NATIONAL PARK SERVICE NORTHEAST REGION BOSTON, MA

BUILDING 124
STABILIZATION PROJECT

Boston National Historical Park
Suffolk County, Massachusetts

Contract No. _____
BOST 256875

PROJECT SPECIFICATIONS

Construction Documents

16 May, 2022

NATIONAL PARK SERVICE

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SECTION 01 11 00 - SUMMARY OF WORK

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:
   1. Work covered by the Contract Documents.
   2. Work under Other Contracts.
   3. Contractor use of premises.
   4. Public use of site.
   5. Work Restrictions.
   6. Special Construction Requirements.
   7. Hazardous Materials Report.

1.2 GOVERNMENT/CONTRACTOR

A. Architect/Engineer: BBIX Architects and Engineers LLC. 103 South Street, Suite 3, Boston, MA. 02111

1.3 WORK COVERED BY CONTRACT DOCUMENTS

A. Project Location and Background: The project is located at the Charlestown Navy Yard (AKA the Boston Naval Shipyard). The Charlestown Navy Yard is located at 114 16th St, Charlestown, Massachusetts.
   1. Building 124 is a historically significant structure as it exemplifies the maritime industrial character of the Charlestown Navy Yard's operations during World War II.
   2 Completed in 1903, Bldg. 124 is the sole surviving example of the small scale, but substantial conveniences built by the U.S. Navy for workers in the Yard. It is listed as a contributing resource in the Charlestown Navy Yard NHL district and is listed on the National Register of Historic Places and the NPS List of Classified Structures and is highly visible from 1st Ave. and Shipyard Park. The building is currently used by the US Navy for storage. Future maintenance of wood windows is planned to engage youth corps work crews.
   3. As a result of the district's NHL status and building 124 as contributors to the NHL, all Work must be conducted by the Contractor in a manner that prioritizes protection of the existing historic structures and site from damage during construction. The Work will require using means and methods carefully selected to be least damaging to the historic structures and site. Means and methods are constrained to those that will afford the structures protection against damage of any kind.

2.2 PROJECT CONDITIONS

A. Description of Existing Structure:
   1 The proximity of the roof edge and brick wall of building 124 to adjacent building 24 is of particular concern. The open space between the structures is very narrow and inaccessible for regular maintenance. Additionally, a water line and a sprinkler line are connected between the two

2 buildings through this narrow space, creating additional openings in the brick wall prone to water intrusion. A window in the wall of Bldg. 124 facing Bldg. 24 was removed, leaving a rectangular opening to the exterior, most likely as a need for service of the utility lines.

A. Description of Deterioration:
   1. BBIX and it's consultant Simpson Gumpertz and Heger performed an extensive conditions assessment of building 124 to identify the best method of designing a support system to aid in the temporary stabilization of the building structure.

2.3 WORK SCOPE

A. Work includes the following activities:

   1. The Work includes the installation of a support system / stabilization of building 124 to reduce the effects of additional differential settlement and prevent the collapse of building 124, until which time a repair method can be designed and implemented (this method is NOT part of this scope of work)
   2. Refer to contract drawings for further information regarding stabilization of building 124.

2.4 CONTRACTOR USE OF SITE

A. General: Contractor shall have partial use of the site for construction operations during the construction period. Contractor's use of the site is limited as indicated on the Drawings and by the Government's right to perform work or to retain other contractors on portions of Project.

B. Storage of Materials: Confine storage of materials to locations designated by park staff. Confine storage of materials, field offices, equipment storage, trailer storage and parking to areas approved by Contracting Officer. Use temporary chain link fence with a lockable gate to define staging areas and at open storage areas containing equipment and supplies. The Government assumes no responsibility for the security of any Contractor equipment, materials, or supplies and such responsibility remains that of the Contractor. Contractor is advised of the spatial limitations of the contractor-use areas and that additional off-site vehicular parking may be required. Storage will not be permitted in existing structures.

C. Adjacent areas:

   1. Prevent damage to natural surroundings and adjacent structures. Restore damaged areas, at no additional expense to the Government.

D. Driveways and Entrances: Keep driveways, roadway and entrances serving premises clear and available to Government, Government's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials. Contractor will use main entrance into Charlestown Navy Yard and park in locations designated by park staff.

