

State of New Jersey

PHILIP D. MURPHY Governor

TAHESHA L. WAY Lt. Governor DEPARTMENT OF THE TREASURY DIVISION OF PROPERTY MANAGEMENT & CONSTRUCTION P O BOX 034 TRENTON NJ 08625-0034

ELIZABETH MAHER MUOIO State Treasurer

CHRISTOPHER CHIANESE Director

January 12, 2024

Skanska USA Building, Inc. 389 Interpace Parkway, 5th Floor Parsippany, NJ 07054 Attn: Christopher Anderson

Re: Project # A1360-01 - **Notice to Proceed** Construction Management Services Laboratory, Admin. Wing and Warehouse Exp. Project NJ Public Health, Environmental and Agriculture Laboratory Ewing, Mercer County, NJ

Dear Mr. Anderson:

This is notification that Project # A1360-01 is awarded to your firm in the amount of \$2,478,500.00 and serves as your Notice to Proceed.

This Notice to Proceed authorizes your firm to begin construction management services for project A1360-01 on February 9, 2024. This date will be the start of your management duration.

Your services will be in accordance with the Scope of Work dated February 28, 2023, your technical proposal dated July 25, 2023, your final, accepted fee proposal (3rd Revision) dated September 27, 2023, and the agreement between the State of New Jersey and the Consultant endorsed January 12, 2024 and the General Conditions to the Consultant Agreement dated May 2016.

Please contact Vince Campanella at (609) 943-4830 to set up a kick-off meeting.

We look forward to the successful completion of this project.

Please sign below and return via email to william.mahan@treas.nj.gov.

Sincerely Christpher R. Gea

Assistant Deputy Director

C. Geary A. Faraca Central File J. Langsdorf E. Cardone V. Campanella P. Johnson W. Hamilton T. Kirn

01/16/2024

R. Finney

Central File Christophic Inclusor Name

Date

Vice President/ Regional Director

Title

STATE OF NEW JERSEY DEPARTMENT OF THE TREASURY DIVISION OF PROPERTY MANAGEMENT AND CONSTRUCTION

AGREEMENT BETWEEN THE STATE OF NEW JERSEY AND THE CONSULTANT FOR

CONSTRUCTION MANAGEMENT SERVICES



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AGREEMENT made this 12 day of so in the year 2024

BETWEEN the Owner and the Construction Management Firm.

The Owner and the Construction Management Firm agree as set forth below:

A. INTRODUCTION

- A.1 DEFINITIONS
- A.1.1 The "Owner" means: State of New Jersey, by and through its Contracting Officer, the Deputy Director of the Division of Property Management and Construction the Department of Treasury; the "State"
- A.1.2 The "CMF" means the Construction Management Firm. The CMF for this project is:

Skanska USA Building, Inc.

A.1.3 The "Project" includes the work for the Contractor as defined in the CMF AGREEMENT and means:

> Project #: A1360-01 Construction Management Services Laboratory, Admin. Wing and Warehouse Exp. – NJ Public Health, Environmental and Agriculture Laboratory, Ewing Twp., Mercer County, NJ

A.1.4 The "Design Consultants" or "Architects/Engineers" or "A/Es" means the Consultant firm providing design services for this project. The Design Consultant for this project is:

TBD

A.1.5 The "CMF AGREEMENT" means this AGREEMENT and:

Project Scope of Work dated February 28, 2023 Request for Proposal (RFP) for Construction Management Services, dated May 18, 2023

Mandatory Pre-Proposal meeting held on July 07, 2023

Technical Proposal submitted by Skanska USA Building, Inc. dated July 25, 2023

Consultant Interview, conducted on August 01, 2023

Consultant Fee Proposal, submitted original dated August 31, 2023

Consultant Revised (3rd Revision) Fee Proposal, dated September 27, 2023

General Conditions to the Consultant AGREEMENT (revised May 2016)

Project Management Responsibility Matrix included in Scope of Work as Exhibit "B"

Addendum "A" dated June 28, 2023, Addendum "B" dated July 17, 2023 & Addendum "C" dated August 16, 2023

- A.1.6 The "work" means the work as defined in the contract documents for each of the Contractors.
- A.1.7 The "Contractor" or "Contractor(s)" means the Contractor for any construction work relating to the Project.
- A.1.8 The "Owner's Project Manager" means the State's representative acting on its behalf for this project.
- A.1.9 The "Critical Path Method (CPM) Schedule" or "CPM Schedule" or "Schedule" means the process of planning, diagramming and computing the critical path of the

project. The critical path is the longest continuous chain of activity durations (an activity is a discrete task with a definable beginning date, duration and end date that must be accomplished, along with other tasks, in order to complete the project) through a project's Pure Logic Network Diagram. The critical path determines the minimum duration of the Project. A Project cannot be completed faster than its critical path activities can be completed.

A.1.10 The "Pure Logic Network Diagram" or "Network Diagram" means the hand drawn graphic description of the plan for completing the Project, showing the sequential activities and associated durations required to reach the specified project completion date, as stated in the Contract Documents. The Network Diagram must be comprehensive and include all significant interdependencies, interactions and mandatory milestones required to perform the Project. It must depict each activity and their interrelationships, and generally recognize that progress must be made in an activity before subsequent activities can begin.

B. CONSULTANT RESPONSIBILITIES

- B.1 GENERAL
- B.1.1 The CMF will act as the Owner's authorized representative during the performance of the CMF services as described in this CMF AGREEMENT.
- B.1.2 The CMF accepts the relationship of trust and confidence established by this CMF AGREEMENT, and shall make available to the Owner its knowledge, skills, ideas, experience and abilities with respect to all matters within the scope of its services, as described in this CMF AGREEMENT.
- B.1.3 The CMF is responsible to provide construction management services, as described in this CMF AGREEMENT, for all work relating to this Project. The CMF shall only direct the work of any of the Contractors after the CMF obtains the concurrence of the Owner's Project Manager.
- B.1.4 The CMF services consist of those services performed by the CMF, the CMF's employees, the CMF's sub-consultants and contractors. The CMF shall utilize the key staff members identified in its Technical Proposal. The CMF shall notify the Owner in advance of any proposed change in its key staff members identified in its proposal. The CMF shall submit to the Owner for approval the name and qualifications of a proposed replacement with equal or superior qualifications at no additional cost to the Owner. No change shall take effect unless the Owner approves the change in writing.
- B.1.5 The CMF shall be responsible for satisfying all of the listed obligations regardless of when they occur during the project. The CMF will assume primary responsibility for day-to-day project management including cost estimating, Critical Path Method (CPM) Scheduling, purchase of equipment, resident engineering, facility testing and staff training. In addition, the CMF will provide technical support for Owner decisions regarding Contractor selection, change order control and Contractor(s) claims, progress payments and final acceptance and Contractor(s) claims management as set forth in section B.3.1.15.
- B.1.6 The CMF shall be responsible for satisfying all of the obligations described in this CMF AGREEMENT, even if such obligations are not addressed in the CMF's technical proposal. This document establishes the obligations of the CMF which obligations may be supplemented by the CMF in its technical proposal. If the services promised in the CMF's technical proposal exceed those described in this CMF AGREEMENT, then the CMF shall be responsible for satisfying the additional obligations described in its technical proposal.
- B.1.7 The CMF shall report directly to the Owner's Project Manager. The CMF shall provide its services under the supervision of the Owner's Project Manager and in conjunction with the services of the Design Consultant. The CMF shall establish and

implement a comprehensive management program with procedures for coordination among the Owner, the Design Consultant, the Contractor(s) and the CMF with respect to all aspects of the Project.

- B.1.8 The CMF AGREEMENT contemplates personal services by the CMF. The CMF shall not assign or transfer its obligations or rights under this CMF AGREEMENT without the prior written consent of the Owner.
- B.1.9 The CMF agrees to maintain and retain payroll, cost and accounting records with respect to this project as they customarily retain and produce them for their business generally, and in accordance with generally accepted accounting principles and practices. Upon three days written notice, all such records shall be available to the Owner for inspection for a period of three (3) years after final payment is received by the CMF. No CMF claims for additional compensation shall be payable unless supporting cost records are furnished upon request and claimed costs are substantiated and approved.
- B.1.10 The CMF shall retain copies of the cost records for a period of three (3) years after final payment is received by the CMF. After this period, the CMF may dispose of these records after first offering them to the Owner in writing, at no cost and the Owner accepts within 30 working days.
- B.1.11 The CMF shall promptly notify the Owner of any changes to the scope of services, which increase or decrease the CMF's services, or both. No such change in scope shall be performed by the CMF, absent prior written approval by the Owner. Notice of request for additional compensation shall be given to the Owner within 30 working days of the event giving rise to such a request with accompanying justification for the change and a detailed breakdown of the basis for the costs. Such costs shall be based on the CMF's direct costs.
- B.1.12 The CMF shall assign at least one (1) Project Executive/Manager who shall attend all meetings as required under the CMF AGREEMENT. The CMF shall otherwise provide sufficient executive, supervisory and management personnel in the field and home office to carry out the requirements of the CMF AGREEMENT in an expeditious and economical manner consistent with the interests of the OWNER.
- B.1.13 If requested, the CMF shall assist the Owner in selecting and retaining the professional services of surveyors, special consultants and testing laboratories and coordinate their services.
- B.1.14 Reproduction costs for CMF produced reports, logs, charts, etc. shall be at the CMF's expense. The CMF may anticipate producing a maximum of ten (10) copies of each report.
- B.1.15 The CMF shall prepare and, after Owner approval, issue a Project Manual which sets forth in detail the procedures and administrative provisions necessary to accomplish the Project in accordance with the intent of the terms of the CMF's, Design Consultant's' and Prime Contractors' Contracts. The procedures and provisions discussed in the Project Manual shall include, but not be limited to, payment requests, proposed change orders, submittals, requests for information (RFI), Contractor(s) responsibility for their subcontractors, Contractor coordination, quality control, progress meetings, Contractor coordination meetings, daily reporting procedures and meeting minutes. The "Project Manual is to be given to the Contractor(s) within the thirty (30) days of the Contractor(s) Notice to Proceed.
- B.1.16 The CMF shall develop and monitor a Design CPM Schedule and/or a Construction CPM Schedule that provides information on project milestones which includes coordination efforts required between the Design Consultant, the various Contractors, the Owner, their client, outside agencies and all regulatory agencies.

- B.1.17 The CMF shall, through the use of generally acceptable accounting procedures, develop a cost control reporting system including financial data required to monitor progress of cost versus budget for the project.
- B.1.18 The CMF shall provide Cash Flow Reports and forecasts for the project that include variances between actual and budgeted or estimated costs.
- B.1.19 The CMF shall develop a computerized Program Information System which incorporates scope, budget, schedule control and resource allocation. The system must be compatible with the Owner's accounting system.
- B.1.20 The CMF shall keep accurate and detailed written records of the Project and its progress during all stages of design and construction.
- B.1.21 The CMF shall prepare and maintain a daily log of work on the project and submit a copy to the Owner's Project Manager daily.
- B.1.22 The CMF shall maintain a computerized data base recording and reporting on all project correspondence addressed to CMF or Owner, including information concerning subject matter and resolution, all in a manner approved by the Owner. Issue status reports as directed, but at least monthly.
- B.1.23 The CMF shall submit monthly written progress reports to the Owner and Design Consultant by the 1st of each month, including, but not limited to, information concerning the adequacy of the work and site manpower of each of the Contractors, the percentage of completion, submittal status, the number and amount of change orders, the updated CPM schedule with reports, and construction cost summary reports. Additionally, the monthly progress report shall include current and potential problems deemed of sufficient import to require Owner monitoring or action during the forthcoming month and a recommended course of action to achieve resolution of each of these problems.
- B.1.24 The CMF shall review, execute and submit the updated Financial Status Report (FSR) to the Owner by the first of each month.
- B.1.25 On a monthly basis the CMF shall track, recommend for approval and forward to the Owner, the invoicing of consultants hired by the Owner. The CMF shall assist the Owner in any disputes or negotiations with the Owners consultants.
- B.2 DESIGN AND BID PHASE
- B.2.1 The CMF shall review design documents for clarity, consistency and completeness. Advise the Owner and the Design Consultant regarding site use and improvements, selection of materials, building systems and equipment, and methods of project delivery. Provide recommendations to the Owner and the Design Consultant on relative feasibility of construction methods, availability of materials and labor, time requirements for procurement, installation and construction, and of factors related to cost including, but not limited to, cost of alternative designs or materials, preliminary budget and possible economies.
- B.2.2 The CMF shall make recommendations to the Owner and the Design Consultant regarding the division of work in the drawings and specifications to facilitate the bidding and awarding of construction contracts, allowing for phased construction and taking into consideration such factors as the legal requirements of the Owner's construction contracting methods, time of performance, availability of labor, availability of work areas, overlapping trade jurisdictions and provisions for temporary facilities.
- B.2.3 The CMF shall review the contract documents as they are being prepared and shall recommend to the Owner alternate solutions whenever design details affect project cost, constructability and bidability without, however, assuming any of the Design

Consultant's responsibilities to provide sound design and properly prepared contract documents.

- B.2.4 The CMF shall review the drawings and specifications with the Design Consultant to eliminate areas of conflict and overlapping in the work to be performed by the various Contractors.
- B.2.5 The CMF shall provide recommendations and information to the Owner and the Design Consultant regarding the assignment of responsibilities for safety and security precautions and programs; general hoisting and crane operations, temporary project facilities; access to the construction work; and equipment, materials and services for common use of Contractors. Verify that the requirements and assignment of responsibilities are included in the proposed contract documents.
- B.2.6 The CMF shall provide a proposed Site Utilization Plan of the entire site; illustrating areas available for Contractor construction access and trailer areas, access to adjacent Owner facilities, and related material. The plan should illustrate the varying site utilization over the major construction phases of the Project.
- B.2.7 The CMF shall provide recommendations on the extent, location and configuration of temporary construction support facilities after reviewing the Design Consultant's drawings and specifications. Coordinate these among the various construction Contractors.
- B.2.8 The CMF shall prepare and submit formal construction cost estimates to the Owner with accompanying detail back-up documents prepared by the Design Consultant. Make recommendations for corrective action if it appears that the Construction Cost Estimate (CCE) may exceed the Project Budget. The Design Consultant maintains the responsibility to design the Project in accordance with the approved budget. Estimates are to be in sufficient detail appropriate to the design phase of the project as recommended by the American Society of Professional Estimators or similar Association and are to be provided to the Owner within 5 to 25 working days, as appropriate to the type of estimate, after all documentation upon which the estimate is based is provided to the CMF.
- B.2.9 The CMF shall provide Value Engineering services for the Project at appropriate times in their design cycle. These will be performed in accordance with the recommendations of the Society of American Value Engineers (SAVE). These are to include mechanical systems, roofing systems, finishes, energy management systems, lighting and power systems, and site work. Such studies shall include maintainability and operability considerations.
- B.2.10 The CMF shall review the plans and specifications with the Design Consultant to establish and implement procedures for Contractors' submittals for review and/or approval of all shop drawings, catalogs and samples to the Design Consultant and Owner. Develop a comprehensive listing, by Contractor, of all submittals required in the contract documents, including milestone dates when each submittal must be processed. Take appropriate action to insure adherence by all parties to this schedule, referring failures to do this to the Owner, with recommendations of appropriate action to correct the situation.
- B.2.11 When required by the Request for Proposal (RFP), the CMF shall develop a plan for construction contract packaging which best meets the overall needs of the Project.
- B.2.12 The CMF shall review the pre-bid construction contract scopes of work and bid documents prepared by the Design Consultant and make recommendations for corrections for Owner approval.
- B.2.13 With the Design Consultant's assistance, the CMF shall conduct post-bid and preaward conferences with bidders to review contract award procedures, schedule, project staffing and other pertinent issues; assist the Owner in evaluating contractor bids and proposals and; assist the Owner in preparing construction contracts and

advise the Owner and Design Consultant on the acceptability of subcontractors and material suppliers proposed by the Prime Contractors, as well as any proposed substitutions.

B.2.14 The CMF shall assist the Owner and Design Consultant in conducting the contractors pre-bid meetings. At the pre-bid meeting the CMF shall discuss topics including, but not limited to, project logistics, project-phasing requirements, CPM scheduling and mandatory milestones.

B.3 CONSTRUCTION PHASE

- B.3.1 The CMF shall provide administrative, management and related services as required to monitor that the Contractors complete the project in accordance with their contractual obligations and the Owner's objectives for cost, time and quality. The CMF shall include the development and implementation of procedures for the following tasks and/or programs:
- B.3.1.1 <u>Administration of Contracts</u> Provide administration of construction contracts, contracts for furniture, fixtures, equipment and other contracts and purchase orders.
- B.3.1.2 Contractor Performance Monitor the work of the Contractors and keep the Owner informed on the progress of the work on a weekly basis, and of any changes required to accomplish the current approved estimates of the project cost or completion dates on a monthly basis, so the Owner will have the appropriate knowledge so as to make timely changes in the project at its option. Provide sufficient, qualified personnel onsite to monitor that construction is in compliance with the Contractors' contract documents, and according to the schedule and within budget. On the basis of on-site inspections, the CMF shall endeavor to guard the Owner against defects and deficiencies in the work and to achieve satisfactory performance of the work by each of the Contractors. Recommend courses of action to the Owner when contract requirements are not being fulfilled and the non-performing party does not take the corrective action.
- B.3.1.3 <u>Pro-Active Monitoring</u> The CMF shall provide pro-active participation in monitoring and verification that all CPM activities are occurring in accordance with the approved CPM Schedule. Pro-active verification may include phone calls to suppliers or vendors in order to confirm the placement of orders, obtaining invoice documentation, shipping data and any other actions required to insure all CPM activities are occurring in accordance with the approved CPM schedule.
- B.3.1.4 Contractor Payments - Through the use of the approved cost loaded Construction CPM Schedule and monthly updating of same, the CMF shall review all applications and/or invoices submitted by the Contractor for progress payments, reduction in retainage, final payment and all other requests for payment in accordance with the requirements of the Contractor's Contract. Following such review, the CMF shall make recommendations to the Owner for disposition thereof in accordance with the Owner's procedures, certifying same, and shall whenever appropriate, make specific recommendation to the Owner concerning the denial or reduction of any payment of the Contractor's monthly requisition or other request for payment should the CMF have cause to be dissatisfied with the Contractor's performance under its contract. The CMF's certification for payment shall constitute a representation to the Owner, based on the CMF's determinations at the site and on the data comprising the Contractor's application for payment, that, to the best of the CMF's knowledge, information and belief, the work has progressed to the point indicated and the quality of the work is in accordance with the Contractor's contract documents. The CMF shall utilize the cost loaded Construction CPM Schedule_monthly updates to create computer-generated invoices for each contractor. These invoices shall conform to the standard Owner's cover sheet format, and contain the same information and signature times or the back-up breakdown sheets.
- B.3.1.5 <u>Change Orders</u> The CMF shall review, evaluate and make specific written recommendations regarding change orders. The CMF shall assess change orders for validity; merit, cost, and utilizing the approved CPM schedule, perform a schedule

impact analysis to determine the effect, if any, the change order will have on the milestones and completion date of the project. The CMF will forward the change orders with a recommendation and assist in the negotiation of any disputed change order; Track progress of all change orders and ensure timely processing thereof; and publish, in the monthly report, the status of change orders and submit it to the OWNER. Upon the Owner's request, analyze any and all claims or requests for extensions of time and costs, using available project records, and make specific recommendations regarding same. The CMF shall attend and actively participate at administrative hearings and conferences or settlement conferences in connection with such claims upon request by the Owner. The CMF shall upon request by the Owner assist the Owner in the preparation and presentation of its defense, counterclaim or other position in connection with any claim by or against the Owner during any lawsuit.

- B.3.1.5.1 The CMF shall review, evaluate and make specific written recommendations regarding Owner amendments and/or changes in the Contractor(s) scope of work. The CMF shall, utilizing the approved CPM schedule, perform a schedule impact analysis to determine the effect, if any, the amendments and/or changes in the Contractor(s) scope of work will have on the milestones and completion date of the project
- B.3.1.6 <u>Coordination of Revisions to the Contract Documents</u> The CMF shall provide coordination of revisions or changes to the Contract Documents to be made by the Design Consultant as required in response to unexpected site conditions or scope changes.
- B.3.1.7 <u>Quality Assurance and Quality Control (OA/OC)</u> The CMF shall develop a QA/QC program including methods and frequency of inspections. Provide all supervisory and inspection staff at the job site necessary to verify that the project is properly constructed in strict accordance with the contract documents, the CPM Schedule and within budget. On the basis of on-site inspections, the CMF shall recommend rejection of work that does not conform to the requirements of the contract documents. As part of this task, the CMF shall also monitor the Construction Contractor(s) quality control operations/inspections. Staff the necessary field offices with qualified personnel assigned to carry out QA/QC on each work package or trade. The CMF shall coordinate and participate in the required code inspections with the Contractor(s) and/or other State Agencies. The CMF shall immediately notify the Owner of any code inspection failures and schedule the necessary corrective action and re-inspection of the work to minimize the impact, if any, to the progress of the work and completion of the project as scheduled.
- B.3.1.8 <u>Safety Oversight</u> The CMF shall review the safety program developed by Contractor(s) and insure that it complies with Federal and State laws or regulations, insurance company requirements, local county or municipal health regulations or other requirements and local union rules. The CMF shall, on a regular basis, monitor the Contractor(s) site safety program to insure compliance. If it is found the Contractor(s) is not in compliance with said program then the CMF shall immediately notify the Contractor(s) and the Owner in writing of the deficiencies. The CMF shall meet with the Owners Representative to review the non-compliance issues and proceed in a manner as directed by the Owner to insure compliance with the site safety program. The CMF will maintain a complete record of all safety related incidents and submit monthly Safety Reports to the Owner.
- B.3.1.9 <u>Security</u> The CMF shall develop and implement a security program to ensure that unauthorized individuals do not enter the site and that the Project is not vandalized.
- B.3.1.10 <u>Labor Relations</u> The CMF shall monitor overall labor issues and agreements and render assistance to the Owner, upon the Owners request as may be appropriate in labor issues affecting the project.
- B.3.1.11 <u>Shop Drawings and Submittal Packages</u> The CMF Shall assume overall monitoring, receiving, cataloging, logging and processing of all Contract shop drawings, samples,

product data, operations manuals, warrantees, project closeout paperwork and other submittals, in the form of submittal packages in conformance with the project specifications, from the Contractors. The CMF shall review each submittal package for completeness, rejecting incomplete Submittal Packages and forwarding all others to the Design Consultant for review. The CMF shall return to the Contractor(s) all Design Consultant reviewed Submittal Packages. The CMF shall maintain an accurate, up to date Submittal Log, in a form acceptable to the Owner, which shall include, but not be limited to, a description of each submittal package by specification number, the date to be submitted by the Contractor(s), the date actually received by the Contractor, the date sent to the Design Consultant, the date returned by the Design Consultant, the date forwarded back to the Contractor(s) and the status of the returned submittal. The CMF shall generate a submittal log weekly for the Owner, which shall list the status of all project Submittal Packages and notify the Contractor(s) of any over due submittal packages.

- B.3.1.12 Job Records and Documentation The CMF shall establish and maintain project files of records and technical documentation including but not limited to, design plans, drawings, specifications, shop drawings, samples, accounting records, contracts, change orders, correspondence, tests and inspections, and safety records; and provide a system of retrieving data quickly. The CMF shall make all records available to the Owner and upon completion of the project shall deliver them to the Owner.
- B.3.1.13 The CMF shall maintain monthly cash flow reports, forecasts and a Financial Status Report (FSR), in a form acceptable to the Owner, for the project and advise the Owner as to variances between actual and budgeted or estimated costs.
- B.3.1.14 Reproduction costs for CMF produced management reports, including but not limited to schedules and cost reports, shall be at the CMF's expense. The exact amount of copies to be required will depend on the type of report being submitted.
- B.3.1.15 <u>Construction Claims Management</u> Establish and maintain an active program to avoid or minimize the number of claims from the Contractor(s) and/or Design Consultants. Upon the Owner's request, analyze any and all claims or requests for extensions of time and costs, using available project records, the approved Design CPM Schedule and/or Construction CPM Schedule, and make specific recommendations regarding same. The CMF shall attend and actively participate at administrative hearings and conferences or settlement conferences in connection with such claims upon request by the Owner. The CMF shall upon request by the Owner assist the Owner in the preparation and presentation of its defense, counterclaim or other position in connection with any claim by or against the Owner during any lawsuit.
- B.3.1.16 <u>Construction Site Monitoring</u> The CMF shall provide project monitoring at the site of all activities of all Contractors so that construction is accomplished with a minimum of duplication of effort and interference.
- B.3.1.17 <u>Job Meetings</u> The CMF shall schedule and conduct weekly, biweekly and monthly progress meetings as required by the Owner to be attended by the Contractors, representatives of the Owner and the Design Consultant to discuss such matters as procedures, progress, quality of construction, problems, and scheduling. The CMF will take, transcribe, and distribute minutes of such meetings within five (5) working days after the meeting. The CMF's Project Manager shall meet with the Owners Project Manager at the jobsite on a daily basis to discuss the Projects current status, any new issues and the Contractor(s) work to be performed that day.
- B.3.1.18 <u>Availability of Material and Equipment</u> The CMF shall analyze project requirements for critical material and equipment availability. Work with the Contractors to achieve timely deliveries and installations.
- B.3.1.19 <u>Compliance with Laws</u> The CMF shall require each Contractor to comply with all governmental laws, ordinances, rules and regulations and notify the Owner of a Contractor's non-compliance.

- B.3.1.20 <u>Interpretation</u> The CMF shall consult with the Design Consultant whenever any Contractor requests interpretations of the meaning and intent of the Drawings and Specifications, and assist in the resolution of questions or disputes which may arise.
- B.3.1.21 <u>Owner Pre-purchased Equipment</u> The CMF shall coordinate Contractors' obligations relating to Owner furnished or pre-purchased equipment, and/or building systems.
- B.3.1.22 <u>As-Built Drawings</u> The CMF shall monitor the Contractor's timely updating and the final submission of a complete set of record "As-Built" marked-up drawings to the Design Consultant for review and approval. The As-Built Drawings shall be monitored with the Project Closeout Paperwork.
- B.3.1.22.1 <u>Project Closeout Paperwork</u> The CMF shall monitor and track the progress of the Contractor(s) timely submission of Project Closeout Paperwork. The Project Closeout Paperwork shall include, but not be limited to operations manuals, certificates, instructions, warrantees, guarantees, maintenance manuals, test reports, as-built drawings and certifications. The CMF shall send all Project Closeout Paperwork to the Design Consultant for review and approval. The CMF shall periodically produce a Project Closeout Paperwork report sorted by Contractor for the Owner and Contractor(s).
- B.3.1.23 <u>Correspondence</u> At the request of the Owner's Project Manager, the CMF shall prepare detailed and accurate written correspondence to the Contractor(s) and/or others.
- B.3.1.24 <u>Photographs</u> The CMF shall provide photographic documentation during the course of the Construction Phase of this project. The CMF is to provide the Owner with four (4) sets (one set in color) size 8x10, minimum of 10 views per month. The cost of this documentation is to be included in the CMF's cost proposal.
- B.3.1.25 <u>Code Inspection Scheduling</u> The CMF shall schedule and assist the State's Construction Inspection Group with their required inspections to insure construction is in compliance with the New Jersey Uniform Construction Code and the contract documents. Require that the corrective actions are implemented where needed.
- B.3.1.26 <u>Inspections</u> The CMF shall inspect work in progress, and take action to avoid or prevent installation of defective or non-conforming work by the Contractors. Maintain a continuing list of nonconforming work as determined from time to time by CMF, Owner or Design Consultant; publish this list to the responsible Contractors, require timely resolution of the nonconforming work, and report on resolution.
- B.3.1.27 <u>Punchlist and Correction of Defective Work The CMF shall inspect the Project prior to the time the Owner is to occupy and operate any part or all of the Project. In conjunction with the Design Consultant, and the Owner, prepare a punchlist of incomplete or defective work to be performed by any Contractor prior to beneficial occupancy. Monitor and maintain an updated punchlist and insure responsible Contractors take prompt action to correct incomplete and defective work necessary to complete all work as required in the contract documents.</u>
- B.3.1.28 <u>Start-up Testing & Training</u> The CMF shall prepare and issue a project start-up and occupancy plan, for approval by the Owner. With the Design Consultant and the Owner's maintenance personnel, observe the Contractors' checkout of utilities, operational systems and equipment for readiness, and assist in their initial start-up and testing. Coordinate Operational Testing and Staff Training (1) prepare a start-up program to test, start and bring the facility to an operational level; (2) witness the test of all equipment to determine its compliance with codes, plans and specifications; (3) plan and assist in the training of the Owner's operating staff; and (4) supervise initial operations under the control of a start-up engineer until final acceptance by the Owner for operations. The CMF shall submit written reports on this coordination.

- B.3.1.29 <u>Project Close-Out</u> The CMF shall conduct Project Close-Out (1) develop specific criteria for determining the final acceptability of Contractor's work (whether determination is by CMF or by others); (2) establish dates for equipment testing, acceptance periods, warranty dates and instructional requirements; (3) conduct frequent inspections throughout the finishing stages; (4) obtain guarantees, warranties, samples, Owner Close-Out forms, operating and maintenance manuals, keys and as-built drawings from the Contractors and vendors; and (5) jointly with the Design Consultant, certify final completion of the facility for acceptance by the Owner.
- B.3.1.30 Final Inspection The CMF shall following the issuance of a certificate of substantial completion of the work or a designated portion thereof, the CMF shall in conjunction with the Design Consultant evaluate the completion of the work of the Contractors and make recommendations to the Owner when the work is ready for final inspection. The CMF shall in conjunction with the Design Consultant and the Owner conduct final inspection(s) of the contracted work of the Contractors prior to final acceptance by the Owner. The CMF shall in conjunction with the Design Consultant forward to the Owner a final project application for payment upon compliance with the requirements of the Contractors' contract documents.
- B.3.1.31 <u>Warranty Inspection</u> The CMF shall, approximately 6 to 9 months after Project occupancy or 60 days prior to expiration of warranties on this Project, schedule and conduct a site inspection with the Owner's staff; the purpose of this inspection will be to identify Warranty work which may need to be done.
- B.4 FIELD OFFICE TECHNICAL AND ADMINISTRATIVE SUPPORT
- B.4.1 The CMF shall be on site within 5 days of the issuance of the Notice to Proceed unless otherwise directed by the Owner.
- B.4.2 The CMF shall provide its own field construction office, on site or in leased space nearby, to house its technical and administrative personnel assigned to the project.
- B.4.3 The CMF shall pay all fees for the utilities, services and equipment throughout the duration of the Project. The CMF will be responsible for janitorial service and the maintenance of the field office complex during the life of the Project.
- B.4.4 The CMF shall provide and pay for its own office furniture, equipment and supplies that it deems necessary to manage the project. These cost's shall be included in the CMF's fee and paid for by the CMF.
- B.5 CRITICAL PATH METHOD (CPM) SCHEDULING SERVICES
- B.5.1 GENERAL
- B.5.1.1 The CMF shall develop a state-of-the-art detailed Critical Path Method (CPM) Scheduling system. The CMF shall produce a Design CPM Schedule and/or a Construction CPM Schedule as stated in the Request for Proposal of Construction Management Services. The development of the CPM Schedules by the CMF must reflect the following:
 - A. For Design CPM Schedules, activities will use calendar day duration's and must take State Holidays into account as being "non-work" days.
 - B. For Construction CPM Schedules, activities will use calendar day duration's but will consider State Holidays as "work-days".

For the purpose of the above, State Holidays are New Years Day, Martin Luther King Jr.'s Birthday, Lincoln's Birthday, Washington's Birthday, Good Friday, Memorial Day, Independence Day, Labor Day, Columbus Day, General Election Day, Veterans' Day, Thanksgiving Day, Christmas Day and, at the option of the Governor, the day after Thanksgiving.

- B.5.1.2 The Projects design phase and/or construction phase shall be monitored by the CMF utilizing a detailed Critical Path Method scheduling system. This system shall be the basis for the evaluation for the performance and progress payments of the Design Consultant(s) and Contractor(s). The Consultant(s) and the Contractor(s) shall utilize the cost loaded CPM Schedule monthly updates to prepare computer-generated invoices. The CMF shall also utilize the CPM Schedule to identify potential and actual causes for delay and the responsible parties.
- B.5.1.3 The CMF shall provide the Owner's Project Manager with recommendations as to the progress of the work. Whenever the CMF becomes aware of any inefficiencies or delays, it shall report them to the Owner's Project Manager, along with the CMF recommendations for resolving the inefficiencies or delays.
- B.5.2 THE DESIGN CPM SCHEDULE
- B.5.2.1 Within ten (10) days of Notice to Proceed the CMF-shall commence development of the preliminary Design CPM Schedule. The CMF shall chair all schedule development meetings and meet with the Owner, Using Agencies, the Design Consultant and other Owner Consultants to develop the Pure Logic Network Diagrams for the Design CPM Schedule.
- B.5.2.2 The Pure Logic Network Diagrams shall illustrate all the required activities, relationships, intermediate milestones and major milestones demonstrating the complete fulfillment of the Design Consultants contractual requirements as defined in their agreement with the Owner.
- B.5.2.3 The Design CPM Schedule Pure Logic Network Diagrams shall illustrate in detail the Design Consultant activity sequencing including, but not be limited to, the schematic planning phase, 30% design development drawings, 60% design development drawings, 90% design development drawings, 100% construction drawings, bid document creation, permitting, the bidding phase and a summary of the construction phase of the project with the anticipated final completion date of the project. If the Design Consultant fails to provide required information during the Design CPM Schedule preparation, the CMF shall immediately notify the Owner and proceed in a manner as directed by the Owner to complete the Design CPM Schedule.
- B.5.2.4 The Design CPM Schedule Pure Logic Network Diagrams shall also illustrate the Owners, Using Agencies and Regulatory Agencies activity sequencing including, but not limited to, program study requirements, Owner reviews, Using Agency reviews, Regulatory Agency reviews, Local Municipality reviews, financing requirements, permitting requirements and approvals.
- B.5.2.5 Upon completion of the Pure Logic Network Diagrams, the CMF shall generate a computer-based preliminary Design CPM Schedule and submit to the Owner and the Design Consultant for review the following reports, charts and diagrams:
 - 1) Schedule Activity Report
 - 2) Early Start / Total Float Report
 - 3) Total Float / Early Start Report
 - 4) Detailed Predecessor / Successor Report
 - 5) Detailed CPM Schedule Bar Chart
 - 6) Summary CPM Schedule Bar Chart
 - 7) Pure Logic Network Diagrams
- B.5.2.6 The CMF shall meet with the Owner and Design Consultant for a joint review meeting of the preliminary Design CPM Schedule for corrections and adjustments to the preliminary CPM Schedule. The CMF shall revise the Pure Logic Network Diagrams and/or the computer produced CPM Schedule in accordance with the agreements reached during the joint review meeting and submit the revised Design CPM Schedule reports, charts and diagrams to the Design Consultant for approval.

- B.5.2.7 Upon the Design Consultants approval of the preliminary Design CPM Schedule, the CMF shall meet with the Design Consultant to develop the cost loading of the preliminary Design CPM Schedule. Utilizing the Design Consultants approved Bid Item Breakdown as a basis; the CMF and the Design Consultant shall develop a detailed activity cost loading of each Design Consultant activity on the preliminary Design CPM Schedule. All individual activity dollar values will total the approved Design Consultant contract value, and subtotals will reflect the Design Consultants approved Bid Item Breakdown.
- B.5.2.8 The CMF shall analyze the Design Consultant's Bid Item Breakdown in order to assess the reasonableness of the Design Consultant's proposed cost distribution and evaluate any unacceptable areas of "frontloading".
- B.5.2.9 Upon completion of the cost loading analysis of the preliminary Design CPM Schedule, the CMF shall submit a detailed activity cost loading report to the Design Consultant for review and approval. The Design Consultant shall certify that the Design CPM Schedule and cost loading breakdown represent their own plan for completing the project and shall be the basis for all progress payments.
- B.5.2.10 Once the detailed activity cost loading and the preliminary Design CPM Schedule is approved by the Design Consultant, the CMF shall submit the preliminary Design CPM Schedule containing all reports, charts and diagrams (as stated in paragraph B.5.2.5) and the detailed activity cost loading report to the Owner for approval.
- B.5.2.11 After the Design CPM Schedule has been approved by the Owner and Design Consultant and signed by all parties; the CMF shall forward (6) copies of the documents to the Owner and (1) one copy to the Design Consultant.
- B.5.2.12 Once each month the CMF shall attend a status update meeting with the Design Consultant and the Owner to gather the information necessary for the CMF's preparation of a revised (updated) Pure Logic Network Diagram and computer generated CPM Schedule. The Owner and Design Consultant shall provide the status of all activities worked on during the update period and identify those activities started by date and those completed by date during the update period, show estimated time required to complete each activity started but not yet completed, show activity percent completed, and reflect any Owner approved changes in the Pure Logic Network Diagrams. After completion of the joint review meeting and the Owner's approval of all entries, the CMF shall update the Design CPM Schedule.
- B.5.2.13 The CMF shall, within (5) five working days of the status update meeting, submit to the Owner and Design Consultant the progress payment information for the update period, in a form acceptable to the Owner.
- B.5.2.14 The CMF shall, within (10) ten working days of the status update meeting, submit to the Owner and Design Consultant the updated Design CPM Schedule containing all reports, charts and diagrams (as stated in paragraph B.5.2.5) along with a narrative report on the progress of the project design phase. The narrative report will include a description of the Design Consultant and other Owner's Consultants progress during the previous month in terms of completed activities in the plan currently in effect, a description of problem areas, current and anticipated delaying factors and their estimated impact on the performance of other activities and completion dates, and recommendations on corrective action. The monthly narrative report shall also include a description of approved changes made to the schedule, a review of the current project critical path through to project completion, and a comparison of this critical path with previous months' critical paths. The narrative report shall be in bound booklets, indexed and separated as stated herein.

B.5.3 THE CONSTRUCTION CPM SCHEDULE

B.5.3.1 Upon issuance of the Contractor(s) Notice to Proceed, the CMF shall commence development of the preliminary Construction CPM Schedule. The CMF shall chair all schedule development meetings and meet with the Owner and Contractor(s) to

develop the Pure Logic Network Diagrams for the CPM Schedule. The Pure Logic Network Diagrams shall illustrate all required activates, relationships, intermediate milestones and major milestones demonstrating the complete fulfillment of the Contractor(s) contractual requirements stated in their agreement with the Owner. When preparing the Construction CPM Schedule, the CMF in coordination with the contractors will establish network activities and their relationships for the entire construction and close-out effort, utilizing time duration generally not exceeding 14 calendar days or associated costs generally not exceeding \$10,000.00. Exceptions to this general rule may include the preparation and submittal of shop drawings, review and approval of submittals and the fabrication and delivery of long lead items etc.

- B.5.3.2 In developing the Construction CPM Schedule Pure Logic Network Diagrams the CMF shall establish the appropriate logic and duration's which are consistent with the contract requirements for major milestones, intermediate milestones, and overall contract completion and which is reflective of efficient coordination between the Contractor(s) responsible for the various network activities. If the Contractor(s) fails to provide required information during the Construction CPM Schedule preparation, the CMF shall immediately notify the Owner and proceed in a manner as directed by the Owner to complete the Construction CPM Schedule
- B.5.3.3 Upon completion of the Pure Logic Network Diagrams, the CMF shall generate a computer-based preliminary Construction CPM Schedule cost loaded in accordance with the bid item breakdown of each Contractor. The Construction CPM Schedule shall show the starting and completion dates for each work item. All completion dates shown shall be within the period specified for contract completion or portion thereof and in compliance with all intermediate milestones. The Pure Logic Network Diagrams shall show such activities as the submittal of design documents, shop drawings, templates and equipment material fabrication, delivery of equipment and material, and the delivery of Owner-furnished equipment, if applicable.

The CMF shall submit to the Owner, the Design Consultant and Contractor(s) for review and approval the following reports, charts and diagrams:

- 1) Schedule Activity Report
- 2) Early Start / Total Float Report, sorted by Contractor
- 3) Total Float / Early Start Report sorted by Contractor
- 4) Detailed Predecessor / Successor Report
- 5) Detailed CPM Schedule Bar Chart
- 6) Summary CPM Schedule Bar Chart
- 7) Pure Logic Network Diagrams
- B.5.3.4 Seasonal weather conditions shall be considered in the planning and scheduling of all work influenced by high or low ambient temperatures for the completion of all contract work within the allotted contract time. In addition, appropriate allowance shall be made for anticipated time losses due to normal rain and snow conditions by statistically expanding the estimated time duration for weather sensitive activities.
- B.5.3.5 Should the preliminary Construction CPM Schedule require a substantial change because of the action or non-action of the Owner, Using Agency, Design Consultant(s) and/or Contractor(s), the CMF shall develop a revised preliminary CPM Schedule that incorporates the substantial change, at no additional cost to the Owner.
- B.5.3.6 Within ten (10) working days after receipt by the Owner's Project Manager of the preliminary Construction CPM Schedule the Owners Project Manager shall meet with the Design Consultant, Contractor(s) and CMF for joint review, correction, or adjustment of the initial plan and schedule. The CMF shall revise the Pure Logic Network Diagrams and/or the computer produced Construction CPM Schedule in accordance with the agreements reached during the joint review meeting and submit the revised preliminary Construction CPM Schedule reports, charts and diagrams to the Contractor(s) for approval.

- B.5.3.7 Upon the Contractor(s) approval of the preliminary Construction CPM Schedule, the CMF shall meet with the Contractor(s) to develop the cost loading of the preliminary Construction CPM Schedule. Utilizing the Contractor(s) approved Bid Item Breakdown as a basis, the CMF and the Contractor(s) shall develop a detailed activity cost loading of each Contractor(s) activity on the preliminary Construction CPM Schedule. All individual activity dollar values will total the approved Contractor(s) contract value, and subtotals will reflect the Contractor(s) approved Bid Item Breakdown.
- B.5.3.8 The CMF shall analyze the Contractor(s) Bid Item Breakdown in order to assess the reasonableness of the Contractor(s) proposed cost distribution and evaluate any unacceptable areas of "frontloading".
- B.5.3.9 Upon completion of the cost loading analysis of the preliminary Construction CPM Schedule, the CMF shall submit a detailed activity cost loading report to the Contractor(s) for review and approval. The Contractor(s) shall certify that the Construction CPM Schedule and cost loading breakdown represent their own plan for completing the project and shall be the basis for all progress payments.
- B.5.3.10 Once the detailed activity cost loading and the preliminary Construction CPM Schedule is approved by the Contractor(s), the CMF shall submit the preliminary Construction CPM Schedule containing all reports, charts and diagrams (as stated in paragraph B.5.3.3) and the detailed activity cost loading report to the Owner for approval.
- B.5.3.11 After the documents have been approved by the Owners Project Manager and signed by all parties, the CMF shall forward (6) six copies of the documents to the Owners Project Manager, and one copy each to the Design Consultant and the Contractor(s).
- B.5.3.12 Once each month the CMF shall chair a status update meeting with the Owner, Design Consultant and the Contractor(s) to gather the update period status information necessary for the CMF's preparation of the revised (updated) Pure Logic Network Diagrams and computer generated Construction CPM Schedule. The Contractor(s) shall provide the status of all activities worked on during the update period and identify those activities started by date and those completed by date during the update period, show estimated time required to complete each activity started but not yet completed, show activity percent completed, and reflect any Owner approved changes in the Pure Logic Network Diagrams. After completion of the joint review meeting and the Owner's approval of all entries, the CMF shall update the cost loaded Construction CPM Schedule.
- B.5.3.12.1 During the updating of the Construction CPM Schedule, the CMF shall revise the schedule to include all Owner approved changes in the work and all Owner approved changes in the Contractor(s) activity logic sequencing. The CMF shall also provide schedule recovery analysis's for the purpose of determining what corrective activity sequencing could be used by the Contractor(s) to recover lost time from delays and/or change orders, to complete the project as per the approved project completion date.
- B.5.3.13 The updated Network Diagrams and CPM Schedule shall show:
 - 1. Recommended changes in activity sequencing;
 - Changes in activity duration for not started or partially completed activities, where agreed upon;
 - 3. The effect to the network of any delays in any activities in progress, and/or the impact of known delays, which are expected to affect future work;
 - 4. The effect to the network of the modifications (activity duration, logic and cost estimates);
 - 5. Changes for the purposes of regaining lost time or improving progress; and
 - 6. Changes to milestones, due dates, and the overall contract completion and Project completion date, which have been agreed upon by the Project Manager since the last revision of the CPM Schedule.

- B.5.3.14 All changes made to the Construction CPM Schedule shall be subject to approval by the Owners Project Manager. If the Owners Project manager and the Contractor(s) are unable to agree as to the amount of time to be allowed for change order work, or the manner in which the work is to be reflected on the Pure Logic Network Diagrams, the CMF shall reflect the logic and time duration furnished by the Contractor for the change order work pending a final decision by the Owners Project Manager. When this final decision has been made the CPM Consultant shall revise the CPM schedule in accordance with such decision and issue a final analysis of the effect of the change on the project.
- B.5.3.15 The CMF shall, within (5) five working days of the status update meeting, submit to the Owner, Design Consultant and Contractor(s) the progress payment information for the update period, in a form acceptable to the Owner.
- B.5.3.16 The CMF shall, within (10) ten working days of the status update meeting, submit to the Owner, Design Consultant and Contractor(s) the updated Construction CPM Schedule containing all reports, charts and diagrams (as stated in paragraph B.5.3.3) along with a narrative report on the progress of the project construction phase. The narrative report will include a description of the Design Consultant and other Owner's Consultants progress during the previous month in terms of completed activities in the plan currently in effect, a description of problem areas, current and anticipated delaying factors and their estimated impact on the performance of other activities and completion dates, and recommendations on corrective action. The monthly narrative report shall also include a description of approved changes made to the schedule, a review of the current project critical path through to project completion, and a comparison of this critical path with previous months' critical paths. The narrative report shall be in bound booklets, indexed and separated as stated herein.
- B.5.3.17 Upon final approval of the Owner, the CMF shall forward (6) six copies of the Construction CPM Schedule update documents (as stated in paragraph B.5.3.3) to the Owners Project Manager, and one copy each to the Design Consultant and the Contractor(s).

B.5.4 BI-WEEKLY PROGRESS MEETINGS

B.5.4.1 Commencing upon submission and approval by the Owner's Project Manager of the Construction CPM Schedule and every two weeks thereafter or as required by the Request for Proposal (RFP), the CMF shall conduct a Progress Meetings to discuss and coordinate jobsite issues including, but not limited to, procedures, progress of the work, quality control, site safety, submittals, requests for information, problems and the Construction CPM Schedule. At this meeting, the CMF shall provide bar charts for the upcoming two weeks based on the detailed information provided in the Construction CPM Schedule.

C. OWNER'S RIGHTS AND RESPONSIBILITIES

C.1 OWNER'S RIGHTS

- C.1.1 The Owner shall have the right to perform work related to the project and to award contracts in connection with the project that are not part of the CMF's responsibilities under the CMF AGREEMENT. The CMF shall notify the Owner in writing if any such independent actions will in any way compromise the CMF's ability to meet the CMF's responsibilities under the CMF AGREEMENT.
- C.1.2 The Owner shall have the right to accept or reject personnel proposed by the CMF. The CMF shall make a timely and prompt resubmittal to provide other personnel required to replace any that are rejected by the Director, both at the initial submittal or any subsequent rejection or substitution of personnel.
- C.1.3 The Owner shall have the right to effect the removal of any of the CMF's employees at any time during the duration of the CMF AGREEMENT if that employee is deemed not to be of the level of competence or ability required under the CMF

AGREEMENT, or said employee is for any reason found to be unsuitable for the work. In such case, the CMF shall promptly submit the name and qualifications of a replacement.

- C.1.4 The Owner shall have the right to assign the administration of any or all contracts related to the project from the Owner to any other State Agency or Authority at any time during the life of the project. In doing so, the CMF agrees to continue to perform all contractual work under the CMF AGREEMENT. The CMF shall make no claim against the Owner in the event of such assignment.
- C.1.5 The Owner may make changes, adding to or deducting from, the scope of services within the general scope of the CMF AGREEMENT. The Owner may also make changes to the scope of the project, which may give rise to changes in the scope of CMF services.
- C.1.6 The Owner will rely upon the organization, management, skill, cooperation and efficiency of the CMF to provide all facets of contract administration, including monitoring, expediting, reporting and providing all necessary and required construction management services as described in the CMF AGREEMENT.
- C.1.7 Upon presentation by the CMF of a request in writing, the Contracting Officer may review any decision or determination of the Owner as to any claim, dispute or any other matter in question relating to the execution or progress of the CMF's work or the interpretation of the CMF AGREEMENT. Consistent with the intent of the CMF AGREEMENT, the Contracting Officer may schedule a conference for the purpose of settling or resolving such claims, disputes or other matters. Where such a conference is conducted, the CMF shall be afforded the opportunity to be heard on the matter in question. Following review of the CMF's request, the Owner and the CMF may settle or resolve the disputed matter, provided, however, that any settlement or resolution shall be subject to all requirements imposed by law, including, where applicable, the New Jersey Contractual Liability Act, N.J.S.A. 59:13-1 et seq.
- C.2 OWNER'S RESPONSIBILITIES
- C.2.1 The Owner is contracting for the CMF's services through a contracting officer employed by the State Department of Treasury and is responsible for the administration of the work of the Owner. The contracting officer, represents the Owner, either directly or through and appointed representative, in all dealings with the CMF.
- C.2.2 The Owner shall provide to the CMF information regarding the requirements of the project, including a scope of work, which shall set forth the Owner's objectives, constraints and criteria, including space requirements, special equipment, systems and site requirement, budget constraints and the required date of completion.
- C.2.3 The Owner shall designate a Project Manager authorized to act on the Owner's behalf with respect to the project. The Owner's representative has only those duties, which are required of an Owner. The responsibility for completion of this project pursuant to the contract documents remains that of the Contractor(s). The Responsibility for performance of the CMF's contractual obligations remains with the CMF.
- C.2.4 The Owner has retained a Design Consultant whose services, duties, and responsibilities are described in an Agreement, which will be furnished to the CMF upon request.
- C.2.5 The Owner shall furnish the CMF with one set of all related contract documents as they become available. This includes one set of approved plans and specifications.
- C.2.6 The services, information and reports required in the above paragraphs in this Article shall be furnished at the Owner's expense.

