the perimeter and islands of the parking lots. Handicap curb cuts shall be included at appropriate locations. All grading shall provide appropriate slopes for storm water runoff to curbs, gutters and inlets tied into the existing site drainage system.

Consideration shall be given for location of an additional 115 parking spaces. Confirm the final number of spaces during design. Provide appropriate reserved parking spaces for the handicapped and visitors including signage. See **HDR's Final Study deliverable** for the location of the proposed parking lots.

3. Signage:

Provide all appropriate site signage including, but not limited to: speed, directional, handicap, informational, security, parking, etc.

4. Site Lighting:

Pole mounted site lighting shall be integrated into the architectural and landscape design for the parking areas, paths, pedestrian sidewalks, stairs, roadways, and other areas or equipment requiring proper illumination for visibility, surveillance and personnel safety. Spacing and heights of the light poles shall ensure proper coverage of the areas illuminated. Lighting levels shall comply with approved design standards and be sufficient to support areas of CCTV surveillance.

Circuit wiring diagrams shall be provided that will identify the electrical connection of the light fixture to the power source inside the building. Tie-in to the panels, panel schedules, circuit breakers, grounding details, electrical riser diagrams shall be identified on the drawings. Include the light pole locations, pole identification numbering system, foundation design details, lamp type, light levels, and electrical utility tie-in details on the drawings.

Lamps shall be high efficiency type and have photocell dusk to dawn operational features.

L. SITE LANDSCAPE DESIGN CRITERIA

Grading, seeding, trees, plants, shrubs, and all other landscape materials shall be provided at all appropriate site locations. Planting details, dates for planting, and watering/maintenance requirements and responsibilities shall be defined in the design documents for reference.

M. SITE SURVEY DESIGN CRITERIA

1. Topographic Survey:

Provide a topographic site plan with a scale that complies with all other design drawing scales and indicates all topographic features including, but not limited to: utilities, structures, pavements, slabs, vegetation, surface materials, storage tanks (above and below ground, rock formations, etc.)

Contour lines shall be shown at appropriate intervals. Spot elevations shall be provided as necessary within the site and at locations of structures, pavements, high and low points of elevation, etc. in order to document the elevations of these features.

Relate benchmark elevation to USGS elevation where possible. Provide permanent benchmark on adjacent structure for use of construction personnel. The information obtained shall identify the clearing and filling requirements, excavating and grading requirements to establish a uniform elevation and relationship of site grade to road elevations.

The Consultant shall investigate the NJSP Headquarters Complex site to determine any need for new topographic requirements of this project. It is the Consultant's responsibility to confirm any information used in making any determination or conclusion.

2. Boundary Survey:

Provide a boundary survey plan, if necessary, delineating the project construction site and areas of anticipated future expansion.

N. SITE UTILITY INFRASTRUCTURE DESIGN CRITERIA

1. Electric & Gas:

Public Service Electric and Gas (PSE&G) provides both electric and gas service to the site. Electric service enters the site overhead from West Upper Ferry Road and Upper River Road. Obtain a letter indicating that electric and gas service is available in accordance with their standard terms and conditions for electric/gas service. Once the building is designed so that loads can be calculated, then discussions shall begin with PSE&G about bringing additional service to the site.

Establish the Contractor coordination requirements with the appropriate utility company in the design documents including, but not limited to: the utility company design criteria, design document reviews by the appropriate utility company, utility company inspections, fees, construction contract limit lines, material and equipment to be provided by both parties such as meters, panels, valves, etc.

2. Laboratory Waste System:

Investigate and determine the type and quantity of laboratory waste developed from the lab sinks, cup sinks, fume hoods, glass washing equipment and laboratory related equipment. From this information, design a separate gravity waste system(s) that will convey the waste by a separate gravity waste line into a laboratory waste neutralization treatment system. From the neutralization system, the treated effluent shall be combined with the sanitary waste system prior to leaving the building.

3. Sanitary Sewer System:

The NJSP Division Headquarters site contains a gravity sanitary sewer system owned and maintained by the State. The sanitary sewers and pumping stations on State Police Road are owned and maintained by the Ewing Lawrence Sewerage Authority (ELSA).

The on-site sanitary sewer lines tie into the existing gravity sanitary sewer system located on State Police Road.

Establish the Contractor coordination requirements with the Utility Company, ELSA, in the design documents including, but not limited to: the Utility Company design criteria, design document review criteria, inspections, fees, construction contract limit lines, material and equipment to be provided by both parties such as meters, panels, valves, etc.

Sewerage from the NJSP Division Headquarters Complex flows through four (4) existing pump stations en route to the Treatment Plant. Review existing documentation to confirm if the four (4) pump stations are adequately sized to handle the additional flows of this project. If it is

determined that the pump stations are inadequate, then the Consultant shall provide a design to upgrade the stations and related components. The design must be reviewed by ELSA.

The Consultant shall estimate the potential design costs necessary to upgrade the four (4) pump stations and include this estimated amount in their fee proposal line.

4. Site Utility Survey:

The requirements for the laboratory facility site utilities shall be coordinated with the existing NJSP Complex system infrastructure as appropriate. The existing site utilities shall be extended and possibly upgraded to service the new laboratory facility expansion. They shall include, but not be limited to water, sanitary, electric, gas, telephone, fiber optics, etc. Review all previous utility system survey reports including the HDR study. This information may be used as a guide for this project and may eliminate some potential duplication of work.

Conduct underground line detection methods to identify and locate all underground utility lines that may interfere with the proposed building foundation, parking lot and new utility line installations. The existing utility line locations, elevations, sizes and critical crossing points shall be shown on the design drawings to prevent line interference, excavation accidents, utility disruption or shutdown during the installation and tie-in of the new lines to the existing utility infrastructure. Details indicating the method and location of the utility tie-ins shall also be shown on the drawing.

All as-built site utility drawings and previous underground utility survey reports supplied by the State must be field verified.

Survey all of the existing site utilities and related data to determine their capacity for expansion and also document the existing utilities that are to be extended and/or replaced.

Develop a table that identifies the maximum capacity rating of each existing utility, the available capacity remaining based on present and planned future usage of the existing utilities, and the capacities required for the new Health, Environmental and Agriculture Laboratory Building planned for the site.

Any existing underground utility located within the proposed development area shall be identified and relocated if required, and those utilities that are not reused shall be removed and terminated at the main headers. All abandoned utility trenches that are in the influence zone of new construction shall be backfilled with compacted structural fill or grouted as needed.

Identify all secondary backup utility sources and redundancy design requirements for the laboratory facility and provide a design for the same.

Obtain written verification from the applicable authorities and/or utility companies stating that they can provide adequate utility service for the project. Information pertaining to the sanitary, storm, water, fire protection, gas, electrical, cable, telephone, etc. services must confirm the specific pressures, flows, consumption or loads that will be provided and the approximate date of service. Identify the extent of work to be done by the utility provider, the utility approvals required for the connection points, available rebates, meters and pit requirements, and whether there will be any fees to be paid by the State or the Contractor.

5. Utility Design Documents:

Composite utility drawings for coordination with the existing site utility infrastructure shall be prepared at a scale to match the scale of the topographic survey drawing and all other appropriate design drawings. The drawings shall include, but not be limited to the following items: sufficient plain metric data as background to show roadways and property patterns of the area, the Health, Environmental and Agriculture Laboratory Building outline and alignment, all existing and proposed utilities crossing adjacent to construction, the dimensioned location including the size and elevation of identified underground utilities that may be affected by construction, etc.

Profiles shall be prepared of each new utility line run from the existing utility line indicating the depths below surface and the top and bottom envelop or cross section of all utilities, all drawn to scale. The profiles shall indicate the length, slope and invert elevations of the proposed line and related components. If a valve, flexible coupling, thrust block, tie-rod, etc. is required, they shall be indicated on the profile. Details showing the location and method of all utility tie-ins to the main lines shall be shown on the drawings including meter pits.

A table shall be prepared on the drawing which will summarize the utility pipe runs to the buildings including the pipe diameters, approximate lengths, and the piping components such as meters, valves, backflow preventers, expansion joints, etc.

Trenching size and details including dewatering requirements shall be indicated on the drawings for all utility lines. All utility lines maintained in place, restored and new are to be supported on undisturbed material or properly compacted backfill.

The design documents shall also include all piping tests and procedures required for each utility line and the site restoration work needed after installation of the lines including lawn areas, sidewalks and driveways.

Prior to design, the Consultant shall discuss and coordinate with the appropriate utility company and government agency all of their design and testing criteria, contract limit lines, reviews, permitting, and approval requirements for this project. Examples include NJDOT, NJDEPE, PSE&G, ELSA, Trenton Water Works Co., County Soil Conservation District, county and local municipalities, etc.

It is imperative that the Consultant measure and record the locations, depths below surface, and the top and bottom envelope or cross section of all new utility lines, manholes, valve boxes, vaults, etc. that are installed during the construction phase of the project and that the data is transferred to the as-built set of drawings for future reference. The project will not be closed-out without this information.

6. Utility Infrastructure Cost Analysis:

The Consultant shall to determine the most effective method of providing the required utilities to the building for this project based on the repair/replacement and extension costs of the existing utilities versus the installation of all new utilities that will originate from the main supply lines. The Consultant shall make an oral presentation of their recommendations to the DPMC/NJBA Project Team members for review and approval prior to design.

If it is determined to replace the existing utility infrastructure with a new utility infrastructure, then all references to utility upgrades in this Scope of Work shall be disregarded.

7. Water:

Water is provided to the Jones Farm and the NJSP Division Headquarters Complex by the Trenton Water Works. The Consultant shall determine the capacity and condition of the existing water system that will serve the proposed renovations and facility expansion. Provide a fire hydrant flow test before the Schematic Phase of this project to determine if there is adequate water capacity for the building fire suppression system. The Fire Hydrant Test shall be witnessed by DPMC Code Group Staff.

The Consultant shall estimate the potential design and construction administration costs necessary to upgrade the existing water piping system and add possible individual booster stations to provide adequate flows and pressures to the Health, Environmental and Agriculture Laboratory Building, the proposed expansion areas and include this amount in the fee proposal.

Provide a design for a secondary independent water source to the Health, Environmental and Agriculture Laboratory Building by either utilizing a storage tank, tie-in to the existing water well, or a combination of both.

If a new water line is extended from the existing Trenton Water Works (TWW) water main located on West Upper Ferry Road then the design shall be submitted to TWW for review and approval.

Establish the Contractor coordination requirements with TWW in the design documents including, but not limited to: the Utility Company design criteria, design document review criteria, inspections, fees, construction contract limit lines, material and equipment to be provided by both parties such as meters, panels, valves, etc.

The new building shall be equipped with a water meter and main building backflow preventer.

O. BUILDING ARCHITECTURAL DESIGN CRITERIA

1. Federal Aviation Authority (FAA) Coordination:

The proposed expansion construction work at the Health, Environmental and Agriculture Laboratory Facility may be within the FAA's jurisdiction since it is in the proximity of the Mercer County Airport located in West Trenton. The Design Consultant shall investigate and include any FAA design criteria in the design documents and identify any policies, procedures, and approvals required during the design and construction of this project.

2. Structure:

Conduct an assessment to determine the advantages and disadvantages of a steel framed building versus a cast-in-place concrete structure or a combination of both considering laboratory equipment vibration restrictions, seismic shear loads, foundation design, construction costs and schedules. Also investigate the advantages and disadvantages of a partial basement for the building considering the potential excavation problems with rock formations, the need for a large basement mechanical room considering that a geothermal heat pump system might be installed, construction costs, schedule, etc.

The Consultant shall make an oral presentation of their recommendation to the DPMC/NJBA Project Team members for review and approval prior to design.

3. Roofing System:

The Consultant shall recommend the most appropriate roof design for the facility to ensure a leak-proof roof. Lightning rods; i.e. aerial conductors, shall be installed on the roof.

The design documents shall specify that each roofing system manufacturer identified in the specification shall provide a minimum of a 25-year warranty for the replacement of all defective roofing components. During this period, the manufacturer shall make all repairs to the system components required to maintain it in a leak free condition, at no cost to the owner, and without any dollar limitation.

4. Roofing Monitor:

The Consultant shall have in-house capabilities or a Sub-Consultant pre-qualified with DPMC in the P028 Roofing Inspection Specialty Discipline. The costs for the services provided by the roof monitor shall be included in their fee proposal line item entitled **"Roof Monitor Allowance"**,

refer to paragraph XI.B. A cost breakdown sheet shall accompany the fee proposal that identifies all costs associated with the Roof Monitoring services to be provided.

The Consultant shall provide a full time roof monitor during the installation of the roof systems on the buildings. The responsibilities of the roof monitor shall include, but not be limited to the following items:

5. Roof Monitor Inspections:

The Roof Monitor must continuously inspect and monitor the Contractor's work on site and file a daily DPMC 605 Roofing Inspector's Check List Form to ensure compliance with the contract documents. Photographs shall be included for reference. The report shall include weather conditions, number of workers, and the amount of roof removed and installed together with comments on each phase of work. Comments shall provide descriptions and information on project mobilization, material delivery, removal of existing roof system, preparation of the existing deck, installation of the new underlayment and/or insulation, sealant and adhesive applications, flashing, walkways, etc.

6. Inclement Weather:

The Consultant, in conjunction with the Roof Monitor, shall anticipate time losses due to seasonal inclement weather conditions such as rain, wind and low ambient temperatures and include these hours in the base bid of the fee proposal.

On the first day of inclement weather, the Roof Monitor will be entitled to four hours to visit the site and inspect the roofing system for potential roof leaks or damage. Additional time spent on the site during inclement weather will not be reimbursed unless directed by the Project Manager.

7. Unsatisfactory Work:

If the Roof Monitor determines that the roof Contractor is installing the roofing system improperly, he shall notify the Contractor to stop all work until the Consultant is notified and inspects the work for design conformity. If appropriate, provisions shall be made to seal the roof work area until the Consultant arrives and the installation issues are resolved.

If the Consultant determines that the installation does not meet the intentions of the design or indicates poor workmanship, he shall notify the Project Manager that he recommends the questionable roofing installation be removed and replaced properly. The Project Manager shall then notify the Contractor verbally to take the recommended action and shall follow up with a written directive indicating the time and date the Contractor was notified.

8. Meetings:

The Consultant and Roof Monitor shall both attend the pre-construction conference and all periodic job progress meetings during the construction phase of the project.

