# SCOPE OF SERVICES FOR CONSTRUCTION MANAGEMENT SERVICES

**CONTRACT # CAT-523-CM for the Construction Management Services for the Rehabilitation of the Wallkill Blow-off Chamber**

**PIN: 82627P0005**

## TASK 1 PROJECT MANAGEMENT

### Task 1.1 Design Phase

### Task 1.1.a Design Phase General Project Management (Not Used)

### Task 1.1.b Design Phase Monthly Progress Reports (Not Used)

### Task 1.2 Construction Procurement Phase

### Task 1.2.a Construction Procurement Phase General Project Management

The CM Consultant shall provide project management services as required to support the administrative needs of the Project through the Construction Procurement Phase. The CM Consultant shall comply with the approval process for all Subconsultants.

The CM Consultant shall communicate regular progress updates and raise Project issues to DEP. The CM Consultant shall be available to address DEP's requests and prepare summary documents as needed.

### Task 1.2.b Construction Procurement Phase Monthly Progress Reports

The CM Consultant shall prepare and submit monthly progress reports and shall also include the Estimate at Completion.

Deliverables:
**8** Construction Procurement Phase Monthly Progress Reports and Project ePMIS updates

### Task 1.3 Construction Phase

### Task 1.3.a Construction Phase General Project Management

The CM Consultant shall provide Project management services as required to support the administrative needs of the Project through the Construction Phase. The CM Consultant shall comply with the approval process for all Subconsultants.

The CM Consultant shall communicate regular progress updates and raise Project issues to DEP. The CM Consultant shall be available to address DEP's requests and prepare

summary documents as needed.

### Task 1.3.b Construction Phase Monthly Progress Reports

The CM Consultant shall prepare and submit monthly progress reports and shall also include the Estimate at Completion, the submittal tracking graphic (illustrating planned vs. actual submittals and reviews), an equipment tracking log, and an asset tracking log.

Deliverables:
**60** Construction Phase Monthly Progress Reports and Project ePMIS updates

### Task 1.4 Closeout Phase

### Task 1.4.a Closeout Phase General Project Management

The CM Consultant shall provide Project management services as required to support the administrative needs of the Project through the Closeout Phase. The CM Consultant shall comply with the approval process for all Subconsultants.

The CM Consultant shall communicate regular progress updates and raise Project issues to DEP. The CM Consultant shall be available to address DEP's requests and prepare summary documents as needed.

### Task 1.4.b Closeout Phase Monthly Progress Reports

The CM Consultant shall prepare and submit monthly progress reports and shall also include the Estimate at Completion, the submittal tracking graphic (illustrating planned vs. actual submittals and reviews), an equipment tracking log, and an asset tracking log.

Deliverables:
**18** Closeout Phase Monthly Progress Reports and Project ePMIS updates

### Task 1.5 Monthly Invoices

The Consultant shall prepare a monthly invoice, that includes a full accounting of all labor, Project Management, ODC (inclusive of allowances) costs organized by Phase and Task.

For services rendered pursuant to an amendment, the Consultant must identify each service by the corresponding amendment cost code, to be paid separately from the original Maximum Contract Amount.

The Consultant shall invoice for Services performed and shall provide, in its monthly report to DEP, an accounting and a forecast of all costs at the Subtask level. The Consultant shall collect costs and maintain forecasts to the lowest level of the Scope of Services (Task, Subtask, or Sub-subtask Level) and shall provide this information when requested by DEP.

The cost for the preparation of such invoices shall be included in this task.

## Task 1.6 Construction Management Document

The CM Consultant shall develop a Construction Management Document that includes the Sections 1.6.a through 1.6.d. The CM Consultant shall apply the developed procedures throughout the contract:

Deliverables:
Construction Management Document – Construction Procurement Phase
Construction Management Document Update – Construction Phase
Construction Management Document Update – Closeout Phase

## Task 1.6.a Construction Management Plan ("CMP")

The CM Consultant shall develop and implement a CMP detailing the manner in which the construction work, as described in the construction contract documents ("Work"), will be planned, executed, monitored, controlled, and closed-out. The CM Consultant's CMP shall describe the purpose and scope of the Work and shall cover staff, deliverables, quality, risk, Environmental Health & Safety ("EHS"), stakeholder communications, and document management as described in the BEDC's Project delivery system for the construction procurement phase, construction phase and close-out phase. The CMP will define the CM Consultant's approach in delivering the Work and the dissemination of construction-related information in accordance with BEDC's Project delivery system. The CM Consultant shall initially prepare the CMP during the Construction Procurement Phase, and shall update the CMP for each subsequent phase. The CM Consultant shall also update the CMP within a Phase, as necessary, to reflect changes in the Project. The CM Consultant shall coordinate the development of its CMP with the Design Engineer's Project Management Plan ("PMP") effort to minimize duplicated effort and streamline Project communications and management. The CM Consultant's CMP shall also include the following:

### Task 1.6.a.1 CM/Contractor Responsibility Matrix

The CM Consultant must provide a matrix detailing the CM Consultant's responsibility and each construction contractor's Division 01 - General Requirements deliverables. For each deliverable, the matrix must include the relevant BEDC Standard Operating Procedures (SOPs), the responsible personnel to produce the Work, the responsible personnel for reviewing the Work, the method of the deliverable (e.g., report, letter, memo, agenda, minutes, log, etc.), the frequency of the task, the applicable management plan/standards and referenced section(s) and/or contractor specification and referenced specification section that further details the deliverable requirements, and the relevant ePMIS document.