D. PROFESSIONAL LIABILITY INSURANCE

D.1 The CMF shall maintain Professional Liability insurance with the limits of \$2,000,000 for each claim/aggregate with a maximum deductible not to exceed \$200,000. The insurance carrier shall be registered with the N.J. Department of Insurance and licensed or authorized to conduct business in the State of New Jersey, as required by law. In the event of a loss, the CMF shall be held responsible for payment of the deductible as though there were no deductible. Such insurance shall be maintained for a period of not less than six months following the actual completion and acceptance of the project by the Owner. Contractual Liability Insurance is not acceptable.

E. CONSTRUCTION COST

E.1 It is understood that the limit of funds available for construction (CCE) exclusive of permits, land costs, furnishing, contingencies and professional fees is \$45,000,000.00.

F. CONSULTANT COMPENSATION

- F.1 The Consultant firm will be compensated for professional services in the lump sum amount of \$2,478,500.00 with the following terms and conditions:
- F.1.1 The lump sum payable to the CMF as established in this AGREEMENT shall compensate the CMF in full for services as described in this CMF AGREEMENT.
- F.1.2 This CMF AGREEMENT shall commence on the date of the written Notice-to-Proceed issued by the Owner. The Notice-to-Proceed will be issued by the Owner after the Owner's receipt and acceptance of properly executed contract documents. Unless otherwise directed by the Owner in writing, the CMF shall initiate its contract work no later than five (5) working days after its receipt of the Notice-to-Proceed. A Notice-to-Proceed may be issued by the Owner at its convenience.
- F.1.3 Duration of services for the CMF shall be in accordance with the scope of work, Request for Proposal and the CMF Technical Proposal(s) including any addenda or revisions, as ultimately reflected in the approved schedule.
- F.1.4 The CMF shall breakdown it's lump sum fee and submit a payment schedule to the Owner's representative for approval prior to submittal of the CMF's first invoice. The schedule must be in detail and assign a dollar value to each task/phase of work anticipated on a monthly basis throughout the entire contract in accordance with the values in the final approved fee proposal.
- F.1.5 The monthly compensation to the CMF will be paid in accordance with the payment schedule submitted by the CMF and approved by the Owner unless the contract services are amended for additional services by a formal written, Owner approved contract amendment. In the event of a delay, the CMF will not be entitled to an automatic extension of the monthly rate for that service or phase or any subsequent phase. Rather, any additional compensation will be based on the CMF's additional direct costs, supported by appropriate back-up documentation. The Owner will not compensate the CMF for CMF-caused delays.
- F.1.6 Should the Project duration be extended and the Owner request continuation of CMF services beyond the contracted duration, then the CMF shall furnish services in accordance with the terms of the CMF AGREEMENT for the additional period required for completion of the project. The CMF may submit an amendment request for such additional services in accordance with the above provisions. The CMF may not, however, refuse to perform during a reasonable delay.
- F.1.7 The Owner will reimburse the CMF for Owner requested continuation of CMF services beyond the specified contract period based upon an evaluation of direct costs for such additional services.

The aforementioned AGREEMENT between the Owner and the Construction Management Firm (CMF) has been reviewed and approved.

For

Christopher R. Geary, Asst. Deputy Director Contracts & Procurement Unit Division of Property Management & Construction

in witness whereof, the parties hereto have duly executed the CMF AGREEMENT as of the day written on page one of this document.

> State of New Jersey Department of the Treasury **Division of Property Management and Construction**

Richard S. Flodmand, Deputy Director Division of Property Mangement & Construction

Kouedetto

Notary

Approved as to form only: Matthew J. Platkin Attorney General

Witness

Skanska USA Building, Inc. **389 Interpace Parkway** Parsippany, NJ 07054

By(print):

Signature:

LAURIE J. CLIFFORD Notary Public Commonwealth of Massachusetts My Commission Expires April 5, 2024

SCOPE OF WORK

Construction Management Firm Services

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

Project No. A1360-01

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

Date: February 28, 2023

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A. PROJECT SITE LOCATION MAP

B. PROJECT MANANGEMENT RESPONSIBILITY MATRIX

C. SAMPLE "FINANCIAL STATUS REPORT" (FSR)

D. CONSTRUCTION MANAGEMENT FIRM'S CERTIFICATE OF PERFORMANCE

I. OBJECTIVE

As the primary occupant at the New Jersey Public Health Environmental Agriculture Laboratory, the New Jersey Department of Health (DOH) has re-envisioned the future of the State's public health laboratory including but not limited to considerations in the advancement laboratory diagnostic equipment and related programming updates with renovations, reconfiguration and additions, 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, staffing and warehouse storage capacities.

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 Construction Management Firm ("CMF" or "Consultant") to perform construction management services during design and construction phases for the expansion of the NJ Public Health Environmental and Agriculture Laboratory (PHEAL) located in Ewing Township, New Jersey.

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):

• P029 Construction Management

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

- P019 Building Commissioning
- P025 Estimating/Cost Analysis
- P030 CPM Scheduling
- P033 Value Engineering

The CMF shall also have in-house capabilities or Sub-Consultants with project experience in pre-construction and construction services related to public health diagnostic laboratories. A description of those projects shall accompany the technical proposal submitted for evaluation by the CMF Selection Committee.

III. PROJECT BUDGET

A. CONSTRUCTION COST ESTIMATE (CCE)

The initial 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, Design Consultant fees/deliverables, CMF fees/deliverables, other Design Consultant fees/deliverables, and administrative fees, financing costs, and any other similar types of costs. The CCE of record will be prepared by the Design Consultant in accordance with the Scope of Work and/or Agreement, and shall be continually updated by the Design Consultant as set forth in the Scope of Work and/or Agreement.

B. CURRENT WORKING ESTIMATE (CWE)

The preliminary 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-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. CMF CONSULTANT'S FEES

Neither the CWE nor CCE for this project *shall be* used as a basis for the CMF's fees. The CMF's fees shall be based on the information contained in this Scope of Work document, Addenda, field observations and/or the additional information received during the procurement period.

IV. PROJECT MILESTONE SCHEDULE

A. SCOPE OF WORK DESIGN, PROCUREMENT & 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 Design 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.	Final Programming 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

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, Mercer County New Jersey

See Exhibit 'A' for the project site aerial 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 Representatives:

Name: Address:	Vincent Campanella, Chief of Construction New Jersey Building Authority 50 West State Street, 2nd floor Trenton, NJ 08608-1206
Phone No:	(609) 943-4831
E-Mail:	vincent.campanella@treas.nj.gov
Name:	Phil Johnson, Sr. Project Manager
Address:	New Jersey Building Authority
	50 West State Street, 2nd floor
	Trenton, NJ 08608-1206
Phone No:	(609) 984-0681
E-Mail:	phillip.johnson@treas.nj.gov

3. Department of Health Representative:

Rosalind Finney, Division Director
Department of Health
Public Health and Environmental Laboratories
3 Schwarzkopf Drive
Ewing, NJ 08628
(609) 718-8012
(609) 718-8005
rosalind.finney@doh.nj.gov

4. NJ Public Health Environmental and Agriculture Laboratory Representative:

David Markunas, Facilities Operations Manager
NJ Public Health Environmental and Agriculture Laboratory
3 Schwarzkopf Drive
West Trenton, NJ 08628
(609) 406-6864
david.markunas@treas.nj.gov

VI. EXISTING FACILITY INFORMATION

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 occupied by DOH and a one-story greenhouse occupied by Ag. In 2021, 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 became 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 Ag and DEP 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 shortlisted proposers.

B. FUNCTIONAL DESCRIPTION & CURRENT USES OF THE FACILITY

1. General:

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. With all Specimen/Sample receiving for both units 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 Microbiology Virology Biothreat Response Client Services Laboratory Information Management Systems (LIMS)

Programs within Environmental Chemical Laboratory Services (ECLS) include:

Potable Water Testing Medical Marijuana Testing Chemical Threat Response Biomonitoring NJ Food Testing

Programs within Administrative Services include:

PROJECT NAME: Construction Management Services for NJPHEAL – Laboratory, Administration Wing and Warehouse Expansion Project PROJECT LOCATION: NJSP Campus, Ewing Township PROJECT NO: A1360-01 DATE: February 28, 2023

Administrative Support Services HR Liaison Purchasing Facilities Management Quality Assurance Laboratory Outreach Clinical Laboratory Improvement Services (CLIS) Programs and part Administrative Services include: Clinical Laboratory Improvement Amendments (CLIA) State Clinical Laboratory Licensing Blood Bank Licensing/Regulatory Compliance

3. Department of Agriculture:

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

Animal Health Laboratory Plant Industry Laboratory

4. Department of Environmental Protection:

Department of Environmental Protection Services within the facility include:

Bureau of Air Monitoring Pesticide Evaluation/Monitoring

VII. CMF RESPONSIBILITIES - GENERAL

A. OWNER'S REPRESENTATIVE – RESPONSIBILITY MATRIX

The CMF will act as the State's authorized representative during the performance of the CMF services contract as will be described in the Agreement between the State of New Jersey and Consultant for Construction Management (CMF Agreement) and this Scope of Work (SOW). Collectively, the CMF Agreement, the SOW, the General Conditions, and all other associated documents are referred to as the "Contract Documents".

The CMF is responsible to provide construction management services and this SOW, for all work relating to this project. The CMF shall direct the work of construction contractor(s) only after the CMF obtains the concurrence of the NJBA.

The CMF shall report directly to the New Jersey Building Authority's Chief of Construction. The relationship and responsibilities of the CMF, the Design Consultant and the DPMC/NJBA Project Manager during each phase of the project is identified in **Exhibit 'B**' entitled "DPMC/NJBA Project Management Responsibility Matrix".

Note that the "DPMC/NJBA Project Management Responsibility Matrix" is not an all-inclusive listing of tasks and responsibilities of either the CMF, Design Consultant or DPMC/NJBA. The matrix is intended as an aid to show the relationship of the parties on key tasks and responsibilities.

B. STAFF

The CMF services consist of those services performed by the CMF, the CMF's employees, and the CMF's Sub-Consultants. The CMF shall utilize the key staff members identified in its Technical Proposal. The CMF shall notify the DPMC/NJBA in advance of any proposed change in its key staff members identified in its Technical Proposal. The CMF shall submit to the DPMC/NJBA for approval the name and qualifications of any proposed replacement personnel with equal or superior qualifications at no additional cost to the DPMC/NJBA. No change shall take effect unless the DPMC/NJBA approves the change in writing.

C. OBLIGATIONS

The Contract Documents contemplate personal services by the CMF. The CMF shall not assign or transfer its obligations or rights under the Contract Documents without the prior written consent of the State.

The CMF shall be responsible for satisfying all obligations set forth in the Contract Documents, regardless of when they occur during the project. The CMF will assume primary responsibility for day-to-day management and oversight construction management including, but not limited to, cost estimating and reconciliation of value analyses, scheduling, contractor contract compliance, purchase of equipment, commissioning, facility testing and staff training. In addition, the CMF will provide technical support for the State in decisions regarding contractor selection, change order request control and contractor(s) claims, progress payments and final acceptance and Contractor(s) claims management.

The CMF shall be responsible for satisfying all of the obligations described in the Contract Documents, see Consultant Agreement Section A.1.5, even if such obligations are not addressed in the CMF's technical proposal. The Contract Documents establish the obligations of the CMF which obligations may be supplemented by the CMF in its technical proposal. If the services promised in the CMF's technical proposal exceed those described in the Contract Documents, then the CMF shall be responsible for satisfying the additional obligations described in its technical proposal.

D. CMF MANAGEMENT PROGRAM

1. Management:

The CMF shall establish and implement a comprehensive management program with procedures for coordination among DPMC and NJBA, the Design Consultant, the Contractor and the Using Agencies. The CMF shall anticipate its term of service for a period of approximately twenty-seven (27) months. The CMF shall provide its services under the supervision of the DPMC and NJBA. DPMC will procure a separate Design Consultant professional services contract and on behalf of the State, the CMF will be required to assure all Design Consultant services and deliverables are performed in accordance with the Design Consultant's Contract and all applicable codes, statutes, regulations and professional standards. DPMC will be required to assure all Contractor services and deliverables are performed in accordance with the State, the CMF will be required to assure all Contractor services and deliverables are performed in accordance with the CMF will be required to assure all Contractor services and deliverables are performed in accordance with the CMF will be required to assure all Contractor services and deliverables are performed in accordance with the CMF will be required to assure all Contractor services and deliverables are performed in accordance with the Contractor's Contract Documents and all applicable codes, statutes, regulations and professional standards.

2. Design Phase Oversight:

CMF shall manage the Design Consultant's design phase services and provide complete design phase oversight on behalf of the State.

The CMF's review includes but is not limited to its independent review and understanding of the deliverable provided to the State in preparation of the pre-schematic design phase, pre-schematic design phase, design development phase, and the construction document phase.

The CMF shall review the Design Consultant's deliverables and provide a written report following each phase; these reports shall address constructability reviews, safe construction practices, industry makers for cost & deliveries, perform schedule reviews, reviewing budget and project cost estimates.
The CMF shall update and report on the project schedule monthly. The CMF shall notify DPMC of all issues brought to the attention of the Design Consultant by the CMF, and of the Design Consultant's response to each. The CMF shall notify the Design Consultant and Project Team members if the Design Consultant's submissions appear inadequate or incomplete and identify any issues that have the potential to significantly impact or jeopardize the project goals and objectives.

While the CMF makes recommendations to the Design Consultant to correct constructability issues or problems, and advises regarding potential errors and omissions discovered, the CMF shall not take any action that infringes on the Design Consultant's professional and contractual responsibility for the project design.

3. Tasks:

The CMF's tasks during all design phases are as follows: schedule and coordinate progress meetings and record minutes, monitor Design Consultant's progress, prepare/maintain/monitor the preliminary and master project schedules, prepare an initial budget, prepare independent cost estimates during each design phase, reconcile independent cost estimates between the Design Consultant and the CMF, provide cost verification and budget monitoring, review Design Consultant's invoices for approval, review Design Consultant's contract modifications for approval, recommend alternate solutions when design details affect project cost and schedule, perform document and constructability reviews and develop a Commissioning services program during the construction document phase.

4. Pre-Design Conference:

The CMF shall schedule a pre-design conference with the Design Consultant soon after the design consultant contract is awarded to review the scope of the design services required by the contract. The conference should be convened before the design effort starts. The meeting can be held at the Design Consultant's office to facilitate maximum participation by the Design Consultant's staff.

5. Design Progress Meetings:

The CMF shall schedule and coordinate design progress meetings. The CMF shall prepare a complete agenda prior to each scheduled meeting. The CMF will chair and record the minutes including action items, responsible parties, and deadlines. The agenda for meetings typically covers (1) minutes of the last meeting, (2) outstanding issues, and (3) new business. The CMF

distributes the minutes to all participants in time for preparation for the next progress meeting. Meetings may be held at the CMF's field office.

6. Budget/Cost Control:

The CMF shall assist the State in reviewing all Design Consultant cost estimates and submissions to verify that project costs remain within the project budget. The CMF must report any disparities discovered in the project costs to the Project Team for resolution before proceeding on to the next phase of the design.

The CMF shall establish a uniform procedure for reviewing, analyzing, and assessing each estimate submitted by the Design Consultant and preparing an independent estimate for comparison purposes.

The CMF cost review should verify that: Unit costs are accurate Quantity takeoffs are accurate All design elements are included Level of detail is appropriate to design stage Formats are correct Cost escalation factors are properly applied Balance of costs among building and other systems are acceptable Areas and other measurements are correct Up-to-date scope modifications are reflected

Prepare and submit an independent construction cost estimate for comparison to the Design Consultant's cost estimate on the appropriate DPMC form with accompanying detail back-up for each phase estimate prepared by the Design Consultant. Make recommendations for corrective action or project revisions if it appears that the construction cost estimate (CCE) may exceed the project budget.

7. Design Submissions and Reviews:

Submissions shall be reviewed to determine if the project requirements are being met by the project Design Consultant. Formal design reviews are required at the completion of each design phase milestone of the project. Review all documents for clarity, consistency and completeness. Provide advice and make recommendations for improvements. The CMF shall become familiar with the Design Consultant's Scope of Work for detailed requirements for each design phase, typically organized as follows:

Review and understanding of the State's DPMC Contract #A1360-00 NJPHEAL Laboratory & Administration Wing Expansion Project Programming and Feasibility Study deliverable, and review and understanding of the Design Consultant's Pre-Schematic Phase Schematic

Design Phase \Box Design Development Phase \Box Construction Documents/Final Design Phase \Box Permit Phase services.

The CMF's design review shall ensure at a minimum:

☐ All project deliverables are submitted ☐ Materials and equipment are appropriate, available, and non-proprietary ☐ Drawings are coordinated among disciplines and bid packages ☐ Areas of conflict are eliminated ☐ Site will accommodate access, logistics and storage requirements ☐ Existing conditions are shown correctly and adequately ☐ Selected building materials, systems and construction details are compatible and constructible, and long lead items are identified ☐ Construction duration, phasing, bid packages, bid options, unit prices, and labor availability are accurate, reasonable and appropriate ☐ Cost estimates are proper and within budget ☐ Permit, regulatory and code compliance requirements are met ☐ Documents are ready for permit review by the DCA or applicable regulatory agency ☐ Safety and security responsibilities are clear and appropriate in the contract documents

8. Design Review Meetings:

The CMF shall schedule meetings with the Design Consultant to review each design submission. The meetings may be held at the Design Consultant's office to facilitate the visual review of the work-in-progress at the areas of production and minimize disruption to the Design Consultant. At times, it may be expedient to conduct a design review meeting at a consultant's office, if the scope of a particular review centers on the progress of a single consultant.

9. Constructability Review:

The CMF is primarily responsible for constructability reviews. The CMF shall develop a consistent procedure for conducting design reviews, including the Design Consultant's conformance to the scope of services in the design contract, constructability, marketability, coordination among disciplines, and material usage.

10. Design Review Report:

After completion of each design review, the CMF shall assemble and organize the comments from the various reviewers (DCA UCC Unit, Affiliated FM Global – the State's Insurer) or other required regulatory agency and incorporate them into a consolidated design review report. The report shall contain comments on required corrections and improvements by discipline and specification section or drawing number.

The DCA UCC Unit will transmit the design review report to the Design Consultant for action. The CMF and project team shall meet with the Design Consultant to present and discuss its contents. The CMF shall evaluate the Design Consultant response to all comments and develop directives resulting from the design review. The CMF shall review subsequent submissions to ensure that all directives and revisions have been incorporated into the design documents by the Design Consultant.

11. Permit Phase:

The CMF shall consolidate and assemble the code comments from the Department of Community Affairs Uniform Construction Code Unit as necessary, and forward the comments to the Design Consultant. The CMF will be responsible to review responses from the Design Consultant to ensure all code comments have be adequately revised and corrections incorporated into the plans and specifications.

E. EXISTING DOCUMENTATION

Electronic copies of the following documents will be provided to each CMF firm at the preproposal meeting to assist in the bidding process.

Review these documents and any additional information that may be provided at a later date such as reports, studies, surveys, equipment manuals, as-built drawings, etc. The State does not attest to the accuracy of the information provided and accepts no responsibility for the consequences of errors by the use of any information and material contained in the documentation provided. It shall be the responsibility of the CMF 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 CMF 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. This Study will be available to the shortlisted Consultant and Construction Management Firms.

DPMC Project #A1360-00: NJPHEAL – Laboratory and Administration Wing Expansion Programming and Feasibility Study dated November 28, 2022, prepared by HDR Inc.

F. TRANSFER OF OBLIGATIONS

The CMF Agreement contemplates personal services by the CMF. The CMF shall not assign or transfer its obligations or rights under the CMF Agreement and this SOW without the prior written consent of the DPMC/NJBA.

G. CMF'S PROJECT COST RECORDS

The CMF shall agree to maintain and retain, cost and accounting records with respect to this project as it customarily retains and produces them for its business generally, and in accordance with generally accepted accounting principles and practices. Upon three (3) calendar days written notice, all such records shall be made available to the DPMC/NJBA for inspection for a period of five (5) years after final payment is received by the CMF. No CMF claims for additional compensation shall be payable unless supporting cost records are furnished upon request and claimed costs are substantiated and approved.

The CMF shall retain both hard and electronic copies of the cost records for a period of five (5) years after final payment is received by the CMF. After this period, the CMF may dispose of these records after first offering them to the DPMC/NJBA in writing, at no additional cost. DPMC/NJBA shall reply to the CMF within thirty (30) calendar days as to the desired disposition of the cost records.

H. WEBSITE - RECORDS AND DOCUMENTATION

The CMF shall establish and maintain throughout the duration of the project, an internet-based Construction Management Document Management System (website) utilizing commercially available construction management software. The CMF shall grant full access to the website to

the DPMC/NJBA, Design Consultant and to Contractors as appropriate to complete the tasks required of them. At post-project completion, the CMF shall grant DPMC/NJBA full access to the Cloud-based or internet-based website for five (5) years. Records must be maintained for at least five (5) years after the date of final payment, pursuant to DPMC's Instruction to Bidders and General Conditions as amended.

All project records, correspondence and documentation are to be maintained on the website including, but are not limited to:

- Project schedule
- Drawings
- Progress Photographs with detailed descriptions
- Specifications
- Submittals
 - Transmittal letters
 - Shop drawings
 - Materials
 - Equipment
 - Catalog cuts
 - Test reports
- Contracts
- Contractor/sub-contractors weekly payroll certification record/submissions to NJ DOLWD
- Contractor/sub-contractors monthly AA202 reports to NJ DOLWD
- Contactor's monthly reports
- Requests for information (RFI's)
- Change order requests (managed/organized by Design Consultant, Contractor)
- Invoices (managed/organized by Design Consultant, Contractor)
- Correspondence to/from (managed/organized by Design Consultant, Contractor)
- Inspection reports (managed/organized by DCA, Design Consultant, Contractor)
- Meeting minutes (managed/organized by sub-meetings)
- Safety reports (managed/organized by Design Consultant, Contractor)
- Permits/Permit Updates
- FM Global document reviews and on-site inspections
- Financial Status Reports (FSR's)
- CMF's Daily Construction Reports

At the completion of the project the CMF shall provide a both hard and electronic copies of all aforementioned records. Records stored on the website in an electronic medium must be acceptable to the DPMC/NJBA in both the native file format and Adobe PDF file format.

CMF shall identify the software it proposes to utilize for the website in its technical proposal.

CMF shall prepare monthly at the start of the design phase through contractor close-out three (3) USB Flash Drives each inclusive of the above referenced project information as applicable for the monthly period. The flash drives shall be delivered monthly to the State no later than the 15^{th} of each month.

I. SCOPE CHANGES

The CMF shall promptly notify the DPMC/NJBA in writing of any requested changes to the CMF SOW which would increase or decrease the CMF's services, or both. No such change in scope shall be performed by the CMF, absent prior written approval by the DPMC/NJBA. Notice of request for additional compensation shall be given to the DPMC/NJBA within fourteen (14) calendar days of the event giving rise to such a request with accompanying justification for the change and a detailed breakdown of the basis for the costs. Any work performed by the CMF without written approval from the State is done at CMF's own financial risk.

J. CMF SENIOR PROJECT MANAGER

The CMF shall assign at least one full-time (1) Senior Project Manager who shall attend and chair all design phase, contractor procurement phase, construction phase and close-out phase meetings including all meeting minutes as required under the CMF Agreement and this SOW. The Senior Project Manager shall take the lead to assure all services and requirements as described in the CMF Agreement and as described SOW services are provided.

The CMF shall otherwise provide sufficient executive, supervisory, technical and management personnel in the field and home office to carry out the requirements of the CMF Agreement and this SOW in an expeditious and economical manner consistent with the interests of the DPMC/NJBA.

The Senior Project Manager shall have a minimum of ten (10) years of experience in construction project management and/or construction management.

K. SPECIAL SERVICES

If requested, the CMF shall assist the DPMC/NJBA in selecting, retaining and coordinating the professional services of surveyors, special consultants, security consultants and testing laboratories and specialty inspections.

L. **REPRODUCTION COSTS**

Reproduction costs for CMF produced documents shall be at the CMF's expense.

M. PROJECT DESIGN AND CONSTRUCTION SCHEDULE

The CMF shall develop, manage and maintain a detailed cost loaded and resource loaded project schedules for both the design phase and construction phase activities of the project utilizing software that is based on the critical path method of scheduling. The schedule shall reflect the project design and construction milestone schedule in **Section IV., Project Milestone Schedule** in this SOW.

The CMF shall identify the software it proposes to utilize for the Project Design and Construction Schedule in their technical proposal.

1. CMF Design Schedule Development

During the Design Phase, the CMF shall develop the Design Consultant's Design Phase Schedule which shall serve as the basis for monthly progress payments to the Design Consultant. The activity/task costs shall reflect a fair and reasonable prorating of the contractual design fee and shall total the Design Consultant's contract amount.

On a biweekly basis, the CMF shall meet with the Design Consultant to review the design status and update the design schedule. If the CMF's bi-weekly schedule update shows slippage attributable to the Design Consultant, the CMF shall meet with the Design Consultant to develop a recovery plan to regain any unauthorized lost time. The CMF shall publish a recovery plan to the DPMC/NJBA.

Biweekly schedule updates of the Design Schedule shall be utilized to calculate the Design Consultant's monthly payment requisition based upon the progress reported for the month. The level of progress/activity completion calculated from the schedule update shall be transferred to the Consultant payment request form by the Design Consultant and together with Design Consultant's invoice format under its current contract, shall constitute the Design Consultant's monthly payment requisition.

2. CMF Construction Schedule Development

During the Design Phase, the CMF shall work in conjunction with the Design Consultant to develop resource and cost-loaded CPM Construction Schedule for use by the project team and Contractor. During Contractor procurement, the CMF will remove the resource and cost-loaded values from the schedule and a non-resource and cost-loaded version of the CMF's CPM Construction Schedule shall be included in the construction bid solicitation package for informational purposes.

Based on the CMF's manpower, equipment, materials requirements analysis and cost estimate and its review with the Contractor, the final baseline schedule shall be cost and resource loaded and serve as the basis for monthly progress payments to the Contractor during construction. The activity/task costs shall reflect a fair and reasonable value of the work and shall total the construction cost estimate. Refer to DPMC's Instructions to Bidders and General Conditions entitled, Article 6, Construction Progress Schedule, be advised that paragraph 6.2 CONSTRUCTION PROGRESS SCHEDULE (CRITICAL PATH METHOD -- CPM CONSULTANT RETAINED BY THE STATE) shall apply to this CMF SOW.

The level of detail for this schedule shall be determined by the CMF and shall include, at a minimum, each activity/task required to complete the work, advertise, bid and award activities/tasks, equipment and material submittals and approvals, equipment and material procurements, project completion milestones, inspections, testing and commissioning activities, and project close out activities. The schedule shall also include activities/tasks for the review and approval of submittals by the CMF, Design Consultant and DPMC/NJBA.

Each schedule activity/task shall include, but not be limited to:

- Detailed activity/task description
- Activity/task duration
- Activity/task sequencing, relationships
- Activity/task "float" (Identify if the activity/task is on the schedule critical path)
- Manpower required for each activity/task, by trade
- Equipment and material required for each activity/task
- Cost to complete each activity/task

Upon award of the construction contract the CMF shall work in conjunction with the Design Consultant to meet with the Contractor to adjust/modify the schedule to reflect the contractor's approach to the work, manpower, equipment and material requirements and cost for each activity/task. The sum of all activity/task costs shall equal the value of the construction contract.

The CMF in conjunction with the Design Consultant and Contractor shall approve the baseline construction schedule and submit it to DPMC/NJBA for final approval.

On a monthly basis, the CMF in conjunction with the Design Consultant shall meet with the Contractor to review the project status and update the schedule. If the CMF's monthly schedule update shows project slippage, the CMF shall meet with the Contractor to develop a recovery plan to regain any unauthorized lost time. The CMF shall publish a recovery plan to the DPMC/NJBA.

The CMF's monthly schedule update in conjunction with the Design Consultant of the Construction Schedule, shall be utilized to calculate the Contractor's monthly payment requisition based upon the progress reported for the month, and the approved activity costs. The costs calculated from the schedule update shall be transferred to the Contractors payment request form by the Contractor and shall constitute the Contractors monthly payment requisition.

N. FINANCIAL STATUS REPORT

The CMF shall prepare, maintain and submit the updated Financial Status Report (FSR) to the DPMC/NJBA by the first of each month. The DPMC/NJBA will supply the FSR template to the awarded CMF, refer to **Exhibit 'C'**.

O. INVOICES

On a monthly basis, the CMF shall track, review, recommend for approval or amendment, and forward to the DPMC/NJBA, the invoices of the consultants and contractors engaged by the DPMC/NJBA. The CMF shall assist the DPMC/NJBA in any disputes or negotiations with the DPMC/NJBA's consultants and contractors.

P. **PROJECT CORRESPONDENCE**

The CMF shall maintain on the "web site" images of all correspondence between the CMF, DPMC/NJBA and Contractor(s) in a structured data base format that facilitates easy retrieval and includes, but is not limited to, subject matter, date, recipient and, sender in a manner approved by the DPMC/NJBA. Access to this information shall be five (5) years after project close-out.

Q. CORRESPONDENCE PREPARATION

At the request of the DPMC/NJBA's Representative, the CMF shall prepare detailed and accurate written correspondence to the Contractor(s) and/or others.

R. PRO-ACTIVE MONITORING

Provide pro-active participation in monitoring and verification that all schedule activities are occurring in accordance with the approved design phase schedule; and other actions required to assure all schedule activities are occurring in accordance with the approved schedule.

S. CONTRACTOR PREQUALIFICATION

Contractors submitting bids for construction shall be prequalified prior to bidding. The CMF, in conjunction with the Design Consultant and DPMC/NJBA shall develop the prequalification criteria and forms, review each contractor prequalification application and provide a recommendation to DPMC/NJBA on the applicants ability to complete the work included in this project.

T. CMF FIELD OFFICE

There will be no provisions made for neither the Design Consultant nor CMF to occupy the NJPHEAL during their SOW. The CMF shall make provisions for an on-site field office for itself and the Design Consultant. The CMF shall hold all design phase, permit phase, bid package phase and construction phase meetings in its field office.

U. DPMC CENTRAL FILE DOCUMENTATION PREPARATION & COORDINATION

In addition to preparing hard copies of all contract deliverables, the CMF shall prepare and organize its contract deliverables electronically including active hyperlinks for uploading to DPMC's Central File Cloud Account.

VIII. PRE-DESIGN DOCUMENTATION REVIEW

Under a separate State Design Consultant contract, DPMC Project # A1360-00, the State has procured Consultant services to perform a laboratory and administration wing expansion project programming and feasibility study based on the Using Agencies' visions for facility operational and functional betterments and/or improvements. This documentation will include preliminary design and construction cost estimates along with a preliminary design and construction schedule.

The CMF shall include in its fee proposal all costs to review pre-design documentation. Upon completion of the aforementioned contracts, documents will be made available to the CMF and Design Consultant. The existence of these separate contracts should be taken into account for logistical and planning purposes, and shall not preclude either the CMF or the Design Consultant from performing their respective SOW services.

IX. DESIGN PHASE RESPONSIBILITIES

A. DESIGN CONSULTANT OVERSIGHT

After award of the Design contract, the CMF shall manage the Design Consultant's design phase services and provide complete design phase oversight on behalf of the State including the following:

- 1. The CMF shall coordinate and manage the Design Consultant's work with regard to programming, schematic design, design development, and the construction documents.
- 2. <u>Kickoff Conference</u> The CMF shall schedule a kickoff conference with the project Design Consultant soon after the design contract is awarded to review the scope of the design services required by the contract. The conference shall be convened before the design effort starts.
- 3. During the Design Phase, the CMF shall:
 - A. Schedule and coordinate periodic progress meetings and record minutes. The CMF shall schedule meetings with the Design Consultant to review each design submission;
 - B. Monitor Design Consultant's progress and deliverables. CMF shall ensure that:

- 1. All project deliverables are submitted in a timely manner;
- 2. Materials and equipment are appropriate, available, and non-proprietary;
- 3. Drawings are coordinated among disciplines and bid packages
- 4. Areas of conflict are recognized, and resolved or eliminated;
- 5. Site will accommodate access, logistics and storage requirements;
- 6. Existing conditions are shown correctly;
- 7. Selected building materials, systems and construction details are compatible and constructible, and long lead items are identified;
- 8. Construction duration, phasing, bid packages, bid options, unit prices, and labor availability are accurate, reasonable and appropriate;
- 9. Permit, regulatory and code compliance requirements are met
- 10. Documents are ready for permit review by the DCA or applicable regulatory agency; and
- 11. Safety and security responsibilities are clear and appropriate in the contract documents.
- C. Prepare/maintain/monitor the preliminary and master project schedules;
- D. Design Review Report: After completion of each design review, the CMF shall assemble and organize the comments from the various stakeholders or other required regulatory agencies and incorporate the comments into a consolidated design review report. The report shall contain comments on required corrections and improvements by discipline and specification section or drawing number. The New Jersey Department of Community Affairs (DCA) UCC Building Code Unit will transmit the design review report to the Design Consultant for action. The CMF and project team shall meet with the Design Consultant to present and discuss DCA's comments. The CMF shall evaluate the Design Consultant response to all comments and develop directives resulting from the design review. The CMF shall review subsequent submissions to ensure that all directives and revisions have been incorporated into the design documents by the Design Consultant.
- E. Review Design Consultant's invoices for approval;
- F. Review Design Consultant's proposed contract modifications for approval;
- G. Recommend alternate solutions when design details affect project cost and schedule;
- H. Perform document and constructability reviews and develop a commissioning services program during the construction document phase; and
- I. <u>Permit Phase:</u> The CMF shall consolidate and assemble the code comments from the Department of Community Affairs Uniform Construction Code Unit as necessary, and forward the comments to the Design Consultant. The CMF will be responsible to review responses from the Design Consultant to ensure all code comments have been adequately revised and corrections incorporated into the plans and specifications.

- 4. <u>Periodic Reporting</u> The CMF shall update and report on the project schedule monthly. Reports shall address items 1-11 set forth in Section IX(A)(3)(B) above, as well as constructability reviews, safe construction practices, industry markers for cost & deliveries, design schedule status, design budget compliance, and any required updates to design and project cost estimates.
- 5. <u>Notification</u> The CMF shall notify DPMC and NJBA of all issues brought to the attention of the Design Consultant by the CMF, and of the Design Consultant's response to each. The CMF shall notify the Design Consultant and Project Team members if the Design Consultant's submissions are untimely, inadequate or incomplete and identify any issues that have the potential to significantly impact or jeopardize the project goals and objectives.
- 6. In the event that the CMF makes recommendations to the Design Consultant to correct constructability issues or problems, or advises regarding potential errors or omissions discovered, the CMF shall not take any action that infringes on the Design Consultant's professional and contractual responsibility for the project design.

B. DOCUMENT REVIEW

CMF shall review all documents for clarity, consistency, constructability, and completeness during the Design Phase of the project. Review items shall include, but not be limited to the following:

1. Document Content:

Provide advice regarding site use and improvements, selection of materials, building systems and equipment, and methods of project delivery. Provide recommendations to the Project Team members on relative feasibility of construction methods, availability of materials and labor, time requirements for procurement, installation and construction, and factors related to cost including, but not limited to, cost of alternative installation methods, procedures or materials, preliminary budget and possible economics.

2. Building Information Model (BIM):

A building information model (BIM), utilizing Autodesk's Revit Architecture software, or approved equal, will be used throughout the Project, including all phases of design.

The Design Team will make the BIM available to the CMF for review, and provide periodic updates throughout the design phases of the Project. Upon completion of the construction documentation, the BIM will be turned over to the CMF to be utilized throughout the construction phase of the work.

During construction, the BIM will be used by the CMF, the General Contractor, all subcontractors and specialized trades for the preparation of coordination documents, shop drawings, submittals, and other construction phase documentation, including preparation of "asbuilt" documentation.

The CMF will review the General Contractors and all subcontractors' trades' ongoing preparation of as-built documentation to determine and enforce the preparation of all "as-built" documentation effort utilizing the BIM model.

3. Division of Work:

CMF shall make recommendations regarding the division of work in the drawings and specifications to facilitate the bidding and awarding of construction contracts allowing for phased construction and taking into consideration such factors as the legal requirements of construction contracting methods, time of performance, and availability of labor and work areas, overlapping jurisdictions and provisions for temporary facilities. The CMF's SOW shall not be duplicated in the construction contractors SOW.

4. Alternate Solutions:

Review the contract documents as they are being prepared and recommend alternate solutions whenever design details affect project cost, constructability and bid-ability without, however, assuming any of the Design Consultant's responsibilities to provide sound design and properly prepared contract documents.

5. Single Prime Contract:

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

6. Separate/Early Bid Package Contracts:

There is a possibility that the bid documents may be prepared to advertise separate/early bid packages.

The CMF will 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 CMF 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.

The CMF shall estimate all costs associated with reviewing and assisting with a minimum of three separate/early bid packages and enter that amount on the fee proposal line item entitled "Separate/Early Bid Package Allowance."

Separate/early bid packages may include:

<u>EBP #1</u> Sitework/Concrete/Structural Steel & Metal Decking, <u>EPB# 2</u> Pre-purchase Emergency Power Generator & Related Equipment, <u>EPB# 3</u> Pre-purchase Lab Casework and <u>EPB #4</u> Pre-purchase Lab Refrigerators & Freezers

7. Bid Schedule Adjustment Analysis:

Conduct, with assistance from the Design Consultant, an analysis to determine if one or more trades should be advertised as other additional separate early bid packages to compress the project schedule.

8. Project Labor Agreement:

It is expected that the project will be subject to a Project Labor Agreement (PLA). The CMF is responsible for reviewing and becoming familiar with the requirements of current PLA law N.J.S.A. 52:38-1.

9. Areas of Conflict:

Review the drawings and specifications with the Design Consultant to eliminate areas of conflict and overlapping in the work to be performed by the various Contractors.

C. CONTRACTOR SUBMITTAL PROCEDURES

The CMF, in conjunction with the Design Consultant, shall develop procedures for the review and approval of all Contractor required submittals utilizing the BIM model. The procedure shall include, but not be limited to, requirements for the contractor to submit all submittals to the CMF; the CMF to review the submittal prior to forwarding to the Design Consultant for review and approval; the Design Consultant returning the submittal to the CMF and the CMF returning the submittal to the Contractor. The "Contractor Submittal Procedures" shall be included in Division 1 of the specifications.

D. SUBMITTAL SCHEDULE/CHECKLIST

The CMF, in conjunction with the Design Consultant, shall prepare and include in Division 1 of the Specifications a schedule/checklist of all submittals required for the contract. The schedule/checklist shall identify the general conditions and/or specification section and the type of submittal required. The schedule/checklist shall be prepared during the design phase of the project as the specifications are being developed.

E. SAFETY AND SECURITY

CMF shall provide recommendations and information regarding the assignment of responsibilities for safety and security precautions and programs, general hoisting and crane operations, temporary project facilities, access to the construction work and equipment, materials and services for common use of Contractors. CMF shall provide the Design Consultant with the requirements and assignments of responsibilities for safety and security precautions to be included in Division 1 of the specifications.

F. SITE UTILIZATION PLAN

CMF shall provide a proposed site utilization plan of the entire construction site; illustrating areas available for Contractor construction access and trailer areas, access to adjacent facilities and related materials. The plan should illustrate the varying site utilization over the major construction phases of the project. CMF shall recommend the extent, location and configuration of temporary construction support facilities and coordinate with the various contractors.

G. VALUE ANALYSIS

CMF shall provide Value Engineering (VE) services for the project at appropriate times in the design phases, as indicated in the Design Consultant Contract, and as part of reconciling the cost estimates provided by the Design Consultant. VE services shall be performed in accordance with the recommendation of the Society of American Value Engineers (SAVE). VE services are to include, but not be limited to, mechanical systems, roofing systems, finishes, energy management systems, lighting and power systems and site work. Such studies shall include life

cycle costs, maintainability and operability, the thirty (30) year life expectancy for the project, and the long-term considerations for future maintenance and repairs of the building.

H. SCHEDULE & CHAIR DESIGN PHASE MEETINGS

The CMF shall schedule, coordinate and chair all design phase meetings and be the sole publisher of all meeting minutes. The CMF shall prepare an agenda prior to each scheduled meeting. The CMF is responsible for the preparation and distribution of all project meeting minutes, with the review and assistance of the Design Consultant, within two (2) working days of all meetings. The meeting minutes shall be distributed to all attendees and those persons specified to be on the distribution list by the DPMC/NJBA. 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 meeting until it is completed and the completion date shall be noted in the minutes of the meeting following the task completion.

I. PREPARE CONSTRUCTION COST ESTIMATES

The Design Consultant shall prepare and include with each design package submission, a construction cost estimate in CSI format with supporting documentation.

Independently, the CMF shall prepare and submit to DPMC/NJBA its own independent construction cost estimates, in CSI format with supporting documentation, based on the design documents prepared by the Design Consultant at or just prior to the completion of the design deliverable packages noted in paragraph IV.A. "Design and Construction Schedule". Estimates are to be in sufficient detail appropriate to the design phase of the project as recommended by the American Society of Professional Estimators. Refer to paragraph VIII. F., Value Analysis, for criteria and assessment considerations to be used in each cost estimate and accompanying value engineering recommendations.

The CMF shall make recommendations for corrective action if it appears that the construction cost estimate (CCE) may exceed the project budget.

The Design Consultant's and the CMF's construction cost estimates shall be submitted to DPMC/NJBA within five (5) working days after all documentation upon which the estimate is based is provided to the CMF. Within five (5) working days following receipt of the cost estimate from the Design Consultant, the CMF shall prepare a reconciliation of the differences in the two estimates, and participate in a meeting with the DPMC/NJBA and the Design Consultant team to reconcile its estimate with the estimate prepared by the Design Consultant. The CMF

shall provide a detailed analysis defining any cost estimate differentials and together with the Design Consultant, prepare recommendations for cost reduction initiatives that may be required. The recommendations accepted by the DPMC/NJBA shall be used by the Design Consultant in the preparation of the next design phase documents.

All cost estimates shall be adjusted as applicable 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; and any applicable State or Federal statutes and regulations.

J. DESIGN PHASE BUDGET/COST CONTROL

- 1. The CMF shall assist the State in reviewing all Design Consultant cost estimates and submissions to verify that project costs remain within the project budget. The CMF must report any disparities discovered in the project costs to the Project Team for resolution before proceeding on to the next phase of the design.
- 2. The CMF shall establish a uniform procedure for reviewing, analyzing, and assessing each estimate submitted by the Design Consultant and preparing an independent estimate for comparison purposes and subsequent reconciliation at completion of each design phase cycle.
- 3. The CMF cost review should verify that:
 - a. Unit costs are accurate;
 - b. Quantity takeoffs are accurate;
 - c. All design elements are included;
 - d. Level of detail is appropriate to design stage;
 - e. Formats are correct;
 - f. Cost escalation factors are properly applied;
 - g. Balance of costs among building and other systems are acceptable;
 - h. Areas and other measurements are correct;
 - i. Up-to-date scope modifications are reflected.
- 4. The CMF shall prepare and submit an independent construction cost estimate for comparison to the Design Consultant's cost estimate on the appropriate DPMC-38 form with accompanying detail back-up for each phase estimate prepared by the Design Consultant. CMF shall jointly with the Design Consultant perform a subsequent cost estimate reconciliation report at completion of each design phase cycle. CMF shall also make recommendations for corrective action or project revisions if it appears that the construction cost estimate (CCE) may exceed the project budget.
- 5. Design Submissions: CMF shall review submissions to determine if the project requirements are being met by the project Design Consultant. Formal design reviews by the CMF are required at the completion of each design phase milestone of the project. CMF shall review

all documents for clarity, consistency and completeness and provide advice and recommendations for improvements. CMF shall refer to the Work Order for detailed requirements for each design phase, as follows:

- a. Pre-Design Feasibility Study/Concept Phase and Programming Phase
- b. Schematic Design Phase
- c. Design Development Phase
- d. Construction Documents/Final Design Phase
- e. Permit Phase
- f. Construction Phase
- g. Commissioning and Closeout Phase

K. IDENTIFY LONG LEAD CONSTRUCTION ITEMS

The CMF and Design Consultant shall identify all project long lead items and the CMF shall coordinate their procurement and installation so they will not have a negative impact the project cost or schedule.

IX. PERMITS PHASE RESPONSIBILITIES

CMF shall become familiar with all of the permits and approvals required for the project. CMF shall assist the Design Consultant in obtaining building permits and all special permits for permanent improvements. CMF shall verify that the Design Consultant has determined the amount of all applicable fees and assessments. CMF shall assist in obtaining approvals from authorities having jurisdiction over the project including DCA.

X. CONSTRUCTION PROCUREMENT PHASE RESPONSIBILITIES

A. BID PACKAGE

The CMF shall assist the Design Consultant and DPMC in the preparation of all bid package documents including, but not limited to the following: Signed and Sealed Drawings and Specifications, Bid Proposal forms, Notice of Advertising form, Current Working Estimates, Schedule, Bulletins, etc.

The CMF shall develop and maintain an RFI log during Contractor procurement. All Contractor questions shall be created and tracked with a document control number (CQ#).

B. SCHEDULE & CHAIR PRE-BID CONFERENCE

The CMF shall schedule and chair the Contractor pre-bid meetings as may be required, at the project site or other location designated by the State

CMF shall assist the Design Consultant to respond to technical questions asked by the bidders, discuss project logistics, project phasing requirements, project scheduling and mandatory project milestones. CMF shall assist the State to prepare Bulletins for distribution.

C. PREPARE AND DISTRIBUTE MEETING MINUTES

The CMF shall be the sole publisher of the project's pre-bid conferences for distribution via Bulletin by DPMC/NJBA. CMF shall prepare and distribute meeting minutes related to all construction procurement meetings.

D. ATTEND BID OPENING

CMF shall attend the bid opening and assist DPMC/NJBA in evaluating the construction bids and proposals.

E. BID REVIEW AND POST BID CONFERENCE

The CMF, in conjunction with the Design Consultant and DPMC/NJBA staff, shall review the bid proposal from the apparent low bidder(s) for each bid package. The CMF shall then schedule and chair the Contractor post-bid conference to review the contractors bid, proposed sub-contractors, material suppliers and any substitutions the contractor may propose.

The CMF shall provide DPMC/NJBA with an analysis of the construction cost estimate (CCE) versus the Contractor's actual bid, with explanations for the differences in price.

F. RECOMMENDATION TO AWARD

Upon completion of the post bid conference, the CMF shall prepare a "Letter of Recommendation" to award the contract to the firm submitting the low responsible bid. The "Letter of Recommendation" shall be provided to DPMC/NJBA within five (5) working days of the bid opening. The letter shall be in a format approved by DPMC/NJBA.

G ATTEND DIRECTOR'S HEARING

As required. CMF shall attend any hearing and assist the Design Consultant and DPMC in responding to a bid protest.

XI. CONSTRUCTION PHASE RESPONSIBILITIES

The CMF shall provide administrative, management and related services as required to monitor that the Contractor(s) complete the project in accordance with their contractual obligations defined in the "Agreement between the State of New Jersey and the Consultant for Construction Management Services", the General Conditions and any other related or associated contract documents. The CMF shall include the development and implementation of procedures described in the Agreement and for the tasks and/or programs including, but not limited to the following:

A. ADMINISTRATION OF CONTRACTS

CMF shall become familiar with the contractual obligations of all entities doing the work for the project. CMF shall provide administration of construction contracts, contracts for furniture, fixtures, equipment and other contracts and purchase orders.

B. REVIEW CONTRACTOR PERFORMANCE & SCHEDULE

CMF shall monitor the work of the Contractor(s) and keep the DPMC/NJBA informed of the progress of the work on a daily basis and ensure all work is in compliance with the contract documents.

The CMF shall endeavor to guard the DPMC/NJBA against defects and deficiencies in the work and to achieve satisfactory performance by each of the Contractors. CMF shall recommend courses of action to the DPMC/NJBA when contract requirements are not being fulfilled and the non-performing party does not take immediate corrective action.

C. SCHEDULE & CHAIR CONSTRUCTION PHASE MEETINGS

The CMF shall schedule, coordinate and chair all construction phase meetings including but not limited to coordination meetings, safety meetings, schedule meetings, progress meetings, BIM

meetings, testing & inspection meetings, DCA inspection meetings, claims meetings, State/CMF/Design Consultant meetings, and be the sole publisher of all meeting minutes.

D. PRO-ACTIVE MONITORING

CMF shall provide pro-active participation in monitoring and verification that all schedule activities are occurring in accordance with the approved CPM Construction schedule. Pro-active verification may include phone calls to suppliers or vendors in order to confirm placement of orders, obtain invoice documentation, shipping data and any other actions, review submission of submittals to determine adherence to approved submittal schedule and contact contractors not adhering to such requirements, and other actions required to insure all schedule activities are occurring in accordance with the approved schedule.

E. PHOTO DOCUMENTATION

1. Background:

During construction, CMF should document any significant activities by photograph. This photographic record shall include progress photographs adequately capturing all key stages of the construction work and additional photographs capturing new salient features. Photographs shall include a brief description of the work, date and time the photo was taken.

Two parallel photographic activities will be in place during the construction phase of the project, with the first record provided by the Design Consultant, and the second will be performed by the CMF. The protocol for this documentation will be delineated in detail in the specifications contained in the bid documents.

The CMF shall be the official and sole publisher of construction photos and provide monthly project photographs from the construction phase NTP to project substantial completion. Photographs shall be in color, digitally stored and accessible by the State during the course of construction. At the end of the project, the CMF shall provide print color copies and hard drives of all photos to the State. A minimum of twelve (12) color digital photos with a 8x11 hard copy print size shall be taken per expansion area.

2. CMF Responsibilities during Construction and Project Close Out:

The CMF shall:

• Maintain a record of all areas that need to be photo-documented during construction.