P. BUILDING SYSTEMS DESIGN CRITERIA

1. Data & Telecommunications Systems:

The existing facility building has a telecommunications equipment room (TER) centrally located on each floor of the building as a common termination point for all data and voice cables to each outlet on the floor it serves. The rooms are vertically stacked to facilitate the routing of backbone cables. The rooms have fire protection and HVAC provided on a full-time basis and tied into the emergency power system.

Empty raceways shall be provided to allow for the private installation of a telephone system by telecommunication vendors.

Empty raceway systems shall be provided for local area networks (LAN). It is anticipated that the State's IT provider will provide the necessary wiring and data outlets. Conduits shall be routed through telecommunication equipment rooms to a network server room.

Raceway systems shall also be provided for other specialty systems such as: cable television, security systems, satellite dish, public address systems, etc.

An underground telecommunications duct bank shall be provided as required. A sufficient quantity of conduits, some filled with inner duct, shall be included to accommodate all initially low voltage systems as well as any requirements of the foreseeable future.

All telecommunication manhole systems shall be designed to be watertight above and below grade and the covers shall be lockable for security reasons.

Identify and provide all data and telecommunication equipment and hardware including, but not limited to: HUB's and routers, racks, central server electronics, patch cords and miscellaneous hardware, remote operating module telephone switch, new telephone handsets and devices, satellite dish, etc.

All appropriate data and telecommunication systems shall be tied into the laboratory Central Monitoring Room and shall have the provisions to be tied into an approved remote Central Monitoring Station at a future date and as a separate project.

2. Electrical Power Distribution System:

Electrical drawings shall include lighting, power, communications, fire alarm and specialized systems. Lighting features must indicate typical lighting arrangements, reflected ceiling plans, types of fixtures, proposed light intensities, emergency and egress lighting. All lighting specified shall be energy efficient.

Riser diagrams showing service equipment, feeders and panels other than branch circuits must be provided. Wire sizes, current demand factors and switch and panel schedules shall be included on the drawings.

Location, capacity, space requirements of all major items or equipment must be indicated. Indicate the size of the service equipment, transformers, circuit breakers, switchgear, main disconnect, etc. To accommodate and distribute power inside the building, a main electric service room shall be provided to house main circuit breakers (service disconnect) and an adjoining circuit breaker distribution switchboard. Step down dry type transformers shall be provided to serve small equipment and general receptacle loads. These shall be located in ventilated electric closets located on each floor of the building.

Sensitive electronic equipment such as computers shall be circuited with isolated grounds to minimize electrical noise. In addition, Transient Voltage Surge Suppressors shall be provided to reduce harmful voltage levels caused by lightning or switching surges.

3. Electric Vehicle Charging:

The Consultant shall give consideration to and include in the design any infrastructure that will simplify and "make-ready" the future installation of electric vehicle (EV) charging equipment. Actual charging equipment will be installed under a separate project.

4. Energy Management System (EMS):

The existing EMS system capable of centralized control of all building functions and remote monitoring of equipment status and operating characteristics such as: on/off status, date and time, chilled and hot water temperatures, pressures and flows, temperature and humidity values for various floors and specialized areas, percentage of fresh air, supply air temperature, alarm and change of state, alarm summaries, trend logging, point values and status, etc. Monitoring of the EMS system shall be conducted in the building's Central Monitoring Room and provisions shall be made for remote monitoring by authorized building facilities personnel.

The EMS system shall have the ability to select optimum operational modes for the building mechanical and electrical equipment. The system shall report the changes of state and value and record operator commands. The system shall centralize, integrate and control the different

building systems such as HVAC equipment, mechanical and electrical equipment, lighting systems, geothermal equipment and solar panels.

The EMS system shall also support various application routines and perform special tasks such as peak demand limiting, duty cycle control, direct digital temperature control, start/stop time optimization, demand limiting, time of day routines, supply air reset, chilled water reset, hot water temperature reset, scheduled occupancy routines including holidays, day/night setback, free cooling, demand ventilation for indoor air quality and humidification, enthalpy based economizer, history logging of data, lighting control with after-hours phone override, after-hours night setback phone override, and metering of building electric consumption.

The system shall have a graphic display depicting the equipment and areas being monitored.

All supporting hardware, computer(s), printers, consoles, and programmed software shall be provided for the EMS system. The EMS central control unit shall be integrated with the other equipment located in the Central Monitoring Room of the building.

The EMS system shall be provided with an uninterruptible power supply (UPS) system.

The system shall have future expansion capabilities for additional functions and zoning and shall have the ability to be monitored and controlled remotely through a modem.

5. Fire Detection System:

The existing Health, Environmental and Agriculture Laboratory building utilizes the hardware of a single fire alarm manufacturer to enable full communication between addressable devices and the main fire alarm panel. Upgrade the panel as necessary to facilitate additional devices as part of the expansion.

6. Fire Suppression System:

In addition to general fire protection, the networked system is integrated with all special fire protection systems that incorporate their own actuating and alarm devices such as pre-action and dry pipe sprinkler systems and FM200 systems in the hi-tech electrical areas of the building.

Provide a complete set of working plans and specifications showing the layout of the sprinkler piping on the interior floor plans of the building in accordance with the requirements of NFPA 13. A sprinkler piping riser diagram shall be provided identifying all pipe and related components. Drawings shall include all standard fire safety symbols.

Design documents shall include the pipe material, size and wall thickness, and center to center dimensions of the sprinkler heads. Indicate the total area protected by each system on each floor, the number of sprinklers on each riser per floor, and the total number of sprinklers on each

system. Details of the hanger type and location, sleeves, braces, and methods of securing the sprinkler system shall be provided including calculations that indicate they meet all seismic requirements

Provide signed and sealed hydraulic calculations, water pressure data for the fire suppression sprinkler system in accordance with the applicable NFPA and as adopted by the International Building Code, as amended.

The following statement shall be included in the specification and drawings: "If the sprinkler Contractor prepares shop drawings that differs in design from those supplied by the Design Consultant, they shall submit them to DCA Code Group for approval prior to fabrication and installation of the system".

The specification shall indicate the type of system and the name of the desired manufacturer and two alternate manufacturers of each system component required for total suppression including, but not limited to: valves, hangers, sprinkler heads, alarms, meters, fire pump and jockey pump, etc.

All hydrants, control valves, check valves, backflow preventers, line flushing valves, drain pipes, air compressors, jockey pumps, fire pumps, and test connections shall be shown.

Design all test valves and drains as needed. It is preferred that all drains shall discharge to the exterior of the building. All new piping installed in the building shall be sealed where it passes through the floors and walls of the structure and the material must afford the required fire rating of that floor and wall. Details of the pipe penetration shall be included on the design drawings indicating how they are to be sealed and the type of material to be used.

The sprinkler system, sprinkler main valve supervision, flow and tamper switches must be integrated with the fire detection system of the building and must comply with the applicable NFPA code.

The design for special areas requiring a clean agent fire extinguishing system shall be prepared in strict compliance with the applicable NFPA code.

Signed and sealed calculations shall be submitted to NJDCA review that indicates the amount of total flooding clean agent, container storage pressure, internal volume of the container, the location, type, and flow rate of each nozzle, and the location, size and volume of the special areas to be suppressed.

Upon completion of the project and prior to issuance of the Certificate of Approval or Certificate of Occupancy, the Contractor shall test the complete fire suppression and detection system making adjustments as required to secure all necessary approvals. The Consultant shall identify the testing requirements in the specification including the hydrostatic test pressures, the test duration under pressure, and the amount of allowable leakage per hour.

All equipment testing shall be conducted in the presence of the DPMC/NJBAP Project Team members, Consultant, CMF, Contractors, and DCA. The CMF shall be responsible for the coordination and scheduling of all tests. All test results shall be collected and bound in a manual for reference.

Since the building water supply is used for both the domestic water and fire protection systems, sanitation requirements such as flushing of lines, chemical treatments, and pipe cleaning details shall be included in the design for this project.

A spare parts list shall be prepared and items purchased as part of this project for all critical items necessary for the successful operation of the fire suppression system.

7. High Voltage Power Distribution System:

The Health, Environmental and Agriculture Laboratory Building is served by at least two independent "full capacity" high voltage metered circuits from the PSE&G. An underground distribution system with raceways comprised of concrete encased duct banks and manholes with redundant high voltage circuits shall be provided to distribute power to the building.

Identify the coordination requirements necessary for the Contractor to tie-in the new electrical power distribution source to the new Health, Environmental and Agriculture Laboratory Building and PSE&G. Disruption of the electrical service to the existing facility buildings must be kept to a minimum and the allowable switchover date and time must be established and agreed upon by the Client Agency and the Utility Company prior to the commencement of work.

8. HVAC System:

Conduct an assessment that includes a detailed analysis and final strategy that will allow the selection of the appropriate HVAC system(s) based on the special conditioned air requirements of the administration offices, laboratory areas, greenhouse, cafeteria, and loading dock areas of the Health, Environmental and Agriculture Laboratory Building.

HVAC system items to address shall include, but not be limited to: special filtration devices, ductwork and insulation, fume hoods, number of air exchanges, BSL3+ air requirements, negative pressures, once-pass air, special temperature and humidity requirements and controls, airlocks and pressurized lab rooms, safety alarm systems and controls, Class III biological safety cabinet ventilation, and all other related items not mentioned in this section.

A Life Cycle Economic comparison of the HVAC system(s) investigated for the laboratory shall be provided. Submit a full economic comparison and evaluation of the cost of installing the recommended system(s) to the DPMC/NJBA Project Team members for review and approval prior to design.

Include an analysis of the existing systems air filtration features that results in features that address COVID transmission including but not limited to high performing MERV-13 and above filters.

All supporting data collected during the HVAC analysis shall be bound in a report and presented to the NJBA.

Perform heating and cooling load calculations for all conditioned building spaces to determine the zones and capacity of the new building air supply, return and exhaust air of the HVAC system. The HVAC system shall be oversized for future expansion. Calculations shall be based on, but not limited to items such as: conduction and convection heat transmission, air ventilation and infiltration, solar heat gain, maximum anticipated staff and public occupancy, proposed existing and new laboratory equipment and other internal building heat sources, anticipated future equipment heat sources. One (1) set of signed and sealed heating and cooling load calculations shall be provided to the DCA.

Provide signed and sealed roof load structural calculations for all roof mounted HVAC equipment.

Include equipment schedules indicating all HVAC equipment by symbol designation, name and estimated size or capacity in BTU, GPM, gallons, etc. Include ventilation schedules for all building spaces. Indicate the location of all HVAC equipment and all major piping and all duct runs in the utility rooms and all floors. All major ducts shall be sized. Intake location shall not be near fuel storage, parking or generator exhaust.

Provide vibration and noise attenuation for all HVAC equipment and related components. Sound baffles shall be investigated between rooms and building spaces to minimize sound transmission from one area to the other.

Provide necessary measures for surge protection of HVAC equipment and study the effect of power outages and provide solutions to assure required operation of the HVAC units and Client Agency satisfaction.

Design all associated HVAC controls necessary for the proper operation of the HVAC units, their related components, and the room temperature and humidity levels. Note that some rooms on the same floor and same area will require different temperature and humidity levels. All system automatic electronic controls shall have a manual override feature. Control items to address shall include, but not be limited to the following: thermostats, wiring, smoke detectors shutdown and interface with the fire alarm panel.

Appropriate controls shall be tied into the new EMS system. The EMS system shall have an electronic display of appropriate temperatures and relative humidity readings in all zones of the

building. A modem shall be provided for remote operation of the systems. The DPMC/NJBA Project Team members shall approve the location of the EMS monitor and hardware.

Each new HVAC unit shall contain the appropriate valves and electrical disconnect devices necessary to isolate the unit for repair or replacement and without affecting the operation of the remaining units or system.

Delivery dates of the HVAC equipment specified must be obtainable to meet the construction activity milestone dates and projected completion date of the project.

Design shall include provisions for HVAC unit service contract, including parts and labor and semi-annual testing. Contract to be renewable on a yearly basis.

The HVAC systems shall be "commissioned" after their installation including tie-in to the EMS system. Commissioning shall be performed in conjunction with the CMF.

Prior to issuance of a Certificate of Occupancy, all HVAC equipment including fans, controls, dampers and devices requiring adjustments or regulation shall be thoroughly cleaned, adjusted or regulated for proper operation and free from objectionable noise and vibration.

The Consultant shall provide the services of a pre-qualified HVAC Testing & Balancing firm to adjust and balance the installed HVAC system for optimum performance in accordance with the Consultant design criteria and total system balance specifications as outlined in NEEB Procedural Standards for Testing, Balancing, and Adjusting of Environmental Systems.

The Consultant and Commissioning Agent shall determine any system modifications necessary to make the system perform as designed and if a retest is required to verify the modification changes. The test shall be observed and approved by the Department of Community Affairs (DCA). The CA shall provide ample notification time when arranging the test with the Consultant, CMF, DCA, NJBA Project Team members, Contractor, and equipment manufacturers.

A comprehensive Testing & Balancing report shall be submitted to the Consultant for review and approval based on its content, or if required, by field verification.

Identify all available utility rebates and standard offers which correspond to the efficiency ratings and specifications of the HVAC units proposed for this project. Selection of the equipment shall be evaluated and a proposal made based on initial cost and a 10-year payback operating period. See Section entitled "Energy Incentive Program" for additional information.

9. Information Technology 'IT' System:

Review existing documentation to determine what data and telecommunication information shall be added in the laboratory facility information technology system. All system designs shall comply with the standards established by the State Office of Information and Technology (OIT). The Consultant shall contact an appropriate representative from that Office and discuss the proposed design parameters of the systems.

10. Laboratory Waste Neutralization System:

The laboratory waste neutralization system is fully automated "flow through" system complete with two neutralization (retention and stirred) tanks, mixers, chemical feed systems, sensors, controls, and accessories.

Laboratory waste is gravity fed into the retention tank. The retention tank is sized for the proper amount of detention time to control the influent pH and flow. The retention tank is equipped with pH sensor, analyzer and recorder, level controls, mixer, and an emergency overflow pipe directed into a stirred tank.

The stirred tank is equipped with pH sensor, analyzer, recorder and controller, mixer and reagent delivery system. The tank is sized for the proper amount of detention time. The reagent delivery system includes separate acid and alkaline tanks equipped with metering pumps and manual flow control valves in the pump discharge lines.

The system is equipped with pH sensor, analyzer and recorder provided to monitor the pH of wastewater leaving the building.