### Task 1.6.a.2 Risk Management Plan ("RMP")

The CM Consultant's RMP will describe the transference of risk management from the Design Engineer to the CM Consultant and the CM Consultant's methodology on managing

risks during and after the Construction Phase of the Project to reduce risks and increase opportunities.

**Task 1.6.a.3 CM EHS Management Plan**

The CM Consultant's EHS Management plan will demonstrate and clearly define the CM Consultant's methodology on managing and implementing EHS Management System requirements during the construction phase and demonstrate the CM Consultant's methodology to ensure new assets are safe to operate upon hand-off to the Operating Bureau. The EHS Management Plan must include the Project's EHS Plan ("EHASP") that is prepared under Task 1.6.d.

**Task 1.6.b Construction Manager's Quality Management Plan ("CMQMP")**

The CMQMP is a site-specific plan that identifies the application of quality assurance and quality control ("QA" and "QC," respectively, and "QA/QC," collectively) to ensure that the results of construction activities are complying with the construction contract documents' requirements. In addition to construction activities, the CMQMP will include quality auditing procedures for CM Consultant and Subconsultants and identification of a Quality Manager.

The CM Consultant shall prepare a CMQMP consistent with BEDC's Project delivery system requirements. The CMQMP must define the CM Consultant's approach to deliver a quality Project through construction and Close-Out. The CM Consultant shall update the CMQMP, as necessary, to reflect changes in the Project and all revisions must be submitted to DEP for review and comment. The CMQMP must be coordinated with the Design Engineer's QMP to minimize duplicated effort and streamline Project's communications and management. The CM Consultant shall initially prepare the CMQMP for Design Phase Services, and will update the CMQMP prior to the start of Construction Phase Services.

**Task 1.6.c Close-Out Management Plan**

The plan will identify all Close-Out activities and describe the CM Consultant's methodology starting from CM Notice to Proceed ("NTP") for achieving an effective Close-Out within six (6) months of the issuance of the substantial completion certificate for the construction contract. Effective Close-Out is defined as having all documentation and punch-list work completed and both the substantial and final completion payments submitted and reviewed. The only work items that would occur past the six-month period would be the continuing enforcement of warranties, preparation of the final extension of time, and the subsequent processing of the remaining payments. The Close-Out plan will also include the CM Consultant's documentation of lessons learned during the construction and Close-Out phase.

**Task 1.6.d Environmental Health and Safety Plan ("EHASP")**

The EHASP is a plan that describes the CM Consultant's workforce EHS requirements. The CM Consultant shall submit an EHASP for approval before conducting field and site work on DEP property in accordance with the Project delivery system requirements. The

EHASP must follow BEDC's EHS standards, and the CM Consultant shall attend a site orientation training.

### Task 1.7 Commissioning Plan (Not Used)

## TASK 2 DESIGN PHASE SERVICES (NOT USED)

## TASK 3 CONSTRUCTION PROCUREMENT PHASE SERVICES

### Task 3.1 Submittal Log Reconciliation

The CM Consultant shall meet with the Design Engineer prior to registration of the construction contract to review the Submittal Log (within one week of submittal log submission) developed by the Design Engineer and identify and incorporate any additional submittals required based on the Construction Contract Bid Set.

Deliverables:
Reconciled Submittal Log

### Task 3.2 Permit Transition from Design to Construction

The CM Consultant shall attend the Permit Transition meeting with the Design Engineer to facilitate the transition of the regulatory Permit Management Plan to the CM Consultant for the Project as the Project moves from the Design Phase to the Construction Phase. Following this meeting, the CM Consultant shall take over the BEDC ePMIS Permit Process and continue to track (monthly) the identification, acquisition, and permit compliance via ePMIS. The CM Consultant shall notify BEDC and the Permit Resource Division (PRD) if a permit or a delay in permit approval will cause a delay to a Project milestone.

Deliverables:
Final Regulatory Transition Plan from Design to Construction

## TASK 4 CONSTRUCTION PHASE SERVICES

Once construction begins, the CM Consultant shall be accountable for the Project delivery during the Project's Construction Phase and shall manage the Work in accordance with BEDC's online Project delivery system, with the goal of ensuring that the Work is being performed in accordance with the construction contract documents. The CM Consultant shall understand the construction schedule, including recently completed work and upcoming planned work. The CM Consultant shall work closely and collaboratively with DEP and the Design Engineer to coordinate engineering information throughout the Construction Phase. The CM Consultant shall implement sound principals of construction management, including all CMP requirements.

Construction phase services tasks are distributed into two groups:

- Task 4.1 – Staffing Based Tasks: These tasks are generally anticipated to be performed by CM Consultant personnel working on this Project, primarily at the Project Site(s).

- Task 4.2 – Deliverable Based Tasks: These tasks are anticipated to be performed by personnel not continuously at the Project Site(s) or relate to very specific deliverables.

### Task 4.1 Staffing Based Tasks

### Task 4.1.a Construction Administration

#### Task 4.1.a.1 Progress Meetings

The CM Consultant shall facilitate weekly meetings with the construction contractor to review site safety status, document progress completed against baseline in past week, review four-week schedule look ahead, review the status of action items, and ensure coordination of current and upcoming activities. The CM Consultant shall facilitate monthly progress and construction status meetings with the DEP, and the Design Engineer to review each construction contractor's EHS performance, the Project's progress against the baseline schedule, a forecast of the schedule of all major milestones, the status of action items, and the status of all key construction documentation.

