Department of Corrections (DOC)
Washington, DC

Scope of Work

Daly Building Swing 501 New York Avenue

PART 1 - PROJECT INTRODUCTION

CONTRACTORS MUST EXAMINE THE JOB CONDITIONS AND VERIFY ALL MEASUREMENTS, DISTANCES, ELEVATIONS, CLEARANCES, ETC. AND BASE THEIR BIDS AND WORK ON VERIFIED CONDITIONS.

1.1 Project Background:

Department of Corrections (DOC) Central Block

The Department of General Services ("DGS" or the "Department"), on behalf of the Department of Corrections ("DOC"), is seeking to engage a contractor (the "Contractor") to provide all labor, materials, and equipment to complete major renovations to the Daly Building Swing 501 New York Avenue (the "Project").

New York Avenue New Central Block is located at 501 New York Avenue NW in Ward 6. The Project consists of major renovations to 501 New York Avenue NW to prepare the building to receive the DOC component of the Daly Building operations. The DOC will be relocated to the Project site for the Central Cell Block intake and holding. The Project site will have renovated and updated existing cells, additional new cells, vehicle sallyport, new electronic security system, new electronic systems, an added fire protection system, and new MEP.

The Contractor shall consider all DGS Facilities Management Building Standards and Sustainability/High-Performance Best Practices. The Contractor shall implement the latest applicable building codes for ADA accessibility and fire and life safety systems.

SOW for Construction

The Project consists of significant renovations to 501 New York Avenue NW to prepare the building to receive the DOC component of the Daly Building operations. The DOC will be relocated to 501 New York Avenue NW for the Central Cell Block (CCB) intake and holding. The Project site will have renovated and updated existing cells, new cells, a vehicle sallyport, a new electronic security system, new electronic systems, an added fire protection system, and a new MEP.

The Contractor will provide construction service to upgrade approximately 10,000 square feet of space. The Project scope includes selective demo, paint, flooring, doors, windows, millwork, walls, security system, MEP, Fire Protection, and Exit Signs.

The Contractor is to provide all necessary construction services, cost estimating supervision, permits, labor, supplies, equipment, and materials to render the space ready for occupancy by the DOC. All work shall conform with the latest adopted 2015 international building code (IBC), 2015 IECC; ASHRAE 90.1-2015 building codes, 2015 IBC for mechanical & plumbing codes, local governing building codes, local ordinances, and all referenced standards. All abandoned equipment, materials, and debris are to be removed legally from the roof and disposed of in accordance with the local trash and debris disposal ordinances.

1.2 Project Budget and Funding Limitations

The Department has approved construction for this Project (hard cost). Accordingly, offerors are to base their proposals on the approved budget. Upon award, the agreement for construction services will be submitted to the Council of the District of Columbia for approval.

1.3 Milestones and Substantial Completion Date

Milestone	Date
Substantial Completion Date:	**The earlier of 14 months from NTP (date Letter Contract is executed by the Contracting Officer) or December 2, 2024**
Final Completion Date:	**60 Calendar days from Substantial Completion Date**
Administrative Term:	**60 Calendar days from Final Completion Date**

PART 2 - PROJECT REQUIREMENTS

2.1 Scope of Work

Generally, the Contractor's responsibilities shall include, but will not be limited to, the following:

a) To provide all construction services necessary to implement the goals of the Project inclusive of, but not limited to, the following: construction management services inclusive of budgeting, value engineering ("Value Engineering"), scheduling, Project administration, management, and coordination of subcontractors.
b) To conduct subsurface investigation work if and as required for the Project.
c) To furnish and provide all materials, management, personnel, equipment, hazardous material abatement, supervision, labor, and other services necessary to complete the Project.
d) **Permits.** The Contractor shall be responsible for preparing and submitting all the required permit applications necessary to complete the Project. The Contractor shall develop a list of the required permits and track the progress of all such permits through the review process.
e) The Contractor shall visually examine the physically and visually accessible building roof to define the Contractor's scope of work and rough budget construction quantities.
f) All pertinent building plans, past repair contracts, previous repair work scopes, investigative reports, surveys, and any other relevant information will be provided to the facility for review.
g) Access to the roof and ground-level areas adjacent to the building will be provided as necessary.
h) The Contractor must examine the job conditions, verify all measurements, distances, elevations, clearances, etc., and base their bids and work on verified conditions.
i) The Contractor shall protect building surfaces, finishes, and systems from damage, discoloration, etc. during all construction activities.
j) All mechanical, electrical, and plumbing work to be performed by a licensed trade contractor within the jurisdiction of the Project facility's address.
k) The Contractor must submit closeout documents as directed by the DGS PM and CO
l) The Contractor must utilize DGS approved project management finances system, ProjectTeam, PASS, and Salesforce

2.2 Construction Phase

Based on the approved plans and specifications, the Contractor shall construct the Project. During the Construction phase, the Contractor shall be required to cause the work to be completed in a manner consistent with the design documents approved by the DGS and shall provide all labor, materials, insurance, bonds, and equipment necessary to fully complete the Project in accordance with the drawings, specifications, schedule, and budget issued for the Project. The Contractor shall be responsible for paying for and obtaining all necessary permits and paying all necessary fees for utility connections and the like. The work shall be accomplished in accordance with the following:

2.2.1 Drawings & Specifications. All the work shall be constructed in strict compliance and in accordance with the final Construction Documents issued for and approved by the DGS.

2.2.2 Compliance with Other Requirements. In performing the work, the Contractor and its subcontractors shall comply with all of the applicable provisions of the Standard Contract Provisions and the requirements set forth.

2.2.3 Site Office. The Contractor shall provide and maintain a fully equipped construction office on the Project site throughout the work.

2.2.4 ESupervision. Throughout the work, the construction office shall be managed by personnel competent always to oversee the work while construction is underway. Such personnel shall maintain full-time, on-site construction supervision and provide daily inspections, quality control, monitoring, coordination of various trades, record drawings, and daily work log.

2.2.5 Weekly Progress Meetings. Throughout the work, shall conduct weekly progress meetings following the Contractor's generated agenda with the Department's Project Manager and key trade subcontractors. The Contractor shall draft and circulate the meeting minutes on a weekly basis.

2.2.6 Delay Liquidated Damages. If the Project is not substantially complete on or before the Substantial Completion Date, the Contractor shall be subject to liquidated damages in the amount of One Thousand Dollars **($1,000**) per day. These damages shall not apply if the delay results from Force Majeure and the Contractor otherwise complies with the provisions set forth in the Standard Contract Provisions.

2.2.7 Hazardous Materials. The Contractor's Scope of Work includes the abatement and removal of hazardous materials found anywhere on or within the Project site. In performing such work, the Contractor shall comply with all laws, including, without limitation, the requirements of the Environmental Protection Agency and all jurisdictional agencies and all laws relating to safety, health welfare, and protection of the environment, in removing, treating, encapsulating, passivating, and/or disposing of hazardous materials, including, but not limited to, removal,

treatment, encapsulation, passivation, and/or disposal of hazardous materials. If any notices to governmental authorities are required, the Contractor shall also give those notices at the appropriate times. The Contractor shall ensure abatement subcontractors and disposal sites are appropriately licensed and qualified. In addition, the Contractor shall ensure that any subcontractors involved in the abatement of hazardous materials maintain a contractor's pollution legal liability insurance policy of at least Two Million Dollars ($2,000,000) for the duration of the Project and a period of three (3) years after Substantial Completion of the Project and that any disposal site to which hazardous materials are taken carries environmental impairment liability insurance for the duration of the Project and a period of three (3) years after Substantial Completion of the Project. The Contractor's obligations shall include signing (as the agent for the DGS) any manifests required to dispose of hazardous materials.

2.3 Site Safety

2.3.1 General Responsibility. The Contractor shall provide a safe and efficient site, with controlled access. As part of this obligation, the Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Project, and shall comply with the requirements set forth in the Standard Contract Provisions.

2.3.2 Safety Plan. Before starting construction activities, the Contractor shall prepare a safety plan for the Construction phase conforming to OSHA 29 CFR 1926 (such plan, the "Safety Plan"). This Safety Plan developed by the Contractor shall describe the proposed separation and the specific nature of the safety measures to be taken including fences and barriers that will be used and the site security details. This Safety Plan will be submitted to the Department for their review and approval before the commencement of construction. Once the Safety Plan has been approved, the Contractor shall always comply with the plan during construction.

2.3.3 Safety Barriers/Fences. As part of its responsibility for Project safety, the Contractor shall install fences and barriers as necessary. The Contractor shall describe in the Safety Plan the proposed separation and the specific nature of the fences and barriers that will be used.

2.3.4 Site Security. The Contractor shall be responsible for site security and shall be required to provide such watchmen necessary to protect the site from unwanted intrusion.

2.3.5 Exculpation. The right of the DGS and DOC to comment on the Safety Plan and the nature and location of the required fences and barriers shall not absolve the Contractor from the obligation to maintain a safe site.

2.4 Reporting Requirements

The Contractor shall be required to submit the following reports:

2.4.1 Monthly Report. The Contractor shall provide written reports to the DGS, on the progress of the entire work at least monthly from Preconstruction NTP until Final Completion of the Project. The monthly report shall include: (i) an updated schedule analysis, including any plans to correct defective or deficient work or recover delays; (ii) an updated cost report; (iii) a monthly review of cash flow; (iv) a quality control report; and (v) progress photos.

2.4.2 Bi-Weekly Schedule Updates. The Contractor shall provide a Baseline Schedule update to the Department, on the progress of the entire work at least bi-weekly, in the same format set forth in this RFP. The update shall reflect the actual progress of the Project, identify developing or potential delays, regardless of their cause, and reflect the Design-Builder's best projection of the actual date by which Substantial Completion and Final Completion of the Project progress and completion, revisions to the schedule logic or assumptions, and other relevant changes.

2.4.3 Use of ProjectTeam. The Contractor shall utilize the Department's ProjectTeam system to submit any and all documentation required to be provided by the Builder, including, but not limited to: (i) requests for information; (ii) submittals; (iii) meeting minutes; (iv) invoices/applications for payment (full package including all forms required by the Department); (v) certified payrolls (vi) drawings and specifications; (vii) punch list; and (viii) other documents as may be designated by the DGS.

2.5 Workhours; Coordination with MPD

2.5.1 Workhours. The Contractor shall comply with the Noise Ordinance and neither it nor its subcontractors shall undertake work on the Project site other than at the times and sound level permitted by the Noise Ordinance.

2.5.2 Parking. The Contractor shall organize its work in such a manner to minimize the impact of its operations on the surrounding community. To the extent that the number of workers on the site is likely to have an adverse impact on neighborhood parking, the Contractor shall develop a parking plan for those individuals working on the site that is reasonably acceptable to the DGS and DOC.

2.6 Quality Control Plan

2.6.1 General Obligation. The Contractor shall be responsible for all activities necessary to manage, control, and document work to ensure compliance with the Contract Documents. The Contractor responsibility includes ensuring adequate quality control services are provided by the Contractor employees and its subcontractors at all levels. The work activities shall include safety, submittal management, document reviews, reporting, and all other functions related to quality construction.

2.6.2 Quality Control Plan. Within ten (10) days after NTP are approved, the Contractor shall develop a quality control plan for the Project (the "Quality Control Plan"). A draft of the Quality Control Plan shall be submitted to the Department and shall be subject to the Department's review and approval. The Quality Control Plan shall be tailored to the specific products/type of construction activities contemplated in the Construction Documents, and in general, shall include a table of contents, quality control team organization, duties/responsibilities of quality control personnel, submittal procedures, inspection procedures, deficiency correction procedures, documentation

process, and a list of any other specific actions or procedures that will be required for key elements of the work.

2.6.3 Implementation. During the Construction phase, the Contractor shall perform regular quality control inspections and create reports based on such inspections pursuant to the Quality Control Plan. These quality control reports shall be provided to the Department electronically on a monthly basis. The Contractor shall incorporate a quality control section in the progress meetings to discuss outstanding deficiencies, testing/inspections, and upcoming work. The monthly report shall include a detailed summary of the steps that are being employed to provide quality construction and workmanship. The monthly report should specifically address issues raised during the month and outline the steps that are being used to address such issues.

2.6.4 Corrective Action Plan. DGS shall have the right to direct the Contractor to revise the Quality Control Plan in accordance with the Agreement.

2.6.5 Punchlist. Promptly after Substantial Completion, the Contractor shall develop a punch list. Once the punchlist is prepared, the Contractor shall inspect the work along with representatives from the DGS. The punchlist shall be revised to reflect additional work items discovered during such inspection. The Contractor shall correct all punch list items no later than sixty (60) days after Substantial Completion is achieved.

2.6.6 Training. The Contractor shall train staff on all the building systems, as applicable. The Contractor shall be required to schedule such training sessions and use commercially reasonable efforts to ensure all such training occurs before the Final Completion Date.

2.6.7 Warranties & Manuals. After the Substantial Completion Date and no later than fifteen (15) days following the Substantial Completion Date, the Contractor shall prepare and submit the following documentation: (i) a complete set of product manuals (O&M), training videos, warranties, etc.; (ii) attic stock; (iii) an equipment schedule; (iv); and (v) all applicable inspection certificates/permits, as necessary. No, later than thirty (30) days following the Substantial Completion Date, the Contractor shall prepare and submit: (i) a complete set of its Project files; and (ii) a set of record drawings.

The Contractor to comply with Project close out / Turnover requirements as directed by the PM and CO.

SECTION 01 10 00 - SUMMARY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Project information.
2. Work covered by Contract Documents.
3. Type of Contract.
4. Phased construction.
5. Work by District of Columbia Government (District).
6. Work under separate contracts.
7. Purchase contracts.
8. District-furnished products.
9. Contractor-furnished, District-installed products.
10. Access to site.
11. Coordination with occupants.
12. Work restrictions.
13. Specification and drawing conventions.
14. Miscellaneous provisions.

1.3 DEFINITIONS

A. District and District Representatives: Refer to General Conditions of Contract for Construction for District’s administration of construction contract.

B. COTR is Contracting Officer's Technical Representative, and where context requires, term "COTR" means "District." The COTR is responsible for technical aspects of project and technical liaison with Contractor as well as final inspection and acceptance as specified in Contract. The COTR is not authorized to make any commitments or otherwise obligate District or authorize any changes which affect contract price, terms, or conditions.

1. District may appoint other entities to manage day-to-day activities for the execution of the Project.

1.4 PROJECT IDENTIFICATION

A. Project Identification: **Daly Building Swing 501 New York Avenue**

1. Project Number: DGS-000095 RENO

2. Project Location: 501 New York Avenue NW, Washington DC 20004

3. Ward: 6

B. Owner: District of Columbia Department of General Services (DGS), Capital Construction Services at the following location:

1. 3924 Minnesota Avenue NE, Washington, DC 20019.

C. Architect: DLR Group of DC, PC

1. Architect's Consultants: The Architect has retained the following design professionals who have prepared designated portions of the Contract Documents:

a. Electronic Security, Physical Security, Fire Alarm, and Data Telcom: R&N Security.
b. Site/Civil: AMT Engineering
c. Envelope Report and Study: Bluefin.
d. Hazardous Materials Report: Applied Environmental.

D. Electronic Project Management (ePM) System: ProjectTeam is the Electronic Project Management system administered by District to be used for purposes of managing communication and documents during the construction stage.

1. See Section 013100 "Project Management and Coordination." for requirements for establishing and using the ePM. Contractor is to utilize ProjectTeam for ePM.

1.5 WORK COVERED BY CONTRACT DOCUMENTS

A. The Work of Project is defined by the Contract Documents and consists of the following:

1. The project consists of major renovations to 501 New York Avenue NW, DC (501) to prepare the building to receive the DOC component of the Daly Building operations. The DOC will be relocated to 501 for the Central Cell Block (CCB) intake and holding. 501 will have renovated and updated existing cells, additional new cells, vehicle sallyport, new electronic security system, new electronic systems, an added fire protection system and new MEP.

1.6 TYPE OF CONTRACT

A. Project will be constructed under a single lump-sum prime contract.

1.7 PHASED CONSTRUCTION

A. The Work shall be conducted in a single phase (CLIN0001). The Work can be descoped by series of deduct alternates, if descoping is needed for budgetary reasons, at District's sole discretion :

1. Contract period of performance from NTP through substantial Completion shall be 14 months (420 calendar days).

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CLIN #	**Description**	**Approx SF**	**Estimated Substantial Completion** (Calendar Days from NTP of Base Bid).*	**Estimated Final Completion** (Calendar Days from NTP of Base Bid). *
CLIN 001	Base Bid: Construction work is the retrofit of 501 NY Avenue and includes the work indicated in the drawings, specifications and reports (including hazmat and exterior envelope).	10,000	420	480
CLIN 002 (DEDUCT)	Include one or all the deduct alternates (002A - 002E) listed in the alternates section of this specification.		420	480

2. MPD will begin on or about October 2023.
3. Contractor shall be entitled to additional time if access to project site is not provide by November 15, 2023. The additional time shall be calculated as a day-for-day extension from November 15, 2023 until access to project site is provided.

B. Within 21 calendar days after initial NTP, Contractor shall submit Detailed Construction Schedule (DCS) per Section 013200 and reflecting the sequence of work and incorporating the Milestones listed in Section 013200-1.8

C. If the District exercises any of the deduct alternates at time of award and wishes to purchase them back post award, the Contractor agrees to offer same bid pricing to the District on all deduct alternates (CLINS 002A-002E) for 120 days from NTP.

1.2 EXISTING CONDITIONS

A. Contractor: Responsible to determine existing conditions on Project site by examination, whether shown on Drawings or not.

B. In addition to demolition which is specified in other Sections and that which may be specifically shown on Drawings, cut, move or remove items as necessary to allow Work to proceed. Provide such items as:

1. Repair or removal of unsafe or unsanitary conditions.
2. Removal of abandoned items and items serving no useful purpose, such as abandoned piping, conduit, wiring and electrical devices.
3. Removal of unsuitable or extraneous materials such as abandoned furnishings and equipment, and debris such as rotten wood, rusted metals and deteriorated concrete.
4. Cleaning of surfaces and removal of surface finishes as needed to install new work and finishes.

1.3 WORK BY DISTRICT

A. General: Cooperate fully with District so work may be carried out smoothly, without interfering with or delaying work under this Contract or work by District. Coordinate the Work of this Contract with work performed by District.

1.4 WORK UNDER OTHER CONTRACTS (Not Used)

1.5 DISTRICT-FURNISHED PRODUCTS (Not Used)

1.6 CONTRACTOR-FURNISHED, DISTRICT-INSTALLED PRODUCTS (Not Used)

1.7 ACCESS TO SITE

A. General: Contractor shall have full use of site for construction operations during construction period. Contractor's use of site is limited only by District's right to perform work or to retain other contractors on portions of Project.

1. Contractor Parking: Vehicle parking for Contractor and construction personnel shall be the responsibility of the Contractor.

B. Use of Site: Limit use of site to areas within the Contract limits indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated. Site has very limited lay down area.

1. Driveways and Entrances: Keep driveways, loading areas, and entrances serving premises clear and available to District, District's employees, the public, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.

a. Schedule deliveries to minimize use of driveways and entrances.
b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

C. Access to the Project. Contractor shall comply with the following:

1. The area available to the contractor for performance of the Work is shown on the Drawings. If the District or the Occupant continues to occupy portions of the Project during construction, Contractor shall schedule and conduct the Work so as to cause the least interference with the operations of the District or Occupants.
2. When the following must be interrupted, provide alternate facilities acceptable to the COTR or schedule the interruption for a time when occupancy will not be impaired:

a. Emergency means of egress.
b. Utilities and building systems which must remain in operation to allow safe and useful occupancy.

1.8 DISTRICT'S OCCUPANCY REQUIREMENTS

A. District Occupancy of Completed Areas of Construction: District reserves the right to occupy and to place and install equipment in completed areas of building, before Final Completion, provided such occupancy does not interfere with completion of the Work. Such placement of equipment and partial occupancy shall not constitute acceptance of the total Work.

1. Upon completion of the Work and written request from the Contractor, COTR will prepare a Certificate of Substantial Completion for each specific portion of the Work to be occupied before District occupancy.
2. Certificate of Occupancy from authorities having jurisdiction shall be obtained by Contractor before District occupancy.
3. Before partial occupancy, required inspections, commissioning and employee training for the fire alarm and sprinkler systems, mechanical systems, and electrical systems shall be fully operational. Upon occupancy, District will operate and maintain mechanical and electrical systems serving occupied portions of building.
4. Upon occupancy, District will assume responsibility for maintenance and custodial service for occupied portions of building.
5. Partial Acceptance: For the purpose of installation of Data Rooms, FF&E, and Security, Partial Acceptance of the areas may be granted by the COTR to allow contracted installers access to perform their work.

1.9 WORK RESTRICTIONS

A. On-Site Work Hours: Work shall be generally performed during normal business work hours of 7:00 a.m. to 6:00 p.m., Monday through Friday, except otherwise allowed by District and authorities having jurisdiction (AHJ).

B. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by District or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:

1. Notify District not less than two (2) work days in advance of proposed utility interruptions.
2. Do not proceed with utility interruptions without District's written permission.

C. Noise, Vibration, and Odors: Coordinate with the COTR operations that may result in high levels of noise and vibration, odors, or other disruption to District occupancy.

1. Notify District not less than two work days in advance of proposed disruptive operations.
2. Obtain District's written permission before proceeding with disruptive operations.
3. Obtain required approvals from authorities having jurisdiction.

D. Nonsmoking Building: Smoking is not permitted within the building or within 25 feet of entrances, operable windows, or outdoor-air intakes.

E. Controlled Substances: Use of tobacco products and other controlled substances on Project site is not permitted.

F. No eating or drinking is allowed in the building at any phase during Construction.

G. Employee Identification: If required by the Contract, Contractor shall provide identification badges for Contractor personnel working on Project site. Require personnel to use identification tags at all times.

1.10 PERMITS AND RESPONSIBILITIES

A. Permits: The Contractor shall, without additional expense to the District, be responsible for obtaining any necessary licenses, fees, inspections, and permits, other than the building permit, and for complying with any federal, and municipal laws, codes, and regulations applicable to the performance of the work. The Contractor shall also be responsible for all damages to persons or property that occur as a result of the Contractor's fault or negligence, and shall take proper safety and health precautions to protect the work, the workers, the public, and the property of others. The Contractor shall also be responsible for all materials delivered and work performed until completion and acceptance of the entire work, except for any completed unit of work which may have been accepted under the contract.

B. The Contractor shall not load or permit any part of the construction or site to be loaded so as to endanger its safety.

C. When required for the safety of the Work or adjoining structures, the Contractor shall shore up, brace, underpin and protect foundations and other portions of existing structures which are in any way affected by the Work. The Contractor, before commencement of any part of the Work, shall give any notice to the District.

1.11 SPECIFICATION FORMATS AND CONVENTIONS

A. Specification Format: The Specifications are organized into Divisions and Sections using the 50-division format and CSI/CSC's "MasterFormat" numbering system.

1. Section Identification: The Specifications use Section numbers and titles to help cross-referencing in the Contract Documents. Sections in the Project Manual are in numeric sequence; however, the sequence is incomplete because all available Section numbers are not used. Consult the table of contents at the beginning of the Project Manual to determine numbers and names of Sections in the Contract Documents.
2. Division 01: Sections in Division 01 govern the execution of the Work of all Sections in the Specifications.

B. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:

1. Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred as the sense requires. Singular words shall be interpreted as plural, and plural words shall be interpreted as singular where applicable as the context of the Contract Documents indicates.
2. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by Contractor. Occasionally, the indicative or subjunctive mood may be used in the Section Text for clarity to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.

    a. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.

C. Where performance type specifications are used within Specifications or where pre-engineered or Contractor designed systems, elements, equipment or components are called for, District shall have right to rely on Contractor's design. Approval by District of Contractor's Design Submittals shall be limited to acknowledgment that design was prepared with intent of meeting specified performance criteria, but neither District's review or approval shall constitute review of design itself, of designer's calculations, or of effectiveness of design in actually satisfying specified criteria.

D. Work under this Contract may be specified by combination of descriptive, performance, reference standard and name brand specifications. Where Specifications define characteristics of Contractor designed systems, items or components, Contractor responsible to design, engineer, manufacture, and install systems, items and components to meet specified functional requirements, performance requirements, quality standards, durability standards, and conditions of use as well as all applicable codes, regulations and referenced trade or industry standards. Contractor: Perform such design by employing engineers licensed by pertinent jurisdiction and require engineers to seal and sign designs necessary to perform Work.

1.12 BIDDER'S QUALIFICATIONS AND SPECIAL STANDARDS OF RESPONSIBILITY

A. The Department requires that bidders must be properly licensed under the laws governing their respective trades and be able to obtain insurance and bonds required for the Work. A Performance Bond, separate Labor and Material Payment Bond, and Insurance in a form acceptable to Owner will be required of the successful Bidder.

B. The Department has determined that it is important to the timely and successful completion of the Project that the Contractor and the Project Superintendent have specific expertise and experience similar in size and scope of this project.

C. The Department has determined that the Bidder have successfully completed a minimum of three (3) similar scope and type projects (courthouse, judicial, governmental/federal, correctional facilities) in an urban/downtown setting within the past ten (10) years with a contract value for each of $2,000,000 or greater and 5,000 SF or larger. In response to this Special Standard of Responsibility, the Bidder shall provide the following for each of the projects:

1. Name
2. Location/Address
3. Owner
4. Start Date and End Date
5. Dollar Amount
6. Point of Contact name, phone number and email address

D. The Department has determined that at a minimum, the Field Superintendent shall have minimum of five (5) years of construction experience as the Field Superintendent and a GED/High School Degree for a minimum of two (2) projects successfully completed within the past ten (10) years with a contract value for each of $2,000,000 or greater and 5,000 SF or larger. The Bidder shall identify the Field Superintendent and provide the following information relative to the Field Superintendent’s projects:

1. Name
2. Location/Address
3. Owner
4. Start Date and End Date
5. Dollar Amount

a. Provide a list (3) construction projects completed in the past (10) years similar in size and scope as that described in the Scope of Work. Similar in size shall mean projects with a total value at or greater than $2,000,000 of the demonstrated experience.

b. Demonstrated experience in construction or facilities such as, law enforcement, justice facilities (courthouse, judicial, governmental/federal, correctional facilities, etc.) of similar size, order and magnitude.

c. The Bidder/Prime Contractor must submit documentation that it has performed outreach to Disadvantaged Business Enterprises (DBE) for procurement of construction, equipment, services, and supplies. Documentation of DBE outreach efforts can consist of a phone log, emails, and/or internet postings, sent to certified DBEs, along with an explanation of the responses from the DBE contractors

d. If the Bidder/Prime Contractor intends to utilize specialty contractor(s) as subcontractors for any specialty work depicted in various sections of the Specifications, the Bidder/Prime Contractor shall provide evidence to demonstrate the capability and responsibility of the proposed sub-contractor(s).

E. The Department has determined that at a minimum, the Project Manger shall have minimum of five (5) years of construction experience as the Project Manager and a Bachelor (or higher education) Degree for a minimum of two (2) projects successfully completed within the past ten (10) years with a contract value for each of $2,000,000 or greater. The Bidder shall identify the Field Superintendent and provide the following information relative to the Field Superintendent's projects:

1. Name
2. Location/Address
3. Owner
4. Start Date and End Date
5. Dollar Amount

a. Provide a list (3) construction projects completed in the past (10) years similar in size and scope as that described in the Scope of Work. Similar in size shall mean projects with a total value at or greater than $2,000,000 of the demonstrated experience.

b. Demonstrated experience in construction or facilities such as, law enforcement, justice facilities (courthouse, judicial, governmental/federal, correctional facilities, etc.) of similar size, order and magnitude.

c. The Bidder/Prime Contractor must submit documentation that it has performed outreach to Disadvantaged Business Enterprises (DBE) for procurement of construction, equipment, services, and supplies. Documentation of DBE outreach efforts can consist of a phone log, emails, and/or internet postings, sent to certified DBEs, along with an explanation of the responses from the DBE contractors

d. If the Bidder/Prime Contractor intends to utilize specialty contractor(s) as subcontractors for any specialty work depicted in various sections of the Specifications, the Bidder/Prime Contractor shall provide evidence to demonstrate the capability and responsibility of the proposed sub-contractor(s).

F. The Department has determined that at a minimum, the contract should have an office or branch office within 100 miles of DC.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 10 00

SECTION 01 21 00 – ALLOWANCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes administrative and procedural requirements governing allowances.

1. Certain items are specified in the Contract Documents by allowances. In some cases, these allowances include installation. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and equipment to a later date when additional information is available for evaluation. If necessary, additional requirements beyond established allowances will be issued by Change Order.

B. Types of allowances include the following:

1. Lump-sum allowances.
2. Quantity allowances.
3. Contingency allowances

C. Contractor agrees that allowance quantities and amounts shall be valid and in effect for the duration of the Project or as stated in the Solicitation.

D. Related Sections include the following:

1. Division 01 Section "Unit Prices" for procedures for using unit prices.

1.3 SELECTION AND PURCHASE

A. At the earliest practical date after award of the Contract, advise Contracting Officer’s Technical Representative (COTR) of the date when final selection and purchase of each product or system described by an allowance must be completed as dictated by the Project Schedule to avoid delaying the Work.

B. At COTR's request, obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the Work.

C. Purchase products and systems selected by COTR from the designated supplier.

1.4 ACTION SUBMITTALS

A. Submit proposals for purchase of products or systems included in allowances, in the form specified for Change Orders.

1.5 INFORMATIONAL SUBMITTALS

A. Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.

B. Submit time sheets and other documentation to show labor time and cost for installation of allowance items that include installation as part of the allowance.

C. Coordinate and process submittals for allowance items in same manner as for other portions of the Work.

1.6 ADJUSTMENT OF ALLOWANCES

A. Allowance Adjustment: Refer to Section 01 22 00 "Unit Prices."

1.7 COORDINATION

A. Coordinate allowance items with other portions of the Work. Furnish templates as required to coordinate installation.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine products covered by an allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.

3.2 PREPARATION

A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

3.3 SCHEDULE OF ALLOWANCES

A. Allowance No. 1: Contingency Allowance: Include the sum of $100,000.00: Includes a contingency for FF&E and miscellaneous materials (not shown in the contract documents) as authorized and approved by DGS and agreed to between the contractor and DGS during the project construction.

1. This allowance includes material cost receiving, handling, and installation and Contractor overhead and profit.

B. Allowance No. 2: Contingency Allowance: Include the sum of $100,000.00: Includes a contingency to furnish and install approximately 200 linear feet of fencing materials and two (2) motorized gates (controlled by the security system) installed at north and south sides of the vehicle sallyport as authorized and approved by DGS and agreed to between the contractor and DGS during the project construction.

1. This allowance includes material cost receiving, handling, and installation and Contractor overhead and profit.

C. Allowance No. 3: Contingency Allowance: Include the sub of $50,000.00: Includes a contingency for abatement of unforeseen miscellaneous materials (not shown in the contract documents or hazmat report) as authorized and approved by DGS and agreed to between the contractor and DGS during the project construction.

1. This allowance includes material cost receiving, handling, and installation and Contractor overhead and profit.

D. Allowance No. 4: Contingency Allowance: Include the sub of $500,000.00: Includes a contingency for general items as determined by DGS and the contractor. Costs and authorization for the use of these funds will be as authorized and approved by DGS and agreed to between the contractor and DGS during the project construction.

1. This allowance includes material cost receiving, handling, and installation and Contractor overhead and profit.

END OF SECTION 01 21 00

SECTION 01 22 00 - UNIT PRICES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for unit prices.

B. Contractor agrees that Unit Price quantities and amounts shall be in effect for duration of the Contract, or as stated on the Request for Proposal and Bid Forms.

C. Related Sections include the following:

1. Division 01 Section "Allowances" for procedures for using allowances.

1.3 DEFINITIONS

A. Unit price is an amount proposed by Offerors, stated on the Proposal Form, as a price per unit of measurement for materials or services added to or deducted from the Contract Sum by appropriate modification, if estimated quantities of Work required by the Contract Documents are increased or decreased.

1. For quantities indicated on Bid Form, provide unit price and extension.

2. Unit prices include required material, delivery, labor and equipment, hauling, disposal, insurance, overhead, profit, and applicable taxes.

1.4 PROCEDURES

A. Measurement and Payment: Refer to individual Specification Sections for work that requires establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections.

B. District reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at District's expense, by an independent surveyor.

C. List of Unit Prices: A list of unit prices is included in Part 3. Specification Sections referenced in the schedule contain requirements for materials described under each unit price.

1.5 ADJUSTMENT OF ALLOWANCES

A. To adjust allowance amounts, prepare a Change Order proposal based on the difference between purchase amount and the allowance, multiplied by the unit prices contained in the bid form where applicable, and verified by final measurements of work-in-place where applicable. If applicable, include reasonable allowances for cutting losses, tolerances, mixing wastes, normal product imperfections, and similar margins.

1. If requested, prepare explanation and documentation to substantiate distribution of overhead costs and other margins claimed.
2. Submit substantiation of a change in scope of work, if any, claimed in Change Orders related to unit-cost allowances.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF UNIT PRICES

A. Unit Price No. 1 - Cost per new cell:

1. Description: Total cost of a typical 6’x6’ new cell in the basement
2. Unit of Measurement: Lump sum cost for a single new cell including bunks, toilet, light, camera, walls, doors, etc. but provide infrastructure for systems.

B. Unit Price No. 2 – Cost per renovated existing cell:

1. Description: Total cost of an existing 5’x6’ new cell in the first floor/tier
2. Unit of Measurement: Lump sum cost for a single existing cell including toilet, light, camera, walls, doors, etc.

C. Unit Price No. 3 - Comminutor:

1. Description: Cost to provide and install the comminutor.
2. Unit of Measurement: Lump sum cost.

D. Unit Price No. 4 – Asbestos Abatement:

1. Description: Cost to remove, clean, abate unforeseen (not visible or exposed during demolition work) hazardous asbestos materials for the various materials listed in the hazmat report such as, but not limited to floor tile, adhesive, window glazing, pipe insulation and mudded fittings.
2. Unit of Measurement: Square foot cost.

E. Unit Price No. 5 – Lead Abatement:

1. Description: Cost to remove, clean, abate unforeseen (not visible or exposed during demolition work) hazardous lead materials (mainly paint) for the various materials listed in the hazmat report such as, but not limited to doors, walls, trims, baseboards, windows, radiators, pipe chase casings, stairs, jail doors and sinks.
2. Unit of Measurement: Square foot cost.

END OF SECTION 01 22 00

SECTION 01 23 00 - ALTERNATES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for alternates.

B. Contractor agrees that Alternate quantities and amounts shall be in effect for duration of the Contract or as stated on the Request for Proposal Bid Forms.

1.3 DEFINITIONS

A. Alternate: An amount proposed by Offerors and stated on the Proposal Form for certain work defined in the Solicitation Requirements that may be added to or deducted from the Base Proposal amount if District decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.

1. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.

1.4 PROCEDURES

A. Coordination: Modify or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.

1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.

B. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated modifications to alternates.

C. Execute accepted alternates under the same conditions as other work of the Contract.

D. Schedule: A Schedule of Alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

A. DEDUCT Alternate No. 002A: Five (5) Year Warranty on all Detention Systems.

1. Base Bid: Full 5-year warranty on Detention Doors, Locks and Sliding Devices systems as Specified in Division 11.
2. Alternate: Reduce the warranty to a 1-year warranty and maintenance on Detention Doors, Locks and Sliding Devices systems as Specified in Division 11.

B. DEDUCT Alternate No. 002B: Reduce Owner Allowance to $400,000

1. Base Bid: Provide the complete $750,000 allowance as indicated in Allowances.
2. Alternate: Reduce the owner allowances from $750,000 to $400,000 (reduce by $350,000)

C. DEDUCT Alternate No. 002C: Shell 5 Basement Cells.

1. Base Bid: Provide quantity and cells as shown on floor plans in the basement.
2. Alternate: Install all the cells in the Basement except leave 5 cells without bunks, toilet fixtures, cameras, lights, etc. The 5 cells to be shelled will be selected once the project is awarded.

D. DEDUCT Alternate No. 002D: Shell Additional 5 Basement Cells.

1. Base Bid: Provide quantity and cells as shown on floor plans in the basement.
2. Alternate: Install all the cells in the Basement except leave an additional 5 cells without bunks, toilet fixtures, cameras, lights, etc. The 5 cells to be shelled will be selected once the project is awarded.

E. DEDUCT Alternate No. 002E: Remove comminutor

1. Base Bid: Install comminutor as shown on the civil drawings with all required connections.
2. Alternate: Remove comminutor and connect sewer line.

END OF SECTION 01 23 00

SECTION 01 26 00 - CONTRACT MODIFICATION PROCEDURES

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Administrative and procedural requirements for Contract modifications.

B. Contractor shall designate a single individual authorized to receive, review, and sign changes in the Contract and who will be responsible for informing others of changes in the Work.

1.3 BASIS FOR ESTABLISHING COSTS

A. Combined Increases and Decreases: On proposals involving both increases and decreases in Contract Price, above overhead and profit percentage mark-ups will be allowed on net increases only. On net decreases, deduct corresponding overhead and profit.

B. Allowable costs: Comply with following requirements for proposals and record keeping for Change Order work.

1. Labor:

a. Report cost of Change Order labor by itemizing each craft or trade or other specialty involved, and indicating hourly rate for each and hours required, excluding premium pay, paid to employees proposed by Contractor to be directly engaged in Change Order work. Hourly rates shall be reflective of the Wage Determination for the applicable trades referenced for the Project.

b. Costs of Labor: Cost for wages prevailing for each craft or types of workers performing work under Change Order at time Change Order is done or contemplated to be performed, plus employer payments of applicable burdens including payroll taxes, Social Security, unemployment insurances, workers compensation insurance, health and welfare, pension, FICA, FUTA, and other direct costs resulting from Federal, State or local laws, as well as assessments or benefits such as union dues, apprenticeship funds, subsistence and/or mileage, required by lawful collective bargaining agreements.

c. Use of labor classification that would increase Change Order cost not allowed unless Contractor establishes necessity for such additional costs to satisfaction of District.

d. Labor productivity assumed by Contractor in its lump sum Change Order cost proposals shall be same as that assumed by Contractor for similar work included in bid estimates underlying Contract Price as of execution of this contract. National estimating standards including RS Means, Mechanical Contractors Association (MCA) and National Electrical Contractors Association (NECA) shall not be used by Contractor in Change Order cost proposals. Propose productivity factors that are applicable to work under each contemplated lump sum Change Order and provide data supporting their derivation and reasonableness to District for its review and consideration. Contractor: Prepare change order cost estimates utilizing most favorable productivity assumptions.

e. Report labor costs for equipment operators and helpers only when such costs are not included in invoices for equipment rental, if applicable.

f. Apportion labor cost for working foremen to their assigned work and only that portion applicable to Change Order work shall be paid. In no case may Contractor's change order cost estimates assume more than one foreman per six workers for Change Order work.

g. In event District directs Contractor to perform work on basis which will result in costs for premium time, premium portion of applicable wages for Change Order work which Contractor was directed by District to be performed other than normal working hours may be allowed by District, including social security taxes, unemployment insurance, and union fringe benefits if required by lawful union agreements.

2. Materials:

a. Report cost of materials at invoice or lowest current price at which such materials are locally available (whichever yields lowest cost to District) and delivered to job site in quantities involved, plus sales tax (if applicable), freight and delivery.

b. Reduce proposal in proportion to any pertinent tax or other rebates that shall inure to Contractor's benefit.

c. District reserves right to approve materials and sources of supply, or to supply materials to Contractor if necessary for progress of Work, or other reason at District's discretion.

d. No markup shall be applied to any material provided by District.

3. Equipment (Including Tools):

a. No payment will be made to Contractor for use of Contractor-owned equipment or tools.

b. Regardless of ownership, rates (including mark-up, if any) to be used in determining equipment rental costs shall not exceed rates listed for pertinent region, in "Construction Equipment Ownership and Operating Expense Schedule", latest edition, published by Department of Army, US Army Corps of Engineers, Washington, DC.

c. Rental rates paid shall include cost of fuel, oil, lubrication, supplies, small tools, necessary attachments, repairs and maintenance of any kind, depreciation, storage, insurance, and incidentals.

d. Necessary loading and transportation costs for equipment used on Change Order work may be included in Contractor Change Order proposals, if the transportation costs are associated only with the change order work. If the equipment is required to perform Contract work, loading and transportation costs will not be allowed.

e. If equipment is used intermittently and, when not in use, could be returned to its rental source at less expense to District than holding it at work site, it shall be returned, unless Contractor elects to keep it at work site at no expense to District.

f. Equipment: Acceptable to District, in good working condition, and suitable for purpose for which it is to be used.

g. Use manufacturer's ratings and manufacturer's approved modifications to classify equipment and it shall be powered by unit of at least minimum rating recommended by manufacturer.

h. Reported rental time for equipment already at job site shall be duration of its use on Change in Work, commencing at time it is first put into actual operation on Change in Work, plus time required to move it from its previous site and back or to closer site.

4. Other Items and Expenditures:

a. District may authorize other items that may be required on Change Order work. Such items include labor, services, material and equipment which are different in their nature from those required for Work specified in this contract and which are of type not ordinarily available from Contractor or any of Subcontractors at any tier. Submit proposals or invoices covering all such items in detail with Contractor's Change Order proposals.

C. Methods Used in Determining Adjustments to Contract Time: Adjustments to Contract Schedule which may or may not result in adjustments to Contract Time flowing from Change Orders are controlled by provisions in construction scheduling specification (see Section 01 32 00 "Construction Progress Documentation.")

D. Extended Overhead Costs: Costs that may be incurred by Contractor as result of extension of Contract Time. Applicability of extended overhead costs for time extensions are governed by requirements of Section 01 32 00 "Construction Progress Documentation." Extended overhead costs, if allowed in accordance with stipulations set out in Section 01 32 00 "Construction Progress Documentation," shall only include costs incurred on Project site and shall exclude cost categories included in overhead and profit mark-ups as set out in this Section.