11. Lighting System:

Interior lighting levels shall conform to the recommended levels noted in the latest issue of the Illumination Engineering Society Lighting Handbook. Additionally, the lighting energy budget for the building shall be within the requirements established by the applicable energy code. To minimize energy usage for lighting, every effort shall be made to utilize the most efficient light sources in the majority of spaces.

As a further economy of energy consumption, rooms with infrequent occupancy such as storage rooms and equipment rooms shall be fitted with occupancy sensors. Additionally, offices shall be provided with local switching and exterior offices shall have two-level switching to take advantage of sunlight.

Outdoor lighting shall utilize metal halide lamps to provide high lumens per watt output while emitting minimal distorting color. The lamps shall have a long life to minimize the frequency of re-lamping.

12. Purified Water System

Deionized/distilled water is provided to the laboratory sinks, laboratory related equipment and glass washing area. The Consultant shall determine the minimum purity requirements (type of water).

Central purity water generating equipment shall be complete with pre-treatment (depth filter, chemical injection), reverse osmosis unit post treatment (if required), storage tank, distribution pumps, controls and accessories.

13. Security System:

A building and site security system shall be implemented to provide single point monitoring of all access control devices and CCTV. Systems shall include, but not be limited to the following items: pedestrian boundary areas, vehicle barriers, swipe access cards and readers with programmable security levels, exterior and interior door locks including magnetic, keyed, programmed, Federally approved access intrusion detection devices, storage vaults and rooms, uninterruptible power supplies, computer access code system, window and door barrier protection, CCTV video camera surveillance inside and outside of the building, site roadway entrances, the site perimeter, parking lots, exterior and interior lighting including locations and illumination levels, communication systems including intercoms, telephones and computers. All security system data that is monitored shall be tied into the Central Control Room.

Biometric access systems shall be provided in select agent areas determined by the Client Agency.

Develop security procedures and policies in cooperation with the Client Agency security representative(s) familiar with the function and operations being performed in the building. Training shall be provided for all security equipment systems installed. Operating and maintenance manuals shall be provided to the NJBA for distribution to the appropriate parties.

14. Special Waste System:

Provisions will be made for the containment, conveying and/or disposal of special laboratory research waste materials such as: highly concentrated (non-diluted) acids, solvents and radioactive materials, etc. by the Client Agency for off-site disposal. The Design Consultant shall program dedicated space(s) in the Health, Environmental and Agricultural Laboratory Building and provide the required code approved storage media and systems for their containment until removed by authorized personnel.

15. UPS System:

Provide an UPS system(s) to provide continuous operation of the critical loads of the various technical areas and laboratory equipment of the expanded facility footprints. The UPS systems shall supply the required electrical power to all of the critical loads and related auxiliary equipment such as lighting, ventilation and air conditioning systems, computer rooms, central monitoring room, etc. serving the critical technical areas of the building. The nature, size, and locations of critical loads shall be determined in the Program Phase of the project.

The UPS systems shall be sized with 25 percent spare capacity. Signed and sealed calculations of the critical electrical loads shall be submitted to DPMC Code and Design Review Unit for review.

The UPS systems shall include all instruments and controls for proper system operation. The system status panel shall have an appropriate audio/visual alarm to alert operators of potential problems and shall be tied to all appropriate remote panels and the Central Monitoring Room.

The design shall investigate the need for separate UPS battery room(s) complying with the current requirements of the National Electrical Code.

16. Water and Sewer Systems:

Sanitary waste and vent system shall be provided connecting all plumbing fixtures and floor drains discharged to the site sewer. Domestic hot and cold water system shall be provided supplying all plumbing fixtures in toilet rooms and other fixtures requiring domestic water. The plumbing fixtures shall be low flow type conforming to the conservation laws. Storm water drainage system shall be provided collecting storm water from roofs drains, area drains, canopies and convey it to the site drainage system. Natural gas distribution shall be provided supplying natural gas to all equipment requiring natural gas. Separate riser diagrams shall be shown for fuel oil, gas service, sanitary drain and vent system, hot and cold water distribution system, and storm drainage system.

Provide floor plans including all utility rooms, chases, etc. Indicate the location of all equipment associated with plumbing and all major piping in the utility rooms and floor levels. Applicable equipment connections shall be identified on all schematic and riser diagrams. Include BTUH input, pipe sizes, water supply fixture units (WSFU), drainage fixture units (DFU), slope, valves, drainage points, area, distance, etc. as it relates with each riser.

For natural gas and LPG services, include specific gravity and maximum permitted pressure drop. Include a fixture schedule listing each fixture, description, trap and vent sizes, DFU values, and hot and cold water connection pipe sizes. Plumbing fixtures and detail elevations shall conform to NJ Barrier Free Regulations and NSPC Appendix D - Water Conservation Requirements.

Q. BUILDING INTERIOR DESIGN CRITERIA

1. Blocking & Stacking Diagrams:

After the programming information has been updated for the laboratory, provide blocking and stacking diagrams to the DPMC/NJBA Project Team members for review and approval prior to design.

2. Building Program Update:

Due to potential policy decision changes, prior to implementing physical design, a program verification will be required with the Client Agency representatives to assure that the content represents current policy and needs.

3. Sub-Centralized Computer Room:

The Design Consultant shall determine the data to be monitored and the equipment to be provided as part of this project.

4. Sub-Central Monitoring Room:

Provide services linking proposed renovations and expansions to the existing Central Monitoring Room.

All building monitoring systems such as the fire and security, card access readers, emergency generator annunciator panel, energy management system, etc. shall be tied into the Central Monitoring Room. Provide all head end and peripheral equipment for the new room. The computer automation system shall be provided in accordance with current UL standards. The computer hardware and automation software shall be UL listed as a complete system for monitoring operation.

All operational system alerts or alarms shall have remote notification capabilities that will notify authorized building management personnel, the building security personnel, and the NJ State Police.

All laboratory spaces shall be monitored for environmental conditions such as biological sterility, dust, electromagnetic interference, radiation, humidity, airflow, electrical supply, temperature, sound and vibration levels, etc. and tied into the Central Monitoring Room. The data collected shall be permanently recorded for future reference.

The Central Monitoring Room shall have an Uninterruptible Power Source (UPS) system sized to provide clean and uninterrupted power to the appropriate monitoring equipment housed in the room such as the energy management system, recording and computer equipment, etc. The

equipment shall have surge suppression. Provide spare capacity including conductors and conduit for future expansion and potential maintenance and operational needs.

The Central Monitoring Room shall be tied into the emergency generator.

Sample training manuals, instructional materials and an outline of the training sessions shall be submitted in advance to the DPMC/NJBA Project Team for approval. Provide three (3) operator manuals containing equipment information, a listing of all zones, instructions and contact information. Information shall be inserted into protective sheet covers and durable 3 ring binders.

Provide any operator or maintenance certification required by the manufacturer for system operation. Provide required spare parts. The Contractor shall warranty all equipment and labor for a period of three (3) years from the project close-out date. Provide a service agreement with the computer automation software manufacturer for the term of the warranty.

5. Emergency Operations Quarters:

Provide a programmed area in the laboratory facility that will include sleeping, shower, laundry, and locker accommodations for designated personnel during an emergency crisis. The Design Consultant shall determine the component force required.

6. Interior Design:

The Consultant and their Sub-Design Consultants must have the design experience necessary to provide a laboratory facility that meets the requirements of this scope of work. All aspects of the physical laboratory facility must provide an appropriate environment for the conduct of the activities of all disciplines required for laboratory accreditation by Agencies such as the Center for Disease Control and Prevention (CDC), the National Institutes of Health (NIH), the United States Department of Agriculture, the Office of International Epizootis (OIE), the American Association of Veterinary Laboratory Diagnosticians, etc.

7. Primary Data & Command Center Interface:

Provisions shall be made to tie-in the primary data center and command centers located in the Trenton Department of Health Building (Judith Persichilli Building) to the centralized computer room of this new laboratory facility. The Consultant shall determine the data to be monitored and the equipment to be provided as part of this project.

8. Public Viewing Space:

Provide programmed public viewing space in the new facility for the observation of various laboratory activities and other procedures recommended by the Client Agency.

9. Signage:

Provide for all interior building administrative office and laboratory signage conforming to barrier free design standards and that will meet Client Agency requirements such as the Federal Government. Signage shall be consistent with the existing facility.

10. Warehouse Expansion:

Provide design for the Department of Health needs. Storage shall include laboratory supplies, chemicals, and other related equipment and materials necessary for the daily operation of the departments. The warehouse shall also include secured climate controlled space for the storage of biologics and other relevant reagents. Shelving systems, storage cabinets, material handling equipment, and other related code approved storage media and systems required for the warehouse materials shall be addressed in the design documents.

R. ADMINISTRATIVE OFFICE FURNITURE DESIGN CRITERIA

Office Furniture & Equipment: to be provided by the State.

The Consultant shall provide a Master Key system for all of the building door locks proposed for this project.

S. LABORATORY EQUIPMENT DESIGN CRITERIA

The Consultant in conjunction with the CMF and Client Agency representatives shall inventory and evaluate all of the existing portable laboratory systems, equipment, furniture and furnishings, etc. that must be abandoned, those items that must be moved to the new facility, and those that must be purchased new.

Determine what existing "built-in" laboratory systems shall be disassembled and moved to the new facility such as: autoclaves, built-in freezers and refrigerators, washers and dryers, etc. and what systems shall be abandoned. Evaluations shall be made based on the age of the equipment and the state-of-art technology they represent versus new system technology, costs to disassemble, package, move, and assemble the system(s) versus purchasing new, etc.

Based on the inventory information, prepare a bid package for the relocation and installation of the existing facility portable laboratory systems, equipment, furniture and furnishings to the new laboratory facility and a bid package for the purchase and installation of the new portable systems, equipment, furniture and furnishings in the new laboratory facility. The bid documents shall include, but not be limited to the following:

Provide a specification that identifies the existing facility laboratory portable and built-in systems, equipment, furniture and furnishings that are to be relocated to the new building laboratory areas. The specification shall indicate the manufacturers names, technical specifications, data sheets and product information related to each item, installation requirements including utility size and capacities, and commissioning procedures. Identify any additional materials and equipment necessary to install the items and make them functional.

Provide a specification that identifies the new portable and built-in laboratory systems, equipment, furniture and furnishings that are to be installed in the new building laboratory areas. The specification section shall indicate the manufacturers names, technical specifications, data sheets and product information related to each item, installation requirements including utility size and capacities, and commissioning procedures. Identify any additional materials and equipment necessary to install the items and make them functional.

Provide a Laboratory Systems, Equipment, Furniture and Furnishings Master Floor Plan that identifies the floor location of all the existing laboratory portable systems, equipment, furniture and furnishings to be moved to the new building laboratory areas and those portable systems, equipment, furniture and furnishings that are to be purchased new. Provide a legend on the drawings that indicates what systems, equipment, furniture and furnishings are existing, and what items are purchased new.

Provide electrical and plumbing schematic diagrams that indicate the methods required to tie-in all of the data, electrical, telecommunication outlets, lighting, ventilation hoods, water and gas connections, fire detector and sprinkler locations, and other required utility connections to the existing and new portable laboratory systems, equipment, furniture, and furnishings. The schematic drawings shall also identify the utility size, capacity, materials, tie-in details, and other related technical information required to install the items.

Special packaging techniques shall be identified on the drawings and must address protection from crushing, impacts, punctures, fire, water, chemicals, dust and dirt, rodents and insects, excessive temperature and humidity, etc. Methods to disinfect, handle and move the objects, labeling systems, the special certification requirements for the packaging and moving Contractor, and the Contractor's insurance liability and "Indemnification Agreement" requirements shall be identified in the design documents.

Provide a separate cost estimate to move and install all of the existing facility laboratory portable systems, equipment, furniture, and furnishings to the expanded laboratory facility space and a cost estimate to purchase and install the new laboratory items. These amounts will be used by the Client Agency to request Capital Appropriation funding for these portions of the project.

Provide a schedule that indicates the phased construction requirements to coordinate the installation of the existing facility laboratory portable systems, equipment, furniture and furnishings with the installation of the new systems, equipment, furniture and furnishings. Identify what existing facility laboratory systems and equipment can be shut down and the

allowable durations, and what cannot be shut down and must be duplicated in the new facility. The schedule shall ensure the new laboratory facility will be operational and functional when occupied. Identify long lead items and special purchase items requiring early attention and procurement in the project schedule.

The Consultant shall hire a firm or firms that specialize in the packaging, moving, installation, and recertification of laboratory equipment similar to that identified for this project. This firm shall package all of the inventoried existing facility laboratory equipment, move the items to the new locations, and tie them into the required utilities. The moving of existing equipment shall be scheduled so that they may be shut down, packaged and moved without impacting the services they provide. The documents shall identify the items that will be discarded.

The Consultant shall work with the Department of the Treasury, Bureau of Risk Management, 609-777-1400, to develop the indemnification agreement and special insurance coverage requirements for this phase of the project.

T. BUILDING COMMISSIONING REQUIREMENTS

Building commissioning will be required as part of this project to ensure that the Health, Environmental and Agriculture Laboratory Building systems are designed, installed, functionally tested, and capable of being operated and maintained to conform to the design intent of this project. To accomplish this, an independent third-party building CA shall be hired by the Consultant and shall have the responsibility for coordinating and directing each step of the commissioning process for the HVAC, Lighting, Energy Management Systems, etc. and verify/document that their performance meets the design criteria of the project. The following is a brief outline of the minimum amount of commissioning activities and responsibilities required for this project. They shall include, but not be limited to:

1. Design Phase Commissioning Responsibilities:

During the design phase, the CA shall develop a detailed commissioning plan that describes the commissioning process through all design and construction activities of the project. This plan shall be submitted to the DPMC/NJBA Project Team members for review and approval prior to the start of the schematic phase of the project. The CA shall work with the CMF to ensure that all commissioning activities are inserted into the CPM schedule. The CA shall coordinate and direct all of the approved commissioning activities throughout the design phase of the project.

The plan shall include, but not be limited to the following information: the scope of the commissioning process, the commissioning objectives, the responsibilities and requirements of each party involved in the process, a schedule or timeline of events, design intent and requirements for each building system being installed, documentation requirements, monitoring requirements, and the scope and level of equipment testing to be completed, and Operation and Maintenance (O&M) training.