The CM Consultant shall facilitate daily morning meetings with each construction contractor to review planned daily work activities, issues and risks.

#### Task 4.1.a.2 Project Partnering

Project partnering is a collaborative process where an independent third-party facilitator (provided by the contractor) assists in the development of positive work relationships as well as a process for issue resolution. The partnering kick-off meeting will be a full day meeting and will be followed by half-day meetings every quarter. Prior to all partnering meetings, the CM Consultant shall prepare responses and provide documents as required by the third-party facilitator. The CM Consultant shall cause its **Construction Manager,**

**Resident Engineer, Assistant Resident Engineer, Project Scheduler, Environmental Health & Safety Professional and Quality Manager** to attend partnering meetings.

### Task 4.1.a.3 Construction Contractors' Progress Payments

The CM Consultant shall review the schedule of values from each construction contractor for conformance with the specifications, balance, and appropriateness of values. The CM Consultant approved schedule of values will be used for the purposes of approval of partial payments.

The CM Consultant shall review each construction contractor's payment requisition, verifying the quantities as substantiated by signed documents from the construction contractor and counter-signing progress and final payment requests to the extent approved. The CM Consultant shall respond to Office of Engineering Audits (OEA) questions and requests for supporting documentation. The CM Consultant shall maintain a complete record of all processed payment requests and supporting documents in conformance with DEP's project delivery system.

Deliverables:
Payment Book and all records of contractor Invoices

### Task 4.1.a.4 Stakeholder Coordination

The CM Consultant, in consultation with DEP, shall proactively communicate with Stakeholders that are impacted by the Work. This communication effort must include:

1. technical support to DEP in preparing for public Stakeholder meetings at least two weeks prior to scheduled public meetings, to allow ample time for internal review and modification of materials, as necessary. Preparation of materials, and attend two public Stakeholder meetings is required under this Task;

2. monitor communications and ensure coordination with impacted utility companies including review of each construction contractor's compliance with agreements between the City, Central Hudson Gas and Electric, and/or any other relevant utilities;

3. maintain communications with, and coordinate the progress of the Work with other impacted agencies, to include but not limited to, NYSDOT, Ulster County, Town of Gardiner, Gardiner Fire & Rescue, and others as may be identified; and

4. coordinate with DEP on communication with public stakeholders to help maintain Project support and address impacts.

**Task 4.1.a.5 Document, Submittal, and Correspondence Management**

The CM Consultant shall provide review for completeness and responsiveness, manage and track all construction documents including, but not limited to: contractor submittals; subcontractor approval requests; Requests for Information ("RFIs"); daily reports; notices of delay; non-conformance reports; concrete records; substitution requests; requests for deviations (RFDs); and a log for potential credits. The Consultant shall perform all correspondence reviews in accordance with DEP's Project delivery system. The CM Consultant shall distribute notification to technical reviewers, compile and resolve conflicting review comments, and track responsiveness to all key construction documents. The CM Consultant shall respond to all correspondence from each construction contractor and ensure that all correspondence between the CM Consultant, DEP, submittal by the construction contractor, and third parties be responded to within the appropriate response times.

As part of the review of the documents submitted by each construction contractor, the CM Consultant shall:

1. Verify that each submittal is of good quality and is complete;

2. Verify with the contractor's representative that the submittals were prepared in accordance with the contract document requirements;

3. In the event that the submittal is prepared by the contractor's supplier/manufacturer/subcontractor, the contractor shall verify that the submittal complies with the contract documents;

4. Verify that submittals are signed and stamped by a New York State Licensed Professional Engineer, if required by the contract documents;

5. Verify that each RFI is accompanied with suggested solution(s); and

6. Verify that each RFD is proposed with reasons and benefits to the City.

If the quality of submittals, RFIs, or RFDs does not meet the above minimum standards, the CM Consultant shall reject and return the submission to the contractor.

As part of this subtask, the CM Consultant shall meet with each construction contractor to review and reconcile the submittal log with the construction contractor's log, ensuring completeness within one week of each contractor's submittal log submission.

<u>Deliverables:</u>
Minutes of the Submittal Log Reconciliation Meeting with construction contractor.
Transmittal of CM's rejection of Contractor's RFIs, RFDs, and Shop Drawings

### Task 4.1.a.6 Sustainability

The CM Consultant will enforce each contractor's required compliance, as detailed in the Design Engineer's Sustainability Management Plan. These requirements will be focused on the contractor's activities, including their use of resources, such as water and fuel and permanently installed materials. In addition, the CM Consultant shall ensure that each contractor submits documentation for all materials bought to, and removed from sites. The CM Consultant shall track the quantities of materials removed and categorize the removed materials according to the accepting facility.

### Task 4.1.a.7 Permitting and Regulatory Agency Compliance

The CM Consultant shall maintain and update the permit list as transferred from the Design Engineer under Task 3.2. The CM Consultant shall continuously monitor the Project scope to ensure that all required permits are included on the permit list.

The CM Consultant 's permit list updates shall include the required date for each permit, the permit expiration date, and the status of all required renewals. The CM Consultant shall notify BEDC and PRD when the permit status is at risk of impacting the Project schedule.