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

E. Hauling Restrictions: Comply with all legal load restrictions in the hauling of materials. Load restrictions on park roads are identical to the state load restrictions with such additional

regulations as may be imposed by the Contracting Officer. Information regarding rules and regulations for vehicular traffic on park roads may be obtained from the Office of the Park Superintendent. A special permit will not relieve Contractor of liability for damage which may result from moving of equipment.

2.5 SECURITY

A. The Charlestown Navy Yard is a secure facility. All persons and vehicles entering the yard are subject to search by the National Park Service law enforcement personnel. The General Contractor shall furnish a list of all personnel and vehicles (including license plate numbers) anticipated to be on site prior to the start of work and shall update such list as appropriate during the duration of the work.

B. All contractor personnel shall have appropriate identification and shall furnish such identification to authorized National Park Service law enforcement personnel upon request. A current driver's license is required to operate a motor vehicle in the Charlestown Navy Yard.

C. The National Park Service reserves the right to suspend access to the Charlestown Navy Yard in response to changing security levels and conditions.

2.6 PUBLIC USE OF SITE

A. Contractor shall at all times conduct his operations to ensure the least inconvenience to the public. Road closures will not be permitted, without specific approval of Contracting Officer.

2.7 PARKING AND TRANSPORTATION

A. Expect for Contractor's vehicles actively employed in the accomplishment of the work, the NPS cannot guarantee the Contractor's employee vehicles can be accommodated within the Charlestown Navy Yard and in no case will overnight parking be permitted. Contractor is urged to encourage workers to carpool or to provide other environmentally responsible modes of transportation to bring workers to the site. Parked vehicles shall not be left running.

2.8 OCCUPANCY REQUIREMENTS FOR BUILDINGS

A. Existing Site/Dock

1. Partial Government Occupancy: Government will occupy the premises during entire construction period, with the exception of areas under construction. Cooperate with Government during construction operations to minimize conflicts and facilitate

   Government usage. Perform the Work so as not to interfere with Government's operations. Maintain existing exits, unless otherwise indicated.

   a. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from the Contracting Officer (CO).

2.9 CONDUCT OF OPERATIONS

A. At all times the contractor shall conduct his operations in conformance with the rules and regulations promulgated by the Secretary of the Interior for the National Park Service, and applicable park rules and regulations prescribed by the Park Superintendent.

B. Work on Saturdays, Sundays, Federal holidays or at night may not be performed without prior consent from the Contracting Officer. Submit requests 72 hours in advance of the work to the Contracting Officer for approval.

C. No signs or advertisements (except those specified herein) shall be displayed on the construction site or within the park unless approved by the Contracting Officer.

2.10 WORK RESTRICTIONS

A. On-Site Work Hours: Work shall be generally performed during normal business working hours of 8:00 a.m. to 4:30 p.m., Monday through Friday, except when otherwise indicated.

B. Smoking of and/or use of tobacco or vaping shall be restricted to areas designated and approved by the Park. Contractor to coordinate with and comply with Park guidelines.

2.11 HISTORIC NATURE OF THE WORK

A. Boston Naval Shipyard is a National Historic Landmark. Contractor shall take all necessary precautions to protect the elements of the buildings not scheduled to receive work. Any damage to such elements shall be repaired by the Contractor at no expense to the Government.

END OF SECTION 01 11 00

SECTION 01 26 01 – CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. The work of this section consists of administrative and procedural requirements for contract modifications.

1.2 DEFINITIONS AND ALLOWANCES

A. Home Office Overhead: Those costs incurred in support of all of a contractor's projects and not attributable to a specific job. The cost for home office overhead is only allowed as a percentage of all direct work excluding profit. The following items represent allowable home office overhead costs identified in Part 31 of the Federal Acquisition Regulation (FAR):

1. Rent
2. Utilities
3. Furnishings
4. Office equipment
5. Executive and management staff not exclusively assigned to the project
6. Support, accounting, and administrative staff
7. Preparation of cost proposals, estimating, and schedule analyses connected with Modifications
8. Estimating and preconstruction services
9. Mortgage costs
10. Real estate and corporate taxes
11. Automobile maintenance and travel costs for home office personnel
12. Home office insurances i.e. structure, automotive, umbrella, flood, etc.
13. Depreciation of equipment and other assets
14. Home office supplies (paper, staples, etc.)
15. Legal services
16. Accounting and data processing
17. Professional fees/registration