E. Steps In Change Order Procedure:

1. Request for Proposal: Request for Proposal (RFP) defines proposed changes in Work which are contemplated by District and which may or may not result in Change Order(s). RFPs: Prepared and given to Contractor by District.

2. Notice of Potential Impact: Upon receipt of RFP, immediately review and evaluate scope of such RFP's and make immediate determination of any potential impact on Work. In event potential cost or schedule impact is determined, notify District immediately, but in no case more than three business days after Contractor's receipt of RFP. District may direct Contractor to stop work in area affected by change to minimize cost impact, or may direct Contractor to proceed with change described in RFP or some modification thereof, as District deems fit.

3. Timing of Proposal Submission: Submit proposals and breakdown as promptly as possible, but no later than 15 working days following Contractor's receipt of District's RFP. Content and Format of Proposal: Submit proposals for contemplated Change Orders in form of fixed price proposal, unless otherwise requested by District. Furnish summaries and details of Change Order proposals in format and on forms required by District. With each proposal for change involving increase or decrease in Contract Price, submit itemized breakdown that includes following, and any other information requested by District:

    a. Labor costs (separated into trades), including payroll burdens.
    b. Material quantities and unit prices. (Separated into trades)
    c. Construction Equipment (priced as described herein).
    d. Subcontractor costs.
    e. Other approved items and expenditures.
    f. Mark-ups for overhead, profit and other costs as defined above.

4. Proposal Review: In considering proposals for changes in Work involving added work, reduced or deleted work, or any combination thereof, Contractor proposals will be checked in detail by District, utilizing unit prices where specified or agreed upon, with objective of arriving at equitable adjustments.

5. Change Order Issuance: District will prepare Change Order if Contractor's proposal, or amended version thereof, is acceptable and agreed upon by District. Contractor: Authorized to proceed only after District issues notice to proceed with work in Change Order.

6. Procedure In Event of Non-Agreement: When necessity to proceed with change does not allow sufficient time to properly develop and check Change Order proposal, or cost of Change Order work cannot be agreed upon using lump sum, unit prices or other pricing method satisfactory to District, or because of failure to reach agreement, or for other reason deemed by District to be in District's interest, District may, at its sole discretion, order Contractor to proceed on basis of price to be determined at earliest practicable date (“Price Determined Later” or “PDL” Change Order). Upon such written direction, perform work directed and record applicable costs. Provide District copies of such records every week such work is underway.

7. Miscellaneous Requirements:

    a. Obligations of Surety under Change Orders: Changes in Work, or extensions of time, made pursuant to Contract, shall in no way release Contractor or Surety from their obligations. Surety: Waive notice of such changes or extensions.

b. Change Orders, supplemental agreements and District-approved revisions to Drawings and Specifications will take precedence over pertinent elements of Contract Documents that are thereby amended or deleted.

c. No change in Work, whether by way of alteration, addition, clarification or interpretation, shall be basis of adjustment to Contract Price or Contract Time unless and until authorized by District in Change Order, executed in accordance with requirements of Contract Documents.

d. Agreement on any Change Order shall constitute final settlement of all matters related thereto, including all direct and indirect costs associated with such change, and any and all adjustments to Contract Price and/or Contract Time.

e. Failure of Contractor and District to agree on adjustment of Contract Sum or Contract Time shall not excuse Contractor from proceeding with prosecution and performance of Work not affected by Change Orders. Contractor shall ensure that Contractor and Subcontractors, Sub-subcontractors and Suppliers handle all disputes in manner which will permit Work to proceed on schedule while any matter in dispute is being resolved.

f. If Contractor claims that additional cost or time is involved because of:

(1). Written interpretation issued by District.
(2). Order by District to stop Work where Contractor was not at fault.
(3). Written order for change in Work not issued under RFP.
(4). Other Contractor claims of any nature.

Provide immediate written notice of such claim, enumerating in detail any potential cost and/or schedule impacts. These Notices: Termed “Change Order Requests” (COR’s). No COR shall be valid and Contractor shall be deemed to have finally waived such claim unless notice is provided as described above, within 15 working days of Contractor's actual knowledge of initiation of event or thing which gave rise to COR. Give above notice before proceeding to execute work, except in emergency endangering life or property in which case proceed in accordance with District's direction. Any change in Contract Price or Contract Time resulting from COR’s shall not be paid unless authorized by duly executed Change Order.

1.4 CHANGE ORDER, FIELD ORDER, PDL, DCN, OR CHANGE DIRECTIVE PROCEDURES

A. Changes in cost resulting from Change Orders, Price Determined Later, or Change Directives shall include only those costs provided in "Standard Contract Provisions" agreed to by the Contractor and the District.

B. Contractor shall provide sufficient information for evaluation of proposed changes within 15 days following receipt of a Field Order (Price Determined Later – Construction Change Directive). Contractor shall immediately advise the District in writing if any requested "Bulletin" cannot be priced and submitted to the District within 15 days of receipt. The District will determine if additional time is warranted, and will notify the Contractor of its determination. In no case shall the Contractor be allowed more than 20 days for pricing of a Price Determined Later Bulletin –

Construction Change Directive. Contractor shall not be entitled to a time extension should its proposal not be received by the COTR prior to the required time.

C. Contract modification cost proposal shall include the following:

1. The amount of change in the Base Contract Price, if any.
2. The amount of change in the Contract Time, if any, with explanation.
3. Cost breakdown, using Schedule of Values line items, separated into material and labor costs, additions and deletions, and with overhead and profit handled in the same manner as specified for the Schedule of Values.
4. The period of time within which the proposed changes in Base Contract Price or time will be held. At a minimum, the pricing shall be held until the next Progress Meeting with Contractor and COTR attending. Should said proposal be received by the COTR beyond the date established by them for the Progress Meeting, then the Contractor shall maintain its proposed price and schedule impact until the following Progress Meeting.
5. Quantities and unit costs of products, labor, and equipment.
6. Taxes, insurance, and bonds.
7. Overhead and profit.

1.5 BOND, OVERHEAD, AND PROFIT CALCULATIONS ON MODIFICATIONS

A. In all contracts where payment or performance bonds are required, the amount of each bond shall be in accordance with the Standard Contract Provisions. The District requires additional payment and performance bond protection whenever a contract price is increased, equal to 100 percent of the contract price increase.

1. The bond rate to be used for all contract modifications shall be that shown on a written quotation by the bond company. The quote shall show the bond rate to be charged the Contractor for the basic contract bond and that to be charged on potential contract modifications. If a written quote is not furnished, the no bond costs will be reimbursed on contract modifications. In credit modifications, the District shall be reimbursed by the reimbursement amount granted to the Contractor by the bonding company.
2. Profit increases (and reductions in the case of scope reductions) shall be included on all contract modifications except for delay expenses.
3. When calculating contract modifications, the profit and overhead rates shall be added together and then applied to the proposal subtotal. Profit is not to be taken on the overhead portion of the proposal. The bond rate shall then be applied to the subsequent total.
4. "Overhead" includes all costs over and above the direct cost of the changed work for field overhead and home office overhead as well as supervision, except profit and bond.
5. Overhead and profit rates shall be applied by Contractor as well as subcontractors to all contract modifications that either increase or decrease the work scope (does not include changes where the intent of the modification does not change the scope, but merely reimburses authorized expense increases, which are to be calculated only with a bond price increase) using this method:

    a. Ten percent overhead plus five (5) percent profit.

b. If the Work is to be performed by a subcontractor, then the above calculations shall apply only to the subcontractor's quote while the general contractor shall be limited to a flat five (5) percent markup fee on the subcontractor's quotation.

1.6 CORRELATION OF CONTRACTOR SUBMITTALS

A. Promptly revise Schedule of Values and Application for Payment forms to record each approved Change Order as separate line item and adjust Contract Sum.

B. Promptly revise progress schedules to reflect change in Contract Time, revise sub-schedules, if any, to adjust times for other items or Work affected by change.

C. Promptly enter changes in Project Record Documents.

1.7 SUBMITTAL

A. Minor changes in Work, Request for Proposals, Change Order Requests, Change Orders, Basic Change Directives (DCN), and PDL Change Orders, shall be issued and tracked using ProjectTeam Converge software to keep traditional paper-based modifications to minimum. Refer to Section 01 31 00 "Project Management and Coordination." Include appropriate back-up information for changes.

B. Cooperate and use his best efforts to implement internet-based modification procedure.

C. Ensure that all modification data is ultimately captured on internet-based system.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 26 00

SECTION 01 31 00 - PROJECT MANAGEMENT AND COORDINATION

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

A. Administrative and supervisory requirements necessary for coordinating construction operations including, but not limited to:

1. Electronic Project Management (ePM) system. (ProjectTeam)
2. General project coordination procedures.
3. Pre Installation Conferences.
4. Progress Meetings.
5. Required Reporting.
6. LEED DC GREEN CODE Orientation Meeting.
7. Closeout Conference.
8. Coordination Meetings.
9. Administrative and supervisory personnel qualifications.
10. Request for Interpretation / Information (RFI).
11. Phasing Plan.

1.3 SUBMITTALS

A. The following documents shall be submitted, discussed, issued, and tracked using the Contract Project Management Software through the ePM system (ProjectTeam) to keep traditional paper-based modifications to minimum:

1. Minor Changes in Work.
2. Requests for Proposals (RFP).
3. Change Order Requests.
4. Change Orders.
5. Basic Change Directive (BCD),
6. Construction Change Directive (CCD).

B. Qualifications: Provide qualifications of personnel identified in this Section under Quality Assurance Article.

C. Key Personnel: Provide names, addresses and qualifications of keypersonnel within 5 days after Award of Contract. Include name of individual who is designated to sign documents.

1. Contractor is restricted from changing personnel identified on this list without the approval of the COTR.
2. Changes in Contractor's officer authorized to sign documents shall be submitted immediately to the COTR.

1.4 QUALTY ASSURANCE

A. On-Site Superintendent: Shall have minimum 5 years experience on projects of similar size and scope as the Project.

B. ePM Administrator: Proficient user of project management software system used by Contractor or successfully completed a minimum of 1 project using the software system prior.

1.5 CONTRACT PROJECT MANAGEMENT SOFTWARE

A. Use of ProjectTeam. The Contractor shall utilize the Department’s ProjectTeam system to submit any and all documentation required to be provided by the Builder, including, but not limited to: (i) requests for information; (ii) submittals; (iii) meeting minutes; (iv) invoices/applications for payment (full package including all forms required by the Department); (v) certified payrolls (vi) drawings and specifications & P6 format schedule ; (vii) punch list; and (viii) other documents as may be designated by the DGS. ProjectTeam will also serve as the primary communication tool between the Contractor and DGS.

B. District will implement procedure to provide Project communications on internet-based system. System used is ProjectTeam Manager software by Meridian Systems. District will provide one copy of licensed contract project management software. Contractor shall be responsible for additional license purchase.

C. Use internet-based ProjectTeam software system to facilitate contract administration communications. The list below indicates the documents that require use of the electronic communications. All correspondence requires a cover sheet.

1. Schedules.
2. Submittals (except samples)
3. RFI's
4. Requests for Payment
5. Change Order Directives
6. Meeting Minutes.
7. Daily reports.
8. Other correspondence and reports necessary as required by contract.

D. To alleviate redundancy and confusion, internet-based communications and submittals will be used exclusively by the District and Contractor, including CM and A/E when applicable. There shall not be a mix of hard-copy and electronic communications on the Project. Only hard-copy submittals requiring samples for initial selection or verification will be accepted by the COTR.

1.6 COORDINATION

A. Coordinate construction operations included in various Sections of Specifications to ensure efficient and orderly installation of each part of Work. Coordinate construction operations, included in different Sections that depend on each other for proper installation, connection, and operation.

1.7 COMMISSIONING

A. Selected Building Equipment and System shall be commissioned. Participate in commissioning process as defined in Section 01 91 13 "General Building Commissioning Requirements."

B. Commissioning Process shall be directed by Commissioning Authority; Contractor shall fully participate in the Commissioning Processing by committing resources and subcontractors. Provide services of qualified personnel to co-operate and coordinate with Commissioning Authority

1.8 ADMINISTRATIVE AND SUPERVISORY PERSONNEL

A. In addition to Project Manager and Project Superintendent, provide other administrative and supervisory personnel as required for proper performance of the Work.

1.9 PREINSTALLATION CONFERENCES

A. Conduct Pre-Installation Conference at Project Site before each construction activity that requires coordination with other construction. Invite COTR, Construction Manager, and Architect/Engineer of Record to participate in conferences.

B. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by installation, and its coordination or integration with other materials and installations that have preceded or will follow.

1. Contractor shall record significant discussions and agreements and disagreements of each conference, and approved schedule. Promptly distribute record of meeting to everyone concerned, including COTR using Contract Project Management software.

1.10 PROGRESS MEETINGS

A. Schedule District's Progress Meetings at Project Site weekly to keep project on schedule, to review progress, and to solve or avert potential problems. Notify COTR of scheduled meeting dates.

1. Coordinate dates of meetings with preparation of Request for Payment application.

B. Attendees: In addition to representatives of COTR, subcontractors as appropriate, or others as requested by COTR with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings.

1. COTR, or designated person, will chair District's progress meeting, record and update and maintain, and distribute the meeting minutes.

C. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items

of significance that could affect progress. Include topics for discussion as appropriate to status of Project.

1. Contractor's Construction Schedule: Review progress since last meeting. Determine where each activity is in relation to Contractor's Construction Schedule, whether on time or ahead or behind schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to insure that current and subsequent activities will be completed within Contract Time.

2. Review present and future needs of each entity present, including, but not limited to, following:

   a. Interface requirements.
   b. Time.
   c. Sequences.
   d. Status of submittals.
   e. Deliveries.
   f. Off-site fabrication problems.
   g. Access.
   h. Site utilization.
   i. Temporary facilities and services.
   j. Hours of work.
   k. Safety - Hazards and risks.
   l. Housekeeping.
   m. Quality and work standards.
   n. Requests for Information.
   o. Change Orders.
   p. Documentation of information for payment requests.
   q. Detailed Construction Schedule.
   r. Three-Week Look-Ahead Schedule.

D. Reporting: Within reasonable time after each meeting, COTR, or designated person, will distribute minutes of meeting using Electronic Project Management (ePM) software, including brief summary in narrative form of progress since previous meeting and distribute to each party present and to parties who should have been present. When District elects to prepare minutes of meeting, any other purported minutes are void.

1.11 REPORTING REQUIREMENTS

A. Contractor shall be responsible for reporting to the District through the COTR all daily, weekly, and monthly reports in accordance with the Contract Documents, which may or may not be specified in other Sections. The list below may include, but may not be limited to, the required forms. Contractor shall review all Contract Documents to meet requirements for reporting. This Article does not include the regular submittals, certificates, schedules, bonds, and payment requisitions as specified in other Sections. All reports shall be submitted in editable electronic format.

DAILY REPORTS	WEEKLY REPORTS	MONTHLY REPORTS	OTHER REPORTING PERIODS
Daily Construction Reports (Refer to Section 01 32 00)	Weekly Statement of Compliance (Form No. DC 2640-11)	Application for Payments (Refer to Section 01 29 00) and All	Apprentices and Trainees Employment Report (20 CFR 5.a.4(c) Send

DAILY REPORTS	WEEKLY REPORTS	MONTHLY REPORTS	OTHER REPORTING PERIODS
	Due: Within 7 days after payment date of payroll period.	Required Attachments	Initial Report + One Report Every 3 Months.
	Weekly Payroll Records showing compliance with 40 USC 276a-276a 7 (Davis-Bacon Act)	Material Location Reports (Refer to Section 01 32 00)	Field Correction Reports. As needed. (Refer to Section 01 32 00)
	Weekly Statement of Compliance, required under the Copeland Regulations of the Secretary of Labor (29 CFR, Part 3)	Copy of First Source Agreement Contract Compliance Report (due not later than 10th of the month; original goes to DOES)	Site Utilization Plan (15 days after NTP): 1 time only. See Section 01 50 00 "Temporary Facilities & Controls."
		Monthly Progress Reports: Including: • Progress Narrative • Schedule Narratives • Cost Update • PCN/CO's • RFI's • Safety Narrative • Inspections by Third Parties • LEED DC GREEN CODE Compliance • Progress Photographs • Start-up & Commissioning	
		Monthly CBE Compliance Report	
		Waste Reduction Report (See Section 01 74 19 "Construction Waste Management)	
		Quality Assurance Reports (See Section 01 79 90 "Quality Assurance Reporting")	

DAILY REPORTS	WEEKLY REPORTS	MONTHLY REPORTS	OTHER REPORTING PERIODS
		Waste Reduction Report (See Section 01 74 19 "Construction Waste Management & Disposal."	

B. Some forms listed above may be specified in other Sections. Refer to other Sections for requirements.

C. Other forms as may be requested by the COTR and not specified in the Construction Documents.

1.12 LEED DC GREEN CODE ORIENTATION MEETING

A. Contractor shall attend a LEED DC GREEN CODE orientation meeting conducted by the Architect/Engineer at Project site.

1. Attendees: Authorized representatives of the Contractor and District, COTR, Architect, and other consultants. Contractor and its superintendent, installer and representatives of manufacturers and fabricators and other concerned parties shall attend the meetings. All participants at the meeting shall be familiar with the Project and authorized to conclude matters relating to the Work.
2. Agenda: Discuss LEED DC GREEN CODE requirements for each trade; including the following:

a. LEED DC GREEN CODE action plans.
b. LEED DC GREEN CODE progress reports.
c. LEED DC GREEN CODE documentation submittals.
d. Recycled content of materials.
e. Regional materials.
f. Certified wood.
g. Low-emitting materials.
h. Construction waste management.
i. Construction indoor air quality management

1.13 CLOSEOUT CONFERENCE

A. Schedule Project Closeout conference with sufficient time to prepare for requesting Substantial Completion.

B. Attendees: Contractor shall invite COTR, subcontractors, installers, fabricators (as necessary).

C. Agenda: Contractor shall prepare agenda and include the following and items for discussion that are required by other Sections:

1. Start-up of facilities and systems.

3. Status of Building Commissioning.
4. Operations and maintenance manuals.
5. Testing, adjusting, and balancing.
6. System demonstration and observation.
7. Operation and maintenance instructions for the District's personnel.
8. Contractor's inspection of work.
9. District's inspection.
10. Inspections by authorities having jurisdiction.
11. Certificate of occupancy.
12. Closeout submittals, including Record Drawings, Record Submittals, BIM Reports.
13. Spare parts and maintenance materials.
14. Turnover of permanent lockset cores and keys.
15. Transfer of Utility accounts.
16. Final application for payment.
17. Final cleaning.
18. Contractor's Demobilization Plan.
19. Warranty Communication Procedure.
20. Status of LEED DC GREEN CODE Application.
21. Application process for Certificate of Substantial Completion.

1.14 COORDINATION MEETINGS

A. Supplement progress meetings and pre-installation meetings with coordination meetings as required to ensure careful coordination of various activities involved.

B. Request representation at each meeting by every party currently involved in coordination or planning for construction activities involved.

C. Notify COTR of coordination meetings.

D. Record meeting results and distribute copies using Contract Project Management software to everyone in attendance and to others affected by decisions or actions resulting from each meeting.

1.15 REQUEST FOR INTERPRETATION / INFORMATION (RFI)

A. Where possible, request clarifications at next appropriate project meeting, with response entered into meeting minutes. Where clarification at meeting is not possible, either because of urgency of need or complexity of item, prepare and submit RFI.

B. Contractor shall submit to the COTR all RFI's from subcontractor or material supplier. Contractor shall review and sign each RFI prior to submittal.

1. RFI from subcontractor or material supplier submitted directly to the COTR will be returned unanswered.

C. Do not submit RFI for following:

1. To request approval of submittals. Comply with Section 01 33 00 "Submittal Procedures."
2. To request approval of substitutions. Comply with Section 01 60 00 "Product Requirements."
3. To request coordination of various materials and systems indicated on Contract Documents with field conditions and with each other. Comply with Section 01 31 00 "Project Management and Coordination."
4. To provide information required by Record Documents specified in Section 01 78 39 "Project Record Documents."
5. To request changes which are known to entail additional cost or credit. Comply with Section 01 26 00, "Contract Modification Procedure."

D. If Contractor believes response to RFI results in change in Contract Sum, Contract Time, or both, comply with Section 01 26 00, "Contract Modification Procedure."

E. Submit, track and respond to RFI's using Electronic Project Management (ePM) system (ProjectTeam) to keep traditional paper-based RFIs to minimum.

1. Cooperate and use his best efforts to implement the internet-based RFI procedure.
2. Ensure that all RFI data is ultimately captured on internet-based system.

F. Number RFIs sequentially using only next sequential number; include date submitted.

1. Renumber RFIs if directed by COTR.
2. Include RFI numbers on all attachments.
3. Identify Drawing, detail and Specification Section.
4. Identify supportable time response information is required to avoid impact on Construction Schedule and Cost.

G. Contractor should attempt to include proposed written and graphic solutions. Include a recommended solution as applicable.

H. Improper or Frivolous RFI: Will be returned unanswered.

I. Maintain current and accurate Request for Information Log as follows:

1. Maintain for duration of Contract.
2. Indicate current status of RFI's at all times; submit log as requested COTR.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

END OF SECTION 01 31 00

SECTION 01 31 10 - COORDINATION DRAWINGS USING BIM

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. District will furnish to the Contractor upon issuance of Notice to Proceed an electronic set of Construction Documents (Drawings and Specifications) in PDF format. District may also furnish electronic documents to the Contractor for use of BIM Clash Detection reporting.

B. Utilize 3D/Building Information Modeling (BIM) Clash Detection indicating Work with horizontal and vertical dimensions to avoid interference with structural framing, ceilings, partitions, equipment, lights, mechanical, electrical, conveying systems, and other services throughout the entire building.

1. In and above ceilings.
2. Within walls.
3. Within chases.
4. In mechanical spaces.
5. In electrical spaces.

B. Drawings shall include proposed locations and sizes of sleeves, coredrills, blockouts, and embedded items in concrete walls, columns, floors and beams.

C. Prior to start of work in any given area, cause each Subcontractor to approve, in writing, BIM drawings affecting its work in that area.

D. Engage the Architect/Engineer of Record to review the BIM Clash Detection Report for format and accuracy. A/E of Record shall send report to COTR indicating that the BIM Clash Detection Reports are authentic. Contractor shall make accessible BIM model for review by COTR.

E. It is the Contractor’s sole responsibility to pay for modifications required as result of Contractor's failure to resolve interferences, to provide correct BIM documents, or to call attention to changes required in other work as result of modifications.

F. The Contractor acknowledges that resolving clashes during the BIM coordination is the responsibility of the Contractor and subcontractors and will not result in a Change Order condition.

G. The Contractor is responsible for resolving BIM clashes resulting from the Coordination Reviews during Construction and is responsible for costs and time associated with producing, managing, and coordinating the meetings and reports.

1. The COTR may find that the amount of BIM coordination may warrant a change condition.

H. Schedule and hold on-going coordination meetings with affected parties. Resolve interferences.

I. Perform Work in accordance with BIM documents, provided such drawings do not conflict with Contract Documents or approved Submittals.

J. Provide structural analysis showing that structural integrity of load-bearing walls and partitions will not be affected by Contractor's proposed scheme for penetrating such walls and partitions with mechanical, electrical and plumbing elements.

1.3 PRODUCTION OF BIM DOCUMENTS

A. Contractor shall provide BIM documents, indicating all items, at a minimum 3/8-inch equals 12-inches scale, plan, elevation and section. Items to be included, but not limited to the following:

1. Partitions.
2. Ceiling heights.
3. Structural framing locations and elevations.
4. Column lines.
5. Other Work.
6. Work by separate contractors.

B. Within 60 days following Notice to Proceed, prepare and cause Subcontractors to produce combined BIM documents of pertinent elements of Work, including HVAC ductwork, hydronic, steam, condensate, fire protection piping, plumbing, special water systems, natural gas, gas systems, electrical cable tray, conduit, conveying systems, equipment, and other work.

1. Indicate locations where space is limited for installation and access and where sequencing and coordination of installations are important to efficient flow of Work.
2. Indicate scheduling, sequencing, movement, and positioning of large equipment into building during construction.
3. Assembly Penetrations: Prepare drawings as required to indicate penetrations in floors, walls, and ceilings and their relationship to assembly construction, other penetrations and installations.
4. Identify where additional bracing and offsets are required to comply with Contract Documents.
5. Ceilings: Prepare reflected ceiling plans and other drawings as required to coordinate and integrate installations, air outlets and inlets, light fixtures, communications systems components, sprinklers, other ceiling-mounted devices, components located above suspended ceilings, and suspended ceiling support components.
6. Show interrelationship of components indicated on separate Shop Drawings.
7. Indicate required installation sequences to minimize cutting and patching.

C. Mechanical Systems: Include, but do not necessarily limit to following:

1. Proposed locations of all HVAC and plumbing piping, ductwork, equipment, and materials.
2. Access doors in all sheet metal ductwork.

3. Volume dampers and access to volume dampers in all HVAC ductwork.
4. Environmental Rooms and all associated piping and service access requirements.
5. All smoke, fire and combination smoke/fire dampers and all access requirements.
6. Heat tracing of piping.
7. All roof drain piping.
8. Proposed locations for access panels and doors.
9. Control Systems, including panel locations devices requiring access and main conduit runs.
10. Clearances for installing and maintaining insulation.
11. Clearances for servicing and maintaining equipment, including tube removal, filter removal, and space for equipment disassembly required for periodic maintenance. Show access locations.
12. A minimum of a two foot by two foot access area shall be provided for access to volume box control panels. Access area shall be indicated on sheet metal and coordination drawings.
13. Equipment connections and support details.
14. Exterior wall and foundation penetrations.
15. Fire-rated wall and floor penetrations.
16. Sizes and location of required concrete pads and bases.
17. Valve stem movement.
18. All fire protection systems, sprinkler piping and sprinkler head layouts.

D. Electrical and Communications Systems: Include, but do not necessarily limit to following:

1. Proposed locations of major raceway systems, equipment, and materials.
2. Major electrical conduit runs, panel boards, feeder conduit, bus-duct layouts and racks of branch conduits.
3. Clearances for servicing equipment, including space for equipment disassembly required for periodic maintenance. Show access locations.
4. Electrical equipment room layouts.
5. Exterior wall and foundation penetrations.
6. All firewalls and smoke partitions shall be highlighted on the coordination drawings for appropriate coordination.
7. Equipment connections and support details.
8. Sizes and location of required concrete pads and bases.

E. Resolve major interferences at initial coordination meeting prior to production of any drawings. Hold meeting with all elements (including the District) at Contractor's organization within 30 days of Notice to Proceed. Conduct other coordination meetings weekly until BIM documents are complete.

F. Complete production of initial BIM documents, covering main runs of ductwork, conduit and other services, within 60 days after initial meeting.

G. Produce final BIM documents, including all services and elements listed in this Section, by no later than 90 days following initial coordination meeting.

H. Contractor shall promptly resolve interferences as Contractor identifies same. Correct and reissue revised coordination drawings on ongoing basis throughout execution of Work.

1.4 APPROVAL

A. Obtain Subcontractors' written approval of initial and subsequent BIM documents. Determine and document method used to resolve interferences not previously identified. Obtain letter signed by A/E of Record that the BIM documents are authentic.

B. Give written approval of changes to BIM documents prior to start of Work in affected area.

C. Maintain one copy of current approved BIM documents at Project site.

D. Provide BIM documents to Contracting Officer's Technical Representative (COTR) in accordance with Section 01 33 00 "Submittal Requirements" for information and review of level of detail and general content. Make changes requested by COTR.

1.5 PRECEDENCE OF SERVICES FOR BIM DOCUMENTS

A. Where conflicts occur with placement of materials of various trades, the Contractor shall be responsible for coordination of available space to accommodate all elements. Resulting adjustments shall be initialed and dated by the specialty subcontractor. The specialty subcontractor shall then date and sign each final drawing. If conflict cannot be resolved, the decision of the Contractor shall be final.

B. In event of potential conflicts involving location and layout of elements of the Work; use following priority to resolve disputes:

1. Structure and partitions have highest priority.
2. Equipment location and access, including utilities and equipment to be installed by separate contractors.
3. Large pipe mains, valves and devices.
4. Gravity drainage lines.
5. High pressure ductwork and devices.
6. Low pressure ductwork, diffusers, registers, grilles, HVAC equipment.
7. Fire protection piping, devices and heads.
8. Small piping, tubing, electrical conduit, and devices.
9. Ceiling system and recessed light fixtures.
10. Sleeves through rated partitions.
11. Access panels.

C. A subcontractor who fails to promptly review and incorporate his work on the drawings shall assume full responsibility of installation conflicts affecting his work and of schedule ramifications.

1.6 PRODUCTION OF LAYOUT DRAWINGS

A. Provide scale plan and elevation drawings for use in layout.

B. Cause Subcontractors to indicate on layout drawings proposed location and size of their required sleeves, coredrills, blockouts, embedded items and attachment to structural elements. Maintain viability of structural elements.

1.7 SUBMITTALS REQUIRED UNDER THIS SECTION

A. BIM Documents: Submit the following to COTR.

1. Contractor's approved BIM Documents:

a. Within 75 days of Notice to Proceed, submit letter signed by Contractor, subcontractors performing, or affected by, mechanical, electrical or plumbing work within Work, and the Architect or Engineer of Record indicating one copy of Contractor approved BIM Documents is available at Project site and that Work will conform to such drawings.
b. Submit Contractor approved BIM Documents to COTR for information and review as defined in this Section.
c. Submission/Approval of BIM Documents shall be included as a schedule activity and shall include a value

2. Contractor's proposed sleeve, coredrill and blockout layout drawings.

a. Submit one copy of drawing to COTR for information and review as defined in this Section.

3. Contractor shall submit the final approved BIM model as part of the project "Closeout Documents."

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

END OF SECTION 01 31 10

SECTION 01 32 00 - CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and General Conditions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

B. Coordinate the Schedule with the Application for Payment; refer to Section 01 29 00 "Payment Procedures."

1.2 SUMMARY

A. Administrative and procedural requirements for schedules and reports required for proper performance of Work.

B. Contractor's Responsibility shall include but not be limited to the following for providing, coordinating, and managing Construction Progress Documents:

1. Ensure timely execution of Work using critical path method schedule, because timely Contractor performance is essential to this Contract.
2. Allow District to monitor Contractor's Contract Schedule continuously so that District may audit Contractor's management of Contract Schedule via comparison to the approved Contract Schedule under District's control.
3. Use approved Contract Schedule for management of entire Work and make no change, modification, or updating of logic and/or durations in Contract Schedule without prior written concurrence from District.
4. Ensure adequate planning, scheduling, and reporting during execution of Work so it may be executed in orderly and expeditious manner within specified time constraints.
5. Ensure coordination of self-performed work with work of:

    a. all elements of Contractor's organization, including subcontractors.
    b. between subcontractors and vendors at all tiers.
    c. District personnel and District consultants.
    d. Separate contractors.

C. Required Scheduling Software: The Contractor shall acquire the most recent version of the software listed below for the purpose of the Project.

1. Utilize Primavera (P6) Enterprise Project Portfolio Management.
2. Set adjustable settings, including those pertaining to float calculation and progress/logic override, in accordance with District’s instructions, which shall require most conservative available settings.

D. At the request of the COTR in writing the Contractor shall be required to participate in meetings necessary to reach a mutual agreement and acceptance of the Detailed Construction Schedule (DCS), or the Cash Flow Projections.

1.3 PRE-SCHEDULE MEETING

A. The Contractor and the delegated Scheduler shall meet with the District representatives within 21 days after Notice to Proceed and before the detailed CPM schedule is developed, to address questions regarding this Section and to discuss the District's requirements to facilitate the expeditious preparation, review, and acceptance of the Schedule.

1.4 DEFINTIONS

A. DCS: Detailed Construction Schedule.

B. Data Date: Last Work Day of each month, for months between NTP and Acceptance, in accordance with schedule update requirements of this specification.

C. Work: Entirety of work to be performed by Contractor under this Contract.

D. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.

1. Critical Activity: An activity on the critical path that must start and finish on the planned early start and finish times.
2. Predecessor Activity: An activity that precedes another activity in the network.
3. Successor Activity: An activity that follows another activity in the network.

E. Cost Loading: The allocation of the schedule of values for the completion of an activity as scheduled. The sum of costs for all activities must equal the total Contract Sum unless otherwise approved by Architect.

F. CPM: Critical Path Method, which is a method of planning and scheduling a construction project where activities are arranged based on activity relationships. Network calculations determine when activities can be performed and the critical path of Project.

G. Critical Path: The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.

H. Milestone: The starting or ending point of an activity.

I. Float: The measure of leeway in starting and completing an activity. Float time is not for the exclusive use or benefit of either District or Contractor, but is a jointly owned, expiring Project resource available to both parties as needed to meet schedule milestones and Contract completion date.

J. Fragnet: A partial or fragmentary network that breaks down activities into smaller activities for greater detail.

K. Major Area: A story of construction, a separate building, or a similar significant construction element.

L. Network Diagram: A graphic diagram of a network schedule, showing activities and activity relationships.

M. Resource Loading: The allocation of manpower and equipment necessary for the completion of an activity as scheduled.

N. Network: A network diagram is a graphic representation showing the relationship of activities and events in the correct sequences required to complete the Project with the Contract Time.

O. Resource Loading: The allocation of manpower and equipment necessary for the completion of an activity as scheduled.

P. Day: Calendar day unless otherwise noted. Contract uses calendar days.

1.5 SUBMITTALS

A. Detailed Construction Schedule (DCS): Submit to District within 30 calendar days following NTP, 2 hard copies in color and editable-electronic copy of detailed time-scaled precedence format network graphics and reports of proposed DCS in a format and level of detail approved by the COTR containing following:

1. Narrative of Contractor's proposed methodology, including proposed general sequencing plan.
2. Activity number, description, duration, cost loading, resource loading, coding structure and total float for each activity.
3. Sequence of operations for Work and order and interdependencies of Work activities. Indicate major points of interface or interrelation of such activities with activities of District and/or other contractors.
4. Conformance with and identification of Milestone durations and/or dates specified.
5. Contractor shall develop and include interim milestones in the CPM.
6. Delivery of District-furnished material and/or equipment, if applicable.
7. Primary, Secondary and Tertiary Critical path (or paths).

B. Three-Week Look-Ahead Schedule.

C. Qualifications: Provide qualifications for Scheduler assigned to the project. Within 5 days after Award of Contract, provide the following:

1. Name and address of proposed Scheduler.
2. List of prior construction projects and 3 selected Primavera network samples that the proposed scheduler has prepared. The 3 CPM schedules shall be for projects similar in complexity and magnitude of this Project.

D. Daily Construction Reports. As described in this Section.

1.6 QUALITY ASSURANCE

A. Scheduler Qualifications: Experienced in CPM scheduling and reporting, with capability of producing CPM reports and diagrams.

1. Scheduler shall be proficient in scheduling software used by the Contractor and shall have successfully completed a project similar to size and scope of this Project using scheduling software.

B Prescheduling Conference: Conduct conference at Project site to comply with requirements in Section 01 31 00 "Project Management and Coordination." Review methods and procedures related to Schedules and Reports, including, but not limited to, following:

1. Review software limitations and content and format for reports.
2. Review time required for review of submittals and resubmittals.
3. Review time required for completion and startup procedures.

1.7 COORDINATION

A. Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate contractors.

B. Coordinate Contractor's Construction Schedule with the Schedule of Values, list of subcontracts, Submittals Schedule, progress reports, payment requests, and other required schedules and reports.

1. Secure time commitments for performing critical elements of the Work from parties involved.
2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

1.8 MILESTONES

A. Milestones listed in Contract Documents represent only major items of work or interface dates. Milestones are considered essential to satisfactory performance of this Contract and to coordination of work on Project. Indicate Milestones in Detailed Construction Schedule (DCS) as either start or finish milestones with anticipated finish dates.

B. Milestones represent latest allowable completion durations, measured from Contract’s initial District-issued Notice to Proceed (NTP). Unless specifically excepted by Change Order, Alternates, or Options, if any, and if exercised by District, work shall be performed by Contractor within durations set out below. Coordinate application of following Milestones with contents of this specification and Work. All milestones will be of zero duration and tied to activities.

Code	Milestone Description	Calendar Days from NTP
1	***Construction NTP***	0
2	501 Tenant Move-out	November 15, 2023
3	Front-end and long-lead Submittals approved	120
4	Complete coordinated shop-drawings	120
5	Demo Complete	150
6	Dust-free Environment	300
7	Permanent Power / M/E/P Systems Completed	300
8	Infrastructure/cabling complete and installed	360
9	Start Commissioning	360
10	All Interior Finishes complete	360
11	Complete Building Systems Commissioning	390
12	Complete Security and Electronic Security Systems Commissioning	420
13	Substantial Completion (Certificate of Occupancy Obtained)	420
14	Project Final Acceptance/Completion	480
15	Post Occupancy / Warranty Walk-Through	810

1.9 ACTIVITY LEADS AND LAGS

A. The District acknowledges that the establishment of activity "leads" and "lags" might be a useful planning tool in some specific cases. However, the use of "leads" and "lags" shall be limited to the cases where they are necessary. Each "lead" and "lag" shall be justified by the Contractor and accepted by the District as part of the baseline schedule. When justified and approved, activity "leads" and "lags" shall be maintained in the same way activities are maintained. Changes in a "leads" or "lags" shall be identified, justified and accepted in each update.

1.10 WORK DAYS

A. Work Days: Defined as days in calendar during period of Work performance, excluding Saturdays, Sundays and legally-mandated federal employee holidays which apply to area in which Work is performed. Work days are considered fully available for Contractor to perform work indicated in pertinent activities in Contract Schedule, unless, upon Contractor request, authorized District's representative:

1. Contemporaneously annotates Contractor's daily report with acknowledgement that day reported upon was unavailable to Contractor for excusable causes, such as unusual severe weather or immitigable effects thereof.
2. Identifies specific activities by number so affected.
3. Identifies extent of such impact for each affected activity (i.e. percentage reduction of crew or equipment effectiveness and/or progress).
4. Contractor may request working days on weekends and after-hours.

B. Recognized Holidays: New Year's Day, Inaugural Day, Martin Luther King's Birthday, President's Day, Memorial Day, Independence Day, Emancipation Day, Labor Day, Columbus Day, Veterans Day, Thanksgiving Day and Christmas Day.

1.11 WEATHER DAYS

A. Weather Day: The table below includes the inclement weather calendar (in work days) for the local region to be utilized for the Project. Non-compensable time extensions shall be granted by the District for days in excess of the days listed below for each month and only when the schedule critical path is directly impacted by the inclement weather.

Month	Work Days		Month	Work Days
January	4		July	2
February	4		August	3
March	4		September	2
April	5		October	3
May	5		November	4
June	2		December	4

1.12 SCHEDULER RESPONSIBILITIES

A. Contractor shall designate an authorized representative of his firm who shall be responsible for assisting in the preparation of the CPM schedule and review/report progress of the project with COTR using scheduling software approved by COTR. The Contractor's representative shall have direct project control and complete authority to act on behalf of the Contractor in fulfilling requirements of this Section and such authority will not be interrupted throughout the duration of the project.

B. Scheduler shall have use of software and computer facilities capable of delivering detailed graphic and tabular printouts, as well as electronic transfer of data. When requested by the COTR, Scheduler shall be able to produce reports within 48 hours of request.

1.13 DETAILED CONSTRUCTION SCHEDULE (DCS) CRITERIA

A. Contract Schedule: Document that controls Contractor's timely execution of Work. It is initially defined by number of Work Days listed in Contract Documents for completion of each Milestone and for completion (in calendar days) of Work, until District approves Detailed CPM Schedule which will be identified as "Detailed Construction Schedule" or "DCS" by the COTR and the District. Upon acceptance of the DSC by the District, the DCS becomes the Contract Schedule.

1. Upon approval by District of mutually agreed Change Orders that amend the DCS, the most current such approved amended version of DCS becomes the Contract Schedule.

B. Special Constraints: Minimize special constraints and add none during execution of Work without District's express approval. Clearly identify and explain proposed special constraints including:

1. Finish-to-finish, start-to-start, start-to-finish, and finish-to-start leads and lags.
2. Starts-on, starts-no-earlier, finishes-on and finishes-no-earlier date constraints.
3. Special calendars, beyond approved standard five day and seven day calendars.
4. Resource caps.

C. Duration and Cost Limits: Ensure that level of detail of Contractor's DCS is function of complexity of work involved. Ensure that activities have duration of not more than 15 Work Days and have value equal or less than $30,000.00, unless District expressly authorizes exception. In assessing proposed exceptions, District will take into account special attributes of Work, such as long-lead equipment with extended engineering, fabrication and delivery schedules.

D. Key Items Procurement Report required during construction phase for "key" (major equipment and materials and long-lead (over eight weeks, from order placement to delivery)) items fabricated or supplied for Work. Include in DCS activities for submittal, submittals review, fabrication, in-plant testing, shipment and delivery, field installation, field testing, commissioning, functional performance testing, acceptance and O&M manuals for key items.

E. Schedule reports indicating activity numbers, description, estimated duration in Work Days, early start and finish dates, late start and finish dates, total and free float available for each and every activity and responsibility code for each activity.

F. Cost reports including following activity information, sorted by labor category:

1. Activity number and appropriate description.
2. Total cost proposed for each activity.
3. Computer-produced cash-flow analysis and graphics generated by both early start and late start activity dates.

G. Labor and Equipment Allocation Report: Narrative report indicating anticipated allocation of labor and equipment resources and work shifts to be utilized on Work. Identify with particularity equipment that is shared by activities such as hoisting and level of need of each such item of equipment for pertinent activities.