The CM Consultant shall:

1. utilize the Regulatory Transition Plan from Design to Construction;
2. prepare and implement the Regulatory Compliance Plan for Construction;
3. track and manage the preparation of permit applications and renewals;
4. maintain hard and electronic copies of all permit applications, secured permits, and associated correspondence;
5. verify that permits are posted in accordance with each permit's requirements;
6. track that all permit conditions are being met on the site and that all permits are renewed as required; and
7. prepare a Regulatory Transition Plan from Construction to Operations which will include permit documentation and any regulatory agreements

Deliverables:
Regulatory Compliance Plan for Construction
Populate newly identified permits in ePMIS based on contractor collaboration
Monthly ePMIS Permit Process updates
Regulatory Transition Plan from Construction to Operations

### Task 4.1.b Resident Engineering

### Task 4.1.b.1 Existing Conditions Inspection

Prior to the start of any Work, the CM Consultant shall coordinate with each contractor, DEP staff, and Stakeholders, and conduct a walk-through of the site and properties impacted by the Work. The CM Consultant shall note existing conditions and prepare a summary of findings, including photographs and videos.

### Task 4.1.b.2 Inspection of Work

The CM Consultant shall inspect the installation of all facets of the Work. The CM Consultant shall use its best professional efforts to safeguard the City against defects and deficiencies in the Work and in determining whether the Work conforms to the construction contract documents as described in the CMQMP. The CM Consultant shall:

1. review contract specifications and drawings prior to the Work and collaborate with the Design Engineer on any potential discrepancies within the design drawings, potential discrepancies between the design drawings and contract specifications, and potential discrepancies between existing conditions and design drawings and contract specifications. The CM Consultant shall prepare an RFI when clarification by the Design Engineer is required;

2. facilitate preparatory meetings with each construction contractor and the operating bureau (if necessary) before each element of Work, to review the Work, verify related submittals have been approved, review the work plans and JHAs (as necessary), understand the means and method of construction, and review contract required quality control requirements and additional CM Consultant's quality control requirements;

3. confirm that representative samples are submitted to testing laboratories, for materials requiring laboratory testing. In collaboration with the Design Engineer, the CM Consultant shall review and recommend the acceptance or non-acceptance of materials based on the laboratory test results for QC;

4. coordinate with BEDC's Concrete Quality Assurance Division to ensure that all concrete testing required by code and the contract are performed. The CM Consultant shall keep concrete records and all necessary documentation needed to obtain the Certificate of Occupancy/Certificate of Completion;

5. issue, log, and track disposition of non-conformances of the Work that are not immediately recognized by each construction contractor nor addressed in a timely manner;

6. prepare and maintain daily inspection reports by each inspector for the construction contract and input the information into ePMIS; and

7. track each construction contractor's compliance with the Disadvantaged/Minority/Women Enterprise Goals.

**Task 4.1.b.3 Photographic Documentation**

The CM Consultant shall periodically document field conditions with job photographs to support the preparation and review of As-Built drawings. The CM Consultant shall create and maintain a comprehensive and efficient photographic log of the photographs they have taken.

The CM Consultant shall witness and direct the taking of construction and post-construction photographs and videos by each construction contractor's photographers in accordance with the Construction Specifications, inspect the photographs and videos for suitability, reject unsuitable photographs and videos, order replacements, and keep the photographic record of the job.

**Task 4.1.b.4 Certifications, Warranties, and Guarantees**

Prior to any equipment, or portion of the facility being put into operation, the CM Consultant shall confirm that the following has been provided (as applicable):

1. The manufacturers' installation directions;

2. Operating and maintenance manuals; and

3. Properly assigned warranties and guarantees.

**Task 4.1.b.5 Partial and Final Acceptance Inspection**

If deemed necessary, DEP may take over, use, occupy or operate any part of the Work at any time prior to Final Acceptance. The CM Consultant shall coordinate with Project stakeholders to inspect the part of the Work to be taken over, used, occupied, or operated. The CM Consultant, in consultation with DEP, shall determine if the inspected Work for use or occupation is acceptable. The CM Consultant shall issue a written statement for Substantial Completion of the Work being occupied or used, and compile punch lists detailing all omissions and deficiencies. If the partial completed Work designated for use by DEP is deemed acceptable, the CM Consultant shall prepare an acceptance package, which includes a draft acceptance letter, a signed and sealed certification of acceptance, the punch list associated with the accepted work, an acceptance summary sheet, and table showing the cumulative value of payment line items accepted.

**Task 4.1.b.6 Red-Line Mark-Up Drawings**

The CM Consultant shall mark-up and maintain a file of the construction contract drawings, as known as "Red-Line" mark-up drawings, during the course of the performance of the construction contract, showing approved deviations with respect to the Work from the construction contract documents. The CM Consultant shall review each construction contractor's "Red-Line" drawings and reconcile all discrepancies.

**Task 4.1.c EHS Management**

The construction contractor bears responsibility for its means and methods of construction and the safety of its employees and sub-contractors' employees. However, the CM has the responsibility to immediately stop work if a situation presents an immediate and clear risk to life, process, or property.

The CM Consultant shall observe each construction contractor's performance as it relates to the requirements in each construction contractor's EHS program, compliance with contract EHS requirements, and compliance with the site-specific EHASP and job hazard analyses ("JHAs"). The CM Consultant shall:

1. ensure that its staff has the appropriate EHS-related training in order to meet contract requirements and implement BEDC's EHS Management System;

2. provide a qualified Environmental Health and Safety Professional ("CM EHSO"), accountable for managing and coordinating the EHS requirements;

3. provide an Environmental Professional ("EP") to support the CM EHS staff, as-needed, with the management of all environmental issues, including but not limited to, disposal of solid and hazardous waste, universal waste, hazardous materials management, chemical and petroleum bulk storage, used oil, chemical and petroleum spill control plans, lead/mercury/PCB and asbestos remediation and management, storm water and soil management, and environmental permit management. The EP is expected to provide field support on a part-time basis. When soils are excavated for onsite or offsite reuse, the EP shall serve as a Qualified Environmental Professional ("QEP") per New York State Law and be onsite to monitor contractor compliance with the soil management plan(s) detailed in the construction contract documents;