- Notify the Design Consultant two weeks ahead of schedule that specific construction activities will be performed so that they can be photo-documented.
- Assist the Design Consultant at the completion of the project in undertaking the cataloging of the comprehensive photo documentation of the completed project.

F. CERTIFICATION OF PERFORMANCE

The CMF shall sign the DPMC/NJBA "Certification of Performance" document each week. Refer to **Exhibit 'D'**. The CMF certifies by their signature that the work performed by the Contractor(s) during that week has met any and all requirements for Quality Control and Quality Assurance as they relate to all equipment, materials, and construction systems currently being installed and in accordance with the Contract Specifications, Contract Construction Drawings, and Design Consultant approved submittals. In addition, the CMF certifies that a safety oversight program has been implemented to comply with all Federal, State and Local Safety Authorities, insurance requirements, and any local County, Municipal, and Union health rules and regulations.

G. EVALUATE AND RECOMMEND CONTRACTOR INVOICES

Through the use of the approved cost loaded Construction Schedule and monthly updating of same, the CMF shall review all applications for payment and/or invoices submitted by the Contractor for progress payments, reduction in retainage, final payment and all other requests for payment in accordance with the requirements of the Contractor's Contract. Following such review, the CMF shall submit to the Design Consultant for review, with recommendations to the DPMC/NJBA for disposition thereof in accordance with the DPMC/NJBA's procedures, certifying same, and shall whenever appropriate, make specific recommendation to the DPMC/NJBA concerning the denial or reduction of any payment of the Contractors monthly requisition or other request for payment should the CMF have cause to be dissatisfied with the Contractor's performance under its contract.

The CMF's certification for payment shall constitute a representation to the DPMC/NJBA, based on the CMF's determinations at the site and on the data comprising the Contractor's application for payment, that, to the best of the CMF's knowledge, information and belief, the work has progressed to the point indicated and the quality of the work is in accordance with the Contractor's contract documents.

H. CHANGE ORDER REQUESTS ESTIMATES, LOGS AND ERRORS AND OMISSIONS RECOMMENDATIONS

CMF shall review, log, track evaluate and make specific written recommendations regarding all construction change order requests. The CMF shall assess change order requests for validity; merit, cost, and utilizing the approved schedule, to perform a schedule impact analysis to determine the effect, if any, the change order request will have on the milestones and completion date of the project.

The CMF shall attend and actively participate at administrative hearings and conferences or settlement conferences in connection with such claims upon request by the DPMC/NJBA. The CMF shall, upon request of the DPMC/NJBA, assist in the preparation and presentation of its defense, counterclaim or other position in connection with any claim by or against the DPMC/NJBA during any lawsuit.

1. Change Order Request Folder:

The CMF shall prepare and deliver to the DPMC/NJBA Project Manager, both hard and electronic copies of a contractor's change order request folder (the CMF shall provide all office supplies and materials related to developing and hard copy change order folder) that contains detailed documentation including, but not limited to, the Contractor submitted DPMC 9b, with supporting cost and labor rate justifications, and any appropriate drawings and/or specifications, the Design Consultants DPMC 10 – Consultant change order review and attachments. In addition to providing a hard copy of a contractor's change order request folder, the CMF shall include in their fee proposal the implementation of a paperless change order management system, of which permits the CMF's digital sharing of a contractor's change order request folder with the State.

The CMF is to provide this information in a letter to the DPMC/NJBA, formatted as described below. This information shall then be reviewed by the Design Consultant and with the Design Consultant's input, provided to DPMC/NJBA. It shall include separated highlighted sections detailing the following:

REASON FOR CHANGE

This section should include a detailed explanation of the change order request with emphasis on the specifications, plans, and any other relevant project documentation or issue history. A classification of the change order request is required.

CONTRACTOR ENTITLEMENT

A statement as to why the contractor is or is not entitled to the change order request is required. The basis for this determination of entitlement will be the contract documents.

COST ANALYSIS

This section should show a comparative analysis between the contractors cost estimate and the CMF's independent cast estimate. Any difference in estimates should be noted and explained. A statement indicating fair market costs, acceptable labor practices, and approval of the contractor's cost estimate is to be made.

SCHEDULE IMPACT

If the contractor is declaring an impact to the schedule, it is to be analyzed by the CMF. A statement regarding agreement or disagreement is to be made.

RECOMMENDATION

The CMF's 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 request must be negotiated, or rejection (include substantiating details).

If the change order request is negotiated, the CMF shall prepare a "Record of Negotiation" to be included in the change order request folder.

The CMF shall provide both an electronic copy and a hard copy of the entire final version of the Contractor's DPMC 9b Change Order Request folder (COR) to DPMC/NJBA within ten (10) working days from receipt of the Contractor's change order request. If the COR folder prepared contents prepared by the CMF are deemed insufficient by the DPMC/NJBA, the CMF shall correct and resubmit at no additional cost to the State.

2. Cost Estimate:

The CMF shall provide the DPMC/NJBA with its independent detailed breakdown of all costs associated with each change order request, i.e. material, labor, equipment, overhead, Sub-Contractor work, profit and bond, and certification of increased bond. The estimate shall be in CSI format.

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

3. Negotiation:

If a negotiation of the change order request is necessary, the CMF shall assist DPMC/NJBA in negotiating a change order request cost estimate submitted by the Contractor. The CMF will obtain a new change order request 9b form from the Contractor reflecting the negotiated amount and include this, along with the original 9b form, in the folder submitted to the DPMC/NJBA.

4. Meetings:

The CMF and the Consultant shall attend and actively participate at all administrative hearings or settlement conferences in connection with such change order requests.

5. Change Order Request Log:

The CMF shall maintain a Change Order Request Log on the website to track the status of all project change order requests. The Change Order Request Log shall include, but not be limited to, entries for the Contractor's tracking number, the State's tracking number, the value of the change order request (with running total), separate Error/Omission/Scope designations (with running totals), the approval/denial/cancellation status of the change order request, and payment status.

I. COORDINATION OF REVISIONS TO THE CONTRACT DOCUMENTS

CMF shall provide coordination of revisions or changes to the Contract Documents to be made by the Consultant as required in response to unexpected site conditions or approved scope changes.

J. QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC)

CMF shall develop a QA/QC program including methods and frequency of inspections. The CMF shall staff the necessary field offices with qualified personnel assigned to carry out QA/QC on each work package or trade. CMF shall provide all supervisory and inspection staff at the job site necessary to verify that the project is properly constructed in strict accordance with the contract documents, the Schedule and within budget. On the basis of on-site inspections, the CMF shall recommend rejection of work that does not conform to the requirements of the contract documents. Separate but part of this task, the CMF shall also monitor and report to the DPMC/NJBA the Construction Contractor(s) quality control operations/inspections.

The CMF shall coordinate and participate in the required code inspections with the Contractors and/or other State Agencies. The CMF shall immediately notify the DPMC/NJBA of any Contractor code inspection failures and monitor the Contractor's progress for corrective action and re-inspection of the work to minimize the impact, if any, to the progress of the work and completion of the project as scheduled.

K. SAFETY OVERSIGHT

The CMF shall, on a continuous basis, monitor the Contractor(s) site safety program to ensure compliance. If it is found the Contractor(s) is not in compliance with said program then the CMF shall immediately notify the Contractor(s) and the DPMC/NJBA in writing of the deficiencies.

The CMF shall meet with the DPMC/NJBA's Representative to review the non-compliance issues and proceed in a manner as directed by the DPMC/NJBA to ensure compliance with the site safety program. The CMF will maintain a complete record of all safety related incidents and submit monthly Safety Reports to the DPMC/NJBA.

L. SECURITY PROGRAM FOR REVIEW WITH FACILITY OCCUPANTS

The New Jersey Public Health Environmental and Agriculture Laboratory (NJPHEAL) is located in a New Jersey State Police (NJSP) secure facility, and access is provided through the NJSP. The CMF shall, in conjunction with the Using Agencies, the State's Interdepartmental Security Unit (ISU), and the NJSP shall develop, implement and manage a security program to ensure that unauthorized individuals do not enter the site and that the project site is not vandalized.

The security program shall include, but not be limited to:

- Employee Background Checks all CMF, contractor, subcontractor, consultant and subconsultant personnel entering the project site shall have a background check completed and approved by the New Jersey State Police before site access can be granted.
- Employee Identification Upon approval of the back ground check by the New Jersey State Police, personnel entering the project site shall be issued a photo identification badge/access card. Identification badges shall be supplied by the Department of the Treasury Security Unit.
- Site Access Control CMF shall operate and maintain card access systems at all entrances to the project site. Card access systems shall be provided by the State's Interdepartmental Security Unit.

M. LABOR RELATIONS

CMF shall monitor overall labor issues and render assistance to the DPMC/NJBA, upon the DPMC/NJBA's request as may be appropriate. It is anticipated that the project be subject to a Project Labor Agreement (PLA).

N. SHOP DRAWINGS AND SUBMITTAL PACKAGES

The CMF shall be responsible for monitoring, receiving, cataloging, logging and processing of all Contractor submittals including, but not limited to, shop drawings, samples, product data, operations manuals, warrantees, project closeout documentation and all other submittal packages utilizing the BIM backgrounds and set ups in conformance with the project specifications. The CMF shall first review each submittal package for completeness and compliance with the specifications, as well as coordination among trades and general conformance with design documents, rejecting incomplete Submittal Packages before forwarding to the Consultant for review. The CMF shall return to the Contractor(s) all Consultant reviewed Submittal Packages.

The CMF shall maintain an accurate, up-to-date Submittal Log in a form acceptable to the DPMC/NJBA, which shall include, but not be limited to, a description of each submittal package required by specification number, the date submitted by the Contractor(s), the date sent to the Design Consultant, the date returned by the Design Consultant, the date forwarded back to the Contractor(s) and the status of the returned submittal. The CMF shall generate a submittal log report weekly for the DPMC/NJBA and Contractor(s), which shall list the status of all project Submittal Packages, the dates submittals are required to be submitted and approved to avoid impacting the scheduled completion of the work.

O. CONTRACTOR REQUESTS FOR INFORMATIOM (RFIS)

The CMF shall, in consultation with the Consultant, establish a procedure and process acceptable to the DPMC/NJBA, for contractors to submit requests for information (RFIs) and for the CMF and/or Consultant to respond to said RFIs. The procedure shall be included in Division 1 of the specifications.

The CMF shall develop and maintain an RFI log on the project website. The log shall include, but not be limited to, identifying each RFI uniquely, record the date received, include a brief description, identify the party responsible for responding and record the response to the RFI and the date of the response. The RFI log shall produce reports of the processed as well as outstanding RFI requests. RFI reports shall be reviewed at each job meeting.

P. DAILY CONSTRUCTION REPORT

The CMF shall be the sole publisher of the project's official daily construction report and submit a copy to the DPMC/NJBA from construction start to substantial completion. Reports are due the following business day. CMF shall submit a sample report with your technical proposal. The CMF shall maintain all daily logs on the website.

Q. CONSTRUCTION CLAIMS MANAGEMENT

CMF shall establish and maintain an active program to avoid or minimize the number of claims from the Contractor(s) and/or Design Consultants. Upon the DPMC/NJBA's request, CMF shall analyze any and all claims or requests for extensions of time and costs, using available project records, the approved Design Schedule and/or Construction Schedule, and make specific recommendations regarding same.

The CMF shall attend and actively participate at administrative hearings and conferences or settlement conferences in connection with such claims upon request by the DPMC/NJBA. The CMF shall, upon request by the DPMC/NJBA, assist the DPMC/NJBA in the preparation and presentation of its defense, counterclaim or other position in connection with any claim by or against the DPMC/NJBA during any lawsuit.

R. CONSTRUCTION SITE MONITORING

CMF shall provide project monitoring at the site of all activities of all Contractors so that construction is accomplished with a minimum of duplication of effort and interference.

S. MONTHLY PROGRESS REPORT

The CMF shall submit monthly written progress reports to the DPMC/NJBA and Consultant by the 1st of each month including, but not limited to, information concerning the adequacy of the work and site manpower of the Contractor(s), the percentage of completion, submittal status, the number and amount of change order requests, the updated schedule with reports, look ahead Construction schedule, progress on photo documentation, as-built document preparation by the Contractor and construction cost summary reports. Additionally, the monthly progress report shall include current and potential problems deemed of sufficient importance to require DPMC/NJBA monitoring or action during the forthcoming month and a recommended course of

action to achieve resolution of each of these problems. The CMF shall maintain all monthly progress reports on the website.

T. DAILY JOB SITE MEETINGS

The CMF's Project Manager shall meet with the DPMC/NJBA's representative on the jobsite on a daily basis to observe ongoing work, review the Project's current status, discuss new issues and review the Contractor(s) work to be performed that day.

U. AVAILABILITY OF MATERIAL AND EQUIPMENT

The CMF shall analyze project requirements for critical material and equipment availability. Work with the Contractors to achieve timely deliveries and installations.

V. COMPLIANCE WITH LAWS

The CMF shall require each Contractor to comply with all relevant Federal and State statutes, ordinances, rules, executive orders and regulations and notify the DPMC/NJBA of a Contractor's non-compliance.

W. INTERPRETATION

CMF shall consult with the Design Consultant whenever any Contractor properly requests interpretations of the meaning and intent of the Drawings and Specifications, and assist in the resolution of questions or disputes that may arise.

X. MONITOR AS-BUILT DRAWING UPDATES

The CMF shall monitor on a continual basis the Contractor's timely preparation of "As-Built" information into BIM backgrounds and set ups, updating and final submission of a complete set of record "As-Built" marked-up drawings to the Design Consultant for review and approval. The approved As-Built Drawings shall be submitted with the Project Closeout documents.

Y. CODE INSPECTION SCHEDULING

CMF shall assist DCA or other construction inspectors with their required inspections to ensure construction is in compliance with the New Jersey Uniform Construction Code and the contract documents. CMF shall require corrective actions as needed.

Z. INSPECTIONS

CMF shall inspect work in progress, and take action to avoid or prevent installation of defective or non-conforming work by the Contractors. CMF shall maintain on the website a continuing list of non-conforming work as determined from time to time by CMF, DPMC/NJBA or Design Consultant; publish this list to the responsible Contractors, require timely resolution of the non-conforming work, and report on resolution. CMF shall include in their fee proposal for all work associated with Third-Party testing and inspection services for earthwork, concrete testing, spray-on fireproofing, paving, building movement monitoring, roof inspection, floor and wall finishes, exterior finishes, etc.

AA. PUNCHLIST AND CORRECTION OF DEFECTIVE WORK

Upon issuance of "Certificate of Substantial Completion", the Design Consultant shall, in conjunction with the CMF and DPMC/NJBA, prepare a punch list of defective and/or noncompliant work to be corrected by the Contractor (s) prior to beneficial occupancy. The CMF shall monitor and maintain an updated punch list on a weekly basis and ensure the responsible Contractor(s) take prompt action to correct defective work necessary to complete all work as required in the contract documents.

The CMF shall maintain the punch list on the "website" in a format acceptable to the DPMC/NJBA. The punch list 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, it shall have a unique identifier that will indicate the need for "priority" correction.

XII. BUILDING COMMISSIONING

A. GOALS

The goals of the commissioning process to be completed by the CMF's Commissioning Agent include, but are not limited to:

- Providing an unbiased, objective verification that the design and installation is complete for all building systems and controls including, but not limited to:
 - HVAC
 - Lighting
 - Energy Management
 - Security
 - Fire detection and notification
 - Network wiring
- Providing an unbiased, objective verification that the design of all building systems and controls are installed/constructed as per the contract documents.
- Ensuring that the equipment and systems operate as required by the contract documents.
- Providing assurance to the DPMC/NJBA that the completed building systems and controls are performing efficiently and reliably.
- Verifying contract conformance of building systems and controls.
- Verifying that building systems and controls Operations and Maintenance (O&M) manuals and associated documentation is complete and detailed per the contract requirements.
- Verifying that the operations and maintenance personnel are adequately trained per the requirements of the contract documents.
- Verifying that all required user manuals, warranty information and spare parts are accounted for and ready for turnover at closeout.

B. RESPONSIBILITIES

Commissioning Agent shall, during the Design Phase:

- Develop a commissioning plan for the all building systems and controls including, but not limited to, specifications, installation checklists, functional testing requirements, performance testing requirements, O&M training and O&M documentation to be included in the construction documents.
- Coordinate and direct commissioning activities with the Design Consultant and Project Team.
- Review and comment on Design Consultants design submittals including:

- Schematic Phase submittal, including construction cost estimate.
- Design Development submittal, including construction cost estimate.
- Final Design submittal, including construction cost estimate.

Commissioning Agent shall, during the Bid Phase:

- Attend construction pre-bid meeting to respond to commissioning related questions.
- Coordinate with Design Consultant responses to commissioning related questions submitted by bidders and assist Design Consultant in the preparation of Bulletins as required.

Commissioning Agent shall, during the Construction Phase:

- Coordinate and direct the commissioning activities in a logical, sequential and efficient manner.
- Review contractors schedule to insure commissioning activities are planned and included.
- Review contractor submittals including, but not limited to, shop drawings, catalog cuts, O&M manuals, equipment warranties for compliance with contract documents and commissioning requirements providing recommendations to the Design Consultant.
- Plan and conduct commissioning meetings as required, coinciding with regularly scheduled bi-weekly construction progress meetings.
- Perform site visits as necessary to observe equipment and systems installation.
- Witness all functional and operational equipment and systems tests.
 - Review testing and air balancing (TAB) reports.
- Oversee the training of the operations and maintenance personnel.
- Provide bi-weekly progress reports of commissioning activities to include, but not limited to, the status of:
 - Installation checklists
 - Functional testing
 - Performance testing
 - O&M training
 - O&M documentation
- All commissioning reports shall be maintained on the "website" for reference.

Commissioning Agent shall, during the Close-out Phase:

- Provide a final commissioning report.
- Provide a "Certificate of System Acceptance" upon completion of system performance testing, submission of all project documentation and completion of training.

XIII. CLOSE-OUT PHASE

A. **PROJECT CLOSE-OUT**

The CMF shall manage and coordinate the Project Close-Out process to include, but not limited to:

- Commissioning
- As-Built Drawings (BIM)
- Warrantees and Guarantees
- Operating and Maintenance manuals
- Certify Final Completion for acceptance by the DPMC/NJBA

B. PROJECT CLOSE-OUT DOCUMENTATION

The CMF shall monitor and track the progress of the Contractor(s) timely submission of Project Closeout Documentation. The Project Closeout Documentation shall include, but not be limited to operations manuals, certificates, instructions, warrantees, guarantees, maintenance manuals, test reports, as-built drawings and certifications.

The CMF shall forward all Project Closeout Documentation to the Design Consultant for review and approval. The CMF shall produce a bi-weekly Project Closeout Documentation report sorted by Contractor for the DPMC/NJBA and Contractor(s).

Project Close-out Documentation and reports shall be maintained on the website.

C. FINAL INSPECTION

Following the issuance of a certificate of substantial completion of the work or a designated portion thereof, in conjunction with the Consultant, evaluate the completion of the work of the Contractors and make recommendations to the DPMC/NJBA when the work is ready for final inspection. The CMF shall, in conjunction with the Consultant and the DPMC/NJBA, conduct final inspection(s) of the contracted work of the Contractors prior to final acceptance by the DPMC/NJBA. The CMF shall, in conjunction with the Consultant, forward to the DPMC/NJBA a final project application for payment upon compliance with the requirements of the Contractors' contract documents.

D. WARRANTY INSPECTION

Nine (9) months after Project occupancy, schedule and conduct a site inspection with the DPMC/NJBA's staff to identify warranty work that may need to be completed.

XIV. ALLOWANCES

A. SEPARATE/EARLY BID PACKAGE ALLOWANCE

There is a possibility that the bid documents may be prepared to advertise separate/early bid packages. Therefore, the CMF shall estimate all costs associated with reviewing and assisting the A/E 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 CMF 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.
XIV. SOW SIGNATURE APPROVAL SHEET

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

SOW APPROVED BY. James Wright	2/28/2023
JAMES WRIGHT, MANAGER DPMC PROJECT PLANNING & INITIATION	DATE
SOW APPROVED BY: <u>Rosalind Finney</u> 0 ROSALIND FINNEY, DIVISION DIRECTOR NEW JERSEY DEPARTMENT OF HEALTH	2.28.2023 DATE
SOW APPROVED BY: PHIL JOHNSON, SR. PROJECT MANAGER NEW JERSEY BUILDING AUTHORITY	2/28/23 DATE
SOW APPROVED BY: Vincent Campanella VINCENT CAMPANELLA, CHIEF OF CONSTRUCTIONEW JERSEY BUILDING AUTHORITY	2/28/2023 DN DATE
SOW APPROVED BY: CHRISTOPHER GEARY, ASST. DEPUTY DIRECTOR	3/23/23 DATE
DIV PROPERTY MGT & CONSTRUCTION	

XVII. EXHIBITS

The attached or referenced exhibits in this section include supporting documentation to assist the CMF in understanding the project to prepare his technical and fee proposals.

- A. Location Map
- B. DPMC/NJBA Project Management Responsibility Matrix
- C. Sample "Financial Status Report" (FSR)
- D. Construction Management Firm's Certificate of Performance

END OF SCOPE OF WORK



Project Site Location Map - PHEAL EXHIBIT 'A'

TASKS ALWAYS	OPTIONAL
REQUIRED	TASKS
• LEAD	U LEAD
O ASSIST	ASSIST

With Construction Management Firm (CMF) DPMC PROJECT #A1360-01 Laboratory, Administration Wing and Warehouse 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	<u> </u>	•	
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	Î.	•	
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		•	-

TASKS ALWAYS	OPTIONAL
REQUIRED	TASKS
LEAD	🖬 LEAD
O ASSIST	ASSIST

With Construction Management Firm (CMF) DPMC PROJECT #A1360-01 Laboratory, Administration Wing and Warehouse Expansion at the NJ Public Health Environmental and Agriculture Laboratory

PROGRAM & FEASIBILITY STUDY - PHASE 3	A/E	DPMC/NJBA	CMF
Conduct Feasibility Studies	•	0	0
Review Previous Feasibility Studies	•	0	٠
Market Analysis to Determine Single vs Multi-Prime	0	0	•
Early Bid Package Analysis	0	0	٠
Bid Schedule Adjustment Analysis	0	0	٠
Conduct Market Labor Study for Project	0	0	•
Labor Agreement			
Site Evaluation and Geotechnical Report	•	0	0
Site Surveys	•	0	0
SOW Compliance Statement	•		
Interview Client Agency Personnel	•	0	0
Prepare Narrative Description of Program	•		0
Prepare Space Analysis	•		0
Prepare Blocking & Stacking Diagrams	•		0
Prepare Current Working Estimate in CSI Format &	•		٠
Cost Analysis 38 Form			
Prepare CPM Design & Construction Schedule	0		•
Oral Presentations of Program & Feasibility Phase	•		0
 Deliverables (50%, 100%, QRB) 			
Prepare & Distribute Meeting Minutes	0		•
Review all Facility Related Feasibility Studies and Projects and Formally Comment in Writing.	•		0

TASKS ALWAYS	OPTIONAL
REQUIRED	TASKS
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With Construction Management Firm (CMF) DPMC PROJECT #A1360-01 Laboratory, Administration Wing and Warehouse Expansion at the NJ Public Health Environmental and Agriculture Laboratory

SCHEMATIC DESIGN - PHASE 4	A/E	DPMC/NJBA	CMF
Schedule & Chair Design Meetings	0		•
Attend Design Meetings	•	•	•
Prepare & Distribute Meeting Minutes	0		٠
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	0		٠
Prepare & Distribute Meeting Minutes	0		•
Oral Presentation to NJBA Project Team @50%, 100% & QRB	•		•

TASKS ALWAYS	OPTIONAL
REQUIRED	TASKS
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With Construction Management Firm (CMF) DPMC PROJECT #A1360-01 Laboratory, Administration Wing and Warehouse Expansion at the NJ Public Health Environmental and Agriculture Laboratory

DESIGN DEVELOPMENT - PHASE 5	A/E	DPMC/NJBA	CMF
Schedule & Chair Design Meetings	0		•
Attend Design Meetings	•	•	•
Prepare & Distribute Meeting Minutes	0		٠
Fine Arts Inclusion - 50% Completion	•		0
Design Renderings	•		0
Regulatory Agency Permits & Approvals	•	0	0
NJ Department of Agriculture			
Soil Erosion	•	0	0
NJ Department of Community Affairs			
UCC Permit for Building Construction	•	0	0
NJ Department of Environmental Protection			
Equipment Emissions	•	0	0
Fuel Storage for Emergency Generator	•	0	0
Environmental Impact Statement	•	0	0
Wetlands Development Permit	•	0	0
Stream Encroachment	•	0	0
• NJPDES	•	0	0
Sewage System Construction	•	0	0
Exemption from Sewage System Ban	•	0	0
Water Management Plan for Sewage System	•	0	0
Divert Surface Water	•	0	0
Hazardous Waste Storage or Disposal	•	0	0
Well Drilling	•	0	0

TASKS ALWAYS	OPTIONAL
REQUIRED	TASKS
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With Construction Management Firm (CMF) DPMC PROJECT #A1360-01 Laboratory, Administration Wing and Warehouse Expansion at the NJ Public Health Environmental and Agriculture Laboratory

NJ Department of Health			
Commercial Kitchen Equipment if applicable	•	0	0
Federal Aviation Authority			
Within FAA Jurisdiction	•	0	0
Utility Availability for:	•		0
Sanitary Service	•		0
Storm Water	•		0
Domestic Water	•		0
Gas Service	•		0
• Fire Service	•		0
Electric Service	•		0
Telephone Service			0
Cable Service			0
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 	•	1	
 HVAC Drwgs. Heating & Cooling Equipment Schedules, Calculations 	•		

TASKS ALWAYS REQUIRED	OPTIONAL TASKS
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With Construction Management Firm (CMF) DPMC PROJECT #A1360-01 Laboratory, Administration Wing and Warehouse Expansion at the 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	0		•
Prepare Master Submittal List	0		•
Identify Long Lead Construction Items	0		•
Market Analysis to Determine Single vs Multi-Prime	0	0	•
Provide Info to Consultant for Owner Supplied Equipment		•	
Incorporate Owner Supplied Equipment into Design	•	0	0
Submit Design Documents for Review	•		0
Oral Presentation of Design Develop Phase Deliverables	•		0
Prepare & Distribute Meeting Minutes	0		•
Develop Submission Checklist & Forward to DPMC/NJBA	•		0
Accept Consultant Compliance w/SOW Deliverables		•	0
Prepare Consultant Performance Evaluations		•	
Oral Presentation to NJBA Project Team at 50%, 100%, QRB	•		•

TASKS ALWAYS	OPTIONAL
REQUIRED	TASKS
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With Construction Management Firm (CMF) DPMC PROJECT #A1360-01 Laboratory, Administration Wing and Warehouse Expansion at the NJ Public Health Environmental and Agriculture Laboratory

CONSTRUCTION DOCUMENT - PHASE 6	A/E	DPMCNJBA	CMF
Schedule & Chair Design Meetings	0		•
Attend Design Meetings	•	•	•
Prepare & Distribute Meeting Minutes	0		•
Regulatory Agency Permits & Approvals	•	0	0
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		•	0
Review & Approve Design Amendments to Contract		•	
Perform Constructability Review		0	•
Perform Value Engineering Review	0	0	•
Approval of Design Documents		•	0
Compile Comments of DPMC, Client Agency, DCS, etc., & Forward to Design Consultant for Action		0	•
Resolve All Comments Raised by DPMC, Client Agency, DCA, etc.	•		0
Provide Landscape Design Drawings	•		0
Provide Interior Design Services	•		
Provide Testing & Sampling Devices	•		
Design & Provide Formal Presentation Graphics	•		
Presentations at Public Hearings	•		0
Provide Graphic Design Service (Signage)	•		
Provide Traffic Safety	•		
Provide Financial Study	•		0
Provide Design Services for Furnishing Selection	•		

TASKS ALWAYS	OPTIONAL
REQUIRED	TASKS
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With Construction Management Firm (CMF) DPMC PROJECT #A1360-01 Laboratory, Administration Wing and Warehouse Expansion at the NJ Public Health Environmental and Agriculture Laboratory

Provide Environmental Monitoring Services			
Present Environmental Impact Statement	•		
Incorporate Fine Arts Into Project - 100% Completion		0	
Provide Rendering		٠	
Process and Recommended Approval of Invoices	0		•
Process Invoices After Approval		٠	
Input Project Data in MIS		•	0
Prepare Current Working Statement in CSI Format & Cost Analysis 38 Form: 50% & 100% Completion	•		•
CPM Design & Construction Schedule	0		•
Oral Presentation of Final Design Phase Deliverables			0
Oral Presentation to NJBA Project Team at 50%, 100% & QRB	•		•
Prepare & Distribute Meeting Minutes	0		•

TASKS ALWAYS REQUIRED	OPTIONAL TASKS		
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With Construction Management Firm (CMF) DPMC PROJECT #A1360-01 Laboratory, Administration Wing and Warehouse Expansion at the NJ Public Health Environmental and Agriculture Laboratory

PERMIT- PHASE 7	A/E	DPMC/NJBA	CMF
Prepare Pre-Bid Construction Schedule	0	0	٠
Prepare Pre-Bid Construction Cost Estimate	•		•
Obtain UCC Permit Application & Complete with Related Technical Subcodes	•		0
Complete DCA Permit Fee Calculation Schedule	•	0	0
Provide Signed & Sealed Drawings & Specifications, CWE Cost Analysis (DPMC38 Form)	•		0
Submit Signed & Sealed Drawings & Specifications, Permit Application, Fee Schedule, Invoice to DPMC Plan Review	•	0	0
Obtain UCC Permit	0	•	
Submit Drawings & Specifications and Applications for All Other Project Permits	•	=	0
Obtain All Other Permits	•		0
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		•	0
Prepare A/E Performance Evaluation		•	

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With Construction Management Firm (CMF) DPMC PROJECT #A1360-01 Laboratory, Administration Wing and Warehouse Expansion at the 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	•		<u> </u>
Print Plans & Specifications for Distribution to Bidders			
Prepare Pre-Qualified Bidder List		•	
Review/Recommend Contractor Bid List		•	
Prepare & Arrange for Project Advertisement		•	0
Publish Advertisement of Project		•	
Schedule & Chair Pre-Bid Conference	0	0	•
Prepare & Distribute Minutes	0	0	•
Attend Pre-Bid Conference	•		•
Respond to Technical Questions Asked by Bidders	•	0	0
Prepare Bulletins & Deliver Original to DPMC/NJBA	•		0
Review Bulletins for Technical Correctness	•	0	0
Publish & Issue Bulletins			
Conduct Bid Opening	0	•	0
Receive, Open & Record Bids			<u></u>
Review Bids, Provide Cost Analysis & Recommend Award	0	0	•
Review & Accept Recommendation of Award	S	•	<u> </u>
Prepare & Distribute Construction Contracts		•	
Establish Date of Pre-Construction Meeting	0	•	0
Complete & Submit to DPMC/NJBA the "Submission Checklist" to Ensure That All Contract Deliverables Have Been Met	•		_

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With Construction Management Firm (CMF) DPMC PROJECT #A1360-01 Laboratory, Administration Wing and Warehouse Expansion at the NJ Public Health Environmental and Agriculture Laboratory

Review & Approve "Submission Checklist"		•	0
Input Data into MIS		٠	
Issue Notice to Proceed		٠	
Prepare A/E Performance Evaluations	<u></u>	•	

TASKS ALWAYS	OPTIONAL
REQUIRED	TASKS
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With Construction Management Firm (CMF) DPMC PROJECT #A1360-01 Laboratory, Administration Wing and Warehouse Expansion at the NJ Public Health Environmental and Agriculture Laboratory

CONSTRUCTION - PHASE 9	A/E	DPMC/NJBA	CMF
Chair Pre-Construction Meeting	0	0	٠
Attend Pre-Construction Meeting	•	•	•
Prepare & Distribute Minutes of Pre-Construction Meeting	0		•
Distribute Code-Approved Drawings to DPMC & Contractors, Along with the UCC Permit		•	
Schedule & Chair Project Meeting	0	0	•
Attend Project Meetings	•	•	•
Prepare & Distribute Minutes	0		•
Prepare "Conformed Drawings" & Deliver to DPMC	•		
Print & Distribute "Conformed Drawings"	•		
Prepare DPMC Insurance Form & Submit to Proper Parties	•		
Update Construction Progress Schedule	0	0	•
Update CPM Schedule	0	0	•
Track & Distribute Documents	· <u> </u>	0	•
Review/Approve Sub-Contractors	0	•	0
Review/Approve Samples & Materials	•	0	0
Perform Value Engineering Analysis/Report	0	0	•
Review/Approve Unit Schedule Breakdown	0	0	•
Approve Shop Drawings & Submittals	•	0	0
Approve Test Reports	•	0	0
Evaluate & Recommend Contractor Invoices	•	0	•

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REQUIRED	TASKS
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With Construction Management Firm (CMF) DPMC PROJECT #A1360-01 Laboratory, Administration Wing and Warehouse Expansion at the NJ Public Health Environmental and Agriculture Laboratory

Review Contractor's Progress Schedule	0	0	•
Approve Contractor's Progress Schedule	0	•	0
Approve Contractor's Invoices	0	٠	0
Review & Approve A/E Invoices		٠	
Monitor "As-Built" Plans	0		•
Evaluate/Recommend Contractor Change Order Requests	0		•
Prepare Change Order Plans & Specifications	•		
Negotiate/Authorize Change Orders	0	٠	0
Amend Contracts Due to Change Orders		•	
Recommend Change Orders for E/O		0	•
Submit Field Observation Reports	•	0	•
Review Field Observation Reports		•	•
Provide Construction Photographs	•		•
Schedule UCC Inspections		0	•
Coordinate Installation of Fine Arts	•	0	•
Prepare Contractor's Performance Evaluation		•	
Prepare A/E Evaluations		•	
Input Data Into MIS		•	

TASKS ALWAYS	OPTIONAL
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With Construction Management Firm (CMF) DPMC PROJECT #A1360-01 Laboratory, Administration Wing and Warehouse Expansion at the NJ Public Health Environmental and Agriculture Laboratory

CLOSE-OUT - PHASE 10	A/E	DPMC/NJBA	CMF
Plan, Schedule, Execute Close-Out	0	0	•
Schedule & Chair Close-Out Meeting	0	0	٠
Attend Close-Out Meeting	•	•	•
Coordinate Pre-Final Inspection/DCA/Consultant	0	0	٠
Develop Punchlist (Contract)	•	0	•
Develop Punchlist (Code)	•	0	•
Consolidate All Punchlists & Distribute			•
Verify Completion of Punchlist Items (Contract)	•	0	0
Verify Completion of Punchlist Items (Code)	•	0	0
Determine Substantial Completion		0	•
Sign "Certificate of Substantial Completion" for each Contractor		•	
Request Issuance of TCO from DCA		0	•
Plan, Schedule & Control Final Inspection by All Parties	0	0	٠
Coordinate Equipment Operation Training	0	0	٠
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	0		•
Prepare Insurance Transfer Report (DPMC-25)	•	0	0
Collect As-Built Drawings from Contractor			•
Prepare Record Set Drawings & Submit to DPMC	•		

OPTIONAL
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With Construction Management Firm (CMF) DPMC PROJECT #A1360-01 Laboratory, Administration Wing and Warehouse Expansion at the NJ Public Health Environmental and Agriculture Laboratory

Init. Final Contract Acceptance (DPMC-20) for each Contractor		0	•
Sign Final Contract Acceptance		•	
Develop & Submit "Final Cost Analysis"	0		•
Forward "Submission Checklist" to DPMC	•		0
Review and Approve Consultant's "Submission Checklist" to ensure all deliverables have been met		•	0
Obtain all Close-Out Documents		0	•
Close Out A/E Contract		•	
Prepare A/E Performance Evaluation		•	
Prepare Contractor's Performance Evaluation		•	0
Input Data Into MIS		•	
Provide Expert Witness Services	•	•	•
Provide Post Occupancy Assistance	0	•	0
Prepare CMF Performance Evaluation		٠	

PREPARED HY DL PARTAR NT OF THE THE ASURY OFFICE OF FISCAL AND RESOUNCES D/INV2012

NEW JERSEY STATE BUILDING AUTHORITY "project name "construction fund" FINANCIAL STATUS REPORT

TASKOSUBTASK	ACTIVITY CODE	BUDGET	APPROVED	APPROVED SCOPE CHANGES	ADJUSTED BUDGET	ORIGINAL TRADE CONTRACT AMOUNT	APPROVED CHANGE ORDERS	EXPENDITURES TO DATE VERIFIED UNVERIFIED	OUTSTANDING TRADE CONTRACTS	ESTIMATED ADDITIONAL COMMITMENTS	TOTAL ANTICIPATED COSTE	VARIANCE FAVORABLE CR	CHANGE	VALUE	PERCENT
DESIGNIBURIO	-												10001		
CONSULTANTS															
ARCHITECTS/ENGINEERS CONSTRUCTION ADMINISTRATION	01-10010	100.00			100.00					00'05	00'06	10.00	1	0.00	0.0%
MISCELLANEOUS TESTING	01-10030		Service and the service of the servi		00.0				200	000	0.0	0.00		0.00	0.0%
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FEASIBILITY/DEFERRED MAINT PROJ	01-10050			T	0.00				0.0	2	00.0	0.00	1	0.00	0.0%
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CONSTRUCTION												A.V.A.I	-	- 100	9/. D. E
GENERAL CONTRACTOR	01-20010	0.00			000						the				
STRUCTURAL STEEL	01-20020	2			000		<		000	8.0	800	0000		0.00	%0.0
HVAC	01-20030		The second se		0000				0000	000	000	DO D		8.8	0.0%
MECHANICAC SYSTEM IMPROVEMENTS	01-20031	-			0000				0000	0.00	00.00	00.0		0000	0.0%
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DEMOLITION	01-20060				00.00		and		00.0	0.0	0.00	00.0		0.00	0.0%
TELECOMMUNICATIONS	01-20090	and the second second			0,00				0.00	0.00	000	0.00		0,00	%00
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INSURANCE	01-20300					/			0.00	0.00	0:00	0.00		0.00	0.0%
SIGNAGE	01-20500				0000	1			0.00	0.0	0.00	0.0		0.00	0.0%
EXTERIOR LIGHTING	1-20600				0.00				0.00	0.00	00.0	0.00	1	0000	0.0%
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EXHIBIT 'C'

DPMC Project #A1360-01

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

New Jersey Building Authority/Division of Property Management and Construction

Construction Management Firm's

Certification of Performance

The Construction Management Firm's (CMF) signature will certify to the best of its knowledge, information, and belief, and in accordance with the CMF's Scope of Work for Construction Management Services, that:

• The work performed by the Contractor(s) has met the requirements of the Contract Specifications, Contract Construction Drawings and Design Consultant's approved submittals, including but not limited to the requirements for quality control and quality assurance as they relate to all equipment, materials, and construction systems currently being installed, unless otherwise noted,

• The safety oversight program established by the Contractor has been properly implemented and adhered to by the Contractor and its sub-contractors, and complies with all applicable Federal, State and Local authorities, insurance requirements, and any local County, Municipal, and Union health rules and regulations,

• The CMF certifies that it has met all obligations set forth in accordance with the CMF's Scope of Work for Construction Management Services as well as its Agreement for Construction Management Services along with any and all issued Addenda.

Week Ending:______

CMF Senior Project Manager (Print Name)

CMF Senior Project Manager (Sign Name)

Date:_____

EXHIBIT 'D'



State of New Jersey

PHILIP D. MURPHY Governor

SHEILA Y. OLIVER Lt. Governor DEPARTMENT OF TREASURY DIVISION OF PROPERTY MANAGEMENT & CONSTRUCTION P O BOX 034 TRENTON NJ 08625-0034

ELIZABETH MAHER MUOIO State Treasurer

CHRISTOPHER CHIANESE Director

DATE: June 28, 2023

- TO: Anser Advisory CBRE Heery, LLC Hill International, Inc. Skanska USA Building, Inc. Turner Construction Company
- FROM: Christopher R. Geary, Assistant Deputy Director Contracts & Procurement Unit
- SUBJECT: Addendum "A" dated June 28, 2023 Project: A1360-01 Construction Management Services Laboratory, Admin. Wing and Warehouse Expansion NJ Public Health, Environmental and Agriculture Laboratory Ewing, Mercer County, NJ

Enclosed is the above referenced addendum. All competing firms shall acknowledge receipt by returning this form to:

Division of Property Management & Construction Contracts and Procurement Unit Attention: William Mahan P.O. Box 034 Trenton, NJ 08625-0034 Fax #: (609) 777-1970 Email: <u>william.mahan@treas.nj.gov</u>

Date Received

Firm Name

Address

Signature

Title

Addendum "A" Project: A1360-01 Laboratory, Admin. Wing and Warehouse Expansion NJ Public Health, Environmental and Agriculture Laboratory Date: June 28, 2023

This ADDENDUM is issued for the purpose of clarifying and amending certain requirements of the Scope of Work as noted hereinafter, and is hereby made part of and incorporated in the Consultant's Contract. The Consultant is to consider these matters when preparing their technical and fee proposals for this project. Unless specifically noted or specified hereinafter, all work shall comply with the applicable provisions of the Contract.

ADDENDUM "A"

EVALUATION CRITERIA

• EVALUATION CRITERIA SHEET PREVIOUSLY PROVIDED AS PART OF THE TECHNICAL PROPOSAL INSTRUCTIONS HAS BEEN REVISED AS FOLLOWS:

- Delete "Secure" from the description in the Evaluation Criteria sheet under the second category. This description shall now be "TEAM / FIRM EXPERIENCE ON PROJECTS OF A SIMILAR SIZE AND NATURE"
- $\circ~$ A revised Evaluation Criteria sheet is provided as part of this Addendum

ADMINISTRATIVE ITEMS:

• CERTIFICATION OF NON-INVOLVEMENT IN PROHIBITED ACTIVITIES IN RUSSIA OR BELARUS

Consultants must certify, prior to contract award, that they are not engaging in any prohibited activities in Russia-Belarus. Pursuant to N.J.S.A. 52:32-60.1, the Proposer must certify prior to contract award that the Proposer is not identified on the Department of the Treasury's list of Vendors engaged in prohibited activities in Russia or Belarus and that neither the Proposer nor any of the its parents, subsidiaries, or affiliates is engaging in prohibited activities in Russia or Belarus as defined by N.J.S.A. 52:32-60.1(e). If the Proposer is unable to so certify, the Proposer shall provide a detailed and precise description of such activities.

*Consultants are advised that the firm to be awarded the project will be required to submit a signed certification that the firm complies with all requirements of P.L. 2022, c.3 prior to contract award. Please see the attached Certification of Non-Involvement in Prohibited Activities in Russia or Belarus form to be issued prior to Contract Award.

• FEDERAL SYSTEM FOR AWARD MANAGEMENT (SAM REGISTRATION)

In accordance with N.J.S.A. 52:32-44.1, any firm seeking to be awarded a contract shall provide a written certification to DPMC that neither the firm nor the firm's affiliates are debarred at the federal level from contracting with a federal government agency. Please see the attached Certification of Non-Debarment Form to be issued prior to Contract Award.

In addition, any firm seeking to be awarded a contract must register with the Federal System for Award Management (SAM) prior to contract award. In order to comply with this requirement, firms must register in SAM at <u>http://www.sam.gov</u> and DPMC will verify the firm's registration in SAM prior to contract award.

• DIANE B. ALLEN EQUAL PAY ACT

Pursuant to N.J.S.A. 34:11-56.14(a), Any employer, regardless of the location of the employer, who enters into a contract with a public body to provide qualifying services to the public body shall provide a report to the Commissioner of Labor and Workforce Development, in a form issued by regulation promulgated by the commissioner, of information regarding the compensation and hours worked by employees categorized by gender, race, ethnicity, and job category. Data regarding compensation and hours worked by employees shall be reported in the form by pay bands to be established by regulation promulgated by the commissioner. The commissioner may establish a standard presumption for the number of hours worked by a fulltime employee or by a part-time employee for whom an employer does not track actual hours worked. An employer shall provide a report for each establishment of the employer.

Information regarding the Diane B. Allen Equal Pay Act and its requirements may be obtained from the New Jersey Department of Labor and Workforce Development (LWD) web site at: <u>https://nj.gov/labor/equalpay/equalpay.html</u>

LWD forms may be obtained from the online web site at: <u>https://nj.gov/labor/forms_pdfs/equalpayact/MW-562withoutfein.pdf</u>

• EMPLOYEE MISCLASSIFICATION

In accordance with <u>Governor Murphy's Executive Order #25</u> and the <u>Task Force's July 2019 Report</u>, employers are required to properly classify their employees. Workers are presumed to be employees and not independent contractors, unless the employer can demonstrate all three factors of the "ABC Test" below:

- A. Such individual has been and will continue to be free from control or direction of the performance of such service, but under his or her contract of service and in fact; and
- B. Such service is either outside the usual course of business for which such service is performed, or that such service is performed outside of all places of business of the enterprise for which such service is performed; and
- C. Such individual is customarily engaged in an independently established trade, occupation, profession or business.

These factors have been adopted by New Jersey under its Wage & Hour, Wage Payment and Unemployment Insurance Laws to determine whether a worker is properly classified. Under N.J.S.A. 34:1A-1.17 - 1.19, the Department of Labor and Workforce Development has the authority to investigate potential violations of these laws and issue penalties and stop work orders to employers found to be in violation of the laws.

• INVESTMENT ACTIVITIES IN IRAN

Pursuant to N.J.S.A. 52:32-55, et seq., any person or entity that submits a bid or proposal or otherwise proposes to enter into or renew a contract must provide, prior to the time a contract is awarded or renewed, a certification on the DPMC form provided to attest, under penalty of perjury, that neither the person or entity, nor any of its parents, subsidiaries, or affiliates, is identified on the Department of Treasury's Chapter 25 list as a person or entity engaging in investment activities in Iran. The Chapter 25 list is found on the Division of Purchase and Property's website at <u>www.state.nj.us/treasury/purchase/pdf/Chapter25List.pdf</u>. Bidders or Proposers must review this list prior to completing the certification. If the Director finds a person or entity to be in violation of law, s/he shall take action as may be appropriate and provided by law, rule or contract, including but not limited to, imposing sanctions, seeking compliance, recovering damages, declaring the party in default and seeking debarment or suspension of the party. This form must be submitted by the bidder prior to contract award.

• **<u>DOCUMENTATION:</u>**

By receipt of this ADDENDUM, Consultants hereby acknowledge receipt of the following:

- Existing documentation provided on flash drive, as referenced in the Scope of Work dated February 28, 2023. The flash drives were sent to each shortlisted firm via overnight delivery on June 28, 2023.
- Project A1360-02 Design Consultant Services NJPHEAL Laboratory, Admin. Wing and Warehouse Expansion Scope of Work is included as part of this Addendum.

The State does not attest to the accuracy of the information provided and accepts no responsibility for the consequences of errors by the use of any information and material contained in the documentation provided. It shall be the responsibility of the Consultant to verify the contents and assume full responsibility for any determination or conclusion drawn from the material used. If the information provided is insufficient, the Consultant shall take the appropriate actions necessary to obtain the additional information required.

• ATTACHMENTS:

- 1. Federal Certification of Non-Debarment Form
- 2. Investment Activities in Iran Form
- 3. Disclosure of Prohibited Activities in Russia Belarus
- 4. A1360-01 Evaluation Criteria Revised
- 5. A1360-02 Scope of Work

END OF ADDENDUM "A

NEW JERSEY DEPARTMENT OF THE TREASURY

DIVISION OF PROPERTY MANAGEMENT AND CONSTRUCTION

CERTIFICATION OF NON-DEBARMENT FORM

DPMC Contract No:	 	
Contract Name:		
Contractor Name:		
Contractor Address:		

CERTIFICATION

Pursuant to <u>N.J.S.A.</u> 52:32-44.1, I, the undersigned, being duly authorized to complete this certification on behalf of the above-named Contractor, do hereby certify and attest, under the pains and penalties of perjury, that:

- The Contractor is not debarred at the federal level from contracting with the federal government;
- None of the parent entities, subsidiaries, related entities or affiliates of the Contractor are debarred at the federal level from contracting with the federal government;
- I am authorized to execute this certification on behalf of the Contractor;
- I acknowledge that the State of New Jersey is relying on the information contained herein;
- I acknowledge that I am under a continuing obligation from the date of this certification through the completion of any contract(s) with DPMC to notify DPMC in writing of any changes to the information contained herein; and
- I acknowledge that it is a criminal offense to make a false statement or misrepresentation in this certification. If I do so, I will be subject to criminal prosecution, and such misrepresentation may be considered fraudulent, and/or a material breach of the Contractor's contract(s) with the State of New Jersey.

If DPMC finds a person or entity to be in violation of the law, it shall take action as may be appropriate and permitted by law, rule or contract, including but not limited to, imposing sanctions, seeking compliance, recovering damages, declaring the party in default and/or seeking debarment or suspension of the party.

Signature:			
Print Name:			
Title:			
Date:			

DISCLOSURE OF INVESTMENT ACTIVITIES IN IRAN FORM

BID SOLICITATION # AND TITLE:

BIDDER NAME:

Pursuant to N.J.S.A. 52:32-57, et seq. (P.L. 2012, c.25 and P.L. 2021, c.4) any person or entity that submits a bid or proposalor otherwise proposes to enter into or renew a contract with the State of New Jersey must certify that neither the person nor entity, nor any of its parents, subsidiaries, or affiliates, is identified on the New Jersey Department of the Treasury's Chapter 25 List as a person or entity engaged in investment activities in Iran. The Chapter 25 list found is at https://www.state.nj.us/treasury/purchase/pdf/Chapter25List.pdf. Bidders must review this list prior to completing the below certification. If the Director of the Division of Property Management and Construction finds a person or entity to be in violation of the law, s/he shall take action as may be appropriate and provided by law, rule or contract, including but not limited to; imposing sanctions, seeking compliance, recovering damages, declaring the party in default and/or seeking debarment or suspension of the party.

CHECK THE APPROPRIATE BOX

I certify, pursuant to N.J.S.A. 52:32-57, et seq. (P.L. 2012, c.25 and P.L. 2021, c.4), that neither the Bidder listed above nor any of its parents, subsidiaries, or affiliates is listed on the New Jersey Department of the Treasury's Chapter 25 List of entities determined to be engaged in prohibited activities in Iran.