The CA shall ensure that the design specification includes all of the equipment design information needed to commission the installed building systems including, but not limited to: indoor/outdoor design conditions, occupancy, usage, and schedule assumptions, internal loads assumptions, zoning description, ventilation requirements, envelop requirements (windows), loads calculations, equipment sizing calculations and criteria, sequence of operations, control points, set points, schedules, interlocks, and a detailed description of the design intent of each energy efficiency measure.

The CA shall develop detailed testing requirements and ensure that they are incorporated into the specifications so that the Contractors may budget the proper amount of time for functional performance tests in their bid proposals. The design specification testing information shall include, but not be limited to the following information: the purpose of the test, required personnel, tools, and instruments needed to perform the tests, design information pertinent to the equipment or system being tested, equipment description, detailed sequence of operation including any operating set points, scheduling requirements, special instructions or warnings, expected results, and sampling strategies.

Note: The Contractor must review this test plan during the construction phase of the project and may make appropriate modifications to the contents based on the final systems and equipment installed.

The design specification shall include a documented maintenance plan including, but not limited to: the system description, graphic portrayal of the systems, proper operating procedures, start-up, seasonal changeover and shutdown procedures, operating criteria, an evaluation of the systems conditions, an inspection checklist, maintenance procedures and frequencies, an organized maintenance manual.

2. Construction Phase Commissioning Responsibilities:

During the construction phase, the CA shall observe the installation of the building systems and note details that might affect equipment and system performance or operation and make corrective recommendations to the DPMC/NJBA Project Team members for approval. The CA shall coordinate and direct commissioning activities according to a commissioning plan submitted and approved by the DPMC/NJBA Project Team members prior to the start of the construction activities. Regular communication between the CA and CMF shall occur to transfer scheduling information and provide up-to-date information on change orders, submittal status, and scheduled meetings.

Contractors shall be requested to submit O&M manuals to the CMF and CA as soon as the equipment submittals have been reviewed and approved. The CA shall review and comment on the O&M manuals. Contractors shall be asked to submit for review any pre-functional test forms

that meet the specifications and are typically used for the start-up of major equipment and systems.

The CA shall prescribe test procedures based on manufacturer recommendations or shall create pre-functional and functional test procedures for all equipment that does not have manufacturers' test procedures. The test procedures shall be reviewed with the Contractors and appropriate modifications may be made to adapt to the final systems and equipment installed.

The CA shall coordinate with the Contractors to prepare the equipment for the commissioning tests and shall ensure the pre-functional performance tests and checklists are completed and all deficiencies are resolved prior to the functional performance test. The Contractors shall sign off on each system, stating that it is ready for the functional performance testing.

The functional performance tests shall be conducted by the responsible Contractor and witnessed by the CMF, CA, DPMC/NJBA Project Team members, Building Management personnel, and DCA representatives when appropriate. The CA shall be responsible for the coordination and scheduling of all tests. The CA shall verify that the equipment, systems, and controls meet the contract design criteria. The CA shall coordinate any corrective measures necessary to adjust the systems to meet the Client Agencies operating criteria.

Portions of systems that are weather-dependent shall be retested during the opposite season from the one in which they were originally tested.

The Consultant shall include in the specification that the Contractor shall submit the O&M manuals, training plan contents, and training durations for review and approval prior to the training session. The CA shall review the manuals and plan, then audit the training sessions to ensure that the O&M personnel understand the operation of each system. The instructions to operating personnel shall be sufficient to enable a previously untrained person to properly operate the systems

The content of the manuals and training sessions and the length of time for the training sessions shall be reviewed and approved by the NJBA and representatives of the Client Agency prior to the training seminar.

The Contractor shall provide video recordings (in a Client Agency approved format) of all training sessions so that future operation and maintenance personnel can be easily introduced to the systems and the ways in which they were designed to operate.

Each training session shall have an agenda, a sign-up sheet with participant contact information, and an evaluation to provide feedback to the training organizers and instructors.

All costs associated with the training sessions shall be borne by the Contractor installing the equipment. A signed letter shall be prepared stating when the training was completed and must be accompanied with the training session sign-in sheet as part of the project close-out package.

The CA shall create the systems or recommissioning manual using the O&M manuals as a guide, and the information shall be organized by the system type. A brief description of how each system operates shall be added to the front of each section, along with a schematic diagram with all equipment identified, the operational sequence, and the maintenance requirements and frequency. The front of the manual shall include contact information on contractors that were responsible for installing and testing each system.

Manuals shall also provide cut sheets and identify suppliers of major equipment and replacements parts. A troubleshooting guide shall be included listing the problems that may arise, possible causes and solutions, and criteria for deciding when equipment should be repaired, and when it must be replaced. The specification shall state that the Contractor must provide a minimum of ten (10) "throwaway" copies of the manual for use at the training seminar and seven (7) hardbound copies as part of the project close-out package.

The systems or recommissioning manuals shall be in computer format also.

The Consultant shall provide a description of the recommended number of and type of building maintenance personnel that will be required to maintain and operate this specialized facility. This shall include specialized building systems experience needed and the formal training required with those systems.

Upon the successful completion of the functional performance test, the CA shall complete the final commissioning report. This document shall include the name, address, firm, and phone number of the CA. A description of the installed systems with a list and description of the commissioning tasks for each system shall be identified. Provide the commissioning plan, the completed design intent document, a completed pre-functional test checklist and the completed functional performance test forms and results. Also include a summary of the commissioning findings, recommendations for system recommissioning including all blank checklist forms, an analysis of the performance of each system, and recommendations for system improvements. All site visit reports shall be included for future reference. Ten (10) copies of the final commissioning report shall be submitted to the NJBA for review and approval.

3. Laboratory Commissioning:

The Consultant shall select an independent laboratory commissioning specialist to be involved in all activities of the project from design through construction. They shall be responsible for commissioning the laboratory facility and all of its operational systems.

U. MISCELLANEOUS GENERAL REQUIREMENTS

1. Construction Management Firm (CMF) Coordination:

The Consulting firm shall coordinate all project activities with the Construction Management Firm (CMF) that will be hired by the State. A matrix identifying all phases of the project, the activities required for each project phase, and the parties responsible for each activity is provided in **Exhibit 'D'** entitled "DPMC Project Management Responsibility Matrix".

2. Contractor Pre-Qualification Requirements:

The Consultant shall assist the CMF in the preparation of pre-qualification forms and shall determine the criteria and specific requirements to include for pre-qualification. The forms will provide evidence of their verifiable successful experience in similar work as described in this scope of work. The Contractors shall then be considered as Special Project Pre-Qualified Bidders after completion and approval of the pre-qualification questionnaire forms.

3. Contractors Use of the Premises:

Develop policies and procedures to be followed by the Contractors while they are on the grounds of the NJSP Division Headquarters facility grounds. Contractors must provide construction office trailers, porta johns, phones, fax, and other site equipment to support the construction of the project. Include this requirement and all other special administrative requirements in Division 1 of the specification for Contractor reference.

4. Equipment Spare Parts List:

The Design Consultant, with the assistance of the CMF and CA shall ensure that all critical mechanical and laboratory equipment spare parts are identified, and the building material attic stock be identified and provided by the Contractors as part of this project.

5. Presentations:

The Consultant shall estimate the costs to attend six (6) meetings and/or Executive Level meetings with the NJBA and facility staff during the design and construction phases of the project. The Design Consultant shall be prepared to make presentations to the DPMC/NJBA identifying the project status, costs, schedule updates, provide graphics, charts, handouts, reports, etc.

VIII. CONSULTANT CONSTRUCTION RESPONSIBILITIES

A. DPMC PROJECT MANAGEMENT RESPONSIBILITY MATRIX

The Consultant shall review the DPMC Design Consultant Project Management Responsibility Matrix attached as **Exhibit 'D'** and determine its responsibilities during the construction phase of the project and their relationship with the Client Agency, NJBA, DPMC, and CMF personnel.

B. PRE-BID MEETING

The Consultant and CMF shall attend the construction pre-bid meeting at the site. The CMF shall chair, record and distribute minutes of the Contractor pre-bid meetings. When bidders ask questions that may affect the bid price of the project, the CMF shall develop a Bulletin(s) to clarify the bid documents in the format described in the Procedures for Architects and Engineers Manual, 3.0 Edition, Section 17.4 entitled "Bulletins". The Consultant shall review the Bulletin for technical correctness. These Bulletins must be sent to DPMC at least five (5) working days prior to the bid opening date. DPMC will then distribute the document to all bidders.

C. BID OPENING

The Consultant and CMF must attend the bid opening held at the designated DPMC conference room.

In the event that the construction bids received are in excess of 5% of the Design Consultant's approved final cost estimate, the Design Consultant shall redesign and/or set up sufficient approved alternate designs, plans and specifications for the project work, to secure a bid that will come within the allocation specified by the State without impacting the programmatic requirements of the project.

Such redesign work and changes to plans, including reproduction costs for submission in order to obtain final approval and permits, shall be undertaken by the Design Consultant at no additional cost to the State.

D. POST BID REVIEW MEETING, RECOMMENDATION FOR AWARD

The Consultant, in conjunction with the CMF and DPMC staff, shall review the proposals from the apparent low bidder(s). The CMF must then schedule a post bid review meeting with the Contractor's representative to discuss the project Scope of Work in detail and determine that the Contractor's bid proposal meets the intent of the project. The Consultant shall provide a written detailed review of the Contractor's bid proposal.

The CMF must then prepare a "Letter of Recommendation" for contract award for the firm submitting the low responsible bid within five (5) working days from the bid opening. The letter shall include all of the items identified in the Procedures for Architects and Engineers Manual, 3.0 Edition, Section 17.6, entitled, "Contract Award Letter of Recommendation". The five (5) days may only be increased upon written request and approval of the NJBA. The Consultant shall assist in all of these activities.

The Consultant shall prepare and distribute sets of "Conformed Drawings" that reflect Bulletins and/or required changes, additions, and deletions to the permit drawings within 21 calendar days of the construction contract award.

E. DIRECTOR'S HEARING

The Consultant and CMF shall attend any Director's hearing(s) if a Contractor submits a bid protest. They shall be present to interpret the intent of the design documents and answer any technical questions that may result from the meeting. In cases where the bid protest is upheld, the CMF shall submit a new "Letter of Recommendation" for contract award. The hours required to attend the potential hearings and to document the findings shall be estimated by the Design Consultant and the costs will be included in the base bid of their fee proposal.

F. CONSTRUCTION JOB MEETINGS, SCHEDULES, LOGS

1. Meetings:

The Consultant, Sub-Consultant and CMF shall attend the pre-construction meeting and all regularly scheduled bi-weekly construction job meetings during the construction phase of the project. The CMF shall chair the meeting, transcribe and distribute the job-meeting minutes for every job meeting to all attendees and to those persons specified to be on the distribution list by the NJBA Senior Project Director.

The Agenda for the meeting shall include, but not be limited to the items identified in the Procedures for Architects and Engineers Manual, 3.0 Edition, Section 18.5.1, entitled "Agenda".

Also, the CMF is responsible for the preparation and distribution of minutes with the assistance of the Consultant within seven (7) calendar days of the meeting. The format to be used for the minutes shall comply with those identified in the "Procedures for Architects and Engineers Manual", 3.0 Edition, Section 18.5.2, entitled, "Format of Meeting Minutes". All meeting minutes are to have an "action" column indicating the party that is responsible for the action indicated and a deadline to accomplish the assigned task. These tasks must be reviewed at each job progress meeting until it is completed and the completion date shall be noted in the minutes of the meeting following the task completion.

2. Schedules:

The Consultant and CMF; with the input from the Client Agency and NJBA, shall review and recommend approval of the project construction schedule prepared by the Contractor. The schedule shall identify all necessary start and completion dates of construction, construction activities, submittal process activities, material deliveries and other milestones required to give a complete review of the project.

The CMF shall record any schedule delays, the party responsible for the delay, the schedule activity affected, and the original and new date for reference.

The CMF shall ensure that the Contractor provides a two (2) week "look ahead" construction schedule based upon the current monthly updated schedule as approved at the bi-weekly job meetings and that identifies the daily planned activities for that period. This Contractor requirement must also be included in Division 1 of the specification for reference.

3. Submittal Log:

The CMF shall develop and implement a submittal log that will identify all of the required project submittals as identified in the design specification. The dates of submission shall be determined and approved by all affected parties during the pre-construction meeting.

Examples of the submissions to be reviewed and approved by the Consultant and Sub-Consultant (if required) include: shop drawings, change orders, Request for Information (RFI), equipment and material catalog cuts, spec sheets, product data sheets, MSDS material safety data sheets, specification procedures, color charts, material samples, mock-ups, etc. The submittal review process must be conducted at each job progress meeting and shall include the Consultant, Sub-Consultant, CMF, Contractor, DPMC/NJBA, and designated representatives of the Client Agency.

The CMF shall provide an updated submittal log at each job meeting that highlights all of the required submissions that are behind schedule during the construction phase of the project.

G. CONSTRUCTION SITE ADMINISTRATION SERVICES

The Consultant and Sub-Consultant shall provide construction site administration services each week during the construction of the project. The CMF shall provide full time construction administration services during the construction phase of the project. The Consultant and Sub-Consultant do not have to be on site concurrently if there are no critical activities taking place that require the Sub-Consultant's participation.

The CMF services required shall include, but not be limited to, field observations sufficient to verify the quality and progress of construction work, conformance with the contract documents,

or to attend/chair meetings as may be required by the NJBA to resolve special issues. The CMF shall submit a field observation report or meeting minutes to the NJBA. Also, the CMF shall conduct inspections during major construction activities including, but not limited to the following examples: concrete pours, steel and truss installations, code inspections, final testing of systems, and requests from the NJBA. The assignment of a full time on-site CMF does not relieve the Consultant of their weekly site visit obligation.

The Consultant shall refer to the Contract Deliverables Checklist at the end of this Scope of Work entitled "Deliverables Checklist Construction Phase" to determine the extent of services and deliverables required during this phase of the project.

H. SUB-CONSULTANT PARTICIPATION

It is the responsibility of the Consultant to ensure that their Sub-Consultants participate in all appropriate phases of this project or whenever requested by the NJBA. This includes the pre-proposal site visit and the various design meetings and construction job meetings, site visits, and close-out activities described in this Scope of Work. Field observation reports and/or meeting minutes are required to be submitted to the NJBA within 48 hours of the site visit or meeting. All costs associated with such services shall be included in the base bid of the Design Consultant's fee proposal.