4. review all EHS related submittals by each construction contractor, including, but not limited to, EHASPs, JHAs, monthly reports, asbestos/lead/mercury/PCB management and sampling plans, waste management plans, hazardous waste contingency plans, erosion and sediment control plans, and stormwater pollution prevent plans to ensure comprehensive oversight of all site activities;

5. direct each construction contractor to prepare JHAs following BEDC's JHA EHS Standard;

6. facilitate weekly EHS meetings with each construction contractor's EHS representative ("EHSR"), and other project management personnel as appropriate, to ascertain and discuss upcoming construction activity and EHS-related activities for the site to monitor that the contractor is adequately identifying and addressing the EHS risks and hazards of the work;

7. perform and submit to ePMIS CM EHSO daily reports of each construction contractor's Work areas and document non-compliance with each construction contractor's EHASPs and JHAs;

8. track, monitor and report each construction contractor's non-compliance with EHASP(s) and JHA(s);

9. track, monitor and report all site EHSRs' performance including, but not limited to: reviewing the EHSR's daily reports and whether EHS issues are being adequately addressed;

10. prepare monthly trending analysis of each contractor's performance to proactively address contractor's non-conformance and to be used for contractor's EHS evaluations;

11. prepare each contractor's and EHS staff evaluations, conduct evaluation review meetings, and ensure evaluations are conducted semi-annually;

12. notify DEP and report all observations, hazards identifications, incidents and "near misses" through ePMIS;

13. review each construction contractor's incident reports for adequacy, participate in meetings related to construction related incidents, and ensure all necessary corrective actions are implemented by the contractor;

14. provide investigation and root cause analysis to DEP for all observations, hazard identifications, near misses, and incidents;

15. oversee emergency response planning and drills for the site in coordination with DEP's Operating Bureaus (if applicable);

16. submit EHS monthly status reports and metrics;

17. review and manage all EHS Annual Reports (e.g., EPCRA, Hazardous Waste, Confined Space);

18. prepare and participate in BEDC EHS MS Audits and OEHS EHS Assessments;

19. conduct EHS "OSHA 1910" inspections throughout the Project in accordance with BEDC's Project delivery system, identify any OSHA 1910 non-compliance findings and observations, facilitate and manage the corrective actions. The CM Consultant shall ensure, with Operating Bureau's concurrence, that corrective actions not resolved before acceptance are included in Change Order work and/or will be included in the punch list;

20. provide third-party air monitoring services for any asbestos abatement activities during the Work as applicable; and

The CM Consultant's personnel responsible for the EHS performance must have BEDC EHS Standards training. All site personnel shall have received an annual orientation as required by the BEDC Standards.

### Task 4.1.d Schedule Management

### Task 4.1.d.1 CPM Schedule Submittals

The CM Consultant shall facilitate with DEP the review of the CPM submitted by each construction contractor and provide a response within seven (7) calendar days of submittal receipt.

The CM Consultant shall review each construction contractor's submittals related to the CPM schedule for compliance with the construction contract requirements, as well as for appropriateness of activities, durations and sequencing of the Project. The CM Consultant shall turnaround each review of each construction contractor submittal within 14 consecutive calendar days after receipt. The CM Consultant shall notify DEP if any document submitted after two rounds of rejection and resubmission cannot be given "furnish as submitted" or "furnish as corrected" status and shall provide a reason for same. If the CM Consultant identifies problems with the quality of the submittals, the CM Consultant shall bring such issues to the attention of DEP within 14 calendar days so that DEP can take corrective actions with the construction contractor.

The CM Consultant shall also preliminarily review each construction contractor's monthly progress narratives, schedule updates, and revisions submitted by each construction contractor with 48 hours prior to the schedule update meeting. The CM Consultant shall review the schedule on whether these documents accurately represent actual progress, availability of work activities that are on or near the critical path, and appropriateness of duration and logic changes of planned work.

The CM Consultant shall facilitate a monthly schedule update meeting with each contractor to review actual progress of work, logic and duration changes, incorporation of Change Orders, the critical path, four week look ahead, schedule slippages and gains, risks, lost weather days, and errors on the schedule narrative.

<u>Deliverables:</u>
Monthly review of each construction contractor's submittals related to CPM schedule

### Task 4.1.d.2 CPM Alternative Schedule

The CM Consultant shall maintain and update an Alternative Schedule in .XER format. The Alternative Schedule must incorporate Change Order schedule fragnets to determine the impact by the proposed construction contract Change Order has on contract milestones and overall Project completion and must incorporate fragnets of delays caused by each construction contractor, delays caused by the city, and concurrent delays into the Alternative Schedule.

The Alternative Schedule will be used for the review and acceptance of each construction contractor's proposed revision to the CPM schedule, help to analyze leading indicators for potential problem areas, make CM projections, and prepare the monthly schedule analysis reports. The Alternative Schedule will also be used for extension of time analyses and preparation of the final delay analysis.