OR

I am unable to certify as above because the Bidder and/or one or more of its parents, subsidiaries, or affiliates is listed on the New Jersey Department of the Treasury's Chapter 25 List. I will provide a detailed, accurate and precise description of the activities of the Bidder, or one of its parents, subsidiaries or affiliates, has engaged in regarding investment activities in Iran by completing the information requested below.

Entity Engaged in Investment Activities Relationship to Bidder Description of Activities	
Duration of Engagement Anticipated Cessation Date	

CERTIFICATION

I, the undersigned, certify that I am authorized to execute this certification on behalf of the Bidder, that the foregoing information and any attachments hereto, to the best of my knowledge are true and complete. I acknowledge that the State of New Jersey is relying on the information contained herein, and that the Bidder is under a <u>continuing obligation</u> from the date of this certification through the completion of any contract(s) with the State to notify the State in writing of any changes to the information contained herein; that I am aware that it is a criminal offense to make a false statement or misrepresentation in this certification. If I do so, I will be subject to <u>criminal prosecution</u> under the law, and it will constitute material breach of my agreement(s) with the State, permitting the State to declare any contract(s) resulting from this certification void and unenforceable.

Signature

Date

Print Name and Title

Attach Additional Sheets If Necessary.



OR

OR

CERTIFICATION OF NON-INVOLVEMENT IN PROHIBITED ACTIVITIES IN RUSSIA OR BELARUS

CONTRACT / BID SOLICITATION TITLE CONTRACT / BID SOLICITATION No.

Pursuant to N.J.S.A. 52:32-60.1, et seq. (P.L. 2022, c.3) any person or entity (hereinafter "Vendorⁱⁿ) that seeks to enter into or renew a contract with a State agency for the provision of goods or services, or the purchase of bonds or other obligations, must complete the certification below indicating whether or not the Vendor is engaged in prohibited activities in Russia or Belarusⁱⁱ. If the Department of the Treasury finds that a Vendor has made a certification in violation of the law, it shall take any action as may be appropriate and provided by law, rule or contract, including but not limited to, imposing sanctions, seeking compliance, recovering damages, declaring the party in default and seeking debarment or suspension of the party.

CERTIFICATION

I, the undersigned, certify that I have read the definition of "Vendor" below, and have reviewed the <u>Department of the Treasury's</u> list of Vendors engaged in prohibited activities in Russia or Belarus, and having done so certify:

(Check the Appropriate Box)

- A. That the Vendor is not identified on the Department of the Treasury's list of Vendors engaged in prohibited activities in Russia or Belarus **and** is not engaged in prohibited activities in Russia or Belarus.
- B. That I am unable to certify as to "A" above, because the Vendor is identified on the Department of the Treasury's list of Vendors engaged in prohibited activities in Russia and/or Belarus.
- C. That I am unable to certify as to "A" above, because the Vendor, though not identified on the Department of the Treasury's list of Vendors engaged in prohibited activities in Russia or Belarus, is engaged in prohibited activities in Russia or Belarus. A detailed, accurate and precise description of the Vendor's activity in Russia and/or Belarus is set forth below.

Description of Prohibited Activity (Attach Additional Sheets If Necessary.)

Additional Certification of Federal Exemption and/or License (Complete only if appropriate)

D. I, the undersigned, certify that Vendor is currently engaged in activity in Russia and/or Belarus, but is doing so consistent with federal law and/or regulation and/or license. A detailed description of how the Vendor's activity in Russia and/or Belarus is consistent with federal law, or is within the requirements of the federal exemption and/or license is set forth below. (*Attach Additional Sheets If Necessary.*)

Circulations of Van devia Authonized Democratation	Data
Print Name and Title of Vendor's Authorized Representative	Vendor's FEIN
Vendor's Name	Vendor's Phone Number
Vendor's Address (Street Address)	Vendor's Fax Number
Vendor's Address (City/State/Zip Code)	Vendor's Email Address

Definitions

Vendor means: (1) A natural person, corporation, company, limited partnership, limited liability partnership, limited liability company, business association, sole proprietorship, joint venture, partnership, society, trust, or any other nongovernmental entity, organization, or group; (2) Any governmental entity or instrumentality of a government, including a multilateral development institution, as defined in Section 1701(c)(3) of the International Financial Institutions Act, 22 U.S.C. 262r(c)(3); or (3) Any parent, successor, subunit, direct or indirect subsidiary, or any entity under common ownership or control with, any entity descr bed in paragraph (1) or (2).

ⁱⁱ Engaged in prohibited activities in Russia or Belarus means: (1) companies in which the Government of Russia or Belarus has any direct equity share; (2) having any business operations commencing after the effective date of this act that involve contracts with or the provision of goods or services to the Government of Russia or Belarus; (3) being headquartered in Russia or having its principal place of business in Russia or Belarus, or (4) supporting, assisting or facilitating the Government of Russia or Belarus in their campaigns to invade the sovereign country of Ukraine, either through in-kind support or for profit. Construction Management Services – Laboratory, Admin. Wing and Warehouse Exp. – NJ Public Health, Environmental and Agriculture Laboratory, Ewing Twp., Mercer County, NJ

PROJECT NO. A1360-01

EVALUATION CRITERIA

TECHNICAL PROPOSAL / INTERVIEW PRESENTATION

FIRM NAME

CRITERIA	MAXIMUM POINTS	SCORE
PROJECT TEAM / ORGANIZATION	25	
Comments:		
TEAM / FIRM EXPERIENCE ON PROJECTS OF A SIMILAR SIZE AND NATURE	30	
Comments:		
PROJECT APPROACH / MANAGEMENT PLAN	15	
CPM SCHEDULING	15	
Comments:		
COST ESTIMATING / BUDGET CONTROL / VALUE ENG.	15	
Comments: TOTAL	100	
EVALUATOR#	DATE	



State of New Jersey

PHILIP D. MURPHY Governor

SHEILA Y. OLIVER Lt. Governor DEPARTMENT OF TREASURY DIVISION OF PROPERTY MANAGEMENT & CONSTRUCTION P O BOX 034 TRENTON NJ 08625-0034

ELIZABETH MAHER MUOIO State Treasurer

CHRISTOPHER CHIANESE Director

DATE: July 17, 2023

- TO: Anser Advisory CBRE Heery, LLC Hill International, Inc. Skanska USA Building, Inc. Turner Construction Company
- FROM: Christopher R. Geary, Assistant Deputy Director Contracts & Procurement Unit

SUBJECT: Addendum "B" dated July 17, 2023 Project: A1360-01 Construction Management Services Laboratory, Admin. Wing and Warehouse Expansion NJ Public Health, Environmental and Agriculture Laboratory Ewing, Mercer County, NJ

Enclosed is the above referenced addendum. All competing firms shall acknowledge receipt by returning this form to:

Division of Property Management & Construction Contracts and Procurement Unit Attention: William Mahan P.O. Box 034 Trenton, NJ 08625-0034 Fax #: (609) 777-1970 Email: william.mahan@treas.nj.gov

Date Received

Firm Name

Address

Signature

Title

Addendum "B" Project: A1360-01 Construction Management Services NJ PHEAL – Laboratory, Administration Wing and Warehouse Expansion Project Date: July 17, 2023

ADDENDUM "B"

This ADDENDUM is issued for the purpose of clarifying and amending certain requirements of the Solicitation of Professional Services, Request for Proposal for Consultant Services and Scope of Work as noted hereinafter, and is hereby made part of and incorporated in the Consultant's Contract. The consultant is to consider these matters when preparing their technical and fee proposals for this project. Unless specifically noted or specified hereinafter, all work shall comply with the applicable provisions of the Contract.

REMINDERS:

- Due date for Proposals is July 25, 2023. NO LATER THAN 2:00 PM
- Refer to the RFP for the electronic delivery requirement and instructions.
- This is a Technical Proposal submission ONLY.
- A Fee is **NOT** due at this time and inclusion of fee information in your technical proposal is grounds for rejection.

ADMINISTRATIVE ITEMS:

- AMERICANS WITH DISABILITIES ACT CONTRACT LANGUAGE (ATTACHED) this was mentioned but omitted in the technical proposal instructions.
- **PROCEDURES FOR ARCHITECTS AND ENGINEERS, 3.0 EDITION** (this document can be downloaded at the following link: https://www.nj.gov/treasury/dpmc/)
- DPMC BUILDING CODE QUESTIONNAIRE (this document can be downloaded at the following link: https://www.nj.gov/treasury/dpmc/)
- INSTRUCTION TO BIDDERS AND GENERAL CONDITIONS REVISED DECEMBER 2015 for construction projects (attached to this Addendum for informational purposes)

NOTICE OF EXECUTIVE ORDER 166 REQUIREMENT

Pursuant to Executive Order No. 166, signed by Governor Murphy on July 17, 2020, the Office of the State Comptroller ("OSC") is required to make all approved State contracts for the allocation and expenditure of COVID-19 Recovery Funds available to the public by posting such contracts on an appropriate State website. Such contracts will be posted on the New Jersey transparency website developed by the Governor's Disaster Recovery Office (GDRO Transparency Website).

The contract resulting from this [RFP/RFQ] is subject to the requirements of Executive Order No. 166. Accordingly, the OSC will post a copy of the contract, including the [RFP/RFQ], the winning bidder's proposal and other related contract documents for the above contract on the GDRO Transparency website. In submitting its proposal, a bidder/proposer may designate specific information as not subject to disclosure. However, such bidder must have a good faith legal or factual basis to assert that such designated portions of its proposal: (i) are proprietary and confidential financial or commercial information or trade secrets; or (ii) must not be disclosed to protect the personal privacy of an identified individual. The location in the proposal of any

Page 1 of 6

such designation should be clearly stated in a cover letter, and a redacted copy of the proposal should be provided. A Bidder's failure to designate such information as confidential in submitting a bid shall result in waiver of such claim.

The State reserves the right to make the determination regarding what is proprietary or confidential and will advise the winning bidder accordingly. The State will not honor any attempt by a winning bidder to designate its entire proposal as proprietary or confidential and will not honor a claim of copyright protection for an entire proposal. In the event of any challenge to the winning bidder's assertion of confidentiality with which the State does not concur, the bidder shall be solely responsible for defending its designation.

• GENERAL NOTE

• The sample CMF agreement document provided with the Technical Proposal RFP summarizes the SOW and does not replace the SOW language. Interpretation of any language shall be at the State's discretion.

• **REVISIONS TO TECHNICAL PROPOSAL INSTRUCTIONS**

o Technical Proposal Instructions Section H: The "Project CPM Scheduling" criteria is revised to:

Project CPM Scheduling - Describe your team's ability to develop, manage and maintain a cost and resource loaded CPM schedule as outlined in the Scope of Work.

A narrative and bar chart is required, a CPM schedule is not required during the technical proposal submission.

• Technical Proposal Instructions Section I: The "Budget Control / Cost Estimating / Value Engineering" criteria is revised to:

Budget Control / Cost Estimating / Value Engineering – Describe your team's ability to provide accurate estimates for all work included in the project. Describe your team's plan and abilities to monitor and control the project budget. Explain any techniques your team plans to use to reduce the project's construction cost.

CONSULTANT QUESTIONS:

Hill International, Inc.

1. Regarding the Scope of Work, page 46, Item P. Daily Construction Report – It is required that the Proposer include a sample report with the technical proposal? If yes, in which section of the technical proposal should the sample report be included?

Response: Yes a sample report is required and should be placed following the project approach.

2. Please confirm where in the proposal the Mac Bride Principals Compliance Certification should be included.

Response: This document is to be included at the end of your technical proposal. If not received it will be required prior to award of the selected consultant.

3. Please confirm the forms provided in Addendum A should not be included in the proposal.

Response: The forms included in Addendum A are to be included at the end of your technical proposal. If not received they will be required prior to award of the selected consultant.

4. Please confirm if this project is subject to PLA.

Response: This project will be subject to a PLA. Attached is a sample PLA for your information.

SCOPE OF WORK CLARIFICATIONS:

• <u>I. Objective, third (3rd) paragraph, remove and replace with the following:</u>

The objective of this project is to engage a Construction Management Firm (CMF) to perform construction management services during pre-construction and construction phases for the expansion of the NJ Public Health Environmental and Agriculture Laboratory (PHEAL) located in Ewing Township, New Jersey. The CMF shall evaluate and propose their staffing based on the related project experience, including but not limited to full-time, part-time staffing during the design phase, permit phase, bid phase, construction and project-closeout.

• <u>VII. CMF Responsibilities - General, A. Owner's Representative - Responsibility Matrix, Exhibit B,</u> <u>Phases 3, 4 and 5, the Design Consultant design phase deliverables shall be revised as follows:</u>

Phase 3 - Final Programming includes a 50% and 100% submissions with a presentation along with corresponding cost estimate

Phase 4 – Schematic Design includes a 100% submission of drawings and specifications along with corresponding cost estimate

Phase 5 - Design Development includes a 100% submission of drawings and specifications along with corresponding cost estimate

• VII. CMF Responsibilities - General, D. CMF Management Program, 2. Design Phase Oversight, add new paragraph:

The CMF shall provide monthly reports during design phase oversight that demonstrates proactive monitoring, including but not limited to long lead construction items, cost estimates, scheduling, Design Consultant's overall performance and all other services described in the contract documents.

• VII. CMF Responsibilities - General, D. CMF Management Program, 4. Pre-Design Conference, remove and replace with the following:

The CMF's Senior Project Manager shall schedule a pre-design conference with the Design Consultant to review the scope of the design services required by the Design Consultant contract and shall explain the design phase oversight services required by the CMF. The conference shall be convened before the design effort starts. The meeting minutes shall be prepared by the CMF.

• <u>VII. CMF Responsibilities - General, D. CMF Management Program, 5. Design Progress Meetings, add</u> new paragraph:

All design phase progress meetings shall be held bi-weekly. The meetings will be held in-person at the NJ Public Health Environmental and Agriculture Laboratory (PHEAL) located in Ewing Township, New Jersey.

• <u>VII. CMF Responsibilities - General, D. CMF Management Program, 6. Budget/Cost Control, remove</u> and replace the last paragraph with the following:

At the completion of each design phase submission, the CMF shall prepare and initially submit their independent construction cost estimate to the State only. After the State's receipt of the Design Consultant's independent cost estimate, subsequently, the CMF will compare its independent cost estimate to the Design Consultant's independent cost estimate on the appropriate DPMC-38 form with accompanying detail back-up. Make recommendations for corrective action or project revisions if it appears that the construction cost estimate (CCE) may exceed the project budget.

• <u>VII. CMF Responsibilities - General, D. CMF Management Program, 11. Permit Phase, add the</u> following paragraph:

DPMC Code Review will also be involved during this phase.

VII. CMF Responsibilities - General, J. CMF Senior Project Manager, remove and replace with the following:

The Senior Project Manager shall have a minimum of ten (10) years of experience in construction project management and/or construction management.

The CMF shall assign a Senior Project Manager whom shall attend, and chair all bi-weekly pre-construction phase meetings, all bi-weekly construction phase meetings and publish all meeting minutes as required under the CMF Agreement and this SOW. The Senior Project Manager shall be familiar with including but not limited to design phase oversight, developing cost estimates/cost estimate reconciliations, developing project schedules, value analysis/engineering, design reviews, constructability reviews, procurement activity tracking, commissioning coordination, construction phase deliverables required by the CMF, and take the lead to ensure all services and requirements as summarized in the CMF Agreement and as detailed in the SOW are provided.

The CMF shall otherwise provide sufficient executive, supervisory, technical and management personnel in the field and home office to carry out the requirements as summarized in the CMF Agreement and as detailed in the SOW are provided in an expeditious and economical manner consistent with the interests of the DPMC/NJBA.

• <u>VII. CMF Responsibilities - General, M. Project Design and Construction Schedule, remove and replace</u> <u>sub-paragraph 1. CMF Design Schedule Development with the following:</u>

1. CMF Design Phase Schedule Development

During the Design Phase, the CMF shall develop the Design Consultant's Design Phase Schedule which shall serve as the basis for monthly progress payments to the Design Consultant. The activity/task values shall reflect a fair and reasonable prorating of the contractual design services and shall total the Design Consultant's contract amount. The Design's Consultant's approved activity/task values shall be transferred to the State's schedule of amounts for contract payments form and the invoice form. Monthly, the CMF shall meet with the Design Consultant to review the design status and update the design schedule. If the CMF's monthly schedule update shows slippage attributable to the Design Consultant, the CMF shall meet with the Design Consultant to develop a recovery plan to regain any unauthorized lost time. The CMF shall publish a recovery plan to the DPMC/NJBA

Monthly schedule updates of the Design Schedule shall be utilized to calculate the Design Consultant's monthly payment requisition based upon the progress reported for the month. The level of progress/activity completion calculated from the schedule update shall be transferred to the Consultant payment request form by the Design Consultant and together with Design Consultant's invoice format under its current contract, shall constitute the Design Consultant's monthly payment requisition.

• <u>VII. CMF Responsibilities – General, T. CMF Field Office, shall be removed and replaced with the</u> <u>following:</u>

There will be no provisions made for either the Design Consultant or CMF to occupy the NJPHEAL during their SOW. The CMF shall make provisions for its Senior Project Manager, other applicable CMF Field Staff, the Design Consultant and the State, for an on-site, minimum double-wide trailer field office. The CMF shall hold all construction phase meetings in its field office trailer.

The consultant shall include in the space provided in the fee proposal an "allowance" amount for field staff offices as described in this Addendum and the Scope of Work.

VII. CMF Responsibilities - General, add new paragraph V. Logistics Review with Client Agency

The CMF along with the Design Consultant, shall perform a logistics review during the Program Phase, identify logistics options addressing use of premises including but not limited to construction contractor trailers, contractor parking and contractor staging areas. Logistics options shall be presented to the Project Team including but not limited to the Client Agency, Building Operations Management. Temporary and/or reassigned parking arrangements may be required of the existing facility occupants.

• <u>VIII. Pre-Design Documentation Review, remove 3^{re} paragraph and replace with the following:</u>

The CMF shall include in its fee proposal all costs to review the aforementioned existing documentation and any other pre-design documentation. The existence of these separate contracts should be taken into account for logistical and planning purposes, and shall not preclude either the CMF or the Design Consultant from performing their respective SOW services. The current project is smaller than the options presented in HDR's study, see Existing Documentation, disregard this document's reference to cost and schedule.

• IX. Design Phase Responsibilities, H. Schedule & Chair Design Phase Meetings, add new paragraph

All design phase progress meetings shall be held bi-weekly. The meetings will be held in-person at the NJ Public Health Environmental and Agriculture Laboratory (PHEAL) located in Ewing Township, New Jersey.

• IX. Design Phase Responsibilities, I. Prepare Construction Cost Estimates, remove and replace the 2nd paragraph with the following:

Independently, the CMF shall prepare and submit to DPMC/NJBA only, its own independent construction cost estimates, in CSI format with supporting documentation, based on the design documents prepared by the Design Consultant at or just prior to the completion of the design deliverable packages noted in paragraph <u>IV. Project Milestone Schedule, A.</u> Estimates are to be in sufficient detail appropriate to the design phase of the project as recommended by the American Society of Professional Estimators. Refer to paragraph <u>IX. G.</u>, Value Analysis, for criteria and assessment considerations to be used in each cost estimate and accompanying value engineering recommendations. After the State's receipt of the Design Consultant's independent cost estimate, subsequently, the CMF will compare its independent cost estimate to the Design Consultant's independent cost estimate

• IX. Design Phase Responsibilities, J. Design Phase Budget/Cost Control, Paragraph 4., remove and replace with the following:

At the completion of each phase design phase submission, the CMF shall prepare and initially submit their independent construction cost estimate to the State only. After the State's receipt of the Design Consultant's independent cost estimate, subsequently, the CMF will compare its independent cost estimate to the Design Consultant's independent cost estimate on the appropriate DPMC-38 form with accompanying detail back-up. Make recommendations for corrective action or project revisions if it appears that the construction cost estimate (CCE) may exceed the project budget.

XI. Construction Phase Responsibilities, C. Schedule & Chair Construction Phase Meetings, add new paragraph:

All bi-weekly meetings shall be held in-person at the CMF's on-site field office trailer at the NJ Public Health Environmental and Agriculture Laboratory (PHEAL) located in Ewing Township, New Jersey.

• XI. Construction Phase Responsibilities, L. Security Program for Review with Facility Occupants, shall be removed and replaced with the following:

The DOH requires employers of all consultants and other design & construction related personnel entering the grounds of the NJPHEAL facility proper and involving the Laboratory, Administration Wing and Warehouse Expansion Project, shall have a <u>State</u> level, not a Federal level, background check completed before project access can be granted. All employers shall include the effort of instituting, reporting and maintaining background check records/information until project closeout and related expenses in either their cost proposal. Each employer shall submit all background check information to the State Designee in advance of their project activity.

Employee Identification – Upon approval of the background check by the respective employer, personnel entering the DOH project site, during either design or construction, shall be issued a project specific photo identification badge by their employer.

XI. Construction Phase Responsibilities, N. Shop Drawings and Submittal Packages, add new paragraph:

Prior to the start of Contractor procurement, the CMF in conjunction with the Design Consultant, shall develop and implement a submittal list including but not limited to the requirements of the Contractor's agreement with the State, DPMC Instruction to Bidders and General Conditions Revised December 2015 and all technical documents.

ATTACHMENTS:

- Project Labor Agreement (PLA) Sample
- Americans with Disabilities Act Contract Language
- Instruction to Bidders and General Conditions Revised December 2015

END OF ADDENDUM "B"



State of New Jersey

PHILIP D. MURPHY Governor

SHEILA Y. OLIVER Lt. Governor DEPARTMENT OF TREASURY DIVISION OF PROPERTY MANAGEMENT & CONSTRUCTION P O BOX 034 TRENTON NJ 08625-0034

ELIZABETH MAHER MUOIO State Treasurer

CHRISTOPHER CHIANESE Director

DATE: August 17, 2023

TO: Hill International, Inc. Skanska USA Building, Inc. Turner Construction Company

FROM: Christopher R. Geary, Assistant Deputy Director CAC RDP Contracts & Procurement Unit

SUBJECT: Addendum "C" dated August 17, 2023 Project: A1360-01 Construction Management Services Laboratory, Admin. Wing and Warehouse Expansion NJ Public Health, Environmental and Agriculture Laboratory Ewing, Mercer County, NJ

Enclosed is the above referenced addendum. All competing firms shall acknowledge receipt by returning this form to:

Division of Property Management & Construction Contracts and Procurement Unit Attention: William Mahan P.O. Box 034 Trenton, NJ 08625-0034 Fax #: (609) 777-1970 Email: william.mahan@treas.nj.gov

Date Received

Firm Name

Address

Signature

Title
Addendum "C" Project: A1360-01 Construction Management Services NJ PHEAL – Laboratory, Administration Wing and Warehouse Expansion Project Date: August 17, 2023

This ADDENDUM is issued for the purpose of clarifying and amending certain requirements of the Scope of Work as noted hereinafter, and is hereby made part of and incorporated in the Consultant's Contract. The Consultant is to consider these matters when preparing their technical and fee proposals for this project. Unless specifically noted or specified hereinafter, all work shall comply with the applicable provisions of the Contract.

ADDENDUM "C"

ADMINISTRATIVE ITEMS:

ADDITIONAL PROVISIONS FOR FEDEREALLY FUNDED CONTRACTS

The Consultant must adhere to the following Federal Contracting Provisions as this Agreement is funded, in whole or in part, by Federal Funds, as required by 2 CFR 200.317, as applicable. See attachment.

ATTACHMENTS:

1. Additional Provisions for Federally Funded Contracts

END OF ADDENDUM "C"

Additional Provisions for Federally Funded Contracts

The CONTRACTOR must adhere to the following Federal Contracting Provisions as this Agreement is funded, in whole or in part, by Federal funds, as required by 2 CFR 200.317, as applicable:

CLEAN AIR ACT AND THE FEDERAL WATER POLLUTION CONTROL ACT

Where applicable, Contracts in excess of \$150,000, must comply with the following:

Clean Air Act

1. The contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. § 7401 et seq.

2. The Consultant agrees to report each violation to the Division of Property Management and Construction ("DPMC") and understands and agrees that DPMC will, in tum, report each violation as required to assure notification to the Federal Emergency Management Agency, and the appropriate Environmental Protection Agency Regional Office.

3. The Consultant agrees to include these requirements in each subcontract exceeding \$150,000 financed in whole or in part with Federal assistance provided by FEMA.

Federal Water Pollution Control Act

1. The Consultant agrees to comply with all applicable standards, orders, or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et seq.

2. The Consultant agrees to report each violation to DPMC, which will, in turn, report each violation as required to assure notification to the Federal Emergency Management Agency, and the appropriate Environmental Protection Agency Regional Office.

3. The Consultant agrees to include these requirements in each subcontract exceeding \$150,000 financed in whole or in part with Federal assistance provided by FEMA.

PROHIBITION ON CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT

(a) Recipients and sub-recipients are prohibited from obligating or expending loan or grant funds to:

(1) Procure or obtain;

(2) Extend or renew a contract to procure or obtain; or

(3) Enter into a contract (or extend or renew a contract) to procure or obtain equipment, services, or systems that use covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. As described in Public Law 115-232, section 889, covered telecommunications equipment is telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities).

(i) For the purpose of public safety, security of government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities).

(ii) Telecommunications or video surveillance services provided by such entities or using such equipment.

(iii) Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of the National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country.

PROCUREMENT OF RECOVERED MATERIALS

Where applicable, in the performance of contract, pursuant to 2 CFR 200.323, the Consultant must comply with section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. The requirements of Section 6002 include procuring only items designated in the guidelines of the Environmental Protection Agency (EPA) at 40 CFR Part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds \$10,000 or the value of the quantity acquired during the preceding fiscal year exceeded \$10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

To the extent that the scope of work or specifications in the contract requires the Consultant to provide recovered materials, the scope of work or specifications are modified to require that as follows.

i. In the performance of this contract, the Consultant shall make maximum use of products containing recovered materials that are EPA- designated items unless the product cannot be acquired-

1. Competitively within a timeframe providing for compliance with the contract performance schedule;

2. Meeting contract performance requirements; or

3. At a reasonable price.

ii. Information about this requirement, along with the list of EPA- designated items, is available at EPA's Comprehensive Procurement Guidelines web site, https://www.epa.gov/smm/comprehensive-procurement-guideline-cpg-program.

iii. The Consultant also agrees to comply with all other applicable requirements of Section 6002 of the Solid Waste Disposal Act.

DOMESTIC PREFERENCE FOR PROCUREMENTS

Pursuant to 2 CFR 200.322, where appropriate, the State has a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States (including but not limited to iron, aluminum, steel, cement, and other manufactured products). If subawards are to be made the Consultant shall include a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States (including but not limited to iron, aluminum, steel, cement, and other manufactured products). For purposes of this section:

(1) "Produced in the United States" means, for iron and steel products, that all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States.

(2) "Manufactured products" means items and construction materials composed in whole or in part of nonferrous metals such as aluminum; plastics and polymer-based products such as polyvinyl chloride pipe; aggregates such as concrete; glass, including optical fiber; and lumber.

EQUAL EMPLOYMENT OPPORTUNITY

Section 5 of the General Conditions to the Consultant Agreement is deleted and replaced with the following:

Except as otherwise provided under 41 CFR Part 60, all contracts that meet the definition of "federally assisted construction contract" in 41 CFR Part 60-1.3 must include the equal opportunity clause provided under 41 CFR 60-1.4(b), in accordance with Executive Order 11246, "Equal Employment Opportunity" (30 FR 12319, 12935, 3 CFR Part, 1964-1965 Comp., p. 339), as amended by Executive Order 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," and implementing regulations at 41 CFR part 60, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor." See 2 CFR Part 200, Appendix II, para. C.

During the performance of this contract, the contractor agrees as follows:

- (1) The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action shall include, but not be limited to the following:
 - Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.
- (2) The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.
- (3) The contractor will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the contractor's legal duty to furnish information.
- (4) The contractor will send to each labor union or representative of workers with which he/she has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- (5) The contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
- (6) The contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his/her books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules,

regulations, and orders.

- (7) In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
- (8) The contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (8) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance:

Provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

The applicant further agrees that it will be bound by the above equal opportunity clause with respect to its own employment practices when it participates in federally assisted construction work: Provided, That if the applicant so participating is a State or local government, the above equal opportunity clause is not applicable to any agency, instrumentality or subdivision of such government which does not participate in work on or under the contract.

The applicant agrees that it will assist and cooperate actively with the administering agency and the Secretary of Labor in obtaining the compliance of contractors and subcontractors with the equal opportunity clause and the rules, regulations, and relevant orders of the Secretary of Labor, that it will furnish the administering agency and the Secretary of Labor such information as they may require for the supervision of such compliance, and that it will otherwise assist the administering agency in the discharge of the agency's primary responsibility for securing compliance.

The applicant further agrees that it will refrain from entering into any contract or contract modification subject to Executive Order 11246 of September 24, 1965, with a contractor debarred from, or who has not demonstrated eligibility for, Government contracts and federally assisted construction contracts pursuant to the Executive Order and will carry out such sanctions and penalties for violation of the equal opportunity clause as may be imposed upon contractors and subcontractors by the administering agency or the Secretary of Labor pursuant to Part II, Subpart D of the Executive Order. In addition, the applicant agrees that if it fails or refuses to comply with these undertakings, the administering agency may take any or all of the following actions: Cancel, terminate, or suspend in whole or in part this grant (contract, loan, insurance, guarantee); refrain from extending any further assistance to the applicant under the program with respect to which the failure or refund occurred until satisfactory assurance of future compliance has been received from such applicant; and refer the case to the Department of Justice for appropriate legal proceedings.

CONTRACTING WITH SMALL AND MINORITY BUSINESSES, WOMEN'S BUSINESS ENTERPRISES, AND LABOR SURPLUS AREA FIRMS.

Pursuant to 2 CFR 200.321, the State must take all necessary affirmative steps lo assure that minority businesses, women's business enterprises, and labor surplus area firms are used when possible. Accordingly, if subawards are lo be made the CONTRACTOR shall:

- Include qualified small and minority businesses and women's business enterprises on solicitation lists;
- (2) Assure that small and minority businesses, and women's business enterprises are solicited whenever they are potential sources;
- (3) Divide total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority businesses, and women's business enterprises;
- (4) Establish delivery schedules, where the requirement permits, which encourage participation by small and minority businesses, and women's business enterprises; and,
- (5) Use the services and assistance, as appropriate, of such organizations as the Small Business Administration and the Minority Business Development Agency of the Department of Commerce.

DAVIS-BACON ACT, 40 U.S.C. 3141-3148, AS AMENDED

When required by Federal program legislation, all prime construction contracts in excess of\$ 2,000 shall be done in compliance with the Davis Bacon Act (40 USC 3141- 3144, and 3146-3148) and the requirements of 29 CFR pt. 5 as may be applicable. The CONTRACTOR shall comply with 40 USC. 3141- 3144, and 3146-3148 and the requirements of 29 C.F.R. pt. 5 as applicable. CONTRACTOR is required to pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determination made by the Secretary of Labor. Additionally, CONTRACTORS are required to pay wages not less than once a week.

COPELAND ANTI-KICK-BACK ACT

Where applicable, the CONTRACTOR must comply with Copeland "Anti-Kickback" Act (40 USC 3145), as supplemented by Department of Labor regulations (29 CFR Part 3, "Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States").

- 1. CONTRACTOR. The CONTRACTOR shall comply with 18 USC.§ 874, 40 U.S.C § 3145, and the requirements of 29 C.F.R. pl. 3 as may be applicable, which are incorporated by reference into the OGS centralized contract.
- 2. Subcontracts. The CONTRACTOR or subcontractors shall insert in any subcontracts the clause above and such other clauses as FEMA may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime CONTRACTOR shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all of these contract clauses.
- 3. Breach. A breach of the clauses above may be grounds for termination of the OGS centralized contract, and for debarment as CONTRACTOR and subcontractor as provided in 29 CF R. § 5.12.

RIGHTS TO INVENTIONS MADE UNDER A CONTRACT OR AGREEMENT

If the Federal award meets the definition of "funding agreement" under 37 CFR § 401.2 (a) and the recipient or subrecipient wishes to enter into a contract with a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance of experimental, developmental, or research work under that "funding agreement," the recipient or subrecipient must comply with the requirements of 37 CFR Part 401, "Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements," and any implementing regulations issued by the awarding agency.

DEBARMENT AND SUSPENSION (EXECUTIVE ORDERS 12549 AND 12689)_

- This contract is a covered transaction for purposes of 2 CFR. pt. 180 and 2 CF R. pt. 3000. As such, the contractor is required to verify that none of the contractor's principals (defined at 2 C F R. § 180 995) or its affiliates (defined at 2 C.F.R. § 180 905) are excluded (defined at 2 C.F.R. § 180 940) or disqualified (defined at 2 CF R. § 180 935)
- 2. The contractor must comply with 2 CFR. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C, and must include a requirement to comply with these regulations in any lower tier covered transaction it enters into.
- 3. This certification is a material representation of fact relied upon by the State or authorized user. If it is later determined that the contractor did not comply with 2 CFR. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C, in addition to remedies available to the State or authorized user, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment.
- 4. The bidder or proposer agrees to comply with the requirements of 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C while this offer is valid and throughout the period of any contract that may arise from this offer. The bidder or proposer further agrees to include a provision requiring such compliance in its lower tier covered transactions.

CONTRACT WORK HOURS AND SAFETY STANDARDS ACT. 40 USC 3701-3708.

Where applicable, all contracts awarded by the non-Federal entity in excess of\$ 100,000 that involve the employment of mechanics or laborers must comply with 40 U.S C 3702 and 3704, as supplemented by Department of Labor regulations (29 CFR Part 5).

- (1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.
- (2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (b)(1) of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (b)(1) of this section, in the sum of \$27 for

each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (b)(1) of this section.

- (3) Withholding for unpaid wages and liquidated damages. The unauthorized user shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (b)(2) of this section.
- (4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (b)(1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (b)(1) through (4) of this section.

Part II

State of New Jersey Division of Property Management and Construction (DPMC) **Construction Management Services -**Laboratory, Administration Wing and **Warehouse Expansion Project at NJ Public Health Environmental and Agriculture** Laboratory

Response to Request for Proposal - Project No. A1360-01 July 25, 2023

The Power of **Partnership**— **Connectivity**—Stewardship

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ANSKA

11-1



William Mahan Jennifer Roeckel Division of Property Management & Construction Contracts and Procurement Unit P.O. Box 034 Trenton, NJ 08625-0034

Submitted via email to: William.Mahan@treas.nj.gov Jennifer.roeckel@treas.nj.gov

Re: Project No. A1360-01 Construction Management Services - Laboratory, Administration Wing and Warehouse Expansion Project, NJ Public Health Environmental and Agriculture Laboratory

We are very pleased to submit this proposal to provide construction management services for the Laboratory, Administration Wing and Warehouse Expansion Project at the NJ Public Health Environmental and Agriculture Laboratory. We are ideally qualified to serve as your construction manager, and we are excited at the prospect of working with you.

Project Understanding

We understand that the Department of Health has re-envisioned the future of the State's public health laboratory in consideration of advances in laboratory diagnostic equipment, the current public health crisis, the potential for future public health crises, and related program needs, staffing, and warehouse storage capacities. We also understand from the site walkthrough that key issues on this project include: cost and schedule certainty; in-depth code review and analysis throughout design, coupled with a well-coordinated permitting process; construction sequencing based upon laboratory MEP systems expertise that enables continuous operations of occupied BSL-2 and BSL-3 labs; extensive communications and coordination with end users regarding laboratory equipment and environmental requirements, moves, shutdowns, safety, and wellness; potential equipment pre-purchases to hedge against cost and supply chain risks; the provision of temporary warehouse facilities with appropriate environmental controls; and a proactive approach that enhances outcomes across all aspects of project delivery. In short, we understand that DPMC expects total dedication and commitment to achieving superior results on this large and complex project.

Qualifications and Approach

Skanska has managed over 4.7 million square feet of BSL-2 and BSL-3 laboratory projects (including public health laboratories). The lessons learned and best practices from these and over \$10 billion of additional laboratory projects strongly informs our approach which includes:

- Detailed site investigations, including laser scanning, to verify as-built conditions and reveal hidden conditions, thereby avoiding unforeseen cost events, minimizing redesign, mitigating impacts to adjacent spaces, and maximizing schedule efficiency
- Working closely with end users to verify that unique equipment needs and corresponding building systems requirements are fully addressed in design documents. We know how to engage lab managers, i.e., what questions to ask to pinpoint future requirements.

- Further engaging end users to develop plans for shutdowns, temporary equipment, and adherence to temperature, humidity, pressurization, egress lighting, emergency egress, security, and life safety requirements. Our laboratory MEP systems expertise will be essential to the success of this process.
- Coordinating closely with key agencies, such as the DCA Uniform Construction Code Unit, the State's construction
- Providing quick, continuous feedback on cost, utilizing our in-house estimating staff and our proprietary construction cost database (Skanska Metriks[™])
- Working collaboratively with the project team on finding the right balance between program and cost
- Verifying that the proposed design approach is achievable within the constraints of the facility's MEP/FP systems, security, and utility operating requirements.
- Reviewing the drawings to ensure that they are complete, coordinated, buildable, and biddable
- In-depth logistics and safety planning and detailed scrutiny and validation of the construction sequencing plan, down to the hour, half hour, and guarter hour, as needed.
- Preventing claims through a risk-allocated contract and diligent oversight of the contractor and their adherence to the schedule
- Upholding the highest standards of quality and safety on the construction site
- Leveraging Skanska's relationships with manufacturers to expedite equipment deliveries
- Continuous communications to convey impacts of construction far in advance of any shutdowns
- Driving the performance of all project team members to ensure a timely and orderly closeout

We will establish a framework that gives DPMC maximum control over project delivery outcomes and finances and provide you with analyses and recommendations that will help to make informed decisions that will ultimately result in best value to the State of New Jersey.

Our Commitment

Our experience with public health laboratory projects and other BSL-2 and BSL-3 laboratories enables us to anticipate challenges and opportunities at the outset of our involvement and to set goals and measure progress accordingly. We will work to minimize costs and risk, maximize safety, efficiency, operational continuity, and value, and protect your interests throughout the design, bidding, construction, and closeout phases of this project. There is no learning curve for us.

We are ready, willing, and able to start immediately. Please feel free to contact me at 856.904.1814 or christopher.anderson@skanska.com if you would like to discuss our proposal further. We very much look forward to speaking with you.

Copies of our signed acknowledgments of Addendum A and B are included at the end of our proposal.

Sincerely,

Christophur Induan

Christopher Anderson, Vice President Skanska USA Building Inc.

Interdepartmental Security Unit, and the New Jersey State Police, among others, throughout design and



Organizational Chart





Chris Anderson, CEA, LEED AP Project Executive

> Gary Warren, EIT Operations Manager

Construction Quality Services

WorkingBuildings

J.R. Crowell, AIA, NCARB, BECXP CXA+BE Construction QA QC 3rd Party Testing Firm

3rd Party Testing Firm





Resumes



ARE INCOMES IN A





Christopher Anderson

CEA, LEED AP **PROJECT EXECUTIVE**

29 years in industry 19 years with Skanska

University of Maryland B.S., Electrical Engineering



Gary Warren

EIT

15 years in industry 13 years with Skanska Pennsylvania State University B.S., Structural Engineering

Relevant Experience

NYC DDC, Public Health Laboratory Airsy (Phase 2), New York, NY

Construction of 21,000-SF of BSL-2 and BSL3 laboratories in an existing 15-story, 330,000-SF building operating 24/7. This renovation took place in a fully occupied laboratory facility.

New Jersey EDA, Waterfront Technology Center, Camden, NJ

\$18.2 million, 100,000-SF five-story building with offices and wet-lab research and development space.

Johnson & Johnson, Multiple Projects, Spring House/Fort Washington, PA

\$134 million R&D lab facility expansion project that included a new 155,000-SF research center containing labs for discovery biology and discovery chemistry. Consumer and Specialty Pharmaceuticals Manufacturing Facility (MMF) project that included a Microbiology Lab, Sampling, Shipping and Receiving Warehouse, and Offices.

Schering Ag Bioprocess Facility, Seattle, WA

New \$90 million, 90,000-SF building that includes a separate production building with a separation between the Fermentation and Purification areas, Warehouse, laboratory space and admin space.

University of Texas, Engineering, Sciences & Technology Building, Tyler, TX 92,261-SF laboratory and classroom facility.

University of Delaware, Nanofabrication Program Projects, Newark, DE

\$3 million of complex projects, including Research and Teaching Lab Retrofit Planning, Cleanroom Tool Installation/Hook-up, Cleanroom Air Handler Humidity and Chiller Controls and sequencing Modifications, and Phase II Toxic Gas Monitoring Systems implementation.

Relevant Experience

PA DGS, State Police Greensburg, DNA Laboratory Facility New Building, PA Construct two new buildings: 1) The original design was a three-story approximately 59,800-SF laboratory and office building, (the third floor is a mechanical penthouse), and, 2) an 1,850-SF onestory maintenance building to house landscaping and snow removal equipment.

Montgomery County, Pennsylvania, Coroner Facility, Eagleville, PA \$14 million, 22,000-SF. Skanska is providing Construction Management Agency (CMa) services for the state-of-the-art Coroner Facility for Montgomery County. The new facility will be accredited and provide a modern accommodations, advanced autopsy space and equipment, and future expansion capabilities. In addition, Skanska is performing design phase management and cost consulting services.

MedImmune LLC, Red Lion Road Facility Projects, Philadelphia, PA Projects included: a \$5.4 million, 26,000-SF, fast-paced office and laboratory renovation project, involving renovations in a partially occupied facility and a \$2.6 million installation of two new desiccant dehumidifiers on the roof and installation of associated systems, including steel, duct, piping, electrical, commissioning, etc., as well as minor infiltration remediation to the Line 2 production areas.

Northampton County, New Regional Forensic Center, Nazareth, PA Skanska provided construction management and inspection services for a new \$10.9 million, 24,000-SF, 2-story Forensic Center.

OPERATIONS MANAGER



Craig Ronning

SENIOR PROJECT MANAGER

41 years in industry **14** years with Skanska University of Illinois M.A., Architecture



John **Barrett**

45 years in industry 36 years with Skanska Pennsylvania State University MEP and Construction Courses

Relevant Experience

Merck Sharp & Dohme Corp., Biologics Lab and Cell Culture Purification Development Facility Kenilworth, NJ

\$120 million, 139,000-SF new biologics research facility at the existing Merck Kenilworth site, featuring a 38,000-SF cell culture facility to support the upstream and downstream efforts for biologic research; 64,000-SF of laboratories to support cell culture discovery efforts; administrative offices; and 37,000-SF of support space, such as MEP equipment rooms. The project also included 18,300-SF in renovations to occupied spaces where it was critical not to disrupt ongoing research. The facility was built to LEED®certified standards.

Merck Office Building, Rahway, NJ*

\$70 million, 350,000-SF office building including offices, conference rooms, audiovisual rooms and auditorium.

Pfizer Office Building, Morris Plain, NJ*

\$120 million, 500,000-SF office building including offices, cafeteria, auditorium and conference rooms.

Pennsylvania State University, Berks Campus, Reading PA*

Gaige Technology and Business Innovation Building. \$25.5M, 65,000-SF, LEED Gold certified facility housing classrooms, shops, computer lab, facility offices and auditorium. The exterior included the innovative use of a terracotta rainscreen exterior system.

Relevant Experience

Children's Hospital of Philadelphia, Middleman Family Pavilion, King of Prussia, PA 275,000-SF (new); 54,000-SF (renovation). The project consists of a new inpatient hospital located in King of Prussia, PA. The hospital is approximately 252,000-GSF over seven floors, as well as a 22,000-SF penthouse. The project also includes the renovation of approximately 54,000-SF of the existing Specialty Care Center (SCC) which involved administrative office suite and full-service kitchen and cafeteria space.

Johnson & Johnson, R&D Laboratory Expansion, Spring House, PA \$134 million expansion project for Johnson & Johnson included a new 155,000-SF research center lab and 80,000-SF of renovated space in their existing research building.

Johnson & Johnson, R&D Workplace Transformation Project, Spring House, PA \$64 million, 180,000-SF renovation of multiple buildings on the company's Spring House campus to consolidate their New Jersey and Pennsylvania pharmaceutical research and development operations, creating an East Coast research hub. The project included spaces to support a mixture of administrative and laboratory research activities, updates to a 90,000-SF vivarium, the fit out of shell spaces to provide biology labs and the conversion of existing chemistry labs to biology and product development labs.

FIELD REPRESENTATIVE



Joe Dressel

MEP ENGINEER

6 years in industry 2 years with Skanska Drexel University B.S., Civil Engineering



Andy Roeser

PE, PSP SCHEDULER

28 years in industry 1 years with Skanska

Relevant Experience

County of Lehigh, Courthouse Renovation, Allentown, PA

\$13.5 million, 50,000-SF. Skanska provided construction management agency services including value engineering, contractibility review, cost estimating, bid preparation and management, scheduling and administration.

Montgomery County, One Montgomery Plaza Infrastructure Upgrades Project, Norristown, PA

Skanska is providing Preconstruction and Construction Management Agency (CMa) services for the complete MEP Systems Infrastructure replacement of One Montgomery Plaza (OMP), a ten-story, 225,000 SF, structure that serves as the county office building for Montgomery County.

PennDOT District 6-0 Regional Traffic Management Center and Parking Garage, King of Prussia, PA Served as Construction Manager for PA DGS. End user was PennDOT. Design-Build contract, contractor was Heim Construction. Demolished existing parking deck, built new parking structure. built new state of the art traffic management center. Left for Skanska before project completed.

PA DGS, Lancaster Avenue Readiness Center, Philadelphia, PA

Rehabilitation of a 100 year old building, including MEP, security, and fire alarm upgrades, for use by the Pennsylvania National Guard and Drexel University.

Relevant Experience

GlaxoSmithKline, UM04 Human Biological, King of Prussia, PA \$18.1 million renovation of an existing animal space to provide a location for the storage requirements to consolidate biological samples. This renovation took place in a fully occupied laboratory facility.

GlaxoSmithKline, UP09 1730 CMCA Lab Renovation, Collegeville, PA 3,000-SF fit-out of existing unoccupied space into lab casework, biosafety cabinets, fume hoods, equipment and freezers. This renovation took place in a fully occupied laboratory facility.

Children's Hospital of Philadelphia, Middleman Family Pavilion, King of Prussia, PA 275,000-SF (new); 54,000-SF (renovation). The project consists of a new inpatient hospital located in King of Prussia, PA. The hospital is approximately 252,000-GSF over seven floors, as well as a 22,000-SF penthouse. The project also includes renovation of approximately 54,000-SF of the existing Specialty Care Center (SCC) which involved administrative office suite and full-service kitchen and cafeteria space.

Chemours, Discovery HUB Lab Building, University of Delaware STAR Campus, Newark, DE \$185 million, 312,000-SF, new,3-story, state-of-the-art R&D building featuring 130 individual labs, 50+ collaboration spaces, as well as office and research space. The project earned 3 Globes from the Green Globe sustainable building rating system.

Montgomery County, Emergency Operations Center, Eagleville, PA \$32 million project that includes an Emergency Management garage and warehouse; coroner's facility; and archives building.

Pennsylvania State University

B.S., Architectural Engineering



Mark Moore

LAB MEP SYSTEMS EXPERT / CONSTRUCTABILITY

42 years in industry 19 years with Skanska University of Lowell Industrial Management



Neil Moloney

PE, PSP SAFETY

9 years in industry 8 years with Skanska Millersville University of Pennsylvania B.A., OHST

Relevant Experience

Novartis, Cambridge Campus Expansion, Cambridge, MA

\$686 million, 795,000-SF global headquarters with two new biomedical facilities—a seven-story building and an eight-story building—on a tight, urban site. The project included flexible labs, collaborative work areas, a kitchen, 260-person dining area, below-grade vivarium, auditorium, storefront retail and restaurants, and a 459-space parking garage shared by both buildings.

Thermo Fisher, Project Atlas, Plainville, MA

Preconstruction services for a \$180 million, 290,000-SF large scale pharmaceutical GMP manufacturing facility that will support the development and manufacture of gene therapies and vaccines and offer a flexible and scalable configuration of laboratory and production suites co-located with adjacent warehousing and office space.

Dana-Farber Cancer Institute, Cell Manipulation Core Facility, Boston, MA

\$27 million, 24,000-SF renovation project that provides ISO 7 and 8 labs as well as support space for the CMCF program, which develops cell based therapies for cancer patients and also develops and tests production and processes for the program. This is a cGMP validated facility. All renovations took place in a fully occupied and active research environment.

Takeda Pharmaceuticals, Cell and Gene Therapy cGMP, Cambridge, MA

\$16 million, 21,000-SF fit-out of four cGMP process workstations, labs, warehouse, mechanical space and offices.

Relevant Experience

Children's Hospital of Philadelphia, Middleman Family Pavilion, King of Prussia, PA 275,000-SF (new); 54,000-SF (renovation), the project consists of a new inpatient hospital located in King of Prussia, PA. The hospital is approximately 252,000-GSF over seven floors, as well as a 22,000-SF penthouse. The project also includes renovation of approximately 54,000-SF of the existing Specialty Care Center (SCC) which involved administrative office suite and full-service kitchen and cafeteria space.

Confidential Client, Research Construction Project, Clinton, NJ \$102 million construction of a 25,000-SF engine-testing cell (ETC) facility, chiller, and fuel tank facility, sample warehouse, plant, and storage areas to support the client's wide range of scientific and engineering research and development activities. The team also renovated 40,000-SF of research and development laboratory space across three floors and upgrading the utilities and central plant.

GlaxoSmithKline, UM04 Human Biological, King of Prussia, PA \$18.1 million renovation of an existing animal space to provide a location for the storage requirements to consolidate biological samples. This renovation took place in a fully occupied laboratory facility.

GlaxoSmithKline, UP09 1730 CMCA Lab Renovation, Collegeville, PA

3,000-SF fit-out of existing unoccupied space into lab casework, biosafety cabinets, fume hoods, equipment and freezers. This renovation took place in a fully occupied laboratory facility.