H. Details of Each Calendar. Base schedule on standard workweek consisting of five, 8-hour days (Monday through Friday), subject to Government holidays described above. Contractor may propose working outside of normal work hours, including multiple shifts, working holidays and weekends, and other non-standard calendars, provided Contractor obtains District approval minimum of five work days in advance of proposed occurrence of work outside of normal hours. Contractor's Schedule Calendars: Indicate Government holidays as non-working days, unless District expressly approves otherwise.

I. Activity Details: Incorporate following elements and requirements in proposed DCS:

1. Use clear and concise activity descriptions, designed to ensure that beginning and end of each activity shall be readily observable and verifiable during execution of Work.
2. Restrict each activity to single performing organization including Contractor self-performing work organization(s), subcontractors, manufacturers, fabricators, and time-sensitive suppliers. Involve such performing organizations in development of Contract Schedule and secure their individual and collective express commitment to satisfy requirements of Contract Schedule proposed by Contractor to District. Cause said commitment from said performing organizations to be represented in form of signed acceptance by such parties, included with DCS submittal.
3. Code activities in DCS that are District responsibility to execute as District responsibility activities. Include such activities as review and acceptance of documentation (including DCS schedule), submittals, issuance of NTP's and other District activities. Allow adequate duration for District review activities and as noted in other sections of Contract, but never less than seven working days unless District expressly approves otherwise.
4. In addition to identification of responsible organization, each activity shall have codes identifying areas of work. Ensure that areas of work are planned and scheduled in DCS in manageable increments. Code such increments and assign code to each activity.
5. Distribute Contract Price over activities (cost loading). Mobilization, bond and insurance costs may be indicated separately on individual activities; however, prorate other general requirement costs, such as overhead and profit, throughout activities. Divide each activity's cost loading into each of labor, material, and equipment where Contractor desires to receive payment for uninstalled material delivered to project site separate from labor and/or equipment expenditure on activities concerned.
6. Activities for each of permits, notices, tests and inspections for pertinent activities and phases.
7. Build schedule to reflect incremental completion of project (by floor/by area/by systems/equipment). Include appropriate time for Contractor and District for inspection and development of incomplete and/or deficient work (IDW) lists, as well as correction and verification of IDW. Include time for re-inspection and re-correction where appropriate.
8. Submittals, in coordination with level of detail indicated in key items procurement report.
9. Include adequate activities to allow District to track LEED DC GREEN CODE certification process.

J. Resource Analyses: Reserved

K. Acceptance of DCS:

1. District's acceptance of Contractor's DCS is condition precedent to progress payments to Contractor.
2. Upon District's acceptance of cost-loaded values, use such values as sole basis for determining progress payments.
3. District's acceptance of proposed DCS signifies only that District's summary review of DCS leads the District to believe that Contractor has met general requirements of this specification pertaining to DCS format and content. Acceptance by District of DCS does not relieve Contractor of any of its responsibility whatsoever for accuracy or feasibility of Contractor's plan for execution of Work, or to perform Work within specified time constraints. Such acceptance does not expressly or impliedly warrant, acknowledge or admit reasonableness of activities,

logic, durations, manpower, cost or equipment loading of Contractor's proposed or accepted Contract Schedule.

4. District's acceptance in no way makes District or its representatives insurers of success of Contractor's time performance or liable for time or cost overruns flowing from shortcomings of Contractor-authored Contract Schedule. District disclaims and Contractor waives any District obligation or liability by reason of District's active or passive acceptance of or acquiescence to Contractor's schedule submissions.
5. Should Contractor fail to properly define any element of Work, activity or logic and District review does not detect this omission or error, such omission or error, when discovered by Contractor or District, shall be corrected by Contractor before next monthly schedule update and shall not be cause for delay of completion of Work within specified time constraints. Contractor acknowledges that District is not required or otherwise obligated to discover errors or omissions in Contractor's proposed Contract Schedule.

1.14 UPDATES

A. Update Contract Schedule every two weeks and in coordination with Contractor’s requests for progress payments.

B. On working day (designated data date) approximately five working days preceding time designated for monthly payment, meet with District for purpose of reviewing Contractor's report of actual progress. Submit Contractor's up-to-date and accurate progress data as of Data Date.

C. Submit computer reports and network graphics that reflect progress of Work with respect to both cost and time, in accordance with requirements of initial Contractor-proposed DCS. Adjust selection and sort sequence, format and content of reports as directed by District.

D. Contractor acknowledges that updating Contract Schedule to reflect actual progress made as of date of update is not modification to Contract Schedule’s Milestone requirements.

E. Submit progress report indicating activities (and portions of activities by percentage) completed during reporting period, actual start dates for those activities currently in progress, actual finish dates for those activities which were completed since last update, and progress along and deviations from critical path in terms of days ahead or days behind each individual Milestone date.

F. Submit narrative report which includes description of status of schedule, problem areas if any, current and anticipated delaying factors and their known and/or forecast impact, and explanation of corrective actions taken and planned.

1. Submit list of actual number of personnel (or man-hours) by discipline by working day by activity actually engaged on Work during reporting period, with such total stated separately as to on-site office (project work location), administrative management personnel and on-site supervisory personnel.

G. Submit two updated copies of network.

1. First Copy: Updated version of Contract Schedule, excluding Contractor-proposed changes.
2. Second Copy: Updated version of Contract Schedule, including Contractor-proposed changes and any activity logic changes. Submit with second copy list of proposed modifications, additions, deletions and changes in activity logic and/or durations to approved Contract Schedule, including time-recovery steps and actions required by "Responsibility for Completion" provisions of this specification. Include written justification for each such proposal.

H. If, as result of monthly update, it appears Contract Schedule no longer represents actual prosecution and progress of Work, submit revision to Contract Schedule. Include proposed adjustments in activity durations, logic changes, and resource usage or cost loading. Any negative float indicated in Contractor’s proposed updates must be presented to District by Contractor with bona fide Contractor-authored plan for elimination of such negative float.

I. District will respond in writing to each schedule update. District's response may include questions and/or requests for revisions. Respond in writing within seven calendar days, answering questions, and either agreeing with District's proposed revisions and submitting modified update, or setting forth justification why such revisions should not be implemented. If Contractor's justification for not implementing revision is acceptable, in District's sole judgment, such revision will be waived. If District does not accept Contractor’s justification, incorporate District-directed revisions into Contract Schedule, and execute Work accordingly.

1.15 THREE-WEEK LOOK-AHEAD SCHEDULE

A. Contractor shall provide an up to date three-week look-ahead schedule every week at the Weekly Project Meetings. The three-week look-ahead schedule shall include the timeline of activities for the upcoming two weeks as well as the previous one-week of work completed. The Schedule shall be generated form the approved project schedule or be provided in such other form as directed by the COTR.

1.16 PROGRESS PAYMENTS

A. Refer to Section 01 29 00 "Payment Procedures" for coordination of the Application for Payment and this Section.

1.17 REQUESTED TIME ADJUSTMENT SCHEDULE (RTAS)

A. Updated Contract Schedule submitted by Contractor shall not indicate completion date later than specified time constraints, subject to time extensions approved by District. If Contractor believes it is entitled to time extension, submit to District, within deadlines set out herein and with each contemporaneous monthly update, separate schedule analysis entitled Requested Time Adjustment Schedule (RTAS). Indicate, in said analysis, in addition to requirements of General Conditions, proposed adjustments in Contract Schedule which, in opinion of Contractor, should be made due to changes, delays or conditions occurring during past month or previously, or which are expected or contended by Contractor. Time-scale said analysis utilizing computer generated and computer drawn network. This paragraph shall not relieve Contractor of its obligation to provide proper and timely separate written notice of impacts to schedule. Contractor acknowledges that its preparation of RTASs is not extra work to Contract and preparation by Contractor of RTASs shall not be cause for Contractor to receive any additional time for performance of Work or additional compensation.

B. Subject to float sharing requirements defined herein, time extensions will be granted only to extent of equitable and mutually acceptable time adjustments to activity or activities affected by Change Order(s), or where delay consumes total (positive or zero) float of critical activity (or path) and extends Milestone dates, using approved update of Contract Schedule that is current as of issue of District's written request for Contractor proposal connected with potential Change Order or other District-accountability potential schedule effect.

C. Submit RTAS within 20 calendar days after initiation of thing(s) or event(s) which Contractor contends may lead to potential District-accountability delay in performance of Work, or from time of District's issuance of written request for Contractor proposal connected with potential change order (or documents of like effect), even if such issuance precedes notice to proceed for change order(s) concerned, whichever is later. Other District-caused potential impacts of any category shall be considered to have been initiated upon written initial District direction connected therewith, including direction provided through duly recorded meetings.

D. Within 14 calendar days following submittal by Contractor to District of RTAS, in proper format and including specified content, District will meet with Contractor to review submittal. Revise and resubmit RTAS within three working days of such meeting, adjusting RTAS to consider issues raised by District in above meeting. District will respond with written decision within seven calendar days following Contractor resubmittal of RTAS. Upon approval, copy of RTAS signed by District will be returned to Contractor and thereafter incorporated into Contract via Change Order. Incorporate results of each approved RTAS in update of Contract Schedule that immediately follows such approval.

E. Contractor waives its right to submit requests for time extension and to receive time extension unless it meets above requirements for RTASs. Contractor waives any claim for acceleration due to refusal by District to grant time extensions should Contractor fail to comply with submission and justification requirements described herein for RTASs. Contractor's submission of RTASs shall not

constitute basis for adjustment in specified time constraints unless approved by District. Actively pursue timely completion of activities pending such approval.

1.18 RESPONSIBILITY FOR COMPLETION

A. Provide sufficient forces, offices, materials, facilities, plant and equipment, to ensure completion of Work in accordance with most current approved Contract Schedule update. Upon District's written advice that Contractor is behind schedule, as result of inexcusable causes, immediately remediate such time loss by increasing hours of work, number of shifts, overtime operations and/or amount of plant and equipment, without additional cost to District. Contractor acknowledges that such remedial action by Contractor is not compensable acceleration of performance of Work. Provisions of this paragraph shall not be construed as prohibiting work on Saturdays, Sundays, and holidays, if Contractor so elects and gives written notice to District two working days in advance of it.

1.19 GENERAL CONTRACTOR EVALUATION FORM

A. General Contractor evaluations will be conducted by the COTR at each indicated construction completion state. The evaluation forms will be utilized by the COTR to determine the performance of the Contractor, including but not limited to, any decision to release partial retention. The General Contractor Evaluation forms may also serve as "Past Performance" reference report on the Contractor for future work sought by the Contractor with the District.

1.20 REQUIRED REPORTS

A. Daily Construction Reports: Prepare daily construction report and submit on internet-based Contract Project Management software. Submit daily construction report by noon of following workday. Required information concerning events at site includes, but is not limited to, following:

1. List of subcontractors at site.
2. List of separate contractors at site.
3. Approximate count of personnel at site.
4. High and low temperatures, general weather conditions.
5. Accidents.
6. Meetings and significant decisions.
7. Unusual events (refer to special reports).
8. Stoppages, delays, shortages, and losses.
9. Meter readings and similar recordings.
10. Emergency procedures.
11. Orders and requests of governing authorities.
12. Change Orders received, implemented.
13. Minor changes received and implemented.
14. Services connected, disconnected.
15. Equipment or system tests and startups.
16. Partial Completions, occupancies.

17. Completions authorized.

B. Special Reports: Submit special reports directly to COTR within one day of reported occurrence. Submit copies to other parties affected by occurrence.

1. Reporting Unusual Events: When event of unusual and significant nature occurs at site, prepare and submit special report. List chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects and similar pertinent information. Advise COTR in advance when such events are known or predictable.
2. Submittal of reports is condition precedent to issuance and payment of subsequent Applications for Payment.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 32 00

SECTION 01 32 33 - PHOTOGRAPHIC DOCUMENTATION

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This section includes administrative and procedural requirements for the following:

1. Existing Site Condition Photographs.
2. Progress Photographs.
3. Finished Project Photographs.

B. Digital Images: '.jpg' format' or other approved format.

1.3 SUBMITTALS

A. Qualification Data: For firms and persons specified in “Quality Assurance” Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.

B. Key Plan: Submit key plan of Project site and building with notation of vantage points marked for location and direction of each item of photographic documentation. Indicate elevation or story of construction. Include same label information as corresponding item of photographic documentation.

C. Existing Site Condition Photographs: Submit within 15 days of taking photographs.

1. Digital Images: Submit complete set of digital image electronic files with each submittal of prints on CD-ROM in format specified. Identify electronic media with date photographs were taken. Submit images that have same aspect ratio as sensor, uncropped.

D. Progress Photographs: On 15th day of each month provide progress photographs of the site at each work area, at the direction of the COTR.

E. Finished Project Photographs: When Project is ready for Final Acceptance by the District, submit perspective view of the Project and 3 photographs of areas designated by the COTR.

1.4 QUALITY ASSURANCE

A. Photographer Qualifications: Individual of acceptable to Contracting Officer's Technical Representative (COTR).

1.5 USAGE RIGHTS

A. Obtain and transfer copyright usage rights from photographer to District for unlimited reproduction of photographic documentation.

PART 2 PRODUCTS

2.1 PHOTOGRAPHIC MEDIA

A. Digital Images: Provide images in '.jpg' format, with minimum sensor size of 8 megapixels, and at an image resolution of not less than 3200 by 2400 pixels.

PART 3 EXECUTION

3.1 PHOTOGRAPHS, GENERAL

A. Date Stamp: Unless otherwise indicated, date and time stamp each photograph as it is being taken so stamp is integral to photograph.

B. Field Office Prints: Retain copy of photographic documentation in field office at Project site, available at all times for reference.

1. Identify photographs same as for those submitted to COTR.

3.2 CONSTRUCTION PHOTOGRAPHS

A. Existing Site Condition Photographs: Before commencement of excavation commencement of demolition, take photographs of Project site and surrounding properties, including existing items to remain during construction, from different vantage points, as directed by COTR.

1. Flag construction limits before taking construction photographs.
2. Take 20 photographs to show existing conditions adjacent to property before starting the Work.
3. Take 20 photographs of existing buildings either on or adjoining property to accurately record physical conditions at start of construction.

4. Take additional photographs as required to record settlement or cracking of adjacent structures, pavements, and improvements.

B. Periodic Construction Photographs:

1. COTR will instruct photographer with regard to vantage points. Photographer shall select actual vantage points and take photographs to best show status of construction and progress since last photographs were taken.
2. Medium: Color.
3. Interval: Monthly, coinciding with cutoff date associated with each Application for Payment.

C. Final Completion Construction Photographs: After Project is complete and ready for Final Acceptance, photographer shall take one perspective view of project and photographs of 3 other areas directed by the COTR.

1. Medium: Color.
2. Date stamp photographs.

D. Additional Photographs: COTR may issue requests for additional photographs, in addition to periodic photographs specified. Additional photographs will be paid for by Change Order and are not included in Contract Sum.

1. Photographer will be given three (3) days' notice, where feasible.
2. In emergency situations, photographer shall take additional photographs within 24 hours of request.
3. Circumstances that could require additional photographs include, but are not limited to:

a. Special events planned at Project site.
b. Immediate follow-up when on-site events result in construction damage or losses.
c. District's request for special publicity photographs.

END OF SECTION 01 32 33

SECTION 01 33 00 - SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Administrative and procedural requirements for submitting:

1. Shop Drawings.
2. Product Data.
3. Samples.
4. Miscellaneous submittals.
5. Substitution Request Procedures.

B. Contractor shall utilize the Electronic Project Management (ePM) system (ProjectTeam) for transmitting submittals to the COTR. Only exception will be samples for color selection or verification. Coordinate initiation of software and internet setup with COTR.

1.3 DEFINITIONS

A. Action Submittals: Written and graphic information that requires Contracting Officer’s Technical Representative’s (COTR's) responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals."

B. Informational Submittals: Written and graphic information and physical samples that do not require COTR's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals."

C. Electronic Project Management (ePM): System used to transfer project documents between the Contractor and District using standard software which has been approved by the COTR for the project (ProjectTeam).

D. File Transfer Protocol (FTP): Communications protocol that enables transfer of files to and from another computer over a network and that serves as the basis for standard Internet protocols. An FTP site is a portion of a network located outside of network firewalls within which internal and external users are able to access files.

E. Portable Document Format (PDF): An open standard file format licensed by Adobe Systems used for representing documents in a device-independent and display resolution-independent fixed-layout document format.

1.4 QUALITY ASSURANCE

A. Perform no portion of Work requiring submittal and review of Shop Drawings, Product Data, Samples, or similar submittals until respective submittal has been approved by COTR.

1.5 SUBMITTAL ADMINISTRATIVE REQUIREMENTSA.

A Architect's Digital Data Files: Electronic digital data files of the Contract Drawings will [**not**] be provided by Architect for Contractor's use in preparing submittals.

1. Architect will furnish Contractor one set of digital data drawing files of the Contract Drawings for use in preparing Shop Drawings[**and Project record drawings**].

    a. Architect makes no representations as to the accuracy or completeness of digital data drawing files as they relate to the Contract Drawings.
    b. Digital Drawing Software Program: The Contract Drawings are available in 2018 AutoCad.
    c. Contractor shall execute a data licensing agreement in the form of AIA Document C106, Digital Data Licensing Agreement and/or Agreement form acceptable to Owner and Architect.
    d. The following digital data files will by furnished for each appropriate discipline:

        1) Floor plans.
        2) Reflected ceiling plans.
        3) MEP plans.

B Coordination: Coordinate preparation and processing of submittals with performance of construction activities.

1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
4. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.

a. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.

1. Initial Review: Allow 15 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
3. Resubmittal Review: Allow 15 days for review of each resubmittal.
4. Sequential Review: Where sequential review of submittals by Architect's consultants, Owner, or other parties is indicated, allow 21 days for initial review of each submittal.

    a. Detention door frames, doors and hardware; door frames, doors and hardware; electronic security system(s); generator; and HVAC system(s) and components.

5. Concurrent Consultant Review: Where the Contract Documents indicate that submittals may be transmitted simultaneously to Architect and to Architect's consultants, allow 15 days for review of each submittal. Submittal will be returned to Architect before being returned to Contractor.

1.6 SUBMITTAL SCHEDULE

A. After development and COTR's acceptance of Contractor’s Construction Schedule, prepare complete Schedule of Submittals. Submit Schedule of Submittals to COTR within 30 days of date of Notice to Proceed. The submittal schedule shall clearly identify/include long-lead and critical early submittals required for the project.

1. Coordinate Submittal Schedule with list of subcontracts, Schedules of Values, and list of products as well as Contractor’s Construction Schedule.

B. Include each type item for which Contractor’s drawings, Shop Drawings, coordination drawings, Product Data, Samples, certificates of compliance, manufacturer’s certificates, warranties, and other types of submittals are required.

C. Coordinate preparation of submittal schedule with COTR, allowing more than average for overly complicated submittals and less time than average for those less complicated. Submittal schedule shall prioritize long lead along with early use submittals.

D. Where submittal is concurrent with or overlaps submittals currently being reviewed, indicate priority of each outstanding submittal.

E. Prepare schedule in chronological order. Provide following information:

1. Scheduled date for first submittal.
2. Related Section number.
3. Submittal category.
4. Name of subcontractor.
5. Description of part of Work covered.
6. Scheduled date for resubmittal.
7. Number of Contractor’s drawings, Shop Drawings, or coordination drawings anticipated within each submittal.
8. Scheduled date for COTR’s final release or approval.

F. Distribution: Following corrections resulting from COTR's response to initial submittal, print and distribute copies to COTR, subcontractors, and other parties required to comply with submittal dates indicated. Post in internet-based Contract Project Management software system.

1. Post copies in Project meeting room and temporary field office.
2. When revisions are made, distribute to same parties and post in same locations. Delete parties from distribution when they have completed their assigned part of Work and are no longer involved in construction activities.
3. Adhere to accepted schedule except when specifically otherwise permitted.

G. Schedule Updating: Using standard scheduling software approved by the COTR, revise schedule after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with report of each meeting.

1.7 SUBMITTAL PROCEDURES

A. General: Electronic copies of CAD Drawings of Contract Drawings will be provided by Architect for Contractor's use in preparing submittals, subject to completion and return of District’s release form provided at end of this section.

B. Contractor cannot submit a "Product Substitution" using the submittal process. Contractor shall submit product substitutions in accordance with this Section.

C. Coordination: Coordinate preparation and processing of submittals with performance of construction activities. Contractor shall use approved Electronic Project Management (ePM) system to transfer submittals.

1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.

2. Coordinate transmittal of different types of submittals for related parts of Work so processing will not be delayed because of need to review submittals concurrently for coordination.

    a. COTR reserves right to withhold action on submittal requiring coordination with other submittals until related submittals are received.

D. Processing Time: Allow enough time for submittal review, including time for resubmittals, as follows. Time for review shall commence on COTR's receipt of submittal.

1. Initial Review: Allow 10 days for initial review of each submittal. Allow additional time if processing must be delayed to permit coordination with subsequent submittals. COTR will advise Contractor when submittal being processed must be delayed for coordination.
2. Concurrent Review: Where concurrent review of submittals by COTR's consultants, Contracting Officer, or other parties is required, allow 10 days for initial review of each submittal.
3. Extended Review: Allow 15 days for initial review of the following submittals (if and where applicable):

    a. HVAC temperature controls.
    b. HVAC balancing report.
    c. Coordination drawings.
    d. Entrances and storefronts.
    e. Point supported glazing systems.
    f. Door hardware.
    g. Detention equipment.
    h. Electronic security systems.
    i. If more than five (5) shop drawings of a single trade are received in one week.

4. If intermediate submittal is necessary, process in same manner as initial submittal.
5. Allow 10 days for processing each resubmittal.

E. Identification: Place permanent label or title block on each submittal for identification.

1. Indicate name of firm or entity that prepared each submittal on label or title block.
2. Provide space approximately four by five inches on label or beside title block to record Contractor's review and approval markings and action taken by COTR.
3. Include following information on label for processing and recording action taken:

    a. Project name.
    b. Date.
    c. Name and address of Contractor.
    d. Name and address of subcontractor.
    e. Name and address of supplier.
    f. Name of manufacturer.
    g. Unique identifier, including revision number.

h. Number and title of appropriate Specification Section.
i. Drawing number and detail references, as appropriate.
j. Other necessary identification.

F. Deviations: Highlight, encircle, or otherwise identify deviations from Contract Documents on submittals.

G. Additional Copies: Unless additional copies are required for final submittal, and unless COTR observes noncompliance with provisions of Contract Documents, initial submittal may serve as final submittal.

H. Transmittal: Package each submittal individually and appropriately for transmittal and handling. Transmit each submittal using transmittal form. Submittals received from sources other than Contractor will be returned by COTR without review.

1. On attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by COTR on previous submittals, and deviations from requirements of Contract Documents, including minor variations and limitations. Include same label information as related submittal.
2. Include Contractor's certification stating that information submitted complies with requirements of Contract Documents.
3. Transmittal Form: Submit on Electronic Project Management system.

I. Resubmittals:

1. Make resubmittals using original submittal number and designation.
2. Subject to same terms and conditions as original submittal.
3. COTR will accept not more than one (1) resubmittal.

J. Distribution: Furnish copies of final submittals to COTR, subcontractors, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.

K. Use for Construction: Use only final submittals with mark indicating action taken by COTR in connection with construction.

1.8 SUBMITTAL REQUIREMENTS FOR COMMISSIONING

A. Standard Submittals: Submit copy of standard submittals for equipment to be commissioned to Commissioning Authority. Refer to Section 01 91 13 "Commissioning."

1.9 SUBSTITUTION PROCEDURES

A. No substitutions except as approved by COTR.

PART 2 PRODUCTS

2.1 TIMING OF SUBMITTALS

A. Contractor shall transmit each submittal at or before the time indicated on the approved Submittal Schedule.

B. Contractor shall deliver each action submittal requiring approval in time to allow for adequate review and processing time, including resubmittals if necessary. Schedule shall allow for one resubmittal for each item action submittal. Failure of the Contractor in this respect will not be considered as grounds for an extension of the time for performance of the Contract.

C. Contractor shall deliver each informational submittal prior to start of the Work involved unless the submittal is of a type which cannot be prepared until after commencement of the Work. In such a case, submit promptly.

D. If a submittal must be processed within a certain time in order to maintain the progress of the Work, Contractor shall so state clearly on the submittal.

E. Submittals will be reviewed within a minimum of 10 days for the first processing of each submittal; more time when submittals must be coordinated with later submittals.

F. Re-submittals will be reviewed within a minimum of 5.

G. If a submittal must be delayed for coordination with other submittals not yet submitted, the COTR may at its option either return the submittal with no action or notify the Contractor of the other submittals which must be received before the submittal can be reviewed.

2.2 COORDINATING PRODUCT DATA

A. Contractor shall submit Product Data action submittals for each system or unit of Work as one submittal.

B. When Product Data action submittals are prepared specifically for this Project (in the absence of standard printed information) Contractor shall submit such information as Shop Drawings and not as product data submittals.

2.3 ACTION SUBMITTALS

A. General: Prepare and submit Action Submittals required by individual Specification Sections.

1. Furnish copies of returned submittal for distribution, project record documents, and operation and maintenance manuals.

B. Product Data: Collect information into single submittal for each element of construction and type of product or equipment.

1. If information must be specially prepared for submittal because standard printed data are not suitable for use, submit as Shop Drawings, not as Product Data.
2. Mark each copy of each submittal to show which products and options are applicable.
3. Include following information, as applicable:

a. Manufacturer's written recommendations.
b. Manufacturer's product specifications.
c. Manufacturer's installation instructions.
d. Standard color charts.
e. Manufacturer's catalog cuts.
f. Wiring diagrams showing factory-installed wiring.
g. Printed performance curves.
h. Operational range diagrams.
i. Mill reports.
j. Standard product operating and maintenance manuals.
k. Compliance with recognized trade association standards.
l. Compliance with recognized testing agency standards.
m. Application of testing agency labels and seals.
n. Approval numbers of organizations or agencies as required by agencies having jurisdiction.
o. Notation of dimensions verified by field measurement.
p. Notation of coordination requirements.

C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of Contract Documents or standard printed data.

1. Preparation: Include following information, as applicable:

a. Dimensions.
b. Identification of products.
c. Fabrication and installation drawings.
d. Roughing-in and setting diagrams.
e. Wiring diagrams showing field-installed wiring, including power, signal, and control wiring.
f. Shopwork manufacturing instructions.
g. Templates and patterns.
h. Schedules.
i. Design calculations.
j. Compliance with specified standards.
k. Notation of coordination requirements.

l. Notation of as-built conditions.
m. Notation of dimensions established by field measurement.

2. Wiring Diagrams: Differentiate between manufacturer-installed and field-installed wiring.
3. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches but no larger than 30 by 40 inches.

D. Samples: Prepare physical units of materials or products and transmit via U.S. Postal Service or other carrier, including following:

1. Comply with requirements in Section 01 40 00 "Quality Requirements" for mockups if applicable.
2. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
3. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for Work, cured and finished in manner specified, and physically identical with product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to:

a. Partial sections of manufactured or fabricated components.
b. Small cuts or containers of materials.
c. Complete units of repetitively used materials.
d. Swatches showing color, texture, and pattern.
e. Color range sets.
f. Components used for independent testing and inspection.

4. Preparation: Mount, display, or package Samples in manner specified to facilitate review of qualities indicated. Prepare Samples to match COTR's sample where so indicated. Attach label on unexposed side that includes following:

a. Generic description of Sample.
b. Product name or name of manufacturer.
c. Sample source.

5. Additional Information: On attached separate sheet, prepared on Contractor's letterhead, provide following:

a. Size limitations.
b. Compliance with recognized standards.
c. Availability.
d. Compliance with governing regulations.
e. Statement of acceptable uses or statement indicating suitability of product specified for proposed use.
f. Delivery time.

6. Submit Samples for review of kind, color, pattern, and texture for final check of these characteristics with other elements and for comparison of these characteristics between final submittal and actual component as delivered and installed.

a. If variation in color, pattern, texture, or other characteristic is inherent in product represented by Sample, submit at least three sets of paired units that show approximate limits of variations.
b. Refer to individual Specification Sections for requirements for Samples that illustrate workmanship, fabrication techniques, details of assembly, connections, operation, and similar construction characteristics.

7. Number of Samples for Initial Selection: Submit two (2) full set of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. COTR will return submittal with options selected.
8. Number of Samples for Verification: Submit five (5) sets of Samples. COTR will retain three (3) Sample sets; remainder will be returned.

a. Submit single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.

9. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.

a. Samples that may be incorporated into Work are indicated in individual Specification Sections. Such Samples must be in undamaged condition at time of use.
b. Samples not incorporated into Work, or otherwise designated as District's property, are property of Contractor.

2.4 INFORMATIONAL SUBMITTALS

A. General: Prepare and submit Informational Submittals required by other Specification Sections. Copies will not be returned to Contractor unless resubmittal is required.

B. Certificates and Certifications: Provide notarized statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by officer or other individual authorized to sign documents on behalf of that entity.

C. Test and Inspection Reports: Comply with Section 01 40 00 "Quality Requirements."

D. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.

E. Product Certificates: Prepare written statements on manufacturer's letterhead certifying that product complies with requirements.

F. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements. Submit record of Welding Procedure Specification (WPS) and Procedure Qualification Record (PQR) on AWS forms. Include names of firms and personnel certified.

G. Installer Certificates: Prepare written statements on manufacturer's letterhead certifying that installer complies with requirements and, where required, is authorized for this specific Project.

H. Manufacturer Certificates: Prepare written statements on manufacturer's letterhead certifying that manufacturer complies with requirements. Include evidence of manufacturing experience where required.

I. Material Test Reports: Prepare reports written by qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements.

J. Preconstruction Test Reports: Prepare reports written by qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements.

K. Compatibility Test Reports: Prepare reports written by qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.

L. Field Test Reports: Prepare reports written by qualified testing agency, on testing agency's standard form, indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements.

M. Product Test Reports: Prepare written reports indicating current product produced by manufacturer complies with requirements. Base reports on evaluation of tests performed by manufacturer and witnessed by qualified testing agency, or on comprehensive tests performed by qualified testing agency.

N. Research/Evaluation Reports: Prepare written evidence, from model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include following information:

1. Name of evaluation organization.
2. Date of evaluation.
3. Time period when report is in effect.
4. Product and manufacturers' names.
5. Description of product.
6. Test procedures and results.
7. Limitations of use.

O. Maintenance Data: Prepare written and graphic instructions and procedures for operation and normal maintenance of products and equipment. Comply with Section 01 78 23 "Operation and Maintenance Data."

P. Design Data: Prepare written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of

assumptions and other performance and design criteria and summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.

Q. Manufacturer's Instructions: Prepare written or published information that documents manufacturer's recommendations, guidelines, and procedures for installing or operating product or equipment. Include name of product and name, address, and telephone number of manufacturer. Include following, as applicable:

1. Preparation of substrates.
2. Required substrate tolerances.
3. Sequence of installation or erection.
4. Required installation tolerances.
5. Required adjustments.
6. Recommendations for cleaning and protection.

R. Manufacturer's Field Reports: Prepare written information documenting factory-authorized service representative's tests and inspections. Include following, as applicable:

1. Name, address, and telephone number of factory-authorized service representative making report.
2. Statement on condition of substrates and their acceptability for installation of product.
3. Statement that products at Project site comply with requirements.
4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
5. Results of operational and other tests and statement of whether observed performance complies with requirements.
6. Statement whether conditions, products, and installation will affect warranty.
7. Other required items indicated in individual Specification Sections.

S. Insurance Certificates and Bonds: Prepare written information indicating current status of insurance or bonding coverage. Include name of entity covered by insurance or bond, limits of coverage, amounts of deductibles, if any, and term of coverage.

T. Photographic Documentation: Comply with Section 01 32 33 "Photographic Documents."

U. Material Safety Data Sheets: Retain one copy on-site in binder in a location for ready access.

2.5 DELEGATED-DESIGN SERVICES

A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.

1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.

B. Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit digitally signed PDF electronic file and three paper copies of certificate, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.

1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

C. BIM File Incorporation: Incorporate delegated-design drawing and data files into Building Information Model established for Project.

1. Prepare delegated-design drawings in the following format: Same digital data software program, version, and operating system as the original Drawings (Revit 202).

2.6 OTHER REQUIRED SUBMITTALS

A. When required by other local entities and authorities having jurisdiction, comply with requests for submittals in number and as format to the agencies. These submittals shall appear in the Submittal Schedule sent to COTR with notation of who will review.

PART 3 EXECUTION

3.1 CONTRACTOR'S REVIEW

A. Review each submittal and check for compliance with Contract Documents. Note corrections and field dimensions. Mark with review stamp before submitting to COTR.

B. Contractor’s Stamp: Stamp each submittal with uniform, review stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor’s review, stamp, and statement certifying that submittal has been reviewed, and checked for compliance with Contract Documents.

C. Contractor Signed Stamp: Indicates that Contractor has:

1. Verified field dimensions and quantities.
2. Verified field construction criteria, materials, catalog numbers and similar data.

3. Reviewed and coordinated submittal data with requirements of Work and Contract Documents.
4. Certifies that submittal complies with Contract Documents.

3.2 COTR'S ACTION

A. General: COTR will not review submittals that do not bear Contractor's review stamp and will return them without action.

B. Except for submittals for record or for information, where action and return of submittals is required, COTR will review each submittal, mark to indicate action taken, and return.

1. Compliance with specified characteristics is Contractor's responsibility and not considered part of COTR's review and indication of action taken.
2. Acceptance of submittals with deviations shall not relieve Contractor from responsibility for additional costs of changes required to accommodate such deviations. Deviations included in submittals without prior acceptance are excepted from review of submittals whether noted or not on returned copy.
3. Review of separate item shall not indicate acceptance of assembly of which item is part.
4. Make only those revisions required or accepted by COTR.
5. Notations by COTR which increase Contract Cost or Contract Time shall be brought to COTR’s attention, in writing, before proceeding with affected Work.
6. When professional certification of performance criteria of materials, systems or equipment is required by Contract Documents, COTR shall be entitled to rely upon accuracy and completeness of such calculations and certifications.

C. Action Submittals: COTR will review each submittal, make marks to indicate corrections or modifications required, and return submittal. COTR will stamp each submittal with action stamp and will mark stamp appropriately to indicate action taken, as follows:

1. Reviewed, No Exceptions: Means fabrication, manufacture, or construction may proceed providing submittal complies with Contract Documents.
2. Reviewed, Exceptions Noted, Resubmission Not Required: Means fabrication, manufacture, or construction may proceed providing submittal complies with COTR's notations and Contract Documents. If Contractor cannot comply with notations, make revisions and resubmit as described for submittals stamped Reviewed, Exceptions Noted, Resubmission Required.
3. Reviewed, Exceptions Noted, Resubmission Required: Means fabrication, manufacture, or construction may proceed, however; submittal did not fully demonstrate full extent of all conditions, details and coordination with other surrounding work and, therefore requires additional information, and rework as noted. Resubmit shop drawings for ’Reviewed, No Exceptions’ or ‘Reviewed, Exceptions Noted, Resubmission Required’. Do not fabricate, manufacture or construct specific areas requiring additional information prior to resubmittal.
4. Rejected, Resubmission Required: Means submittal does not comply with design intent of Contract Documents. Do not use submittals stamped Rejected, Resubmission Required. Make revisions and resubmit.

5. Other: Means documents have not been reviewed by COTR and submittal is returned to Contractor for several possible reasons, including, but not limited to following: submittal not requested, submittal not complete, submittal not coordinated, or submittal bears no resemblance to design intent.

D. Informational Submittals: COTR will review and return each submittal marked either "For Information Only" or indicating that submittal does not comply with requirements.

E. Submittals not required by Contract Documents will not be reviewed and may be discarded.

END OF SECTION 01 33 00

SEE CONDITIONS OF USE AGREEMENT FORM THAT FOLLOWS

ELECTRONIC DATA TRANSFER AGREEMENT

The CADD electronic files of the Contract Documents for the <**Insert Name of Project Here**> project, prepared for the District, a list of which is attached hereto (the "Files"), are being provided to <**Insert Name of Contractor Here**>as an accommodation to <**Insert Note Here:** i.e., assist in the limited production of partial details of Contract Documents -- or make the inspection on the project more convenient for client's personnel -- or facilitate contractor's preparation of shop drawings on the project - etc.>. It is acknowledged that only the Contract Documents should be relied on for accuracy. The Files are not warranted to be fit for the purpose or intended use, or to be complete, or free from defect. Due to the potential that the information set forth in the Files can be modified by subsequent users, unintentionally or otherwise, or altered by the computer system itself, all indications of [Architect/Engineer] (or its subconsultants) involvement have been removed from each electronic display. In consideration of the foregoing and by accepting the Files, <**Insert Name of Contractor Here**>agrees that:

1. It will not reenter in the Files, or any print made from the Files, any indication of the Files' source of origin;
2. It will be solely responsible for verification of the validity and correctness of the Files (i.e., to check the Files against the Contract Documents);
3. It releases the District from, and accepts responsibility for, any liability or damages arising in any manner from its use of the Files;
4. It acknowledges that the Files are owned by the District and/or the above stated client and that the Files, including any portion of the data contained therein, will not be used for any purpose other than stated above, and that it will not otherwise use the Files or data therein for its own profit; and

In consideration for the District's providing the Files, the foregoing premises and conditions are hereby acknowledged and accepted.

By: _____ Date: <**Insert Date Here**>

Printed Name: <**Insert Name Here**>

Title: <**Insert Title of Contractor Here**>

SECTION 01 35 00 – SPECIAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for maintaining safety and security at the Project Site. Comply with Safety Standards of the District of Columbia and the U.S. Occupational Safety and Health Act of 1970 and the D.C. Occupational Safety and Health Act of 1988, D.C. Official Code § 32-1101 et seq. and 1-620.01 et seq. In addition, Contractor is responsible for erosion and pollution conditions during construction and shall comply with the requirements of Health Regulations of the District of Columbia.

B. Contractor is responsible for the security of the Site from Notice to Proceed to Substantial Completion or issuance of Occupancy Permit.

1.3 SUBMITTALS

A. Safety Program: Provide Safety Program and Plan for approval by COTR prior to start of Work. Safety Program shall comply with requirements in Article 27 "Safety Program" of Standard Contract Provisions.

B. Erosion and Pollution Control Program and Plan.

C. Safety Officer: Provide name and qualifications for person who will be acting as Safety Officer for this Project.

D. Certificates: Provide training certificate for operators of explosive-actuated tools.

1.4 SECURITY PROCEDURES

A. The following security procedures shall be followed by Contractor, as a minimum.

1. Limit access to the Project to persons involved in the Work.
2. Provide secure storage of materials for which the District has made payment and which are stored on Site.
3. Secure completed Work prior to occupancy as required to prevent loss.
4. Secure and protect facilities and property of the District and Occupants in areas of the Work.

5. Furnish and install fence as specified in Section 01 50 00 "Temporary Facilities and Controls."
6. Provide On-Site Security.

1.5 SAFETY PROCEDURES

A. Take precautions to prevent fires and to facilitate fire-fighting operations, including, but not limited to the following:

1. Keep temporary and permanent fire fighting facilities readily accessible; keep fire fighting routes open.
2. Do not allow smoking in building or in areas where highly combustible or explosive materials are present.
3. Carefully supervise operations of potential fire sources, including heating units.
4. Conduct welding operations in manner to prevent fire; comply with local regulations.
5. Provide personnel for fire watch during welding operations.

B. Precautions to prevent accidents due to physical hazards, including, but not limited to the following:

1. Provide barricades, warning lights, or signs as required to inform personnel, building occupants and the public of the hazard being protected against.
2. Safety Barricades: Comply with regulations by authorities having jurisdiction.
3. Provide temporary walkways where walking surfaces are hazardous.
4. Notify the COTR before beginning Work that involves hazardous operations.

1.6 SITE SECURITY

A. It shall be the responsibility of the Contractor to secure the site from the period of Notice to Proceed to Substantial Completion or the issuance of the Occupancy permit. Shall include the Contractors assets and the District's assets. Contractor shall provide On-Site Security personnel.

B. Construction Fence: Enclose exterior portion of construction site, including staging areas, with a chain link fence in temporary setting of concrete masonry units as specified in Division 01 "Temporary Facilities and Controls" section. Provide in accordance with layout of construction limits shown on drawings. Maintain separate gates for personnel and vehicles. Provide locks for gates and hold under strict security control, locking gates at end of each working day.

C. The contractor shall be responsible to secure the building.

1.7 SITE SAFETY

A. Traffic Control: Posted speed limits and driving regulations will be strictly enforced by the District. The District reserves the right to take action deemed appropriate regarding violations including, but not limited to, refusal to permit violators to enter upon or remain on the premises.

1. Escort appropriately to and from the site all large crawler or mobile cranes operating on site and take all precautions necessary to prevent damage to District's property during operation both on and off site.

2. Obtain advance written authorization from authorities having jurisdiction for all road blocks, detours and other interruptions of normal traffic flow that may be needed to facilitate construction operations.

B. Adverse Weather Conditions: In the event of adverse weather conditions that may cause downed fences, flying debris, damage to the site or damage from the site to the public or public right of way, Contractor shall take immediate action to secure the site to prevent damage or injury to the public or damage to the site. Contractor shall notify the COTR as to the condition of the Site immediately after inspection.

C. Do not use tools or equipment which produces harmful levels of noise.

D. Keep the site and adjacent public ways free of hazardous and unsanitary conditions and public nuisances.

E. Control rodents and other pests; prevent infestation of adjacent sites and buildings due to pests on the Site.

F. Keep public right of way streets and sidewalks free of debris due to the Work. Public right of way, street, and sidewalk cleaning and debris removal shall be performed regularly and when requested by the COTR.