I. AS-BUILT & RECORD SET DRAWINGS, CAD DISKS

The Consultant shall assist the CMF to review the Contractors' as-built drawings at each job progress meeting to ensure that they are up-to-date. Upon completion of the project, the Consultant shall transfer all construction AS-BUILT information from each prime Contractor to the RECORD SET original full size signed drawings within 30 days of receipt of the as-built information. This record set of drawings and two (2) sets of current release AUTO CAD discs shall be submitted to DPMC within the same 30 days.

These RECORD SET drawings with corresponding AUTO CAD will constitute the Design Consultant's warranty that the project has been built in accordance with the AS-BUILT submittal.

J. CONSTRUCTION PUNCH LIST

The Consultant and CMF shall prepare, maintain and continuously distribute an on-going punch list to the Contractor, NJBA, and Client Agency during the construction phase of the project. This list shall be separate correspondence from the field observation reports which shall not be considered as a punch list.

The punch list shall be in "EXCEL' format and shall state the date of origination, identify the design specification section that is not in compliance, the open/close status, and the date of

completion. Additionally, if the punch list item resulted from a DCA code inspection, then it shall have a unique identifier that will indicate the need for "priority" correction.

K. INSPECTIONS: SUBSTANTIAL & FINAL COMPLETION

The Consultant, their Sub-Consultant(s), and CMF accompanied by the NJBA, Code Inspection Group, Client Agency and Contractor shall conduct site inspections to determine the dates of substantial and final completion. The NJBA will issue the only recognized official notice of substantial completion. The Consultant and CMF shall prepare and distribute the coordinated punch list, written warranties and other related DPMC forms and documents supplied by the Contractor to the NJBA for review and certification of final contract acceptance.

If applicable, the punch list shall include a list of attic stock and spare parts.

L. CLOSE-OUT DOCUMENTS

The Consultant, in conjunction with the CMF, shall review all project close-out documents as submitted by the Contractors to ensure that they comply with the requirements listed in the "Procedure for Architects and Engineers Manual, 3.0 Edition." The CMF shall forward the package to the NJBA within thirty (30) days from the date the Certificate of Occupancy/Certificate of Approval is issued. The CMF shall also submit a letter certifying that the project was completed in accordance with the contract documents, etc.

M. CLOSE-OUT ACTIVITY TIME

The Consultant shall provide all activities and deliverables associated with the "Close-Out Phase" of this project as part of their Lump Sum base bid. The Consultant and/or Sub-Design Consultant may not use this time for additional job meetings or extended administrative services during the Construction Phase of the project.

N. CHANGE ORDERS

1. Change Order Folder:

The Consultant shall prepare a Change Order folder that contains detailed documentation including, but not limited to: a Contractor submitted DPMC 9b form with supporting cost and labor rate justifications, and any appropriate drawings. If there is CMF involvement with the project, the Consultant shall assist the CMF in the preparation of the Change Order folder.

Additionally, the Consultant (independent of any CMF involvement) shall prepare and include in the folder, a detailed description of the reason for the change order, their independent cost estimate, a cost analysis of the Contractor's submitted proposal, a schedule impact analysis, a contractor entitlement statement, and a recommendation for approval/denial/negotiation.

The Consultant is to provide this information in a letter to the NJBA and it shall include separated highlighted sections detailing the following:

- REASON FOR CHANGE
  This section should include a fully detailed explanation of the change order request with emphasis on the specifications, plans, any other relevant project documentation or issue history. A classification of the change order is absolutely necessary.

- COST ANALYSIS
  This is not to be confused with your firm's cost estimate detailed in paragraph 'B'. This section should show a comparative analysis between the contractor's cost estimate and yours. Any difference in estimates should be noted. A statement indicating fair market costs, acceptable labor practices, and approval of the contractor's cost estimate is to be made here.

- SCHEDULE IMPACT
  If the contractor is declaring an impact to the schedule, it is to be analyzed by your firm. A statement regarding agreement or disagreement is to be made here.

- CONTRACTOR ENTITLEMENT
  A statement as to why the contractor is or is not entitled to the change order is needed. The basis for this determination will be the contract documents.

- RECOMMENDATION
  The recommendation will be based on all of the above and will clearly state either approval in the full amount, approval as negotiated in the past (include details of the negotiation), or that the change order must be negotiated, or rejection (include substantiating details).

There is no size limitation on this letter and information that may be specific to your firm may be attached.

If the change order is negotiated, and **if there is no CMF involvement in the project, the Consultant shall prepare a DPMC-10 Form to be included in the Change Order folder.** A sample can be found in the "Procedure for Architects and Engineers Manual, 3.0 Edition" on page 105.

2. Submission:

The folder shall be forwarded to the DPMC/NJBA within ten (10) working days from receipt of the Contractor's Change Order request. If the Change Order folder contents are deemed insufficient by the NJBA, they shall re-submitted at no cost to the State.

3. Cost Estimate:

The Consultant shall provide the NJBA with their independent detailed breakdown of all costs associated with the change order request, i.e. material, labor, equipment, overhead, Sub-Contractor work, profit and bond, and certification of increased bond. This is to be done in a CSI format.

The Consultant shall provide immediate response to a "not to exceed" cost proposal submitted by the Contractor in the case of emergency situations.

If a negotiation of the change order request is necessary, the Design Consultant shall (independent of any CMF involvement) assist the NJBA in negotiating the change order cost estimate submitted by the Contractor. **If there is no CMF involved with the project, the Consultant shall prepare a detailed cost breakdown of the final negotiated change order and include this in the Change Order folder.** The Consultant will obtain from the Contractor a new change order 9b form reflecting the negotiated amount and include this, along with the original 9b form, in the folder submitted to the NJBA.

4. Code Review:

The Consultant shall determine if the Change Order request will require Code Review and shall submit six (6) sets of signed and sealed modified drawings and specifications to the NJDCA for approval, if required.

5. Design Consultant Fee:

All costs associated with the potential Contractor Change Order requests shall be anticipated by the Consultant and included in the base bid of their fee proposal.

If the Client Agency requests a scope change; and it is approved by the NJBA the Consultant may be entitled to be reimbursed through a Consultant Contract Amendment and in accordance with the requirements stated in paragraph 5.3 of the "Procedure for Architects and Engineers Manual, 3.0 Edition."

6. Contractor Responsibilities:

The Contractor shall submit a DPMC 9b Change Order Request form to the NJBA within twenty (20) calendar days after receiving the Change Order from the CMF. The document shall identify the changed work in a manner that will allow a clear understanding of the necessity for the change. Copies of the original design drawings and specification pages shall be highlighted to clarify and show entitlement to the Change Order. Copies shall be provided of job minutes or correspondence with all relative information highlighted to show the origin of the Change Order.

Supplementary drawings from the Design Consultant shall be included, if applicable, that indicate the manner to be used to complete the changed work.

If the Change Order will impact the time of the project, the Contractor shall include a request for an extension of time. This request shall include a copy of the original approved project schedule and a proposed revised schedule that reflects the impact on the project completion date. Documentation to account for the added time requested shall be included to support entitlement of the request such as additional work, weather, other Contractors, etc. This documentation shall contain dates, weather data and all other relative information.

7. Meetings:

The Consultant (along with the CMF if there is CMF involvement with the project) shall attend and actively participate at all administrative hearings or settlement conferences in connection with such Change Orders. **If there is no CMF involved with the project, the Consultant shall provide minutes of those meetings to the NJBA for distribution.**

8. Change Order Log:

If there is no CMF involvement in the project, the Consultant shall maintain a Change Order Log(s) in EXCEL format to track the status of all project Change Orders. Regarding the Change Order Log, the EXCEL spreadsheet shall provide entries for the Contractor's tracking number, the State's tracking number, the value of the Change Order (with running total), separate Error/Omission/Scope designations (with running totals), the approval/denial/cancellation of the Change Order, and payment status.

O. CONSTRUCTION ADMINISTRATION FEE

The Consultant shall determine a LUMP SUM fee for the construction phase activities identified in paragraph 18 of the "Procedure for Architects and Engineers Manual, 3.0 Edition", **Exhibit 'D'** entitled "DPMC Project Management Responsibility Matrix" and this Scope of Work and enter that amount in their fee proposal where indicated.

P. EXISTING DOCUMENTATION

Electronic copies of the following documents will be provided to each Consultant at the pre-proposal meeting to assist in the bidding process.

To the extent necessary, please include in the fee proposal all costs which are expected to be incurred during the design phase to review update, or confirm the information in these documents such as reports, designs, studies, surveys, equipment manuals, as-built drawings, record 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 Design Consultant shall take the appropriate actions necessary to obtain the additional information required.

All original documentation, if provided, shall be returned to the State at the completion of the project.

A non-disclosure agreement is under consideration for this project, meanwhile the pre-qualified Consultants, their proposed pre-qualified Sub-Consultants and all other proposed team members shall exercise a reasonable level of the confidentiality and sensitivity of the information provided by the State.

DPMC Project #A0984-04: Original New Jersey Public Health Environmental and Agriculture Laboratory Facility Record Drawings, dated January 28, 2011, prepared by HOK
DPMC Project #A1246-01: New Jersey Public Health Environmental and Agriculture Laboratory, New Laboratory and Office Renovations Record Drawings, dated October 15, 2019, prepared by HDR Architects and Engineers P.C.
DPMC Project #A1344-00: New Jersey Public Health Environmental and Agriculture Laboratory, Standby Generator Feasibility Study, dated May 2021, prepared by Gannet Fleming; Note #1 – this SOW does not include the planned facility expansion project.
DPMC Project #A1359-00: New Jersey Public Health Environmental and Agriculture Laboratory, Security Upgrades Study, dated November 17, 2022, prepared by Gannet Fleming; Note #1 – the study does not include the planned facility expansion project.
DPMC Project #A1360-00: NJPHEAL – Laboratory and Administration Wing Expansion Programming and Feasibility Study dated November 28, 2022, prepared by HDR Inc.

IX. PERMITS & APPROVALS

A. NJ UNIFORM CONSTRUCTION CODE PLAN REVIEW AND PERMIT

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.

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":

Joyce Spitale, DPMC
PO Box 235
Trenton, NJ 08625-0235
Joyce.Spitale@treas.nj.gov 609-943-5193

The Consultant shall complete the NJUCC "Plan Review Fee Schedule", determine the fee due and pay the NJUCC Plan Review fees, refer to Paragraph XI.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 IX.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 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, **"Permit Fee Allowance."**

The Consultant may refer to the DPMC "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.

X. ENERGY INCENTIVE PROGRAM

The Consultant shall review the programs available on the "New Jersey's Clean Energy Program" website at: http://www.njcleanenergy.com as well as New Jersey electric and gas utility websites to determine if any proposed upgrades to the mechanical and/or electrical equipment and systems for this project qualify for "New Jersey Clean Energy Program" or utility approved rebates and incentives.

Consultant shall identify all rebates and incentives in their technical proposal.

The Consultant shall be responsible to complete the appropriate registration forms and applications, provide any applicable worksheets, manufacturer's specification sheets, calculations, attend meetings, and participate in all activities with designated representatives of the programs and utility companies to obtain the entitled financial incentives and rebates for this project.

All costs associated with this work shall be estimated by the Consultant and the amount included in the base bid of its fee proposal.

XI. 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. ROOF MONITOR ALLOWANCE

The Consultant shall provide a full time roof monitor pre-qualified with DPMC in the P028 Roofing Inspection Specialty Discipline during the installation of the roof system on the building. See section VII, paragraph O.5 of this Scope of Work for a description of services to be provided by a roof monitor.

The costs for the services provided by the roof monitor shall be included in the **"Roof Monitor Allowance"** of their fee proposal. A cost breakdown sheet shall accompany the fee proposal that identifies all costs associated with the Roof Monitoring services to be provided.

Any funds remaining in the Allowance shall be returned to the State at the end of the project.

C. SEPARATE/EARLY BID PACKAGE ALLOWANCE

There is a possibility that the bid documents may be prepared to advertise separate/early bid packages. Therefore, the Consultant shall estimate all costs associated with preparing a minimum of three separate/early bid packages and enter that amount on the fee proposal line item entitled **"Separate/Early Bid Package Allowance."**

The Consultant shall provide a cost breakdown detailing all costs associated with the possibility of separate/early bid packages. These detailed breakdowns are required as a deliverable during the Program Phase.

Any funds remaining in the Allowance shall be returned to the State at the end of the project.

XII. 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 and verifies that the work will not conflict with the existing or future construction activities of other projects at the site.