**Task 4.1.d.3 Monthly Schedule Analysis Reports**

The CM Consultant shall prepare monthly schedule analysis reports, to evaluate and compare current progress to the baseline schedule and to the previous schedule update, calculate, and document schedule slips and gains, determine the cause and responsible party for delays to Project milestones, include trend charts and CM Projections, highlight schedule risks, and recommend mitigation plans for priority issues. CM Schedule projections must include Change Order process fragnets for all identified Change Orders, Change Order work, and Project issues that may delay (or have delayed) the Project. The analysis must include all major milestones and substantial completion dates, periods of delay/time gain, causes for delay/time gain, and the party responsible for delay/time gain.

Deliverables:
**60** Schedule Analysis Reports

**Task 4.1.e Change Order Management**

The CM Consultant shall drive the Change Order process from Change Order identification to Change Order registration, prepare Change Orders, and negotiate fair and reasonable prices for "Extra Work" as set forth in Article 25/26 of the Standard Construction Contract. For all construction contract Change Orders, the CM Consultant shall:

1. identify Change Orders within 14 consecutive calendar days when it is certain that a change in the contract documents is required and verify that all requests for change are extra work;

2. log, track and proactively manage each construction contractor's Change Order process to minimize delays to the construction schedule and maintain BEDC's minimum metrics for Change Order processing;

3. facilitate scoping meetings with contractor to obtain agreement on Change Order scope, proposed means and methods, the work breakdown structure, quantity take-offs of major items;

4. prepare scope and cost estimates for all field condition Change Orders and review scope and cost estimates for all design-related Change Orders (if prepared by the Design Engineer);

5. while the Design Engineer is primarily responsible for Administrative and Non-Material Scope Change Orders, the CM Consultant may be required to prepare scope and cost estimates for these types of Change Orders;

6. negotiate and prepare negotiation memos for all construction contract Change Orders on behalf of DEP; and

7. Provide supporting documentation for the Change Orders prepared and/or negotiated by the CM Consultant when requested by OEA, ACCO, or the Comptroller.

**Task 4.1.f Training Coordination**

The CM Consultant shall coordinate and monitor all classroom, field instruction, and equipment instruction provided by the contractor to confirm that approved lesson plans are followed and that the instructors are effectively conveying subject information. The CM Consultant shall document and make provisions to correct instructional deficiencies with each construction contractor.

**Task 4.1.g Field Testing, Start-up, and Commissioning**

The CM Consultant shall coordinate all field testing, start-up and commissioning of the facilities as required under the contract documents. The CM Consultant shall:

1. participate in commissioning meetings and workshops;

2. verify the appropriateness of the contractor's Commissioning Plan and ensure that all commissioning activities commissioning including preliminary field equipment testing, preliminary field system testing, final field equipment testing, final systems testing, start-up and performance commissioning is included in the contractor's baseline CPM schedule and monthly updates of the CPM;

3. review all construction contractor submittals related to the preliminary and final field test, including test schedule and test procedures, for compliance with the construction contract requirements;

4. perform pre-test inspections of equipment and systems, to verify proper installation of equipment and to confirm equipment and systems are ready for testing;

5. coordinate all preliminary equipment and systems testing, final equipment and systems testing, start-up, and performance commissioning as identified in the commissioning plan;

6. witness and signature-verify the results of all testing with authorized representatives of the construction contractor and DEP;

7. organize and maintain the original field testing documents and provide copies including findings reports to the Design Engineer, the Commissioning Agent, the construction contractor, and DEP within 24-hours following each test;

8. review all submittals related to the preliminary and final field test, including test schedule and test procedures, for compliance with the construction contract requirements;

9. review and provide comments on contractor's Final Commissioning Report;

**Task 4.2 Deliverable Based Tasks**

The Subtasks included under Task 4.2 are for work that is not performed by staff regularly located at the field location. These work items supplement the work done by the field staff, are performed prior to the establishment of the field office, or are finite measurable deliverables.

**Task 4.2.a Pre-Construction Conference**

After award of the construction contract(s), the CM Consultant shall prepare the Pre-construction Package in accordance with BEDC's Project delivery system and shall conduct a pre-construction meeting.

Deliverables:
Pre-Construction Conference

**Task 4.2.b Field Support**

**Task 4.2.b.1 Special Inspections**

The CM Consultant shall oversee/perform inspections to ensure the Work is in compliance with the contract documents and within specified compliance with applicable codes.

The CM Consultant shall perform inspections as required by the NYS Building Code and or/the Authority Having Jurisdiction (AHJ). The CM Consultant shall review all applicable forms and provide all necessary documentation needed to obtain the Certificate of Occupancy/Certificate of Completion.

**Task 4.2.b.2 Photographic Services (Not Used)**

**Task 4.2.b.3 Computer-Aided Design ("CAD") Services (As-Built)**

The CM Consultant shall begin preparation of As-Built drawings during the construction phase. The CM Consultant's As-Built Contract Drawings shall also be conformed to all construction contract addenda, Change Orders, RFIs, RFDs, field orders, field modifications, approved Final Copy Working Drawings, etc. to match the final constructed Project. The CM Consultant shall use the latest version of Autodesk AutoCAD to prepare the As-Built Contract drawings. The CM Consultant's As-Built AutoCAD drawings shall comply with the latest DEP-BEDC BIM/CAD standards in native DWG format.

The CM Consultant shall submit certified As-Built Drawings, designated as "As-Built" in paper and electronic formats according to Table 1 – Summary of Final Record Documents to be furnished, below. The CM Consultant must sign, seal, and print the As-Built drawings. Preparation of the red-line and As-Built drawings shall be invoiced and paid for under Tasks 4.1.b.6 and 4.2.b.3 respectively.