G. Provide adequate traffic control by means of signs, signals, and flagmen, as necessary.

H. Provide temporary means of draining roofs where required.

I. Conduct construction operations so that no part of the Work and no part of the existing construction is subjected to damaging operations or influences which are in excess of those to be expected during normal occupancy conditions.

J. Provide temporary supports as required to prevent movement and structural damage or failure.

1.8 FALL PROTECTION

A. Contractor shall provide fall protection in accordance with OSHA construction industry safety standards, 29 *Code of Federal Regulations, Subpart M, Fall Protection*, 1926.500, 1926.501, 1926.502, and 1926.503, including required systems and procedures designed to prevent employees from falling off, onto, or through working levels and to protect employees from being struck by falling objects. Contractor shall comply with the performance-oriented requirements to provide the necessary protection, including but not limited to:

1. Where protection is required, select fall protection systems appropriate for given situations.
2. Use proper construction and installation of safety systems.
3. Supervise employees properly.
4. Use safe work procedures.
5. Train workers in the proper selection, use, and maintenance of all protection systems.

1.9 SCAFFOLDING

A. Scaffolding shall be installed by experienced erectors and workers shall receive training for working on and around scaffolding.

B. Determine the safety of scaffolding upon erection and during use throughout construction.

1. Scaffold must be sound, rigid and sufficient to carry its own weight plus four times the maximum intended load without settling or displacement. It must be erected on solid footing.
2. Unstable objects, such as barrels, boxes, loose bricks or concrete blocks must not be used to support scaffolds or planks.
3. Scaffold must not be erected, moved, dismantled or altered except under the supervision of a competent person.
4. Scaffold must be equipped with guardrails, midrails and toeboards.
5. Scaffold accessories such as braces, brackets, trusses, screw legs or ladders that are damaged or weakened from any cause must be immediately repaired or replaced.
6. Scaffold platforms must be tightly planked with scaffold plank grade material or equivalent.
7. A "competent person" must inspect the scaffolding and, at designated intervals, reinspect it.
8. Rigging on suspension scaffolds must be inspected by a competent person before each shift and after any occurrence that could affect structural integrity to ensure that all connections are tight and that no damage to the rigging has occurred since its last use.
9. Synthetic and natural rope used in suspension scaffolding must be protected from heat-producing sources.
10. Employees must be instructed about the hazards of using diagonal braces as fall protection.
11. Scaffold can be accessed by using ladders and stairwells.
12. Scaffolds must be at least 10 feet from electric power lines at all times.

1.10 LADDERS

A. Use the correct ladder for the task.

B. Have a competent person visually inspect a ladder before use for any defects such as:

1. Structural damage, split/bent side rails, broken or missing rungs/steps/cleats and missing or damaged safety devices;
2. Grease, dirt or other contaminants that could cause slips or falls;
3. Paint or stickers (except warning labels) that could hide possible defects.

C. Make sure that ladders are long enough to safely reach the work area.

D. Mark or tag ("Do Not Use") damaged or defective ladders for repair or replacement, or destroy them immediately.

E. Never load ladders beyond the maximum intended load or beyond the manufacturer's rated capacity.

F. Be sure the load rating can support the weight of the user, including materials and tools.

G. Avoid using ladders with metallic components near electrical work and overhead power lines.

1.11 STAIRWAYS

A. Stairway treads and walkways must be free of dangerous objects, debris and materials.

B. Slippery conditions on stairways and walkways must be corrected immediately.

C. Make sure that treads cover the entire step and landing.

D. Stairways having four or more risers or rising more than 30 inches must have at least one handrail.

1.12 TRENCHING

A. Never enter an unprotected trench.

B. Always use a protective system for trenches feet deep or greater.

C. Employ a registered professional engineer to design a protective system for trenches 20 feet deep or greater.

D. Protective Systems:

1. Sloping to protect workers by cutting back the trench wall at an angle inclined away from the excavation not steeper than a height/depth ratio of 11 2 :1, according to the sloping requirements for the type of soil.

2. Shoring to protect workers by installing supports to prevent soil movement for trenches that do not exceed 20 feet in depth.
3. Shielding to protect workers by using trench boxes or other types of supports to prevent soil cave-ins.

E. Always provide a way to exit a trench--such as a ladder, stairway or ramp--no more than 25 feet of lateral travel for employees in the trench.

F. Keep spoils at least two feet back from the edge of a trench.

G. Make sure that trenches are inspected by a competent person prior to entry and after any hazard-increasing event such as a rainstorm, vibrations or excessive surcharge loads.

H. Provide maximum allowable slopes for excavations less than 20 ft. based on soil type and angle to the horizontal.

1.13 CRANES

A. Check all crane controls to insure proper operation before use.

B. Inspect wire rope, chains and hook for any damage.

C. Know the weight of the load that the crane is to lift.

D. Ensure that the load does not exceed the crane's rated capacity.

E. Raise the load a few inches to verify balance and the effectiveness of the brake system.

F. Check all rigging prior to use; do not wrap hoist ropes or chains around the load.

G. Fully extend outriggers.

H. Do not move a load over workers.

I. Barricade accessible areas within the crane's swing radius.

J. Watch for overhead electrical distribution and transmission lines and maintain a safe working clearance of at least 10 feet from energized electrical lines.

1.14 HAZARD COMMUNICATION

A. Failure to recognize the hazards associated with chemicals can cause chemical burns, respiratory problems, fires and explosions.

B. Maintain a Material Safety Data Sheet (MSDS) for each chemical in the facility.

1. Make this information accessible to employees at all times in a language or formats that are clearly understood by all affected personnel.
2. Train employees on how to read and use the MSDS.

3. Follow manufacturer's MSDS instructions for handling hazardous chemicals.

C. Train employees about the risks of each hazardous chemical being used.

D. Provide spill clean-up kits in areas where chemicals are stored.

E. Have a written spill control plan.

F. Train employees to clean up spills, protect themselves and properly dispose of used materials.

G. Provide proper personal protective equipment and enforce its use.

H. Store chemicals safely and securely.

1.15 EROSION AND POLLUTION CONTROL

A. The Contractor shall take such measures, as determined to be adequate in the opinion of the COTR, which will prevent soil erosion from the site in question.

B. The Contractor shall conduct all operations in such a manner as to prevent when possible and otherwise minimize the contamination of watercourses by sediment bearing materials or other pollutants.

C. The Contractor shall maintain effective erosion control for the duration of suspension of all or a portion of the construction operation

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 35 00

SECTION 01 40 00 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and General Conditions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Administrative and procedural requirements for quality assurance and quality control.

B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with Contract Document requirements.

1. Specific quality-control requirements for individual construction activities are specified in Sections that specify those activities. Requirements of this Section relate to customized fabrication and installation procedures specified in those Sections. Requirements in those Sections may also cover production of standard products.
2. Specified tests, inspections, and related actions do not limit Contractor's quality-control procedures that facilitate compliance with Contract Document requirements.
3. Requirements for Contractor to provide quality-control services required by, Contracting Officer’s Technical Representative (COTR), or authorities having jurisdiction are not limited by provisions of this Section.

1.3 DEFINITIONS

A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of Work to guard against defects and deficiencies and ensure that proposed construction complies with requirements.

B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of Work to evaluate that completed construction complies with requirements. Services do not include contract enforcement activities performed by District.

C. Mockups: Full-size, physical example assemblies to illustrate finishes and materials. Mockups are used to verify selections made under Sample submittals, to demonstrate aesthetic effects and, where indicated, qualities of materials and execution, and to review construction, coordination, testing, or operation; they are not Samples. Mockups establish standard by which Work will be judged.

D. Testing Agency: Entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean same as testing agency.

1.4 DELEGATED DESIGN

A. Performance and Design Criteria: Where professional design services or certifications by design professional are specifically required of Contractor by Contract Documents, provide products and systems complying with specific performance and design criteria indicated.

1. If criteria indicated are not sufficient to perform services or certification required, submit written request for additional information to COTR.

1.5 CONFLICTING REQUIREMENTS

A. General: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirements. Refer uncertainties and requirements that are different, but approved equal, to A/E for a decision before proceeding.

B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these, indicated numeric values are minimum or maximum, as appropriate, for the context of the requirements. Refer uncertainties to A/E for a decision before proceeding.

C. Anything shown on the drawings and not mentioned in the specifications, or mentioned in the Specifications and not shown on the drawings, shall have the same effect as if shown or mentioned in both. In case of conflict or inconsistency between the Drawings and the Specifications, the Contractor shall assume the more stringent interpretation, and submit the matter writing to the A/E for a determination. Any adjustment by the Contractor without such determination shall be at its own risk and expense.

1.6 SUBMITTALS

A. Qualification Data: For testing agencies specified in “Quality Assurance” Article to demonstrate their capabilities and experience. Include proof of qualifications in form of recent report on inspection of testing agency by recognized authority.

B. Contractor's Quality-Control Plan: For quality-assurance and quality-control activities and responsibilities.

C. Delegated-Design Submittal: In addition to Shop Drawings, Product Data, and other required submittals, submit statement, signed and sealed by responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by design professional, indicating that products and systems are in compliance with performance and design criteria indicated. Include list of codes, loads, and other factors used in performing these services.

D. Schedule of Tests and Inspections: Prepare in tabular form and include the following:

1. Specification Section number and title.

2. Description of test and inspection.
3. Identification of applicable standards.
4. Identification of test and inspection methods.
5. Number of tests and inspections required.
6. Time schedule or time span for tests and inspections.
7. Entity responsible for performing tests and inspections.
8. Requirements for obtaining samples.
9. Unique characteristics of each quality-control service.

E. Reports:

1. Unless Contractor is responsible for this service, independent testing agency shall submit certified written report of each inspection, test, or similar service, in duplicate to COTR.
2. If Contractor is responsible for service, submit certified written report of each inspection, test, or similar service in duplicate to COTR.

    a. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.

3. Reports: Include following:

    a. Date of issue.
    b. Project title and number.
    c. Name, address, and telephone number of testing agency.
    d. Dates and locations of samples and tests or inspections.
    e. Names of individuals making tests and inspections.
    f. Description of Work and test and inspection method.
    g. Identification of product and Specification Section.
    h. Complete test or inspection data.
    i. Test and inspection results and interpretation of test results.
    j. Ambient conditions at time of sample taking and testing and inspecting.
    k. Comments or professional opinion on whether tested or inspected Work complies with Contract Document requirements.
    l. Name and signature of laboratory inspector.
    m. Recommendations on retesting and reinspecting.

F. Permits, Licenses, and Certificates: For District's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of Work to COTR.

1.7 QUALITY ASSURANCE

A. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

B. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

C. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.

D. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance.

E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar to those indicated for this Project in material, design, and extent.

F. Specialists: Certain sections of Specifications may require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists: Satisfy qualification requirements indicated and engaged for activities indicated.

1. Requirement for Specialists: Not supersede building codes and similar regulations governing Work, nor interfere with local trade-union jurisdictional settlements and similar conventions.

G. Testing Agency Qualifications: Agency with experience and capability to conduct testing and inspecting indicated, as documented by ASTM E 548, and that specializes in types of tests and inspections to be performed.

1. The testing agency’s facilities and procedures shall be prequalified as being accredited by the National Institute of Standards and Technology (NIST) and Washington Area Council of Engineering Laboratories (WACEL) and which specialize in the types of inspections and tests to be performed.
2. The testing agency shall be authorized by the authorities having jurisdiction to perform testing and inspection services in the District of Columbia.
3. The testing agency shall employ individuals who will be performing the inspections and testing who are certified by the following organizations for the material testing categories listed.

    a. ACI (American Concrete Institute): Concrete and laboratory.
    b. NICET (National Institute for Certification in Engineering Technology): Soils and concrete.
    c. ASNT (American Society for Nondestructive Testing): Metal fabrications and architectural precast concrete connections.
    d. AWS (American Welding Society): Metal fabrications and architectural precast concrete connections.
    e. WACEL (Washington Area Council of Engineering Laboratories): Metal fabrications and architectural precast concrete connections, concrete, soils.

H. Preconstruction Testing: Where required by other Sections, testing agency shall perform preconstruction testing for compliance with specified requirements for performance and test methods.

1. Contractor Responsibilities: Include following:

   a. Provide test specimens and assemblies representative of proposed materials and construction. Provide sizes and configurations of assemblies to adequately demonstrate capability of product to comply with performance requirements.
   b. Submit specimens in timely manner with sufficient time for testing and analyzing results to prevent delaying Work.
   c. Fabricate and install test assemblies using installers who will perform same tasks for Project.
   d. When testing is complete, remove assemblies; do not reuse materials on Project.

2. Testing Agency Responsibilities: Submit two copies of certified written report of each test, inspection, and similar quality-assurance service to COTR, with additional copy to Contractor. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from Contract Documents.

I. Mockups: Before installing portions of Work requiring mockups, build mockups for each form of construction and finish required to comply with following requirements using materials indicated for completed Work. Refer to other Sections and the Drawings for complete Mock-up requirements; do not start Work until the mock-up has been approved in writing by COTR.

1. District: May require mock-ups of any element or assembly of Work that occurs 12 or more times including work of all specification sections including plumbing, mechanical, and electrical.
2. Build mockups in location and of size indicated or, if not indicated, as directed by COTR.
3. Notify COTR seven days in advance of dates and times when mockups will be constructed.
4. Demonstrate proposed range of aesthetic effects and workmanship.
5. Obtain COTR's approval of mockups before starting work, fabrication, or construction.
6. Maintain mockups during construction in undisturbed condition as standard for judging completed Work.
7. Final Disposition of Mockups: As specified in individual specification Sections.

J. District of Columbia Special Inspections: All testing and inspections required by the District of Columbia Special Inspections requirements as described in the publication, "District of Columbia Building Code Supplement" will be performed by the Owner's independent testing agency.

K. Exterior Wall Testing and Inspection Program – On Site:

1. The Owner will engage an Independent Testing and Inspection Agency(ies) and Laboratory(ies) to conduct a random field testing and inspection program during the exterior wall erection to check for conformance with the drawings, specifications, and adherence to accepted shop drawings. The testing and inspection shall include:

   a. Review of all field welder certifications and independently recertify, if required.

b. Detailed review of all field welding procedures for compliance with AWS Specifications as well as good engineering practices.
c. Weld Testing:

1) All welds to hot rolled steel shapes shall be visually inspected. 25% at random shall be measured and documented. 5% shall be tested.
2) Non-destructive testing of wall supports and anchor welds, utilize one of the following test methods which best suits the type of welds to be tested.

a) Liquid penetrant test. ASTM E165
b) Magnetic particle test. ASTM E709

d. All bolted connections shall be visually inspected. Twenty-five (25) percent at random shall be checked by a calibrated torque wrench and documented.

2. The Contractor shall engage an Independent Testing and Inspection Agency(cies) and laboratory(ies) to conduct a random field testing and inspection program during the exterior wall erection to check for conformance with the drawings, specifications and adherence to accepted shop drawings. The testing and inspection shall include:

a. All screwed connections shall be visually inspected for size, type, spacing and depth of penetration.
b. Paint Testing: Perform and document tests to determine the total dry film thickness of coating applied to all painted ferrous metal support and anchorage members. Prior to be covered up by other components test units at random throughout construction. Check for touchup of defects such as holidays.
c. Inspection Compliance: Verification and documentation for the compliance of; or the deficiencies with the following:

1) Building Superstructure: Examination surveys of the superstructure substrates and supports to receive the exterior wall work and applicable corrective work performed, if any. Verification that the supporting structure is properly aligned and within the designed tolerances and without missing or mislocated inserts. Make examination surveys of actual column locations immediately upon completion of every lift of steel, and concrete, and submit same to A/E. Should column locations vary beyond the allowable tolerances, take necessary corrective measures prior to proceeding to next lift and modify details and/or procedure as required.
2) Framing Components: Verification that the framing components are properly sized and aligned, are without missing or mislocated anchoring provisions and are without structural defects. Verification that all primed and painted components are provided with the specified materials. Inspect for touchup of final finish and touchup of defects such as holidays.
3) Connections and Anchors: Verification that all anchors are properly placed, welded, screwed or bolted. Verification that correct anchoring and/or materials are used in lieu of others where there are field changes. Inspection of welding and bolting where connections are stressed 50% or more of allowable values. Verification of the calibration of wrenches, review of bolting procedures and

inspection of joint surfaces prior to bolting for all bolted connections related to the exterior wall.

4) Exterior Wall Insulation: Verification that insulation is continuous and properly sealed at joints and penetrations to maintain the continuity of the vapor barrier.
5) Observation Compliance of Exterior Wall Testing Program: Observation, of field testing of exterior wall assemblies, for the required tests as specified under Division 8 Sections “Aluminum Windows” and “Glazed Aluminum Curtain Walls”.

1.8 CONTRACTOR'S QUALITY-CONTROL PLAN

A. Quality-Control Plan, General: Submit quality-control plan within 10 days of Notice to Proceed, and not less than five days prior to preconstruction conference. Submit in format acceptable to Architect. Identify personnel, procedures, controls, instructions, tests, records, and forms to be used to carry out Contractor's quality-assurance and quality-control responsibilities. Coordinate with Contractor's construction schedule.

B. Quality-Control Personnel Qualifications: Engage qualified full-time personnel trained and experienced in managing and executing quality-assurance and quality-control procedures similar in nature and extent to those required for Project.

1. Project quality-control manager [may also serve as Project superintendent] [shall not have other Project responsibilities].
2. <Insert qualifications appropriate to Project>.

C. Submittal Procedure: Describe procedures for ensuring compliance with requirements through review and management of submittal process. Indicate qualifications of personnel responsible for submittal review.

D. Testing and Inspection: In quality-control plan, include a comprehensive schedule of Work requiring testing or inspection, including the following:

1. Contractor-performed tests and inspections including subcontractor-performed tests and inspections. Include required tests and inspections and Contractor-elected tests and inspections.
2. Special inspections required by authorities having jurisdiction and indicated on the "Statement of Special Inspections."
3. Owner-performed tests and inspections indicated in the Contract Documents[**, including tests and inspections indicated to be performed by the Commissioning Authority**].

E. Continuous Inspection of Workmanship: Describe process for continuous inspection during construction to identify and correct deficiencies in workmanship in addition to testing and inspection specified. Indicate types of corrective actions to be required to bring work into compliance with standards of workmanship established by Contract requirements and approved mockups.

F. Monitoring and Documentation: Maintain testing and inspection reports including log of approved and rejected results. Include work Architect has indicated as nonconforming or defective. Indicate

corrective actions taken to bring nonconforming work into compliance with requirements. Comply with requirements of authorities having jurisdiction.

1.9 QUALITY CONTROL

A. District Responsibilities: Where quality-control services are indicated as District's responsibility, District will engage qualified testing agency to perform these services.

1. District: Contract directly for soil and concrete testing . District may elect to engage agencies for other special tests on as needed basis.
2. District: Furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and description of types of testing and inspecting they are engaged to perform.
3. Payment for code required testing services will be made to testing and inspecting agency directly by District. Payment for other testing will be made to testing and inspecting agency directly by Contractor.
4. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with Contract Documents will be charged to Contractor, and Contract Sum will be adjusted by Change Order.

B. Contractor Responsibilities: Unless otherwise indicated, provide quality-control services specified and required by authorities having jurisdiction.

1. Engage qualified testing agency to perform quality-control services.

    a. Contractor: Not employ same entity engaged by District, unless agreed to in writing by District.

2. Notify testing agencies at least 72 hours in advance of time when Work that requires testing or inspecting will be performed.
3. Testing and inspecting requested by Contractor and not required by Contract Documents are Contractor's responsibility.

C. Special Tests and Inspections: District will engage testing agency to conduct special tests and inspections required by authorities having jurisdiction as responsibility of District.

1. Testing Agency: Notify COTR and Contractor promptly of irregularities and deficiencies observed in Work during performance of its services.
2. Testing Agency: Submit copy of certified written report of each test, inspection, and similar quality-control service to COTR, with additional copies to Contractor and to authorities having jurisdiction.
3. Testing Agency: Submit final report of special tests and inspections at Completion, which includes list of unresolved deficiencies.
4. Testing Agency: Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from Contract Documents.
5. Testing Agency: Retest and reinspect corrected work.

D. Manufacturer's Field Services: Where indicated, engage factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing.

E. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that revised or replaced Work that failed to comply with requirements established by Contract Documents.

F. Testing Agency Responsibilities: Cooperate with COTR and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.

1. Notify COTR and Contractor promptly of irregularities or deficiencies observed in Work during performance of its services.
2. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
3. Submit copy of certified written report of each test, inspection, and similar quality-control service to COTR and additional copy to Contractor.
4. Do not release, revoke, alter, or increase requirements of Contract Documents or approve or accept any portion of Work.
5. Do not perform any duties of Contractor.

G. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Auxiliary services required include, but are not limited to:

1. Access to Work.
2. Incidental labor and facilities necessary to facilitate tests and inspections.
3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency or District in obtaining samples.
4. Facilities for storage and field-curing of test samples.
5. Where required by testing agencies, delivery of samples to testing agencies.
6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
7. Security and protection for samples and for testing and inspecting equipment at Project site.

H. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and quality-control services with minimum delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.

1. Schedule times for tests, inspections, obtaining samples, and similar activities.

I. Schedule of Tests and Inspections: Prepare a schedule of tests, inspections, and similar quality-control services required by the Contract Documents. Submit schedule within 30 days of date established for commencement of the Work.

1. Distribution: Distribute schedule to Owner, Architect, testing agencies, and each party involved in performance of portions of the Work where tests and inspections are required.

1.10 MECHANICAL AND ELECTRIAL COORDINATION

A. Contractor shall provide a staff member or members as necessary who have the responsibility to perform mechanical and electrical coordination.

1. Qualifications: Experienced in coordination of mechanical and electrical work on projects of similar type and scale, including administration and supervision. Personnel shall be approved by the COTR.

B. Coordinate all HVAC, plumbing, fire protection, electrical, and site utility work, and coordinate that Work with the other work on the Site.

1. Where space is limited, coordinate arrangement of mechanical, electrical, and other work to fit.
2. Coordinate cutting and patching activities and sequencing.
3. Coordinate use of temporary facilities.

C. Prepare coordination drawings where required and where indicated.

D. Prepare and maintain a separate schedule of activities which relate to the Work; include:

1. Submittals.
2. Temporary utilities.
3. Commissioning

E. Participate in progress meetings. Report progress, changes required in schedules, and unresolved problems.

F. Review submittals for compliance with the Contract Documents, and for coordination with other Work including but not limited to:

1. Check field dimensions, clearances, relationships to available space, and anchors.
2. Check compatibility with equipment, other Work, electrical characteristics, and operational control requirements.
3. Check motor voltages and control characteristics.
4. Coordinate controls, interlocks, wiring of switches, and relays.
5. Coordinate wiring and control diagrams.
6. Review the effect of changes on other Work.

G. Obtain and distribute installation requirements for each item of equipment requiring mechanical or electrical connections; include:

1. Electrical power characteristics.
2. Control wiring requirements.

H. Observe and maintain records of tests and inspections.

I. Observe Work for compliance with Contract Documents and Commissioning Plan and notify the applicable Contractor or Subcontractor in writing of deficiencies in the Work.

J. Coordinate and observe start-up, demonstration, and functional testing of equipment and systems.

K. Coordinate maintenance of Record Documents.

L. Assist the Commissioning Representative and COTR with final inspections.

1.11 BIM COORDINATION

A. Refer to Section 01 31 10 "Coordination Drawings Using BIM" for quality control requirements and checks.

PART 1 PRODUCTS (Not Used)

PART 2 EXECUTION

3.1 INSTALLATION STANDARDS

A. Compliance: Install manufactured items in accordance with manufacturer's written instructions.

B. Inconsistencies: Contractor shall refer inconsistencies between the manufacturer's instructions and the Drawings and Specifications to the COTR for resolution.

C. Contractor shall require the Installer of each major component to inspect both the substrate and conditions under which Work is to be performed. Contractor shall not proceed until unsatisfactory conditions have been corrected in a manner acceptable to the manufacturer and the installer.

D. Contractor shall inspect materials or equipment immediately upon delivery and again prior to installation to be certain the items are not damaged or defective.

E. Contractor shall provide attachment and connection devices and use methods necessary for securing Work true to line and level. Contractor shall allow for expansion and building movement.

F. Contractor shall provide uniform joint widths in exposed Work. Contractor shall arrange joints in exposed Work to obtain the best visual effect as determined by the COTR. All anchorage devices and materials shall be fully concealed in the work unless otherwise approved by the COTR.

G. Contractor shall recheck measurements and dimensions before starting each installation.

H. Contractor shall install each component during weather conditions and Project status that shall ensure the best possible results. Contractor shall insulate each part of the completed construction from incompatible material as necessary to prevent deterioration.

I. Contractor shall coordinate temporary enclosures with required inspections and tests to minimize the necessity of uncovering completed construction for that purpose.

J. Contractor shall where mounting heights are not indicated, install individual components at standard mounting heights recognized within the industry for the particular application indicated.

3.2 REPAIR AND PROTECTION

A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.

1. Provide materials and comply with installation requirements specified in other Sections of these Specifications. Restore patched areas and extend restoration into adjoining areas in manner that eliminates evidence of patching.
2. Cutting and Patching: Comply with Section 01 73 00 "Execution."

B. Protect construction exposed by or for quality-control service activities.

C. Repair and protection are Contractor's responsibility, regardless of assignment of responsibility for quality-control services.

END OF SECTION 01 40 00

SECTION 01 42 00 - REFERENCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 DEFINITIONS

A. General: Basic Contract definitions are included in the Conditions of the Contract.

B. "Approved": When used to convey Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.

C. "Directed": A command or instruction by Architect. Other terms including "requested," "authorized," "selected," "required," and "permitted" have the same meaning as "directed."

D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."

E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.

F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.

G. "Install": Operations at Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.

H. "Provide": Furnish and install, complete and ready for the intended use.

I. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

1.3 INDUSTRY STANDARDS

A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if

bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.

B. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.

C. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.

1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.

1.4 ABBREVIATIONS AND ACRONYMS

A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Thomson Gale's "Encyclopedia of Associations" or in Columbia Books' "National Trade & Professional Associations of the U.S."

B. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

AA	Aluminum Association (The) www.aluminum.org	(703) 358-2960
AABC	Associated Air Balance Council www.aabchq.com	(202) 737-0202
AAMA	American Architectural Manufacturers Association www.aamanet.org	(847) 303-5664
AASHTO	American Association of State Highway and Transportation Officials www.transportation.org	(202) 624-5800
AATCC	American Association of Textile Chemists and Colorists www.aatcc.org	(919) 549-8141
ABAA	Air Barrier Association of America www.airbarrier.org	(866) 956-5888
ABMA	American Bearing Manufacturers Association www.abma-dc.org	(202) 367-1155
ACI	American Concrete Institute www.concrete.org	(248) 848-3700

ACPA	American Concrete Pipe Association www.concrete-pipe.org	(972) 506-7216
AEIC	Association of Edison Illuminating Companies, Inc. (The) www.aeic.org	(205) 257-2530
AF&PA	American Forest & Paper Association www.afandpa.org	(800) 878-8878 (202) 463-2700
AGA	American Gas Association www.aga.org	(202) 824-7000
AHAM	Association of Home Appliance Manufacturers www.aham.org	(202) 872-5955
AHRI	Air-Conditioning, Heating, andRefrigeration Institute, The www.ahrinet.org	(703) 524-8800
AI	Asphalt Institute www.asphaltinstitute.org	(859) 288-4960
AIA	American Institute of Architects (The) www.aia.org	(800) 242-3837 (202) 626-7300
AISC	American Institute of Steel Construction www.aisc.org	(800) 644-2400 (312) 670-2400
AISI	American Iron and Steel Institute www.steel.org	(202) 452-7100
AITC	American Institute of Timber Construction www.aitc-glulam.org	(303) 792-9559
ALSC	American Lumber Standard Committee, Incorporated www.alsc.org	(301) 972-1700
AMCA	Air Movement and Control Association International, Inc. www.amca.org	(847) 394-0150
ANSI	American National Standards Institute www.ansi.org	(202) 293-8020
AOSA	Association of Official Seed Analysts, Inc. www.aosaseed.com	(405) 780-7372
APA	APA - The Engineered Wood Association www.apawood.org	(253) 565-6600
APA	Architectural Precast Association	(239) 454-6989

	www.archprecast.org	
API	American Petroleum Institute www.api.org	(202) 682-8000
ARI	Air-Conditioning & Refrigeration Institute www.ari.org	(703) 524-8800
ARMA	Asphalt Roofing Manufacturers Association www.asphaltroofing.org	(202) 207-0917
ASCE	American Society of Civil Engineers www.asce.org	(800) 548-2723 (703) 295-6300
ASCE/SEI	American Society of Civil Engineers/Structural Engineering Institute (See ASCE)	
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers	(800) 527-4723
	www.ashrae.org	(404) 636-8400
ASME	ASME International (American Society of Mechanical Engineers International) www.asme.org	(800) 843-2763 (973) 882-1170
ASSE	American Society of Sanitary Engineering www.asse-plumbing.org	(440) 835-3040
ASTM	ASTM International (American Society for Testing and Materials International) www.astm.org	(610) 832-9500
ATIS	Alliance for Telecommunications Industry Solutions www.atis.org	(202) 628-6380
AWCMA	American Window Covering Manufacturers Association (Now WCMA)	
AWCI	Association of the Wall and Ceiling Industry www.awci.org	(703) 534-8300
AWI	Architectural Woodwork Institute www.awinet.org	(571) 323-3636
AWPA	American Wood Protection Association (Formerly: American Wood Preservers' Association) www.awpa.com	(205) 733-4077
AWS	American Welding Society	(800) 443-9353

	www.aws.org	(305) 443-9353
AWWA	American Water Works Association www.awwa.org	(800) 926-7337 (303) 794-7711
BHMA	Builders Hardware Manufacturers Association www.buildershardware.com	(212) 297-2122
BIA	Brick Industry Association (The) www.bia.org	(703) 620-0010
BICSI	BICSI, Inc. www.bicsi.org	(800) 242-7405 (813) 979-1991
BIFMA	BIFMA International (Business and Institutional Furniture Manufacturer's Association International) www.bifma.com	(616) 285-3963
BISSC	Baking Industry Sanitation Standards Committee www.bissc.org	(866) 342-4772
CCC	Carpet Cushion Council www.carpetcushion.org	(610) 527-3880
CDA	Copper Development Association www.copper.org	(800) 232-3282 (212) 251-7200
CEA	Canadian Electricity Association www.canelect.ca	(613) 230-9263
CEA	Consumer Electronics Association www.ce.org	(866) 858-1555 (703) 907-7600
CFFA	Chemical Fabrics & Film Association, Inc. www.chemicalfabricsandfilm.com	(216) 241-7333
CGA	Compressed Gas Association www.cganet.com	(703) 788-2700
CIMA	Cellulose Insulation Manufacturers Association www.cellulose.org	(888) 881-2462 (937) 222-2462
CISCA	Ceilings & Interior Systems Construction Association www.cisca.org	(630) 584-1919
CISPI	Cast Iron Soil Pipe Institute www.cispi.org	(423) 892-0137
CLFMI	Chain Link Fence Manufacturers Institute	(301) 596-2583

	www.chainlinkinfo.org	
CPA	Composite Panel Association www.pbmdf.com	 (703) 724-1128
CRI	Carpet and Rug Institute (The) www.carpet-rug.com	(800) 882-8846 (706) 278-3176
CRRC	Cool Roof Rating Council www.coolroofs.org	(866) 465-2523 (510) 485-7175
CRSI	Concrete Reinforcing Steel Institute www.crsi.org	(847) 517-1200 (800) 328-6306
CRRC	Cool Roof Rating Council www.coolroofs.org	(866) 465-2523 (510) 485-7175
CSA	Canadian Standards Association www.csa.ca	(800) 463-6727 (416) 747-4000
CSA	CSA International (Formerly: IAS - International Approval Services) www.csa-international.org	(866) 797-4272 (416) 747-4000
CSI	Construction Specifications Institute (The) www.csinet.org	(800) 689-2900 (703) 684-0300
CSSB	Cedar Shake & Shingle Bureau www.cedarbureau.org	(604) 820-7700
CTI	Cooling Technology Institute (Formerly: Cooling Tower Institute) www.cti.org	(281) 583-4087
DHI	Door and Hardware Institute www.dhi.org	(703) 222-2010
ECA	Electrical Components Association www.ec-central.org	(703)907-8024
EIA	Electronic Industries Alliance www.eia.org	(703) 907-7500
EIMA	EIFS Industry Members Association www.eima.com	(800) 294-3462 (770) 968-7945
EJCDC	Engineers Joint Contract Documents Committee http://content.asce.org/ejcdc/	(703) 295-6000
EJMA	Expansion Joint Manufacturers Association, Inc.	(914) 332-0040

	www.ejma.org	
ESD	ESD Association (Electrostatic Discharge Association) www.esda.org	(315) 339-6937
ETL SEMCO	Intertek ETL SEMCO (Formerly: ITS - Intertek Testing Service NA) www.intertek-etlsemko.com	(800) 967-5352
FIBA	Federation Internationale de Basketball (The International Basketball Federation) www.fiba.com	41 22 545 00 00
FIVB	Federation Internationale de Volleyball (The International Volleyball Federation) www.fivb.ch	41 21 345 35 35
FM Approvals	FM Approvals LLC www.fmglobal.com	(781) 762-4300
FM Global	FM Global (Formerly: FMG - FM Global) www.fmglobal.com	(401) 275-3000
FRSA	Florida Roofing, Sheet Metal & Air Conditioning Contractors Association, Inc. www.floridaroof.com	(407) 671-3772
FSA	Fluid Sealing Association www.fluidsealing.com	(610) 971-4850
FSC	Forest Stewardship Council www.fsc.org	49 228 367 66 0
GA	Gypsum Association www.gypsum.org	(301) 277-8686
GANA	Glass Association of North America www.glasswebsite.com	(785) 271-0208
GRI	(Part of GSI)	
GS	Green Seal www.greenseal.org	(202) 872-6400
GSI	Geosynthetic Institute www.geosynthetic-institute.org	(610) 522-8440
HI	Hydronics Institute	(908) 464-8200

	www.gamanet.org	
HI/GAMA	Hydronics Institute/Gas Appliance Manufacturers Association Division of Air-Conditioning, Heating, and Refrigeration Institute (AHRI)	(908) 464-8200
	www.ahrinet.org	
HMMA	Hollow Metal Manufacturers Association (Part of NAAMM)	
HPVA	Hardwood Plywood & Veneer Association www.hpva.org	(703) 435-2900
HPW	H. P. White Laboratory, Inc. www.hpwhite.com	(410) 838-6550
IAPSC	International Association of Professional Security Consultants www.iapsc.org	(515) 282-8192
ICBO	International Conference of Building Officials www.iccsafe.org	(888) 422-7233
ICEA	Insulated Cable Engineers Association, Inc. www.icea.net	(770) 830-0369
ICRI	International Concrete Repair Institute, Inc. www.icri.org	(847) 827-0830
ICPA	International Cast Polymer Association www.icpa-hq.org	(703) 525-0320
IEC	International Electrotechnical Commission www.iec.ch	41 22 919 02 11
IEEE	Institute of Electrical and Electronics Engineers, Inc. (The) www.ieee.org	(212) 419-7900
IES	Illuminating Engineering Society of North America www.iesna.org	(703) 525-0320
IEST	Institute of Environmental Sciences and Technology www.iest.org	(847) 255-1561
IGMA	Insulating Glass Manufacturers Alliance www.igmaonline.org	(613) 233-1510
ILI	Indiana Limestone Institute of America, Inc. www.iliai.com	(812) 275-4426

ISA	Instrumentation, Systems, and Automation Society, The www.isa.org	(919) 549-8411
ISO	International Organization for Standardization www.iso.ch	41 22 749 01 11
ISSFA	International Solid Surface Fabricators Association www.issfa.net	(877) 464-7732 (801) 341-7360
ITS	Intertek Testing Service NA (Now ETL SEMCO)	
ITU	International Telecommunication Union www.itu.int/home	41 22 730 51 11
KCMA	Kitchen Cabinet Manufacturers Association www.kcma.org	(703) 264-1690
LGSEA	Light Gauge Steel Engineers Association www.arcat.com	(202) 263-4488
LMA	Laminating Materials Association (Now part of CPA)	
LPI	Lightning Protection Institute www.lightning.org	(800) 488-6864
MBMA	Metal Building Manufacturers Association www.mbma.com	(216) 241-7333
MCA	Metal Construction Association www.metalconstruction.org	(847) 375-4718
MFMA	Maple Flooring Manufacturers Association, Inc. www.maplefloor.org	(888) 480-9138
MFMA	Metal Framing Manufacturers Association, Inc. www.metalframingmfg.org	(312) 644-6610
MH	Material Handling (Now MHIA)	
MHIA	Material Handling Industry of America www.mhia.org	(800) 345-1815 (704) 676-1190
MIA	Marble Institute of America www.marble-institute.com	(440) 250-9222
MPI	Master Painters Institute www.paintinfo.com	(888) 674-8937 (604) 298-7578

MSS	Manufacturers Standardization Society of The Valve and Fittings Industry Inc. www.mss-hq.com	(703) 281-6613
NAAMM	National Association of Architectural Metal Manufacturers www.naamm.org	(630) 942-6591
NACE	NACE International (National Association of Corrosion Engineers International) www.nace.org	(800) 797-6223 (281) 228-6200
NADCA	National Air Duct Cleaners Association www.nadca.com	(202) 737-2926
NAGWS	National Association for Girls and Women in Sport www.aahperd.org/nagws/	(800) 213-7193, ext. 453
NAIMA	North American Insulation Manufacturers Association www.naima.org	(703) 684-0084
NBGQA	National Building Granite Quarries Association, Inc. www.nbgqa.com	(800) 557-2848
NCAA	National Collegiate Athletic Association (The) www.ncaa.org	(317) 917-6222
NCMA	National Concrete Masonry Association www.ncma.org	(703) 713-1900
NCTA	National Cable & Telecommunications Association www.ncta.com	(202) 222-2300
NEBB	National Environmental Balancing Bureau www.nebb.org	(301) 977-3698
NECA	National Electrical Contractors Association www.necanet.org	(301) 657-3110
NeLMA	Northeastern Lumber Manufacturers' Association www.nelma.org	(207) 829-6901
NEMA	National Electrical Manufacturers Association www.nema.org	(703) 841-3200
NETA	InterNational Electrical Testing Association www.netaworld.org	(888) 300-6382 (269) 488-6382
NFHS	National Federation of State High School Associations	(317) 972-6900

	www.nfhs.org	
NFPA	NFPA (National Fire Protection Association) www.nfpa.org	(800) 344-3555 (617) 770-3000
NFRC	National Fenestration Rating Council www.nfrc.org	(301) 589-1776
NGA	National Glass Association www.glass.org	(866) 342-5642 (703) 442-4890
NHLA	National Hardwood Lumber Association www.natlhardwood.org	(800) 933-0318 (901) 377-1818
NLGA	National Lumber Grades Authority www.nlga.org	(604) 524-2393
NOFMA	NOFMA: The Wood Flooring Manufacturers Association (Formerly: National Oak Flooring Manufacturers Association) www.nofma.org	(901) 526-5016
NOMMA	National Ornamental & Miscellaneous Metals Association www.nomma.org	(888) 516-8585
NRCA	National Roofing Contractors Association www.nrca.net	(800) 323-9545 (847) 299-9070
NRMCA	National Ready Mixed Concrete Association www.nrmca.org	(888) 846-7622 (301) 587-1400
NSF	NSF International (National Sanitation Foundation International) www.nsf.org	(800) 673-6275 (734) 769-8010
NSSGA	National Stone, Sand & Gravel Association www.nssga.org	(800) 342-1415 (703) 525-8788
NTMA	National Terrazzo & Mosaic Association, Inc. (The) www.ntma.com	(800) 323-9736 (540) 751-0930
NWFA	National Wood Flooring Association www.nwfa.org	(800) 422-4556 (636) 519-9663
PCI	Precast/Prestressed Concrete Institute www.pci.org	(312) 786-0300
PDI	Plumbing & Drainage Institute www.pdionline.org	(800) 589-8956 (978) 557-0720

PGI	PVC Geomembrane Institute http://pgi-tp.cee.uiuc.edu	(217) 333-3929
PTI	Post-Tensioning Institute www.post-tensioning.org	(248) 848-3180
RCSC	Research Council on Structural Connections www.boltcouncil.org	
RFCI	Resilient Floor Covering Institute www.rfci.com	 (706) 882-3833
RIS	Redwood Inspection Service www.redwoodinspection.com	 (925) 935-1499
SAE	SAE International www.sae.org	(877) 606-7323 (724) 776-4841
SCAQMD	South Coast Air Quality Management District www.aqmd.com	(909) 396-2000
SCTE	Society of Cable Telecommunications Engineers www.scte.org	(800) 542-5040 (610) 363-6888
SDI	Steel Deck Institute www.sdi.org	(847) 458-4647
SDI	Steel Door Institute www.steeldoor.org	(440) 899-0010
SEFA	Scientific Equipment and Furniture Association www.sefalabs.com	(877) 294-5424 (516) 294-5424
SEI/ASCE	Structural Engineering Institute/American Society of Civil Engineers (See ASCE)	
SIA	Security Industry Association www.siaonline.org	(866) 817-8888 (703) 683-2075
SJI	Steel Joist Institute www.steeljoist.org	(843) 626-1995
SMA	Screen Manufacturers Association www.smacentral.org	(561) 533-0991
SMACNA	Sheet Metal and Air Conditioning Contractors' National Association www.smacna.org	(703) 803-2980