SOW APPROVED BY: James Wright 2/21/2023
JAMES WRIGHT, MANAGER DATE
DPMC PROJECT PLANNING & INITIATION

SOW APPROVED BY: Rosalind Finney 02.21.2023
ROSALIND FINNEY, DIVISION DIRECTOR DATE
DEPARTMENT OF HEALTH REPRESENTATIVE

SOW APPROVED BY: Phil Johnson 2/22/23
PHIL JOHNSON, SR.PROJECT MANAGER DATE
NEW JERSEY BUILDING AUTHORITY

SOW APPROVED BY: Vincent Campanella 2/22/2023
VINCENT CAMPANELLA, CHIEF OF CONSTRUCTION DATE
NEW JERSEY BUILDING AUTHORITY

SOW APPROVED BY: 2/28/23
CHRISTOPHER GEARY, ASST. DEPUTY DIRECTOR DATE
DIV PROPERTY MGT & CONSTRUCTION

XIII. 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:

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

XIII. EXHIBITS

A. SAMPLE PROJECT SCHEDULE FORMAT
B. PROJECT SITE LOCATION MAP
C. DEPARTMENT OF HEALTH VISION STATEMENT
D. PROJECT MANAGEMENT RESPONSIBILITY MATRIX

END OF SCOPE OF WORK

DPMC Project No.: A1360-02

Deliverables Checklist
Program Phase

A/E Name: _____

A/E Manual Reference	Submission Item	Required by S.O.W.		Previously Submitted		Enclosed	
		Yes	No	Yes	No	Yes	No
12.3.1.	A/E Statement of Site Visit	X					
12.3.2.	Narrative Description of Project	X					
12.3.3.	Building Code Information Questionnaire	X					
12.3.4.	Space Analysis	X					
12.3.5.	Special Features	X					
12.3.6.	Catalog Cuts	X					
12.3.7.	Site Evaluation	X					
12.3.8.	Subsurface Investigation	X					
12.3.9.	Surveys	X					
12.3.10.	Fine Arts Inclusion	X					
12.3.11.	Design Rendering	X					
12.3.12.	Regulatory Approvals	X					
12.3.13.	Utility Availability	X					
12.3.14.	Diagrammatic Sketches/Drawings (6 Sets)	X					
12.3.15.	Outline Specifications (6 Sets)	X					
12.3.16.	Current Working Estimate/Cost Analysis	X					
12.3.17.	Project Schedule	X					
12.3.18.	Formal Presentation	X					
12.3.19.	Scope of Work Compliance Statement	X					
12.3.20.	Program Phase Deliverables Checklist	X					
S.O.W. Reference	**S.O.W. Specific Requirements**						
VII. A.	Two (2) Concept Designs Five (5) hardcopy, One (1) pdf format	X					
VII.G.2	Separate/Early Bid Packages Cost Breakdown	X					

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.: A1360-02

Deliverables Checklist
Schematic 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
13.4.1.	A/E Statement of Site Visit	X					
13.4.2.	Narrative Description of Project	X					
13.4.3.	Building Code Information Questionnaire	X					
13.4.4.	Space Analysis	X					
13.4.5.	Special Features	X					
13.4.6.	Catalog Cuts	X					
13.4.7.	Site Evaluation	X					
13.4.8.	Subsurface Investigation	X					
13.4.9.	Surveys	X					
13.4.10.	Arts Inclusion	X					
13.4.11.	Design Rendering	X					
13.4.12.	Regulatory Approvals	X					
13.4.13.	Utility Availability	X					
13.4.14.	Drawings (6 Sets)	X					
13.4.15.	Outline Specifications (6 Sets)	X					
13.4.16.	Current Working Estimate/Cost Analysis	X					
13.4.17.	Project Schedule	X					
13.4.18.	Formal Presentation	X					
13.4.19.	Scope of Work Compliance Statement	X					
13.4.20.	Schematic Design Phase Deliverables Checklist	X					
S.O.W. Reference	**S.O.W. Specific Requirements**						
VII.P.7	HVAC Analysis	X					

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.: A1360-02

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	X					
14.4.2.	Narrative Description of Project	X					
14.4.3.	Building Code Information Questionnaire	X					
14.4.4.	Space Analysis	X					
14.4.5.	Special Features	X					
14.4.6.	Catalog Cuts	X					
14.4.7.	Site Evaluation	X					
14.4.8.	Subsurface Investigation	X					
14.4.9.	Surveys	X					
14.4.10.	Arts Inclusion	X					
14.4.11.	Design Rendering	X					
14.4.12.	Regulatory Approvals	X					
14.4.13.	Utility Availability	X					
14.4.14.	Drawings (6 Sets)	X					
14.4.15.	Outline Specifications (6 Sets)	X					
14.4.16.	Current Working Estimate/Cost Analysis	X					
14.4.17.	Project Schedule	X					
14.4.18.	Formal Presentation	X					
14.4.19.	Plan Review/Scope of Work Compliance Statement	X					
14.4.20.	Design development Phase Deliverables Checklist	X					
S.O.W. Reference	**S.O.W. Specific Requirements**						

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_____ _____

Consultant Signature Date

DPMC Project No.: A1360-02

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	X					
15.4.2.	Narrative Description of Project	X					
15.4.3.	Building Code Information Questionnaire	X					
15.4.4.	Space Analysis	X					
15.4.5.	Special Features	X					
15.4.6.	Catalog Cuts	X					
15.4.7.	Site Evaluation	X					
15.4.8.	Subsurface Investigation	X					
15.4.9.	Surveys	X					
15.4.10.	Arts Inclusion	X					
15.4.11.	Design Rendering	X					
15.4.12.	Regulatory Approvals	X					
15.4.13.	Utility Availability	X					
15.4.14.	Drawings (6 Sets)	X					
15.4.15.	Outline Specifications (6 Sets)	X					
15.4.16.	Current Working Estimate/Cost Analysis	X					
15.4.17.	Project Schedule	X					
15.4.18.	Formal Presentation	X					
15.4.19.	Plan Review/Scope of Work Compliance Statement	X					
15.4.20.	Final Design Phase Deliverables Checklist	X					
S.O.W. Reference	**S.O.W. Specific Requirements**						

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_____ _____

Consultant Signature Date

DPMC Project No.: A1360-02

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	X					
16.5.	Drawings, Signed and Sealed (6 Sets)	X					
16.6.	Specifications, Signed and Sealed (6 Sets)	X					
16.7.	Current Working Estimate/Cost Analysis	X					
16.8.	Project Schedule	X					
16.9.	Plan Review/Scope of Work Compliance Statement	X					
16.10.	Permit Application Phase Deliverables Checklist	X					
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.: A1360-02

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	X					
17.1.2.	Bid Proposal Form	X					
17.1.3.	Bid Clearance Form	X					
17.1.4.	Drawings (6 Sets)	X					
17.1.5.	Specifications (6 Sets)	X					
17.1.6.	Construction Schedule	X					
17.3	Pre-Bid Conference/Mandatory Site Visit	X					
17.3.1.	Meeting Minutes	X					
17.4	Bulletins	X					
17.5	Post Bid Meeting	X					
17.6.	Contract Award "Letter of Recommendation"	X					
17.8.	Bid Protests - Hearings	X					
17.9.	Bidding and Contract Award Phase Deliverables Checklist	X					
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.: A1360-02

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	X					
18.3.	Submittal Log	X					
18.4.	Construction Schedule	X					
18.5.	Project Progress Meetings	X					
18.7.	Contractor's Invoicing and Payment Process	X					
18.8.	Contractor Submittals	X					
18.9.	Testing	X					
18.10.	Shop Drawings (6 Sets)	X					
18.11.	As-Built & Record Set Drawings (6 Sets)	X					
18.12.	Change Orders	X					
18.13.	Construction Photographs	X					
18.14.	Field Observations	X					
18.15.	Construction Phase Deliverables Checklist	X					
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.: A1360-02

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	X					
19.5.	Determination of Substantial Completion	X					
19.6.	Correction/Completion of Punch List	X					
19.7.	Submission of Close-Out Documentation	X					
19.7.1.	As-Built and Record Sets of Drawing (6 Sets)	X					
19.8.	Final Payment	X					
19.9.1.	Contractors Final Payment	X					
19.9.2.	A/E's Final Payment	X					
19.11.	Project Close-Out Phase Deliverables Checklist	X					
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

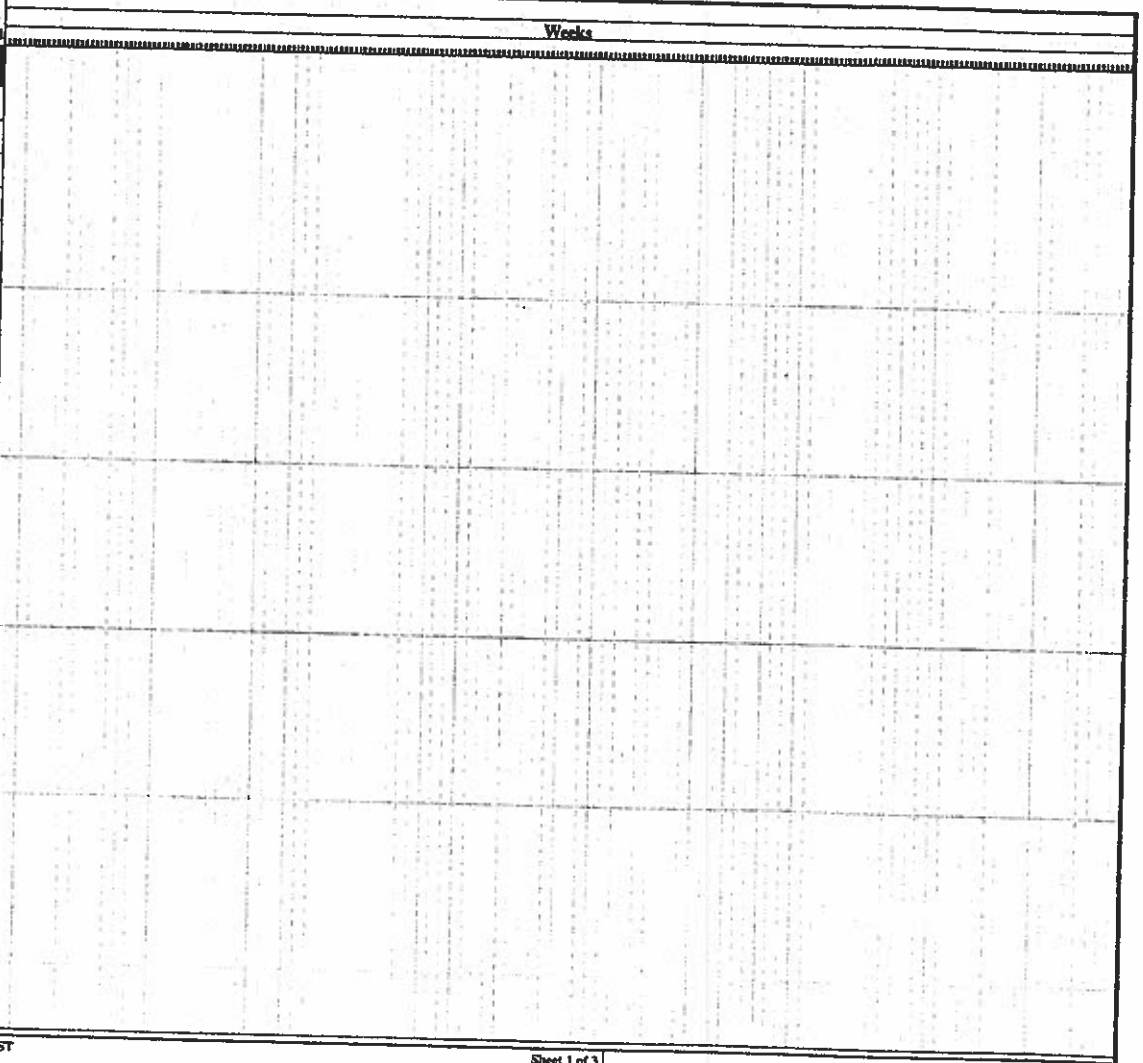
Responsible Group Code Table

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.

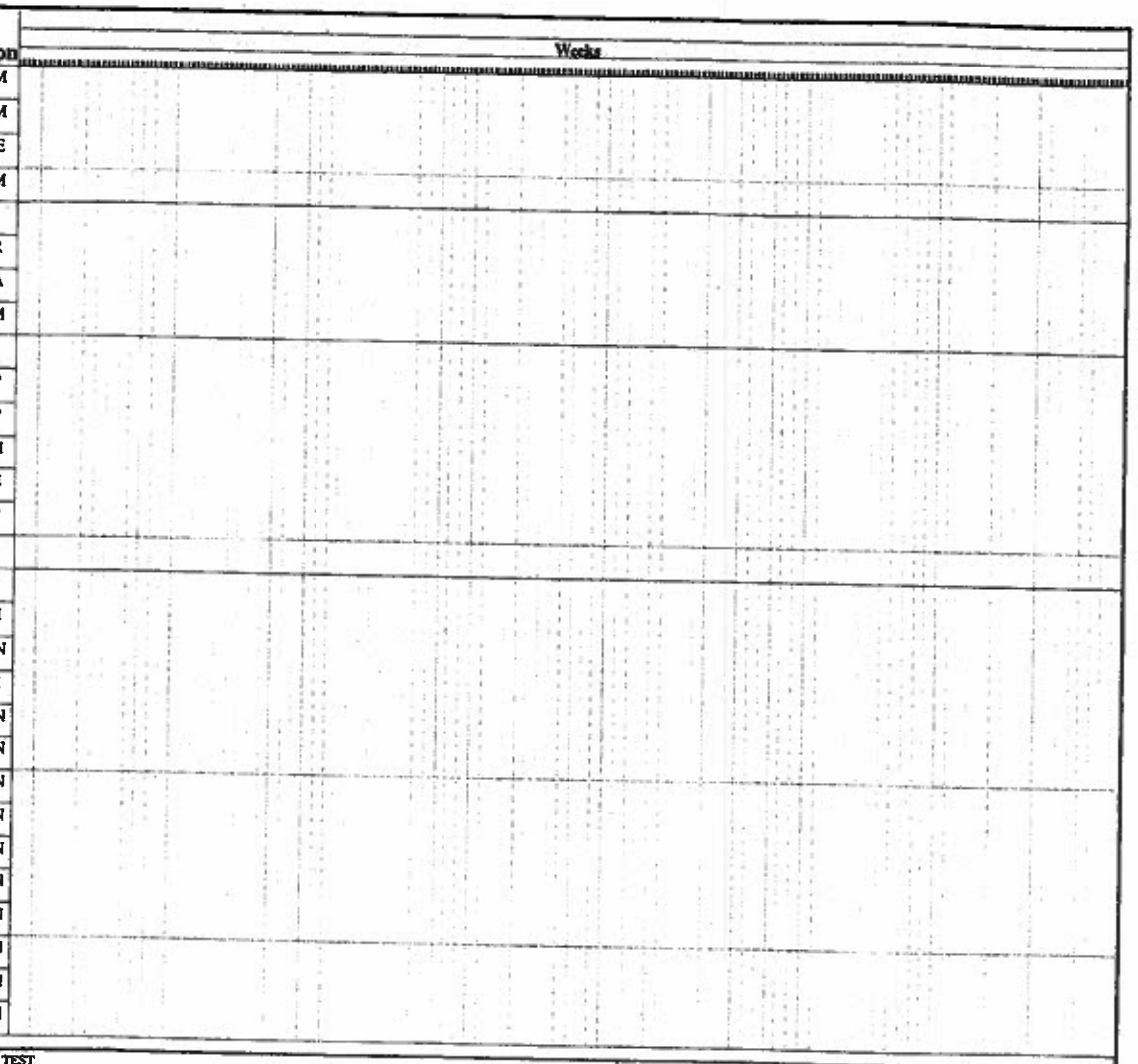
DBCA - TEST

Sheet 1 of 3

Bureau of Design & Construction Services

EXHIBIT 'A'

Activity ID	Description	Rspn
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 - PHEAL

EXHIBIT 'B'

DPMC Project #A1360-02

NJ Department of Health (DOH)