Each As-Built drawing shall include the following Certification by the CM Consultant:

CERTIFICATION

I hereby certify that, to the best of my knowledge, the provided information shown hereon is true, correct, and complete and properly reflects the As-Built condition of the Work shown on this drawing.

Signature of the preparer: _____ Date: _____

Deliverables:
As-Built Drawings

| Table 1<br>Summary of Final Record Documents To Be Furnished | | |
|---|---|---|
| Final Record Document Type | Paper | Electronic |
| As-Built Drawings | 2 sets Full Size<br>2 Sets Half Size | 1 set PDF/A<br>1 set AutoCAD |

**Task 4.2.c Stakeholder Communication Platform and Community Liaison**

The CM Consultant is responsible for providing **1** Community Outreach Liaison ("COL"). The COL shall:

1. participate in a program of Orientation and Training conducted by the DEP Bureau of Public Affairs ("BPA") immediately after commencement of the CM Consultant Contract;

2. arrange for the walk through of the Project site(s) to assess its impact on the community;

3. notify and update the CM Consultant of persons, businesses, and properties that may require additional planning and coordination to minimize the interruption impacts, if the Project involves any impact or interruption (e.g., water service interruption, traffic disruption, etc.) to the community during startup or operations;

4. assist in the distribution and posting of notices within targeted communities, where and when indicated by BEDC;

5. develop and maintain a current calendar of significant community events (e.g., ethnic/religious festivals, street fairs, marathons, parades, play street closings and block parties);

6. develop a Community Notification Network, identifying key community institutions and organizations by name, association and address. The COL shall keep field office records regarding community interaction, including complaints received and all correspondence, meetings, and task force minutes;

7. act as list moderator for the email-based construction notification system, and be responsible for the preparation and dissemination of email updates. The moderator will be required to validate their email address with the server prior to sending out any notifications to the list. The CM and COL shall work with the DEP prior to responding to any queries from the neighboring community; and

8. prepare stakeholder management plan that includes the communication requirements for public, government, and external stakeholders.

**Task 4.2.d Fixed Asset Survey**

The fixed assets survey includes the Fixed Asset Survey Form, the Disposed Asset Survey Form and the Active Fixed Asset Inventory Report. The Fixed Asset Survey Form lists the new assets that are constructed or bettered as part of this contract and the cost of such asset, pro-rating other indirect costs, such as but not limited, to design services, construction management and EHS services.

The CM Consultant shall maintain the Active Fixed Asset Inventory Report, an asset tracking log, during the construction phase. The CM Consultant shall start preparing the draft Disposed Asset Survey Form and draft Fixed Asset Survey Form when construction reaches 90% completion or when the asset has been placed into service.

Deliverables:
Active Fixed Asset Inventory Report
Disposed Asset Survey Form - Draft
Fixed Asset Survey Form – Draft

## TASK 5 CONSTRUCTION CLOSE-OUT PHASE SERVICES

The CM Consultant shall be responsible for the Project delivery of the Project's Construction Close-Out Phase and shall manage the close-out of the construction contract in accordance with BEDC's online Project delivery system to ensure close-out is completed in eighteen months. The close-out phase starts with the issuance of Substantial Completion and ends with the processing of the Final Completion payment.

Task 5.1 includes all construction phase activities predominantly performed and managed by regular field staff. Some tasks included in this grouping include activities performed by others, but the work is integrally connected with the field staff's daily performance.

### Task 5.1 Staffing Based Tasks

During the Close-Out phase the CM Consultant shall only maintain staffing levels necessary to support the required services. The CM Consultant shall remove staff from the Project or reduce their hours, as appropriate.

### Task 5.1.a Construction Administration

### Task 5.1.a.1 Progress Meetings

The CM Consultant shall facilitate meetings with each construction contractor to review progress on the completion of the remaining Change Order and punch-list work. The CM Consultant shall facilitate monthly progress and construction status meetings with the DEP and the Design Engineer.

### Task 5.1.a.2 Construction Contractors' Progress Payments

The CM Consultant shall review and approve all post-substantial completion Change Order payments.

The CM Consultant shall review construction payment requests and respond to OEA questions and requests for supporting documentation. The CM Consultant shall maintain a complete record of all processed payment requests and supporting documents.

Deliverables:
Payment Book and all records of contractor invoices

### Task 5.1.b Resident Engineering

### Task 5.1.b.1 Inspection of Contract Work

The CM Consultant shall inspect the installation of all facets of the Work. The CM Consultant shall use its best professional efforts to safeguard the City against defects and deficiencies in the Work and in determining whether the Work conforms to the construction contract documents as described in the CMQMP. The CM Consultant shall:

1. facilitate preparatory meetings with each construction contractor and the operating bureau (if necessary) before each element of Work, to review the Work, verify related submittals have been approved, review the work plans and JHAs (as necessary), understand the means and method of construction, and review contract required quality control requirements and additional quality control requirements; and
2. prepare and maintain daily inspection reports by each inspector for the construction contract and input the information into ePMIS;

**Task 5.1.c EHS Management**

The CM Consultant shall have the authority to immediately stop work if a situation presents an immediate and clear risk to life, process, or property.