SMPTE	Society of Motion Picture and Television Engineers www.smpte.org	(914) 761-1100
SPFA	Spray Polyurethane Foam Alliance (Formerly: SPI/SPFD - The Society of the Plastics Industry, Inc.; Spray Polyurethane Foam Division) www.sprayfoam.org	(800) 523-6154
SPIB	Southern Pine Inspection Bureau (The) www.spib.org	(850) 434-2611
SPRI	Single Ply Roofing Industry www.spri.org	(781) 647-7026
SSINA	Specialty Steel Industry of North America www.ssina.com	(800) 982-0355 (202) 342-8630
SSPC	SSPC: The Society for Protective Coatings www.sspc.org	(877) 281-7772 (412) 281-2331
STI	Steel Tank Institute www.steeltank.com	(847) 438-8265
SWI	Steel Window Institute www.steelwindows.com	(216) 241-7333
SWPA	Submersible Wastewater Pump Association www.swpa.org	(847) 681-1868
TCA	Tilt-Up Concrete Association www.tilt-up.org	(319) 895-6911
TCNA	Tile Council of North America, Inc. www.tileusa.com	(864) 646-8453
TEMA	Tubular Exchanger Manufacturers Association www.tema.org	(914) 332-0040
TIA/EIA	Telecommunications Industry Association/Electronic Industries Alliance www.tiaonline.org	(703) 907-7700
TMS	The Masonry Society www.masonrysociety.org	(303) 939-9700
TPI	Truss Plate Institute, Inc. www.tpinst.org	(703) 683-1010
TPI	Turfgrass Producers International	(800) 405-8873

	www.turfgrasssod.org	(847) 649-5555
TRI	Tile Roofing Institute www.tileroofing.org	(312) 670-4177
UL	Underwriters Laboratories Inc. www.ul.com	(877) 854-3577 (847) 272-8800
UNI	Uni-Bell PVC Pipe Association www.uni-bell.org	(972) 243-3902
USAV	USA Volleyball www.usavolleyball.org	(888) 786-5539 (719) 228-6800
USGBC	U.S. Green Building Council www.usgbc.org	(800) 795-1747
USITT	United States Institute for Theatre Technology, Inc. www.usitt.org	(800) 938-7488 (315) 463-6463
WASTEC	Waste Equipment Technology Association www.wastec.org	(800) 424-2869 (202) 244-4700
WCLIB	West Coast Lumber Inspection Bureau www.wclib.org	(800) 283-1486 (503) 639-0651
WCMA	Window Covering Manufacturers Association www.wcmanet.org	(212) 297-2122
WDMA	Window & Door Manufacturers Association (Formerly: NWWDA - National Wood Window and Door Association) www.wdma.com	(800) 223-2301 (312) 321-6802
WI	Woodwork Institute (Formerly: WIC - Woodwork Institute of California) www.wicnet.org	(916) 372-9943
WMMPA	Wood Moulding & Millwork Producers Association www.wmmpa.com	(800) 550-7889 (530) 661-9591
WSRCA	Western States Roofing Contractors Association www.wsrca.com	(800) 725-0333 (650) 570-5441
WWPA	Western Wood Products Association www.wwpa.org	(503) 224-3930

C. Code Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names,

telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

DIN	Deutsches Institut fur Normung e.V. www.din.de	49 30 2601-0
IAPMO	International Association of Plumbing and Mechanical Officials www.iapmo.org	(909) 472-4100
ICC	International Code Council www.iccsafe.org	(888) 422-7233
ICC-ES	ICC Evaluation Service, Inc. www.icc-es.org	(800) 423-6587 (562) 699-0543

D. Federal Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

COE	Army Corps of Engineers www.usace.army.mil	(202) 761-0011
CPSC	Consumer Product Safety Commission www.cpsc.gov	(800) 638-2772 (301) 504-7923
DOC	Department of Commerce www.commerce.gov	(202) 482-2000
DOD	Department of Defense http://dodssp.daps.dla.mil	(215) 697-6257
DOE	Department of Energy www.energy.gov	(202) 586-9220
EPA	Environmental Protection Agency www.epa.gov	(202) 272-0167
FAA	Federal Aviation Administration www.faa.gov	(866) 835-5322
FCC	Federal Communications Commission www.fcc.gov	(888) 225-5322
FDA	Food and Drug Administration www.fda.gov	(888) 463-6332
GSA	General Services Administration www.gsa.gov	(800) 488-3111

HUD	Department of Housing and Urban Development www.hud.gov	(202) 708-1112
LBL	Lawrence Berkeley National Laboratory www.lbl.gov	(510) 486-4000
NCHRP	National Cooperative Highway Research Program (See TRB)	
NIST	National Institute of Standards and Technology www.nist.gov	(301) 975-6478
OSHA	Occupational Safety & Health Administration www.osha.gov	(800) 321-6742 (202) 693-1999
PBS	Public Buildings Service (See GSA)	
PHS	Office of Public Health and Science http://www.hhs.gov/ophs/	(202) 690-7694
RUS	Rural Utilities Service (See USDA)	(202) 720-9540
SD	State Department www.state.gov	(202) 647-4000
TRB	Transportation Research Board http://gulliver.trb.org	(202) 334-2934
USDA	Department of Agriculture www.usda.gov	(202) 720-2791
USP	U.S. Pharmacopeia www.usp.org	(800) 227-8772
USPS	Postal Service www.usps.com	(202) 268-2000

E. Standards and Regulations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the standards and regulations in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

ADAAG	Americans with Disabilities Act (ADA)	(800) 872-2253
	Architectural Barriers Act (ABA)	(202) 272-0080
	Accessibility Guidelines for Buildings and Facilities	

	Available from U.S. Access Board www.access-board.gov	
CFR	Code of Federal Regulations	(866) 512-1800
	Available from Government Printing Office	(202) 512-1800
	www.gpoaccess.gov/cfr/index.html	
DOD	Department of Defense Military Specifications and Standards	(215) 697-2664
	Available from Department of Defense Single Stock Point http://dodssp.daps.dla.mil	
DSCC	Defense Supply Center Columbus (See FS)	
FED-STD	Federal Standard (See FS)	
FS	Federal Specification	(215) 697-2664
	Available from Department of Defense Single Stock Point http://dodssp.daps.dla.mil/	
	Available from Defense Standardization Program www.dsp.dla.mil	
	Available from General Services Administration	(202) 619-8925
	www.gsa.gov	
	Available from National Institute of Building Sciences	(202) 289-7800
	www.wbdg.org/ccb	
FTMS	Federal Test Method Standard (See FS)	
MIL	(See MILSPEC)	
MIL-STD	(See MILSPEC)	
MILSPEC	Military Specification and Standards	(215) 697-2664
	Available from Department of Defense Single Stock Point http://dodssp.daps.dla.mil	
UFAS	Uniform Federal Accessibility Standards	(800) 872-2253

	Available from Access Board	(202) 272-0080
	www.access-board.gov	

F. State Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

MDOT	Maryland Department of Transportation	
	Maryland Dept of Environment	
VDOT	Virginia Department of Transportation	
	Virginia Dept of Environment	

G. Local Government Agencies:

DCDOT	District of Columbia Department of Transportation	
DCRA	Department of Consumer and Regulatory Affairs	
DCDOE	D.C. Department of the Environment	

H. Local Utilities and Commissions:

DCWASA	D. C. Water and Sewer Authority http://dcwasa.com	(202)787-2000
PEPCO	Potomac Electric Power Company www.pepco.com	(202)833-7500
WG	Washington Gas Company www.washgas.com	1-800-752-7520

WGES	Washington Gas Energy Services www.wges.com	1-888-884-9437

PRODUCTS (Not Used)

PART 2 - EXECUTION (Not Used)

END OF SECTION 01 42 00

SECTION 01 50 00 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes minimum requirements for temporary facilities and controls, including temporary utilities, support facilities, and security and protection facilities. Nothing is this section is intended to limit type and amounts of temporary work required, and no omission from this section will be recognized as an indication that such temporary activity is not required for successful completion of the work and compliance with requirements of the Contract Documents.

B. Temporary utilities include, but are not limited to the following:

1. Sewers and drainage.
2. Water service and distribution.
3. Sanitary facilities, including toilets, wash facilities, and drinking-water facilities.
4. Heating and cooling facilities.
5. Ventilation.
6. Electric power service.
7. Lighting
8. Telephone service.

C. Support facilities include, but are not limited to the following:

1. Project identification and temporary signs.
2. Waste disposal facilities.
3. Field Offices
4. Storage and fabrication sheds
5. Lifts and hoists
6. Scaffolding.
7. Construction aids and miscellaneous services and facilities.

D. Security and protection facilities include, but are not limited to the following:

1. Environmental protection.
2. Stormwater control.
3. Tree and plant protection.
4. Pest control.
5. Site enclosure fence (where needed).
6. Security enclosure and lockup
7. Barricades, warning signs and lights
8. Temporary enclosures
9. Temporary partitions
10. Fire protection
11. Personnel and public safety.

1.3 INFORMATIONAL SUBMITTALS

A. Site Plan: Show temporary facilities, utility hookups, staging areas, and parking areas for construction personnel.

B. Erosion- and Sedimentation-Control Plan: Show compliance with requirements of EPA Construction General Permit or authorities having jurisdiction, whichever is more stringent.

C. Fire-Safety Program: Show compliance with requirements of NFPA 241 and authorities having jurisdiction. Indicate Contractor personnel responsible for management of fire-prevention program.

D. Moisture-Protection Plan: Describe procedures and controls for protecting materials and construction from water absorption and damage, including mold growth.

1. Describe delivery, handling, and storage provisions for materials subject to water absorption or water damage.
2. Indicate procedures for discarding water-damaged materials, protocols for mitigating water intrusion into completed Work, and replacing water-damaged Work.
3. Indicate sequencing of work that requires water, such as sprayed fire-resistive materials, plastering, and terrazzo grinding, and describe plans for dealing with water from these operations. Show procedures for verifying that wet construction has dried sufficiently to permit installation of finish materials.
4. Submit Mold Prevention and Maintenance Plan During Construction Phase. Submit certificate at "Substantial Completion" that project is free of mold.

E. Dust- and HVAC-Control Plan: Submit coordination drawing and narrative that indicates the dust- and HVAC-control measures proposed for use, proposed locations, and proposed time frame for their operation. Identify further options if proposed measures are later determined to be inadequate. Include the following:

1. Locations of dust-control partitions at each phase of work.
2. HVAC system isolation schematic drawing.

3. Location of proposed air-filtration system discharge.
4. Waste handling procedures.
5. Other dust-control measures.

F. Temporary Utilities: Reserved.

G. Site Utilization Plan: Within 20 days from NTP, submit a site utilization plan indicating locations of construction fencing, temporary buildings, lay-down areas, vehicle circulation and construction entrances. Show temporary utility lines and connections. Show use of airspace over adjacent properties.

H. Project Identification and Temporary Signs: Show fabrication and installation details for project identification and temporary signs, including plans, elevations, details, layouts, typestyles, graphic elements and message content.

I. Scaffold Plan: List of areas and types of scaffolds for each area.

J. Fall Protection Plan: Lists of areas assigned fall protection devices and types of devices.

1.4 QUALITY ASSURANCE

A. Regulations: Comply with industry standards and applicable laws and regulations of authorities having jurisdiction including, but not limited to, following:

1. Building code requirements.
2. Health and safety regulations.
3. Utility company regulations.
4. Police, fire department, and rescue squad rules.
5. Environmental protection regulations.
6. Regulations for air rights over adjacent properties.

B. Standards: At a minimum, comply with CFR 29, Part 1910 “Occupational Safety and Health Standards,” Part 1926 “Safety and Health Regulations for Construction,” and NFPA 241 "Standard for Safeguarding Construction, Alterations, and Demolition Operations," ANSI A10 Series standards for "Safety Requirements for Construction and Demolition," and NECA Electrical Design Library "Temporary Electrical Facilities."

1. Electrical Service: Comply with NEMA, NECA, and UL standards and regulations for temporary electric service. Install service in compliance with NFPA 70 "National Electric Code."
2. Scaffolding: Erect adequate scaffold as required to perform the work in accordance with the Safety Code of the D.C. Minimum wage and Industrial Safety Board requirements.

B. Inspections: Arrange for authorities having jurisdiction to inspect and test each temporary utility before use. Obtain required certifications and permits.

1.5 PROJECT CONDITIONS

A. Temporary Utilities: The Contractor is responsible for all costs, including usage costs, for utilities throughout the Contract until Substantial Completion by the District. The Contractor shall prepare schedule indicating dates for implementation and termination of each temporary utility. At earliest feasible time, when acceptable to District, change over from use of temporary service to use of permanent service.

B. Conditions of Use: Keep temporary services and facilities clean and neat in appearance. Operate in safe and efficient manner. Relocate temporary services and facilities as Work progresses. Donot overload facilities or permit them to interfere with progress. Take necessary fire-prevention measures. Do not allow hazardous, dangerous, or unsanitary conditions, or public nuisances to develop or persist on-site.

1.6 DEFINITIONS

A. Permanent Enclosure: As determined by the District, permanent or temporary roofing is complete, insulated, and weathertight; exterior walls are insulated and weathertight; and all openings are closed with permanent construction or substantial temporary closures.

1.7 USE CHARGES

A. General: Cost or use charges for temporary facilities are not chargeable to District and shall be included in the Contract Sum. Allow other entities to use temporary services and facilities without cost, including, but not limited to the following:

1. District’s construction forces
2. Occupants of building
3. Testing Agencies
4. Personnel of Authorities Having Jurisdiction

B. Sewer Service: Pay all costs associated with sewer service by all entities engaged in construction activities at the project site until Final Acceptance by the District.

C. Water Service: Pay all costs associated with water service, whether metered or otherwise, for water used by all entities engaged in construction activities at the project site until Final Acceptance by the District.

D. Electric Power Service: Pay all costs associated with electric service, whether metered or otherwise, for electricity used by all entities engaged in construction activities at the project site until Final Acceptance by the District.

1.8 SCAFFOLDING

A. Contractor shall erect adequate scaffolds as required to perform the work in accordance with OSHA requirements. COTR may have use of scaffold to inspect Work.

1. Do not erect scaffolds until required to be ready for use.
2. Contractor shall promptly remove the scaffolding upon acceptance of the Work.

B. Wherever possible, use swinging scaffolds for exterior Work. Where swinging scaffolds are not practicable, Contractor may be permitted to use other types of scaffolds provided that:

1. Contractor prepares a list of areas and gives the types of scaffold(s) recommended for use of each area.
2. The list shall be submitted not later than 15 days after the Contract is awarded.

1.9 ENVIRONMENTAL PROCEDURES

A. Use care to prevent pollution of air, water, and soil, including but not limited to the following:

1. Comply with environmental protection regulations.
2. Do not dump contaminates in areas that will result in contamination.
3. In partially occupied facilities where Work is to be performed, provide dustproof partitions to isolate Contractor's work activities from building occupants and the public.
4. All access corridors requiring use by the Occupant shall be maintained in a clean condition and free of construction materials and debris.

B. Minimize discharge of effluent and rainwater runoff into sewers, including but not limited to the following actions:

1. Control sediment discharge into sewers; filter out construction debris, soil, and contaminants.
2. Comply with regulations and orders of public utilities regarding use of sewers.
3. Where disposal of effluent or rainwater by means of sewers is not lawful or is not possible, provide alternative methods of disposal.

C. Prevent erosion due to rainwater runoff.

D. Control windblown dust; prevent erosion to Site and nuisance to neighbors.

E. Prevent flooding of excavations, below-grade construction, and adjacent properties due to rainwater runoff or water table.

PART 2 - PRODUCTS

2.1 MATERIALS

A. General: Provide new materials. If acceptable to Contracting Officer's Technical Representative (COTR), Contractor may use undamaged, previously used materials in serviceable condition. Provide materials suitable for use intended.

B. Lumber: DOC PS 20 and applicable rules of lumber grading agencies certified by American Lumber Standards Committee Board of Review.

1. For job-built temporary offices, shops, and sheds within construction area, provide UL-labeled, fire-treated lumber for framing.

C. Plywood: DOC PS 1:

1. For job-built temporary offices, shops, and sheds within construction area, provide UL-labeled, fire-treated plywood for sheathing and siding.
2. For signs and directory boards, provide exterior-type, Grade B-B high-density concrete form overlay plywood of sizes and thicknesses required.
3. For safety barriers, and similar uses, provide minimum 5/8 inch thick exterior plywood.

D. Paint: Paint exposed surfaces. Do not paint prefinished items, concealed surfaces, finished metal surfaces, operating parts, and labels. Provide primers, undercoats, and finish coat materials that are compatible with one another and substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.

1. For job-built temporary offices, shops, sheds, fences, and other exposed lumber and plywood, provide exterior-grade acrylic-latex emulsion over exterior primer.
2. For sign panels and applying graphics, provide exterior-grade alkyd gloss enamel over exterior primer.
3. For interior walls of temporary offices, provide two coats interior latex-flat wall paint.

E. Tarpaulins: Provide waterproof, fire-resistant, UL-labeled tarpaulins with flame-spread rating of 15 or less. For temporary enclosures, provide translucent, nylon-reinforced, laminated polyethylene or polyvinyl chloride, fire-retardant tarpaulins.

F. Water: Provide potable water approved by local health authorities.

G. Chain-Link Fencing: Minimum 2-inch, 0.148-inch galvanized steel, chain-link fabric fencing; minimum 8 feet high with galvanized steel pipe posts and rails.

2.2 EQUIPMENT

A. General: Provide new equipment. If acceptable to COTR, Contractor may use undamaged, previously used equipment in serviceable condition. Provide equipment suitable for use intended.

B. Water Hoses: Provide 3/4-inch, heavy-duty, abrasion-resistant, flexible rubber hoses, with pressure rating greater than maximum pressure of water distribution system. Provide adjustable shutoff nozzles at hose discharge.

C. Electrical Outlets: Provide properly configured, NEMA-polarized outlets to prevent insertion of 110- to 120-Volt plugs into higher voltage outlets. Provide receptacle outlets equipped with ground-fault circuit interrupters, reset button, and pilot light for connection of power tools and equipment.

D. Electrical Power Cords: Provide grounded extension cords. Use hard-service cords where exposed to abrasion and traffic. Provide waterproof connectors to connect separate lengths of electric cords if single lengths will not reach areas where construction activities are in progress. Do not exceed safe length-voltage ratio.

E. Lamps and Light Fixtures: Provide general service fluorescent lamps of wattage required for adequate illumination. Provide guard cages or tempered-glass enclosures where exposed to breakage. Provide exterior fixtures where exposed to moisture.

F. Heating and Cooling Units: Provide temporary heating and cooling units that have been tested and labeled by UL, FM, or another recognized trade association related to type of fuel being consumed.

G. Temporary Offices: Provide prefabricated or mobile units or similar job-built construction with lockable entrances, operable windows, and serviceable finishes. Provide heated and air-conditioned units on foundations adequate for normal loading.

H. Temporary Toilet Units: Where self-contained units used, provide self-contained, single-occupant toilet units of chemical, aerated recirculation, or combustion type. Provide units properly vented and fully enclosed with glass-fiber-reinforced polyester shell or similar nonabsorbent material.

I. Fire Extinguishers: Provide hand-carried, portable, UL-rated, Class A fire extinguishers for temporary offices and similar spaces. In other locations, provide hand-carried, portable, UL-rated, Class ABC, dry-chemical extinguishers or combination of extinguishers of NFPA-recommended classes for exposures.

1. Comply with NFPA 10 and NFPA 241 for classification, extinguishing agent, and size required by location and class of fire exposure.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Use qualified personnel for installation of temporary facilities. Locate facilities where they will serve Project adequately and result in minimum interference with performance of Work. Relocate and modify facilities as required.

B. Provide each facility ready for use when needed to avoid delay. Maintain and modify as required. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.2 SUPPORT FACILITIES INSTALLATION

A. Locate field offices, storage sheds, and other temporary construction and support facilities for easy access.

1. Maintain support facilities until near Completion. Remove prior to Completion.

B. Where acceptable to COTR provide incombustible construction for offices, shops, and sheds located within construction area or within 30 feet of building lines. Comply with requirements of NFPA 241.

C. Contractor's Field Offices: Provide and maintain temporary field office for Contractor's personnel and representatives. Field offices shall be provided through project completion.

D. District's Field Offices: Provide and maintain temporary field office for District personnel.

1. Office: Provide insulated, weather-tight office trailer, with lighting, electrical outlets, heating, cooling, and ventilating equipment of sufficient size to accommodate required office personnel at Project Site.
2. COTR Office shall be equipped with one (1) Lateral File, I iPad Pro and 2 27" monitors with docking station.
3. Size of office shall be the equivalent of (1) double wide (approximately 24-feet by 60-feet) portable trailer.
4. The layout shall include: minimum of (3) standard sized lockable offices, (1) bathroom, security screens on windows, bar on doors.
5. Work shall include all temporary utilities to trailer including 4 telephone/data lines.
6. Office shall be provided no later than (1) month after NTP until Final Acceptance of the project. Keep office clean and orderly. Contractor may also provide Class B or better office space of equivalent size and scope in a local building within 3 blocks of the project site. Final layout and location of office trailers / office space shall be approved by the COTR.

E. Storage and Fabrication Sheds: Install storage and fabrication sheds sized, furnished, and equipped to accommodate materials and equipment involved, including temporary utility service. Sheds may be open shelters or fully enclosed spaces within building or elsewhere on-site.

3.3 TEMPORARY CONTROLS AND EQUIPMENT

A. Dewatering Facilities and Drains: For temporary drainage and dewatering facilities and operations not directly associated with construction activities included under individual Sections. Where feasible, utilize same facilities. Maintain the site, excavations, and construction free of water.

B. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities.

1. Where heat or cooling is needed and permanent building enclosure is not complete, provide temporary enclosures where there is no other provision for containment of heat or cooling. Coordinate enclosure with ventilating and material drying or curing requirements to avoid dangerous conditions and effects.
2. Mold Prevention: Provide temporary weathertight exterior enclosures as required to keep dry during construction operations.
3. Install tarpaulins securely, with fire-retardant treated wood framing and other materials. Close openings of 25 square feet or less with plywood or similar materials.
4. Close openings through floor or roof decks and horizontal surfaces with load-bearing, wood-framed construction.

C. Temporary Lifts and Hoists: Provide facilities for hoisting materials and employees. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.

D. Temporary Elevator Use: Do not use elevators for construction purposes unless cars are provided with temporary enclosures, either within finished cars or in place of finished cars, to protect finishes from damage.

1. Provide full maintenance service by skilled, competent employees of elevator Installer for elevators used for construction purposes. Include preventive maintenance, repair or replacement of worn or defective components, lubrication, cleaning, and adjusting as required for proper elevator operation at rated speed and capacity. Use parts and supplies as used in manufacture and installation of original equipment.
2. Provide protective coverings, barriers, devices, signs, or other procedures to protect elevators. If, despite such protection, elevators become damaged, engage elevator installer to restore damaged work so that no evidence remains of correction work. Return items that cannot be refinished in field to shop, make required repairs and refinish entire unit, or provide new units as required.
3. If elevator is used during construction, remain responsible for full warranty from date of Notice of Acceptance of total project by District.

E. Provide final protection and maintain conditions, in manner acceptable to elevator manufacturer, that ensure elevators are without damage or deterioration at time of Completion.

F. Project Identification and Temporary Signs: Prepare project identification and other signs. Install signs to inform public and persons seeking entrance to Project. Support on posts or framing of preservative-treated wood or steel. Do not permit installation of unauthorized signs, and signs not approved by District of Columbia.

1. Project Identification Signs: Engage experienced sign painter to apply graphics.

    a. Details: As indicated, or if not indicated, as directed by COTR.

2. Temporary Signs: Prepare signs to provide directional information to construction personnel and visitors.
3. Size: As indicated, or if not indicated, as directed by COTR.

4. Location: As indicated, or if not indicated, as directed by COTR.

G. Temporary Exterior Lighting: Install exterior yard and sign lights so signs are visible when Work is being performed.

3.4 SITE CLEANING

A. Cleaning During Construction: Execute periodic cleaning to keep building, site, and adjacent properties free of accumulations of waste materials, debris, rubbish, and wind blown debris resulting from construction operations.

1. Broom clean and vacuum interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.
2. Schedule cleaning operations so that dust and other contaminants will not fall on or adhere to wet or newly-coated surfaces.
3. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing space.

B. Collection and Disposal of Waste: Collect waste from construction areas and elsewhere daily. Comply with requirements of NFPA 241 for removal of combustible waste material and debris. Enforce requirements strictly. Handle hazardous, dangerous, or unsanitary waste materials separately from other waste by containerizing properly. Dispose of material lawfully.

1. Comply with Section 01 74 19 "Construction Waste Management and Disposal."

3.5 MOLD PREVENTION

A. Presence of Mold: If mold is discovered during construction operations before completion, retain qualified independent Environmental Consultant to determine type of mold and recommend remediation procedures.

1. Submit qualifications of Environmental Consultant to COTR for approval by District.
2. Only retain Environmental Consultant approved by District.
3. Contractor: Pay for services of Environmental Consultant.

B. Removal of Mold: Remove sources of mold and mold as recommended by Environmental Consultant.

1. Take measures to eliminate sources of moisture before replacement of materials and removal of mold.
2. Remove materials with evidence of mold as recommended by Environmental Consultant.
3. Superficial cleaning of mold not allowed.
4. Obtain documented approval, from Environmental Consultant at conclusion of mold remediation. Submit documented approval to COTR in accordance with Section 01 77 00 “Closeout Procedures”.

3.6 PEST MANAGEMENT

A. Rodent and Pest Control: Before foundation work has been completed, retain local exterminator or pest control company to recommend practices to minimize attraction and harboring of rodents, roaches, and other pests. Employ this service to perform extermination and control procedures at regular intervals so Project will be free of pests and their residues at Completion. Perform control operations lawfully, using environmentally safe materials.

B. Contractor shall provide pest control throughout all construction phases.

C. Provide pest control final inspection field report, showing project is free of pests, prior to Completion.

3.7 PROTECTION OF INSTALLED EQUIPMENT AND FINISHES

A. Stairs: Until permanent stairs are available, provide temporary stairs where ladders are not adequate. Cover finished, permanent stairs with protective covering of plywood or similar material so finishes will be undamaged at time of acceptance.

B. Protect installed Work in manner to prevent damage from subsequent construction operations.

1. Provide special protection where specified in individual Specification sections.
2. Provide temporary and removable materials for protection of installed products. Control activity in immediate work area to minimize damage.
3. Ensure materials, systems, and components will be without damage or deterioration at time of Final Completion.
4. Protect finished Work from damage, defacements, stains, scratches, and wear.
5. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.
6. Protect finished floors, stairs, and other surfaces from traffic dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.
7. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.
8. Prohibit traffic from lawn and landscaped areas.

3.8 SECURITY AND PROTECTION FACILITIES INSTALLATION

A. Except for use of permanent fire protection as soon as available, do not change over from use of temporary security and protection facilities to permanent facilities until Completion as requested by COTR.

B. Temporary Fire Protection: Until fire-protection needs are supplied by permanent facilities, install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 10 "Standard for Portable Fire Extinguishers" and NFPA 241 "Standard for Safeguarding Construction, Alterations, and Demolition Operations."

1. Locate fire extinguishers where convenient and effective for their intended purpose, but not less than 1 extinguisher on each floor at or near each usable stairwell.
2. Store combustible materials in containers in fire-safe locations.
3. Maintain unobstructed access to fire extinguishers, fire hydrants, temporary fire-protection facilities, stairways, and other access routes for fighting fires. Prohibit smoking in hazardous fire-exposure areas.
4. Provide supervision of welding operations, combustion-type temporary heating units, and similar sources of fire ignition.
5. Provide temporary standpipes for fire protection.

C. Barricades, Warning Signs, and Lights: Comply with standards and code requirements for erection of structurally adequate barricades. Paint with appropriate colors, graphics, and warning signs to inform personnel and public of hazard being protected against. Where appropriate and needed, provide lighting, including flashing red or amber lights.

D. Enclosure Fence: Maintain existing enclosure fence with lockable entrance gates. Maintain in manner that will prevent people, dogs, and other animals from easily entering site, except by entrance gates. Remove fence at completion of Work.

E. Security Enclosure and Lockup: Install substantial temporary enclosure of partially completed areas of construction. Provide locking entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security.

1. Storage: Where materials and equipment must be stored, and are of value or attractive for theft, provide secure lockup. Enforce discipline in connection with installation and release of material to minimize opportunity for theft and vandalism.

F. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations, and minimize possibility that air, waterways, and subsoil might be contaminated or polluted or that other undesirable effects might result. Avoid use of tools and equipment that produce harmful noise. Restrict use of noise-making tools and equipment to hours that will minimize complaints from persons or firms near site.

G. Dust Control/Street Cleaning: Provide appropriate dust control/street cleaning operations for paved and unpaved areas utilized during construction operations to satisfaction of District. Dust Control: Wetting or other approved methods. Obtain approval by District for street cleaning method.

H. Storm Water Control: Provide earthen embankments and similar barriers in and around excavations and subgrade construction, sufficient to prevent flooding by runoff of storm water from heavy rains.

I. Site Security: Security of the site is solely the responsibility of the General Contractor until Final Acceptance by the District.

J. Site-parked mobile equipment and operable machinery, and parts of new construction subject to mischief, shall be kept locked or otherwise made inoperable whenever left unattended.

3.9 OPERATION, TERMINATION, AND REMOVAL

A. Supervision: Enforce strict discipline in use of temporary facilities. Limit availability of temporary facilities to essential and intended uses to minimize waste and abuse.

B. Maintenance: Maintain facilities in good operating condition until removal. Protect from damage by freezing temperatures and similar elements.

1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on 24-hour basis where required to achieve indicated results and to avoid possibility of damage.
2. Protection: Prevent water-filled piping from freezing. Maintain markers for underground lines. Protect from damage during excavation operations.

C. Termination and Removal: Unless directed by COTR, remove each temporary facility when need has ended, when replaced by authorized use of permanent facility, or no later than Substantial Completion. Complete orrestore permanent construction that has been delayed due to interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.

1. Materials and facilities that constitute temporary facilities are Contractor's property. District reserves right to take possession of project identification signs.
2. Prior to Substantial Completion, clean and renovate permanent facilities used during construction period including, but not limited to:

    a. Replace air filters and clean inside of ductwork and housings.
    b. Replace significantly worn parts and parts subject to unusual operating conditions.
    c. Replace lamps burned out or noticeably dimmed by hours of use.

END OF SECTION 01 50 00

SECTION 01 60 00 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following administrative and procedural requirements: selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; product substitutions; and comparable products.

B. Related Sections include the following:

1. Section 01 33 00 "Submittal Procedures."

1.3 DEFINITIONS

A. Products: Items purchased for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.

1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation, shown or listed in manufacturer's published product literature, that is current as of date of the Contract Documents.
2. New Products: Items that have not previously been incorporated into another project or facility, except that products consisting of recycled-content materials are allowed, unless explicitly stated otherwise. Products salvaged or recycled from other projects are not considered new products.
3. Comparable Product: Product that is demonstrated and approved through submittal process, or where indicated as a product substitution, to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.

B. Substitutions: Section 01 33 00 "Submittal Procedures."

C. Basis-of-Design Product Specification: Where a specific manufacturer's product is named and accompanied by the words "basis of design," including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of other named manufacturers.

D. Manufacturer's Warranty: Preprinted written warranty published by individual manufacturer for a particular product and specifically endorsed by manufacturer to District.

E. Special Warranty: Written warranty required by or incorporated into the Contract Documents, either to extend time limit provided by manufacturer's warranty or to provide more rights for District.

1.4 SUBMITTALS

A. Product List: Submit a list, in tabular from, showing specified products. Include generic names of products required. Include manufacturer's name and proprietary product names for each product.

1. Coordinate product list with Contractor's Construction Schedule and the Submittals Schedule.
2. Form: Tabulate information for each product under the following column headings:

a. Delete and add headings below to suit Project. See Evaluations.
b. Specification Section number and title.
c. Generic name used in the Contract Documents.
d. Proprietary name, model number, and similar designations.
e. Manufacturer's name and address.
f. Supplier's name and address.
g. Installer's name and address.
h. Projected delivery date or time span of delivery period.
i. Identification of items that require early submittal approval for scheduled delivery date.

3. Initial Submittal: Within 30 days after date of commencement of the Work, submit 3 copies of initial product list. Include a written explanation for omissions of data and for variations from Contract requirements.

a. Revise subparagraph below to suit Project.
b. At Contractor's option, initial submittal may be limited to product selections and designations that must be established early in Contract period.

4. Completed List: Within 30 days after date of commencement of the Work, submit three (3) copies of completed product list. Include a written explanation for omissions of data and for variations from Contract requirements.

5. COTR's Action: COTR will respond in writing to Contractor within 15 days of receipt of completed product list. COTR's response will include a list of unacceptable product selections and a brief explanation of reasons for this action. COTR's response, or lack of response, does not constitute a waiver of requirement that products comply with the Contract Documents.

B. Substitution Requests: Refer to Division 01 Section 01 33 00 "Submittal Procedures."

1.5 QUALITY ASSURANCE

A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, product selected shall be compatible with products previously selected, even if previously selected products were also options.

B. COTR's Approval: Wherever the terms "or equal", or "or approved equal", or "or approved", are used in specifying products or naming manufacturers in the various specification sections, the COTR is the sole judge of equality and acceptability of products and manufacturers submitted as equals to the specified products and manufacturers.

C. Nameplates: Except for required labels and operating data, do not attach or imprint manufacturer's or producer's nameplates or trademarks on exposed surfaces of products which will be exposed to view in occupied spaces or on the exterior.

1. Equipment Nameplates: Provide a permanent nameplate on each item of service- connected or power-operated equipment. Locate on an easily accessible surface which is inconspicuous in occupied spaces. The nameplate shall contain the following information and other essential operating data:

    a. Name of product and manufacturer.
    b. Model and serial number.
    c. Capacity.
    d. Speed.
    e. Ratings.

1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft. Comply with manufacturer's written instructions.

1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
4. Inspect products on delivery to ensure compliance with the Contract Documents and to ensure that products are undamaged and properly protected.
5. Store products to allow for inspection and measurement of quantity or counting of units.
6. Store materials in a manner that will not endanger Project structure.
7. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
8. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
9. Protect stored products from damage.

B. Storage: Provide a secure location and enclosure at Project site for storage of materials and equipment by District's construction forces. Coordinate location with District.

C. District reserves the right to protect stored materials to prevent damage and deterioration if the Contractor fails to protect the materials in a proper manner. The costs incurred by the District shall be paid by the Contractor.

1.7 PRODUCT WARRANTIES

A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.

B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution. Submit a draft for approval before final execution.

1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
2. Specified Form: Forms are included with the Specifications. Prepare a written document using appropriate form properly executed.
3. Refer to Divisions 01 through 33 Sections for specific content requirements and particular requirements for submitting special warranties.

C. Submittal Time: Comply with requirements in Division 1 Section 01 77 00 "Closeout Procedures."

PART 2 - PRODUCTS

2.1 PRODUCT OPTIONS

A. General Product Requirements: Provide products that comply with the Contract Documents, that are undamaged, and unless otherwise indicated, that are new at time of installation.

1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
3. District reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
4. Where products are accompanied by the term "as selected," COTR will make selection.
5. Where products are accompanied by the term "match sample," sample to be matched is COTR's.

6. Descriptive, performance, and reference standard requirements in the Specifications establish "salient characteristics" of products.
7. Or Equal: Where products are specified by name and accompanied by the term "or equal" or "or approved equal" or "or approved," comply with provisions in "Comparable Products" Article to obtain approval for use of an unnamed product.

B. Product Selection Procedures: Procedures for product selection include the following:

1. Product: Where Specification paragraphs or subparagraphs titled "Product" name a single product and manufacturer, provide the product named.

    a. Substitutions may be considered, unless otherwise indicated.

2. Manufacturer/Source: Where Specification paragraphs or subparagraphs titled "Manufacturer" or "Source" name single manufacturers or sources, provide a product by the manufacturer or from the source named that complies with requirements.

    a. Substitutions may be considered, unless otherwise indicated.

3. Products: Where Specification paragraphs or subparagraphs titled "Products" introduce a list of names of both products and manufacturers, provide one of the products listed that complies with requirements.

    a. Substitutions may be considered, unless otherwise indicated.

4. Manufacturers: Where Specification paragraphs or subparagraphs titled "Manufacturers" introduce a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements.

    a. Substitutions may be considered, unless otherwise indicated.

5. Available Products: Where Specification paragraphs or subparagraphs titled "Available Products" introduce a list of names of both products and manufacturers, provide one of the products listed or another product that complies with requirements. Comply with provisions in "Comparable Products" Article to obtain approval for use of an unnamed product.

6. Available Manufacturers: Where Specification paragraphs or subparagraphs titled "Available Manufacturers" introduce a list of manufacturers' names, provide a product by one of the manufacturers listed or another manufacturer that complies with requirements. Comply with provisions in "Comparable Products" Article to obtain approval for use of an unnamed product.

7. Product Options: Where Specification paragraphs titled "Product Options" indicate that size, profiles, and dimensional requirements on Drawings are based on a specific product or system, provide either the specific product or system indicated or a comparable

product or system by another manufacturer. Comply with provisions in "Product Substitutions" Article.

8. Basis-of-Design Products: Where Specification paragraphs or subparagraphs titled "Basis-of-Design Product" are included and also introduce or refer to a list of manufacturers' names, provide either the specified product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with provisions in "Comparable Products" Article to obtain approval for use of an unnamed product.

    a. Substitutions will not be considered, unless otherwise indicated.

9. Visual Matching Specification: Where Specifications require matching an established Sample, select a product (and manufacturer) that complies with requirements and matches COTR's sample. COTR's decision will be final on whether a proposed product matches satisfactorily.

    a. If no product available within specified category matches satisfactorily and complies with other specified requirements, comply with provisions of the Contract Documents on "substitutions" for selection of a matching product.

10. Visual Selection Specification: Where Specifications include the phrase "as selected from manufacturer's colors, patterns, textures" or a similar phrase, select a product (and manufacturer) that complies with other specified requirements.

    a. Standard Range: Where Specifications include the phrase "standard range of colors, patterns, textures" or similar phrase, COTR will select color, pattern, or texture from manufacturer's product line that does not include premium items.
    b. Full Range: Where Specifications include the phrase "full range of colors, patterns, textures" or similar phrase, COTR will select color, pattern, or texture from manufacturer's product line that includes both standard and premium items.

2.2 PRODUCT SUBSTITUTIONS

A. General: Refer to Section 01 33 00 "Submittal Procedures."

2.3 COMPARABLE PRODUCTS

A. Where products or manufacturers are specified by name, submit the following, in addition to other required submittals, to obtain approval of an unnamed product:

1. Evidence that the proposed product does not require extensive revisions to the Contract Documents, that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.
2. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.

3. Evidence that proposed product provides specified warranty.
4. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners, if requested.
5. Samples, if requested.

2.4 PAINT PRODUCTS

A. Environmentally Preferable Products Goals

1. The District is seeking contractors to provide environmentally preferable and effective paint products that support the District's environmentally preferable purchasing (EPP) contracting initiative.
2. Environmentally preferable products are products and services that have a lesser or reduced effect on human health and the environment when compared with competing products or services that serve the same purpose. This comparison considers the life cycle of the product from raw material acquisition, production, manufacturing, packaging, distribution, re-use, operation, maintenance and disposal.

B. The requirements and restrictions contained in this clause shall apply to all architectural and anti-corrosive paints used during the course of this contract.

C. Due to the documented health risks associated with high Volatile Organic Compound (VOCs) levels, the Contractor shall use only paint and paint products that do not exceed the maximum allowable VOC content in the table below for each type of paint:

Product Type	**Type of Paint**	**VOCs (grams/liter)**	**VOCs (pounds/gallon)**
Category I	Interior		
	Architectural		
	a. Flat	50 g/l	0.42 lb/gal
	b. Non-Flat	150 g/l	1.25 lb/gal
Category II	Exterior		
	Architectural		
	a. Flat	100 g/l	0.83 lb/gal
	b. Non-Flat	200 g/l	1.66 lb/gal
Category III	Anticorrosive		
	a. Flat	250 g/l	2.1 lb/gal
	b. Semi-Gloss	250 g/l	2.1 lb/gal
	c. Gloss	250 g/l	2.1 lb/gal

D. Prohibited Paint Components: Paints often contain inorganic and organo-metallic components used as preservatives, additives and pigments. The following is a list of organic compounds and components prohibited under this contract:

Trichloroethane	Formaldehyde
Dichlorobenzene	Hexavalent chromium
Acrolein	Isophorone
Acrylonitrile	Lead
Antimony	Mercury
Benzene	Methylene chloride
Butyl benzyl phthalate	Methyl ethyl ketone
Cadmium	Mehtyl isobutyl ketone
Di (2-ethylhexyl) phthalate	Naphthalene
Dimethyl phthalate	Toluene (Methylbenzene)
Di-n-butyl phthalate	Vinyl Chloride
Ethylbenzene	

E. Packaging: Paint cans and their components shall not be fabricated with lead.

F. Product Safety: Contractor shall be responsible for:

1. Any damage to personnel, buildings, furniture or equipment directly traceable to their use of prohibited paint**.**
2. Evacuating and warning individuals that might be affected by any spills or leakages directly traceable to their use of prohibited paint**.**
3. Any spills or leaks that occur during the use or transportation of their products**.**
4. Paying the clean up cost for any spills or leaks that occur while they are unloading, transporting or otherwise using their products.

2.5 SOLVENT PRODUCTS

A. Environmentally Preferable Products Goals

1. The District is seeking contractors to provide environmentally preferable and effective solvent products that support the District’s environmentally preferable purchasing (EPP) contracting initiative.
2. Environmentally preferable products are products and services that have a lesser or reduced effect on human health and the environment when compared with competing products or services that serve the same purpose.
3. This comparison considers the life cycle of the product from raw material acquisition, production, manufacturing, packaging, distribution, re-use, operation, maintenance and disposal.

B. Environmentally Preferable Solvent Products

1. Solvents are fluids or a mixture of fluids capable of dissolving substances to produce compositions for industrial value.