B. General Conditions (Field Office Overhead): Management and administrative costs incurred on site for the designated project. Costs associated with the preparation of modifications will not be allowed. The costs for these items are to be included only in the general conditions of the modification estimate. Only in the case of a contract time extension are additional general conditions included in modifications. The following items, if applicable, are considered allowable costs for calculating General Conditions:

1. Project Manager, Assistant Project Manager
2. Superintendent, Assistant Superintendent
3. Quality Control, Safety Officer, Environmental Manager, etc.
4. Contracting Officers
5. Travel, lodging, and per diem (as established by Federal Travel Regulations)

6. Scheduling
7. Field Office Trailers and associated temporary utilities
8. Field office supplies

    a. Mailing and couriers
    b. Reproduction costs
    c. Storage
    d. Phones
    e. Computers
    f. Copiers

9. Personal vehicles i.e. Superintendent Pickup trucks

C. General Requirements: These are costs directly associated with the project and are necessary to perform the actual work of the modification. These costs shall be shown as direct costs in the estimate. The following items, if applicable, are considered allowable costs for calculating General Requirements:

1. Hoisting
2. Material handling
3. Temporary fencing
4. Port-a-lets
5. Trash removal, dumpsters
6. Barricades
7. Small tools
8. Safety supplies
9. Scaffolding
10. Daily cleaning
11. Traffic control
12. Temporary signage
13. Temporary heating and power

D. Personnel Costs: Costs included in the modification must only be for General Conditions staff and workers actually present and working on the project site. Modification costs for salaried workers are only allowed within the structure of a 40 hour week and no overtime or holiday pay will be allowed.

1. Worker Hourly Rates are costs directly associated with the individual worker and consist of the following:

    a. Base Rate: This is the hourly rate paid directly to the worker
    b. Labor Burden: Employer payments of all applicable burdens, this includes insurance and taxes that the business must pay on behalf of the worker to government entities and educational forums , such as:

        1) Social Security
        2) Medicare
        3) Workers Compensation– Policy and company calculation to be made available.
        4) FUTA– Cap Rate and percentage to be proportionally allocated over one year.
        5) SUTA– Cap Rate and percentage to be proportionally allocated over one year.

6) Union agreement costs – Other costs required under an enforceable collective bargaining agreement.

c. Fringe Benefits: Various non-wage compensations provided to employees such as:

1) Health Care Insurance Premiums
2) Cell Phone
3) Clothing
4) 401K and Pensions
5) Vehicle allowances
6) Gas allowance
7) Life insurance premiums
8) Disability insurance
9) Other Fringe Benefits required under an enforceable collective bargaining agreement

E. Bonuses or Deferred Compensation: No Bonus or Deferred Compensation will be allowed within any components of pricing including Home Office Overhead, General Conditions, General Requirements, Hourly Worker Rates, or the direct costs of work.

F. General Liability Insurance: An insurance policy that protects the contractor from claims resulting from bodily injury or property damage to a third party. Include this as a separate line item within all modification proposals and provide a current insurance quote upon request.

G. Performance and Payment Bonds: A performance bond is a surety bond issued by an insurance company or bank to guarantee satisfactory completion of a project. The Payment Bond guarantees that the contractor will pay the labor and material costs they have incurred. Banks and Insurance companies charge a premium for each individual project based on a sliding scale which relates to the size of the project. Include this as a separate line item in modification proposals and provide current company bonding rates upon request.

H. Builder's Risk Insurance: This covers the contractor's loss due to fire, high winds, or other natural forces. This is not reimbursed by the National Park Service (NPS) and shall not be included in modification proposals.