Vision Statement - DOH

Effective and timely public health decisions which serve the residents of New Jersey and our nation, increasingly rely upon support of advanced laboratory models for data generation, collection, and analysis. During the **COVID** pandemic, the NJDOH Public Health and Environmental Laboratories (PHEL) modelled a Distributed Public Health Laboratory Infrastructure (DPHLI) as a partnership between the PHEL, hospital and commercial laboratories and healthcare and conjugate living settings serving vulnerable populations. As the key provider within this partnership, the PHEL would:

- Generate, compile, analyze and transmit near real time data from the DPHLI in a readily accessible and easily interpretable format for use by state and federal decision makers
- Rapidly respond to surge events through utilization of flexible, high-volume technologies which can be quickly adapted to test for a variety of emerging public health threats
- Adopt innovative genomic solutions to questions requiring geo-temporal analysis of strain distribution
- Expand the DPHLI to create enteric, vector-borne, biomonitoring and other sentinel surveillance models, focusing on early threat detection and rapid response
- Respond to shortages in laboratory professionals with scientific, regulatory, data analytic and project management skills to innovate solutions through maintaining, collaborative fellowship and internship programs with the Centers for Disease Control and Prevention (CDC), the Department of Environmental Protection (DEP), the Association for Public Health Laboratories (APHL) and other federal, state, local agencies and academic partners.
- Participate in supply chain management by providing support of the DPHLI through distribution of laboratory materials during a surge event
- In collaboration with the CDC OneLab Network, communicate effectively with public health, healthcare, and academic partners through provision of vetted scientific information designed to define interagency operations, promote understanding of scientific principles, and engage new professionals in public health careers
- Support scientific inquiry into public health laboratory science within a Center for Advanced Molecular Detection (CAMD) designed for collaborative efforts with academia and the private sector containing a biorepository and bioinformatics capabilities

October 26, 2021, rev 11/3/21

EXHIBIT 'C'

To provide these enhanced services, upgrades to existing facilities must include:

1. **Creation of a Center for Advanced Molecular Detection (CAMD)** to house Distributed Public Health Laboratory Infrastructure components including the mobile laboratory units, the Biorepository, the Bioinformatics and Informatics Workgroup and the Advanced Molecular Detection (BSL2/BSL3) program to be utilized in a **COVID** response. Future elements to include human genomic testing offered through the newborn screening program. The CAMD will be comprised of laboratory space for sequencing and other Advanced Molecular Methods (AMD), Bioinformatics workstations, office space with designated quiet, huddle and conference facilities and space for maintenance of mobile laboratory units.

2. **Expansion of the Client Services Area: Specimen Receiving, Data Entry and Materials Management** to accommodate staff and bench space required during **COVID** or other surge events. The workspace must be divided into "clean" and "dirty" spaces with an appropriate workflow. The "clean" spaces will be used for data entry and data analysis, packaging and shipping specimens, a dry ice generator, cold and ambient storage, a small conference area with large monitors to track specimens for distribution, office space for a Program Manager, and workstations for a specimen receiving supervisor and one additional staff member. The "dirty" spaces will include adequate bench space and Class II biosafety cabinets for handling surge specimens, adequate cold (2-8°c) and frozen (-70°C) storage areas, workstations for entering and tracking data and laboratory supply inventory. There should be a passthrough between clean and dirty areas for passing decontaminated secondary containers for shipment.

3. **Expansion and modernization of a warehouse** to include adequate ambient, cold and frozen space for storage of laboratory supplies and materials to be utilized for inhouse testing and for distribution during **COVID** or other surge events. The warehouse should include robotics for inventory tracking and retrieval, and office spaces for warehouse staff and the Inventory Control Manager.

4. **Creation of an Outreach Technology Center (OTC)** where virtual and hands on education can be developed and delivered to staff, students, interns, healthcare providers and public health partners during emergency events such as **COVID**. The center will utilize newly structured national elements designed by the APHL and CDC to customize to our state needs, and deliver webinars, provide, and monitor workforce development programs through a Learning Management System, and develop and administer internship and fellowship education for development of tomorrows laboratory professionals in support of **COVID** and other surge events. The OTC will include a production area for generating virtual content, office space for three staff members, and a Program Manager, a conference area with large monitors for viewing data which can be utilized by all staff, meeting space for the WEB (Web Editorial Board) to design and discuss web content, laboratory space for filming demonstrations and for development and delivery of STEM programs. Fellows and interns will all participate in content development as part of their professional development program.

EXHIBIT 'C'

5. **Expansion and reconfiguration of existing laboratory space for Public Health Laboratory Services (PHLS).** PHLS staff in many areas directly supported the **COVID** response by participation in testing and development of new assays. Regardless of an outbreak, routine testing for Sexually Transmitted Diseases, Rabies, Vector-borne viruses, and Foodborne illnesses must continue uninterrupted. An outbreak in one area i.e. a respiratory virus, can often result in increased testing in another as both public health and healthcare attention is drawn to focus on the emergent crisis, systems in place in the field to monitor for other diseases may be negatively impacted, giving rise to secondary outbreaks.

   The need for flexible, high-volume technologies has been demonstrated during this outbreak. The PHLS has adapted by bringing such systems onboard, housing them in the PHLS laboratory space. Currently these are large instruments, consuming a great deal of free-standing space. The need for adaptable, flexible laboratory space has illustrated that the current spaces for PHLS on the third floor should be reconfigured to be more scalable and flexible. Additionally, we have identified the need within PHLS for more contained BSL2 space for the rabies laboratory, as testing needs have changed within that unit.

   The Foodborne laboratory was the first to adopt sequencing methods and **COVID** has been second. Funding to expand sequencing to multiple areas of PHLS – foodborne, waterborne, Mycobacteriology, antimicrobial resistance testing and others has been awarded through the Epidemiology Laboratory Capacity Advanced Molecular Detection supplemental grants. As a result, there will be a great deal of developmental work being done in the PHLS over the next three years, as well as within our newly formed Bioinformatics unit, a part of the CAMD.

6. **Expansion of existing office space for forty new staff members** in the laboratory and administration to include quiet work areas, huddle areas and conference rooms. **COVID** funding has enabled PHEL to backfill ***many longstanding vacant positions***, in the laboratory and within the administrative and regulatory divisions. These positions include inspectors within the Clinical Laboratory Improvement Services who have monitored all laboratory and nonlaboratory sites conducting **COVID** testing in the state, putting quite a strain on the division, Quality Assurance Officers, Outreach positions, LIMS positions, Human Resource and Purchasing positions as well as scientist positions. In addition, we needed to ***hire new staff to fulfill new positions*** generated by the pandemic, including Grants Specialists, Contract Administrator, and additional positions as already described.

7. **Expansion and reconfiguration of existing laboratory bench space for Environmental Chemical Laboratory Services (ECLS)** ECLS laboratories are located on the first floor and the fourth floor. ECLS provides testing service of environmental contaminants to support regulatory programs of federal, state, regional, and local agencies. ECLS maintains a broad scope of analytical expertise covering inorganic, organic, and radiological testing of environmental pollutants or their metabolites in water, food, soil, plant materials, and biological samples. It maintains the Chemical Terrorism Response Program, Food Emergency Response Network Program, Food Safety and Defense Testing Program, NJ State Biomonitoring Program, and State Medicinal Marijuana Testing Program. The laboratory Programs perform various tests in response to environmental health emergencies that might be encountered during a chemical terrorism event. ECLS is designated as the "Principal State Laboratory" for the New Jersey Department of Environmental Protection (NJDEP), supporting the NJDEP to implement state regulations, as well as enforce federal Safe Drinking Water and Water Pollution Control Act standards and discharge permits. NJ State Biomonitoring Program conducts population-based health and nutrition examination survey (NJHANES) to assess exposures to various environmental pollutants to establish exposure trends and to identify subpopulations at risk. The investigation biomonitoring studies of emerging public health issues, such as prenatal toxic metal exposure screening program and the PFAS community exposure project will help the State address health disparities among NJ population.

8. **Specific needs such as update of safety equipment ie. fume hoods and hazardous materials disposal** systems in areas of the laboratory with increased need due to changes in types and volumes of specimens, standards, reagents and controls.

9. **Wellness space – lactation room. Indoor/outdoor lunch areas, office space for visiting nurse and or EAS staff, by appointment.** A great deal of media focus during the **COVID** event has been on mental health and wellness for the general population and for healthcare providers. Public health practitioners are also engaged closely in the response and have worked long hours, experienced disruptions to work life balance and had similar stressors as those on the front lines. A quiet place within the work environment to unwind and perhaps to share experiences with a counselor would be of value. In the past PHEL has identified the need for a lactation room and for a more welcoming lunch area to unwind and destress with colleagues.

EXHIBIT 'C'

TASKS ALWAYS REQUIRED	OPTIONAL TASKS
● LEAD	■ LEAD
O ASSIST	◘ ASSIST

DATE: 12/1/2021

DPMC PROJECT MANAGEMENT RESPONSIBILITY MATRIX

DPMC PROJECT #A1360-02
Laboratory & Administration Wing Expansion at the
NJ Public Health Environmental and Agriculture Laboratory

PROJECT INITIATION – PHASE 1	*A/E*	*DPMC/NJBA*	*CMF*
Prepare/Review "Project Alert" Form		●	
Prepare/Design Consultants' S.O.W.		●	
Prepare Design & Construction Schedule		●	
Prepare Project Construction Cost Estimate		●	
Schedule & Chair Pre-Design Meeting		●	
Attend Pre-Design Meeting		●	
Site Visit & Inspection		●	
Prepare & Distribute Minutes		●	
Locate "Record Set" Drawings		●	
Provide MIS Inputs of Project Activities, Durations		●	

CONSULTANT SELECTION – PHASE 2	*A/E*	*DPMC/NJBA*	*CMF*
Select Consulting Firms		●	
Attend Pre-Bid Meeting @ Site with Firms		●	
Review & Rate Bid Proposals		●	
Select Consultant/Negotiate Costs		●	
Issue Contract/Purchase Orders/NTP		●	
Set Up Project on Financial Information System		●	
Schedule & Chair "Kick-off Meeting"		●	
Prepare & Distribute Minutes of Meeting		●	
Provide Copies of Studies, Reports, Drawings to Firm		●	

EXHIBIT 'D'

TASKS ALWAYS REQUIRED	OPTIONAL TASKS
● LEAD	■ LEAD
○ ASSIST	◘ ASSIST

DATE: 12/1/2021

DPMC PROJECT MANAGEMENT RESPONSIBILITY MATRIX

DPMC PROJECT #A1360-02
Laboratory & Administration Wing Expansion at the
NJ Public Health Environmental and Agriculture Laboratory

PROGRAM & FEASIBILITY STUDY - PHASE 3	***A/E***	***DPMC/NJBA***	***CMF***
Conduct Feasibility Studies	●	○	○
• Review Previous Feasibility Studies	●	○	●
• Market Analysis to Determine Single vs Multi-Prime	○	○	●
• Early Bid Package Analysis	○	○	●
• Bid Schedule Adjustment Analysis	○	○	●
• Conduct Market Labor Study for Project Labor Agreement	○	○	●
• Site Evaluation and Geotechnical Report	●	○	○
• Site Surveys	●	○	○
• SOW Compliance Statement	●		
Interview Client Agency Personnel	●	○	○
• Prepare Narrative Description of Program	●		○
• Prepare Space Analysis	●		○
• Prepare Blocking & Stacking Diagrams	●		○
Prepare Current Working Estimate in CSI Format & • Cost Analysis 38 Form	●		●
• Prepare CPM Design & Construction Schedule	○		●
Oral Presentations of Program & Feasibility Phase • Deliverables (50%, 100%, QRB)	●		○
• Prepare & Distribute Meeting Minutes	○		●
Review all Facility Related Feasibility Studies and Projects and Formally Comment in Writing.	●		○

EXHIBIT 'D'

TASKS ALWAYS REQUIRED	OPTIONAL TASKS
● LEAD	■ LEAD
○ ASSIST	□ ASSIST

DATE: 12/1/2021

DPMC PROJECT MANAGEMENT RESPONSIBILITY MATRIX

DPMC PROJECT #A1360-02
Laboratory & Administration Wing Expansion at the
NJ Public Health Environmental and Agriculture Laboratory

SCHEMATIC DESIGN – PHASE 4	***A/E***	***DPMC/NJBA***	***CMF***
Schedule & Chair Design Meetings	○		●
Attend Design Meetings	●	●	●
Prepare & Distribute Meeting Minutes	○		●
Special Features Description: Security Fire Protection, Structural, Energy, Etc.	●		
Borings, Surveys, Soils Analysis	●		
Survey Existing Furniture & Equipment	●		
Fine Arts Inclusion Preparation	●		
Design Renderings	●		
Regulatory Agency Approvals	●		
Confirm Utility Availability	●		
Prepare Drawings: 25%, 50% & 90%, 100% Completion	●		
Prepare Specifications: 50% & 90%, 100% Completion	●		
Prepare Current Working Estimate in CSI Format & Cost Analysis 38 Form: 50% & 100% Completion	●		●
CPM Design & Construction Schedule	○		●
Prepare & Distribute Meeting Minutes	○		●
Oral Presentation to NJBA Project Team @50%, 100% & QRB	●		●

EXHIBIT 'D'

TASKS ALWAYS REQUIRED	OPTIONAL TASKS
● LEAD	■ LEAD
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DATE: 12/1/2021

DPMC PROJECT MANAGEMENT RESPONSIBILITY MATRIX

DPMC PROJECT #A1360-02
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DESIGN DEVELOPMENT - PHASE 5	***A/E***	***DPMC/NJBA***	***CMF***
Schedule & Chair Design Meetings	○		●
Attend Design Meetings	●	●	●
Prepare & Distribute Meeting Minutes	○		●
Fine Arts Inclusion - 50% Completion	●		○
Design Renderings	●		○
Regulatory Agency Permits & Approvals	●	○	○
NJ Department of Agriculture			
• Soil Erosion	●	○	○
NJ Department of Community Affairs			
• UCC Permit for Building Construction	●	○	○
NJ Department of Environmental Protection			
• Equipment Emissions	●	○	○
• Fuel Storage for Emergency Generator	●	○	○
• Environmental Impact Statement	●	○	○
• Wetlands Development Permit	●	○	○
• Stream Encroachment	●	○	○
• NJPDES	●	○	○
• Sewage System Construction	●	○	○
• Exemption from Sewage System Ban	●	○	○
• Water Management Plan for Sewage System	●	○	○
• Divert Surface Water	●	○	○
• Hazardous Waste Storage or Disposal	●	○	○
• Well Drilling	●	○	○