2. Solvent products subject to the requirements of this clause include, but are not limited to, the following classes:

    a. Alcohols are solvents that dissolve substances such as shellacs, vinyls, acrylics, epoxies and silicones.
    b. Aliphatic hydrocarbons are solvents often found in coatings and insecticides. Commonly used as degreasers and solvents for acrylics and epoxies. Common aliphatics include mineral spirits, paint thinner, petroleum distillates, VM&P Naphtha, kerosene, gasoline and heptane (all of which are extremely flammable).
    c. Aromatic hydrocarbons are substances used in printing, fiberglass-reinforced products, glues and veneers. Common aromatics include toluene (toluol), xylene (xylol), coal-tar naphtha, styrene and benzene.
    d. Chlorinated hydrocarbons are commonly used degreasers, dry cleaning agents, rubber solvents and paint strippers found in coatings, resins and tars. Common chemicals in this class include perchloroethylene, methylene chloride, carbon tetrachloride, methyl chloroform and trichloroethylene.
    e. Glycols, which are water-soluble solvents used as lubricants, are found in cosmetics, coatings, resins and dyes. Glycol ethers include butyl cellusolve (2- butoxyethanol), cellusolve (2- ethoxyethanol), methyl cellusolve (2- methoxyethanol), and cellusolve acetate (2-ethoxyethyl acetate). Most common glycol ethers are combustible.
    f. Esters have differing chemical properties depending on their use including methyl formate, ethyl acetate, isopropyl acetate, methyl acetate, secamylacetate, and isoamyl acetate (banana oil).
    g. Ethers are ingredients in dyes, resins, waxes, cellulose nitrate and fuels, including ethyl ether, tetrahydrofuran, dioxane and isopropyl ether.
    h. Ketones are solvents for dyes, resin and waxes that are used to manufacture plastics, synthetic fibers, explosives, cosmetics and medicines. Some examples of ketones include acetone, methyl ethyl ketone, cyclohexanon and isophorone.
    i. Other types of solvents include freon, turpentine, dimethylformamide and carbon disulfide.

C. Solvent Environmental Requirements - The Contractor shall avoid the following hazards when using solvent products during the performance of this contract:

1. Health Hazards:

    a. Bodily Contact: Contractor shall not use solvent products that irritate or harm the skin, eyes, nose and throat from direct contact with the solvents;
    b. Inhalation: Contractor shall not use solvent products that when inhaled causes headaches, nausea, vomiting and dizziness from contact with the solvents; and,
    c. Ingestion: Contractor shall not use solvent products that if ingested or exposed to for a period of time cause damage to the brain, liver, kidney, respiratory system and nervous systems.

2. Physical Hazards:

    a. Flammable materials are substances that will easily ignite, burn and serve as fuel for a fire. The flash point is the lowest temperature at which a liquid gives off

enough vapors which, when mixed with air, can be easily ignited by a spark. The lower the flash point, the greater the risk of fire or explosion.

b. Contractor shall not use solvent products that are a potential fire hazard or have a low flash point. A solvent is flammable and a serious fire hazard if its flash point is below 37.8C (100F).

D. Prohibited Solvents: The following solvent products are recognized by the National Institute for Occupational Safety and Health (NIOSH) as carcinogens, ozone-depleting solvents or as reproductive hazards in the workplace and shall not be used:

Benzene	Carbon tetrachloride
Trichloroethylene	1,1,2,2-tetrachloroethane
2-methoxyethanol	2-ethoxyethanol
Methyl chloride	Trichlorotrifluoroethane
Chlorinated Fluorocarbon Compounds	

E. Packaging Reduced/Recyclable: If possible, Contractor shall use products that are in reusable, refillable, or recyclable containers or are otherwise made from recycled content products.

1. No products shall be delivered in aerosol cans.
2. All products must be available in non-aerosol containers such as ready-to-use pump action sprays, air-charged refillable containers, or spray bottles.

F. Product Safety: Contractor shall be responsible for:

1. Any damage to personnel, buildings, furniture or equipment directly traceable to their use or transportation of prohibited products.
2. Any spills or leaks that occur during the use or transportation of their products.
3. Evacuating and warning individuals that might be affected by any spills or leaks that occur when their products are being used or transported.
4. Paying the clean up cost for any spills or leaks that occur while they are using or transporting their products.

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 60 00

SECTION 01 73 00 - EXECUTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes general procedural requirements governing execution of the Work including, but not limited to, the following:

1. Land survey work.
2. Civil-engineering services.
3. General installation of the Work.
4. Cutting and patching.
5. Progress cleaning.
6. Site Documentation Requirements.
7. Starting and adjusting.
8. Protection of installed construction.
9. Correction of the Work.

B. Related Sections include the following:

1. Section 01 33 00 "Submittal Procedures" for final survey submittal requirements.
2. Section 01 31 00 "Project Management and Coordination" for procedures for coordinating field engineering with other construction activities.
3. Section 01 78 39 "Project Record Documents" for submittal requirements of work and record survey data.

1.3 INFORMATIONAL SUBMITTALS

A. Qualification Data: For land surveyor or professional engineer to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.

B. Certificates: Submit certificate signed by land surveyor or professional engineer certifying that location and elevation of improvements comply with requirements.

C. Cutting and Patching Plan: Submit plan describing procedures at least 10 days prior to the time cutting and patching will be performed. Include the following information:

1. Extent: Describe reason for and extent of each occurrence of cutting and patching.
2. Changes to In-Place Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building appearance and other significant visual elements.
3. Products: List products to be used for patching and firms or entities that will perform patching work.
4. Dates: Indicate when cutting and patching will be performed.
5. Utilities and Mechanical and Electrical Systems: List services and systems that cutting and patching procedures will disturb or affect. List services and systems that will be relocated and those that will be temporarily out of service. Indicate length of time permanent services and systems will be disrupted.

    a. Include description of provisions for temporary services and systems during interruption of permanent services and systems.

D. Landfill Receipts: Submit copy of receipts issued by a landfill facility, licensed to accept hazardous materials, for hazardous waste disposal.

Include the following two items only if applicable to the project.

E. Certified Surveys: Submit two copies signed by land surveyor or professional engineer.

F. Final Property Survey: Submit six copies of final property survey.

1. Except as otherwise indicated, comply with submittal requirements for Shop Drawings in Division 01 Section "Submittal Procedures."

1.4 QUALITY ASSURANCE

A. Land Surveyor Qualifications: A professional land surveyor who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing land-surveying services of the kind indicated.

B. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.

1. Structural Elements: When cutting and patching structural elements, notify COTR of locations and details of cutting and await directions from COTR before proceeding. Shore, brace, and support structural elements during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection

    a. Floors
    b. Roofs
    c. Load bearing walls
    d. Foundations

2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety. Operational elements include, but are not limited to the following:

a. Primary operational systems and equipment.
b. Fire separation assemblies.
c. Air or smoke barriers.
d. Fire-suppression systems.
e. Mechanical systems piping and ducts.
f. Control systems.
g. Communication systems.
h. Fire-detection and -alarm systems.
i. Conveying systems.
j. Electrical wiring systems.
k. Operating systems of special construction.

3. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety. Other construction elements include but are not limited to the following:

a. Water, moisture, or vapor barriers.
b. Membranes and flashings.
c. Sprayed fire-resistive material.
d. Equipment supports.
e. Piping, ductwork, vessels, and equipment.
f. Noise- and vibration-control elements and systems.

4. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in COTR's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

C. Cutting and Patching Conference: Before proceeding, meet at Project site with parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

D. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated.

1.5 SITE DOCUMENTATION REQUIREMENTS

A. Contractor shall maintain one current, updated copy of the following documents:

1. Issued for Construction Drawings, including separate 3-ring binder for supplemental details.
2. Specifications.

3. Written interpretations and supplemental instructions.
4. Addenda or Amendments to Contract Documents.
5. Reviewed, approved shop drawings, samples, and product data.
6. Certifications.
7. Field Test Records.
8. Permits for Construction.
9. Correspondence Files.
10. Full set of updated Record Drawings (As-Built Drawings) and Record Specifications.

B. Document Keeping Requirements: Maintain required documents as follows:

1. Contractor shall store documents in field office apart from documents used for field construction.
2. Contractor shall provide files and racks for document storage.
3. Contractor shall file documents in format in accordance with Division numbering indicated in Specifications Table of Contents.
4. Contractor shall maintain documents in clean, dry legible conditions.
5. Contractor shall not use the documents in the field.
6. Contractor shall provide access to documents at all times for inspection by COTR.

C. Contractor shall keep Record Documents current. Make documents available for inspection at all times and as part of monthly progress/payment meeting.

D. Contractor shall not permanently conceal Work until specified information has been recorded.

E. Legibly mark reproducible drawings to record manufacturer, trade name, catalog number, and supplier for each product and item of equipment actually installed.

F. Comply with Section 01 78 39 "Project Record Documents" for recording, format, and delivery of Record Documents at end of Construction.

PART 2 - PRODUCTS

2.1 MATERIALS

A. General: Comply with requirements specified in other Sections.

1. For projects requiring compliance with sustainable design and construction practices and procedures, use products for patching that comply with requirements in Section 01 81 13 "Sustainable Design Requirements."

B. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.

1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to COTR for the visual and functional performance of in-place materials.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Identification: Contracting Officer's Technical Representative (COTR) will identify existing control points and property line corner stakes.

B. Verify layout information indicated, in relation to property survey and existing benchmarks, before proceeding to lay out Work. Locate and protect existing benchmarks and control points. Preserve permanent reference points during construction.

1. Do not change or relocate benchmarks or control points without prior written approval of COTR. Promptly report lost or destroyed reference points or requirements to relocate reference points because of necessary changes in grades or locations.
2. Promptly replace lost or destroyed Project control points. Base replacements on original survey control points.

C. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities, mechanical and electrical systems, and other construction affecting the Work.

1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; underground electrical services, and other utilities.
2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.

D. Existing Utilities and Equipment: Existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify existence and location of underground utilities and other construction.

1. Prior to construction, verify location and invert elevation at points of connection as indicated on Drawings.

E. Acceptance of Conditions: Examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.

1. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:

    a. Description of the Work.
    b. List of detrimental conditions, including substrates.
    c. List of unacceptable installation tolerances.
    d. Recommended corrections.

2. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.

3. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
4. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.

F. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Existing Utility Information: Furnish information to District that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.

B. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by District or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:

1. Notify District not less than two days in advance of proposed utility interruptions.
2. Do not proceed with utility interruptions without District's written permission.

C. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

D. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.

E. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents, submit a request for information to COTR. Include a detailed description of problem encountered, together with recommendations for changing the Contract Documents.

3.3 PERFORMANCE

A. Work from lines and levels established by property survey. Establish benchmarks and markers to set lines and levels at each story of construction and elsewhere as needed to locate each element of Project. Calculate and measure required dimensions within indicated or recognized tolerances. Do not scale Drawings to determine dimensions.

1. Advise entities engaged in construction activities of marked lines and levels provided for their use.
2. As construction proceeds, check major elements for line, level, and plumb.

B. Surveyor's Log: Maintain surveyor's log of control and other survey work. Make log available for reference.

1. Record deviations from required lines and levels, and advise COTR when deviations that exceed indicated or recognized tolerances are detected. On Project Record Drawings, record deviations that are accepted and not corrected.
2. On completion of foundation walls, major site improvements, and other work requiring field-engineering services, prepare survey , certified as required for final property survey, showing dimensions, locations, angles, and elevations of construction and sitework.

C. Site Improvements: Locate and lay out site improvements, including pavements, stakes for grading, fill and topsoil placement, utility slopes, and invert elevations.

D. Building Lines and Levels: Locate and lay out batter boards for structures, building foundations, column grids and locations, floor levels, and control lines and levels required for mechanical and electrical work.

E. Certified Survey: On completion of foundation walls, major site improvements, and other work requiring field-engineering services, prepare a certified survey showing dimensions, locations, angles, and elevations of construction and sitework.

F. Final Property Survey: Prepare final property survey showing significant features (real property) for Project. Include on survey certification, signed by surveyor, that principal metes, bounds, lines, and levels of Project are accurately positioned as shown on survey.

1. Recording: At Completion, have final property survey recorded by or with local governing authorities as official "property survey."

3.4 INSTALLATION

A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.

1. Make vertical work plumb and make horizontal work level.
2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
3. Conceal pipes, ducts, and wiring in finished areas, unless otherwise indicated.
4. Maintain minimum headroom clearance of 8 feet in spaces without a suspended ceiling.

B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.

C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Final Completion.

D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.

E. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.

F. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with

other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.

1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by COTR.
2. Allow for building movement, including thermal expansion and contraction.
3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

G. Anchors and Fasteners: Provide anchors and fasteners as required to anchor each component securely in place, accurately located and aligned with other portions of the Work.

H. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.

I. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.5 CUTTING AND PATCHING

A. Cutting and Patching, General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.

1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.

B. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not to void existing warranties.

C. Temporary Support: Provide temporary support of work to be cut.

D. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.

E. Adjacent Occupied Areas: Where interference with use of adjoining areas or interruption of free passage to adjoining areas is unavoidable, coordinate cutting and patching according to requirements in Section 011000 "Summary."

F. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to minimize interruption to occupied areas.

G. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or

adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.

1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
4. Excavating and Backfilling: Comply with requirements in applicable Sections where required by cutting and patching operations.
5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
6. Proceed with patching after construction operations requiring cutting are complete.

H. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other work. Patch with durable seams that are as invisible as practicable. Provide materials and comply with installation requirements specified in other Sections, where applicable.

1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will minimize evidence of patching and refinishing.

    a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
    b. Restore damaged pipe covering to its original condition.

3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.

    a. Where patching occurs in a painted surface, prepare substrate and apply primer and intermediate paint coats appropriate for substrate over the patch, and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.

4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition and ensures thermal and moisture integrity of building enclosure.

I. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

3.6 DISTRICT-INSTALLED PRODUCTS

A. Site Access: Provide access to Project site for District's construction personnel.

B. Coordination: Coordinate construction and operations of the Work with work performed by District's construction personnel.

1. Construction Schedule: Inform District of Contractor's preferred construction schedule for District's portion of the Work. Adjust construction schedule based on a mutually agreeable timetable. Notify District if changes to schedule are required due to differences in actual construction progress.
2. Preinstallation Conferences: Include District's construction personnel at preinstallation conferences covering portions of the Work that are to receive District's work. Attend preinstallation conferences conducted by District's construction personnel if portions of the Work depend on District's construction.

3.7 PROGRESS CLEANING

A. General: Clean Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials lawfully.

1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.

2. Do not hold materials more than 7 days during normal weather or 3 days if the temperature is expected to rise above 80 deg F.

3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
4. Comply with Section 01 74 19 "Construction Waste Management and Disposal" for sorting and recycling.

B. Site: Maintain Project site free of waste materials and debris.

C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.

1. Remove liquid spills promptly.

2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.

D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.

E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.

F. Exposed Surfaces: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Final Completion.

G. Cutting and Patching: Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar materials.

1. Thoroughly clean piping, conduit, and similar features before applying paint or other finishing materials. Restore damaged pipe covering to its original condition.

H. Waste Disposal: Burying or burning waste materials on-site will not be permitted. Washing waste materials down sewers or into waterways will not be permitted. Comply with waste disposal requirements in Section 01 74 19 "Construction Waste Management and Disposal."

I. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Final Completion.

J. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

K. Limiting Exposures: Supervise construction operations to ensure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period. Where applicable, such exposures include, but are not limited to, the following:

1. Excessive static or dynamic loading.
2. Excessive internal or external pressures.
3. Excessively high or low temperatures.
4. Thermal shock.
5. Excessively high or low humidity.
6. Pollution and air contamination.
7. Water or ice.
8. Chemicals and solvents.
9. Light.
10. Radiation.
11. Puncture.
12. Abrasion.
13. Heavy traffic.
14. Soiling, staining, and corrosion.
15. Mold or mildew.
16. Rodent and insect infestation.
17. Combustion.
18. Electrical current.
19. High-speed operation.
20. Improper lubrication.
21. Unusual wear or other misuse.
22. Contact between incompatible materials.
23. Destructive testing.
24. Misalignment.
25. Excessive weathering.

26. Unprotected storage.
27. Improper shipping or handling.
28. Theft or vandalism.

3.8 STARTING AND ADJUSTING

A. Coordinate startup and adjusting of equipment and operating components with requirements in Section 01 91 13 "General Commissioning Requirements."

B. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.

C. Adjust operating components for proper operation without binding. Adjust equipment for proper operation.

D. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

E. Manufacturer's Field Service: If a factory-authorized service representative is required to inspect field-assembled components and equipment installation, comply with qualification requirements in Section 01 40 00 "Quality Requirements."

3.9 PROTECTION OF INSTALLED CONSTRUCTION

A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Final Completion.

B. Comply with manufacturer's written instructions for temperature and relative humidity.

C. District reserves the right to protect installed Work to prevent damage and deterioration if the Contractor fails to protect the installed Work in a proper manner. The costs incurred by the District shall be paid by the Contractor.

3.10 CORRECTION OF THE WORK

A. Repair or remove and replace defective construction. Restore damaged substrates and finishes.

1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.

B. Restore permanent facilities used during construction to their specified condition.

C. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.

D. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.

E. Remove and replace chipped, scratched, and broken glass or reflective surfaces.

END OF SECTION 01 73 00

SECTION 01 74 19 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for the following:

1. Salvaging nonhazardous construction waste.
2. Recycling nonhazardous construction waste.
3. Disposing of nonhazardous construction waste.

B. Related Sections include the following:

1. Section 01 81 13 "Sustainable Design Requirements" for additional LEED DC GREEN CODE requirements.

1.3 DEFINITIONS

A. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.

B. Disposal: Removal off-site of construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.

C. Recycle: Recovery of construction waste for subsequent processing in preparation for reuse.

D. Salvage: Recovery of construction waste and subsequent sale or reuse in another facility.

1.4 PERFORMANCE REQUIREMENTS

A. General: Develop waste management plan that results in end-of-Project rates for salvage/recycling of not less than 75 percent by weight of total waste generated by the Work.

1. Excavated soil and land clearing debris do not contribute to this requirement.

B. Salvage/Recycle Requirements: District's goal is to salvage and recycle as much nonhazardous construction waste as possible including the following materials:

1. Construction Waste:

a. Site-clearing waste.
b. Masonry, stone, and CMU.
c. Lumber.
d. Wood sheet materials.
e. Wood trim.
f. Metals.
g. Roofing.
h. Insulation.
i. Carpet and pad.
j. Gypsum board.
k. Resilient floor.
l. Ceiling panels.
m. Piping.
n. Electrical conduit.
o. Packaging: Regardless of salvage/recycle goal indicated above, salvage or recycle 100 percent of the following uncontaminated packaging materials:

1) Paper.
2) Cardboard.
3) Boxes.
4) Plastic sheet and film.
5) Polystyrene packaging.
6) Wood crates.
7) Plastic pails.

1.5 SUBMITTALS

A. Waste Management Plan: Submit copy of plan within 30 days of date established for the Notice to Proceed for review and approval by COTR.

B. Waste Reduction Progress Reports: Submit copy of report monthly. Include the following information:

1. Material category.
2. Generation point of waste.
3. Total quantity of waste in tons.
4. Quantity of waste salvaged, both estimated and actual in tons.
5. Quantity of waste recycled, both estimated and actual in tons.
6. Total quantity of waste recovered (salvaged plus recycled) in tons.
7. Total quantity of waste recovered (salvaged plus recycled) as a percentage of total waste.

C. Waste Reduction Calculations: Before request for Final Completion, submit three copies of calculated end-of-Project rates for salvage, recycling, and disposal as a percentage of total waste generated by the Work.

D. Records of Donations: Indicate receipt and acceptance of salvageable waste donated to individuals and organizations. Indicate whether organization is tax exempt.

E. Records of Sales: Indicate receipt and acceptance of salvageable waste sold to individuals and organizations. Indicate whether organization is tax exempt.

F. Recycling and Processing Facility Records: Indicate receipt and acceptance of recyclable waste by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.

G. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.

H. LEED DC GREEN CODE Submittal: LEED DC GREEN CODE letter template for Credit MR 2.1 and Credit MR 2.2, signed by Contractor, tabulating total waste material, quantities diverted and means by which it is diverted, and statement that requirements for the credit have been met.

I. Qualification Data: For Waste Management Coordinator.

1.6 QUALITY ASSURANCE

A. Waste Management Coordinator Qualifications: LEED DC GREEN CODE Accredited Professional by U.S. Green Building Council. This person may be assigned other duties on the Project.

B. Regulatory Requirements: Comply with hauling and disposal regulations of authorities having jurisdiction.

C. Waste Management Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Management and Coordination." Review methods and procedures related to waste management including, but not limited to, the following:

1. Review and discuss waste management plan including responsibilities of Waste Management Coordinator.
2. Review requirements for documenting quantities of each type of waste and its disposition.
3. Review and finalize procedures for materials separation and verify availability of containers and bins needed to avoid delays.
4. Review procedures for periodic waste collection and transportation to recycling and disposal facilities.
5. Review waste management requirements for each trade.

1.7 WASTE MANAGEMENT PLAN

A. General: Develop plan consisting of waste identification, waste reduction work plan, and cost/revenue analysis. Indicate quantities by weight or volume, but use same units of measure throughout waste management plan.

B. Waste Identification: Indicate anticipated types and quantities of site-clearing and construction waste generated by the Work. Include estimated quantities and assumptions for estimates.

C. Waste Reduction Work Plan: List each type of waste and whether it will be salvaged, recycled, or disposed of in landfill or incinerator. Include points of waste generation, total quantity of each type of waste, quantity for each means of recovery, and handling and transportation procedures.

1. Salvaged Materials for Reuse: For materials that will be salvaged and reused in this Project, describe methods for preparing salvaged materials before incorporation into the Work.
2. Salvaged Materials for Sale: For materials that will be sold to individuals and organizations, include list of their names, addresses, and telephone numbers.
3. Salvaged Materials for Donation: For materials that will be donated to individuals and organizations, include list of their names, addresses, and telephone numbers.
4. Recycled Materials: Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers.
5. Disposed Materials: Indicate how and where materials will be disposed of. Include name, address, and telephone number of each landfill and incinerator facility.
6. Handling and Transportation Procedures: Include method that will be used for separating recyclable waste including sizes of containers, container labeling, and designated location on Project site where materials separation will be located.

D. Cost/Revenue Analysis: Indicate total cost of waste disposal as if there was no waste management plan and net additional cost or net savings resulting from implementing waste management plan. Include the following:

1. Total quantity of waste.
2. Estimated cost of disposal (cost per unit). Include hauling and tipping fees and cost of collection containers for each type of waste.
3. Total cost of disposal (with no waste management).
4. Revenue from salvaged materials.
5. Revenue from recycled materials.
6. Savings in hauling and tipping fees by donating materials.
7. Savings in hauling and tipping fees that are avoided.
8. Handling and transportation costs. Include cost of collection containers for each type of waste.
9. Net additional cost or net savings from waste management plan.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 PLAN IMPLEMENTATION

A. General: Implement waste management plan as approved by the COTR. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.

1. Comply with Division 01 Section 01 50 00 "Temporary Facilities and Controls" for operation, termination, and removal requirements.

B. Waste Management Coordinator: Engage a waste management coordinator to be responsible for implementing, monitoring, and reporting status of waste management work plan. Coordinator shall be present at Project site full time for duration of Project.

C. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work occurring at Project site.

1. Distribute waste management plan to everyone concerned within three days of submittal return.
2. Distribute waste management plan to entities when they first begin work on-site. Review plan procedures and locations established for salvage, recycling, and disposal.

D. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

1. Designate and label specific areas on Project site necessary for separating materials that are to be salvaged, recycled, reused, donated, and sold.
2. Comply with Division 1 Section "Temporary Facilities and Controls" for controlling dust and dirt, environmental protection, and noise control.

3.2 SALVAGING

A. Salvaged Items for Reuse in the Work:

1. Clean salvaged items.
2. Pack or crate items after cleaning. Identify contents of containers.
3. Store items in a secure area until installation.
4. Protect items from damage during transport and storage.
5. Install salvaged items to comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make items functional for use indicated.

B. Salvaged Items for Sale and Donation: Permitted. Contractor shall make arrangements to remove items off site for this purpose.

3.3 RECYCLING CONSTRUCTION WASTE, GENERAL

A. General: Recycle paper and beverage containers used by on-site workers.

B. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to the maximum extent practical.

1. Provide appropriately marked containers or bins for controlling recyclable waste until they are removed from Project site. Include list of acceptable and unacceptable materials at each container and bin.

    a. Inspect containers and bins for contamination and remove contaminated materials if found.

2. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
3. Stockpile materials away from construction area. Do not store within drip line of remaining trees.
4. Store components off the ground and protect from the weather.
5. Remove recyclable waste off District's property and transport to recycling receiver or processor.

3.4 RECYCLING CONSTRUCTION WASTE

A. Packaging:

1. Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.
2. Polystyrene Packaging: Separate and bag materials.
3. Pallets: As much as possible, require deliveries using pallets to remove pallets from Project site. For pallets that remain on-site, break down pallets into component wood pieces and comply with requirements for recycling wood.
4. Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.

B. Site-Clearing Wastes: Chip brush, branches, and trees on-site.

C. Wood Materials:

1. Clean Cut-Offs of Lumber: Grind or chip into small pieces.
2. Clean Sawdust: Bag sawdust that does not contain painted or treated wood.

D. Gypsum Board: Stack large clean pieces on wood pallets and store in a dry location.

1. Clean Gypsum Board: Grind scraps of clean gypsum board using small mobile chipper or hammer mill. Screen out paper after grinding.

3.5 DISPOSAL OF WASTE

A. General: Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.

1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.

2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

B. Burning: Do not burn waste materials.

C. Burning: Burning of waste materials is permitted only at designated areas on District's property, provided required permits are obtained. Provide full-time monitoring for burning materials until fires are extinguished.

D. Disposal: Transport waste materials and dispose of at designated spoil areas on District's property.

E. Disposal: Transport waste materials off District's property and legally dispose of them.

END OF SECTION 01 74 19

SECTION 01 74 23 - FINAL CLEANING

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and General Conditions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

A. Administrative and procedural requirements for final cleaning at Completion.

1.3 RELATED SECTIONS

A. Other Division 1 Specification Sections including, but not limited to, following:

1. Section 01 50 00 "Temporary Facilities and Controls": General cleanup and waste-removal requirements.
2. Section 01 74 19 "Construction Waste Management and Disposal."
3. Section 01 77 00 "Closeout Procedures": General contract closeout requirements.
4. Special cleaning requirements for specific construction elements are included in appropriate Sections of Divisions in the contract specifications.

1.4 SITE CONDITIONS

A. Environmental Requirements: Conduct cleaning and waste-disposal operations in compliance with local laws and ordinances. Comply fully with federal and local environmental and antipollution regulations.

1. Do not dispose of volatile wastes, such as mineral spirits, oil, or paint thinner, in storm or sanitary drains.
2. Burning or burying of debris, rubbish, or other waste material on premises not allowed.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

B. Use cleaning materials that comply with requirements issued by the District's Office of Contracting and Procurement for cleaning products which is identified as "Environmentally Preferable Janitorial Products" for District-owned or District-occupied buildings.

PART 3 - EXECUTION

3.1 FINAL CLEANING

A. General: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit of Work to condition expected from commercial building cleaning and maintenance program. Comply with manufacturer's instructions.

B. Complete following cleaning operations applicable to Project before requesting inspection for Substantial Completion for entire Project or portion of Project.

1. Clean Project Site, yard and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and foreign substances.
2. Sweep paved areas broom clean. Rake grounds that are neither planted nor paved to smooth, even-textured surface.
3. Remove petrochemical spills, stains, and other foreign deposits.
4. Remove tools, construction equipment, machinery, and surplus material from site.
5. Remove snow and ice to provide safe access to building.
6. Clean exposed exterior and interior hard-surfaced finishes to dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to original condition.
7. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
8. Broom clean concrete floors in unoccupied spaces.
9. Vacuum clean carpet and similar soft surfaces, removing debris and excess nap. Shampoo if required.
10. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other substances that are noticeable vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass, taking care not to scratch surfaces.
11. Remove labels that are not permanent labels.
12. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.

    a. Do not paint over UL and similar labels, including mechanical and electrical nameplates.

13. Wipe surfaces of mechanical and electrical equipment, elevator equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.

14. Clean plumbing fixtures to sanitary condition, free of stains, including stains resulting from water exposure.
15. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers and grills.
16. Clean ducts, blowers, and coils if units were operated without filters during construction.
17. Clean food-service equipment to sanitary condition, ready and acceptable for intended use.
18. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency. Replace burned-out bulbs and defective and noisy starters in fluorescent and mercury vapor fixtures.
19. Clean laboratories to the level required for certification.
20. Leave Project clean and ready for occupancy.

C. Engage experienced, licensed exterminator to make final inspection and rid Project of rodents, insects, and other pests. Comply with regulations of local authorities.

D. Remove temporary protection and facilities installed during construction to protect previously completed installations during remainder of construction period.

E. Comply with governing regulations and safety standards for cleaning operations. Remove waste materials from site and dispose of lawfully.

1. Where extra materials of value remain after completion of associated Work, they become District's property. Dispose of these materials as directed by Contracting Officer’s Technical Representative (COTR).

END OF SECTION 01 74 23

SECTION 01 77 00 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and General Conditions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Administrative and procedural requirements for Substantial Completion and Final Acceptance.

1. Closeout requirements for specific construction activities are included in appropriate Sections in Divisions 01 through 33.

1.3 DEFINITIONS

A. Consolidated Punch List: The Contractors List of Incomplete Items augmented by items noted by the COTR and his designated consultants during review walkthroughs of the work.

B. Material Punch List Item: An item on the Consolidated Punch List which, at the sole discretion of the COTR, restricts the full and complete use of the work, by the District, for its intended purpose.

1.4 ACTION SUBMITTALS

A. Contractor's List of Incomplete Items: Initial submittal at or before Closeout Conference.

B. Consolidated Punch List: Submit after walk through meeting.

1.5 CLOSEOUT CONFERENCE

A. Comply with Section 01 31 00 – "Project Management and Coordination", for closeout conference.

1.6 CLOSEOUT SUBMITTALS

A. Certificates of Release: From authorities having jurisdiction.

B. Certificate of Insurance: For continuing coverage.

C. Field Report: For pest control inspection.

D. Elevator Certification: Inspection report and certificate from authorities having jurisdiction.

E. Fire Sprinkler and Fire Alarm Certificate: Inspection report and certificate from authorities having jurisdiction.

F. Warranty Information: Provide product and system warranties in binder. Refer to Section 01 78 00 "Warranties."

G. All Record Drawings, Specifications, and other requirements specified in Section 01 78 39 "Project Record Documents."

H. Mold Prevention Certification: Contractor: Submit letter of certification that Contractor has complied with requirements of Contract Documents for construction operations to prevent growth of mold.

1. Submit certification on letterhead at same time as Application for Final Payment.

1.7 PRELIMINARY PROCEDURES

A. Before requesting inspection for determining date of Substantial Completion, complete following, as appropriate to Project.

1. Submit draft warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
2. Obtain and submit releases permitting District unrestricted use of Work and access to services and utilities. Include final inspections, operating certificates, and similar releases.
3. Deliver tools, spare parts, extra materials, and similar items in accordance with Section 01 78 61 and individual Sections.

    a. Schedule of Maintenance Material Items: Prepare and submit schedule of maintenance material submittal items, including name and quantity of each item and name and number of related Specification Section. Obtain COTR's signature for receipt of submittals.

4. Complete commissioning of systems, subsystems, and equipment in accordance with Section 01 91 13 "Commissioning.".
5. Submit test/adjust/balance records.
6. Submit changeover information related to District's occupancy, use, operation, and maintenance, including utility services.
7. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
8. Submit draft Project Record Documents in accordance with Section 01 78 39 "Record Documents."
9. Submit occupancy permits.

10. Ensure all project communication regarding RFIs, contract modifications, and meeting minutes are contained within internet-based Contract Project Management software system.
11. Fuel: Fill the fuel oil tank for the emergency generator, at cost of Contractor.
12. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected indicating the value of each item on the list and reasons why the Work is incomplete.
13. Request and complete a walk-through meeting with COTR, and any consultants and other stakeholders designated by COTR, to review Contractor's List of Incomplete Items. Update list to include any additional items noted during walk-through. Updated list to be named the "Consolidated Punch List". Submit to COTR for approval following update. Resolve all material items included on the list.
14. Prepare Operation and Maintenance Manuals in accordance with Section 01 78 23. Include Equipment List in spreadsheet format advised by COTR.
15. Contact manufacturer to start process of changeover to permanent locks and request delivery of cores and keys to District. Advise COTR in writing.
16. Complete installation of all signage, as required by the contract documents including, but not limited to, directional, emergency egress, ADA and room number signs. Install dedication plaque provided by the district or as specified in the contract documents.
17. Provide copies of closure reports for environmental abatement work performed by the contractor. This shall include, but not limited to, asbestos, lead paint, contaminated soil, PCB's, etc.
18. Submit Mold Certificate in accordance with Section 015000.
19. Submit sustainable design submittals required in Section 01 81 13 "Sustainable Design."
20. Instruct District's personnel in operation, adjustment, and maintenance of products, equipment, and systems. Submit demonstration and training video recordings specified in Section 01 79 00 "Demonstration and Training."
21. Participate with District in conducting inspection and walkthrough with local emergency responders, end user personnel and Facilities Maintenance personnel.

B. Inspection: Submit written request for inspection for Substantial Completion a minimum of 10 days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, COTR will either proceed with inspection or notify Contractor of unfulfilled requirements. COTR will notify Contractor of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by COTR, which must be completed or corrected before Certificate will be issued.

1. Re-inspection: Request re-inspection when Work identified in previous inspections as incomplete is completed or corrected.

2. In addition to 1.5.A, above, the following items shall be completed prior to issuance of the Certificate of Substantial Completion.

    a. Submit final meter readings for utilities, measured record of stored fuel, and similar data as of date of Substantial Completion.

    b. Make final changeover of permanent locks and keys in coordination with COTR.

c. Clean and renovate permanent facilities used during construction period, in accordance with Section 01 50 00

d. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements, unless approved in writing to remain by COTR.

e. Top off the fuel oil tank of the emergency generator.

f. Submit four hard copies and two electronic copies of all documents identified in paragraph 1.5.A above unless advised otherwise by COTR.

1.8 FINAL COMPLETION PROCEDURES

A. Submittals Prior to Final Completion: Before requesting final inspection for determining final completion, complete the following:

1. Submit a final Application for Payment according to Section 01 29 00 "Payment Procedures."
2. Submit closeout submittals specified in other Division 01 Sections, including project record documents, final completion construction photographic documentation, damage or settlement surveys, property surveys, and similar final record information, not required at Substantial Completion.
3. Punch List: Submit certified copy of Consolidated Punch List of items to be completed or corrected, endorsed and dated by COTR. Certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
4. Submit final Project Record Documents in accordance with Section 01 78 39 "Record Documents."
5. Submit final warranty documents, maintenance agreements and bonds updated to start at date of Substantial Completion.
6. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements
7.
8. Submit pest-control final inspection report and warranty.
9. Terminate and remove remaining temporary facilities from Project site, along with mockups, construction tools, and similar elements.
10. Complete final cleaning requirements, including touchup painting.
11. Complete broken, chipped, dented, or otherwise marred finish surfaces as described in "Repair of the Work" Article of this Section.
12. Submit Contractor's Certificate of Final Completion on form attached to end of this Section.

B. Inspection: Submit a written request for final inspection to determine acceptance a minimum of 10 days prior to date the work will be completed and ready for final inspection. On receipt of request, COTR will either proceed with inspection or notify Contractor of unfulfilled requirements. COTR will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

1. Re-inspection: Request re-inspection when the Work identified in previous inspections as incomplete is completed or corrected.

C. Final Property Survey: Coordinate with COTR for requirements for submitting the Final Property Survey for Zoning and/or DCRA approval.

D. Final reports and certificates for systems that need certification by authorities having jurisdiction, including but not limited to:

1. Fire Alarm System.
2. Elevator.
3. LEED DC GREEN CODE documentation for continuing sustainability for the facility operation.

1.9 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction. Use CSI Form 14.1A.

1. Organize list of spaces in sequential order, [starting with exterior areas first] [and] [proceeding from lowest floor to highest floor].
2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
3. Include the following information at the top of each page:

    a. Project name.
    b. Date.
    c. Name of Architect.
    d. Name of Contractor.
    3. Page number.

4. Submit list of incomplete items in the following format:

    a. MS Excel electronic file. Architect, through COTR, will return annotated file.
    b. PDF electronic file. Architect, through COTR, will return annotated file.
    c. Three paper copies. Architect, through COTR, will return two copies.

1.10 SUBMITTAL OF PROJECT WARRANTIES

A. Refer to Section 01 78 70 "Warranties" for proper procedure for submitting warranties.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTIONCERTIFICATE OF SUBSTANTIAL COMPLETION Substantial Completion will be granted when the Certificate of Occupancy is granted by the authority having jurisdiction; the Building Commissioning is considered complete by the District's Commissioning Authority, including training of District's employees and the Operation and Maintenance Manuals are delivered; all material punch-list items are resolved to the satisfaction of the District; and all other items noted in this Section, paragraph 1.5 are completed to the satisfaction of the COTR.

B. Inspection: Submit a written request for inspection to determine Substantial Completion a minimum of 10 days prior to date the work will be completed and ready for final inspection and tests. Sample letter is attached to end of this Section. On receipt of request, COTR will either proceed with inspection or notify Contractor of unfulfilled requirements. Resubmit a written request for inspection once all previously unfulfilled requirements are completed.

D. COTR will schedule the inspection. Contractor, COTR and other stakeholders, as identified by COTR, will conduct an inspection of the work and submitted documents. Following completion of the inspection the COTR will either,

1. notify Contractor of items that must be completed or corrected before Substantial Completion can be achieved, by completing Section 1 of the Certificate and issuing it to the Contractor, or

2. Recommend issuance of the Certificate of Substantial Completion by completing section 2 of the certificate.

E. Resubmit a written request for re-inspection once all items noted in Section 1 of the Certificate are completed.

F. COTR will issue the completed Certificate of Substantial Completion upon completion of Section 2 of the Certificate. The date of Substantial Completion noted in the Certificate shall be used for warranty requirements of Section 01 78 70 “Warranties”.

3.2 REPAIR OF THE WORK

A. Complete repair and restoration operations before requesting inspection, or re-inspection, for determination of Substantial Completion.

B. Repair or remove and replace defective construction. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment. Where damaged or worn items cannot be repaired or restored, provide replacements. Remove and replace operating components that cannot be repaired. Restore damaged construction and permanent facilities used during construction to specified condition.

1. Remove and replace chipped, scratched, and broken glass, reflective surfaces, and other damaged transparent materials.

2. Touch up and otherwise repair and restore marred or exposed finishes and surfaces. Replace finishes and surfaces that that already show evidence of repair or restoration.

    a. Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates. Remove paint applied to required labels and identification.

3. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.
4. Replace burned-out bulbs, bulbs noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.

3.3 COMPLETION OF CONSOLIDATED PUNCH LIST

A. Contractor shall begin performance of Consolidated Punch List corrections immediately after completion of the COTR's walk through to review the Contractors List of Incomplete Items

B. Period to complete Consolidated Punch List Work will be determined by the COTR. The time period for completion of the Punch List Work begins the first work day after the Consolidated Punch List is approved by COTR. The COTR may extend the period to complete Punch List Work for specific Work which requires the receipt of long lead-time materials. However, all other Punch List Work shall be completed as required by this Section.

    1. Failure of the Contractor to begin the Punch List Work prior to the expiration of 3 calendar days after approval of Punch List will be construed as failure to prosecute the Work of the Contract and shall be completed within 30 days.

C. Punch List Work shall be continuously prosecuted once begun. Gap of 3 calendar days during which Punch List Work is not being performed on the job site will be construed as failure to prosecute the Work of the Contract.

3.4 CERTIFICATE OF FINAL COMPLETION

A. Contractor shall complete the "Contractor's Certificate of Final Completion" form found at the end of this Section or if approved by the Contracting Officer, may use the Certificate of Final Completion found in the Electronic Project Management system used on the Project.

3.4 SCHEDULE OF DOCUMENTS NEEDED FOR CLOSE-OUT PROCEEDURE <complete from applicable Sections as appropriate for project>

SPECIFICATION SECTION	TITLE OF DOCUMENT REQUIRED	WHEN TO SUBMIT	RECIPIENT
<01 50 00 – Temporary	<Mold-Free Construction	<Substantial Completion>	<COTR>

SPECIFICATION SECTION	TITLE OF DOCUMENT REQUIRED	WHEN TO SUBMIT	RECIPIENT
Facilities & Controls>	Certificate>		

END OF SECTION 01 77 00

Sample letter request for Substantial Completion, Certificate of Substantial Completion and Contractor's Certificate of Final Completion follows.

REQUEST FOR SUBSTANTIAL COMPLETION INSPECTION

<*Date*>

Capital Construction Services
Department of General Services
3924 Minnesota Avenue NE
Washington D.C. 20019

Attention: _____<*COTR*>

Reference: _____<*project name*>

Dear Sir/Madam,

_____<*contractor*> hereby requests an inspection for determination of date of Substantial Completion for the above referenced project, or portion hereof as detailed below. <*Insert description of partial area*>. The following documents are attached:

- ☐ Certificate of Occupancy.
- ☐ Other final inspections, operating certificates, and similar releases, permitting District unrestricted use of Work and access to services and utilities. <*list*>
- ☐ Draft copies of warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents, including a warranty contact list.
- ☐ Comprehensive Punch List, as approved by COTR, with all material items completed.
- ☐ Schedule of Attic Stock, including all tools, spare parts, extra materials, and similar items, as required by Specification Section 017861.
- ☐ Operation and Maintenance Manuals in accordance with specification section 017823.
- ☐ Equipment list in spreadsheet format, including equipment label information.
- ☐ Closure reports for environmental abatement work performed by the contractor. <list>
- ☐ Draft commissioning report of systems, subsystems, and equipment in accordance with Section 01 91 13, including letter from Commissioning Agent certifying that all material issues have been resolved and systems are fully functional.