The CM Consultant shall observe each construction contractor's performance as it relates to the requirements in the construction contractor's EHS program, compliance with contract EHS requirements, and compliance with the site-specific EHASP and job hazard analyses ("JHAs"). The CM Consultant shall:

1. ensure that its staff has the appropriate EHS-related training in order to meet contract requirements and implement BEDC's EHS Management System;
2. provide a qualified Environmental Health and Safety Officer ("CM EHSO"), accountable for managing and coordinating the EHS requirements;
3. review all EHS related submittals by each construction contractor, including, but not limited to, EHASPs, JHAs, monthly reports, asbestos/lead/mercury/PCB management and sampling plans, waste management plans, hazardous waste contingency plans, erosion and sediment control plans, and stormwater pollution prevent plans to ensure comprehensive oversight of all site activities;
4. direct each construction contractor to prepare JHAs following BEDC's JHA EHS Standard;
5. perform and submit to ePMIS CM EHSO daily reports of each construction contractor's work areas and document non-compliance with the construction contractor's EHASPs and JHAs;
6. track and monitor each construction contractor's non-compliance with EHASP(s) and JHA(s);
7. track and monitor all site EHSRs' performance including, but not limited to, reviewing the EHSR's daily reports and whether EHS issues are being adequately addressed;
8. notify DEP and report all observations, hazards identifications, incidents and "near misses" through ePMIS;
9. review each construction contractor's incident reports for adequacy, participate in meetings related to construction related incidents, and ensure all necessary construction contractor's corrective actions are implemented;

10. provide investigation and root cause analysis to DEP for all observations, hazard identifications, near misses, and incidents;
11. submit EHS monthly status reports and metrics;
12. review and manage all EHS Annual Reports (i.e. EPCRA, Hazardous Waste, Confined Space);
13. prepare and participate in BEDC EHS MS Audits and OEHS EHS Assessments; and
14. provide 3rd party air monitoring services for any asbestos abatement activities during the Work as applicable.

The CM Consultant's personnel responsible for the EHS performance of a Project shall have BEDC EHS Standards training. All site personnel shall have received an annual orientation as required by the BEDC Standards.

**Task 5.1.d Close-Out documentation**

Additionally, the CM Consultant shall proactively manage and deliver the necessary administrative close-out documents, including but not limited to:

1. the endorsed completion of all construction contract punch-list and Change Order Work;
2. the final construction subcontractor log and final contractors and sub-contractors evaluations;
3. the regulatory transition plan from construction to operation prepared under subtask 4.1.a.7;
4. the certification that all OSHA 1910 inspection findings and observations, prepared under subtask 4.1.c, have been resolved and accepted by Operating Bureau;
5. the disposal manifests;
6. the final inspection and abatement records for all contaminants of concern;
7. the spare parts inventory and log;
8. the training/testing records including video of all training sessions;
9. the equipment and systems Operational and Maintenance Manual(s);
10. the manufacturer certifications, warrantees and software licenses;
11. the warranties required for Articles 16 and 44 of the City Standard Construction Contract;
12. the M/WBE compliance report for the construction contract;
13. each construction contractor's substantial completion payment;
14. the final construction survey;
15. each construction contractor's final payment;
16. the confirmation that final records documents and field documents are archived, and excess documents properly handled; and
17. lessons learned documentation.

As part of this subtask, the CM Consultant shall meet with each construction contractor and DEP as required to review, reconcile, and ensure completeness of all Close-Out documents.

Deliverables:
Close Out Plan

### Task 5.2 Deliverable Based Tasks

The Subtasks included under Task 5.2 are for work that is not performed by staff regularly located at the field location. These work items supplement the work done by the field staff.

### Task 5.2.a Fixed Assets Survey

The fixed assets survey lists the new assets that are constructed or bettered as part of this contract and the cost of such asset, pro-rating other indirect costs, such as but not limited, to design services, construction management and EHS services.

In preparation of the fixed asset survey, the CM Consultant shall attend a meeting with the DEP's Fixed Asset Unit to review sample fixed asset surveys to ensure that the CM Consultant has a full understanding of DEP's expectations. The CM Consultant shall utilize the asset tracking log, maintained during the construction phase, to prepare the fixed asset survey. The CM Consultant shall start preparing the fixed assets survey when construction reaches substantial completion. The CM Consultant shall ensure that the total cost of fixed assets in the survey must be equal to the actual expenditure spent. For betterment Projects, the list of disposed components or asset must be provided in addition to the fixed assets survey.

Deliverables:
Minutes of Fixed Asset Survey Expectations Meeting
Disposed Asset Survey Form – Final
Fixed Asset Survey – Final

### Task 5.2.b Final Delay Analysis and Final Extension of Time Report

The CM Consultant shall prepare a complete draft of the final delay analysis for each construction contract that has experienced a delay using the Time Impact Analysis ("TIA") technique. The CM Consultant's final delay analysis must be submitted within sixty (60) days after substantial completion of the Work. The CM Consultant's analysis must include all major milestones and substantial completion dates, periods of delay/time gain, causes for delay/time gain, and the party responsible for delay/time gain. Based on the final delay analysis report, the CM Consultant shall prepare a liquidated damages recommendation memorandum, together with all supporting documentation.

Deliverables:
Final Delay Analysis Report
Liquidation Damages Recommendation Memorandum

### Task 5.2.c Resolution of Claims and Disputed Work

The CM Consultant shall support DEP on the resolution of claims and disputed work submitted by each construction contractor, including fully cooperating with any investigations and producing relevant documents and witnesses.

The CM Consultant's tasks may include, but are not limited to, conducting an objective analysis of the construction contractor's schedules and method statements and construction contractor's disputes or claims. Each dispute or claim study shall assess the role of the Agency and the construction contractor in reference to any construction delays and/or contract changes. The dispute/claim study shall identify and evaluate the factual basis of the construction contractor's allegations and the liability for any additional costs incurred as a result of changes to the construction contract.

Deliverables:

Dispute or claim study (as requested)