Jim Lane

LEAD ESTIMATOR

35 years in industry 5 years with Skanska University of Pittsburgh B.S., Civil Engineering



Paul Cocuzza

LEED AP BD+C LEAD CSA ESTIMATOR

40 years in industry 27 years with Skanska New Jersey Institute of Technology

M.S., Civil Engineering

Relevant Experience

PA DGS, State Police Greensburg, DNA Laboratory Facility New Building, PA

Construct two new buildings: 1) The original design was a three-story approximately 59,800 s.f. laboratory and office building, (the third floor is a mechanical penthouse), and, 2) an 1850 s.f. onestory maintenance building to house landscaping and snow removal equipment.

PA DGS, California University of Pennsylvania, New Science Building, California, PA

This proposed new Science Building will include classrooms, offices, meeting rooms, and laboratories for biology, chemistry, environmental, and physics sciences.

Johnson & Johnson, Fastnet Project, PA

454,529-SF, new Biologics Drug Substance Facility. The facility will include the initial core processing along with administration, laboratory, warehouse, central utility plant and a waste water treatment plant.

GlaxoSmithKline, UM04 Human Biological, King of Prussia, PA

\$18.1 million renovation of an existing animal space to provide a location for the storage requirements to consolidate biological samples. This renovation took place in a fully occupied laboratory facility.

GlaxoSmithKline, UP02 Lab Support Addition/Renovation, Collegeville, PA

\$30.1 million, 60,000-SF renovation of an existing vivarium to convert it to a bioanalytical hub for research and development. This renovation took place in a fully occupied laboratory facility.

Relevant Experience

New York City Economic Development Corporation, Public Health Laboratory, New York, NY \$481 million,10-story, 230,000-SF public health laboratory, which consists of five floors of flexible and open BSL 2/BSL 3 laboratory space for virology, environmental sciences and microbiology, including core lab services, central accessioning administration, auditorium, Vector Borne Disease Surveillance, Sexual Health Express Pod and building services.

Cold Spring Harbor Laboratory, Master Plan, Cold Spring Harbor, NY Skanska is providing construction management services for the Cold Spring Harbor Laboratory Master Plan project. Spanning more than 400,000-SF, some sub-projects include new neuroscience wet-labs, research housing and conference centers, an Artificial Intelligence and Quantitative Biology Research Building, a vivarium, new parking garage, utilities relocations as well as a historic seawall restoration.

National Institutes of Health, Bayview Biomedical Research Center, Baltimore, MD

\$180 million, 560,00-SF, multi-story biomedical research facility housing the National Institute on Aging (NIA) and the National Institute on Drug Abuse (NIDA). The new center contains clinical, research and vivarium labs, office, conference and lobby space, a security system throughout the building and a commons area with a library and food service center.

9



Joe **Krizan**

PE, LEED AP, AVS LEAD MECHANICAL ESTIMATOR

32 years in industry 25 years with Skanska New Jersey Institute of Technology B.S., Mechanical Engineering



Phil Colonna

ESTIMATOR

32 years in industry

Villanova University

Relevant Experience

New York City Economic Development Corporation, Public Health Laboratory, New York, NY

\$481 million,10-story, 230,000-SF public health laboratory, which consists of five floors of flexible and open BSL 2/BSL 3 laboratory space for virology, environmental sciences and microbiology, including core lab services, central accessioning administration, auditorium, Vector Borne Disease Surveillance, Sexual Health Express Pod and building services.

Cold Spring Harbor Laboratory, Master Plan, Cold Spring Harbor, NY

Skanska is providing construction management services for the Cold Spring Harbor Laboratory Master Plan project. Spanning more than 400,000-SF, some sub-projects include new neuroscience wet-labs, research housing and conference centers, an Artificial Intelligence and Quantitative Biology Research Building, a vivarium, new parking garage, utilities relocations as well as a historic seawall restoration.

New York University, School of Engineering Rogers Hall Laboratory Renovations, New York, NY

\$28.9 million, 9,100-SF renovation of two floors to create state-of-the-art research laboratories and support spaces, including gutting existing labs and abating asbestos. The facility has a cold room and a 2,000-SF class 10,000 clean room with special air valves and fume hoods that vent to the roof. The project also encompassed the fit out of the laboratories with fume hoods, specialty gas feeds, lasers and sensitive imaging equipment that required mechanical and electrical hookups.

Relevant Experience

Department of Forensic Science, Central Forensics Lab and Office of the Chief Medical Examiner, Mechanicsville, VA

\$188.1 million, 287,850 SF, four-story, Central Forensics Lab for the Department of Forensic Science (DFS) and Office of the Chief Medical Examiner (OCME) on a 16-acre greenfield site. Interior spaces for DFS include evidence storage, ballistics lab, breath/alcohol lab, biology lab, chemistry lab, classrooms, training spaces, controlled substance labs, fie debris lab, trace labs, toxicology labs, admin offices, conference and break rooms. Interior spaces for the OCME include morgue, embalming, pathology, autopsy, radiology, coolers, anthropology, administrative offices, locker rooms, admin areas and conference spaces. The facility operates 24 hours, seven days a week and will require coordination to the greatest detail due to the chain of custody environment and the requirements for law enforcement.

GlaxoSmithKline, UM04 Human Biological, King of Prussia, PA \$18.1 million renovation of an existing animal space to provide a location for the storage requirements to consolidate biological samples. This renovation took place in a fully occupied laboratory facility.

Johnson & Johnson, R&D Laboratory Expansion, Spring House, PA \$134 million expansion project that included a new 155,000-SF research center lab and 80,000-SF of renovated space in their existing research building. The new research center features perimeter offices for chemistry and biology functions with adjacent interior laboratory spaces designated for either discovery biology or discovery chemistry.

LEAD FIRE PROTECTION / PLUMBING AND ELECTRICAL

- 22 years with Skanska
- B.S., Mechanical Engineering



Rich **Hylinski**

AVS VALUE ENGINEERING LEAD

39 years in industry

25 years with Skanska

Pennsylvania State University

B.S., Building Construction Technology

Relevant Experience

PA DGS, State Police Greensburg, DNA Laboratory Facility New Building, PA

Construct two new buildings: 1) The original design was a three-story approximately 59,800-SF laboratory and office building, (the third floor is a mechanical penthouse), and, 2) an 1850 s.f. one-story maintenance building to house landscaping and snow removal equipment.

GlaxoSmithKline, SMART Lab Building 1 East, Collegeville, PA

\$41.5 million, 103,000-SF project, which included selective demolition and reconstruction of four floors of existing labs. The building's capacity was doubled by reconfiguring each floor to include one large glazed-wall lab and modern, open-concept offices and conference rooms. The project featured 100,000-SF in SMART labs that can transition from one discipline to another in just two days, renovated restrooms, upgraded air handling units and heavy MEP systems renovations. This renovation took place in a fully occupied laboratory facility.

GlaxoSmithKline, UM04 Human Biological, King of Prussia, PA

\$18.1 million renovation of an existing animal space to provide a location for the storage requirements to consolidate biological samples. This renovation took place in a fully occupied laboratory facility.

PA DGS, California University of Pennsylvania, New Science Building, California, PA

This proposed new Science Building will include classrooms, offices, meeting rooms, and laboratories for biology, chemistry, environmental, and physics sciences.



William **Amann**

PE, LEED FELLOW, DCEP PRINCIPAL ESTIMATOR

46 years in industry36 years with M&E Engineers, Inc.Rutgers College of EngineeringB.S., Industrial Engineering



Gerard **Hazel**

BCxP, LEED AP COMMISSIONING AGENT

38 years in industry11 years with M&E Engineers, Inc.College of Staten IslandBusiness

Relevant Experience

Regional Laboratory, Raritan, NJ, LabCorp

Bill served as the Project Manager and primary Energy Consultant for the 90,000sf addition to a testing facility and 177,000sf renovation of existing laboratories and office space.

Pathology Labs, Unilever, Englewood Cliffs

Bill served as the Project Manager and Senior Engineer for renovations to an existing microbiology lab that is classified at Biosafety Level 2.

Public Safety Complex, Morris County

Bill served as the Project Manager and Senior Engineer for new public safety complex that houses a new 911 call center, data center, police offices and laboratories and office of emergency management. Cost of construction was \$28M and project size was 28,000 square feet.

High Tech High School, Secaucus, NJ, Hudson County Improvement Authority

Bill served as an Energy Consultant for a Design-Build project with DMR Architects. The new state-ofthe-art three-story High Tech High School is approximately 340,000 square foot. Project achieved LEED Gold certification.

Relevant Experience

Regional Laboratory, Raritan, NJ, LabCorp Gerry served as the Commissioning Agent for the 90,000sf addition to a testing facility and 177,000sf renovation of existing lab and office space.

Research Tower, Piscataway, NJ, Rutgers University Gerry served as the Commissioning Agent for the replacement of vivarium infrastructure, including 100% OA RTU with steam dehumidification, steam to HW converters, reheat coils and exhaust fans.

Biologics R&D Building, Rahway, NJ, Merck

Gerry served as the Commissioning Agent for a new 165,000sf 3 story building that will house a pilot plant, R&D facilities and offices. System includes air handlers with CHW and HW from a central plant.

Food Grade Ingredient Plant, Clark, NJ, Kerry Foods Gerry served as the Commissioning Agent for a 60,000sf food grade processing plant in an existing warehouse space, including 21 packaged RTUs.

High Tech High School, Secaucus, NJ, Hudson County Improvement Authority Gerry served as the Commissioning Agent for a Design-Build project with DMR Architects. The new state-of-the-art three-story High Tech High School is approximately 340,000 square foot. Project achieved LEED Gold certification.



Greg **Sydlowski**

PE, LEED AP, CEA SENIOR ENGINEER

18 years in industry 16 years with M&E Engineers, Inc.

University of Maryland B.S., Mechanical Engineering



Frank **Tutelo**

PE, LEED AP, CEA SENIOR ENGINEER

33 years in industry 23 years with M&E Engineers, Inc.

New Jersey Institute of Technology M.S., Biomedical Engineering

Relevant Experience

Regional Laboratory, Raritan, NJ, LabCorp Greg served as an Energy Consultant for the 90,000sf addition to a testing facility and 177,000sf renovation of existing laboratories and office space.

State Police Barracks, New Jersey Turnpike Authority

Greg served as the Mechanical Engineer & Project Manager for four police barracks. A prototype has been adapted to construct four separate police barrack buildings totaling \$50M. Project is being built to LEED standards.

Public Safety Complex, Morris County

Greg served as the Mechanical Engineer and Project Manager for new public safety complex that houses a new 911 call center, data center, police offices and laboratories and office of emergency management. Cost of construction was \$28M and project size was 28,000 square feet.

Hunterdon Developmental Center, State of New Jersey

Greg served as the Mechanical Engineer and Project Manager for a chiller replacement project at the Hunterdon Developmental Center campus. He performed an analysis comparing nine different chiller approaches and performed design for two 500 ton air-cooled chillers. Cost of construction was \$2.2M.

Relevant Experience

Regional Laboratory, Raritan, NJ, LabCorp Frank served as an Energy Consultant for the 90,000sf addition to a testing facility and 177,000sf renovation of existing laboratories and office space.

Public Safety Complex, Morris County

Frank served as the Electrical Engineer and Project Manager for new public safety complex that houses a new 911 call center, data center, police offices and laboratories and office of emergency management. Cost of construction was \$28M and project size was 28,000 square feet.

Regional Operations Intelligence Center, State of New Jersey Frank served as the Electrical Engineer and Project Manager for an alteration of the second floor interior of the Regional Operations Intelligence Center and E911 Communication Center, including expansion of UPS System, Grounding of Motorola Radio Systems (R56), Geothermal Heat Pump System, and Fire Protection & Detection. Cost of construction was \$3.5M.

Facilities Improvement Program, New Jersey Turnpike Authority Frank serves as the Electrical Engineer and Project Manager electrical design for new maintenance facilities and multi-use buildings located at Turnpike South sites in Swedesboro, Moorestown, Crosswicks, and Milltown, NJ.



J.R. CROWELL

AIA, NCARB, BECXP CXA+BE CONSTRUCTION QA QC

42 years in industry **14** years with Skanska

Ohio State University B.S., Architecture

Hudson Valley Community College AAS, Civil Engineering

Relevant Experience

Center for Disease Control and Prevention, Facilities Master Plan, Various Locations Master Planning goals for both campuses included: 1. Identify the current and future program needs for the Division at each campus. 2. Outline a plan for future physical development opportunities over the 10-year Master Plan period (2020-2030). 3. Provide for a collaborative working environment that enhances the research and service mission of the CDC at each campus location. 4. Address both

spatial and non-spatial issues presently experienced by each campus. 5. Balance future development needs with site constraints. 6. Coordinate future planning with surrounding area influences. 7. Identify potential sustainable and resiliency considerations to minimize environmental impacts on both facility operations and available resources. 8. Provide for future facilities that follow established Interagency Security Council (ISC) and Security Service Office (SSO) design and construction criteria.

New Jersey Public Health, Environmental & Agricultural Laboratory, Ewing, NJ

WorkingBuildings was retained by the State of New Jersey to provide base building commissioning services for the New Jersey Public Health, Environmental and Agricultural Laboratory new construction project. WB at first supported operations, but now provides full facility operations for the facility.

DC Consolidated Forensic Laboratory, Washington, DC

WorkingBuildings provided commissioning services for this multistory building includes a BSL-3 laboratory, high containment autopsy, and a forensic biology (DNA analysis) laboratory. The project was awarded LEED Platinum certification. Through the construction and acceptance phases of the project, WorkingBuildings assisted in documenting and resolving 756 commissioning related issues.

University of Tennessee Knoxville Joint Institute for Advanced Materials, Knoxville, TN WorkingBuildings provided both fundamental and enhanced commissioning services for this project. In the early stages of the design process, we worked in collaboration with the design team and the University to provided review and commentary on all interior building systems and building enclosure components.

University of Mississippi Medical Center Translational Research Center, Jackson, MS WorkingBuildings was engaged to provide total building commissioning services for this new facility. Throughout all phases of the design process, we worked in collaboration with the design/build team and the University to provide review and commentary on all interior building systems, as well as the building enclosure components. The interior building systems commissioned included a new HVAC system including a Central Plant, electrical distribution systems, complete communications and lighting systems, fire alarm and sprinkler systems. Building enclosure commissioning services included under-slab and below-grade waterproofing, the exterior building enclosure wall system, including all fenestration products and roofing systems.

Georgia State University, Parker H. Petit Science Center, Atlanta, GA WorkingBuildings provided complete commissioning services, including mechanical, electrical, plumbing, life safety, and laboratory systems. The building provides instructional laboratories, research space, and office space for various science and nursing programs. The research laboratory building contains laboratory and office space for neurosciences, biochemistry, and biotechnology, including a vivarium.

In addition to basic science teaching and research labs for the Colleges of Arts and Sciences and Health and Human Sciences, the building also houses a 20,000-SF standalone vivarium, and a working Bio-Safety Level 4 suite, one of the few university-based BSL-4 labs in the country.

Relevant Team Experience



City University of New York (CUNY) Advanced Science and Research Center New York, NY



\$600 million, 400,775-SF, dual-tower academic facility with research facilities, teaching labs, multiple wet laboratories for all major sciences, imaging suites, a vivarium, clean room, food service area and 100-seat auditorium. A plaza was built between the two towers that functions as a green roof for the shared lower level. The project also included a sophisticated MEP system, which includes emergency power, nitrogen tanks and laboratory gas distribution.

The building is LEED[®] Gold certified.

Owner: City University of New York Cost: \$600M Size: 400,775-SF Completed: 08/2014 University of Delaware Worrilow Hall Renovation Newark, DE



\$32 million, 66,000-SF, renovation of the primary academic and research laboratory facility for the College of Agriculture and Natural Resources at the University of Delaware. The renovation includes a total interior reprogramming and renovation of the facility.

Owner: University of Delaware Cost: \$32M Size: 66,000-SF Completed: 12/2020

PA DGS, State Police Greensburg DNA Laboratory Facility New Building Greensburg, PA



Construct two new buildings:

- The original design was a three-story approximately 59,800-SF laboratory and office building, (the third floor is a mechanical penthouse)
- 1,850-SF one-story maintenance building to house landscaping and snow removal equipment.

Owner: PA DGS

Cost: \$28.7M

Size: 61,650-SF

Completed: 07/2022

GlaxoSmithKline SMART Lab Building 1 East Collegeville, PA



\$41.5 million, 103,000-SF project, which included selective demolition and reconstruction of four floors of existing labs. The building's capacity was doubled by reconfiguring each floor to include one large glazed-wall lab and modern, open-concept offices and conference rooms. The project featured 100,000-SF in SMART labs that can transition from one discipline to another in just two days, renovated restrooms, upgraded air handling units and heavy MEP systems renovations.

Owner: GSK Cost: \$41.5M Size: 103,000-SF Completed: 11/2017

Merck Sharp & Dohme Corporation **Biologics Lab and Cell Culture Purification Development Facility** Kenilworth, NJ



\$120 million, 139,000-SF new biologics research facility at the existing Merck Kenilworth site, featuring a 38,000-SF cell culture facility to support the upstream and downstream efforts for biologic research; 64,000-SF of laboratories to support cell culture discovery efforts; administrative offices; and 37,000-SF of support space, such as MEP equipment rooms. The project also included 18,300-SF in renovations to occupied spaces where it was critical not to disrupt ongoing research. The facility was built to LEED®certified standards.

Owner: Merk & Co. Cost: \$120M Size: 139,000-SF **Completed:** 07/2013 Johnson & Johnson **R&D Workplace Transformation Project** Spring House, PA



\$64 million, 180,000-SF renovation of multiple buildings on the company's Spring House campus to consolidate their New Jersey and Pennsylvania pharmaceutical research and development operations, creating an East Coast research hub. The project included spaces to support a mixture of administrative and laboratory research activities, updates to a 90,000-SF vivarium, the fit out of shell spaces to provide biology labs and the conversion of existing chemistry labs to biology and product development labs. This project is LEED® certified.

Owner: Johnson & Johnson **Cost:** \$64M Size: 180,000-SF **Completed:** 03/2013

Novartis Cambridge Campus Expansion Cambridge, MA



\$686 million, 795,000-SF global headquarters with two new biomedical facilities—a seven-story building and an eight-story building—on a tight, urban site. The project included flexible labs, collaborative work areas, a kitchen, 260-person dining area, below-grade vivarium, auditorium, storefront retail and restaurants, and a 459-space parking garage shared by both buildings. The work also encompassed removing 195,000-cubic yards of soil, pumping out more than five million gallons of groundwater, building a central utilities trigeneration plant and installing the largest super-critical liquid carbon dioxide distribution system in the U.S.

Owner: Novartis Institutes for BioMedical Research Inc.

Cost: \$686M Size: 795,000-SF Completed: 11/2015 University of Delaware Nanofabrication Program Projects Newark, DE



Skanska provided program management services in support of several complex projects related to the University of Delaware's Nanofabrication Program. These include NF Research and Teaching Lab Retrofit Planning, NF Cleanroom Tool Installation/Hook-up, Cleanroom Air Handler Humidity and Chiller Controls and sequencing Modifications, and Phase II Toxic Gas Monitoring Systems implementation.

Owner: University of Delaware Cost: \$3M Size: 5,000-SF Completed: 08/2017

Virginia Tech Carilion Clinic Fralin Biomedical Research Institute at VTC Roanoke, VA



Inspira Health Network Mullica Hill Campus Mullica Hill, NJ



\$75.7 million, 145,000-SF of classroom, research and education space along with the Comparative Oncology Research Center. There are five thematic areas: biomaterials - body device interfaces, brain health and disease, cardiovascular sciences, infectious disease and immunity and metabolism and obesity. The building also includes wet and dry research laboratories, core facilities, experiential learning classrooms, MRI, linear accelerator and administrative spaces. The project will be LEED Silver certified.

Owner: Carilion Clinic Cost: \$75.7M Size: 145,000-SF Completed: 05/2020 \$230 million, five-story, 466,000-SF new hospital with 204 beds. The main tower consists of operating rooms, an emergency department, imaging suites, as well as administrative, dining and support services. The project also includes constructing a new central utility plant, which provides electrical power, steam and chilled water to the new hospital. Sitework included demolition of three small farm buildings, grading, underground and overhead utilities to the site as well as surface parking for the new hospital and future medical office buildings. The new hospital was built under an integrated project delivery (IPD) contract.

Owner: Inspira Health Network Cost: \$230M Size: 466,000-SF Completed: 11/2019

LabCorp Region Laboratory Raritan, NJ



M&E Engineers (M&E) is providing energy and water optimization consulting for a \$90M comprehensive renovation totaling 335,396 square feet. Project is being constructed in three separate phases for the new warehouse, new laboratory addition (testing facility), and renovation to the existing building (labs and office space).

M&E provided a generator analysis, including demand-response feasibility, and is currently performing commissioning services for the all of the HVAC systems as per ASHRAE Guideline 0.

M&E is also assisting with obtaining incentives through the Pay for Performance (P4P) and Combined Heat & Power (CHP) programs.

Owner: LabCorp Cost: \$90M Size: 335,396-SF Completed: 06/2022 Merck & Co, Inc. Biologics R&D Facility Rahway, NJ



M&E Engineers is currently providing Commissioning services for a new 165,000 square foot 3-story building that will house a pilot plant, R&D facilities and offices. HVAC system includes air handlers with CHW and HW from a central plant.

Owner: Merk & Co., Inc. Cost: Not Disclosed Size: 165,000-SF Completed: In Progress

Rutgers University Research Tower Vivarium Piscataway, NJ



M&E Engineers performed Commissioning services for the replacement of vivarium infrastructure at the Rutgers University Research Tower. HVAC system included a 100% Outside Air Rooftop Unit with steam dehumidification, steam to HW converters, reheat coils and exhaust fans.

Owner: Rutgers University Cost: Not Disclosed Size: N/A Completed: 12/2021 Kerry Group Food Grade Ingredient Plant Clark, NJ



M&E Engineers performed Commissioning services for a 60,000 square foot grade processing plant in an existing warehouse HVAC system included 21 packaged Rooftop Units.

Owner: Kerry Group Cost: Not Disclosed Size: 60,000-SF Completed: 02/2019



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Key Team Member Project Experience Data Sheet (DPMC Form)

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KEY TEAM MEMBER PROJECT EXPERIENCE DATA SHEET

NAME Chris Anderson, CEA, LEED AP

TITLE Project Executive

FIRM Skanska USA Building Inc.

PROJECT TITLE LOCATION AND TOTAL CONSTRUCTION COST OR FEE	A/E OF RECORD FOR THIS REFERENCED PROJECT	SPECIFIC TYPE OF WORK EXPERIENCE (CM, CPM, COST ESTIMATING)	TEAM MEMBERS SPECIFIC ROLE OR TITLE ON THE REFERENCED PROJECT	DURATION OF TEAM MEMBER'S INVOLVEMENT OF THE REFERENCED PROJECT (IN MONTHS)	% OF TIME DURING DURATION BASED UPON A 40 HOUR WEEK	DATES OF THE TEAM MEMBER'S INVOLVEMENT IN THE REFERENCED PROJECT	CLIENT NAME CONTRACT PERSON AND PHONE NUMBER
NYC DDC, Public Health Laboratory Airsy (Phase 2), New York, NY CC: \$24.7M	WASA Studio	Construction Management	Project Executive	6	20%	01/2006 - 08/2007	New York City Department of Design and Construction Hisham Najjar
New Jersey EDA, Waterfront Technology Center, Camden, NJ CC: \$18.2M	Ballinger	Construction Management	Project Executive	12	20%	06/2004 - 03/2007	New Jersey Economic Development Authority William Courtney
Johnson & Johnson, Multiple Projects Spring House/Fort Washington, PA CC: \$134M	N/A	Construction Management	Project Executive	28	50%	05/2007 - 10/2010	Johnson & Johnson Art Goehry
University of Delaware, Nanofabrication Program Projects, Newark, DE CC: \$3M	Integrated Project Services	Program Management	Account Manager	14	20%	04/2016 - 09/2017	University of Delaware Marci Hutton

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A KEY TEAM MEMBER IS A PERSON WITH A CRITICAL ROLE IN THE PROJECT AND/OR DEVOTING 20% OR MORE OF THEIR TIME TO ANY PHASE OF THE PROJECT

KEY TEAM MEMBER PROJECT EXPERIENCE DATA SHEET

NAME Gary Warren, EIT

TITLE Operations Manager

FIRM Skanska USA Building Inc.							
PROJECT TITLE LOCATION AND TOTAL CONSTRUCTION COST OR FEE	A/E OF RECORD FOR THIS REFERENCED PROJECT	SPECIFIC TYPE OF WORK EXPERIENCE (CM, CPM, COST ESTIMATING)	TEAM MEMBERS SPECIFIC ROLE OR TITLE ON THE REFERENCED PROJECT	DURATION OF TEAM MEMBER'S INVOLVEMENT OF THE REFERENCED PROJECT (IN MONTHS)	% OF TIME DURING DURATION BASED UPON A 40 HOUR WEEK	DATES OF THE TEAM MEMBER'S INVOLVEMENT IN THE REFERENCED PROJECT	CLIENT NAME CONTRACT PERSON AND PHONE NUMBER
PA DGS, State Police Greensburg, DNA Laboratory Facility New Building Greensburg, PA CC: \$28.7M	N/A	Construction Management	Senior Program Manager	6	20	01/2022 - 07/2022	PennsylvaniaDepartment of General Services Linda Kulp
Montgomery County, Pennsylvania, Coroner Facility Eagleville, PA CC: \$6M	Heckendorn Shiles Architects	Construction Management Agency (CMa)	Senior Program Manager	24	20	05/2021 - 05/2023	Montgomery County, Pennsylvania Tom Bonner
Northampton County, New Regional Forensic Center, Nazareth, PA CC: \$10.9M	W2A Design Group	Construction Management and Inspection Services	Senior Program Manager	12	20	08/2019 - 08/2020	Northampton County Charles Dertinger
MedImmune LLC, Red Lion Road Facility Projects, Philadelphia, PA CC: \$10.5M	Foster Wheeler	Construction Management	Project Engineer	10	100	10/2010 - 08/2011	MedImmune LLC Tom Routliffe (Retired)

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A KEY TEAM MEMBER IS A PERSON WITH A CRITICAL ROLE IN THE PROJECT AND/OR DEVOTING 20% OR MORE OF THEIR TIME TO ANY PHASE OF THE PROJECT
NAME Craig Ronning

TITLE Senior Project Manager

FIRM Skanska USA Building Inc.							
PROJECT TITLE LOCATION AND TOTAL CONSTRUCTION COST OR FEE	A/E OF RECORD FOR THIS REFERENCED PROJECT	SPECIFIC TYPE OF WORK EXPERIENCE (CM, CPM, COST ESTIMATING)	TEAM MEMBERS SPECIFIC ROLE OR TITLE ON THE REFERENCED PROJECT	DURATION OF TEAM MEMBER'S INVOLVEMENT OF THE REFERENCED PROJECT (IN MONTHS)	% OF TIME DURING DURATION BASED UPON A 40 HOUR WEEK	DATES OF THE TEAM MEMBER'S INVOLVEMENT IN THE REFERENCED PROJECT	CLIENT NAME CONTRACT PERSON AND PHONE NUMBER
Merck Sharp & Dohme Corp., Biologics Lab and Cell Culture Purification Development Facility Kenilworth, NJ CC: \$120M	Ballinger	Construction Management	Project Manager	22	100	11/2011 - 09/2013	Merck & Co. Murali Menon

* A KEY TEAM MEMBER IS A PERSON WITH A CRITICAL ROLE IN THE PROJECT AND/OR DEVOTING 20% OR MORE OF THEIR TIME TO ANY PHASE OF THE PROJECT

NAME John Barrett

TITLE Field Representative

EIRM Skanska USA Building Inc.

			ung no.				
PROJECT TITLE LOCATION AND TOTAL CONSTRUCTION COST OR FEE	A/E OF RECORD FOR THIS REFERENCED PROJECT	SPECIFIC TYPE OF WORK EXPERIENCE (CM, CPM, COST ESTIMATING)	TEAM MEMBERS SPECIFIC ROLE OR TITLE ON THE REFERENCED PROJECT	DURATION OF TEAM MEMBER'S INVOLVEMENT OF THE REFERENCED PROJECT (IN MONTHS)	% OF TIME DURING DURATION BASED UPON A 40 HOUR WEEK	DATES OF THE TEAM MEMBER'S INVOLVEMENT IN THE REFERENCED PROJECT	CLIENT NAME CONTRACT PERSON AND PHONE NUMBER
Children's Hospital of Philadelphia, Middleman Family Pavilion King of Prussia, PA CC: \$239.4M	Ballinger	Construction Management	Superintendent I (Area)	4	100	05/2022 - 08/2022	Children's Hospital of Philadelphia Brian Hardner
Johnson & Johnson, R&D Laboratory Expansion, Spring House, PA CC: \$134M	Flad Architects - Madison	Construction Management	Superintendent	60	100	05/2006 - 04/2011	Johnson & Johnson Art Goehry
Johnson & Johnson, R&D Workplace Transformation Project Spring House, PA CC: \$64M	Flad Architects - Madison	Construction Management	Superintendent	18	100	02/2011 - 08/2013	Johnson & Johnson Art Goehry

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A KEY TEAM MEMBER IS A PERSON WITH A CRITICAL ROLE IN THE PROJECT AND/OR DEVOTING 20% OR MORE OF THEIR TIME TO ANY PHASE OF THE PROJECT

NAME Joe Dressel

TITLE MEP Engineer

	FIRM	Skanska USA Bui	ding Inc.				
PROJECT TITLE LOCATION AND TOTAL CONSTRUCTION COST OR FEE	A/E OF RECORD FOR THIS REFERENCED PROJECT	SPECIFIC TYPE OF WORK EXPERIENCE (CM, CPM, COST ESTIMATING)	TEAM MEMBERS SPECIFIC ROLE OR TITLE ON THE REFERENCED PROJECT	DURATION OF TEAM MEMBER'S INVOLVEMENT OF THE REFERENCED PROJECT (IN MONTHS)	% OF TIME DURING DURATION BASED UPON A 40 HOUR WEEK	DATES OF THE TEAM MEMBER'S INVOLVEMENT IN THE REFERENCED PROJECT	CLIENT NAME CONTRACT PERSON AND PHONE NUMBER
County of Lehigh, Courthouse Renovation, Allentown, PA CC: \$13.5M	Artefact, Inc.	Construction Management Agency	Senior Project Engineer	12	100	09/2021 - 12/2022	County of Lehigh Richard Molchany
Montgomery County, One Montgomery Plaza Infrastructure Upgrades Project, Norristown, PA CC: \$25M	NORR	Preconstruction and Construction Management Agency (CMa)	Senior Program Engineer	In-Progress	100	12/2022 - In- Progress	Montgomery County, Pennsylvania Tom Bonner
PA DGS, Lancaster Avenue Readiness Center, Philadelphia, PA CC: \$13M	L. Robert Kimball & Associates	Program Management	Project Engineer	12	100	08/2020 - 08/2021	Pennsylvania Department of General Services Dan Weinzierl

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NAME Andy Roeser

TITLE Scheduler

FIRM Skanska USA Building Inc.

PROJECT TITLE LOCATION AND TOTAL CONSTRUCTION COST OR FEE	A/E OF RECORD FOR THIS REFERENCED PROJECT	SPECIFIC TYPE OF WORK EXPERIENCE (CM, CPM, COST ESTIMATING)	TEAM MEMBERS SPECIFIC ROLE OR TITLE ON THE REFERENCED PROJECT	DURATION OF TEAM MEMBER'S INVOLVEMENT OF THE REFERENCED PROJECT (IN MONTHS)	% OF TIME DURING DURATION BASED UPON A 40 HOUR WEEK	DATE TEAM INVOL THE RE PF
GlaxoSmithKline, UM04 Human Biological King of Prussia, PA CC: \$18.1M	JacobsWyper Architects	Construction Management	Senior Scheduling Manager	In-Progress	20	06/202 Progre
GlaxoSmithKline, UP09 1730 CMCA Lab Renovation Collegeville, PA CC: \$2.2M	NCRB - PA HOK - NY	Construction Management	Senior Scheduling Manager	13	20	09/202 11/202
Children's Hospital of Philadelphia, Middleman Family Pavilion King of Prussia, PA CC: \$239.4M	Ballinger	Construction Management	Senior Scheduling Manager	5	20	04/202 08/202
Montgomery County, Emergency Operations Center Eagleville, PA CC: \$32M	Heckendorn Shiles Architects	Construction Management Agency (Cma)	Senior Scheduling Manager	In-Progress	20	4/2023 Progre

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NAME Mark Moore

TITLE Lab MEP SME / Constructability

FIRM Skanska USA Building Inc.

PROJECT TITLE LOCATION AND TOTAL CONSTRUCTION COST OR FEE	A/E OF RECORD FOR THIS REFERENCED PROJECT	SPECIFIC TYPE OF WORK EXPERIENCE (CM, CPM, COST ESTIMATING)	TEAM MEMBERS SPECIFIC ROLE OR TITLE ON THE REFERENCED PROJECT	DURATION OF TEAM MEMBER'S INVOLVEMENT OF THE REFERENCED PROJECT (IN MONTHS)	% OF TIME DURING DURATION BASED UPON A 40 HOUR WEEK	DAT TEAM INVO THE R P
Novartis, Cambridge Campus Expansion, Cambridge, MA CC: \$686M	Maya Lin Studio Bialosky & Partners Toshiko Mori Architect□ CannonDesign - Boston	Construction Management and Integrated Project Delivery (IPD) - Lite IPD	MEP Manager	12	10	12/20 ⁻ 10/20 ⁻
Dana-Farber Cancer Institute, Cell Manipulation Core Facility Boston, MA CC: \$27M	Payette Associates, Inc.	Construction Manager at Risk	MEP Manager	8	10	05/201 07/201
Takeda Pharmaceuticals, Cell and Gene Therapy cGMP Cambridge, MA CC: \$16M	TRIA Architects, Inc.	Construction Manager at Risk	MEP Manager	6	10	12/201 07/201

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NAME Jim Lane

	TITLE	Lead Estimator					
	FIRM	Skanska USA Buil	ding Inc.		e L		
PROJECT TITLE LOCATION AND TOTAL CONSTRUCTION COST OR FEE	A/E OF RECORD FOR THIS REFERENCED PROJECT	SPECIFIC TYPE OF WORK EXPERIENCE (CM, CPM, COST ESTIMATING)	TEAM MEMBERS SPECIFIC ROLE OR TITLE ON THE REFERENCED PROJECT	DURATION OF TEAM MEMBER'S INVOLVEMENT OF THE REFERENCED PROJECT (IN MONTHS)	% OF TIME DURING DURATION BASED UPON A 40 HOUR WEEK	DATES OF THE TEAM MEMBER'S INVOLVEMENT IN THE REFERENCED PROJECT	CLIENT NAME CONTRACT PERSON AND PHONE NUMBER
PA DGS, State Police Greensburg, DNA Laboratory Facility New Building Greensburg, PA CC: \$28.7M	N/A	Construction Management	Vice President - Preconstruction	6	10	01/2022 - 07/2022	Pennsylvania Department of General Services Linda Kulp
PA DGS, California University of Pennsylvania, New Science Building California, PA CC: \$42.1M	N/A	Construction Management	Vice President - Preconstruction	In-Progress	10	02/2022 - In- Progress	Pennsylvania Department of General Services Cara Desert RA, MPM
GlaxoSmithKline, UM04 Human Biological King of Prussia, PA CC: \$18.1M	JacobsWyper Architects	Construction Management	Vice President - Preconstruction	In-Progress	10	06/2022 - In- Progress	GlaxoSmithKline - Philadelphia Patrick Louden
GlaxoSmithKline, UP09 1730 CMCA Lab Renovation Collegeville, PA CC: \$2.2M	NCRB - PA HOK - NY	Construction Management	Vice President - Preconstruction	13	10	09/2022 - 11/2022	GlaxoSmithKline - Philadelphia Veronique Poirier

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NAME Paul Cocuzza

TITLE Lead CSA Estimator

FIRM Skanska USA Building Inc.

PROJECT TITLE LOCATION AND TOTAL CONSTRUCTION COST OR FEE	A/E OF RECORD FOR THIS REFERENCED PROJECT	SPECIFIC TYPE OF WORK EXPERIENCE (CM, CPM, COST ESTIMATING)	TEAM MEMBERS SPECIFIC ROLE OR TITLE ON THE REFERENCED PROJECT	DURATION OF TEAM MEMBER'S INVOLVEMENT OF THE REFERENCED PROJECT (IN MONTHS)	% OF TIME DURING DURATION BASED UPON A 40 HOUR WEEK	DATE TEAM I INVOL THE RE PR
New York City Economic Development Corporation, Public Health Laboratory New York, NY CC: \$481M	Skidmore, Owings and Merrill, LLP	Construction Management	Director - Preconstruction - Mechanical	In-Progress	10	09/2019 In-Prog
Cold Spring Harbor Laboratory, Master Plan Cold Spring Harbor, NY CC: \$248.2M	Centerbrook Architects & Planners	Construction Management	Director - Preconstruction - Mechanical	In-Progress	10	10/202 [.] In-Prog
National Institutes of Health, Bayview Biomedical Research Center Baltimore, MD CC: \$180M	HDR	Construction Management	Preconstruction Director	12	10	03/200 10/200

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S OF THE MEMBER'S VEMENT IN FERENCED OJECT	CLIENT NAME CONTRACT PERSON AND PHONE NUMBER
9 - Jress	New York City Economic Development Corporation Daniel Colangione, PE
1 - jress	Cold Spring Harbor Laboratory Stephen Monez
4 - 7	National Institutes of Health (NIH) Roland Kallechy

NAME Joe Krizan

TITLE Lead Mechanical Estimator

FIRM Skanska USA Building Inc.

PROJECT TITLE LOCATION AND TOTAL CONSTRUCTION COST OR FEE	A/E OF RECORD FOR THIS REFERENCED PROJECT	SPECIFIC TYPE OF WORK EXPERIENCE (CM, CPM, COST ESTIMATING)	TEAM MEMBERS SPECIFIC ROLE OR TITLE ON THE REFERENCED PROJECT	DURATION OF TEAM MEMBER'S INVOLVEMENT OF THE REFERENCED PROJECT (IN MONTHS)	% OF TIME DURING DURATION BASED UPON A 40 HOUR WEEK	DA TEA INV THE
New York City Economic Development Corporation, Public Health Laboratory New York, NY CC: \$481M	Skidmore, Owings and Merrill, LLP	Construction Management	Director - Preconstruction - Mechanical	In-Progress	10	10/20 02/20
Cold Spring Harbor Laboratory, Master Plan Cold Spring Harbor, NY CC: \$248.2M	Centerbrook Architects & Planners	Construction Management	Director - Preconstruction - Mechanical	In-Progress	10	03/20 05/20
New York University, School of Engineering Rogers Hall Laboratory Renovations New York, NY CC: \$28.9M	EYP Inc Albany & Houston	Construction Manager at Risk	Preconstruction Director	6	10	12/20 10/20

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TES OF THE M MEMBER'S DLVEMENT IN REFERENCED PROJECT	CLIENT NAME CONTRACT PERSON AND PHONE NUMBER
019 - 022	New York City Economic Development Corporation Daniel Colangione, PE
020 - 023	Cold Spring Harbor Laboratory Stephen Monez
014 - 016	New York University Maey Khaled

NAME Phil Colonna

TITLE Lead Fire/Plumming & Electrical Estimator

			ig a Licothoar Lot	mator	Î		
	FIRM Skanska USA Building Inc.						
PROJECT TITLE LOCATION AND TOTAL CONSTRUCTION COST OR FEE Department of Forensic Science, Central Forensics Lab and Office of the Chief Medical Examiner Mechanicsville, VA	A/E OF RECORD FOR THIS REFERENCED PROJECT Skidmore, Owings and Merrill, LLP	SPECIFIC TYPE OF WORK EXPERIENCE (CM, CPM, COST ESTIMATING) Construction Management	TEAM MEMBERS SPECIFIC ROLE OR TITLE ON THE REFERENCED PROJECT Director - Preconstruction - Mechanical	DURATION OF TEAM MEMBER'S INVOLVEMENT OF THE REFERENCED PROJECT (IN MONTHS) 6	% OF TIME DURING DURATION BASED UPON A 40 HOUR WEEK	DATES OF THE TEAM MEMBER'S INVOLVEMENT IN THE REFERENCED PROJECT 07/2020 - 10/2021	CLIENT NAME CONTRACT PERSON AND PHONE NUMBER Commonwealth of Virginia, Department of Forensic Science Mary Ann Petry
CC: \$188.1M			7				
GlaxoSmithKline, UM04 Human Biological King of Prussia, PA CC: \$18.1M	JacobsWyper Architects	Construction Management	Director - Preconstruction - Mechanical	6	10	10/2021 - 04/2022	GlaxoSmithKline - Philadelphia Patrick Louden
Johnson & Johnson, R&D Workplace Transformation Project Spring House, PA CC: \$64M	Flad Architects - Madison	Construction Management	Director - Preconstruction - Mechanical	6	10	08/2010 09/2012	Johnson & Johnson Art Goehry

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NAME Rich Hylinski

TITLE Value Engineering Lead

FIRM Skanska USA Building Inc.

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PA DGS, State Police Greensburg, DNA Laboratory Facility New Building Greensburg, PA CC: \$28.7M	N/A	Construction Management	Preconstruction Director	6	10	0
GlaxoSmithKline, SMART Lab Building 1 East Collegeville, PA CC: \$41.5M	HOK - New York	Construction Manager at Risk	Preconstruction Director	6	10	0 [.]
GlaxoSmithKline, UM04 Human Biological King of Prussia, PA CC: \$18.1M	JacobsWyper Architects	Construction Management	Preconstruction Director	1	10	0: 0;
PA DGS, California University of Pennsylvania, New Science Building California, PA CC: \$42.1M	N/A	Construction Manager at Risk	Preconstruction Director	In-Progress	10	1: Ir

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NAME Gerard Hazel

TITLE Commissioning Agent

	FIRM	M&E Engineers, I	NC.				
PROJECT TITLE LOCATION AND TOTAL CONSTRUCTION COST OR FEE	A/E OF RECORD FOR THIS REFERENCED PROJECT	SPECIFIC TYPE OF WORK EXPERIENCE (CM, CPM, COST ESTIMATING)	TEAM MEMBERS SPECIFIC ROLE OR TITLE ON THE REFERENCED PROJECT	DURATION OF TEAM MEMBER'S INVOLVEMENT OF THE REFERENCED PROJECT (IN MONTHS)	% OF TIME DURING DURATION BASED UPON A 40 HOUR WEEK	DATES OF THE TEAM MEMBER'S INVOLVEMENT IN THE REFERENCED PROJECT	CLIENT NAME CONTRACT PERSON AND PHONE NUMBER
LabCorp Region Laboratory Raritan, NJ Fee: \$560k	M&E Engineers	Commissioning	Commissioning Agent	219	30%	03/2017 - Present	Ankura Grant Gochenauer
Rutgers University Vivarium Piscataway, NJ Fee: \$71.5K	M&E Engineers	Commissioning	Commissioning Agent	20	25%	07/2019 - 03/2021	Rutgers University Matt Peterson
Merck, Biologics Facility Rahway, NJ Fee: \$118K	Green Building Center	Commissioning	Commissioning Agent	22	30%	09/2021 - Present	Green Building Center Jason Kliwinski
NJTA Facilities Improvmenet Program Multiple Locations (19), NJ CC: \$500M	Gannett Fleming	Commissioning	Commissioning Agent	98	40%	09/2012 - 10/ 2020	NJTA Robert Womelsdorf
Hudson Cty Improvement Authority High Tech High School Secaucus, NJ CC: \$160M	DMR Architects	Commissioning	Commissioning Agent	40	30%	09/2016 - 12/2019	MAST Construction Paul Skabich

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SKANSKA

Project Key Personnel List (DPMC Form)

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DPMC PROJECT #: A1360-01 Construction Management Services Laboratory, Admin. Wing and Warehouse Expansion NJ Public Health, Environmental and Agriculture Laboratory

FIRM NAME	KEY PERSONNEL & TITLE	PROGRAM PHASE	SCHEMATIC DEISGN PHASE	DESIGN DEVELOPMENT PHASE	CONSTRUCTION DOCUMENT PHASE	PERMIT APPLICATION PHASE	BIDDING AND CONTRACT AWARD	CONSTF PH, OFFICE	RUCTION ASE FIELD	PROJECT CLOSE-OUT PHASE	PERSONNEL LEVEL 1 -7
Skanska USA Building Inc	Chris Anderson, CEA, LEED AP - Project Executive	5%	5%	5%	5%	5%	5%	10%			7
Skanska USA Building Inc	Gary Warren, EIT - Operations Manager		5%	5%	5%	5%	5%	20%		5%	6
Skanska USA Building Inc	Craig Ronning - Senior Project Manager	100%	100%	100%	100%	100%	100%		100%	100%	6
Skanska USA Building Inc	John Barrett - Field Representative						5%		100%		5
Skanska USA Building Inc	Joe Dressel - MEP Engineer								100%	100%	4
Skanska USA Building Inc	Andy Roeser, PE, PSP - Scheduler		15%	10%	10%			10%			5
Skanska USA Building Inc	Mark Moore - Lab MEP SME / Constructability			20%	20%						4
Skanska USA Building Inc	Jim Lane - Lead Estimator		20%	20%	20%						4
Skanska USA Building Inc	Paul Cocuzza, LEED AP BD+C - Lead CSA Estimator		20%	20%	20%						4
Skanska USA Building Inc	Joe Krizan, PE, LEED AP, AVS - Lead Mechanical Estimator		20%	20%	20%						4
Skanska USA Building Inc	Phil Colonna - Lead Fire/Plumbing and Electrical Estimator		20%	20%	20%						4
Skanska USA Building Inc	Rich Hylinski, AVS - Value Engineering Lead		20%	20%	20%						4
M&E Engineers Inc.	Gerard Hazel, BCxP, LEED AP - Commissioning Agent			5%	10%				20%	5%	4

INSERT THE WAGE LEVEL FROM 1 TO 7 OF EACH KEY PERSON. DO NOT INSERT ANY HOURLY RATE

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Project Approach / Management Plan

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VERTEX BEST



State of New Jersey Division of Property Management and Construction (DPMC) - Project No. A1360-01 Construction Management Services - Laboratory, Administration Wing and Warehouse Expansion Project at NJ Public Health Environmental and Agriculture Laboratory

Describe your firm's approach to completing the project in accordance with the Scope of Work.

Introduction

Our approach to serving as your construction manager for the expansion of the New Jersey Public Health, Environmental and Agriculture Laboratory (PHEAL) is based on our understanding that the Department of Health has re-envisioned the future of the State's public health laboratory in consideration of advances in laboratory diagnostic equipment, the current public health crisis, the potential for future public health crises, and related program needs, staffing, and warehouse storage capacities. Every aspect of our services will be focused on creating facilities that promote optimal public health outcomes for the residents of New Jersey within the budgetary framework established for this project. Highlights of our approach are described below.

Comprehensive Management Program

We will develop a comprehensive management program that will establish the quality, cost, scheduling and reporting programs for use throughout your project and include organizational and reporting relationships and procedures that will be implemented. Our comprehensive management program will address communications, management processes, the execution strategy, and overall project control. It will describe how the team (DPMC/NJBA/PHEAL, designer, contractor) will manage and successfully deliver the Laboratory, Administration Wing and Warehouse Expansion project.

Our comprehensive management program will integrate the designer's and contractor's organizations and procedures and will include an organizational chart showing the roles and responsibilities of the entirety of the team.

New York City Economic Development Corporation, Public Health Laboratory

Skanska is serving as the construction manager for NYC DDC's \$481 million, 10-story, 230,000-SF Public Health Laboratory (PHL) project.

The project mainly consists of five floors of flexible and open BSL-2/BSL-3 laboratory space for virology, environmental sciences and microbiology, including core lab services, central accessioning administration, walk-in testing center, 200-person auditorium, Vector Borne Disease Surveillance, Sexual Health Express Pod and building services.

Each lab floor is designed to accommodate the unique size, equipment and protocols for each unit.

The lab plan diagram is inherently adaptable through open lab environments, movable casework, and ceiling umbilicals. Pedestals and casework with casters will be specified for maximum flexibility.





State of New Jersey Division of Property Management and Construction (DPMC) - Project No. A1360-01 Construction Management Services - Laboratory, Administration Wing and Warehouse Expansion Project at NJ Public Health Environmental and Agriculture Laboratory

Procore

Skanska is highly experienced in Construction Management Project Controls Systems. Procore is Skanska's standard platform and all our employees have been trained to use Procore. Skanska utilizes Procore to manage our QA/QC process during construction. Procore will provide the project team with a collaboration platform to share QA/QC information, track inspection checklist for critical equipment, host commissioning pre-functional and function checklist, non-conformation issue tracking and punchlist. We will provide access to all team members including prime contractors free of charge. This will allow our team to proactively track issues and ensure the issues are resolved in a timely fashion.

Procore offers a single platform solution for the most common project controls functions, which enhances communication and fuels productivity on the jobsite.



Enhanced project team

collaboration in one tool

Accessible from any web browser, tablet or smartphone



Master Project Schedule

We will build a Master Project Schedule that provides a detailed road map of the Laboratory, Administration Wing and Warehouse Expansion project. Skanska's Master Project Schedule will show key dates and major program components from the DPMC/NJBA's point of view, rather than from the perspective of design consultants or the contractor. The reason is that your internal decision-making process is the most important schedule driver, and timely decision making will keep the schedule in motion. As such, the Master Project Schedule will show the DPMC/NJBA when specific decisions need to be made. It will also provide an overview of the durations of design, construction, and commissioning and clearly indicate completion dates for this project. Our schedule will also incorporate and verify permitting milestones and will be developed with scheduling contingencies and schedule recovery strategies. Subsequently in this narrative, we describe our approach to schedule control during construction.

Master Project Budget

Early in the process, we will establish an accurate, durable, and reliable Master Project Budget. We will identify every item within this project, including both hard and soft costs, that contributes to the total project cost. We will track costs against the budget in a line-item format and be able to report a Predicted Final Cost at any time.