Additionally we advise the following:

- ☐ The following utility meter numbers need to be transferred to District responsibility as of date of Substantial Completion
  - PEPCO _____
  - Washington Gas _____
  - DC Water. _____
  - Other <*specify*> _____

- ☐ We have contacted and advised the door hardware manufacturer to have the permanent keys and cores delivered directly to you prior to date of Substantial Completion.

- ☐ All fuel oil tanks have been filled. They will be topped off on the day designated for Substantial Completion.
- ☐ All training required by the Contract Documents has been completed.

Please advise when the inspection will be conducted.

Sincerely

_____

[Signature and printed name]

CERTIFICATE OF SUBSTANTIAL COMPLETION

(Use this form if DGS PM is a DGS employee. If DGS PM is a contractor use alternate form)

PROJECT NAME: _____

CONTRACTOR: _____

PROJECT No.: - - -

☐ COMPLETE PROJECT.

☐ PARTIAL – List areas/phase

_____

_____

_____

_____

COTR to complete Section 1 or Section 2

SECTION 1

☐ As requested by the Contractor, the COTR has inspected the project and the submitted close-out documents.

The following items must be completed or corrected prior to certifying the Date for Substantial Completion.

ITEM	DESCRIPTION	COMPLETE
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
14		

Once the above noted items are complete, submit written request for re-inspection.

_____ _____

COTR and printed name Date

SECTION 2

☐ As requested by the Contractor, the COTR has inspected the project and the submitted close-out documents and recommends the Project, or Specified area of the Project, be accepted as Substantially Complete at _____(time) **on_____, 20_.** (date)

_____ _____
COTR and printed name Date

_____ _____
Construction Turnover Manager and printed name Date

_____ _____
Cluster Leader and printed name Date

The Project, or specified area of the Project, are accepted as Substantially Complete at_____(time) **on_____, 20_.** (date)

All warranties will start the day of Substantial Completion, with the exception of those items remaining on the attached punch list, which will start as of the date of Final Completion. The failure to include an item on the punch list does not alter the responsibility of the Contractor to complete all the Work in accordance with the Contract Documents, including authorized changes thereof. The Contractor shall complete or correct the work on the attached punch list by_/_/__. If the list of items is not completed within the time allotted the District has the right to be compensated for the delays and/or complete the work with the help of an independent contractor at the expense of the retained project funds. If the retained project funds are insufficient to cover the delay/completion damages, the district shall be promptly reimbursed for the balance of the funds needed to compensate the District, either directly or by claim against the Performance Bond.

CONTRACTOR'S CERTIFICATE OF FINAL COMPLETION

PROJECT: _____

CONTRACT FOR: _____

TO COTR: _____

CONTRACT DATE: _____

This is to certify that I am an authorized official of the Contractor, and have been properly authorized by said firm or corporation to certify following:
I know of my own personal knowledge, and do hereby certify on behalf of Contractor that the Work has been reviewed and inspected for compliance with Contract Documents, that it has been completed in accordance with Contract Documents, that all equipment and systems have been tested and are operating as required by the contract, that all Contract Closeout requirements have been completed and submitted.
Attached are three copies of the following documents, which are required prior to final payment:

[ ] Certificates of inspections indicating compliance with requirements of Government authorities, including Certificate of Occupancy, have been obtained and are attached hereto.

[ ] Certificate of site conformance by licensed land surveyor.

[ ] List of Subcontractors and equipment suppliers.

I understand that acceptance of final payment by the Contractor, a Subcontractor or material supplier shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at time of final Application for Payment.

CONTRACTOR: _____

BY: _____ Subscribed and sworn to me this

TITLE: _____ ____day of_____, 20____.

DATE: _____

NOTARY PUBLIC _____

My commission expires: _____

DISTRIBUTION: CONTRACTING OFFICER AND COTR.

SECTION 01 78 23 - OPERATION AND MAINTENANCE DATA

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and General Conditions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Administrative and procedural requirements for preparing operation and maintenance manuals including, but not limited to:

1. Operation and maintenance documentation directory.
2. Operation manuals for systems, subsystems, and equipment.
3. Maintenance manuals for care and maintenance of products, materials, finishes, and systems and equipment, as required by other Sections.

B. Commissioning of the Facility depends heavily on the contents of the O&M Manual for performing testing of the systems. Final O&M Manuals that have been reviewed and approved by the COTR shall be delivered to the Commissioning Authority prior to start of Commissioning.

1.3 DEFINITIONS

A. System: Organized collection of parts, equipment, or subsystems united by regular interaction.

B. Subsystem: Portion of system with characteristics similar to system.

1.4 SUBMITTALS

A. Initial Submittal: Submit two (2) draft copies of each manual a minimum of 60 days prior to start of Commissioning Process. Include a complete operation and maintenance directory. COTR will return one (1) copy of draft and mark whether general scope and content of manual are acceptable.

B. Final Submittal: Submit one (1) copy of each manual in final format by start of Commissioning Process. COTR will return copy with comments within 15 days.

C. Provide four (4) hard copies and one (1) electronic copy of each Final Operation and Maintenance Manual to the COTR.

1.5 QUALITY ASSURANCE

A. In preparation of operation and maintenance data, use personnel thoroughly trained and experienced in operation and maintenance of equipment or system involved.

1. Where manuals require written instructions, use personnel skilled in technical writing where necessary for communication of essential data.

2. Where maintenance manuals require drawings or diagrams, use draftsmen capable of preparing drawings clearly in understandable format.

1.6 COORDINATION

A. Where operation and maintenance documentation includes information on installations by more than one factory-authorized service representative, assemble and coordinate information furnished by representatives and prepare manuals.

PART 2 - PRODUCTS

2.1 OPERATION AND MAINTENANCE DOCUMENTATION DIRECTORY

A. Organization: Include section in directory for each of following:

1. List of documents.
2. List of systems.
3. List of equipment.
4. Table of contents.

B. List of Systems and Subsystems: List systems alphabetically. Include references to operation and maintenance manuals that contain information about each system.

C. List of Equipment: List equipment for each system, organized alphabetically by system. For pieces of equipment not part of system, list alphabetically in separate list. Provide list in spreadsheet format as directed by COTR.

D. Tables of Contents: Include table of contents for each emergency, operation, and maintenance manual.

E. Identification: In documentation directory and in each operation and maintenance manual, identify each system, subsystem, and piece of equipment with same designation used in Contract Documents. If no designation exists, assign designation according to ASHRAE Guideline 4, "Preparation of Operating and Maintenance Documentation for Building Systems."

2.2 MANUALS, GENERAL

A. Organization: Unless otherwise indicated, organize each manual into separate section for each system and subsystem, and separate section for each piece of equipment not part of system. Each Manual: Contain following materials, in order listed:

1. Title page.
2. Table of contents.
3. Manual contents.

B. Title Page: Enclose title page in transparent plastic sleeve. Include following information:

1. Subject matter included in manual.
2. Name and address of Project.
3. Name and address of District government agency.
4. Date of submittal.
5. Name, address, and telephone number of Contractor.
6. Cross-reference to related systems in other operation and maintenance manuals.

C. Table of Contents: List each product included in manual, identified by product name, indexed to content of volume, and cross-referenced to Specification Section number in Project Manual.

1. If operation or maintenance documentation requires more than one volume to accommodate data, include comprehensive table of contents for all volumes in each volume of set.

D. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into single binder.

1. Binders: Heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to hold 8-1/2 by 11 inch paper; with clear plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.

    a. If two or more binders are necessary to accommodate data of system, organize data in each binder into groupings by subsystem and related components. Cross-reference other binders if necessary to provide essential information for proper operation or maintenance of equipment or system.
    b. Identify each binder on front and spine, with printed title **OPERATION AND MAINTENANCE MANUAL**, Project title or name, and subject matter of contents including specification section or sections, as applicable. Indicate volume number for multiple-volume sets.

2. Dividers: Heavy-paper dividers with plastic-covered tabs for each section. Mark each tab to indicate contents. Include typed list of products and major components of equipment

included in section on each divider, cross-referenced to Specification Section number and title of Project Manual.

3. Where computerized electronic equipment requires diagnostic software diskettes, provide protective transparent protective sleeve of same overall size as binder contents. Punch and bind sleeve in appropriate manual.
4. Supplementary Text: Prepared on 8-1/2 by 11 inch, 20 psf white bond paper.
5. Drawings: Attach reinforced, punched binder tabs on drawings and bind with text.

    a. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts.
    b. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind envelopes in rear of manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.
    c. Provide specially prepared drawings where necessary to supplement manufacturer's printed data to illustrate relationship of component parts of equipment or systems or to provide control or flow diagrams. Coordinate specially prepared drawings with information contained in project record drawings specified in Section 017839 to assure correct illustration of completed installation.

        1) Do not use original record documents as part of operation maintenance manuals.

6. Specifications: Component or system specifications section copied and inserted complete with modifications. In addition, provide (1) electronic copy of updated "as-built" specifications on a CD.

2.3 OPERATION MANUALS

A. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and following information:

1. System, subsystem, and equipment descriptions.
2. Performance and design criteria if Contractor is delegated design responsibility.
3. Operating standards.
4. Operating procedures.
5. Operating logs.
6. Wiring diagrams.
7. Control diagrams.
8. Piped system diagrams.
9. Precautions against improper use.
10. License requirements including inspection and renewal dates.

B. Descriptions: Include following:

1. Product name and model number.

2. Manufacturer's name.
3. Equipment identification with serial number of each component.
4. Equipment function.
5. Operating characteristics.
6. Limiting conditions.
7. Performance curves.
8. Engineering data and tests.
9. Complete nomenclature and number of replacement parts.

C. Operating Procedures: Include following, as applicable:

1. Startup procedures.
2. Equipment or system break-in procedures.
3. Routine and normal operating instructions.
4. Regulation and control procedures.
5. Instructions on stopping.
6. Normal shutdown instructions.
7. Seasonal and weekend operating instructions.
8. Required sequences for electric or electronic systems.
9. Special operating instructions and procedures.

D. Systems and Equipment Controls: Describe sequence of operation, and diagram controls as installed.

E. Piped Systems: Diagram piping as installed, and identify color-coding where required for identification.

2.4 PRODUCT MAINTENANCE MANUAL

A. Content: Organize manual into separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.

B. Source Information: List each product included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual.

C. Product Information: Include the following, as a minimum as applicable:

1. Product name and model number.
2. Manufacturer's name.
3. Color, pattern, and texture.

4. Material and chemical composition.
5. Reordering information for specially manufactured products.

D. Maintenance Procedures: Include manufacturer's written recommendations and following:

1. Inspection procedures.
2. Types of cleaning agents to be used and methods of cleaning.
3. List of cleaning agents and methods of cleaning detrimental to product.
4. Schedule for routine cleaning and maintenance.
5. Repair instructions.

E. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.

F. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

1. Include procedures to follow and required notifications for warranty claims.

2.5 SYSTEMS AND EQUIPMENT MAINTENANCE MANUAL

A. Content: For each system, subsystem, and piece of equipment not part of system, include source information, manufacturers' maintenance documentation, maintenance procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranty and bond information, as described below.

B. Source Information: List each system, subsystem, and piece of equipment included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual.

1. Provide separate listing or include on title page, at Contractor’s option.

C. Manufacturers' Maintenance Documentation: Manufacturers' maintenance documentation including following information for each component part or piece of equipment:

1. Standard printed maintenance instructions and bulletins.
2. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.

a. If system’s control drawing is not adequate, provide simplified, professionally drawn, single line system diagrams on minimum 8-1/2 by 11 inch, 20 psf white bond paper.

3. Identification and nomenclature of parts and components.
4. List of items recommended to be stocked as spare parts.

D. Maintenance Procedures: Include following information and items that detail essential maintenance procedures:

1. Test and inspection instructions.
2. Troubleshooting guide.
3. Precautions against improper maintenance.
4. Disassembly; component removal, repair, and replacement; and reassembly instructions.
5. Aligning, adjusting, and checking instructions.
6. Demonstration and training videotape, if required.
7. List of special tools required to service or maintain equipment.

E. Preventive Maintenance Instructions: Manufacturer’s written instructions for weekly, monthly, quarterly, annual, and other regularly scheduled maintenance prepared by mechanical subcontractor with assistance from equipment supplier.

F. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.

1. Scheduled Maintenance and Service: Tabulate actions for daily, weekly, monthly, quarterly, semiannual, and annual frequencies.
2. Maintenance and Service Record: Include manufacturers' forms for recording maintenance.

G. Control Drawings: Include control drawings for equipment and components, including sequence of operation. Control Drawings: Prepared by controls contractor and included here and in controls contractor’s Operation and Maintenance Manual submittal.

H. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.

I. Maintenance Service Contracts: Include copies of maintenance agreements with name and telephone number of service agent.

J. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

1. Include procedures to follow and required notifications for warranty claims.

PART 3 - EXECUTION

3.1 MANUAL CONTENT

A. Include information required by the Contract Documents in the form of Data Packages. Develop data packages for each building component, piece of equipment and system based on level of complexity and as specified. Provide data packages in accordance with Schedule at end of Part 3 of this Section. Applicability of data packages is as follows:

1. Data Package 1: General building materials and components such as sealants, light fixtures, door hardware, etc.
2. Data Package 2: Simple operating components such as valves, hatches, louvers, plumbing fixtures
3. Data Package 3: Minor equipment such as small pumps and fans
4. Data Package 4: Major and complex equipment such as AHU's, package AC units, large pumps and motors, chillers, boilers, switch gear, elevators, control systems, engine generators, harmonic cancellation systems, fire alarm systems, etc.

B. Provide Data Package information as follows:

1. Data Package 1, at a minimum:

   a. Manufacturer’s product information
   b. Supplier information
   c. Warranty information
   d. Commissioning Documentation

2. Data Package 2: Data Package 1 information plus at a minimum:

   a. Safety precautions
   b. Maintenance & repair procedures
   c. Replacement parts identification & installation
   d. Commissioning Documentation

3. Data Package 3: Data Package 2 information plus at a minimum:

   a. Normal operating instructions
   b. Lubrication data
   c. Preventive maintenance plan/schedule
   d. Alignment, adjusting and checking information
   e. Removal and replacement instructions
   f. Parts identification
   g. Wiring diagrams
   h. Commissioning Documentation

4. Data Package 4: Data Package 3 information plus at a minimum:

   a. Equipment or System Description including:

      1) Equipment or System Function
      2) Operating characteristics

3) Safety precautions
4) Environmental and limiting conditions
5) Performance curves
6) Engineering data and tests
7) Complete nomenclature and number of replacement parts
8) Supplier and vendor information

b. Manufacturer's Information including:

1) Assembly drawings and diagrams required for maintenance
2) List of items recommended to be stocked as spare parts
3) Wiring and control diagrams

c. Maintenance Procedures detailing essential maintenance procedures including:

1) Printed operation and maintenance instructions
2) Routine operations
3) Troubleshooting guide & diagnostic techniques
4) Disassembly, repair and reassemble
5) Alignment, adjusting and checking
6) Lubrication data
7) Consumable information such as belts and filters
8) Testing equipment & special tool information

d. Operating Procedures including:

1) Start up and shut down procedures
2) Equipment or system break-in
3) Routine and normal operating instructions
4) Regulation and control procedures
5) Emergency procedures
6) Summer and winter operating instructions
7) Required sequences for electric or electronic systems
8) Special operating instructions
9) Operator service requirements

C. Software: Specified program listings, interface control documents, source code listing, and copies of the operating programs on media appropriate to use as backup for the system software. Include instructions for loading the operating software onto the system.

D. Additional requirements:

1. For each system, general system or equipment description. Include size, weight, power consumption, power requirements, and outline drawings.
2. Copies of applicable Shop Drawings, Product Data, Drawings, and Schematics for the equipment systems.
3. Theory of Operation: Description of technical operating characteristics of the system and individual equipment using standard phraseology; descriptions of interface requirements

including operating protocols; equipment displays and screens; make reference to installation drawings, schematics and equipment displays as required for technical understanding.

E. Identification Legends:

1. Piping and equipment: Provide a computer-generated legend to correspond with identification devices installed on piping and equipment. List the identifying device, its location, a brief description of the devices function, capacity and the I.D. number.
2. Panel boards and switchboards: Provide a computer-generated legend for each panel board and switchboard installed in the project. This information shall be a duplicate of the legend placed in the panel board.
3. Valve Tags and Schedule: Provide a computer-generated schedule of all valve tags. Include valve type, manufacturer, equipment location and size for all newly installed valves.

F. Organize the manual into separate Sections, by system as described in paragraph "O&M Manual Sections by Building System" of this Article, for each system or piece of related equipment.

1. Title Page: Provide a title page in a transparent, plastic envelope as the first sheet of each manual. Provide the following information:

   a. Subject matter covered by the manual
   b. Name and address of the Project
   c. Date of submittal
   d. Name, address, and telephone number of the D/B
   e. Cross-reference to related systems in other operation and maintenance manuals

2. Table of Contents: After the title page, include a computer-generated table of contents for each volume, arranged systematically according to the Project Manual format. Include a list of each product incorporated, identified by product name and other appropriate identifying symbol and indexed to the content of the volume. Each Data Package shall be tabbed and separately listed in the Table of Contents. Where multiple volumes are required to accommodate data, provide a comprehensive table of contents for all volumes in each volume of the set.
3. General Information: Provide a general information Section immediately following table of contents, listing each product included in the manual, identified by product name. Under each product, list the name, address, and telephone number of the subcontractor or installer and the maintenance contractor where applicable. Clearly delineate the extent of responsibility of each of these entities. Include a local source for replacement parts and equipment.
4. Product Data: Where the manuals include manufacturer's standard printed data, include only sheets that are pertinent to the part or product installed. Mark each sheet to identify each part or product included in the installation. Where the Project includes more than one item in a tabular format, identify each item, using appropriate references from the Contract Documents. Identify data that is applicable to the installation, and delete references to information that is not applicable.
5. Written Text: Prepare written text to provide necessary information where manufacturer's standard printed data are not available, and the information is necessary for proper operation and maintenance of equipment or systems. Prepare written text where it is necessary to provide additional information or to supplement data included in the manual. Organize text in

a consistent format under separate headings for different procedures. Where necessary, provide a logical sequence of instruction for each operation or maintenance procedure.

6. Drawings: Provide specially prepared drawings where necessary to supplement manufacturer's printed data to illustrate the relationship of component parts of equipment or systems or to provide control or flow diagrams. Coordinate these drawings with information contained in Project Record Drawings to ensure correct illustration of the completed installation.
7. Warranties, Bonds, and Service Contracts: Provide a copy of each warranty, bond, or service contract tabbed in a separate binder. Provide written data outlining procedures to follow in the event of product failure. List circumstances and conditions that would affect the validity of a warranty or bond.

G. O&M Manual Sections by Building System. This is the format to follow when preparing the Table of Contents.

SECTION	DESCRIPTION
1	General Building Information
2	Grounds & Pavements
3	Exterior Closure
4	Roofing
5	Interior Construction
6	Interior Finishes
7	Conveying Systems
8	Plumbing Systems
9	HVAC Systems
10	Life/Safety
11	Electrical Systems
12	Communication Systems
13	Building Automation Systems

END OF SECTION 01 78 23

SECTION 01 78 39 - PROJECT RECORD DOCUMENTS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and General Conditions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

B. Final Record Drawings will be prepared by the Architect using Pre-Final Record Drawings that have been updated monthly by the Contractor and as inspected during construction by the A/E of Record.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for project record documents, including the following:

1. Record Drawings.
2. Record Specifications.
3. Record Product Data.
4. Final coordinated BIM model.
5. Miscellaneous record submittals.

B. Project Record Documents record changes in the Work relative to the way the Work was shown and specified in the original Contract Documents. They also provide important information for the District's records that was not shown in the original Contract Documents but was produced during the construction stage of the Project. As such, they form an invaluable record for future reference for concealed conditions, facilities management processes, and future additions and renovations.

C. Maintenance of Record Documents and Samples: Store record documents and Samples in field office apart from Contract Documents used for construction. Do not use Project Record Documents for construction purposes.

D. Maintain record documents in good order and in clean, dry, legible condition. Make documents and Samples available at all times for Contracting Officer’s Technical Representative's (COTR’s) review.

E. Record information immediately after it's obtained on the red-line pencil Record Documents. Contractor shall make all pre-final Record Documents available to COTR at all times at the Job Site.

1.3 RECORD DRAWINGS

A. Markup Procedure: During construction, maintain set of blue- or black-line white prints of Contract Drawings and Shop Drawings for Project Record Document purposes.

1. Mark Drawings to show actual installation where installation varies from installation shown originally. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later. As applicable to Project, items required to be marked include, but are not limited to, following:

    a. Dimensional changes to Drawings.
    b. Revisions to details shown on Drawings.
    c. Depths of foundations below first floor.
    d. Locations and depths of underground utilities.
    e. Actual routing of piping and conduits.
    f. Revisions to electrical circuitry.
    g. Actual equipment locations.
    h. Duct size and routing.
    i. Locations of concealed internal utilities.
    j. Changes made by change order.
    k. Changes made following the Owners's instructions for Minor Change in Work.
    l. Details not on original Contract Drawings.

2. Mark record prints of Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. Where Shop Drawings are marked, show cross-reference on Contract Drawings location.
3. Mark record sets with red erasable colored pencil. Use other colors to distinguish between changes for different categories of Work at same location.
4. Mark important additional information that was either shown schematically or omitted from original Drawings.
5. Note alternate numbers, change-order numbers, and similar identification.

B. Responsibility for Markup: Individual or entity, who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, shall incorporate “as-built” information onto electronic CADD version of drawings.

1. Accurately record information in electronic format using software system approved by the COTR. Use the file naming convention established by the Construction Drawings.
2. Copies of Red-Line As-Builts in electronic form (example: PDF, JPEG, etc.) are not acceptable.

C. Copies and Distribution: After completing preparation of editable electronic version of record drawings, print one copy for review/approval by COTR. Include appropriate identification, including titles, dates, and other information on cover sheets.

1. Upon approval by the COTR, submit electronic and 3 copies of the record set to COTR.

D. Newly Prepared Record Drawings: Prepare new drawings instead of following procedures specified for preparing record drawings where new drawings are required, and COTR determines that neither original Contract Drawings nor Shop Drawings are suitable to show actual installation. New drawings may be required when change order is issued as result of accepting alternate, substitution, or other modification.

1. Consult with COTR for proper scale and scope of detailing and notations required to record actual physical installation and its relation to other construction. When completed and accepted, integrate newly prepared Drawings with procedures specified for organizing, copying, binding and submitting record drawings.

1.4 RECORD SPECIFICATIONS

A. During construction period, maintain electronic and 3 copies of Project Specifications, including addenda and modifications issued, for Project Record Document purposes.

1. Mark Specifications to indicate actual installation where installation varies from that indicated in Specifications and modifications issued. Note related project record drawing information, where applicable. Give particular attention to substitutions, selection of product options, and information on concealed installations that would be difficult to identify or measure and record later. Incorporate all revisions into electronic version of specifications.

    a. In each Specification Section where products, materials, or units of equipment are specified or scheduled, mark copy with proprietary name and model number of product furnished.
    b. Record name of manufacturer, supplier, installer, and other information necessary to provide record of selections made and to document coordination with record Product Data submittals and maintenance manuals.
    c. Note related record Product Data, where applicable. For each principal product specified, indicate whether record Product Data has been submitted in maintenance manual instead of submitted as record Product Data.

2. Upon completion of electronic version of Record Specifications, print one copy of complete set and provide to COTR for review/approval. Upon approval, submit electronic, editable copy and 3 hard copies of Specifications to COTR for District's records.

1.5 RECORD PRODUCT DATA

A. During construction period, maintain one PDF copy and 3 hard copies of each Product Data submittal for Project Record Document purposes.

1. Mark Product Data to indicate actual product installation where installation varies substantially from that indicated in Product Data submitted. Include significant changes in product delivered to site and changes in manufacturer's instructions and recommendations for installation.
2. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
3. Note related Change Orders and markup of record Drawings, where applicable.
4. Upon completion of markup, submit complete set of record Product Data to COTR for District's records.
5. Where record Product Data is required as part of maintenance manuals, submit marked-up Product Data as insert in manual instead of submittal as record Product Data.

1.6 RECORD SAMPLE SUBMITTAL

A. Immediately prior to date of Substantial Completion meet with COTR, and District's personnel at site to determine which Samples maintained during construction period shall be transmitted to District for record purposes. Comply with COTR's instructions for packaging, identification marking, and delivery to District's Sample storage space. Dispose of other Samples in manner specified for disposing surplus and waste materials.

1.7 BIM DRAWINGS

A. On applicable projects, submit final approved BIM model showing coordination during construction and approval notices signed by Contractor, subcontractors and installers working on the project. Final BIM drawings shall also have letter written by the Architect/Engineer of record that the BIM Clash Detection Reports are authentic.

1.8 MISCELLANEOUS RECORD SUBMITTALS

A. Refer to other Specification Sections for miscellaneous record-keeping requirements and submittals in connection with various construction activities. Immediately prior to Completion, complete miscellaneous records and place in good order, properly identified and bound or filed, ready for use and reference. Submit to COTR for District's records.

1. As applicable to Project, categories of requirements resulting in miscellaneous records include, but are not limited to, following:

    a. Field records on excavations and foundations.
    b. Field records on underground construction and similar work.
    c. Survey showing locations and elevations of underground lines.
    d. Invert elevations of drainage piping.

e. Surveys establishing building lines and levels.
f. Authorized measurements utilizing unit prices or allowances.
g. Records of plant treatment.
h. Ambient and substrate condition tests.
i. Certifications received in lieu of labels on bulk products.
J. Batch mixing and bulk delivery records.
k. Testing and qualification of tradesmen.
l. Documented qualification of installation firms.
m. Load and performance testing.
n. Inspections and certifications by governing authorities.
o. Leakage and water-penetration tests.
p. Fire-resistance and flame-spread test results.
q. Final inspection and correction procedures.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION

3.1 RECORDING

A. Post changes and modifications to red-line Documents as they occur. Do not wait until end of Project.

END OF SECTION 01 78 39

SECTION 01 78 61 - SPARE PARTS AND MAINTENANCE MATERIALS

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and General Conditions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes requirement for packaging, labeling and transmitting spare parts, maintenance materials and extra materials to COTR as identified in each Specification Section.

1.3 SUBMITTALS

A. Contract Closeout Information:

1. Spare Parts and Attic Stock (if applicable): To COTR with transmittal.
2. Maintenance Materials: To COTR with transmittal. Provide information on how the materials are organized.
3. Extra Materials: To COTR with transmittal.

    a. Transmittal to indicate COTR's acceptance.
    b. Transmittal to be on form furnished by COTR.
    c. Furnish prior to Substantial Completion.

PART 2 – PRODUCTS

2.1 SPARE PARTS AND TOOLS

A. Package in clearly identified boxes. Provide the Project Name and Project Number on each label of each box. Indicate, as a minimum, the following:

1. Indicate manufacturer's name, part name and stock number.
2. Indicate piece of equipment part or tool is for.
3. Indicate name, address and phone number of closest supplier.

2.2 MAINTENANCE MATERIALS

A. Package in clearly identified boxes. Provide the Project Name and Project Number on each label of each box. Indicate, as a minimum, the following:

1. Indicate trade name and stock number.
2. Indicate which item material is to be used with.

3. Indicate name, address and phone number of closest supplier.
4. Include complete installation instructions including tolerances.

2.3 EXTRA MATERIALS INDICATED

A. Package in clearly identified containers, or Install where Indicated. Provide the Project Name and Project Number on each label of each box. Indicate, as a minimum, the following:

1. Indicate trade name, stock number, size, color, etc.
2. Indicate where product is to be used.
3. Indicate name, address and phone number of closest supplier.

PART 3 – EXECUTION

3.1 MARKING

A. Prepare labels and package as required by the District for storage and retrieval of spare parts, maintenance material and extra stock.

3.2 PACKAGING

A. Palletize large boxes or combined boxes for spare parts used for mechanical and electrical equipment. Make certain the pallet will fit in the space allocated for mechanical and electrical spare parts.

B. Do not use cardboard boxes for storage of spare parts that will be stored in data rooms/closets unless the cardboard boxes are placed in larger PVC or plastic container. Use only closed containers that will not create static and are approved for use with data equipment.

C. Use only bubble wrap, air bags, or clean kraft paper for wrapping products. Do not use Styrofoam peanuts.

D. Group the attic stock for finishes together in clean factory-supplied sealed boxes according to where the items will be used. An example would be package the extra ceiling panels and extra suspended ceiling grids together on pallet; group the resilient tile flooring and resilient wall base together according to patterns and colors.

E. Provide storage pallets, shelves, boxes, hangers, and cartons so the individual spare parts, maintenance materials and attic stock can be easily seen and accessed.

3.3 DELIVERY

A. Deliver to COTR at least 15 days prior to Substantial Completion, unless COTR requests earlier delivery.

B. Deliver to location directed by COTR. Organize and shelve items so the labels are easy to read without moving or lifting stored items. Store and organize to satisfaction of the COTR.

C. Use transmittal form furnished by COTR.

D. Acquire COTR's acceptance of items listed on transmittal form.

3.4 SCHEDULE

A. Below is a schedule listing typical spare parts, extra materials, and maintenance materials. Coordinate also with each Section in each Division where specified.

Specification Section Number	Description of System or Component	Spare Part and Quantity		Maintenance Material and Quantity		Extra Materials and Quantity	

END OF SECTION 01 78 61

SECTION 01 78 70 - WARRANTIES

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and General Conditions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Administrative and procedural requirements for warranties required by Contract Documents, including manufacturers standard warranties on products and special warranties.

1. Refer to General Conditions of the Contract for Construction for terms of Contractor's period for correction of Work.

B. Contractor shall issue warranty for a period of 1 year after date of Substantial Completion as established in the District's written notification, to repair or replace Work in which defects in material or workmanship appear within 1 year and to repair or replace Work damaged by reasons thereof, to the satisfaction of the COTR and without cost to the District of Columbia.

C. Refer to Section 01 23 00 "Alternates" for 2-year warranty on HVAC systems.

1.3 DEFINITIONS

A. Standard Product Warranties: Preprinted written warranties published by individual manufacturers for particular products and are specifically endorsed by manufacturer to District.

B. Special Warranties: Written warranties required by or incorporated in Contract Documents, either to extend time limits provided by standard warranties or to provide greater rights for District.

1.4 WARRANTY REQUIREMENTS

A. Disclaimers and Limitations: Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of warranty on Work that incorporates products. Manufacturer's disclaimers and limitations on product warranties do not relieve suppliers, manufacturers, and subcontractors required to countersign special warranties with Contractor.

B. Related Damages and Losses: When correcting failed or damaged warranted construction, remove and replace construction that has been damaged as a result of such failure or must be removed and replaced to provide access for correction of warranted construction.

C. Reinstatement of Warranty: When Work covered by warranty has failed and been corrected by replacement or rebuilding, reinstate warranty by written endorsement. Reinstated Warranty: Equal to original warranty with equitable adjustment for depreciation.

D. Replacement Cost: Upon determination that Work covered by warranty has failed, replace or rebuild Work to acceptable condition complying with requirements of Contract Documents. Contractor: Responsible for cost of replacing or rebuilding defective Work regardless of whether District has benefited from use of Work through portion of its anticipated useful service life.

E. District's Recourse:

1. Expressed Warranties made to District: In addition to implied warranties and not limit duties, obligations, rights, and remedies otherwise available under law. Not deprive District of other rights District may have under other provisions of Contract Documents and are in addition to and run concurrent with other warranties made by Contractor under requirements of Contract Documents.
2. Expressed Warranty Periods: Not interpreted as limitations on time in which District can enforce such other duties, obligations, rights, or remedies.
3. Rejection of Warranties: District reserves right to reject warranties and to limit selection to products with warranties not in conflict with requirements of Contract Documents.

F. Where Contract Documents require special warranty, or similar commitment on Work or part of Work, District reserves right to refuse to accept Work, until Contractor presents written evidence that entities required to countersign such commitments have done so or are willing to do so.

1.5 SUBMITTALS

A. Submit written warranties to Contracting Officer’s Technical Representative (COTR) prior to date certified for Substantial Completion. Warranty periods specified in individual specification sections begin on date of Substantial Completion as determined by District.

B. When Contract Documents require Contractor, or Contractor and subcontractor, supplier or manufacturer to execute special warranty, prepare written document that contains appropriate terms and identification, ready for execution by required parties. Submit draft to COTR, for approval prior to final execution.

1. Refer to other sections for specific content requirements and particular requirements for submitting special warranties.

C. Form of Submittal: At Substantial Completion compile two (2) copies of each required warranty properly executed by Contractor, or by Contractor, subcontractor, supplier, or manufacturer.

D. Organize warranty documents into an orderly sequence based on the table of contents of Project Manual.

1. Bind warranties and bonds in heavy-duty, three-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.
2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.

3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.
4. Warranty Electronic File: Scan warranties and bonds and assemble complete warranty and bond submittal package into a single indexed electronic PDF file with links enabling navigation to each item. Provide bookmarked table of contents at beginning of document.

E. Provide additional copies of each warranty to include in operation and maintenance manuals.

1.5 SPECIAL WARRANTIES (NOT USED)

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

END OF SECTION 01 78 70

SECTION 01 79 00 - DEMONSTRATION AND TRAINING

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and General Conditions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

A. Administrative and procedural requirements for instructing District's personnel including, but not limited to:

1. Demonstration of operation of systems, subsystems, and equipment.
2. Training in operation and maintenance of systems, subsystems, and equipment.

1.3 SUBMITTALS

A. Instruction Program: Submit two copies of outline of instructional program for demonstration and training, including schedule of proposed dates, times, length of instruction time, and instructors' names for each training module. Include learning objective and outline for each training module.

1. At completion of training, submit one complete training manual for District's use, signed by Contracting Officer's Technical Representative (COTR).

A. Qualification Data: For firms and persons specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.

B. Attendance Record: For each training module, submit list of participants and length of instruction time.

C. Evaluations: For each participant and for each training module, submit results and documentation of performance-based test.

D. Demonstration and Training Video: Submit one (1) copy at end of each training module.

1.4 QUALITY ASSURANCE

A. Facilitator Qualifications: Firm or individual experienced in training or educating maintenance personnel in training program similar in content and extent to that indicated for this Project, and whose work has resulted in training or education with record of successful learning performance.

B. Instructor Qualifications: Factory-authorized service representative, complying with requirements in Section 01 40 00 "Quality Requirements," experienced in operation and maintenance procedures and training for each system, subsystem, or piece of equipment.

C. Pre-instruction Conference: Conduct conference at Project site to comply with requirements in Section 01 32 00 "Construction Progress Documentation." Review methods and procedures related to demonstration and training including, but not limited to:

1. Inspect and discuss locations and other facilities required for instruction.
2. Review and finalize instruction schedule and verify availability of educational materials, instructors' personnel, audiovisual equipment, and facilities needed to avoid delays.
3. Review required content of instruction.
4. For instruction that must occur outside, review weather and forecasted weather conditions and procedures to follow if conditions are unfavorable.

1.5 COORDINATION

A. Coordinate instruction schedule with District's operations. Adjust schedule as required tominimize disrupting District's operations.

B. Coordinate instructors, including providing notification of dates, times, length of instruction time, and course content.

C. Coordinate content of training modules with content of approved emergency, operation, and maintenance manuals. Do not submit instruction program until operation and maintenance data has been reviewed by COTR.

PART 2 PRODUCTS

2.1 INSTRUCTION PROGRAM

A. Program Structure: Develop instruction program that includes individual training modules for each system and equipment not part of system, as required by individual Specification Sections, and as specified in Part 3.

B. Training Modules: Develop learning objective and teaching outline for each module. Include description of specific skills and knowledge that participant is expected to master. For each module, include instruction for following:

1. Basis of System Design, Operational Requirements, and Criteria: Including, but not limited to:

a. System, subsystem, and equipment descriptions.
b. Performance and design criteria if Contractor is delegated designresponsibility.
c. Operating standards.
d. Regulatory requirements.

e. Equipment function.
f. Operating characteristics.
g. Limiting conditions.
h. Performance curves.

2. Documentation: Review following items in detail:

a. Emergency manuals.
b. Operations manuals.
c. Maintenance manuals.
d. Project Record Documents.
e. Identification systems.
f. Warranties and bonds.
g. Maintenance service agreements and similar continuing commitments.

3. Emergencies: Including, but not limited to following, as applicable:

a. Instructions on meaning of warnings, trouble indications, and error messages.
b. Instructions on stopping.
c. Shutdown instructions for each type of emergency.
d. Operating instructions for conditions outside of normal operating limits.
e. Sequences for electric or electronic systems.
f. Special operating instructions and procedures.

4. Operations: Including, but not limited to following, as applicable:

a. Startup procedures.
b. Equipment or system break-in procedures.
c. Routine and normal operating instructions.
d. Regulation and control procedures.
e. Control sequences.
f. Safety procedures.
g. Instructions on stopping.
h. Normal shutdown instructions.
i. Operating procedures for emergencies.
j. Operating procedures for system, subsystem, or equipment failure.
k. Seasonal and weekend operating instructions.
l. Required sequences for electric or electronic systems.
m. Special operating instructions and procedures.

5. Adjustments: Including, but not limited to following:

a. Alignments.
b. Checking adjustments.
c. Noise and vibration adjustments.
d. Economy and efficiency adjustments.

6. Troubleshooting: Including, but not limited to following:

a. Diagnostic instructions.
b. Test and inspection procedures.

7. Maintenance: Including, but not limited to following:

a. Inspection procedures.
b. Types of cleaning agents to be used and methods of cleaning.
c. List of cleaning agents and methods of cleaning detrimental to product.
d. Procedures for routine cleaning.
e. Procedures for preventive maintenance.
f. Procedures for routine maintenance.
g. Instruction on use of special tools.

8. Repairs: Including, but not limited to following:

a. Diagnosis instructions.
b. Repair instructions.
c. Disassembly; component removal, repair, and replacement; and reassembly instructions.
d. Instructions for identifying parts and components.
e. Review of spare parts needed for operation and maintenance.

PART 3 EXECUTION

3.1 PREPARATION

A. Assemble educational materials necessary for instruction, including documentation and training module. Assemble training modules into combined training manual.

B. Set up instructional equipment at instruction location.

3.2 INSTRUCTION

A. Facilitator: Engage qualified facilitator to prepare instruction program and training modules, to coordinate instructors, and to coordinate between Contractor and District for number of participants, instruction times, and location.

B. Engage qualified instructors to instruct District’s personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of system.

1. COTR will furnish instructor to describe basis of system design, operational requirements, criteria, and regulatory requirements.
2. District will furnish instructor to describe District's operational philosophy.
3. District will furnish Contractor with names and positions of participants.

C. Scheduling: Provide instruction at mutually agreed on times. For equipment that requires seasonal operation, provide similar instruction at start of each season.

1. Schedule training with District, through COTR, with at least seven days' advance notice.
2. Schedule training to conform to personnel availability at Site and to conclude prior to starting of system.
3. Base duration of training on complexity of system, subsystem, or piece of equipment.

D. Evaluation: At conclusion of each training module, assess and document each participant's mastery of module by use of oral, written, demonstration, or combination of oral, written and demonstration of performance based test.

E. Demonstration and Training Video: Record each training module separately utilizing a professional video recording firm. Include classroom instructions and demonstrations, board diagrams, and other visual aids, but not student practice.

1. Make video recording at Project site to ensure video portrayal is representative of true system.

a. As part of training, devote one lesson plan to reviewing of video to allow new employees to view recording at their own convenience and be able to comprehend system without need for instructor in attendance.

2. At beginning of each training module, record each chart containing learning objective and lesson outline.

F. In addition to written technical descriptions, training shall detail training program to allow those who have completed training to provide training for new employees resulting in self-perpetuating training program.

G. Cleanup: Collect used and leftover educational materials and remove from Project site or give to District, as directed by District. Remove instructional equipment. Restore systems and equipment to condition existing before initial training use.

3.3 SCHEDULE OF TRAINING

A. This schedule is for illustration purposes only. Schedule shall be completed by Design Architect/Engineer prior to Issue for Bid Document Submittal.

Specification Section	DESCRIPTION OF SYSTEM	Training Hours	Notes

END OF SECTION 01 79 00

SECTION 01 79 90 -QUALITY ASSURANCE SUMMARY REPORT

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and General Conditions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section describes the inspection, testing, and other relevant actions taken to ensure that the desired level of quality is in accordance with the applicable standards or specifications for the product.

B. Refer to each individual Section for requirements for laboratory or factory testing.

1.3 SUBMITTALS

A. Plant Inspections: Furnish schedule of plant inspections. Before shipment, furnish document with Contracting Officer's Technical Representative (COTR) signature acknowledging witnessing of plant witness tests for Specification Sections designated in this Section.

B. Manufacturer Certificates: Before shipment, when so specified, provide written evidence of specified factory tests made on components of Work. Provide such evidence in form of manufacturers' Certificates, attesting that tests were performed as specified, results are accurate and items tested either meet or fail to meet minimum requirements specified.

C. Laboratory Reports: Before shipment, when so specified, submit reports citing pertinent Contract requirements, test of analysis used and actual test results. Include Certification from duly qualified laboratory that item tested and/or analyzed conforms to Specification requirements. Conspicuously stamp each such report on cover sheet in large red letters **CONFORMS** or **DOES NOT CONFORM**. Contractor acknowledges that elements of Work must conform to specified requirements and that it will re-test or re-procure and test until elements achieve full conformance.

D. Warranties: Furnish warranty documents, signed by indicated individuals and entities. Comply with Section 01 78 70 "Warranties."