EXHIBIT 'D'

TASKS ALWAYS REQUIRED	OPTIONAL TASKS
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DATE: 12/1/2021

DPMC PROJECT MANAGEMENT RESPONSIBILITY MATRIX

DPMC PROJECT #A1360-02
Laboratory & Administration Wing Expansion at the
NJ Public Health Environmental and Agriculture Laboratory

NJ Department of Health			
• Commercial Kitchen Equipment if applicable	●	○	○
Federal Aviation Authority			
• Within FAA Jurisdiction	●	○	○
Utility Availability for:	●		○
• Sanitary Service	●		○
• Storm Water	●		○
• Domestic Water	●		○
• Gas Service	●		○
• Fire Service	●		○
• Electric Service	●		○
• Telephone Service	●		○
• Cable Service	●		○
Drawings: 50%, 90% & 100% Completion	●		
• Cover Sheet (See A/E Manual, Vol. II, Div. 1 For Sample Format)	●		
• Site Plan	●		
• Site Utility Plan	●		
• Floor Plans	●		
• Elevations	●		
• Sections/Details	●		
• Structural Drwgs, Seismic, Design Load Criteria, Calculations	●		
• HVAC Drwgs. Heating & Cooling Equipment Schedules, Calculations	●		

EXHIBIT 'D'

TASKS ALWAYS REQUIRED	OPTIONAL TASKS
● LEAD	■ LEAD
O ASSIST	◘ ASSIST

DATE: 12/1/2021

DPMC PROJECT MANAGEMENT RESPONSIBILITY MATRIX

DPMC PROJECT #A1360-02
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NJ Public Health Environmental and Agriculture Laboratory

• Economic Comparison of Proposed vs. Alternate Fueled System	●		
• Plumbing Drwgs, Pipe Distribution & Riser Details, Fixture Schedule	●		
• Fire Protection Drwgs, Hydraulic Calcs, Water Pressure & Flow Data	●		
• Electrical Drwgs, Riser Diagram, Panel Schedules, Service Size, Lighting Design, Calculations	●		
• Emergency Power Equipment & Source	●		
Specifications: 50% & 90%, 100% Completion	●		
Prepare Current Working Estimate in CSI Format & Cost Analysis 38 Form: 50%, 90% & 100 % Completion	●		●
CPM Design & Construction Schedule	O		●
Prepare Master Submittal List	O		●
Identify Long Lead Construction Items	O		●
Market Analysis to Determine Single vs Multi-Prime	O	O	●
Provide Info to Consultant for Owner Supplied Equipment		●	
Incorporate Owner Supplied Equipment into Design	●	O	O
Submit Design Documents for Review	●		O
Oral Presentation of Design Develop Phase Deliverables	●		O
Prepare & Distribute Meeting Minutes	O		●
Develop Submission Checklist & Forward to DPMC/NJBA	●		O
Accept Consultant Compliance w/SOW Deliverables		●	O
Prepare Consultant Performance Evaluations		●	
Oral Presentation to NJBA Project Team at 50%, 100%, QRB	●		●

EXHIBIT 'D'

TASKS ALWAYS REQUIRED	OPTIONAL TASKS
● LEAD	■ LEAD
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DATE: 12/1/2021

DPMC PROJECT MANAGEMENT RESPONSIBILITY MATRIX

DPMC PROJECT #A1360-02
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NJ Public Health Environmental and Agriculture Laboratory

CONSTRUCTION DOCUMENT - PHASE 6	*A/E*	*DPMCNJBA*	*CMF*
Schedule & Chair Design Meetings	○		●
Attend Design Meetings	●	●	●
Prepare & Distribute Meeting Minutes	○		●
Regulatory Agency Permits & Approvals	●	○	○
Drawings: 50% & 100% Completion	●		
Project Update at 75%	●		●
Specifications: 50% & 100% Completion	●		
Perform Formal Review of Plans For Compliance with S.O.W., DPMC Design Standards, UC, Design Practice, Suitability & Other Regulatory Standards		●	○
Review & Approve Design Amendments to Contract		●	
Perform Constructability Review		○	●
Perform Value Engineering Review	○	○	●
Approval of Design Documents		●	○
Compile Comments of DPMC, Client Agency, DCS, etc., & Forward to Design Consultant for Action		○	●
Resolve All Comments Raised by DPMC, Client Agency, DCA, etc.	●		○
Provide Landscape Design Drawings	●		○
Provide Interior Design Services	●		
Provide Testing & Sampling Devices	●		
Design & Provide Formal Presentation Graphics	●		
Presentations at Public Hearings	●		○
Provide Graphic Design Service (Signage)	●		
Provide Traffic Safety	●		
Provide Financial Study	●		○
Provide Design Services for Furnishing Selection	●		

EXHIBIT 'D'

TASKS ALWAYS REQUIRED	OPTIONAL TASKS
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DPMC PROJECT MANAGEMENT RESPONSIBILITY MATRIX

DPMC PROJECT #A1360-02
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NJ Public Health Environmental and Agriculture Laboratory

Provide Environmental Monitoring Services	●		
Present Environmental Impact Statement	●		
Incorporate Fine Arts Into Project - 100% Completion	●	○	
Provide Rendering	●	●	
Process and Recommended Approval of Invoices	○		●
Process Invoices After Approval		●	
Input Project Data in MIS		●	○
Prepare Current Working Statement in CSI Format & Cost Analysis 38 Form: 50% & 100% Completion	●		●
CPM Design & Construction Schedule	○		●
Oral Presentation of Final Design Phase Deliverables	●		○
Oral Presentation to NJBA Project Team at 50%, 100% & QRB	●		●
Prepare & Distribute Meeting Minutes	○		●

EXHIBIT 'D'

TASKS ALWAYS REQUIRED	OPTIONAL TASKS
● LEAD	■ LEAD
O ASSIST	□ ASSIST

DATE: 12/1/2021

DPMC PROJECT MANAGEMENT RESPONSIBILITY MATRIX

DPMC PROJECT #A1360-02
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NJ Public Health Environmental and Agriculture Laboratory

PERMIT- PHASE 7	***A/E***	***DPMC/NJBA***	***CMF***
Prepare Pre-Bid Construction Schedule	O	O	●
Prepare Pre-Bid Construction Cost Estimate	●		●
Obtain UCC Permit Application & Complete with Related Technical Subcodes	●		O
Complete DCA Permit Fee Calculation Schedule	●	O	O
Provide Signed & Sealed Drawings & Specifications, CWE Cost Analysis (DPMC38 Form)	●		O
Submit Signed & Sealed Drawings & Specifications, Permit Application, Fee Schedule, Invoice to DPMC Plan Review	●	O	O
Obtain UCC Permit	O	●	
Submit Drawings & Specifications and Applications for All Other Project Permits	●		O
Obtain All Other Permits	●		O
Prepare Bid Document Checklist & Proposal Form		●	
Prepare Pre-Bid Clearance Form & Get Sign-Offs as Required on Form & Original Mylars		●	
Confirm Adequate Funding is in Place		●	
Input Project Data into MIS		●	O
Prepare A/E Performance Evaluation		●	

EXHIBIT 'D'

TASKS ALWAYS REQUIRED	OPTIONAL TASKS
● LEAD	■ LEAD
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DPMC PROJECT MANAGEMENT RESPONSIBILITY MATRIX

DPMC PROJECT #A1360-02
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NJ Public Health Environmental and Agriculture Laboratory

ADVERTISE, BID, AWARD - PHASE 8	***A/E***	***DPMC/NJBA***	***CMF***
Submit Construction Drawings to DPMC	●		
Submit Construction Specifications to DPMC	●		
Print Plans & Specifications for Distribution to Bidders		●	
Prepare Pre-Qualified Bidder List		●	
Review/Recommend Contractor Bid List		●	
Prepare & Arrange for Project Advertisement		●	O
Publish Advertisement of Project		●	
Schedule & Chair Pre-Bid Conference	O	O	●
Prepare & Distribute Minutes	O	O	●
Attend Pre-Bid Conference	●	●	●
Respond to Technical Questions Asked by Bidders	●	O	O
Prepare Bulletins & Deliver Original to DPMC/NJBA	●		O
Review Bulletins for Technical Correctness	●	O	O
Publish & Issue Bulletins		●	
Conduct Bid Opening	O	●	O
Receive, Open & Record Bids		●	
Review Bids, Provide Cost Analysis & Recommend Award	O	O	●
Review & Accept Recommendation of Award		●	
Prepare & Distribute Construction Contracts		●	
Establish Date of Pre-Construction Meeting	O	●	O
Complete & Submit to DPMC/NJBA the "Submission Checklist" to Ensure That All Contract Deliverables Have Been Met	●		

EXHIBIT 'D'

TASKS ALWAYS REQUIRED	OPTIONAL TASKS
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DPMC PROJECT MANAGEMENT RESPONSIBILITY MATRIX

DPMC PROJECT #A1360-02
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NJ Public Health Environmental and Agriculture Laboratory

Review & Approve "Submission Checklist"		●	O
Input Data into MIS		●	
Issue Notice to Proceed		●	
Prepare A/E Performance Evaluations		●	

EXHIBIT 'D'

TASKS ALWAYS REQUIRED	OPTIONAL TASKS
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DPMC PROJECT MANAGEMENT RESPONSIBILITY MATRIX

DPMC PROJECT #A1360-02
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CONSTRUCTION - PHASE 9	***A/E***	***DPMC/NJBA***	***CMF***
Chair Pre-Construction Meeting	○	○	●
Attend Pre-Construction Meeting	●	●	●
Prepare & Distribute Minutes of Pre-Construction Meeting	○		●
Distribute Code-Approved Drawings to DPMC & Contractors, Along with the UCC Permit		●	
Schedule & Chair Project Meeting	○	○	●
Attend Project Meetings	●	●	●
Prepare & Distribute Minutes	○		●
Prepare "Conformed Drawings" & Deliver to DPMC	●		
Print & Distribute "Conformed Drawings"	●		
Prepare DPMC Insurance Form & Submit to Proper Parties	●		
Update Construction Progress Schedule	○	○	●
Update CPM Schedule	○	○	●
Track & Distribute Documents		○	●
Review/Approve Sub-Contractors	○	●	○
Review/Approve Samples & Materials	●	○	○
Perform Value Engineering Analysis/Report	○	○	●
Review/Approve Unit Schedule Breakdown	○	○	●
Approve Shop Drawings & Submittals	●	○	○
Approve Test Reports	●	○	○
Evaluate & Recommend Contractor Invoices	●	○	●

EXHIBIT 'D'

TASKS ALWAYS REQUIRED	OPTIONAL TASKS
● LEAD	■ LEAD
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DPMC PROJECT MANAGEMENT RESPONSIBILITY MATRIX

DPMC PROJECT #A1360-02
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NJ Public Health Environmental and Agriculture Laboratory

Review Contractor's Progress Schedule	○	○	●
Approve Contractor's Progress Schedule	○	●	○
Approve Contractor's Invoices	○	●	○
Review & Approve A/E Invoices		●	
Monitor "As-Built" Plans	○		●
Evaluate/Recommend Contractor Change Order Requests	○		●
Prepare Change Order Plans & Specifications	●		
Negotiate/Authorize Change Orders	○	●	○
Amend Contracts Due to Change Orders		●	
Recommend Change Orders for E/O		○	●
Submit Field Observation Reports	●	○	●
Review Field Observation Reports		●	●
Provide Construction Photographs	●		●
Schedule UCC Inspections		○	●
Coordinate Installation of Fine Arts	●	○	●
Prepare Contractor's Performance Evaluation		●	
Prepare A/E Evaluations		●	
Input Data Into MIS		●	

EXHIBIT 'D'

TASKS ALWAYS REQUIRED	OPTIONAL TASKS
● LEAD	■ LEAD
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DATE: 12/1/2021

DPMC PROJECT MANAGEMENT RESPONSIBILITY MATRIX

DPMC PROJECT #A1360-02
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CLOSE-OUT - PHASE 10	***A/E***	***DPMC/NJBA***	***CMF***
Plan, Schedule, Execute Close-Out	○	○	●
Schedule & Chair Close-Out Meeting	○	○	●
Attend Close-Out Meeting	●	●	●
Coordinate Pre-Final Inspection/DCA/Consultant	○	○	●
Develop Punchlist (Contract)	●	○	●
Develop Punchlist (Code)	●	○	●
Consolidate All Punchlists & Distribute			●
Verify Completion of Punchlist Items (Contract)	●	○	○
Verify Completion of Punchlist Items (Code)	●	○	○
Determine Substantial Completion		○	●
Sign "Certificate of Substantial Completion" for each Contractor		●	
Request Issuance of TCO from DCA		○	●
Plan, Schedule & Control Final Inspection by All Parties	○	○	●
Coordinate Equipment Operation Training	○	○	●
Review Contractor's O&M Manuals	●		●
Review Contractor's Guarantees	●		●
Review Contractor's Testing & Balancing Reports	●		●
Review Contractor's Boiler Inspection Certificates	●		●
Review Contractor's Elevator Inspection Report	●		●
Review Contractor's Master Label (Lightning Protection)	●		
Assemble & Forward Close-Out Documents to DPMC/NJBA	○		●
Prepare Insurance Transfer Report (DPMC-25)	●	○	○
Collect As-Built Drawings from Contractor			●
Prepare Record Set Drawings & Submit to DPMC	●		

EXHIBIT 'D'

TASKS ALWAYS REQUIRED	OPTIONAL TASKS
● LEAD	■ LEAD
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DPMC PROJECT MANAGEMENT RESPONSIBILITY MATRIX

DPMC PROJECT #A1360-02
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Init. Final Contract Acceptance (DPMC-20) for each Contractor		○	●
Sign Final Contract Acceptance		●	
Develop & Submit "Final Cost Analysis"	○		●
Forward "Submission Checklist" to DPMC	●		○
Review and Approve Consultant's "Submission Checklist" to ensure all deliverables have been met		●	○
Obtain all Close-Out Documents		○	●
Close Out A/E Contract		●	
Prepare A/E Performance Evaluation		●	
Prepare Contractor's Performance Evaluation		●	○
Input Data Into MIS		●	
Provide Expert Witness Services	●	●	●
Provide Post Occupancy Assistance	○	●	○
Prepare CMF Performance Evaluation		●	

EXHIBIT 'D'