Design Management

Our primary focus as your construction manager will be to ensure that designs for the PHEAL expansion project reflects the final program, that the money invested in this project creates the highest possible value, and that the design is complete in order to prevent avoidable changes in program cost or schedule. The design phase, as such, presents a number of opportunities for saving money and maximizing quality.

Key considerations include the following:

- Keeping the design process on schedule while ensuring the quality and completeness of design documents.
- Utilizing our skills as builders to perform value management that actually adds value, i.e., finding less costly ways to achieve comparable value or even enhance value
- Engaging in life cycle costing to find the optimal balance between initial costs and long-term operating and maintenance costs
- Avoiding costly re-design
- Verifying that the designer understands the requirements of the local code officials and ensuring that these requirements are incorporated into the design. Communication with the entire project team is an important step to maximize the success of the campus projects and minimize disruption to your campus during construction.

Communication plans and strategies will be developed by our team for both the design and construction phases. At project kickoff, our team will work with you to customize a communication plan that best meets the needs of your project, including:

- Establish project goals and communication plan at kick-off meeting
 - Logistics and phasing
 - Sustainability goals
 - Communication plan
 - Diversity participation and workforce development approach

Meetings

- Bi-weekly meetings
- In-person (virtual option)
- Concise agendas
- Minutes distributed
- Construction logistics and phasing
- Kick-off meeting

Identify permit requirements for shutdowns

and facility access including stakeholder

Daily huddles and daily work briefing

Access requirements & facility protocols

Preconstruction meetings with Contractors

Partner with AHJs - plan for inspectors and

Quality inspections, approvals and close-out

sign-off requirements

Onboarding requirements

Contractor communication

Inspect work-in-place

Mockup requirements

permit submittals upfront

Procore for quality control

Pull-planning

- · Logistics plans
- · Stakeholder input
- Permit application and coordination with agencies
 - Master project schedule covering design, preconstruction and agency permits
- · Progress updates
 - · Monthly detailed reports
 - · Schedule updates
- · Cost updates
 - · Budget development and verification
 - · Cost tracking during design
 - · Contractor change negotiations and tracking
- · Communication with campus facilities
 - Implement app platform for construction information and updates on an as-needed basis Working in Active Labs/Permit Access

Design Document Review

During the design process our efforts will be focused on ensuring that a complete and fully coordinated set of drawings and specifications is provided prior to bidding. We will conduct a technical review of the drawings and specifications in order to:

- Coordinate construction documents to avoid gaps in purchased scope
- Ensure that what is designed can be priced in a bid environment
- Review drawings and specifications for sole sourcing that might unnecessarily inhibit competition
- Review mechanical drawings to determine whether systems are over-or under-designed
- Review drawings to verify that your sustainability goals are being met

identified · Identify long-lead items

Ensure system commissioning requirements are

- Identify any constructability or life safety issues
- Consider value management ideas
- Engage in a formal review with permitting/ approvals agencies
- Update the Master Project Budget and Master Project Schedule

Skanska will also establish design parameters with the design firm, defining what constitutes a 25%, 50%, and 100% submission, and hold the designer to these metrics.

Permitting

Effectively tracking the permit process is critical to maintaining the design schedule. Skanska will work closely with the design team to track all anticipated permits and submissions that are required for the NJPHEAL Expansion project. Permit activities will be incorporated in the CPM schedule and updated on a monthly basis. We anticipate several of the approvals may be critical and impact the overall design phase duration.

Based on our initial review of the requirements, we anticipate the following list of approvals:

- Ewing Township Site Plan Approval
- · Mercer County Site Plan Approval
- NJDEP Freshwater Wetlands
- NJDEP Flood Hazard Area
- NJDEP Water Main Extension
- Trenton Water Works

Throughout the design phase, we understand the A/E has the responsibility to submit numerous documents for the purpose of obtaining a Uniform Construction Code (UCC) permit. The submissions will be tracked and filed on Procore.

Early in the design phase, Skanska will review the procurement strategy for the project and whether multiple building permits may be desirable. For projects where there are multiple additions and/or structures, it may be beneficial to permit the additions separately. We will review factors such as design timeframes and occupancy requirements to identify if the documents should be broken apart. The advantages may include schedule and cost savings. Skanska will review and recommend an approach early in the design process as the A/E team will need to develop multiple bid packages and submit permit applications that coincide this this approach.

Logistics Planning

When we have projects on active campuses, we have a daily duty to ensure that our work processes in no way impact the ability of staff to accomplish their vital work. To that end, detailed and advanced planning is required to ensure that every stakeholder is fully aware of where we are working, what we are working on, and the protocols required to facilitate the work. Our overall goal is to limit our impact on the operations by working with the entire team to effective plan the work.

The successful prime contractor will play a major role in the success of the project. Skanska will work closely with the contractor executing the work and following established procedures and phasing plans.



- NJDEP Treatment Works
- Mercer County Soil Conservation District
- NJPDES Permit
- Delaware Raritan Canal Commission (DRCC)
- Department of Community Affairs (DCA) Building Permit

Skanska will ensure the contractor is confining its operations to a compact footprint to minimize impacts on your campus. As logistics plan are developed for project, we will take into account existing pedestrian and vehicular traffic flow patterns and the experience of your visitors, and staff who come to campus during construction.

Planning Safe Shutdowns and Tie-ins

While existing conditions are investigated, our team will learn what systems are currently in place and how we will interface or tie into these systems. Working amongst active systems can be dangerous for our workers and can also be disruptive to campus operations. To avoid unplanned interruptions, we will:

- · Conduct pre-system investigations to determine what systems or areas may be affected by shutdowns
- · Implement backup systems to avoid disruption
- · Implement a disruption protocol and permitting system with facilities and building departments
- · Provide fire watch and additional protection protocols for interrupted life safety system

Skanska has proven methods to coordinate utility shutdowns. Keeping staff safe and minimizing disruptions to ongoing operations are our top priorities when planning for utility shutdowns. Therefore, it's important to develop a detailed plan with all stakeholders early in the process and establish these procedures so contractors are aware of the process. We recommend implementing permitting protocols and signoffs with all stakeholders. This will ensure scheduled shutdowns are coordinated with all users and transparent communication is maintained.

Types of Common Shutdowns for Building Expansions on Active Life Science Campuses

It is important to trace out all affected utility lines prior to shutdown so all potential impacts can be accounted for during planning. Shutdowns will likely include:

· Lab gases

· Electrical - Line Voltage

Electrical - Fire Alarm

- Mechanical Steam, CHW, HHW
- Fire Suppression
- · Waters Domestic and Laboratory

· Electrical - BAS and Monitoring

Electrical - Low Voltage and Communications

Issues Surrounding Utility Shutdowns	Mitigation Strategies
Staff Safety	 Evaluate the affect shutdowns may have on air balance, egress lighting, emergency egress paths, security systems, and life safety systems
	• Ensure that temperature control of the space(s) is not adversely affected.
Notification	Give plenty of advanced notice of pending shutdowns, including anticipated durations and contact information for appropriate team members.
	 Having a complete understanding all impacts to equipment/components/ spaces prior to a shutdown occurring and communicate those impacts ahead of requesting the shutdown.
Planning	 Involve and meet with all relevant departments. This includes, but is not limited to security, building services, EHS, Project managers, and business operations.
	 Identify the following: schedule, how a shutdown will affect different departments, any operational issues or concerns and expected deliveries of products or services.
	• Complete advanced investigation of shutdowns to minimize schedule impacts, as "minute" or surprise shutdowns will impact the schedule, budget, and safety.

Step-by-Step		Create a schedule for constr
Procedures		Identify the level of involvement They can be very helpful in p during the construction porti
		Discuss a contingency or bac project that everyone unders
		Make a detailed master sche scheduled. Review, review an
		Complete all paperwork, wal linebreak, obtain buy-in and
		Communicate as the shutdo to plan and timeline
Examples of items		Valves that don't hold
that can affect	n affect Electrical shutdowns	
schedule & cost		Sudden change in weather
		The proper personnel were n
Important checklist	·	A list of who the shutdown w
items every utility		An outline of potential constr
should include		An indication if noise will be
		Any special inspections or ce
		A list of all necessary signage
		Identification of all who shou
		Identify who will supervise th
		A list of emergency contact r
Other		Start early in the day, and no
and Suggestions	.	Involve as many people as n
	·	Review contingency opportu
	. 	Ensure additional or spare p overnight shutdown is planne
	·	Check that adjacent departr



ruction activities.
nent subcontractors have during shutdown planning olanning shutdowns and setting up the durations tion of the shutdown.
ackup plan. Establish a clear "Go-No Go" point for the stands. Have resources available just in case.
edule that includes all the issues listed and nd re-review.
alk down the system, verify de-energization prior to I sign-off from all stakeholders
own is in progress and confirm it is going according
ffect areas not previously identified
not notified
vill affect: people and departments
truction safety hazards
a factor
ertifications involved
ge
uld be made aware of a shutdown
ne shutdown
numbers

- ot the first or last day of the work week.
- ecessary
- Inities
- parts and materials will be available, especially if an led
- ments have been notified



Estimatina/Cost Analysis

Skanska has unsurpassed cost estimating and cost analysis capabilities. This is the result of the outstanding skills and experience of our in-house estimating team, the cutting-edge estimating tools that they use, their approach of building estimates as though they are bidding on the work, their familiarity with the local construction marketplace, the continuous escalation analysis performed by our company, our budgeting and design management process, and our builder's expertise.

Skanska's in-house cost estimating staff includes architectural, civil, mechanical and electrical estimators. Our estimating team sets Skanska apart from our competitors. Their sole function is to develop estimates for our projects, work with teams to identify cost saving opportunities and validate the project budget as part of each estimate deliverable. In addition, our preconstruction team's day-to-day interaction with the construction market ensures that the unit pricing is accurate and based on real-time market information. Most of Skanska's estimators started their careers in the subcontractor market and understand the factors that influence bid pricing. This ensures that our deliverables are accurate.

Our in-house estimating team prices projects as though they were bidding on the work and as if they were developing a Guaranteed Maximum Prices (GMP) for a project where our fee was at risk.

This distinguishes us from pure cost estimating firms that do not build. Their initial budget figures are based on "estimates" from prior assignments, not on the final cost of those projects and not on real time market intelligence.

Drawing upon the strengths and skills of our estimating team, we will provide accurate, durable estimates that will enable complete and comprehensive comparisons between all potential design solutions and that will serve as the baseline for assessing and controlling project costs throughout the remaining phases of this project. The benefit for the DPMC/NJBA is that you will not have to request additional funding as your project moves through design and construction.

Software that our estimators employ includes BIM Revit Modeling, Assemble Systems, On Screen Takeoff (OST), SAGE Estimating, and Metriks[™] (our national construction cost estimating database). These tools provide a powerful tool for establishing cost.

Our estimates will be developed to create a framework for evaluating options as your project moves forward. Baseline quantification and pricing, preliminary phasing and logistics, and constructability will be established, and we will be able to incorporate and maintain a multitude of cost centers and/or breakout values to support decision making and reporting. Our estimates will be built as a tool to support your project as it transitions from the design phase into construction.

Skanska understands that establishing an accurate budget isn't restricted to construction materials and labor.

Logistics Planning

Logistic greatly impacts the cost of construction. Correctly defining logistics and phasing requirements upfront significantly improves budget certainly by clearly defining requirements to contractors.

Taking benchmarking to the next level with Skanska Metriks[™]: Data from Similar Projects

We are also well aligned with the estimating needs of this assignment because of our national construction cost database, known as Skanska Metriks. We use Skanska Metriks to harvest close to 400 specific, quantified attributes from every project in order to help customers and design firms optimize results. Skanska Metriks contains detailed cost information from over thirty (30) Skanska laboratory facility projects.

Metriks will also help the team identify potential cost allocations for the scope still being developed, leaving room to maximize the program within our initial baseline estimate. Because it contains data from similar projects, Skanska Metriks will enable an understanding of the costs and cost drivers in the implementation of your project.

We will use our cost benchmarking capabilities during the design phase to validate the budget for your project and to provide quick, continuous feedback throughout the design process. Being able to evaluate the efficiency of building systems relative to similar institutions, teams can also identify attributes to target for improvement long before construction starts or the design is developed. Using Skanska Metriks bolsters cost certainty and ensures we never present a design that isn't within your budget.







Mastering the Market for Project Success

As crucial as benchmarking will be for developing cost estimates, historical data alone will not be enough for us to create a complete picture of the cost of this project, particularly with the market as uncertain as it is right now. For that, we must consider current market trends and the unique set of requirements, assumptions and values that make up this project. The impacts of COVID-19 are still being felt in the supply chain. This uncertainty has created several challenges for project costs and schedules. Fortunately for the State, we keep a constant finger on the pulse of current construction market trends.

We will leverage all our resources and strategic partnerships to provide the most up-to-date pricing, lead times, and material availability for this project. If certain materials won't work within the project schedule, or have significantly escalated in price, we will propose an array of alternatives to meet the project's needs and design standards. Early in the design process, our proactive approach will help us identify potential issues well in advance to bring valid solutions to the State.



We will analyze and synthesize all of this data—both tangible and intangible—into a single conceptual model and use it to set the foundation for the balance of design and the GMP. Across our organization, skilled preconstruction professionals deliver a **98 percent budget-to-actual accuracy**, meaning that for our billions of dollars of contracts annually, we capture 98 percent of actual costs in our estimates.



Budget Control Summary

As the design develops and various options require decisions, it will be necessary for the full project team to understand the current status of the budget. In addition to completing estimates at each major design milestone, we will use our Budget Control Summary (BCS) log as decisions are made throughout the value engineering process to document how the budget is tracking compared to the target value. As ideas are accepted or rejected, we will update our cost estimate to reflect our current status in relation to the budget. We will regularly report on the project estimate cost status to the team so everyone will always have a current snapshot of where the budget is trending.

Applicates	Elevators, Excelators,	Rooting Products	Current 5	Status:	6-12 Month	Foreco
	Mening maka		0	0	6	6
Architectural Interiors	Generators	Structural Steel	Laud Time	Price	Lead Time	Pric
Doors and Hordwore	HVAC Equipment	Wood-based Building Materials	Since cur update	last quarter.	there has been in	ny title
Electrical Commodity Materials	Lob Casework and Fume Hoods		change in the Hi is that the semic cousing several	AC equipme onductor chip rejor manufe	nt market. The only a shortage in Asia acturers to push o	ly real up Is worse ut delive
Electriciti Geol	Plumbing and Fortures		commitments Li significantly new Demand for HVA	ad times for averaging 5 C equipment	chillers have incre 2 weeks for most r continues to be vi	rosad models. ery stró
Special consideration	t (Lopites)	(Transportation)	data percenter auto times for special	t sectors—ac mative and l ized ECMs ar	pecially in the sen fe sciences sector e running 70+ www	nicondu rt. Leod ikz.
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Value Engineering, Life Cycle Cost Analysis, and Constructability Review

Skanska considers value engineering, life cycle cost analysis, and constructability reviews to be complementary processes in which project value can be maximized. We will work to ensure that these processes are defined by responsiveness, open dialogue, the timely and efficient input of comments into the cost model, and continual constructability input. This approach, rather than traditional cost cutting practices, seeks to find the point in the cost curve where maximum value will be provided to the DPMC/ NJBA. Skanska's comprehensive approach also guards against decisions intended to reduce costs but that actually undermine quality and result in increased costs in subsequent project phases. As such, we will ensure that the full ramifications of project decisions are fully understood.

Periodically, and at strategic points in the design phase, the entire project team will assemble for dedicated workshops and planning sessions in which this project will be reviewed from a managed value perspective.

Furthermore, in order to obtain additional benefit, similar methodologies and principles will be applied throughout the preconstruction phase to evaluate the Master Project Schedule, proposed Bid Package trade delineations, commissioning protocols, and the quality implications related to design decisions.

The active management of these processes will enable timely, detailed, and comprehensive decision making as opposed to the traditional and reactive value engineering process.

This approach will have the effect of providing the DPMC/NJBA and the project team with an efficient and comprehensive control mechanism for each of the main drivers necessary for a successful project.

Skanska will work with the designer to ensure that costs remain at or below the budget established by the team at the outset of the project. Where required, we will assist in developing and tracking value engineering solutions that result in equal or greater value at reduced cost.

Utilizing a Value Engineering Log, our team will meet with the designer and owner to evaluate cost reduction measures while maintaining operational effectiveness, user comfort, architectural integrity, community values, safety and security, schedule, and cost.

Skanska will protect the DPMC/NJBA's interest during this process to ensure that project goals and stakeholder values are maintained.

Benefit to DPMC/NJBA

Skanska's approach to value engineering contrasts strongly with the standard approach of cost cutting. Our approach is to deliver equal or superior value at a reduced cost. The benefits include both lower initial costs and reduced operating costs.



Value Engineering Log and Associated Pricing Back-up

Escalation

Skanska has in-house capabilities that are virtually unique in the industry. Among these is our ability to forecast escalation. Skanska continuously monitors the market for price escalation in both this region and throughout the U.S. This information is assimilated into a comprehensive "Construction Market Trends Report," which includes actual, real time data from our many projects combined with commodities reports. Because this report reflects current pricing trends "live" in the market, it ensures that we have the most accurate pricing and understand what commodities, materials and services may affect project pricing. This single tool has revolutionized our ability to provide the most accurate pricing available and to forecast future costs. We find this to be the best method for managing escalation risks.



Construction Market Trends Report Spring 2022 | Skanska USA Building

↓ Click to jump to each section **Overview and Economy** Local Construction Costs **Construction and Labor** Architecture Indices **Commodities** Pricing **Materials Pricing Supply Chain Trends** Sources and References

Sharp, Climbing Cost Escalation Continues

The cost escalation and supply chain effects of the waning pandemic have been replaced by the tragic and developing war in Ukraine. Historically, a two-year period in the construction industry would yield inflation of about 7 percent. The ENR Building Cost Index (BCI) is already up more than 5 percent through April and is on pace for a 15 percent increase in 2022, exceeding the 12.5 percent increase in 2021.

Manufacturers will note that climbing prices and long lead times also stem from the explosive demand in many sectors including data centers, automotive (EV), life sciences, distribution, semiconductor and infrastructure. High demand is driving up lead times significantly for electrical equipment due to large entities buying up capacity into 2025. Manufacturers are adding capacity and expanding their sourcing to alternative suppliers, but they simply can't keep pace to meet demand.

Additionally, labor has become an increasing concern. Unemployment is at a near 50-year low, but the construction industry is short over <u>650,000 workers</u>. Non-union markets are experiencing wage competition between projects and in unionized markets, we expect labor contract renewals will require larger rate increases due to the increased cost of living.

Market Factors

- Can change an estimate up to 15%.
- Understanding market conditions during the estimating process results in cost certainty.

Site Investigations and Verifying As-built Conditions

Critical to any successful laboratory renovation project is the verification of existing conditions including utility infrastructure that feeds sensitive systems and areas. By investigating existing site conditions, our team can help evaluate constructability, ensure facility safety during construction and eliminate the risk of unknown conditions. To make certain that we have an accurate understanding of the current site and building conditions, we recommend performing the following:

- · Verify as-built drawings by studying the utility layout and confirm the locations of existing systems and equipment.
- Take extensive 360-degree photos and use StructionSite, which allows you and our team to remotely visualize the space, incorporate existing conditions into the design and create efficiencies that reduce cost.
- Capture video of existing utilities to confirm the integrity of systems, locations and elevations.

We recommend these investigations occur during the design phase to allow for as much planning as possible. While Skanska understands that procurement requirements may limit some investigations, we will work the NJPHEAL & DPMC to identify opportunities and maximize planning efforts.



Skanska will also develop requirements in the contract documents to ensure the selected contractor performs its own due diligence prior to commencing work. It is important that protocols are followed to ensure facility operations are not interrupted without prior approval.

Building Information Modeling (BIM)

We understand the power of BIM in enhancing the design, procurement and construction process by detecting clashes, enhancing productivity, maximizing safety, managing environmental goals, and enabling project stakeholders to visualize construction sequencing and phasing.

Skanska will work with the DPMC/NJBA and the design firm to develop a project BIM Execution Plan. It is not our intention to duplicate the services that they may be providing, but rather to work with the design team and subsequently with the contractor to utilize BIM to its greatest potential. By way of example, we would confer with the Design Team regarding BIM guidelines and protocols that will facilitate design and result in lower bid pricing by providing additional clarity and "de-risking" contractor bid packages. The complexity of your project, moreover, merits the requirement that the selected contractor should either have BIM capabilities or be willing to gain such capabilities in order to participate in the procurement process. This would help to eliminate gaps in purchased scope and provide added specificity to contracts. Having contractors share in creating/managing the BIM model will advance the goal of verifying that what is designed is biddable and buildable.

Below are some of the capabilities of BIM that we recommend using on your project:

- · 3D design modeling
- · Site logistics and project phasing
- · Clash detection and resolution
- · Progress tracking
- · As-built models for infrastructure upgrades
- · Linking relevant project lifecycle data

Recognizing that Building Information Models are increasingly being used as platforms for facilities management, we will guide the development of a final BIM product that is useful for long-term asset management, incorporating 3D models, 2D drawings, laser scans of as-built conditions, and 360-photographs as well as all associated asset data to best suit your needs and provide you the best deliverable possible to maintain your assets for years to come.

Our project teams use BIM-enabled site planning on projects with complex phasing, underground utility tie-ins or specific safety and logistics requirements. BIM-enabled site planning allows us to provide accurate, data-rich, consistent and easily maintained plans. Because BIM-enabled site planning is a continual process using parametric components that the team creates and updates, it allows for clearer and more accurate safety planning and communication. This leads to schedule savings and reduced risk to onsite workers and project stakeholders. By integrating BIM with construction logistics, we enhance our ability to streamline site access, site safety, site usage, equipment locations, and staging and laydown areas—all of which result in a leaner, safer jobsite.

Our approach is to leverage a variety of solutions at different tiers of complexity and capability to create a perfect fit for the project.

We focus on pushing information out of the office and into the hands of project managers, superintendents, project engineers and craftworkers. With the aid of tools, such as BIM360 Glue, Procore and PMWeb, our teams will execute the plan and document as-built conditions to submit RFIs, manage logistics, track deliveries, monitor site safety, verify quality and ensure a seamless turnover.

Utilizing these tools saves labor hours and improves production by shortening or eliminating the physical distance between project information and builders.



rehouse Expansion Project at NJ Public Hu

LEDLENSER

IZZY TAYLOR

Laser Scanning helps avoid costly mistakes because it allows our team to fully understand the site, existing conditions and adjacent buildings. This becomes critical when planning utility tie-ins and bridging tolerances and helps avoid clash issues.

While existing site conditions verification occurs, we will relay timely as-built information to assist with the design and final planning. We will assist the design team with confirming that design and construction documents are coordinated with existing conditions. The results of our upfront investigations will benefit the project by avoiding unknown costs, eliminating the need for redesign, minimizing neighboring space impacts and increasing schedule certainty.

We recommend the laser scanning is conducted to the greatest extent possible. Once the space programming is completed, Skanska will work with the facility and design team to identify locations where scanning is beneficial.

CASE STUDY

Laser Scanning

Using innovation and cutting-edge technology to improve the schedule by 36 percent

Our team has successfully implemented laser scanning on numerous occasions in active life science campuses. The use of this technology streamlines the construction process and greatly improves quality. As an example, Skanska used laser scanning on the \$40 million GlaxoSmithKline Laboratory Renovation project. By implementing the technology early in the project, we eliminated the need for trades to conduct field surveys. As a result, our team shaved four weeks off the project schedule. With the fast-track schedule slated for 11 weeks, this translated to a schedule improvement of 36 percent.

- **Cost savings:** By performing laser scanning inhouse
- Schedule acceleration: Saved one month on the schedule by laser scanning
- Zero rework: Through early detection and mitigation of clashes
- Client satisfaction: Success on this project has helped us win new work with the client
- Improved trade coordination and communication: Skanska led trade coordination in tandem with schedule development



Sustainability

Our Team is well-positioned to assist with planning related to your environmental certification goals. We are one of the most green-focused construction services firms in the country. We have experience with over 100 LEED-Certified projects across the U.S. and we have 500 LEED Accredited Professionals on our staff nationally. Our process will be to establish what your environmental/sustainability goals are (e.g., energy savings, occupant comfort, reduced carbon footprint, etc.); and then to identify where constructability, cost, and schedule overlay particular green/sustainable design elements that support the achievement of your sustainability objectives.

Procurement

Our strategy is to maximize competition and to identify qualified bidders who clearly possess: financial stability; a healthy work volume; a dedication to safety; a strong commitment to performing high quality work; and a history of good performance on past projects that are similar in size and complexity to yours.

We will work with the design team to ensure that bid packages clearly address all requirements pertaining to subcontract agreements, including, but not limited to, commercial terms, scope definition, risk management, performance expectations relative to safety, cost, schedule and quality, site logistics, close out documentation, submittals, engineering, coordination, delivery, and start-up/commissioning.

Ensuring that all project scope is identified and purchased in the bid process is the single most cost-saving activity throughout the process.

Equipment and long lead materials continue to plague projects. Skanska will evaluate the need for prepurchasing of equipment and materials early in design that may drive the construction schedule and prevent on-time completion.

Skanska's in-house supply chain experts monitor and work with suppliers across the country. Our team manages a database of current lead times, supply chain issues and other relevant information.

Skanska will work closely with the project team to evaluate product selections and identify opportunities for pre purchasing. Currently, electrical gear including generators and switchgear have lead times of 52+ weeks. Proactively planning for this is critical to the success of this project.

Safety Monitorina

Skanska is regarded as an industry leader in safety and is known for its Injury Free Environment (IFE) safety program. IFE focuses on creating a culture of safety at the project site and involves numerous meetings and seminars with the contractor, subcontractors and other project team members. The program reinforces in all participants that many other people beyond themselves depend on them remaining safe.

We will require the contractor to develop a site-specific safety plan that identifies work hazards and controls that will be implemented by the contractor to mitigate the hazards. The safety plans will be developed prior to commencing construction activities. We will ensure that safety provisions are included within bid documents and that contractors fully understand safety guidelines and expectations. We will enforce the use of daily pre-task planning, a specific time set aside before work begins each morning during which each work crew identifies the day's tasks, the risks associated with those tasks, and the steps each worker needs to take to avoid them. Our goal is to develop a culture of safety day one and ensure the project is completed safely.

Construction Phase Management

At the core of our management approach is our intention to provide construction professionals from Skanska to oversee every step of the construction process. We will be the DPMC/NJBA's "eyes and ears" on the construction site. We understand how laboratory and warehouse projects are built, the importance of prompt decision-making for schedule success, how to manage budgets, how to hold both designers and contractors to their contractual obligations, and the importance of proper record keeping and project

documentation. Our management of the construction phase will be carried out with heightened attention to preventing potential roadblocks.

We will manage the submittal process to ensure that schedules and turnaround times are met and ensure that the contractor and designer are coordinating the work properly. We want the work to be done correctly the first time with the right materials.

Effective meetings are also a critical part of construction phase success. We will meet with the architect and contractor weekly on-site to monitor and coordinate the construction phase; track submittal status, budget, and schedule, and resolve field conflicts and discrepancies in design drawings. We will lead each meeting, set the agenda, and document decisions and outcomes. Our meetings result in action items and deliverables. We document agreements that are made, and we then track the completion of those deliverables.

Monitoring of Construction Activities

We will provide daily observation and monitoring of construction activities such that all shifts and work activities are observed and documented. Specific responsibilities include:

- Preventing obstacles to contractor performance that could result in claims.
- Preventing claims through diligent oversight of the contractor and their adherence to the schedule.
- Keeping a daily log containing a record of weather, the contractor's work on site, number of workers, visitors to the site, safety status of the project, equipment and equipment utilization, material and equipment deliveries, non-compliance with safety procedures and issuance of any safety violation notifications, accidents, general description of work performed and quality of work, visits of code enforcement officials and any resulting reports or orders, verbal instruction to interpretations given to the construction manager, pay items, and any observed delays, deficiencies and field problems.
- Monitoring the contractor's compliance with the construction schedule, identifying potential problems, and making recommendations when agreements are not being fulfilled.
- Assisting the architect in determining if construction and construction related activities are performed in accordance with plans and specifications and the approved shop drawings.
- Performing schedule reviews to identify out-of-sequence work, potential stacking of trades and possible claim situations.
- Monitoring, reviewing and analyzing proposed change orders, and claims.
- Evaluating quantities and classification of unit price work performed by the contractor.
- Coordinating and tracking requests for clarification on drawings/specifications, design changes and proposed change orders.
- Ensuring sustainability requirements are being met onsite by the contractor.

Field Inspections and Quality Control

Additionally, Skanska will perform the more traditional QA/QC tasks. We will oversee the construction work as it is put in place to minimize or prevent rework. We will routinely inspect all work put in place to ensure that quality standards are being met and to identify any deficiencies before they impact the project schedule. Inspections will be conducted in order to verify:

- The quality of workmanship
- Conformance to contract documents, codes, regulations and project requirements
- Quality of materials
- Lack of Omissions

- Dimensional accuracy of the work
- That the contractor develop, maintain and update As-Built drawings (updated monthly) as a requirement of project closeout and release of final contractor retainage.

Mockups

Our team understands the importance of constructing laboratory mock-ups, with all finishes in place, to allow the building end-users to review when adjustments can easily be made to the design. We have significant experience constructing laboratory mock-ups, which will ensure a cohesive mock-up process for your project. Successfully completing mockups will reduce the need for rework and establish workmanship benchmarks.

Additionally, we have successfully utilized digital mock-ups to better ensure quality construction. Producing high-resolution renderings from the 3D models has proven extremely beneficial in producing photo-realistic digital mock-ups of features for interior spaces, like lab benches, and exterior elements, like glazing, masonry color and block types. We also can use the 3D digital mock-up process to explore and communicate constructability issues, such as complicated wall attachments, waterproofing sequencing and window installations. We recommend working with the design team to identify elements that would benefit from virtual models. This will allow the project team to collaborate and modify the design virtually in design and before contractors' construction physical mockups.

In the field, first installs and mock-ups will be the strongest line of defense against the installation of noncompliant work. This will demonstrate the contractor's understanding of the design intent and quality requirements for building systems. By using this technique, we can establish an in-place quality benchmark for the project that will help solve any constructability issues and resolve coordination. Skanska will coordinate meetings to review the initial installation and mockups, where required, once completed by the contractor. This will include representatives from the contractor, the design team and DPMC/NJPHEAL personnel. At a minimum, the review will cover the following:

- Construction methodology
- Quality of finished work
- Conformance with project documents
- Working environment conditions

Skanska will assist in determining acceptability of the installation and oversee any remediation work if required. Once accepted, the mock-up will become the quality standard for the respective building system. Mock-ups provide a clear means of demonstrating finish expectations and become the standard by which all work is compared. Additionally, they help the team address potential design issues up front, such as constructability and assembly needs, structural performance and planning.

Quality in the Field

Our team will work proactively to inspect the contractor's installation. These inspections will ensure compliance with the contract documents, submittals, conformance with mock ups and verify workmanship quality. Our inspections will be logged in Procore and nonconformance reports will be generated if work is found to deviate from the project requirements. We will document the remediation efforts and ensure the closeout of all documented issues.

Site Inspections

Skanska forges strong relationships with the local building inspectors as we understand they are critical to the successful management of the project. Skanska's commitment to inspect what we expect has resulted in countless successful local and state inspections. Through this quality process we will establish trust with local inspectors and ensure processes and procedures are followed. This includes engaging the local Fire Marshal who often times is critical when modifying life safety systems. Our team will begin our outreach process in the design phase in conjunction with the facility leads. Establishing good relationships and a level of trust with the facility leads has helped on numerous occasions and will continue to be invaluable in scheduling inspections. As the contractor is onboarded, Skanska will coordinate a meeting with entire construction team to establish communications protocols, review expectations and identify needs for regular follow-up.

Schedule Control

Our role as your consultant is to apply our "builder's expertise" to ensure that initial schedule goals are met and, when necessary, to develop schedule recovery strategies in the event of unforeseen delays.

We maintain full-time scheduling specialists in house, and our operations staff are trained to prepare, analyze, and update all types of schedules including bar graphs and precedence-based CPM schedules. We are very familiar with different types of scheduling software including Primavera P6 and Microsoft Project and use them daily. We will update the Master Project Schedule that we developed in Preconstruction throughout the duration of the project and inform the DPMC/NJBA of any impacts to deliverables and critical decision makina.

Upon award of the construction contract, we will analyze the contractor's initial construction schedule and advise DPMC/NJBA on the validity of the schedule and logic of sequencing. We will help identify long-lead items that need to be reflected in the schedule and will provide feedback on critical path items.

As the contractor presents schedule updates or proposals for schedule recovery, we will compare these with the approved baseline schedule and provide you with reports identifying each change and explain how those changes impact the baseline schedule.

Throughout the construction phase, our team will analyze any proposed change orders that have schedule implications and will review submittal schedules to confirm sufficient timing for approval and ordering of materials. We will develop standard formats for schedules so that they can be uploaded to keep the master project schedule up to date. We realize that this project must be completed on time.

Besides a Master Schedule, the implementation of a milestone schedule allows focus on important milestones that are required to be met in order for the master schedule to have validity. Contractor three week look-ahead schedules will identify activities and crew sizes to be utilized and will also eliminate stacking of trades in one specific work area, aiding in the flow of construction work put in place.

Change Management

Skanska understands that changes are a continuous threat to cost control throughout construction of a project.

Most projects require modifications or changes during construction because:

- 1. no set of contract documents is perfect,
- 2. the Owner reserves the right to change the scope of work, and
- 3. unforeseen conditions are inherent in the process.

The ability to respond to the changing requirements of your project will be essential to their success. Skanska's management of change orders provides rapid, reliable and fair handling of owner or contractor requested changes. The key components to a successful change management process are well-written contracts, communication, and discipline.



CASE STUDY

Skanska served as the construction administrator for the renovation of the historic, 350,000-SF Connecticut State Office Building. The various challenges encountered during this \$205 million, three-year-plus project led to a fairly large number of changes and construction change orders (more than 200) worth more than \$13 million. In conjunction with the project architectural firm, Skanska's team was able to successfully contemporaneously review and process these change order requests in order to keep construction moving ahead and on schedule.

As a direct result of our team's analysis and expertise in construction, Skanska's change order request review process was able to directly save the owner more than \$5 million when comparing originally submitted change order request proposal total dollar values to final approved change order values.

Our Role

A key role of Skanska is to mitigate damages by administering the change order process promptly and in accordance with the terms and conditions of the contract documents.

This is accomplished by having Skanska be the center point of the change process thus ensuring that it happens consistently throughout the project and that each project team member is accountable for their role in the process.

By maintaining control of the change order process and documenting scope, cost and duration changes, the risk of miscommunication for both the owner and contractor will be minimized.

Skanska's role is typically to:

- Establish and implement the change control process
- Communicate the process to all project team members
- Log and Track Changes
- Review for accuracy/completeness
- Complete the DPMC-10 Consultant Evaluation of Contractor Change Order Request
- Make Recommendations to the Owner
- Assist DPMC/NJBA in negotiating changes
- Issue Change Order recommendations
- Ensure approved changes are invoiced correctly

Keys to Effective Change Management

The keys to effective change management include:

- In-depth familiarity with the scope of work for each contract
- Understanding contractual timeframes
- Requesting a Change Order log from the contractor
- Requiring that all change requests be put in writing by the contractor
- Establishing at the beginning of the project how labor and equipment rates will be applied to Change Order work
- Carefully reviewing all change order requests for the appropriate scope of work, amount and duration
- Upon arrival of the invoice, confirming that each line item in the change order is correct and has not been previously billed.

Many change orders trigger a delay to the schedule which is not often captured at the time of the change, creating additional costs and/or misunderstandings later on. At the time of negotiation, we insist that all change orders clearly identify whether or not they affect the schedule.

While some of the change process may result in "difficult" discussions, our team members will confront issues in those discussions in a professional, reasonable, and collaborative manner to ensure a fair outcome per the terms of the contract.

Supply Chain Management

Skanska has an in-house Strategic Supply Chain (SSC) group that is in constant communication with material vendors and equipment manufacturers across the U.S. Our SSC team leverages Skanska's national scale and supplier management expertise to understand the dynamics of the supply chain and to assist in developing plans to mitigate challenges.

We will create and chair supply chain meetings with the contractor and client and identify items that are critical to success to the project and need to be on site coordinated with the construction schedule. This



The volatile supply chain market is no match for Skanska's expertise in strategic procurement

The market and supply chain are currently highly volatile, still reeling from the pandemic fallout. Given that no one can predict exactly what the picture will look like over the next few years, it has never been more important to choose a construction management partner with the tools, knowledge and relationships to monitor and master market challenges. Skanska can offer the State cost and schedule certainty with Skanska's Market Trends Report and national Strategic Supply Chain program. In the hands of our experienced experts, these tools will help your project team better understand local and national market trends and risks, empowering us to develop escalation strategies, make material selections and schedule for long-lead materials.





Case Study: Supply Chain Management

On a recent, schedule-intensive project, we helped to expedite the delivery of four air handling units (AHUs). The client had direct-purchased the AHUs but was told just one week ahead of delivery that the units were not in production because of component availability issues.

We immediately escalated the issue to the manufacturer's executive team and set up a conference call the next day with the client's P&L Leader as well as the management team from the plant where the units would be produced.

The manufacturer pulled all 32 sections of the AHUs ahead in their production queue and expedited trucking of the units to our client, allowing the project team to keep the project on schedule.

Systems Start-Up and Owner Training

Closeout begins at the start of the project. Skanska will write into the construction contract language that requires Operations and Maintenance Manuals to be delivered with the equipment and formally submitted prior to start-up operations.

Final Inspection (Punchlist) Prior to Inspections for Occupancy

Punch lists are sometimes the most challenging management task for the project team. As such, we suggest utilizing BIM 360 during final inspections to ensure all concerns are covered. Initialize the rolling punch list method, identifying and addressing non-compliant work and addressing at the time of identification, this eliminates the cumbersome punchlist which becomes a burden for project close-out and expands the project completion in many cases for months and becomes coordination issue with contractors that are no longer on site.

Project Closeout

Closeout begins at the beginning of the project with the inclusion of specific closeout language and requirements in the construction contract. Having the Operation and Maintenance manuals on hand prior to startup and training is essential for smooth turnover and for the understanding of new equipment and systems.

Warranty Inspections

As is customary with all our projects, Skanska wants to ensure that you are completely satisfied with our services and the overall end product. No member of the project team wants warranty call-backs after this project is turned over. One practice we recommend is to schedule a six-month and 11-month warranty walkthrough after completion with the owner, the contractor, and Skanska as construction manager. This will provide an opportunity to correct any deficiencies covered by the one-year industry standard warranty period before it expires.

Commissioning

Commissioning is an important component of the design and construction process. It provides owners with unbiased, objective verification that systems have been designed, installed, and are operating in accordance with the intent of the project requirements and contract documents. The Commissioning Process is customized to address the specific needs of this project and to provide the most value. It helps assure that the building operates with high performance systems with minimal impact on construction costs and schedule. M&E Engineers, Inc. (M&E) will be the Commissioning Agent (CxA) for the Skanska team. M&E has a long history of successful projects with DPMC and other NJ State agencies, such as the NJ Schools Development Authority and the NJ Turnpike Authority.

Systems to Be Commissioned:

The following systems shall be commissioned as per the requirements defined in the SOW document. The commissioning process will include performing: third party review of installation, witness contractor testing procedures, provide deficiencies report, and assemble documentation for Systems Manual.

- · Mechanical systems, including exhaust fans and HVAC&R equipment and controls
- Plumbing, including domestic hot water systems and controls
- Electrical, including distribution, lighting, and controls
- Security
- Fire detection and notification
- Network wiring

This project will utilize an integrated design approach. M&E will review the Schematic Phase design submission, Design Development submission and Final Design submission. This will be a peer review of the proposed project approach. They will review the energy model for general conformance to the proposed design and energy efficiency target for the buildings, as well as conformance to executive orders in regard to clean and renewable energy.

M&E will develop and provide a commissioning specification, as well as a commissioning plan and checklist. ASHRAE Standard 202-1013, The Commissioning Process, provides the most comprehensive approach to commissioning. According to Standard 202-1013, the Fundamental Objectives of the Commissioning Process are:

- Clearly document Owner's Project Requirements
- Provide documentation and tools to improve the quality of deliverables
- Verify and document that systems and assemblies perform according to the Owner's Project Requirements; (which includes appropriate design criteria, energy efficiency, reliability), and contract documents.
- Verify that adequate and accurate system and assembly documentation is provided to the owner
- Verify that operation and maintenance personnel and occupants are properly trained
- Provide a uniform and effective process for delivery of construction projects
- Deliver buildings and construction projects that meet the owner's needs, at the time of completion
- Utilize quality-based sampling techniques to detect systemic problems, as such sampling provides high value, efficient verification, accurate results, and reduced project costs
- Verify proper coordination among systems and assemblies, and among all contractors, subcontractors, vendors, and manufacturers of furnished equipment and assemblies.

Design Phase:

- Identify the Commissioning team. This will include representatives of the Owner, the design team, construction manager and eventually include the contractor(s). Coordinate and direct commissioning activities with the Commissioning Team. The Commissioning Agent will report directly to the Owner or the Owner's duly appointed representative
- Review the Owners Project Requirements and Basis of Design documents for clarity and completeness
- Verify that Commissioning specifications have been included in the Construction Documents and supplement as appropriate
- Perform an engineering and Cx focused review of the Schematic Phase submittal, Design Development submittal and Final Design submittal and associated calculations

Develop a Draft Commissioning Plan. The commissioning plan provides information to the Commissioning Team regarding the Commissioning Process such as tasks, organizational structure, schedule, and documentation requirements.

Construction Phase:

- Coordinate commissioning activities with the Construction Manager
- Plan and conduct Commissioning Process Kickoff meeting
- Maintain updates to the Commissioning Plan throughout the project
- Maintain a record of deficiencies and their resolution
- Prepare Pre-functional Checklists and Functional Test Procedures for equipment to be commissioned Checklists are to be completed by the respective contractors
- Perform site visits as necessary to observe component and system installations during the Construction Phase
- Document checklist completion by reviewing completed checklists and by selected site observation
- Review startup plans submitted by Contractor. Confirm that startup has taken place according to manufacturer's recommendations by witnessing startup of selected equipment and reviewing start-up reports
- Review TAB report and provide comment on any deficiencies. Correction of deficiencies will be required before Functional Performance Testing can proceed
- Witness and document functional performance tests performed by the Contractor for commissioned equipment and systems
- Seasonal and Deferred Testing If/when a system cannot be adequately tested due to seasonal weather conditions, we will review testing by the Contractor at another time under acceptable conditions.
- A Final Commissioning Report will be provided. This report will contain a summary narrative with documentation which has been developed throughout the Commissioning Process, such as installation checklists, startup reports, TAB reports, test procedures and results, deficiency report, and O&M documentation.

Construction Claims Management

Skanska's enhanced ability to mitigate the impact of disputes starts at the Design Phase with the alignment of design and contracts. During the Construction Phase, Skanska provides this ability through a daily presence on the job site, direct involvement in submittals, RFIs, Field Clarifications and Change Orders, requisite and relevant construction experience, skillful negotiation with the Contractor, and full documentation of project events and issues. In the event that a dispute is likely, Skanska will stand by the DPMC/NJBA and be prepared to support the Owner when the issue "comes to a head."

Documenting Potential Disputes

A dispute (sometimes referred to as a "potential claim") can be defined as a disagreement about one or more issues between the Contractor and the Owner's Representatives. Initially this support takes the form of documentation.

The greatest value of a well-documented dispute is that it significantly increases the possibility that the dispute can be resolved through negotiation. An issue is less subject to disagreement when all the facts are displayed and presented in an organized manner.

Establishing a Dispute File

While the opening and maintenance of a series of dispute files that are never used may seem unnecessary, the value of creating them lies in the fact that it is difficult to assess, in advance, which of the disputes

may develop into a claim. As part of Skanska's Claim Management practice, we already maintain contemporaneous logs of the likely relevant documents, such as pertinent correspondence, RFIs, COs, field reports, etc. In practice, the assembly of the dispute files can be completed relatively efficiently. If a dispute cannot be resolved readily, a well-maintained dispute file will be invaluable.

Document The Facts as The Dispute Unfolds

Collecting documentation related to a dispute after a project is completed is a difficult task. It can be a time consuming process to find all related documents in the mass of files created during a typical construction project. This is particularly true if the dispute researcher did not participate in the project's construction management or contract administration and is initially unfamiliar with events and documents that may be relevant. Therefore, it is preferable to collect dispute documents as events unfold, not afterward.

Our Claims Management Process

Skanska's Claims Management Process encompasses the prevention, mitigation, and expeditious handling of the earliest resolution of a particular construction claim.

Claims Prevention

Skanska will work with the DPMC/NJBA and the Designer to align contracts that protect the interest of the DPMC/NJBA. This is accomplished by aligning the contract documents to the defined purpose, logical risk sharing, and management scheme.

The root cause of claims is mostly contained in the contract formulation/documentation and the information supplied or not supplied at bid time. After the award of the contract, the opportunity to prevent a claim regarding scope comes to an end.

Claims Mitigation

As stated in the Claim Prevention section above, the best approach to mitigate the possibility of an arising claim is by structuring a risk-allocated contract, that is well-scoped, with clear responsibilities. There are several general principles that Skanska utilizes for mitigating claims, that can work toward the elimination of the basis for, or at least minimize, the occurrence of claims.

Key Inputs to Claims Mitigation are:

- Quality Bid Documents (clear scope of work, logistics plan, and realistic bid schedule)
- Contract Terms
- Risk Plan
- Defined Handling of Disputes
- **Defined Decision-Making Process**

Claims Handlina

Claims Identification: The identification of a claim starts with sufficient knowledge of the scope and responsibilities stated in contract terms when some activity appears to be a change in scope or terms requiring a contract adjustment.

Proper identification involves not only an interpretation of what the contract requires but also a documented description of the activity viewed as extra to that required by the contract.

Claims Quantification: Once an activity has been reviewed and a decision made that it is worthy of a claim, the next step is to quantify it, usually in terms of additional compensation or a time extension to the contract completion or other milestone date.

Those who have had experience with this side of claims management know that it is not unusual for the claimant to inflate the amount of the claim so that it later can be used in a bargaining process that seeks to arrive at a reasonable "truth."

Nevertheless, Skanska is an expert in utilizing proper and logical ways of determining the cost of the extra activity or damages both in terms of money and time.

Claims Resolution

Even with all efforts to prevent claims, there may still arise a justifiable disagreement as to whether the claim in question represents a deviation from the contract and whether the claimed amount of compensation or time requested is correct.

When this situation arises, Skanska begins a step-by-step process to resolve these questions, with the understanding that the longer this process takes, the more expensive and disruptive it is to both parties.

The process begins with negotiation, before moving on to mediation, arbitration, and litigation, depending on the remedies afforded by the contract.

Conclusion

It is essential to manage claims by understanding the root causes and taking actions such as the alignment of documents and the maintenance of thorough site records.

It is often cheaper to resolve disputes between parties by mutual understanding. It seems that most of the claims occur during the construction phase.

However, poorly prepared contract documents are the breeding ground for claims. In other words, once bid documents are completed and the contract is awarded, you can only avoid claims during the construction phase.

Our goal is to avoid disputes and resolve problem issues at the earliest moment and lowest level possible, within the constraints of our contract.





Project CPM Scheduling



We understand the importance of meeting or reducing the overall project schedule. The current 27-month duration, inclusive of design, procurement and construction, is aggressive due to a number of risk factors. Our team will proactively track and manage these items to ensure the project meets the project schedule.

Procurement Process

Procurement Strategy: Develop a comprehensive plan to maximize bidder interest and coverage including targeted outreach programs, bid package breakdown and a collaborative and transparent bid process to ensure sufficient bid coverage. This will eliminate rebidding the project which will cause project delays.

Contract Negotiation & Award: Hold planned schedule timeframes to mitigate delays to on-boarding the contractor. Proactive review of bids and formalized recommendations to allow DPMC/NJBA to award and issue contracts.

Maintain Design Schedule

Collaboratively work with the design team and DPMC/NJBA to minimize time-consuming value engineering efforts at critical design milestones. Providing continuous cost feedback during each design phase to allow the project budget to be maintained and reduce redesign efforts.

Review design team material and equipment selections to ensure lead times align with schedule assumptions. Recommend alternate materials and equipment selections for evaluation by the design team.

Long Lead Materials (Owner Procured)

Identify opportunities to pre-purchase long lead equipment to expedite the availability of mechanical, electrical and lab equipment. Certain lead times for this equipment are over 50 weeks which will impact expected construction durations. Pre-purchasing may be the only option if the proposed schedule is to be maintained.

Timely Decision Process & Reviews

The project can only move as fast as decisions are made. Implementing lean tools to streamline critical decision processes to allow DPMC/NJBA to evaluate various options in conjunction with design and CMF team recommendations. This allows for decisions to be made efficiently and maintain the schedule.

Maintain review periods established in the RFP. Provide timely feedback that can be integrated into the design documents during subsequent phases.

Preconstruction Due Diligence

Coordinate due diligence during the design process to minimize unknown conditions that will impact the schedule and budget. Perform utility exploration to provide the design team and prospective bidders a clear understanding of existing conditions that require consideration during design and construction.

Establish detailed logistics and phasing plans that have been reviewed and accepted by NJPHEAL's facilities team. Identify restrictions and notification requirements that will impact construction durations and sequencing. Develop detailed processes and procedures when working in the existing facility and performing utility shutdowns.

Permitting & Utilities

Develop detailed land development and permitting schedules that account for each activity required for approvals. Align design milestones to ensure approvals can be achieved during anticipated design durations.

Early utility provider coordination and agreements. Integrate critical milestones into the schedule when agreements, including Right of Way requirements, with providers, are required for design coordination and to confirm installation timeframes.

Construction Duration

Labor and material availability will potentially impact the proposed schedule. Project delivery methodology eliminates the opportunity to engage contractors during the design phase and release early packages and materials needed by contractors.

The CPM Schedule is included on the following page.