E. Emergency Service: Provide three - 24-hour availability telephone numbers and matching contact name for Specification Sections designated in this Section.

PART 2 PRODUCTS

2.1 DEFINITIONS AND PROCEDURES

A. Following definitions, requirements and procedures are identified in "Quality Assurance Summary Report" attached hereto and part thereof:

1. Manufacturer, Fabricator, Installer and Service Qualifications:

a. Years: Refers to number of years of experience in type of work specified in Specification Sections listed in attached report. If installer, fabricator, manufacturer or service organization is corporation, corporation shall have been in force under its current name for at least number of years listed. If elements of Contractor's installation are subcontracted, ensure that such subcontracted work is performed by Subcontractors with qualification specified in this Section. Experience requirements apply to individuals in Contractor's organization performing installation and those who are responsible for design, fabrication and manufacturing processes.

b. Provide submittals proving specified experience of design, fabrication, manufacturing, and service organization(s) engaged by Contractor. For life safety and building management equipment and systems, organization(s) shall have requisite experience in specific type of work under Specification Sections and that experience of organization(s) includes projects where materials and equipment proposed by Contractor have been in use and functioning properly for at least two years.

c. Contractor's Installer Organization: Have key individual (key installer) present on site while installation work is being performed for Specification Sections that have experience requirements in years under key installer in attached report. Identify key installer by name for each Specification Section that lists experience requirements for key installer in attached report and include proof of qualifications in terms of experience and project complexity. Certify that proposed key installer qualified for work to extent specified.

d. Project: Refers to number of similar projects of like or greater size and complexity when compared to Work, executed by each of manufacturer, fabricator, installer and service components of Contractor's organization, for Specification Sections that have years listed for each of respective categories.

e. COTR will reject elements of Contractor's organization that fail to meet specified qualification requirements. Upon such rejection, replace such rejected elements with new elements that meet specified requirements.

2. Plant Inspections: Refer to District's inspections of material and equipment in Specifications Sections. Such Inspections: Required at point of manufacture or fabrication. Correct District furnished written deficiencies before shipping material from point of manufacture or fabrication.

a. Electronic Systems: Require mock-up test that will simulate field conditions, once systems concerned are in operation. Perform such mock-up tests and insure, through COTR, that tests are witnessed by District representative. Witnessing by District is

interim quality control review only and shall not constitute District acceptance of systems.

b. When plant inspections specified, pay for air travel from Project site for two District representatives to point of origin, where material and/or systems are being manufactured or fabricated.

c. Show plant inspection in Contract Schedule as condition precedent to delivery of material and/or equipment under Specifications Sections.

d. Furnish submittals necessary to support plant inspection requirements. Such Submittals: Include Contractor's mock-up test plan for work requiring in-plant mock-up tests, submitted for approval 45 days in advance of such tests. Do not ship any material and/or equipment under Specification Sections concerned, from point of manufacture or fabrication without first obtaining express written District acknowledgment that Contractor has satisfied pre-shipment requirements.

3. Warranties: Submit warranty and guarantee documents in accordance with applicable Contract requirements, covering the durations specified in attached report, from time of Final Acceptance by District. Comply with Section 01 78 70 "Warranty."

4. Demonstration and Training: Demonstration, training, and commissioning may be performed by Contractor simultaneously, with District's pre-approval.

a. Wherever demonstration and training is required, obtain District's written acknowledgment of satisfactory completion ("District's sign-off") of training and demonstration.

b. Furnish submittals for each of Specification Sections concerned, as necessary, to support training and demonstration program.

c. Field: Refers to field demonstration to District representatives by qualified and manufacturer-Certified individual on working equipment. Obligate Subcontractors, vendors, and manufacturers to provide such Certification. Provide demonstration support materials necessary for demonstration to six District representatives.

d. Submit manufacturer's or fabricator's (whichever applies) written and signed Certification that individual or entity (by name) is qualified to provide training involved.

e. Field demonstration requires sign-off by District.

f. Class: Refers to classroom training for up to 20 District representatives. Provide training materials. Provide separate training for each of maintenance and operations.

g. Classroom training requires advance approval of training agenda via submittals process. Classroom training, in order to be considered complete, requires sign-off by District.

h. Plant: Refers to Contractor's obligation to provide transportation and classroom (in plant) training for three District representatives. Cause training to be provided by manufacturer's technical and/or engineering personnel. Such Training: Last minimum of two working days, per Specification Section, and shall cover all aspects of maintenance and operations of equipment and materials concerned.

i. Plant training requires advance sign-off by District of training itinerary (via submittals) and requires express sign-off by District in order to be complete.

5. Extended Service: Refers to Contractor providing all labor, material, and equipment necessary to maintain, service and repair equipment and materials under Specification Sections concerned for designated period commencing from date of Acceptance.

a. During extended service period, perform scheduled maintenance and service work, including changing filters and following lubrication schedules and performing necessary repairs to keep equipment and/or materials in proper working order for duration of period noted.

6. Emergency Services: Refers to response time and duration of emergency service, commencing at time of Acceptance of the Work.

a. Systems under Designated Specification Sections: Responded to at Project site by fully equipped and qualified service individual (or more personnel, as necessary) within two hours of notification, on 24 hour availability basis. Maintain necessary parts inventory and service equipment on Project Site to repair and make operational each system within four hours of arrival at Project of service team.
b. Provide such emergency service for time indicated, commencing upon Acceptance by District.
c. As part of submittals process, provide three - 24-hour availability telephone numbers and three contact names for each of systems concerned under Specification Sections designated in this Section.

7. Commissioning: Comply with Section 01 91 13 "General Building Commissioning Requirements."

a. Specification Sections designated as requiring commissioning: Cause individual from manufacturer's or fabricator's organization to come to Project site and start up equipment concerned to verify that it has been installed correctly and that it is operating at specified levels of performance.
b. Cause subject manufacturer's representative to certify, in writing, (as well as other levels of Contractor's procurement organization from manufacturer through supplier through Subcontractor and Contractor) that equipment, materials, and systems have been properly installed and are functioning at specified levels of performance and that qualified manufacturer's representative has commissioned equipment.
c. Submit foregoing Certification to COTR.

8. Spare materials and attic stock: Specification Sections that are designated "yes" in this column require Contractor to provide types of spares and stock listed under "Remarks". .

PART 3 EXECUTION

3.1 QUALITY ASSURANCE SUMMARY REPORT

A. Satisfy requirements described in individual Specification Sections, including but not limited to, each of Specification Sections listed in Quality Assurance Summary Report at end of this Section.

B. Satisfy additional requirements of "Quality Assurance Summary Report".

END OF SECTION 01 79 90

Quality Assurance Summary Report (Part A. – Contractor Qualifications/Inspection Requirements)

SECTION	DESCRIPTION	# OF PROJ	YEARS KEY INSTLR	YEARS INSTR ORG.	YEARS DESIGN FAB & MANUF	YEARS SRVC ORG	PLANT INSP.	REMARKS

Quality Assurance Summary Report (Part B – Closeout Requirements)

A	B	C	D	E	F	G	H	I	J	K
SECTION	DESCRIPTION	TRAINING/DEMO (field/plant/class)	TRAINING/DEMO (maintenance/ operations)	TRAINING/DEMO to be recorded.	COMMISSION-ING	SPECIAL WARRANTY (yrs.)	EXTENDED SERVICE (months/years)	EMERGENCY SERVICE	SPARE OR ATTIC STOCK	REMARKS

A	B	C	D	E	F	G	H	I	J	K
SECTION	DESCRIPTION	TRAINING/DEMO (field/plant/class)	TRAINING/DEMO (maintenance/ operations)	TRAINING/DEMO to be recorded.	COMMISSION-ING	SPECIAL WARRANTY (yrs.)	EXTENDED SERVICE (months/years)	EMERGENCY SERVICE	SPARE OR ATTIC STOCK	REMARKS

SECTION 01 81 13 - SUSTAINABLE DESIGN REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes general requirements and procedures for compliance with certain USGBC LEED DC GREEN CODE prerequisites and credits needed for the Project to corrolate to the DC GREEN CODE. Contractors shall also comply with the D.C. Green Building Act of 2006 (DC Law 16-234).

1. Other LEED DC GREEN CODE prerequisites and credits needed to obtain LEED DC GREEN CODE certification depend on material selections and may not be specifically identified as LEED DC GREEN CODE requirements. Compliance with requirements needed to obtain LEED DC GREEN CODE prerequisites and credits may be used as one criterion to evaluate substitution requests and comparable product requests.

1.3 DEFINITIONS

A. Chain-of-Custody Certificates: Certificates signed by manufacturers certifying that wood used to make products was obtained from forests certified by an FSC-accredited certification body to comply with FSC STD-01-001, "FSC Principles and Criteria for Forest Stewardship." Certificates shall include evidence that manufacturer is certified for chain of custody by an FSC-FSC-accredited certification body.

B. LEED DC GREEN CODE: Leadership in Energy & Environmental Design (DC Green Code).

C. Rapidly Renewable Materials: Materials made from plants that are typically harvested within a 10-year or shorter cycle. Rapidly renewable materials include products made from bamboo, cotton, flax, jute, straw, sunflower seed hulls, vegetable oils, or wool.

D. Regional Materials: Materials that have been extracted, harvested, or recovered, as well as manufactured, within 500 miles of Project site. If only a fraction of a product or material is

extracted/harvested/recovered and manufactured locally, then only that percentage (by weight) shall contribute to the regional value.

E. Recycled Content: The recycled content value of a material assembly shall be determined by weight. The recycled fraction of the assembly is then multiplied by the cost of assembly to determine the recycled content value.

1. "Post-consumer" material is defined as waste material generated by households or by commercial, industrial, and institutional facilities in their role as end users of the product, which can no longer be used for its intended purpose.
2. "Pre-consumer" material is defined as material diverted from the waste stream during the manufacturing process. Excluded is reutilization of materials such as rework, regrind, or scrap generated in a process and capable of being reclaimed within the same process that generated it.

1.4 SUBMITTALS

A. General: Submit additional LEED DC GREEN CODE submittals required by other Specification Sections.

B. DC GREEN CODE submittals are in addition to other submittals. If submitted item is identical to that submitted to comply with other requirements, submit duplicate copies as a separate submittal to verify compliance with indicated LEED (correlated to the DC GREEN CODE) requirements.

C. Project Materials Cost Data: Provide statement indicating total cost for materials used for Project. Costs exclude labor, overhead, and profit. Include breakout of costs for the following categories of items:

1. Wood-based construction materials.

D. DC GREEN CODE Action Plans: Provide preliminary submittals within 30 days of date established for the Notice to Proceed indicating how the following requirements will be met:

1. Credit MR 2.1 and Credit MR 2.2: Waste management plan complying with Section 017419 "Construction Waste Management and Disposal."
2. Credit MR 4.1 and Credit MR 4.2: List of proposed materials with recycled content. Indicate cost, post-consumer recycled content, and pre-consumer recycled content for each product having recycled content.
3. Credit MR 5.1 and Credit MR 5.2: List of proposed regional materials. Identify each regional material, including its source, cost, and the fraction by weight that is considered regional.

E. DC GREEN CODE Progress Reports: Concurrent with each Application for Payment, submit reports comparing actual construction and purchasing activities with action plans for the following:

1. Credit MR 2.1 and Credit MR 2.2: Waste reduction progress reports complying with Section 017419 "Construction Waste Management and Disposal."
2. Credit MR 4.1 and Credit MR 4.2: Recycled content.
3. Credit MR 5.1 and Credit MR 5.2: Regional materials.

F. DC GREEN CODE Documentation Submittals:

1. Credit EA 5: Product data and wiring diagrams for sensors and data collection system used to provide continuous metering of building energy-consumption performance over time.
2. Credit MR 2.1 and Credit MR 2.2: Comply with Division 01 Section "Construction Waste Management and Disposal."
3. Credit MR 4.1 and Credit MR 4.2: Product data and certification letter indicating percentages by weight of post-consumer and pre-consumer recycled content for products having recycled content. Include statement indicating costs for each product having recycled content.
4. Credit MR 5.1 and Credit MR 5.2: Product data for regional materials indicating location and distance from Project of material manufacturer and point of extraction, harvest, or recovery for each raw material. Include statement indicating cost for each regional material and the fraction by weight that is considered regional.

5. Credit EQ 4.1: Product data for adhesives and sealants used inside the weatherproofing system indicating VOC content of each product used. Indicate VOC content in g/L calculated according to 40 CFR 59, Subpart D.

6. Credit EQ 4.2: Product data for paints and coatings used inside the weatherproofing system indicating chemical composition and VOC content of each product used. Indicate VOC content in g/L calculated according to 40 CFR 59, Subpart D.

7. Credit EQ 4.3: Product Data for carpet products indicating VOC content of each product used and as follows:

    a. Green Label Plus Program: Certification that carpet and adhesive products comply with The Carpet and Rug Institute's "Green Label Plus" program requirements.

8. Credit EQ 4.4: Product data for products containing composite wood or agrifiber products or wood glues indicating that they do not contain urea-formaldehyde resin.

PART 2 - PRODUCTS

2.1 RECYCLED CONTENT OF MATERIALS

A. Credit MR 4.1 and Credit MR 4.2: Provide building materials with recycled content such that post-consumer recycled content plus one-half of pre-consumer recycled content constitutes a minimum of 20 percent of cost of materials used for Project.

1. Cost of post-consumer recycled content of an item shall be determined by dividing weight of post-consumer recycled content in the item by total weight of the item and multiplying by cost of the item.
2. Cost of pre-consumer recycled content of an item shall be determined by dividing weight of pre-consumer recycled content in the item by total weight of the item and multiplying by cost of the item.
3. Do not include furniture, plumbing, mechanical and electrical components, and specialty items such as elevators and equipment in the calculation.

2.2 REGIONAL MATERIALS

A. Credit MR 5.1 and Credit MR 5.2: Provide a minimum of 20 percent of building materials (by cost) that are regional materials.

2.4 ZERO / LOW-EMITTING MATERIALS

A. Credit EQ 4.1: For interior applications use adhesives and sealants that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA method 24):

1. Architectural Applications:

    a. Indoor Carpet Adhesives: 50 g/L.
    b. Carpet Pad Adhesives: 50 g/L.
    c. Wood Flooring Adhesives: 100 g/L.
    d. Rubber Floor Adhesives: 60 g/L.
    e. Subfloor Adhesives: 50 g/L.

f. Ceramic Tile Adhesives: 65 g/L.
g. VCT and Asphalt Adhesives: 50 g/L.
h. Drywall and Panel Adhesives: 50 g/L.
i. Cove Base Adhesives: 50 g/L.
j. Multipurpose Construction Adhesives: 70 g/L.
k. Structural Glazing Adhesives: 100 g/L.

2. Substrate Specific Applications:

a. Metal to Metal: 30 g/L.
b. Plastic Foams: 50 g/L.
c. Porous Material (except wood): 50 g/L.
d. Wood: 30 g/L.
e. Fiberglass: 80 g/L.

3. Specialty Applications:

a. PVC Welding: 510 g/L.
b. CPVC Welding: 490 g/L.
c. ABS Welding: 325 g/L.
d. Plastic Cement Welding: 250 g/L.
e. Adhesive Primer for Plastic: 550 g/L.
f. Contact Adhesive: 80 g/L.
g. Special Purpose Contact Adhesive: 250 g/L.
h. Structural Wood Member Adhesive: 140 g/L.
i. Sheet Applied Rubber Lining Operations: 850 g/L.
j. Top and Trim Adhesive: 250 g/L.

4. Sealants:

a. Architectural: 250 g/L.
b. Nonmembrane Roof: 300 g/L.
c. Roadway: 250 g/L.
d. Single-Ply Membrane: 450 g/L.
e. Other: 420 g/L.

5. Sealant Primers:

a. Architectural Non Porous: 250 g/L.
b. Architectural Porous: 775 g/L.
c. Other: 750 g/L.

6. Aerosol Adhesives:

a. General Purpose Mist Spray: 65% VOCs by weight.
b. General Purpose Web Spray: 55% VOCs by weight.
c. Special Purpose Aerosol Adhesives (all types): 70% VOCs by weight.

B. Credit EQ 4.2: For interior applications use paints and coatings that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA method 24) and the following chemical restrictions:

1. Flat Paints and Coatings: VOC not more than 50 g/L.
2. Non-Flat Paints and Coatings: VOC not more than 150 g/L.
3. Anti-Corrosive Coatings: VOC not more than 250 g/L.
4. Clear Wood Finishes:

    a. Varnish: 350 g/L.
    b. Lacquer: 550 g/L.

5. Floor Coatings: 100 g/L.
6. Sealers:

    a. Waterproofing Sealers: 250 g/L.
    b. Sanding Sealers: 275 g/L.
    c. All Other Sealers: 200 g/L.

7. Shellacs:

    a. Clear: 730 g/L.
    b. Pigmented: 550 g/L.

8. Stains: 250 g/L.
9. Restricted Components: Paints and coatings shall not contain any of the following:

    a. Acrolein.
    b. Acrylonitrile.
    c. Antimony.
    d. Benzene.
    e. Butyl benzyl phthalate.
    f. Cadmium.
    g. Di (2-ethylhexyl) phthalate.
    h. Di-n-butyl phthalate.
    i. Di-n-octyl phthalate.
    j. 1,2-dichlorobenzene.
    k. Diethyl phthalate.
    l. Dimethyl phthalate.
    m. Ethylbenzene.
    n. Formaldehyde.
    o. Hexavalent chromium.
    p. Isophorone.
    q. Lead.
    r. Mercury.
    s. Methyl ethyl ketone.
    t. Methyl isobutyl ketone.
    u. Methylene chloride.
    v. Naphthalene.
    w. Toluene (methylbenzene).
    x. 1,1,1-trichloroethane.
    y. Vinyl chloride.

C. Credit EQ 4.3: Provide carpet and adhesive products that comply with The Carpet and Rug Institute's (CRI) "Green Label Plus" program requirements and as follows:

1. Carpet Testing Program: Carpet products shall have acceptable VOC emissions levels of the following chemicals when tested in accordance with California Specification 01350 and the CRI "Green Label Plus" program:

    a. Acetaldehyde.
    b. Benzene.
    c. Caprolactam.
    d. 2-Ethylhexanoic Acid.
    e. Formaldehyde.
    f. 1-Methyl-2-Pyrrolidinone.
    g. Naphthalene.
    h. Nonanal.
    i. Octanal.
    j. 4-Phenylcyclohexene.
    k. Styrene.
    l. Toluene.
    m. Vinyl Acetate.

2. Adhesive Testing Program: Adhesive products shall have acceptable VOC emissions levels of the following chemicals when tested in accordance with California Specification 01350 and the CRI "Green Label Plus" program:

    a. Acetaldehyde.

    b. Benzothiazole.
    c. 2-Ethyl-1-Hexanol.
    d. Formaldehyde.
    e. Isooctylacrylate.
    f. Methyl biphenyl.
    g. 2-Methyl-pyrrolidinone.
    h. Naphthalene.
    i. Phenol.
    j. 4-Phenylcyclohexene (4PCH).
    k. Styrene.
    l. Toluene.
    m. Vinyl Acetate.
    n. Vinyl cyclohexene.
    o. Xylenes (m-,o-,p-).

D. Credit EQ 4.4: Do not use composite wood or agrifiber products or adhesives that contain urea-formaldehyde resin.

PART 3 - CONSTRUCTION INDOOR AIR QUALITY MANAGMENT PLAN

The goal of this plan is to clearly define the minimum practices on this jobsite to meet the requirements of 801.2 and 803 for the 2017 DC Green Construction Code.

This plan is based on the recommended design approaches of the Sheet Metal and Air Conditioning National Association (SMACNA) IAQ Guidelines for Occupied Buildings under Construction, 2007, ANSI/SMACNA 008-2008 Chapter 3.

This plan should be available on the jobsite at all times.

IAQ management plan implementation will be a regular topic during weekly subcontractor coordination meetings, as soon as HVAC equipment and supply deliveries begin on site.

Section 802 – Building Construction Features, Operations and Maintenance Facilitation

- 802.2 and 802.3 - AHUs serving the scope area are existing to remain and are located in dedicated mechanical rooms with appropriate access to system components, including system filters.

Section 803 – HVAC Systems

803.1 Construction Phase Requirements

- 803.1.3 - when the air distribution systems are operating during construction, temporary filtration media with a Minimum Efficiency Reporting Value (MERV) of 8 will be used on all return air openings and will be checked and replaced as necessary during construction by the mechanical contractor. The return air ductwork will be kept clean during all construction activities by the mechanical contractor.

803.1.2.1 (Ventilation) – because this is an interior tenant alteration, the intent of 801.2.1 will be met using the central air-handling unit system. The central filtration system shall be monitored and clean filters will be installed by the mechanical contractor during heavy construction. Daily monitoring of filters during heavy construction activity shall be performed by the mechanical contractor. This system will introduce ventilation per the final space design requirements, allowing for dilution to occur. All return air systems will be shut down during the heaviest periods of construction to avoid dust and odors from entering the system and being released throughout the building.

803.1.2.3 (Return air filters) - filtration media will be replaced with new specified filter media at the end of construction, prior to occupancy. A register of filters used during construction will be maintained by the mechanical contractor, and submitted regularly to the general contractor.

803.1.1 / 803.1.2.2 (Protection of HVAC system openings) - plastic materials will be used to cover the ends of the ductwork and will be in place before leaving the fabrication facility. Ductwork will be delivered with these materials in place. Ductwork stored on site will be protected and enclosed at each end with plastic materials and will be stored in a method to keep the ductwork dry. Ductwork will be wiped clean before installation and ends covered when installed until start up of the equipment.

All open ends of installed supply, return, exhaust ductwork, return air shaft openings are to be sealed by the mechanical contractor with plastic materials to prevent contamination, until start up or testing/operation of system.

- The supply side of the HVAC system is to be kept clean. When the HVAC system is off, all ducts and diffusers are to be covered, inspected and cleaned as necessary.
- Ductwork and/or insulation, which contain moisture or are wet, will not be installed. Installed ductwork and/or insulation, which is wet, is to be removed and replaced with new.
- Insulated lined ductwork will not be delivered to the project until such time it can be installed without the possibility of getting wet.
- All piping, ductwork and conduit system openings are to be closed at the end of each work day.
- All VAV or similar boxes while in storage are to have their ends covered with plastic. Plastic covering is to be removed only when duct is connected.
- All fresh air intake louvers, openings, ductwork, etc. for indoor air handling units, perimeter louvers,

exhaust openings, etc. are to be covered with plastic until ready to be operational. Openings are to be closed at the end of each day when HVAC equipment is also shut off at the end of the day.

- All condensate drain flows from mechanical equipment are to be monitored for proper flow and blockage prevention.

Section 803.4 – Isolation of pollutant sources

- 803.4.1 – not applicable. There are no single rooms with 5 or more individual pieces of equipment. There are no janitorial rooms within the scope of the project.

Section 803.5 – Filters

- Base building air-handling units utilize MERV 13 filters or higher.

The following sections include additional requirements, based on the additional requirements of the SMACNA guideline referenced.

SOURCE CONTROL DURING CONSTRUCTION

- The exhausting of all contaminants out of the building and away from intakes will improve the IAQ levels. Objectionable odors created as a part of the construction process will be properly identified during construction and signage will be posted to advise workers of potential hazards or personal protective equipment requirements. If exhausting methods cannot be used, then an alternative method will be local recirculation of air by filtering out all odors and dust; all filters are to be properly selected for the materials they will be controlling. Determination of odor control and ventilation means will be made by and at the expense of the installing subcontractor.

- Construction areas that create a large amount of contaminants as defined by the (SMACNA) IAQ Guideline for Occupied Buildings under Construction and OSHA Guidelines, whether air borne dust, drywall dust are to be properly ventilated away from other construction activities to reduce the transfer of the contaminants from one work area to another work area. Pollutant sources will be exhausted to the outside through use of temporary exhaust fans at the expense of the installing subcontractor.

- All finish and/or absorptive materials (i.e. carpet, drywall, ACT, insulation, etc.) are to be covered or contained prior to installation and after installation as much as possible. Once finish areas are complete, these areas will be closed off from the rest of the project. Access to these areas will be limited to only those subcontractors completing punch list type work.

- Materials specified for the project have been selected to minimize emissions in the finished space. Items such as, joint compounds, caulks, sealants, adhesives, paints and cleaning agents will be per DC Green Code compliance requirements and construction specifications

- Construction activities will be inspected for visible moisture when installing drywall by the installing subcontractor. Upon identification of moisture in the drywall by the installing subcontractor and with the assistance of the general contractor, the source of the moisture is to be verified and eliminated and specific measures to remediate will be followed.

- Wall vapor barriers will be checked by the installing subcontractor for proper installation.

PATHWAY INTERRUPTION DURING CONSTRUCTION

- All project equipment and material staging areas will be located away from critical air flow pathways. Mechanical rooms and air handling equipment areas could only be used for storage after project superintendent's approval, and if used, these areas shall be cleared out before the associated systems are turned on.
- Temporary, full height plastic partitions will be erected to isolate drywall finishing, wood cutting and dust spread outside of finished areas.
- Walk off mats will also be used to isolate finished spaces from construction activity at locations such as stairwells.
- Dust reduction compounds will be spread to minimize creation of air borne dust.

HOUSE KEEPING DURING CONSTRUCTION

- Construction waste, debris, and rubbish are to be cleaned up during all phases of construction.
- All lunch papers, cups, and other litter will be placed into trash receptacles. Food and drinks, other than drinking water, will not be allowed in areas of the building interior once finish work has started. Cigarette smoking, cigar smoking, or chewing tobacco will not be allowed in the building interior once finish work begins, within 25 feet of building entrances, or within 25 feet of outside air intake louvers once mechanical units have been installed.
- Before sealing up a vertical shaft or chase, the bottom area and all surfaces are to be cleaned of trash, dust, dirt and debris by shaft construction and installing subcontractor.
- Loose insulation media material installation is to be controlled and monitored by the installing subcontractor to prevent fiber discharge or particle release.
- Vacuum cleaners throughout the final cleaning will be HEPA-filter equipped. Dust compound will be used during sweeping operations. Walk off mats will be employed after finish floors are in place.

SCHEDULING

- Scheduling of activities will be key in helping control indoor air quality. The installation schedules of all sealants, caulks, paints, etc. will be sequenced such that proper venting of objectionable odors will be accomplished to keep levels below unacceptable levels.
- Schedule the installation of high VOC type products prior to the installation of porous or fibrous materials. If this is not possible, protect porous or fibrous materials with polyethylene vapor retarders.

PHOTOGRAPHIC DOCUMENTATION

- IAQ inspections will commence upon the first delivery of mechanical ductwork and will occur, at a minimum, at three instances to fully document implementation of this plan. Each inspection report will include at least six photographs, with accompanying descriptions, which are representative of implementation of all applicable IAQ control measures.

SITE IMPLEMENTATION

- This plan will be discussed with each trade prior to commencement of work. Each new trade present on site will be provided with a copy of this plan. Compliance review will be discussed during subcontractor meetings with progress updates to the owner during regular construction meetings.

- Signage will be posted on job-site bulletin board and at each entry point to the floor setting forth Indoor Air Quality measures that are to be followed by all subcontractors as well as allowable VOC limits for adhesives, paints and sealants.

- All on site personnel is accountable for IAQ implementation. Deficiency reporting will take place through weekly quality control inspections. Emitting materials will be spot checked with violations being corrected immediately (work will be stopped until the appropriate item can be procured and brought on site). Non-compliant subcontractor is responsible for reinstalling work with corrected measures without impacting the schedule. All violations will be followed up in writing and recorded.

END OF SECTION 01 81 13

SECTION 01 91 13 - GENERAL BUILDING COMMISSIONING REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Work of this Section, as shown or specified, shall be in accordance with the requirements of the Contract Documents.

B. Commissioning is a quality-focused process for enhancing the delivery of a project. The process focuses on verifying and documenting that the facility and all its systems and assemblies are planned, designed, installed, tested, operated and maintained to meet the District's Operational Performance Requirements and the Contract Documents.

C. The purpose of commissioning is to provide a systematic process of assuring by verification and documentation, from the design phase to a minimum of one year after construction, that all facility systems perform interactively in accordance with the design documentation and intent and in accordance with the District's operational needs.

1.2 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

B. Section 23 08 00 – Mechanical Systems Commissioning

C. Section 26 05 01 – Electrical Systems Commissioning

D. Section 28 00 10 – Security Systems Commissioning

E. Commissioning Plan dated *Refer TO milestone schedule in 01 32 00

1.3 DEFINITIONS

A. Commissioning Authority (CxA): The Commissioning Authority is a reviewing entity that will verify that the District's Operational Performance Requirements are achieved and assist the District by providing quality improvement.

B. Functional Performance Test (FPT): Detailed step-by-step procedures to verify the proper operation of a piece of equipment or system in all modes of operation.

C. Major Problem: Any problem or group of problems that require more than fifteen (15) minutes to correct.

D. Operational Performance Requirements (OPR): Equipment, system and facility criteria necessary to meet the District's needs for the project.

1.4 INCLUDED SYSTEMS

A. The following systems, equipment and their components are included in the scope of the commissioning activities and are considered to be commissioned systems and equipment.

1. Mechanical systems with commissioning identified in Division 23.

2. Electrical systems with commissioning identified in Division 26.

3. Security systems with commissioning identified in Division 28.

1.5 ROLES AND RESPONSIBILITIES

A. Prime Contractor (hereafter referred to as “Contractor” or “Prime Contractor”)

1. The Contractor shall be responsible for the quality of construction.

2. The Contractor shall be responsible for communicating to the CxA the construction schedule, milestones, completion schedules, planned testing, etc., including updates in the same fashion, timeliness and level of detail as is provided to the District.

3. The Contractor shall incorporate commissioning-related activities into the overall project schedule.

4. The Contractor shall ensure that each trade maintains accurate record drawings at the job site throughout the construction phase. The Contractor shall make these drawings readily available for review and use by the CxA at any time during normal business hours.

5. The Contractor shall ensure that each subcontractor cooperates and provides information, assistance, and responses to the CxA as described herein.

B. Subcontractors (hereafter referred to as “Contractor” or “Subcontractor”)

1. The Subcontractor shall provide personnel, equipment and materials necessary to fulfill its obligations in the commissioning process as described in this section and its discipline-specific commissioning specification.

2. The Subcontractor shall attend all commissioning meetings as requested by the Prime Contractor

1.6 SUBMITTALS

A. Commissioning Plan. The Preliminary Commissioning Plan is part of the contract. The Commissioning Plan will be updated throughout the construction and acceptance process and will become Final with the project is complete. The Preliminary Commissioning plan developed for this project shall be updated and executed. Changes and amendments to the existing draft Commissioning Plan shall be incorporated as detailed installation and start-up information for equipment items is obtained and changes to the design are made. The Plan includes the following:

1. General project information.
2. Key points of contact.
3. Roles and responsibilities.
4. Description of systems to be commissioned.
5. Construction Verification and Test Checklists.
6. Issues tracking format.
7. Review of Operation and Maintenance documentation.

B. Commissioning Tests and Checklists. Preliminary Checklists have been developed for three levels of testing:

1. Construction Verification Checks (CVC). Construction verification checks cover the activities that must be performed for the proper storage, handling and installation of building components and equipment. Checklist submitted prior to startup.
2. Functional Performance Tests (FPT). Functional Performance Tests cover the activities associated with starting and running dynamic equipment and systems to insure proper set-up, alignment, operation and that inputs/outputs are in accordance with the design. For non-dynamic components, functional checks ensure proper function.
3. Integrated System Tests (IST). Integrated testing involves ensuring proper operation where two or more separate systems interact with each other and where new systems connect with existing systems.

C. The contractor shall update the CVCs and FPTs as equipment submittals are approved and manufacturer's installation, start-up and commissioning information is obtained. The Commissioning Authority will update the ISTs.

D. Submit proposed schedule which shall include major equipment to be commissioned and anticipated dates for testing, startup and training of this equipment.

E. Submit names and list of responsibilities for each team member.

F. In addition to the submittal requirements from other Specification Sections, the Contractor shall provide the CxA the following submittal information for equipment and systems to be commissioned:
1. Detailed product data for each piece of equipment including capacities, electrical components and requirements, start-up procedures, etc.
2. Full and part load performance curves over the expected operated ranges for each piece of equipment that will operate at variable loads.
3. Manufacturer's detailed, approved short circuit coordination study.
4. Manufacturers' certified equipment test reports, where applicable.
5. Manufacturers' detailed installation requirements.
6. Manufacturers' detailed start-up requirements.
7. Control system diagrams and sequences of operation.
8. Operation instructions.
9. Warranty and District's obligations to maintain warranty.
10. Manufacturers' recommended maintenance and troubleshooting procedures, including tools and replacement parts lists.

G. Submittal Review Procedures:

1. The Contractor shall provide a copy of each applicable submittal defined to the CxA at the same time as providing the submittal to the COTR.

2. The CxA will review the submittals parallel to the Architect/Engineer's review. The focus of the CxA review will be the following:

a. Verify that the equipment or system meets the Operational Performance Requirements.
b. Verify that equipment or system includes provisions for access and maintenance.
c. Verify that sufficient information is provided for the development of the equipment checklists and functional performance test procedures.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 COMMISSIONING TEAM

A. Each Contractor shall designate an individual to be responsible for coordinating commissioning activities with the CxA. This requirement is intended to facilitate effective communication during the commissioning process.

B. The commissioning team consists, at a minimum of the following:

1. Commissioning Authority
2. Architect/Engineer
3. Design Engineers (Mechanical, Plumbing, Electrical, Specialty)
4. Prime Contractor
5. Mechanical Contractor(s) and its Subcontractors
6. Electrical Contractor(s) and its Subcontractors
7. Electronic Security Contractor(s) and its Subcontractors

3.2 COMMUNICATION PROTOCOLS

A. Formal reports including Site Observation Reports will be distributed to the District, Architect/Engineer and Prime Contractor.

B. Informal comments and observations from the commissioning work will be relayed directly to the responsible party whenever possible, with copies to the District, Architect/Engineer and Prime Contractor. This includes field observations and functional performance test results. The direct communication approach will avoid delays from traditional remote paper exchanges, will encourage dialogue and discussion of options and alternatives, and alternatives, and generally maintain an atmosphere of cooperation and quality.

C. Response Times

1. Timeliness in delivering information or providing responses to the CxA are essential to providing the construction product to the District on time, as well as facilitating the commissioning process.

2. The Contractor shall adhere to the following guidelines to meet this objective:

3. Delivery of Initial Submittal of the O&M manuals to CxA: 30 days prior to start of Commissioning.

a. Delivery of proposed training material to CxA: Thirty (30) days prior to the scheduled training.
b. Delivery of testing, balancing and adjusting plan to CxA: 90 days after Notice to Proceed.
c. Delivery of start-up plan for each piece of equipment to the CxA: Two (2) weeks after approved submittals.
d. Delivery of electrical testing reports and manufacturer testing reports to the CxA: Ten (10) days from receipt of reports by Contractor.
e. Written response to a site observation comment to CxA: Two (2) weeks or less from receipt of comment.
f. Written response regarding the acceptability of the functional testing procedures to CxA: Four (4) weeks from receipt of the testing procedures.
g. Time to correct discrepancies noted in Record Drawings during construction phase: Two (2) weeks from the date the discrepancy was noted.

3.3 COMMISSIONING MEETINGS

A. Most commissioning issues will be handled during regularly scheduled project meetings. If specific topics require additional discussion, the commissioning team shall meet immediately after the project meeting.

B. Other commissioning meetings may occur at other times mutually agreed to by the commissioning team.

3.4 COMMISSIONING SCHEDULE

A. The Contractor shall integrate equipment start-up and functional performance testing into the master construction schedule. The CxA may assist the Contractor in developing the logic schedule for the commissioning-related activities.

B. The Contractor shall update the schedule of commissioning-related activities at least monthly until the beginning of start-up activities and/or functional performance testing.

C. The Contractor shall update the schedule of commissioning-related activities at least every two weeks once start-up activities and/or functional performance testing have begun.

3.5 SITE OBSERVATIONS AND VERIFICATIONS

A. The CxA will make site observations from time-to-time. The CxA site observation reports may include construction issues, access and maintenance issues, safety issues, or other issues. Each observation is intended to improve the project quality and achieve the District’s Performance Requirements.

B. The Contractor shall respond, in writing to the CxA, to each contractor-responsible issue within fourteen (14) calendar days of receipt of the site observation report. The response shall state at a minimum the following.

1. Concurrence or not on whether this is an issue.
2. Planned corrective action.
3. Date on when correction will be completed.

C. The Contractor shall respond in writing when the corrective action has been completed and in its opinion the issue is resolved.

3.6 EQUIPMENT CHECKLISTS

A. The Commissioning Authority will provide the Contractor the following equipment checklists:

1. Receipt Inspection Checklist.
2. Equipment Prefunctional Checklist.

B. Intent

1. The Receipt Inspection Checklist will be used to document the delivery of equipment on the job site.
2. The Equipment Prefunctional Checklist will be used to communicate the readiness for a particular equipment or system for functional performance testing.
3. The checklists do not contain all of the requirements of the Contract Documents. The completion of the checklist does not eliminate the Contractor's responsibility for meeting other requirements in the Contract Documents.

C. Use and Process

1. All checklists will be provided to the Contractor by the CxA for all equipment and systems to be commissioned. The Contractor shall refer to the Commissioning Plan to obtain the checklists.
2. The Contractor shall complete each checklist. The Contractor shall document and explain any negative responses to any line item of the checklist at the end of the checklist.
3. As each checklist is completed, the Contractor shall provide the original to the CxA and maintain a copy on site.
4. The Contractor shall provide each completed checklist to the CxA according to the following schedule:

    a. Receipt Inspection Checklist: Maximum of ten (10) working days from date of delivery of the equipment to the job site.
    b. Equipment Prefunctional Checklist: Minimum of five (5) working days prior to scheduling of any functional performance tests related to that equipment.

5. The CxA shall have a minimum of five (5) working days to verify at its discretion whether the checklists have been completed satisfactorily before scheduling of any functional performance tests related to that equipment.

3.7 FUNCTIONAL PERFORMANCE TESTING

A. General: Commissioning Authority will provide procedures to the Contractor.

1. The Contractor shall demonstrate that the commissioned equipment and systems operate properly in all modes of operation.

2. Testing shall begin at the component level and progress upwards in complexity to the equipment and system level.
3. When all systems have passed their functional performance tests, the Contractor shall demonstrate that the systems operates correctly as a whole in a System Integration Test.

B. Functional Performance Test (FPT) Procedures

1. The CxA will provide the FPT procedures to the Contractor and all applicable Subcontractors before testing for review. The Contractor shall refer to the Commissioning Plan for draft FPT procedures.

2. The Contractor shall review the draft FPT procedures and reply, in writing, whether the tests as written are acceptable and will not void any warranties. The Contractor shall submit any requested modifications to the test procedures in writing to the CxA. The submitted modifications shall be made in accordance with the approved submittal schedule as developed by the Contractor. For example, modifications to Division 23 FPT procedures shall be submit- ted concurrently with the control system submittal. Failure on the part of the Contractor to submit any modifications to the draft FPT procedures shall signify the Contractor's concur- rence that the procedures are acceptable.

3. The FPT procedures will provide step-by-step instructions in a pass/fail format.

C. The Contractor shall complete and submit all applicable Equipment Prefunctional Checklists prior to scheduling of functional testing.

D. When the equipment and systems are ready to test, the FPT will be scheduled for a time mutually convenient to the Contractors and the CxA.

E. The CxA will orchestrate the Functional Performance Test. The Contractor shall be responsible to provide personnel and equipment to perform the testing and to correct problems found during the testing. The Contractor shall provide means of access in compliance with OSHA regulations to the CxA to visually verify all aspects of the specified test.

F. If the total time required to correct minor problems during testing is greater than fifteen (15) minutes, the test shall be considered failed and must be repeated in its entirety.

G. If a major problem is discovered during the test, the Contractor shall correct the problem. Prior to retesting, the Contractor shall submit to the CxA the required data indicating that the defi- cient items have been corrected. After review of this information by the CxA, a retest will be scheduled. During the course of the retest, if at any point a major deficiency is discovered, the test will be stopped. If more than two functional performance tests (one initial test and one re- test) for any type of equipment are required, the costs for the CxA to witness retesting of similar types of equipment until satisfactory results are obtained shall be the responsibility of the Con- tractor.

1. A major problem is any problem or group of problems that require more than fifteen minutes to correct.

2. A type of equipment is equipment that belongs to a common category, for example, air handling unit or panelboard.

3.8 TRAINING VERIFICATION

A. The Contractor shall submit proposed training material to the CxA for review and comment.

B. The Contractor for the respective system shall be responsible for the development and implementation of the training material for that system.

C. The Contractor shall provide final Operation and Maintenance (O&M) manuals and training materials to the District and CxA prior to training.

D. At a minimum, the Contractor shall provided the following material at the time of training:

1. Detailed agenda
2. Contractor contact information sheet
3. Detailed training material (divided by sections where appropriate)
4. Log sheets and maintenance checklists
5. Training may be recorded for future reference if requested by the District.

E. The Contractor shall develop a proposed training schedule and submit that to the District for review, comment and approval.

F. The Contractor shall schedule and coordinate all training sessions through the District.

G. The Contractor shall provide training for all of the equipment and systems included in the following divisions:

1. Division 23.
2. Division 26.

H. At a minimum, training topics shall include the following:

1. Description of equipment and systems.
2. Warranties and guarantees.
3. Equipment start-up and shutdown.
4. Normal and emergency operation.
5. Seasonal changeover.
6. Maintenance schedules.
7. Health and safety issues.
8. Special tools and spare parts.
9. Emergency procedures.
10. Hands-on operation.
11. Troubleshooting.
12. O&M manuals.
13. Facilities control system and sequences of operation.

END OF SECTION 01 91 13