State of New Jersey Division of Property Management and Construction (DPMC) - Project No. A1360-01 Construction Management Services - Laboratory, Administration Wing and Warehouse Expansion Project at NJ Public Health Environmental and Agriculture Laboratory

	DPM	C - NJPHEA Proposed Sc	L Expansion hedule
Activity D Activity Name	Original Sta Duration	t Pinsh	2023 BY ART M Jun Ju Aug S Ort N D Jun F Mar Avr M Jun Ju Aug Sae Ort N D Jan F Mar Art M Jun Ju Aug Sae Ort N D
Evecutive Summary	750 28-Se	H23 07-Nov-25	
FROC1226 Design Phase	261 28-Se	p-23 23-Jun-24	
PROC1230 Procurement Phase	70 23-Ju	n-24 01-Sep-24	
FROC1227 Construction Prusi e	390 03-Se	p-24 07-0 ct-25	
CONS1014 Project Closenut	30 07-00	t-25 07-Nov-25	
Design, Permitting & Procurement	182 09-54	5-23 01-540-24	
PROC1237 Issue NTP	0	29-Sep-23*	
PROC1211 Ste Access Approvals & Design Rick Off Meetings	14 30-Se	p-23 15-0 ct-23	
PROC1223 Programming Phase	90 16-00	t-23 14-Jan-24	
PROC1222 Schemato Design Phase	30 10-J8	14-Feb-24	
PROC1221 Design Development Phase	30 17-Ma	r-24 15-Apr-24	
PROC1225 Final Design Re-Submission to Address Comments	30 16-Ap	-24 15-May-24	
PROC1228 DCASubmission Plan Review	30 16-Ma	y-24 15-Jun-24	
PROC1243 Permit Application Phase	7 16-JU	n-24 22-Jun-24	
FROC1235 Utity Provider Planning & Agreements (Sewage, Water, Electro, etc.)	100 29-56	p-23 12-Jan-24	
PROC1219 Local Municipality Land Approvals	100 05-Ja	n-24 15-Apr-24	
PROC1220 NPDES Permitting Process	100 05-Ja	15-Apr-24	
PROC1218 Building Permit	60 23-Ju	n-24 22-Aug-24	
Procurement PROC1232 Bid Phase	42 23-Ju	1-24 04-AUg-24	
PROC1234 Bid Review & Recommendations	10 65-Au	p-24 14-Aug-24	
PROC1236 Contract Execution & Apporval	18 15-Au	p-24 01+Sep-24	
Preconstruction	185 03-Se	0-24 19-Mar-25	· · · · · · · · · · · · · · · · · · ·
Mobilization PROC1028 Issue NTP	135 09-5e	p-24 19-Mar-Q5 p-24 03-Sep-24	
PROC1087 Prepare & Submit Shop Drawings	20 04-Se	0-24 01-0.ct-24	
PROC1069 Obtain Building Permits	20 04-Se	p-24 01-Oct-24	a ng ng mga n
PROC1105 Review & Appcove Submittals	15 02-04	t-24 22-0¢t-24	
PROC1139 Fab & Deliver	60 23-00	14-Jan-25	
PROCIONS Long Lead Material & Equipment Shops, Approval & Fabricate	23-00	1-24 19-Mar-25	
Enabling Work	240 02-00	108 26-54p-25	
CONS1604 Mobilization	10 02-00	16-0 ct-24	
CONS1587 E&S Controls, Site Prep and Logistics	20 17-00	1-24 13-Nov-24	
CONS1588 Ste Ublity investigations	20 17-00	t-24 13-Nov-24	
CONSI191 Ste Utilies Upgrades	110 14-No	16-Apr-25	
CONS1479 Ste frishes. Fields, Landscaping & Restoration	20 01-Se	-25 28-Skp-25	
Lab & Office Expansion	234 34-110	1-24 00-010-25	
Foundations & Building Structure	132 14-No 40 14-No	1-24 27-May-25	
CONS1018 Install Foundation Drain & Becliff Foundations	15 28-De	0-24 15-Jan-25	
CONS1020 Erect Structure, Deck & Detail	40 15-Ja	n-25 11-Mar-25	
CONS1017 Instal Undersiab Utilities	15 26-Fe	b-25 18-Mar-25	
CONS1056 Pour Stab on Deck	20 26-Fe	0-25 25-Mar-25	
CONS1055 Instal Roof System	20 12-Ma	r-25 08-Apr-25	
CONS1019 Pour Slab on Grade	10 19-Ma	r-25 01-Apr-25	
CONS1684 Install Building Enclosure	35 09-Ap	-25 27-May-25	
CD1451076 Building Construction Weiathentight	à	27-May-25	
Fit Out	129 04-Ap	125 08-0 49-25	
CONS1078 Rough-in Overtread Ductwork& Mechanical Systems	15 U4-Ap 30 25-Ap	-25 05-Jun-25	
CONS1107 Instal Corridor Wells & Door Frames	30 25-Ap	-25 06-Jun-25	
CONS1086 Rough-in Fire Protection	35 D2-Ma	9-25 19-Jun-25	
CONS1084 Rough-in Overhead Electrical	35 02-Ma	y-25 19-Jun-25	
CONS1079 Rough-in Overfreid Plumbing	35 02-Ma	y-25 19-Jun-25	
CONS1268 Rough-in Overhead Low Votage Systems	35 09-Ma 35 09-Ma	9-25 26-Jun-25 9-25 26-Jun-25	
CONS1082 Rough-in MEP in Partitions	40 23-Ms	y-25 17-Jul-25	
CONS1626 Install Major MEP Equipment	30 28-Ma	y-25 08-Jul-25	
CONS1629 Instat MEP Trim & Finishes	. 20 13~Ju	n-25 11-Jul-25	
CONS1088 GWB, Tape & Spackle Partitions	30 18-J.	1-25 28-Aug-25	
CONS1090 Prime Paint Walls	20 01-Au	9-25 28-Aug-25	
Construction of the constr	20 15-AU	111-380-25	
CONS1091 Install Millwork/Casework	25 28i.hu	p-25 02-0:d-25	๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛

Activity ID	Activity Name	Original Duration	Start	Finish
CONS1128	Install Final Finishes	20	05-Sep-25	02-0 ct-25
CON51269	Instal OFC/CFCI Equipment	10	12-Sep-25	25-Sep-25
CONS1126	Final Cleaning & Punchist	10	23-Sep-25	06-0 ct-25
Existing Built	ding Renovations	89	28-May-25	01+0 et+25
CONS1085	Temporary Partitions & Containment	10	28-May-25	10-Jun-25
CON51087	Selective Demolition	10	11-Jun-25	24-Jun-25
CONS1092	Utility Cut & Cap	10	11-Jun-25	24-Jun-25
CON51721	Rough-in Overhead Ductwork & Mechanical Systems	20	25-Jun-25	22-Jul-25
CONS1725	Rough-m Fire Protection	20	02-Jul-25	29-Jul-25
CONS1724	Rough-in Overhead Electrical	20	02-Jul-25	29-Jul-25
CON51726	Frame Interior Partitions	20	02-Jul-25	29-Jul-25
CONS1725	Rough-in Overhead Plumbing	20	02-Jul-25	29-Jul-25
CON51727	Rough-in MEP in Partitions	20	16-Jul-25	12-Aug-25
CON51728	GWB, Tape & Spackle Partitions	20	13-Aug-25	09-Sep-25
CON\$1729	Instal MEP Thm & Firmines	15	13-Aug-25	03-Sep-25
CONS1734	Install Finishes	20	20-Aug-25	16-Sep-25
CONS1732	Install Millwork/Casework	10	20-Aug-25	02-Sep-25
CONS1737	Instal OFC/CFCI Equpment	20	27-Aug-25	23-Sep-25
CONS1733	Final Start-up & Test Equipment	20	04-Sep-25	01-0 ct-25
CONS1738	Final Cleaning & Punchist	10	10-Sep-25	23-Sep-25
Warehouse E	Expansion	150	90-Jan-25	34-6ap-25
Foundations	& Building Structure	100	09-Jan-25	28-May-25
CONS1689	Excavate, Form & Pour Foundations	-40	09-Jan-25	05-Mar-25
CONS1711	Install Foundation Drain & Backfil Foundations	25	13-Feb-25	19-Mar-25
CONS1709	Erect Structure, Deck & Detail	30	06-Mar-25	16-Apr-25
CONS1712	Install Understab Utilities	10	10-Apr-25	23-Apr-25
CON51707	Instal R oof System	15	17-Apr-25	07-May-25
CONS1708	Install Extenor Enclosure	30	17-Apr-25	28-May-25
	Form, Reinforce & Pour Stab on Grade	15	24-Apr-25	14-May-25
CON51710	- eliteritation at a firm when all a read			20 Mail 16
CON51710 CON51708	Building Crinistruction Weathertight	0		20-may-22
CONS1710 CONS1708 Fit Out	Building Crinstruction Weathertight	0	15-May-25	24-Sep-25
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CONS1710 CONS1708 Fit Out CONS1705 CONS1700	Building Construction Weathertight Rough-in Overthead Cuctivork& Mechanical Systems Rough-in Fire Protection	0 92 30 25	15-May-25 15-May-25 22-May-25	26-May 25 26-Jun-25 25-Jun-25
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CONS1710 CONS1708 FILOUT CONS1705 CONS1705 CONS1705 CONS1705 CONS1704 CONS1702	Building Construction Weathertight Rough-in Overhead Ductwork's Mechanical Systems Rough-in Overhead Electrical Frame Indenor Partitions Rough-in Overhead Flambing Rough-in Overhead Flambing Rough-in MEP in Partitions	0 22 30 25 25 30 30 25 30 25 30	15-May-25 15-May-25 22-May-25 22-May-25 22-May-25 22-May-25 29-May-25	23-mby 23 24-355-25 25-34n-25 25-34n-25 02-34i-25 25-34n-25 25-34n-25
CONS1710 CONS1708 Fit Cut CONS1705 CONS1705 CONS1705 CONS1705 CONS1704 CONS1705 CONS1705 CONS1705	Building Construction Weatherright Rough-in Overhead Ductwork& Mechanical Systems Prough-in Erie Profection Rough-in Overhead Electrodi Frame Indenor Partitions Rough-in Overhead Plumbing Rough-in Overhead Plumbing Rough-in Ber in Partitions Install Mayor MEP Equipment	0 30 25 25 30 25 30 25 30 20 20	15 May 25 15 May 25 22 May 25 22 May 25 22 May 25 23 May 25 29 May 25 29 May 25 29 May 25	25-mby:23 24-350y:25 25-30n-25 25-30n-25 02-30i-25 25-30n-25 25-30n-25 25-30n-25
CONS1710 CONS1708 Fil Out CONS1705 CONS1705 CONS1705 CONS1705 CONS1705 CONS1705 CONS1705 CONS1705 CONS1705 CONS1705	Building Construction Weathertight Rough-in Overthead Ductwork& Mechanical Systems Rough-in Overthead Buchroal Frame Indenor Partitions Rough-in Overthead Plaumbing Rough-in MEP in Partitions Instal Mager MEP Equipment GWB, Tape & Spacidie Partitions	0 30 25 25 30 25 20 20 20 20 20	15 May 25 15 May 25 22 May 25 23 May 25 23 May 25 23 May 25 29 May 25 29 May 25 29 May 25 29 May 25 29 May 25	25-may:23 25-Jun-25 25-Jun-25 25-Jun-25 02-Jun-25 02-Jun-25 25-Jun-25 25-Jun-25 25-Jun-25 25-Jun-25 23-Jun-25
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SKANSKA



Budget Control / Cost Estimating / Value Engineering



State of New Jersey Division of Property Management and Construction (DPMC) - Project No. A1360-01 Construction Management Services - Laboratory, Administration Wing and Warehouse Expansion Project at NJ Public Health Environmental and Agriculture Laboratory

Introduction

Skanska has unsurpassed budget control, cost estimating, and value engineering capabilities. This is the result of the outstanding skills and experience of our in-house estimating team, the cutting-edge estimating tools that they use, their approach of building estimates as though they are bidding on the work, their familiarity with the local construction marketplace, the continuous escalation analysis performed by our company, our budgeting and design management process, and our builder's expertise.

Budget Control

Our approach to budget control includes:

- Proactively managing and coordinating the design process
- Ensuring that complete, fully-coordinated, biddable, and buildable drawings and specifications are provided to avoid clashes, avoid gaps in purchased scope, and prevent change orders and claims for delays
- Developing a durable, complete and reliable master project budget in order to avoid any surprises as your project moves into design and construction
- Providing independent cost estimating services to validate the initial budget, contractor pricing, and proposed change orders
- Providing value engineering proposals that actually add value
- Keeping a close watch on escalation and supply chain issues
- Ensuring that bid packages clearly address all requirements pertaining to subcontract agreements, including commercial terms, scope definition, risk management, and performance expectations
- Maximizing competition during procurement
- Carefully evaluating the validity of proposed change orders and claims

Coordination During Design Phase

Our approach during the design phase is to ensure that this project:

- Meets the functional needs of DPMC/NJBA
- Remains within budget
- Can be bid
- Can be built
- Can be constructed within a specified period of time

Efficient management of the design process is a key factor in achieving these goals. Where Skanska can bring value to the Design process is in:

- Establishing and implementing the systems and procedures that facilitate successful delivery.
- Actively managing the client and stakeholder approvals processes and monitoring progress
- Establishing collaborative practices that bring together large number of diverse disciplines
- Achieving proper integration of the design and construction processes
- Promoting buildability so that the design facilitates ease of construction
- Designing to budget by implementing a Target Value Design (TVD) process
- Structuring a value engineering process that results in maximum value at equal or reduced cost
- Carefully coordinating between the design process and the procurement of consultants, subcontractors, manufacturers, as this directly impacts cost and time.

Budaet Tracking During Design Phase

In addition to establishing a Master Project Budget (please refer to section G), we will also develop a budget tracking log. As the design develops, we will be able to issue prompt notification when we detect that the scope of the project is deviating from the original budget. This will provide DPMC/NJBA with the opportunity to direct the design team either to incorporate a given cost item in the project or to modify the project scope. It is our practice to update the Budget Tracking Log after the conclusion of each weekly design meeting, and to post it immediately to the project website, where it is available for viewing by a group of project stakeholders on a password- protected basis. This allows key project team members to have easy access to the most up-to-date information even if they are not able to attend design meetings.

Cost Estimatina

There are a number of attributes of our firm and approach to budget control that will strongly benefit the DPMC/NJBA. These include the following:

In-house cost estimators: architectural, mechanical, electrical, and civil Skanska has a staff of in-house estimators that includes architectural, civil, mechanical and electrical estimators.

Our team of seasoned estimating professionals includes:

Jim Lane - Estimatina Lead

- 34 years in of industry experience
- Experience with renovations of occupied laboratory facilities
- Degree in Civil Engineering
- **Certified Professional Estimator**

Paul Cocuzza, LEED AP BD+C - Lead CSA Estimator

- 40 years of industry experience
- Experience with BSL-2 and BSL-3 laboratory facilities, including public health laboratories
- Experience with renovations of occupied laboratory facilities
- Degree in Civil Engineering
- Construction Cost Estimate (CCE)

Joe Krizan, PE, LEED AVP, AVS - Lead Mechanical Estimator

- 40 years of industry experience
- Experience with BSL-2 and BSL-3 laboratory facilities, including public health laboratories
- Experience with renovations of occupied laboratory facilities
- Degree in Mechanical Engineering

Phil Colonna, Senior Mechanical Estimator

- 26 years of industry experience
- Experience with renovations of occupied laboratory facilities
- B.S. in Mechanical Engineering

Rich Hylinski, AVS, Value Engineering Lead

- 39 years of industry experience
- Experience with renovations of occupied laboratory facilities
- Experience with laboratory projects in New Jersey: Merck/Pfizer
- Degree in Building Construction Technology

William Amann, PE, LEED Fellow, DCEP, Principal Estimator (M&E Engineering)

- 46 years of industry experience
- Experience with renovations of occupied laboratory facilities
- Experience with laboratory projects in New Jersey
- Degree in Industrial Engineering

Resumes for these and other team members are provided in Section C.

Key Variables

As part of preparing independent cost estimates, we use our builder's expertise and construction management experience to consider the effect of the expected construction schedule on construction costs.

We use our estimating experience to take into account such variables as:

- Known Project Risks and Constraints
- Owner Cost
- Logistics & Phasing
- Escalation
- Project Labor Agreement

- **Bidding requirements** Project Delivery
- Market Conditions
- The influence of government regulations on construction costs.

Recognizing the vital importance of understanding each key variable, our estimates will be accomplished by a narrative that outlines the facts, assumptions, construction logistics, and other insights that form the basis of our estimates in each design phase cycle.

Project Labor Agreements

Skanska's experience with managing project with PLAs will be important to the success of your project. Understanding the PLA and typical union disputes, we will work with the design team as the scope of work is being developed to ensure that the appropriate trade is assigned to a particular scope of work. This due diligence minimizes the "gray areas" that cause issues and increase cost during construction. As construction progresses, we will offer support, engaging the trade labor and ensuring trade harmony is maintained. Being able to manage the labor is valuable and critical to the success of the project.

Construction Cost Estimating (CCE)

We have reviewed the feasibility study and supporting documentation provided with the RFP. Utilizing our cost estimating experience. Skanska has evaluated Square Foot construction cost benchmark data (10,000 SF Admin, 10,000 SF Warehouse and 30,000 SF Lab) and anticipates a CCE cost SF range at \$750 to \$825 and confirms that the CCE amount of \$45M agrees with the scope of work described for this project. As part of the programming phase, Skanska will work with the design consultant to confirm that the revised program requirements fall within the CCE or provide reasons why the CCE cannot be met due to the requirements of NJPHEAL.

Contingencies

In support of the cost estimating process, we will also work with you to develop contingencies to hedge against unforeseen cost events. In past projects, we have devoted one team wide meeting to establish common definitions for each contingency type: Design Contingency, Project Contingency, and Construction Contingency, Given the range of uses and types of contingencies, establishing common definitions upfront creates dialog among all project team members as to key project issues, cost drivers and budgetary constraints.

Taraet Value Desian Principles

Skanska recommends implementing the Target Value Design (TVD) process during the design phase. The TVD process eliminates timely redesign efforts often needed during a traditional design process. As a part of a collaborative team, Skanska will provide continuous cost estimating services for the duration of the TVD process that is aimed at maximizing customer value within a predetermined base construction amount budget. This will be accomplished in part by considering trade-offs and opportunities (including function/ cost trade-offs) in order to maintain the construction budget. Our team will work hand-in-hand with the design team to ensure that your project remains within the established budget, while providing the best value for DPMC/NJBA.

Even during the design stage of this project, a TVD process can be effective in solidifying DPMC/NJBA project values, priorities and constraints, which would be organized within a Value Assessment Matrix that would be used in the development of the cost model.

The benefit for DPMC/NJBA of applying TVD principles to the design stage is that it leads to enhanced collaboration, transparency and, most importantly, avoiding surprises downstream.

While TVD focuses on discovering and employing best value solutions, we also understand that the design process needs to be flexible. We are experienced using TVD on collaborative projects, and our approach will not stifle creativity during the development of the design phase.

The objectives of conducting TVD on a public lump sum project includes the following:

- 1. Open communication
- 2. Scope/Cost Control
- 3. Scope refinement/build-ability/contingency reduction
- 4. Proactive value engineering
- 5. Design for what is constructible vs. evaluate the constructability of a design after it is designed
- 6. Strive to reduce the waste and rework in the Redesign/Estimate/Redesign Cycle.

Value Engineering, Life Cycle Cost Analysis, and Constructability Reviews Section C contains a description of Skanska's approach to value engineering, life cycle cost analysis, and constructability reviews. Examples demonstrating how we utilize our laboratory MEP systems expertise during the value engineering and constructability process on major laboratory projects are provided below.

Novartis Cambridge Campus Expansion, Cambridge, MA

This 795,00-SF R&D laboratory project included considerable ductwork that ran vertically through the building and was required to be fire rated. Our team performed a study of using Flamebar ductwork instead of the specified traditional ductwork with field-applied fire wrap. Upon fully understanding the advantages of this material substitution, we presented our findings and recommendations to the project team for consideration. The team agreed to use Flamebar duct, which significantly reduced installation time and eliminated the risks of leaving the shafts open for extended periods. It also significantly reduced the number of hours working in a shaft at height, provided a product that is less susceptible to damage when performing maintenance and inspection on the ductwork, and provided a smaller cross-sectional area to the entire duct assembly, which reduced congestion and allowed us to reduce the size of some shafts and allowed for future flexibility. Using the Flamebar ductwork instead of the specified materials resulted in approximately \$400,000 in savings to the project.

Virginia Tech Carilion (VTC) School of Medicine and Research Institute This project included 104,000-SF of research laboratory space. Our value management efforts for the mechanical systems were concentrated on finding a best fit for a particular system. For example, we replaced the heat recovery wheels within the air handling units with heat recovery coils and piping loops, which worked well in a laboratory application and resulted in a cost savings. We also utilized a return air
plenum for the above ceiling space on the medical school portion to compensate for a fully ducted return system, allowing us to eliminate a large portion of duct work. Based on how the laboratory hoods would be used, we were able to limit the amount of stainless steel hood exhaust duct to the short distance between the hood and the exhaust main, rather than the entire laboratory hood exhaust system. We limited lab exhaust valves to hood exhausts using standard VAV boxes for the remainder of the space.

University of Washington, Life Sciences Building

Skanska joined the project team during schematic design. Based on the level of documentation available, we began with a benchmarking study of similar relevant projects to test the budget. This process included a two-day charrette where our team gained a detailed understanding of the project drivers, key features, priorities and vision. With this information as our starting point and a confirmation that the budget was in the correct range, we proceeded to work with the design team on developing budget "targets" for each major building element. We also held several value management successes. One of our suggestions was to connect the building to the campus child water loop, four blocks away, instead of purchasing new chillers. This saved the University \$800,000, which was put back into the project. Another way we saved the University money involved the underground pipes used for the exhaust systems under the building. There was a concerted effort during the design-assist phase to ensure all systems were underground, which led to the idea of a below-grade fan room fed by large concrete plenums -- similar to those used under freeways. After significant research with key trade partners, our team located a small company in Wallace, Idaho, that manufactures 72" pipes made of reinforced plastic and fiberglass, which are used in mining shafts for water drainage and air supply. They worked perfectly for the project and had the added benefit of a \$300,000 cost savings over concrete plenums.

Life Cycle Cost Analysis

Our process will include life cycle cost analysis (LCCA) in order to reveal the most competitive total cost of ownership of your renovated and expanded facilities. LCCA takes into account the costs associated with constructing, operating, maintaining, and disposing of a building or of a particular building system. These costs typically fall into the following categories:

- Initial Costs Purchase, Acquisition, and Construction Costs .
- Fuel Costs
- Operation, Maintenance, and Repair Costs
- **Replacement Costs**
- Residual Values Salvage Values or Disposal Costs
- Finance Charges Loan Interest Payments

All costs are entered as base-year amounts in current dollars. Our LCCA method escalates all amounts to their future year of occurrence and discounts them back to the base date to convert them to present values. This approach will help determine O&M costs that can be used for further evaluation of each proposed design solution.

Constructability Reviews

Our interdisciplinary approach to constructability reviews helps eliminate unworkable details within the design. The object is to find any issues early during design and before the start of construction, which helps prevent budget overruns long-term. Four issues typically encountered during constructability reviews include:

- 1. Interdisciplinary coordination. Interdisciplinary coordination seeks to identify clashes between design disciplines, such as structural engineering and mechanical engineering.
- 2. Build-ability. Build-ability is addressed by reviewing the capability of the local workforce and dimensional issues. We will ask questions to determine if tolerances prescribed are workable or exceed normal

conditions of the local workforce. We will also ask whether building components that are scheduled to be installed first create a work area too constrained for subsequent work.

- 3. Sequencing, phasing, and logistics. The impact of sequencing, phasing and logistics will also be evaluated. One of the key issues we will focus on is whether construction phasing will create unsafe or unsecure conditions or have negative impacts on your facility.
- 4. Materials and systems integrity. We will confirm that materials and systems selected for your project are the best choices for the long-term performance.

Conclusion

As demonstrated within this section, Skanska has a thorough command of the budget control, cost estimating, and value engineering process. By integrating cost, technical, and qualitative observations into the budgeting and estimating process, we will reduce your cost risks to an absolute minimum and maximize your return on investment on this project.





Certificate of Employee Information Report

SKANSKA



CERTIFICATE OF EMPLOYEE INFORMATION REPORT

This is to certify that the contractor listed below has submitted an Employee Information Report pursuant to NJ.A.C. 17:27-1.1 et. seq. and the State Treasurer has approved said report. This approval will remain in effect for the period of **15-Feb-2022** to **15-Feb-2025**

SKANSKA USA BUILDING INC. 389 INTERPACE PARKWAY 5TH FLR. PARSIPPANY NJ 07054





Star M. Mu

ELIZABETH MAHER MUOIO State Treasurer





Public Law 2005 Public Lan Chapter 92 – Source Disclosure



Public Law 2005, Chapter 92 Formerly: Executive Order 129

SOURCE DISCLOSURE CERTIFICATION FORM

Bidder: Skanska USA Building Inc.

I hereby certify and say:

I have personal knowledge of the facts set forth herein and am authorized to make this Certification on behalf of the Bidder.

The Bidder submits this Certification as part of a bid proposal in response to the referenced solicitation issued by the State of New Jersey, Department of Treasury, Division of Property Management and Construction (DPMC), in accordance with the requirements of Public Law 2005, Chapter 92, (N.J.S.A. 52:34-13.2 et seq., superseding Executive Order 129 (2004)).

The following is a list of every location where services will be performed by the bidder and all subcontractors.

Bidder or Subcontractor	Description of Services	Performance Location(s) by Country
Skanska USA Building Inc.	Construction Management Services	United States
M&E Engineers, Inc.	Commissioning Services	United States
WorkingBuildings	Construction Quality Services	United States

Any changes to the information set forth in this Certification during the term of any contract awarded under the referenced Project Number will be immediately reported by the Bidder to the Contract Compliance Unit in the DPMC, Department of Treasury, State of New Jersey, PO Box 034, Trenton, NJ 08625.

I understand that, after award of a contract to the Bidder, it is determined that the Bidder has shifted services declared above to be provided within the United States to sources outside the United States, prior to a written determination by the Director, Division of Property Management and Construction, that extraordinary circumstances require the shift of services or that the failure to shift the services would result in economic hardship to the State of New Jersey, the Bidder shall be deemed in breach of contract, which contract will be subject to termination for cause under its contract with DPMC.

I further understand that this Certification is submitted on behalf of the Bidder in order to induce DPMC to accept a bid proposal, with knowledge that the State of New Jersey and DPMC are relying upon the truth of the statements contained herein.

I certify that, to the best of my knowledge and belief, the foregoing statements by me are true. I am aware that if any of the statements are willfully false, I am subject to punishment.

Bidder: Skanska USA Building Inc.

By: _ Christopher / Inchison

Print Name: Christopher Anderson

Title: Vice President / Regional Director

Date: 07.25.2023

[Name of Organization or Entity]



Appendix

Additional Requested Forms





State of New Jersey

PHILIP D. MURPHY Governor

SHEILA Y. OLIVER Lt. Governor DEPARTMENT OF TREASURY DIVISION OF PROPERTY MANAGEMENT & CONSTRUCTION P O BOX 034 TRENTON NJ 08625-0034

ELIZABETH MAHER MUOIO State Treasurer

CHRISTOPHER CHIANESE Director

DATE: June 28, 2023

TO: Anser Advisory CBRE Heery, LLC Hill International, Inc. Skanska USA Building, Inc. Turner Construction Company

FROM: Christopher R. Geary, Assistant Deputy Direct **Contracts & Procurement Unit**

SUBJECT: Addendum "A" dated June 28, 2023 Project: A1360-01 Construction Management Services Laboratory, Admin. Wing and Warehouse Expansion NJ Public Health, Environmental and Agriculture Laboratory Ewing, Mercer County, NJ

Enclosed is the above referenced addendum. All competing firms shall acknowledge receipt by returning this form to:

Division of Property Management & Construction Contracts and Procurement Unit Attention: William Mahan P.O. Box 034 Trenton, NJ 08625-0034 Fax #: (609) 777-1970 Email: william.mahan@treas.nj.gov

06/28/2023 Date Received Skanska USA Building Inc. Firm Name 518 E Township Line Rd, Blue Bell, PA 19422

Address histoph

Signature Christopher Anderson, Vice President Title



State of New Jersey

PHILIP D. MURPHY Governor

SHEILA Y, OLIVER Lt. Governor

DEPARTMENT OF TREASURY **DIVISION OF PROPERTY MANAGEMENT & CONSTRUCTION** PO Box 034 TRENTON NJ 08625-0034

ELIZABETH MAHER MUOIO State Treasurer

CHRISTOPHER CHIANESE Director

DATE: July 17, 2023

- TO: Anser Advisory **CBRE Heery, LLC** Hill International, Inc. Skanska USA Building, Inc. **Turner Construction Company**
- Christopher R. Geary, Assistant Deputy Director FROM: **Contracts & Procurement Unit**

SUBJECT: Addendum "B" dated July 17, 2023 Project: A1360-01 **Construction Management Services** Laboratory, Admin. Wing and Warehouse Expansion NJ Public Health, Environmental and Agriculture Laboratory Ewing, Mercer County, NJ

Enclosed is the above referenced addendum. All competing firms shall acknowledge receipt by returning this form to:

> **Division of Property Management & Construction Contracts and Procurement Unit** Attention: William Mahan P.O. Box 034 Trenton, NJ 08625-0034 Fax #: (609) 777-1970 Email: william.mahan@treas.nj.gov

July 17, 2023

Date Received Skanska USA Building Inc. Firm Name 518 E Township Line Rd, Blue Bell, PA 19422

Address histoph

Signature Christopher Anderson, Vice President

Title

SKANSKA

Skanska USA Building Inc. usa.skanska.com

389 Interpace Parkway, 5th Floor Parsippany, New Jersey 07054





Preliminary Technical Proposal Application 48B

State of New Jersey Division of Property Management and Construction (DPMC)

Project No. A1360-01 Construction Management Services - Laboratory, Administration Wing and Warehouse Expansion Project, NJ Public Health Environmental and Agriculture Laboratory

June 13, 2023

State of New Jersey Department of the Treasury Division of Property Management and Construction	PRELIMINARY TECHNICAL PROPOSAL			FORM 48B 5/06		
 FIRM NAME & ADDRESS: SBE Skanska USA Building Inc. 389 Interpace Parkway, 5th Floor Parsippany, NJ 07054 		 PROJECT NUMBER: A1360-01 PROJECT TITLE: Construction Management Services - Laboratory, Administration Wing and Warehouse Expansion Project - NJ Public Health Environmental and Agriculture Laboratory 				
3. CONTACT PERSON: Chris Anderson TITLE: Vice President/Regional Director PHONE NUMBER: (856) 904-1814 FAX: (N/A)		4. IF JOINT VENTURE; NAME (QUALIFIED BY THE DPMC) FIRM NAME: N/A	OF ADDITIONAL FIRM(S). (ALL FIRMS	S MUST BE	PRE-	
E-MAIL: christopher.anderson@skanska.com	CIDI INE		OR THIS BROJECT (ALL VENSUE CON	SBE SBE	7	
5. FIRMS TOTAL TECHNICAL PERSONNEL BY DISC (JV's COMBINED PERSONNEL)	CIPLINE	6. KEY SUB-CONSULTANTS FOR THIS PROJECT (ALL KEY SUB-CONSULTANTS MUST BE PRE-QUALIFIED BY THE DPMC)				
6EXECUTIVES12PROJECT28PRECONSTRUCTION19PROJECT109PROJECT MANAGERS29OTHER63SUPERINTENDENT47PROJECT ENGINEERS6SCHEDULER16PROGRAM MANAGERS16SAFETY (EH&S)16	CT ADMIN/SUPPORT CT ACCOUNTANTS	NAME & ADDRESS: M & E Engineers, Inc. 26 West High Street Somerville, NJ 08876	SPECIALTY: Commissioning	SBE X	PRE-QUAL RATING N/A	
351 TOTA	AL PERSONNEL					



8. LIST OF APPLICANT F	FIRM(s) AND SUB-CONSULTANT(s)	KEY PERSONNEL TO BE A	SSIGNED TO THIS PROJECT:
FIRM NAME	NAME	TITLE	DISCIPLINE/RESPONSIBILITY
Skanska USA Building Inc.	Chris Anderson, CEA, LEED AP	Project Executive	Team Leadership
Skanska USA Building Inc.	Gary Warren, EIT	Operations Manager	Team Operations Management
Skanska USA Building Inc.	Craig Ronning	Senior Project Manager	Project Management
Skanska USA Building Inc.	Paul Cocuzza, LEED AP BD+C	Lead CSA Estimator	CSA Estimating
Skanska USA Building Inc.	Jim Lane	Lead Estimator	Cost Estimating
Skanska USA Building Inc.	Joe Krizan, PE, LEED AP, AVS	Lead Mechanical Estimator	Mechanical Estimating
Skanska USA Building Inc.	Phil Colonna	Lead Fire/Plumbing and	Fire/Plumbing and Electrical Cost Estimating
		Electrical Estimator	
Skanska USA Building Inc.	Rich Hylinski, AVS	Value Engineering Lead	Value Engineering
Skanska USA Building Inc.	Mark Moore	Constructability	Constructability Reviews
Skanska USA Building Inc.	Neil Moloney	Safety	Safety Reviews
Skanska USA Building Inc.	Andy Roeser, PE, PSP	Scheduler	Scheduling
Skanska USA Building Inc.	John Barrett	Field Representative	On-Site Construction Supervision
Skanska USA Building Inc.	Joe Dressel	MEP Engineer	MEP Engineering
M&E Engineers, Inc.	William Amann, P.E., LEED Fellow, DCEP	Principal Engineer	Quality Assurance
M&E Engineers, Inc.	Gerard Hazel, BCxP, LEED AP	Commissioning Agent	Building Commissioning
M&E Engineers, Inc.	Greg Sydlowski, P.E., LEED AP, CEA	Senior Engineer	Mechanical Reviewer
M&E Engineers, Inc.	Frank Tutelo, P.E., LEED AP, CEA	Senior Engineer	Electrical Reviewer

9. WORK BY APPLICANT FIRM(s) WHICH BEST ILLUSTRATES CURRENT QUALIFICATIONS RELEVANT TO THIS PROJECT. ALL					
PROJECTS MUST HAVE BEEN COMPLETED WITHIN THE PAST 10 YEARS. (Maximum 10 projects per firm / 10 per sub-consultant)					
				ESTIMA	ATED COST
PROJECT NAME AND LOCATION	NATURE OF FIRM'S RESPONSIBILITY	OWNERS NAME AND ADDRESS	COMPLETION DATE OR % COMPLETED	ENTIRE PROJECT	WORK FOR WHICH FIRM WAS/IS RESPONSIBLE
Skanska USA Building Inc.					
City University of New York (CUNY), Advanced Science and Research Center – New York, NY	Construction Management	205 East 42nd Street New York, NY 10017	08/2014	\$600M	\$600M
University of Delaware, Worrilow Hall Renovation – Newark, DE	Construction Management	222 So. Chapel Street Newark, DE 19716	12/2020	\$32M	\$32M
Pennsylvania Department of General Services, Statewide Collaborative Cost Estimating Services: State Police Greensburg, DNA Laboratory Facility New Building Greensburg, PA	Cost Estimating	PA DGS 515 N. Office Building Harrisburg, PA 17125	07/2022	\$28.7M	\$28.7M
GlaxoSmithKline, SMART Lab Building 1 East – Collegeville, PA	Construction Management	1250 S. Collegeville Road Collegeville, PA 19426	11/2017	\$41.5M	\$41.5M
Merck Sharp & Dohme Corp., Biologics Lab and Cell Culture Purification Development Facility – Kenilworth, NJ	Construction Management	2015 Galloping Hill Road Mail Stop K-22-2 Kenilworth, NJ 07033	07/2013	\$120M	\$120M
Johnson & Johnson, R&D Workplace Transformation Project – Spring House, PA	Construction Management	Welsh & McKean Roads, Spring House, PA 19002	03/2013	\$64M	\$64M

9. WORK BY APPLICANT FIRM(s) WHICH BEST ILLUSTRATES CURRENT QUALIFICATIONS RELEVANT TO THIS PROJECT. ALL					
PROJECTS MUST HAVE BEEN COMPLETED WITHIN THE PAST 10 YEARS. (Maximum 10 projects per firm / 10 per sub-consultant)					
				ESTIMA	ATED COST
PROJECT NAME AND LOCATION	NATURE OF FIRM'S RESPONSIBILITY	OWNERS NAME AND ADDRESS	COMPLETION DATE OR % COMPLETED	ENTIRE PROJECT	WORK FOR WHICH FIRM WAS/IS RESPONSIBLE
Skanska USA Building Inc. (cont.)					
Novartis, Cambridge Campus Expansion – Cambridge, MA	Construction Management	211 Massachusetts Avenue Cambridge, MA 02139	11/2015	\$686M	\$686M
University of Delaware, Nanofabrication Program Projects – Newark, DE	Program Management	221 Academy Street, 163 ISE Lab Newark, DE 18716	08/2017	\$3M	\$3M
Virginia Tech Carilion Clinic, Fralin Biomedical Research Institute at VTC – Roanoke, VA	Construction Management	4 Riverside Circle SW Roanoke, VA 24016	05/2020	Confidential	Confidential
Inspira, Mullica Hill Campus – Mullica Hill, NJ	Construction Management	Inspira Health Network 509 North Broad Street Woodbury, NJ 08096	11/2019	\$229.4M	\$229.4M

9. WORK BY APPLICANT FIRM(s) WHICH BEST ILLUSTRATES CURRENT QUALIFICATIONS RELEVANT TO THIS PROJECT. ALL					
PROJECTS MUST HAVE BEEN COMPLETED WITHIN THE PAST 10 YEARS. (Maximum 10 projects per firm / 10 per sub-consultant)					onsultant)
				ESTIM	ATED COST
PROJECT NAME AND LOCATION	NATURE OF FIRM'S RESPONSIBILITY	OWNERS NAME AND ADDRESS	COMPLETION DATE OR % COMPLETED	ENTIRE PROJECT	WORK FOR WHICH FIRM WAS/IS RESPONSIBLE
M&E Engineers Inc.					
LabCorp, Regional Laboratory Addition & Renovation - Raritan, NJ	Commissioning and energy consulting for 90,000sf addition to testing facility and 177,000sf renovation of existing lab and office space.	LabCorp 69 1st Ave Raritan, NJ 08869	Addition 100% June 2022 Renovation 60%	Not Disclosed	\$560k - Fee
Rutgers University, Research Tower Vivarium - Piscataway, NJ	Commissioning for replacement of vivarium infrastructure, including 100% OA RTU with steam dehumidification, steam to HW converters, reheat coils, and exhaust fans.	Rutgers University 33 Knightsbridge Rd Piscataway, NJ 08854	Dec 2021	Not Disclosed	\$71,500 - Fee
Merck, Biologics R&D Building - Rahway, NJ	Commissioning for a new 165,000sf 3- story building that will house a pilot plant, R&D facilities and offices. System includes air handlers with CHW and HW from a central plant.	Merck & Co, Inc 2025 E Scott Ave Rahway, NJ 07065	50%	Not Disclosed	\$118,000 - Fee
Kerry Foods, Food Grade Ingredient Processing Plant - Clark, NJ	Commissioning for a 60,000sf food grade processing plant in an existing warehouse space, including 21 packaged RTUs.	Kerry Group 160 Terminal Ave Clark, NJ 07066	Feb 2019	Not Disclosed	\$64,750 – Fee
New Jersey Turnpike Authority Police Barracks (4) Newark, Galloway, Moorestown, & Bloomfield, NJ	Commissioning and Mechanical Engineering for four new State Police facilities.	NJ Turnpike Authority PO Box 5042 Woodbridge, NJ	Oct 2019	\$65.5M	\$349k – Fee

9. WORK BY APPLICANT FIRM(s) WHICH BEST ILLUSTRATES CURRENT QUALIFICATIONS RELEVANT TO THIS PROJECT. ALL					
PROJECTS MUST HAVE BEEN COMPLETED WITHIN THE PAST 10 YEARS. (Maximum 10 projects per firm / 10 per sub-consultant)					
				ESTIMATED COST	
PROJECT NAME AND LOCATION	NATURE OF FIRM'S RESPONSIBILITY	OWNERS NAME AND ADDRESS	COMPLETION DATE OR % COMPLETED	ENTIRE PROJECT	WORK FOR WHICH FIRM WAS/IS RESPONSIBLE
M&E Engineers Inc. (cont.)					
New Jersey Turnpike Authority Facilities Improvement Program Various Locations, NJ	Commissioning, Electrical Engineering, MEP Review, and Controls Standardization for 21 facilities.	NJ Turnpike Authority PO Box 5042 Woodbridge, NJ	Sept 2020	\$500M	\$1.7M – Fee
Hudson County Improvement Authority, High Tech High School Secaucus, NJ	Commissioning & Energy Consulting for new LEED Gold high school. 350,000sf.	Hudson County Improvement Authority 830 Bergen Ave, Jersey City, NJ	Dec 2019	\$160M	\$311k – Fee
NJ Schools Development Auth, Camden High School - Camden, NJ	Commissioning for new high school totaling 270,000sf. LEED Silver.	NJ - SDA 32 East Front Street Trenton, NJ 08625	Jan 2022	\$100M	\$181k – Fee
Unilever, North American Headquarters - Englewood Cliffs, NJ	Commissioning & Energy Consulting for LEED Platinum HQ campus. 325,000sf.	Normandy 53 Maple Avenue Morristown, NJ 07960	Dec 2018	\$100M	\$277k – Fee
NJ – DPMC, State Police Headquarters ESIP - West Trenton, NJ	Measurement & Verification & Commissioning Coordination for ESIP project. 368,000sf	NJ - DPMC 33 W State St Trenton, NJ	90% Complete	\$14M	\$166k – Fee

10. PROVIDE ANY ADDITIONAL INFORMATION SUCH AS PROJECT APPROACH, SPECIAL RESOURCES OR OTHER RELEVANT QUALIFICATIONS OF YOUR FIRM, PROJECT TEAM OR JOINT VENTURE. IF BROCHURES OR PHOTOS OF PROJECTS ITEMIZED IN BOX(es) 9 AND 10 ARE INCLUDED THEY MUST BE CLEARLY NOTED AS TO WHICH FIRM WAS RESPONSIBLE FOR THE WORK.

Additional information is provided following Form 48B.

11. CERTIFICATION BY PREPARER:

I being duly authorized, certify that the information supplied herein, including all attached pages, is complete and correct to the best of my knowledge.

Christopher Anderson
NAME
Vice President/Regional Executive
TITLE

Christophur Indusor

SIGNATURE

June 13, 2023

DATE

10. Additional Information

Provide any additional information such as project approach, special resources or other relevant qualifications of your firm, project team or joint venture. If brochures or photos of projects itemized in box(es) 9 and 10 are included they must be clearly noted as to which firm was responsible for the work.

Introduction

Our approach to serving as your construction manager for the expansion of the New Jersey Public Health, Environmental and Agriculture Laboratory (PHEAL) is based on our understanding that the Department of Health has re-envisioned the future of the State's public health laboratory in consideration of advances in laboratory diagnostic equipment, the current public health crisis, the potential for future pubic health crises, and related program needs, staffing, and warehouse storage capacities. Every aspect of our services will be focused on creating facilities that promote optimal public health outcomes for the residents of New Jersey within the budgetary framework established for this project. Highlights of our approach are described below.

New York City Economic Development Corporation, Public Health Laboratory

Skanska is serving as the construction manager for NYC DDC's \$481 million, 10-story, 230,000-SF Public Health Laboratory (PHL) project. The project mainly consists of five floors of flexible and open BSL-2/BSL-3 laboratory space for virology, environmental sciences and microbiology, including core lab services, central accessioning administration, walk-in testing center, 200-person auditorium, Vector Borne Disease Surveillance, Sexual Health Express Pod and building services. Each lab floor is designed to accommodate the unique size, equipment and protocols for each unit. The lab plan diagram is inherently adaptable through open lab environments, movable casework, and ceiling umbilicals. Pedestals and casework with casters will be specified for maximum flexibility.

Comprehensive Management Program

We will develop a comprehensive management program that will establish the quality, cost, scheduling and reporting programs for use throughout your project and include organizational and reporting relationships and procedures that will be implemented. Our comprehensive management program will address communications, management processes, the execution strategy, and overall project control. It will describe how the team (DPMC/NJBA/PHEAL, designer, contractor) will manage and successfully deliver the New Jersey Public Health Environmental and Agriculture Laboratory project. Our comprehensive management program will integrate the designer's and contractor's organizations and procedures and will include an organizational chart showing the roles and responsibilities of the entirety of the team.

Procore

Skanska is highly experienced in Construction Management Project Controls Systems. Procore is Skanska's standard platform and all our



employees have been trained to use Procore. Skanska utilizes Procore to manage our QA/QC process during construction. Procore will provide the project team with a collaboration platform to share QA/ QC information, track inspection checklist for critical equipment, host commissioning pre-functional and function checklist, non-conformation issue tracking and punchlist. We will provide access to all team members including prime contractors free of charge. This will allow our team to proactively track issues and ensure the issues are resolved in a timely fashion.

Master Project Schedule

We will build a Master Project Schedule that provides a detailed road map of both projects. Skanska's Master Project Schedule will show key dates and major program components from the DPMC/NJBA's point of view, rather than from the perspective of design consultants or the contractor. The reason is that your internal decision-making process is the most important schedule driver, and timely decision making will keep the schedule in motion. As such, the Master Project Schedule will show the DPMC/ NJBA when specific decisions need to be made. It will also provide an overview of the durations of design, construction, and commissioning and clearly indicate completion dates for each project. Our schedule will also incorporate and verify permitting milestones and will be developed with scheduling contingencies and schedule recovery strategies. Subsequently in this narrative, we describe our approach to schedule control during construction.

Master Project Budget

Early in the process, we will establish an accurate, durable, and reliable Master Project Budget. We will identify every item within this project, including both hard and soft costs, that contributes to the total project cost. We will track costs against the budget in a line-item format and be able to report a Predicted Final Cost at any time.

Design Management

Our primary focus as your construction manager will be to ensure that designs for the PHEAL expansion project reflects the final program, that the money invested in this project creates the highest possible value, and that the design is complete in order to prevent avoidable changes in program cost or schedule. The design phase, as such, presents a number of opportunities for saving money and maximizing quality.

Key considerations include the following:

- Keeping the design process on schedule while ensuring the quality and completeness of design documents.
- Utilizing our skills as builders to perform value management that actually adds value, i.e., finding less costly ways to achieve comparable value or even enhance value
- Engaging in life cycle costing to find the optimal balance between initial costs and long-term operating and maintenance costs
- Avoiding costly re-design
- Verifying that the designer understands the requirements of the local code officials and ensuring that these requirements are incorporated into the design.

Design document review

During the design process our efforts will be focused on ensuring that a complete and fully coordinated set of drawings and specifications is provided prior to bidding. We will conduct a technical review of the drawings and specifications in order to:

- Coordinate construction documents to avoid gaps in purchased scope
- Ensure that what is designed can be priced in a bid environment
- Review drawings and specifications for sole sourcing that might unnecessarily inhibit competition
- Review mechanical drawings to determine whether systems are over-or under-designed
- · Review drawings to verify that your sustainability goals are being met
- Ensure system commissioning requirements are identified
- Identify long-lead items
- · Identify any constructability or life safety issues
- Consider value management ideas
- Engage in a formal review with permitting/approvals agencies
- Update the Master Project Budget and Master Project Schedule

Skanska will also establish design parameters with the design firm, defining what constitutes a 25%, 50%, and 100% submission, and hold the designer to these metrics.

Estimating/Cost Analysis

Skanska has unsurpassed cost estimating and cost analysis capabilities. This is the result of the outstanding skills and experience of our in-house estimating team, the cutting-edge estimating tools that they use, their approach of building estimates as though they are bidding on the work, their familiarity with the local construction marketplace, the continuous escalation analysis performed by our company, our budgeting and design management process, and our builder's expertise.

Skanska's in-house cost estimating staff includes architectural, civil, mechanical and electrical estimators. Our estimating team sets Skanska apart from our competitors. Their sole function is to develop estimates for our projects, work with teams to identify cost saving opportunities and validate the project budget as part of each estimate deliverable. In addition, our preconstruction team's day-to-day interaction with the construction market ensures that the unit pricing is accurate and based on real-time market information. Most of Skanska's estimators started their careers in the subcontractor market and understand the factors that influence bid pricing. This ensures that our deliverables are accurate.

Our in-house estimating team prices projects as though they were bidding on the work and as if they were developing a Guaranteed Maximum Prices (GMP) for a project where our fee was at risk.

Software that our estimators employ includes BIM Revit Modeling, Assemble Systems, On Screen Takeoff (OST), SAGE Estimating, and Metriks[™] (our national construction cost estimating database). These tools provide a powerful tool for establishing cost.

Our estimates will be developed to create a framework for evaluating options as your projects move forward. Baseline quantification and pricing, preliminary phasing and logistics, and constructability will be established, and we will be able to incorporate and maintain a multitude of cost centers and/or breakout values to support decision making and reporting. Our estimates will be built as a tool to support your project as it transitions from the design phase into construction.

Skanska understands that establishing an accurate budget isn't restricted to construction materials and labor.

Logistics Planning

Logistic greatly impacts the cost of construction. Correctly defining logistics and phasing requirements upfront significantly improves budget certainly by clearly defining requirements to contractors.

This distinguishes us from pure cost estimating firms that do not build. Their initial budget figures are based on "estimates" from prior assignments, not on the final cost of those projects and not on real-time market intelligence.

Drawing upon the strengths and skills of our estimating team, we will provide accurate, durable estimates that will enable complete and comprehensive comparisons between all potential design solutions and that will serve as the baseline for assessing and controlling project costs throughout the remaining phases of this project. The benefit for the DPMC/NJBA is that you will not have to request additional funding as your project moves through design and construction.



State of New Jersey Division of Property Management and Construction (DPMC) - Project No. A1360-01 Construction Management Services - Laboratory, Administration Wing and Warehouse Expansion Project, NJ Public Health Environmental and Agriculture Laboratory | 10. Additional Information

Data from Similar Projects: Skanska Metriks™

We are also well aligned with the estimating needs of this assignment because of our national construction cost database, known as Skanska Metriks. We use Skanska Metriks to harvest close to 400 specific, quantified attributes from every project in order to help customers and design firms optimize results. Skanska Metriks contains detailed cost information from over thirty (30) Skanska laboratory facility projects.

Because it contains data from similar projects, Skanska Metriks will enable an understanding of the costs and cost drivers in the implementation of your project.

We will use our cost benchmarking capabilities during the design phase to validate the budget for your project and to provide quick, continuous feedback throughout the design process.



Skanska Metriks[™] is a benchmarking tool that harvests and compares close to 400 specific, quantifiable attributes from every project we build. Unlike traditional cost benchmarking, Skanska Metriks[™] incorporates quantified program and systems information enabling teams to better understand final building product and develop a more accurate cost model. Being able to evaluate the efficiency of building systems relative to similar institutions, teams can also identify attributes to target for improvement long before construction starts or the design is developed.

Value engineering, life cycle cost analysis, and constructability reviews

Skanska considers value engineering, life cycle cost analysis, and constructability reviews to be complementary processes in which project value can be maximized. We will work to ensure that these processes are defined by responsiveness, open dialogue, the timely and efficient input of comments into the cost model, and continual constructability input. This approach, rather than traditional cost cutting practices, seeks to find the point in the cost curve where maximum value will be provided to the DPMC/NJBA. Skanska's comprehensive approach also guards against decisions intended to reduce costs but that actually undermine quality and result in increased costs in subsequent project phases. As such, we will ensure that the full ramifications of project decisions are fully understood.

Periodically, and at strategic points in the design phase, the entire project team will assemble for dedicated workshops and planning sessions in which this project will be reviewed from a managed value perspective.

Furthermore, in order to obtain additional benefit, similar methodologies and principles will be applied throughout the preconstruction phase to evaluate the Master Project Schedule, proposed Bid Package trade delineations, commissioning protocols, and the quality implications related to design decisions.

The active management of these processes will enable timely, detailed, and comprehensive decision making as opposed to the traditional and reactive value engineering process.

This approach will have the effect of providing the DPMC/NJBA and the project team with an efficient and comprehensive control mechanism for each of the main drivers necessary for a successful project.

Skanska will work with the designer to ensure that costs remain at or below the budget established by the team at the outset of the project. Where required, we will assist in developing and tracking value engineering solutions that result in equal or greater value at reduced cost.

Utilizing a Value Engineering Log, our team will meet with the designer and owner to evaluate cost reduction measures while maintaining operational effectiveness, user comfort, architectural integrity, community values, safety and security, schedule, and cost.

State of New Jersey Division of Property Management and Construction (DPMC) - Project No. A1360-01 Construction Management Services - Laboratory, Administration Wing and Warehouse Expansion Project, NJ Public Health Environmental and Agriculture Laboratory | 10. Additional Information Skanska will protect the DPMC/NJBA's interest during this process to ensure that project goals and stakeholder values are maintained.

Benefit to DPMC/NJBA

Skanska's approach to value engineering contrasts strongly with the standard approach of cost cutting. Our approach is to deliver equal or superior value at a reduced cost. The benefits include both lower initial costs and reduced operating costs.



Value Engineering Log and Associated Pricing Back-up

Escalation

Skanska has in-house capabilities that are virtually unique in the industry. Among these is our ability to forecast escalation. Skanska continuously monitors the market for price escalation in both this region and throughout the U.S. This information is assimilated into a comprehensive "Construction Market Trends Report," which includes actual, real time data from our many projects combined with commodities reports. Because this report reflects current pricing trends "live" in the market, it ensures that we have the most accurate pricing and understand what commodities, materials and services may affect project pricing. This single tool has revolutionized our ability to provide the most accurate pricing available and to forecast future costs. We find this to be the best method for managing escalation risks.

SKANSKA

Construction Market Trends Report Spring 2022 | Skanska USA Building

increase in 2021.

to meet demand.



Additionally, labor has become an increasing concern. Unemployment is at a near 50-year low, but the **construction industry is short over** <u>650,000 workers</u> Non-union markets are experiencing wage competition between projects and in unionized markets, we expect labor contract renewals will require larger rate increases due to the increased cost of living.

The cost escalation and supply chain effects of the waning pandemic have been replaced by the tragic and developing war in Ukraine. Historically, a two-year period in the construction industry would yield inflation of about 7 percent. The

ENR Building Cost Index (BCI) is already up more than 5 percent through April and is on pace for a 15 percent increase in 2022, exceeding the 12.5 percent

Manufacturers will note that climbing prices and long lead times also stem from the explosive demand in many sectors including data centers, automotive

(EV), life sciences, distribution, semiconductor and infrastructure. **High demo** is driving up lead times significantly for electrical equipment due to large

entities buying up capacity into 2025. Manufacturers are adding capacity and expanding their sourcing to alternative suppliers, but they simply can't keep pace

Steve Stouthamer | Executive Vice President, Project Planning

Mitigating Risks

- Investigate the product requirements of you Q projects early in design and consider accelerated purchasing strategies for materials experiencing shortages, such as: electrical equipment, roofing material, generators, below-grade pipe materials and high purity process PVF
- Continue to forecast above normal escalation in project proformas and monitor sanctions agains Russian exporters/entities that supply metal products like copper, aluminum, nickel, iron and ste
- Deep dive with your subcontractors on their labo force projections and capacity prior to award

Market Factors

- Can change an estimate up to 15%.
- Understanding market conditions during the estimating process results in cost certainty.

Building Information Modeling (BIM)

We understand the power of BIM in enhancing the design, procurement and construction process by detecting clashes, enhancing productivity, maximizing safety, managing environmental goals, and enabling project stakeholders to visualize construction sequencing and phasing.

Skanska will work with the DPMC/NJBA and the design firm to develop a project BIM Execution Plan. It is not our intention to duplicate the services that they may be providing, but rather to work with the design team and subsequently with the contractor to utilize BIM to its greatest potential. By way of example, we would confer with Design Team regarding BIM guidelines and protocols that will facilitate design and result in lower bid pricing by providing additional clarity and "de-risking" contractor bid packages. The complexity of your project, moreover, merits the requirement that the selected contractor should either have BIM capabilities or be willing to gain such capabilities in order to participate in the procurement process. This would help to eliminate gaps in purchased scope and provide added specificity to contracts. Having contractors share in creating/managing the BIM model will advance the goal of verifying that what is designed is biddable and buildable.



Below are some of the BIM uses we recommend throughout your projects:

- 3D design modeling
- Site logistics and project phasing
- Clash detection and resolution
- Progress tracking
- As-built models for infrastructure upgrades
- · Linking relevant project lifecycle data

Recognizing that Building Information Models are increasingly being used as platforms for facilities management, we will guide the development of a final BIM product that is useful for long-term asset management, incorporating 3D models, 2D drawings, laser scans of as-built conditions, and 360-photographs as well as all associated asset data to best suit your needs and provide you the best deliverable possible to maintain your assets for years to come.

Permits and approvals

We will attend meetings with authorities having jurisdiction and assist in obtaining all necessary permits. We understand that the review process can be rigorous. However, if all parties are aware of this and follow the codes and requirements, the process will run smoothly. Skanska will lead the process and ensure that all requirements are put in place throughout design and the daily construction effort. Skanska also has robust laser scanning capabilities. Shown below are images comparing BIM models that incorporate scan data with photographs of the installed work. The project had minimal field clashes, indicating the high level of accuracy offered by the scan data.



Sustainability

Our Team is well-positioned to assist with planning related to your environmental certification goals. We are one of the most green-focused construction services firms in the country. We have experience with over 100 LEED-Certified projects across the U.S. and we have 500 LEED Accredited Professionals on our staff nationally. Our process will be to establish what your environmental/sustainability goals are (e.g., energy savings, occupant comfort, reduced carbon footprint, etc.); and then to identify where constructability, cost, and schedule overlay particular green/sustainable design elements that support the achievement of your sustainability objectives.

Procurement

Our strategy is to maximize competition and to identify qualified bidders who clearly possess: financial stability; a healthy work volume; a dedication to safety; a strong commitment to performing high quality work; and a history of good performance on past projects that are similar in size and complexity to yours.

We will work with the design team to ensure that bid packages clearly address all requirements pertaining to subcontract agreements, including, but not limited to, commercial terms, scope definition, risk management, performance expectations relative to safety, cost, schedule and quality, site logistics, close out documentation, submittals, engineering, coordination, delivery, and start-up/commissioning.

Ensuring that all project scope is identified and purchased in the bid process is the single most cost-saving activity throughout the process.

Safety Monitoring

Skanska is regarded as an industry leader in safety and is known for its Injury Free Environment (IFE) safety program. IFE focuses on creating a culture of safety at the project site and involves numerous meetings and seminars with the contractor, subcontractors and other project team members. The program reinforces in all participants that many other people beyond themselves depend on them remaining safe.

We will require the contractor to develop a site-specific safety plan that identifies work hazards and controls that will be implemented by the contractor to mitigate the hazards. The safety plans will be developed prior to commencing construction activities. We will ensure that safety provisions are included within bid documents and that contractors fully understand safety guidelines and expectations. We will enforce the use of daily pre-task planning, a specific time set aside before work begins each morning during which each work crew identifies the day's tasks, the risks associated with those tasks, and the steps each worker needs to take to avoid them. Our goal is to develop a culture of safety day one and ensure the project is completed safely.

Construction Phase Management

At the core of our management approach is our intention to provide

construction professionals from Skanska to oversee every step of the construction process. We will be the DPMC/NJBA's "eyes and ears" on the construction site. We understand how laboratory and warehouse projects are built, the importance of prompt decision-making for schedule success, how to manage budgets, how to hold both designers and contractors to their contractual obligations, and the importance of proper record keeping and project documentation. Our management of the construction phase will be carried out with heightened attention to preventing potential roadblocks.

We will manage the submittal process to ensure that schedules and turnaround times are met and ensure that the contractor and designer are coordinating the work properly. We want the work to be done correctly the first time with the right materials.

Effective meetings are also a critical part of construction phase success. We will meet with the architect and contractor weekly on-site to monitor and coordinate the construction phase; track submittal status, budget, and schedule, and resolve field conflicts and discrepancies in design drawings. We will lead each meeting, set the agenda, and document decisions and outcomes. Our meetings result in action items and deliverables. We document agreements that are made, and we then track the completion of those deliverables.

Monitoring of construction activities

We will provide daily observation and monitoring of construction activities such that all shifts and work activities are observed and documented. Specific responsibilities include:

- Preventing obstacles to contractor performance that could result in claims.
- Preventing claims through diligent oversight of the contractor and their adherence to the schedule.
- Keeping a daily log containing a record of weather, the contractor's work on site, number of workers, visitors to the site, safety status of the project, equipment and equipment utilization, material and equipment deliveries, non-compliance with safety procedures and issuance of any safety violation notifications, accidents, general description of work performed and quality of work, visits of code enforcement officials and any resulting reports or orders, verbal instruction to interpretations

given to the construction manager, pay items, and any observed delays, deficiencies and field problems.

- Monitoring the contractor's compliance with the construction schedule, identifying potential problems, and making recommendations when agreements are not being fulfilled.
- Assisting the architect in determining if construction and construction related activities are performed in accordance with plans and specifications and the approved shop drawings.
- Performing schedule reviews to identify out-of-sequence work, potential stacking of trades and possible claim situations.
- Monitoring, reviewing and analyzing proposed change orders, and claims.
- Evaluating quantities and classification of unit price work performed by the contractor.
- Coordinating and tracking requests for clarification on drawings/ specifications, design changes and proposed change orders.
- Ensuring sustainability requirements are being met onsite by the contractor.

Field inspections and quality control

Additionally, Skanska will perform the more traditional QA/QC tasks. We will oversee the construction work as it is put in place to minimize or prevent rework. We will routinely inspect all work put in place to ensure that quality standards are being met and to identify any deficiencies before they impact the project schedule. Inspections will be conducted in order to verify:

- The quality of workmanship
- Conformance to contract documents, codes, regulations and project requirements
- Quality of materials
- Lack of Omissions
- Dimensional accuracy of the work
- That the contractor develop, maintain and update As-Built drawings (updated monthly) as a requirement of project closeout and release of final contractor retainage.

Schedule Control

Our role as your consultant is to apply our "builder's expertise" to ensure that initial schedule goals are met and, when necessary, to develop schedule recovery strategies in the event of unforeseen delays.

We maintain full-time scheduling specialists in house, and our operations staff are trained to prepare, analyze, and update all types of schedules including bar graphs and precedence-based CPM schedules. We are very familiar with different types of scheduling software including Primavera P6 and Microsoft Project and use them daily. We will update the Master Project Schedule that we developed in Preconstruction throughout the duration of the project and inform the DPMC/NJBA of any impacts to deliverables and critical decision making.

Upon award of the construction contract, we will analyze the contractor's initial construction schedule and advise DPMC/NJBA on the validity of the schedule and logic of sequencing. We will help identify long-lead items that need to be reflected in the schedule and will provide feedback on critical path items.

As the contractor presents schedule updates or proposals for schedule recovery, we will compare these with the approved baseline schedule and provide you with reports identifying each change and explain how those changes impact the baseline schedule.

Throughout the construction phase, our team will analyze any proposed change orders that have schedule implications and will review submittal schedules to confirm sufficient timing for approval and ordering of materials. We will develop standard formats for schedules so that they can be uploaded to keep the master project schedule up to date. We realize that each project must be completed on time.

Besides a Master Schedule, the implementation of a milestone schedule allows focus on important milestones that are required to be met in order for the master schedule to have validity. Contractor three week look- a-head schedules will identify activities and crew sizes to be utilized and will also eliminate stacking of trades in one specific work area, aiding in the flow of construction work put in place.



Change Management Case Study: Connecticut State Office Building Renovation, Hartford, CT

Skanska served as the construction administrator for the renovation of the historic, 350,000-SF sf Connecticut State Office Building. The various challenges encountered during this \$205 million, three-yearplus project led to a fairly large number of changes and construction change orders (more than 200) worth more than \$13 million. In conjunction with the project architectural firm, Skanska's team was able to successfully contemporaneously review and process these change order requests in order to keep construction moving ahead and on schedule. As a direct result of our team's analysis and expertise in construction, Skanska's change order request review process was able to directly save the owner more than \$5 million when comparing originally submitted change order request proposal total dollar values to final approved change order values.

Change Management

Skanska understands that changes are a continuous threat to cost control throughout construction of a project.

Most projects require modifications or changes during construction because:

- 1. no set of contract documents is perfect,
- 2. the Owner reserves the right to change the scope of work, and
- 3. unforeseen conditions are inherent in the process.

The ability to respond to the changing requirements of your projects will be essential to their success. Skanska's management of change orders provides

rapid, reliable and fair handling of owner or contractor requested changes. The key components to a successful change management process are wellwritten contracts, communication, and discipline.

Our Role

A key role of Skanska is to mitigate damages by administering the change order process promptly and in accordance with the terms and conditions of the contract documents.

This is accomplished by having Skanska be the center point of the change process thus ensuring the change process happens consistently throughout the project and that each project team member is accountable for their role in the process.

By maintaining control of the change order process and documenting scope, cost and duration changes, the risk of miscommunication for both the owner and contractor will be minimized.

Skanska's role is typically to:

- Establish and implement the change control process
- Communicate the process to all project team members
- Log and Track Changes
- Review for accuracy/completeness
- Complete the DPMC-10 Consultant Evaluation of Contractor Change Order Request
- Make Recommendations to the Owner
- Assist DPMC/NJBA in negotiating changes
- Issue Change Order recommendations
- Ensure approved changes are invoiced correctly

Keys to Effective Change Management

- The keys to effective change management include:
- In-depth familiarity with the scope of work for each contract
- Understanding contractual timeframes
- Requesting a Change Order log from the contractor
- Requiring that all change requests be put in writing by the contractor
- Establishing at the beginning of the project how labor and equipment rates will be applied to Change Order work

- Carefully reviewing all change order requests for the appropriate scope of work, amount and duration
- Upon arrival of the invoice, confirming that each line item in the change order is correct and has not been previously billed.

Many change orders trigger a delay to the schedule which is not often captured at the time of the change, creating additional costs and/or misunderstandings later on. At the time of negotiation, we insist that all change orders clearly identify whether or not they affect the schedule.

While some of the change process may result in "difficult" discussions, our team members will confront issues in those discussions in a professional, reasonable, and collaborative manner to ensure a fair outcome per the terms of the contract.

Supply Chain Management

Skanska has an in-house Strategic Supply Chain (SSC) group that is in constant communication with material vendors and equipment manufacturers across the U.S. Our SSC team leverages Skanska's national scale and supplier management expertise to understand the dynamics of the supply chain and to assist in developing plans to mitigate challenges.

We will create and chair supply chain meetings with the contractor and client and identify items that are critical to success to the project and need to be on site coordinated with the construction schedule. This will eliminate potential rework and out-of-sequence work being installed and control potential change order impacts.

Supplier Relationships



Supply Chain Management Case Study

On a recent, schedule-intensive project, we helped to expedite the delivery of four air handling units (AHUs). The client had direct-purchased the AHUs but was told just one week ahead of delivery that the units were not in production because of component availability issues.

We immediately escalated the issue to the manufacturer's executive team and set up a conference call the next day with the client's P&L Leader as well as the management team from the plant where the units would be produced.

The manufacturer pulled all 32 sections of the AHUs ahead in their production queue and expedited trucking of the units to our client, allowing the project team to keep the project on schedule.

Systems Start-Up and Owner Training

Closeout begins at the start of the project. Skanska will write into the construction contract language that requires Operations and Maintenance Manuals to be delivered with the equipment and formally submitted prior to start-up operations.

Final Inspection (Punchlist) Prior to Inspections for Occupancy

Punch lists are sometimes the most challenging management task for the project team. As such, we suggest utilizing BIM 360 during final inspections to ensure all concerns are covered. Initialize the rolling punch list method, identifying and addressing non-compliant work and addressing at the time of identification, this eliminates the cumbersome punchlist which becomes a burden for project close-out and expands the project completion in many cases for months and becomes coordination issue with contractors that are no longer on site.

Project Closeout

Closeout begins at the beginning of the project with the inclusion of specific closeout language and requirements in the construction contract. Having the Operation and Maintenance manuals on hand prior to startup and training is essential for smooth turnover and for the understanding of new equipment and systems.

Warranty Inspections

As is customary with all our projects, Skanska wants to ensure that you are completely satisfied with our services and the overall end product. No member of the project team wants warranty call-backs after each project is turned over. One practice we recommend is to schedule a six-month and 11-month warranty walkthrough after completion with the owner, the contractor, and Skanska as construction manager. This will provide an opportunity to correct any deficiencies covered by the one-year industry standard warranty period before it expires.

Commissioning

Commissioning is an important component of the design and construction process. It provides owners with unbiased, objective verification that systems have been designed, installed and are operating in accordance with the intent of the project requirements and contract documents. The Commissioning Process is customized to address the specific needs of each project and to provide the most value. It helps assure that the building operates with high performance systems with minimal impact on construction costs and schedule. M&E Engineers, Inc. (M&E) will be the Commissioning Agent (CxA) for the Skanska team. M&E has a long history of successful projects with DPMC and other NJ State agencies, such as the NJ Schools Development Authority and the NJ Turnpike Authority.

Construction Claims Management

Skanska's enhanced ability to mitigate the impact of disputes starts at the Design Phase with the alignment of design and contracts. During the Construction Phase, Skanska provides this ability through a daily presence on the job site, direct involvement in submittals, RFIs, Field Clarifications and Change Orders, requisite and relevant construction experience, skillful negotiation with the Contractor, and full documentation of project events and issues. In the event that a dispute is likely, Skanska will stand by the DPMC/NJBA and be prepared to support the Owner when the issue "comes to a head."

Documenting Potential Disputes

A dispute (sometimes referred to as a "potential claim") can be defined as a disagreement about one or more issues between the Contractor and the Owner's Representatives. Initially this support takes the form of documentation.

The greatest value of a well-documented dispute is that it significantly increases the possibility that the dispute can be resolved through negotiation. An issue is less subject to disagreement when all the facts are displayed and presented in an organized manner.

Establishing a Dispute File

While the opening and maintenance of a series of dispute files that are never used may seem unnecessary, the value of creating them lies in the fact that it is difficult to assess, in advance, which of the disputes may develop into a claim. As part of Skanska's Claim Management practice, we already maintain contemporaneous logs of the likely relevant documents, such as pertinent correspondence, RFIs, COs, field reports, etc. In practice, the assembly of the dispute files can be completed relatively efficiently. If a dispute cannot be resolved readily, a well-maintained dispute file will be invaluable.

Document The Facts as The Dispute Unfolds

Collecting documentation related to a dispute after a project is completed is a difficult task. It can be a timeconsuming process to find all related documents in the mass of files created during a typical construction project. This is particularly true if the dispute researcher did not participate in the project's construction management or contract administration and is initially unfamiliar with events and documents that may be relevant. Therefore, it is preferable to collect dispute documents as events unfold, not afterward.

Our Claims Management Process

Skanska's Claims Management Process encompasses the prevention, mitigation, and expeditious handling of the earliest resolution of a particular construction claim.

Claims Prevention

Skanska will work with the DPMC/NJBA and the Designer to align contracts that protect the interest of the DPMC/NJBA. This is accomplished by aligning the contract documents to the defined purpose, logical risk sharing, and management scheme.

The root cause of claims is mostly contained in the contract formulation/ documentation and the information supplied or not supplied at bid time. After the award of the contract, the opportunity to prevent a claim regarding scope comes to an end.

Claims Mitigation

As stated in the Claim Prevention section above, the best approach to mitigate the possibility of an arising claim is by structuring a risk-allocated contract, that is well-scoped, with clear responsibilities. There are several general principles that Skanska utilizes for mitigating claims, that can work toward the elimination of the basis for, or at least minimize, the occurrence of claims.

Key Inputs to Claims Mitigation are:

- Quality Bid Documents (clear scope of work, logistics plan, and realistic bid schedule)
- Contract Terms
- Risk Plan
- Defined Handling of Disputes
- Defined Decision-Making Process

Claims Handling

Claims Identification - The identification of a claim starts with sufficient knowledge of the scope and responsibilities stated in contract terms when some activity appears to be a change in scope or terms requiring a contract adjustment.

Proper identification involves not only an interpretation of what the contract requires but also a documented description of the activity viewed as extra to that required by the contract.

Claims Quantification - Once an activity has been reviewed and a decision made that it is worthy of a claim, the next step is to quantify it, usually

in terms of additional compensation or a time extension to the contract completion or other milestone date.

Those who have had experience with this side of claims management know that it is not unusual for the claimant to inflate the amount of the claim so that it later can be used in a bargaining process that seeks to arrive at a reasonable "truth."

Nevertheless, Skanska is an expert in utilizing proper and logical ways of determining the cost of the extra activity or damages both in terms of money and time.

Claims Resolution

Even with all efforts to prevent claims, there may still arise a justifiable disagreement as to whether the claim in question represents a deviation from the contract and whether the claimed amount of compensation or time requested is correct.

When this situation arises, Skanska begins a step-by-step process to resolve these questions, with the understanding that the longer this process takes, the more expensive and disruptive it is to both parties.

The process begins with negotiation, before moving on to mediation, arbitration, and litigation, depending on the remedies afforded by the contract.

Conclusion

It is essential to manage claims by understanding the root causes and taking actions such as the alignment of documents and the maintenance of thorough site records.

It is often cheaper to resolve disputes between parties by mutual understanding. It seems that most of the claims occur during the construction phase.

However, poorly prepared contract documents are the breeding ground for claims. In other words, once bid documents are completed and the contract is awarded, you can only avoid claims during the construction phase.

Our goal is to avoid disputes and resolve problem issues at the earliest moment and lowest level possible, within the constraints of our contract.



Chris Anderson, CEA, LEED AP Project Executive



Gary Warren, EIT Operations Manager





University of Maryland, B.S., Electrical Engineering





Pennsylvania State University B.S., Structural Engineering

PA DGS, State Police Greensburg, DNA Laboratory Facility New Building, PA

Construct two new buildings: 1) The original design was a three-story approximately 59,800-SF laboratory and office building, (the third floor is a mechanical penthouse), and, 2) an 1850 s.f. one-story maintenance building to house landscaping and snow removal equipment.

Montgomery County, Pennsylvania, Coroner Facility, Eagleville, PA

\$14 million, 22,000-SF. Skanska is providing Construction Management Agency (CMa) services for the state-of-the-art Coroner Facility for Montgomery County. The new facility will be accredited and provide a modern accommodations, advanced autopsy space and equipment, and future expansion capabilities. In addition, Skanska is performing design phase management and cost consulting services.

MedImmune LLC, Red Lion Road Facility Projects, Philadelphia, PA

Projects included: a \$5.4 million, 26,000-SF, fast-paced office and laboratory renovation project, involving renovations in a partially occupied facility and a \$2.6 million installation of two new desiccant dehumidifiers on the roof and installation of associated systems, including steel, duct, piping, electrical, commissioning, etc., as well as minor infiltration remediation to the Line 2 production areas.

Northampton County, New Regional Forensic Center, Nazareth, PA

Skanska provided construction management and inspection services for a new \$10.9 million, 24,000-SF, 2-story Forensic Center.

NYC DDC, Public Health Laboratory Airsy (Phase 2), New York, NY Construction of 21,000-SF of BSL-2 and BSL3 laboratories in an existing

15-story, 330,000-SF building operating 24/7.

New Jersey EDA, Waterfront Technology Center, Camden, NJ

\$18.2 million, 100,000-SF five-story building with offices and wet-lab research and development space.

Johnson & Johnson, Multiple Projects, Spring House/Fort Washington, PA

\$134 million R&D lab facility expansion project that included a new 155,000-SF research center containing labs for discovery biology and discovery chemistry. Consumer and Specialty Pharmaceuticals Manufacturing Facility (MMF) project that included a Microbiology Lab, Sampling, Shipping and Receiving Warehouse, and Offices.

Schering Ag Bioprocess Facility, Seattle, WA

New \$90 million, 90,000-SF building that includes a separate production building with a separation between the Fermentation and Purification areas, Warehouse, laboratory space and admin space.

University of Texos, Engineering, Sciences & Technology Building, Tyler, TX 92,261-SF laboratory and classroom facility.

University of Delaware, Nanofabrication Program Projects, Newark, DE \$3 million of complex projects, including Research and Teaching Lab Retrofit Planning, Cleanroom Tool Installation/Hook-up, Cleanroom Air Handler Humidity and Chiller Controls and sequencing Modifications, and Phase II Toxic Gas Monitoring Systems implementation.



Craig Ronning Senior Project Manager





University of Illinois, M.A., Architecture



Paul Cocuzza, LEED AP BD+C Lead CSA Estimator



Years with Skanska



Merck Sharp & Dohme Corp., Biologics Lab and Cell Culture Purification Development Facility, Kenilworth, NJ

\$120 million, 139,000-SF new biologics research facility at the existing Merck Kenilworth site, featuring a 38,000-SF cell culture facility to support the upstream and downstream efforts for biologic research; 64,000-SF of laboratories to support cell culture discovery efforts; administrative offices; and 37,000-SF of support space, such as MEP equipment rooms. The project also included 18,300-SF in renovations to occupied spaces where it was critical not to disrupt ongoing research. The facility was built to LEED®certified standards.

Merck Office Building, Rahway, NJ*

\$70 million, 350,000-SF office building including offices, conference rooms, audiovisual rooms and auditorium.

Pfizer Office Building, Morris Plain, NJ*

\$120 million, 500,000-SF office building including offices, cafeteria, auditorium and conference rooms.

Pennsylvania State University, Berks Campus, Reading PA*

Gaige Technology and Business Innovation Building. \$25.5M, 65,000-SF, LEED Gold certified facility housing classrooms, shops, computer lab, facility offices and auditorium. The exterior included the innovated use of a terracotta rainscreen exterior system incorporating extensive interior day lighting.

New York City Economic Development Corporation, Public Health Laboratory, New York, NY

\$481 million,10-story, 230,000-SF public health laboratory, which consists of five floors of flexible and open BSL 2/BSL 3 laboratory space for virology, environmental sciences and microbiology, including core lab services, central accessioning administration, auditorium, Vector Borne Disease Surveillance, Sexual Health Express Pod and building services.

Cold Spring Harbor Laboratory, Master Plan, Cold Spring Harbor, NY

Skanska is providing construction management services for the Cold Spring Harbor Laboratory Master Plan project. Spanning more than 400,000-SF, some sub-projects include new neuroscience wet-labs, research housing and conference centers, an Artificial Intelligence and Quantitative Biology Research Building, a vivarium, new parking garage, utilities relocations as well as a historic seawall restoration.

National Institutes of Health, Bayview Biomedical Research Center, Baltimore, MD

\$180 million, 560,00-SF, multi-story biomedical research facility housing the National Institute on Aging (NIA) and the National Institute on Drug Abuse (NIDA). The new center contains clinical, research and vivarium labs, office, conference and lobby space, a security system throughout the building and a commons area with a library and food service center.

*Project completed prior to joining Skanska.



New York City Economic Development Corporation, Public Health Laboratory, New York, NY

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New York University, School of Engineering Rogers Hall Laboratory Renovations, New York, NY

\$28.9 million, 9,100-SF renovation of two floors to create state-of-the-art research laboratories and support spaces, including gutting existing labs and abating asbestos. The facility has a cold room and a 2,000-SF class 10,000 clean room with special air valves and fume hoods that vent to the roof. The project also encompassed the fit out of the laboratories with fume hoods, specialty gas feeds, lasers and sensitive imaging equipment that required mechanical and electrical hookups.



Phil Colonna Lead Fire/Plumbing and Electrical Estimator





Villanova University, B.S., Mechanical Engineering

Department of Forensic Science, Central Forensics Lab and Office of the Chief Medical Examiner, Mechanicsville, VA

\$188.1 million, 287,850 SF, four-story, Central Forensics Lab for the Department of Forensic Science (DFS) and Office of the Chief Medical Examiner (OCME) on a 16-acre greenfield site. Interior spaces for DFS include evidence storage, ballistics lab, breath/alcohol lab, biology lab, chemistry lab, classrooms, training spaces, controlled substance labs, fie debris lab, trace labs, toxicology labs, admin offices, conference and break rooms. Interior spaces for the OCME include morgue, embalming, pathology, autopsy, radiology, coolers, anthropology, administrative offices, locker rooms, admin areas and conference spaces. The facility operates 24 hours, seven days a week and will require coordination to the greatest detail due to the chain of custody environment and the requirements for law enforcement.

GlaxoSmithKline, UM04 Human Biological, King of Prussia, PA

\$18.1 million renovation of an existing animal space to provide a location for the storage requirements to consolidate biological samples.

Johnson & Johnson, R&D Laboratory Expansion, Spring House, PA

\$134 million expansion project that included a new 155,000-SF research center lab and 80,000-SF of renovated space in their existing research building. The new research center features perimeter offices for chemistry and biology functions with adjacent interior laboratory spaces designated for either discovery biology or discovery chemistry.

Engineering



PA DGS, State Police Greensburg, DNA Laboratory Facility New Building, PA

Construct two new buildings: 1) The original design was a three-story approximately 59,800 s.f. laboratory and office building, (the third floor is a mechanical penthouse), and, 2) an 1850 s.f. one-story maintenance building to house landscaping and snow removal equipment.

PA DGS, California University of Pennsylvania, New Science Building, California, PA

This proposed new Science Building will include classrooms, offices, meeting rooms, and laboratories for biology, chemistry, environmental, and physics sciences.

Johnson & Johnson, Fastnet Project, PA

454,529-SF, new Biologics Drug Substance Facility. The facility will include the initial core processing along with administration, laboratory, warehouse, central utility plant and a waste water treatment plant.

GlaxoSmithKline, UM04 Human Biological, King of Prussia, PA

\$18.1 million renovation of an existing animal space to provide a location for the storage requirements to consolidate biological samples.

GlaxoSmithKline, UP02 Lab Support Addition/Renovation, Collegeville, PA

\$30.1 million, 60,000-SF renovation of an existing vivarium to convert it to a bioanalytical hub for research and development.

PA DGS, State Police Greensburg, DNA Laboratory Facility New Building, PA

Construct two new buildings: 1) The original design was a three-story approximately 59,800-SF laboratory and office building, (the third floor is a mechanical penthouse), and, 2) an 1850 s.f. one-story maintenance building to house landscaping and snow removal equipment.

GlaxoSmithKline, SMART Lab Building 1 East, Collegeville, PA

\$41.5 million, 103,000-SF project, which included selective demolition and reconstruction of four floors of existing labs. The building's capacity was doubled by reconfiguring each floor to include one large glazed-wall lab and modern, open-concept offices and conference rooms. The project featured 100,000-SF in SMART labs that can transition from one discipline to another in just two days, renovated restrooms, upgraded air handling units and heavy MEP systems renovations.

GlaxoSmithKline, UM04 Human Biological, King of Prussia, PA

\$18.1 million renovation of an existing animal space to provide a location for the storage requirements to consolidate biological samples.

PA DGS, California University of Pennsylvania, New Science Building, California, PA

This proposed new Science Building will include classrooms, offices, meeting rooms, and laboratories for biology, chemistry, environmental, and physics sciences.



Novartis, Cambridge Campus Expansion, Cambridge, MA

\$686 million, 795,000-SF global headquarters with two new biomedical facilities—a seven-story building and an eight-story building—on a tight, urban site. The project included flexible labs, collaborative work areas, a kitchen, 260-person dining area, below-grade vivarium, auditorium, storefront retail and restaurants, and a 459-space parking garage shared by both buildings.

Thermo Fisher, Project Atlas, Plainville, MA

Preconstruction services for a \$180 million, 290,000-SF large scale pharmaceutical GMP manufacturing facility that will support the development and manufacture of gene therapies and vaccines and offer a flexible and scalable configuration of laboratory and production suites colocated with adjacent warehousing and office space.

Dana-Farber Cancer Institute, Cell Manipulation Core Facility, Boston, MA

\$27 million, 24,000-SF renovation project that provides ISO 7 and 8 labs as well as support space for the CMCF program, which develops cell based therapies for cancer patients and also develops and tests production and processes for the program. It is a cGMP validated facility.

Takeda Pharmaceuticals, Cell and Gene Therapy cGMP, Cambridge, MA \$16 million, 21,000-SF fit-out of four cGMP process workstations, labs, warehouse, mechanical space and offices

Children's Hospital of Philadelphia, Middleman Family Pavilion, King of Prussia, PA

275,000-SF (new); 54,000-SF (renovation), the project consists of a new inpatient hospital located in King of Prussia, PA. The hospital is approximately 252,000-GSF over seven floors, as well as a 22,000-SF penthouse. The project also includes renovation of approximately 54,000-SF of the existing Specialty Care Center (SCC) which involved administrative office suite and full-service kitchen and cafeteria space.

Confidential Client, Research Construction Project, Clinton, NJ

\$102 million construction of a 25,000-SF engine-testing cell (ETC) facility, chiller, and fuel tank facility, sample warehouse, plant, and storage areas to support the client's wide range of scientific and engineering research and development activities. The team is also renovating 40,000-SF of research and development laboratory space across three floors and upgrading the utilities and central plant.

GlaxoSmithKline, UM04 Human Biological, King of Prussia, PA

\$18.1 million renovation of an existing animal space to provide a location for the storage requirements to consolidate biological samples.

GlaxoSmithKline, UP09 1730 CMCA Lab Renovation, Collegeville, PA

3,000-SF fit-out of existing unoccupied space into lab casework, biosafety cabinets, fume hoods, equipment and freezers.



GlaxoSmithKline, UM04 Human Biological, King of Prussia, PA

\$18.1 million renovation of an existing animal space to provide a location for the storage requirements to consolidate biological samples.

GlaxoSmithKline, UP09 1730 CMCA Lab Renovation, Collegeville, PA

3,000-SF fit-out of existing unoccupied space into lab casework, biosafety cabinets, fume hoods, equipment and freezers.

Children's Hospital of Philadelphia, Middleman Family Pavilion, King of Prussia, PA

275,000-SF (new); 54,000-SF (renovation), the project consists of a new inpatient hospital located in King of Prussia, PA. The hospital is approximately 252,000-GSF over seven floors, as well as a 22,000-SF penthouse. The project also includes renovation of approximately 54,000-SF of the existing Specialty Care Center (SCC) which involved administrative office suite and full-service kitchen and cafeteria space.

Chemours, Discovery HUB Lab Building, University of Delaware STAR Campus, Newark, DE

\$185 million, 312,000-SF, new,3-story, state-of-the-art R&D building featuring 130 individual labs, 50+ collaboration spaces, as well as office and research space. The project earned 3 Globes from the Green Globe sustainable building rating system.

Montgomery County, Emergency Operations Center, Eagleville, PA

\$32 million project that includes an Emergency Management garage and warehouse; coroner's facility; and archives building.



John Barrett Field Representative

45 Years in Industry



Pennsylvania State University, MEP and Construction Courses

Children's Hospital of Philadelphia, Middleman Family Pavilion, King of Prussia, PA

275,000-SF (new); 54,000-SF (renovation), the project consists of a new inpatient hospital located in King of Prussia, PA. The hospital is approximately 252,000-GSF over seven floors, as well as a 22,000-SF penthouse. The project also includes renovation of approximately 54,000-SF of the existing Specialty Care Center (SCC) which involved administrative office suite and full-service kitchen and cafeteria space.

Johnson & Johnson, R&D Laboratory Expansion, Spring House, PA

\$134 million expansion project for Johnson & Johnson included a new 155,000-SF research center lab and 80,000-SF of renovated space in their existing research building.

Johnson & Johnson, R&D Workplace Transformation Project, Spring House, PA

\$64 million, 180,000-SF renovation of multiple buildings on the company's Spring House campus to consolidate their New Jersey and Pennsylvania pharmaceutical research and development operations, creating an East Coast research hub. The project included spaces to support a mixture of administrative and laboratory research activities, updates to a 90,000-SF vivarium, the fit out of shell spaces to provide biology labs and the conversion of existing chemistry labs to biology and product development labs.


County of Lehigh, Courthouse Renovatiom, Allentown, PA

\$13.5 million, 50,000-SF. Skanska provided construction management agency services including value engineering, contractibility review, cost estimating, bid preparation and management, scheduling and administration.

Montgomery County, One Montgomery Plaza Infrastructure Upgrades Project, Norristown, PA

Skanska is providing Preconstruction and Construction Management Agency (CMa) services for the complete MEP Systems Infrastructure replacement of One Montgomery Plaza (OMP), a ten-story, 225,000 SF, structure that serves as the county office building for Montgomery County.

PennDOT District 6-0 Regional Traffic Management Center and Parking Garage, King of Prussia, PA*

Served as Construction Manager for PA DGS. End user was PennDOT. Design-Build contract, contractor was Heim Construction. Demolished existing parking deck, built new parking structure. built new state of the art traffic management center. Left for Skanska before project completed.

PA DGS, Lancaster Avenue Readiness Center, Philadelphia, PA

Rehabilitation of 100 year old building, including MEP, security, and fire alarm upgrades, for use by the Pennsylvania National Guard and Drexel University.

*Project completed prior to joining Skanska.





William Amann, P.E., LEED Fellow, DCEP

Principal Engineer









Gerard Hazel, BCxP, LEED AP Commissioning Agent

38 Years in Industry



College of Staten Island, Business

Regional Laboratory, Raritan, NJ, LabCorp – Project Manager / Energy Consultant

Bill served as the Project Manager and primary Energy Consultant for the 90,000sf addition to a testing facility and 177,000sf renovation of existing laboratories and office space.

Pathology Labs, Unilever, Englewood Cliffs – Project Manager / Senior Engineer

Bill served as the Project Manager and Senior Engineer for renovations to an existing microbiology lab that is classified at Biosafety Level 2.

Public Safety Complex, Morris County - Project Manager / Senior Engineer

Bill served as the Project Manager and Senior Engineer for new public safety complex that houses a new 911 call center, data center, police offices and laboratories and office of emergency management. Cost of construction was \$28M and project size was 28,000 square feet.

High Tech High School, Secaucus, NJ, Hudson County Improvement Authority – Energy Consultant

Bill served as an Energy Consultant for a Design-Build project with DMR Architects. The new state-of-the-art three-story High Tech High School is approximately 340,000 square foot. Project achieved LEED Gold certification. Regional Laboratory, Raritan, NJ, LabCorp – Commissioning Authority Gerry served as the Commissioning Agent for the 90,000sf addition to a testing facility and 177,000sf renovation of existing lab and office space.

Research Tower, Piscataway, NJ, Rutgers University – Commissioning Authority

Gerry served as the Commissioning Agent for the replacement of vivarium infrastructure, including 100% OA RTU with steam dehumidification, steam to HW converters, reheat coils and exhaust fans.

Biologics R&D Building, Rahway, NJ, Merck – Commissioning Authority Gerry served as the Commissioning Agent for a new 165,000sf 3 story building that will house a pilot plant, R&D facilities and offices. System

includes air handlers with CHW and HW from a central plant.

Food Grade Ingredient Plant, Clark, NJ, Kerry Foods – Commissioning Authority

Gerry served as the Commissioning Agent for a 60,000sf food grade processing plant in an existing warehouse space, including 21 packaged RTUs.

High Tech High School, Secaucus, NJ, Hudson County Improvement Authority – Commissioning Authority

Gerry served as the Commissioning Agent for a Design-Build project with DMR Architects. The new state-of-the-art three-story High Tech High School is approximately 340,000 square foot. Project achieved LEED Gold certification.



Years in Industry







Frank Tutelo, P.E., LEED AP, CEA Senior Engineer







Regional Laboratory, Raritan, NJ, LabCorp – Energy Consultant

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Greg served as an Energy Consultant for the 90,000sf addition to a testing facility and 177,000sf renovation of existing laboratories and office space.

Years with M & E

Engineers, Inc.

State Police Barracks, New Jersey Turnpike Authority – Mechanical Engineer / Project Manager

Greg served as the Mechanical Engineer & Project Manager for four police barracks. A prototype has been adapted to construct four separate police barrack buildings totaling \$50M. Project is being built to LEED standards.

Public Safety Complex, Morris County – Mechanical Engineer / Project Manager

Greg served as the Mechanical Engineer and Project Manager for new public safety complex that houses a new 911 call center, data center, police offices and laboratories and office of emergency management. Cost of construction was \$28M and project size was 28,000 square feet.

Hunterdon Developmental Center, State of New Jersey – Mechanical Engineer / Project Manager

Greg served as the Mechanical Engineer and Project Manager for a chiller replacement project at the Hunterdon Developmental Center campus. He performed an analysis comparing nine different chiller approaches and performed design for two 500 ton air-cooled chillers. Cost of construction was \$2.2M. Regional Laboratory, Raritan, NJ, LabCorp – Energy Consultant

Frank served as an Energy Consultant for the 90,000sf addition to a testing facility and 177,000sf renovation of existing laboratories and office space.

Public Safety Complex, Morris County – Electrical Engineer / Project Manager Frank served as the Electrical Engineer and Project Manager for new public safety complex that houses a new 911 call center, data center, police offices and laboratories and office of emergency management. Cost of construction was \$28M and project size was 28,000 square feet.

Regional Operations Intelligence Center, State of New Jersey – Electrical Engineer / Project Manager

Frank served as the Electrical Engineer and Project Manager for an alteration of the second floor interior of the Regional Operations Intelligence Center and E911 Communication Center, including expansion of UPS System, Grounding of Motorola Radio Systems (R56), Geothermal Heat Pump System, and Fire Protection & Detection. Cost of construction was \$3.5M.

Facilities Improvement Program, New Jersey Turnpike Authority – Electrical Engineer / Project Manager

Frank serves as the Electrical Engineer and Project Manager electrical design for new maintenance facilities and multi-use buildings located at Turnpike South sites in Swedesboro, Moorestown, Crosswicks, and Milltown, NJ.

B.S., Mechanical

Engineering

City University of New York (CUNY), Advanced Science and Research Center New York, NY

\$600 million, 400,775-SF, dual-tower academic facility with research facilities, teaching labs, multiple wet laboratories for all major sciences, imaging suites, a vivarium, clean room, food service area and 100-seat auditorium. A plaza was built between the two towers that functions as a green roof for the shared lower level. The project also included a sophisticated MEP system, which includes emergency power, nitrogen tanks and laboratory gas distribution. The building is LEED® Gold certified.

University of Delaware, Worrilow Hall Renovation - Newark, DE

\$32 million, 66,000-SF, renovation of the primary academic and research laboratory facility for the College of Agriculture and Natural Resources at the University of Delaware. The renovation includes a total interior reprogramming and renovation of the facility.



State of New Jersey Division of Property Management and Construction (DPMC) - Project No. A1360-01 Construction Management Services - Laboratory, Administration Wing and Warehouse Expansion Project, NJ Public Health Environmental and Agriculture Laboratory | 10. Additional Information

PA DGS, State Police Greensburg, DNA Laboratory Facility New Building Greensburg, PA

Construct two new buildings:

- 1. The original design was a three-story approximately 59,800-SF laboratory and office building, (the third floor is a mechanical penthouse)
- 2. 1,850-SF one-story maintenance building to house landscaping and snow removal equipment.

GlaxoSmithKline, SMART Lab Building 1 East - Collegeville, PA

\$41.5 million, 103,000-SF project, which included selective demolition and reconstruction of four floors of existing labs. The building's capacity was doubled by reconfiguring each floor to include one large glazed-wall lab and modern, open-concept offices and conference rooms. The project featured 100,000-SF in SMART labs that can transition from one discipline to another in just two days, renovated restrooms, upgraded air handling units and heavy MEP systems renovations.



State of New Jersey Division of Property Management and Construction (DPMC) - Project No. A1360-01 Construction Management Services - Laboratory, Administration Wing and Warehouse Expansion Project, NJ Public Health Environmental and Agriculture Laboratory | 10. Additional Information

Merck Sharp & Dohme Corp., Biologics Lab and Cell Culture Purification Development Facility - Kenilworth, NJ

\$120 million, 139,000-SF new biologics research facility at the existing Merck Kenilworth site, featuring a 38,000-SF cell culture facility to support the upstream and downstream efforts for biologic research; 64,000-SF of laboratories to support cell culture discovery efforts; administrative offices; and 37,000-SF of support space, such as MEP equipment rooms. The project also included 18,300-SF in renovations to occupied spaces where it was critical not to disrupt ongoing research. The facility was built to LEED®certified standards.

Johnson & Johnson, R&D Workplace Transformation Project - Spring House, PA

\$64 million, 180,000-SF renovation of multiple buildings on the company's Spring House campus to consolidate their New Jersey and Pennsylvania pharmaceutical research and development operations, creating an East Coast research hub. The project included spaces to support a mixture of administrative and laboratory research activities, updates to a 90,000-SF vivarium, the fit out of shell spaces to provide biology labs and the conversion of existing chemistry labs to biology and product development labs. This project is LEED[®] certified.



Novartis, Cambridge Campus Expansion Cambridge, MA

\$686 million, 795,000-SF global headquarters with two new biomedical facilities—a seven-story building and an eight-story building—on a tight, urban site. The project included flexible labs, collaborative work areas, a kitchen, 260-person dining area, below-grade vivarium, auditorium, storefront retail and restaurants, and a 459-space parking garage shared by both buildings. The work also encompassed removing 195,000-cubic yards of soil, pumping out more than five million gallons of groundwater, building a central utilities trigeneration plant and installing the largest super-critical liquid carbon dioxide distribution system in the U.S.

University of Delaware, Nanofabrication Program Projects - Newark, DE

Skanska provided program management services in support of several complex projects related to the University of Delaware's Nanofabrication Program. These include NF Research and Teaching Lab Retrofit Planning, NF Cleanroom Tool Installation/Hook-up, Cleanroom Air Handler Humidity and Chiller Controls and sequencing Modifications, and Phase II Toxic Gas Monitoring Systems implementation.



Virginia Tech Carilion Clinic, Fralin Biomedical Research Institute at VTC Roanoke, VA

\$75.7 million, 145,000-SF of classroom, research and education space along with the Comparative Oncology Research Center. There are five thematic areas: biomaterials - body device interfaces, brain health and disease, cardiovascular sciences, infectious disease and immunity and metabolism and obesity. The building also includes wet and dry research laboratories, core facilities, experiential learning classrooms, MRI, linear accelerator and administrative spaces. The project will be LEED Silver certified.

Inspira Health Network, Mullica Hill Campus - Mullica Hill, NJ

\$230 million, five-story, 466,000-SF new hospital with 204 beds. The main tower consists of operating rooms, an emergency department, imaging suites, as well as administrative, dining and support services. The project also includes constructing a new central utility plant, which provides electrical power, steam and chilled water to the new hospital. Sitework included demolition of three small farm buildings, grading, underground and overhead utilities to the site as well as surface parking for the new hospital and future medical office buildings. The new hospital was built under an integrated project delivery (IPD) contract.





LabCorp, Region Laboratory Raritan, NJ

M&E Engineers (M&E) is providing energy and water optimization consulting for a \$90M comprehensive renovation totaling 335,396 square feet. Project is being constructed in three separate phases for the new warehouse, new laboratory addition (testing facility), and renovation to the existing building (labs and office space).

M&E provided a generator analysis, including demand-response feasibility, and is currently performing commissioning services for the all of the HVAC systems as per ASHRAE Guideline 0.

M&E is also assisting with obtaining incentives through the Pay for Performance (P4P) and Combined Heat & Power (CHP) programs.



Merck & Co, Inc., Biologics R&D Facility Rahway, NJ

M&E Engineers is currently providing Commissioning services for a new 165,000 square foot 3-story building that will house a pilot plant, R&D facilities and offices. HVAC system includes air handlers with CHW and HW from a central plant.





Rutgers University, Research Tower Vivarium - Piscataway, NJ

M&E Engineers performed Commissioning services for the replacement of vivarium infrastructure at the Rutgers University Research Tower. HVAC system included a 100% Outside Air Rooftop Unit with steam dehumidification, steam to HW converters, reheat coils and exhaust fans.

ENGINEERS, INC. mechanical & electrical consulting engineers

Kerry Group, Food Grade Ingredient Plant Clark, NJ

M&E Engineers performed Commissioning services for a 60,000 square foot grade processing plant in an existing warehouse HVAC system included 21 packaged Rooftop Units.



SKANSKA

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