1.3 MODIFICATION PROPOSAL PRICING REQUIREMENTS

A. General:

1. Your proposal must be received in the format and within the time frame specified in the Request for Proposal letter. Costs or delays resulting from failure of contractor to submit within the time frame specified will not be compensable.
2. The proposal must be detailed with itemized lists of equipment, materials, labor, production rates, overhead, profit, and bond markup for each item. Labor costs must be itemized by craft and hourly rate, including Fringe Benefits and Labor Burden. If the costs of Fringe Benefits and Labor Burden are not itemized, it is assumed that that they are included in the hourly rate shown, or contractor is not requesting reimbursement. Contractor may utilize the government provided Contractor Estimate Form, or their

own form, provided that it contains the same information and level of detail as the Gov't provided form.

3. Requests for extensions of contract time as a result of this change must be justified with a Time Impact Analysis (TIA). Refer to Division 01 Specification, "Construction Schedule", for time impact analysis requirements. TIA and associated costs must be received with the proposal by the date shown within the Request for Proposal letter. Contractor's failure to submit within the specified time frame will be construed as the Contractor waiving the right for additional time and no time extension will be allowed.
4. All supporting documentation used to justify the proposed modification will be made available to the Contracting Officer upon request.
5. Contractor must review and approve all subcontractor/supplier pricing in detail for proper format, scope, production rates, and pricing prior to submission to the NPS. All delay costs associated with not reviewing and approving subcontractor/supplier pricing will be borne by the Contractor.
6. All pricing and production rates within the estimate must be based on fair and reasonable pricing and cannot include built-in contingency.

B. Labor:

1. Contractor shall estimate the cost of labor by itemizing each craft involved, indicating worker hourly rate (base rate + labor burden + fringe benefits) for each and itemizing the hours required for each craft that will be directly engaged in modification work. Any work proposed that will require overtime work or premium pay shall be itemized separately. All rates shall be in accordance with the Davis-Bacon Act as incorporated herein. Labor Burden may include payroll taxes, Social Security, unemployment insurances, workers compensation insurance, FICA, FUTA, and other direct costs resulting from Federal, State or local laws.
2. Itemize labor costs for equipment operators separate from equipment costs.
3. The labor cost for foremen shall only be costs for related work required for the modification.

C. Materials:

1. The estimated cost for materials shall include quotes from multiple sources. Material prices must include all applicable fees and credits, including but not limited to, sales tax, freight and delivery charges, and tax rebates.
2. No markup shall be applied to any material provided by the NPS.

D. Equipment:

1. Equipment used for the project must be appropriately sized for the work being performed.
2. Do not include costs for "miscellaneous tools and equipment", in your proposal for a replacement value of $500 or less. Costs shown in excess of $500 must be broken out separately.
3. Regardless of ownership, the rates to be used in determining equipment rental costs shall be the lowest cost from one of the following sources:

   a. U.S. Army Corps of Engineers , Ownership and Operating Expense Schedule (use latest edition and applicable region)
   b. Construction Blue Book

c. Local equipment rental rates, documented by actual invoice charges, or itemized vendor quotes.

4. The estimated equipment rates shall include the operating costs of all fuel, oil, lubrication, supplies, small tools, necessary attachments, ground engaging components, tires & tracks, routine repairs and maintenance (cost of major repair and overhaul is not allowed per FAR 31.105(d)(2)), depreciation, storage, insurance, and all incidentals. Mobilization, if applicable, may be included for equipment solely used on the modification work but must be listed separately.
5. Estimate the full rate for equipment only for the duration that the equipment will be utilized to accomplish the work of the modification.
6. Standby unit rates used are to be in accordance with paragraph 1.3, D, 2, above. If the US Army Corp of Engineers is utilized then their standby rates prevail. If Bluebook or local equipment pricing is accepted, then ½ of the equipment costs minus any operating costs, major repair and overhaul will be accepted.
7. If equipment is in standby mode due solely to a documented NPS delay, the established standby rate shall apply from the first day of the delay.
8. Equipment that is not used and on the jobsite for up to five consecutive days may be classified at standby rates, provided that the equipment is or has been used solely to perform work on the modification and will be necessary to complete additional modification work. Equipment that is still on the jobsite but not in use after five consecutive days will not be considered in the modification pricing.
9. Requests for compensation for equipment stand by time must be justified, documented and itemized separately.
10. The estimated timeframe (daily, weekly, monthly) for use of the equipment must reflect the lowest cost to the Government.

E. Establishment and Application of Overhead and Profit Percentages:

1. Home Office Overhead and Profit (OH&P) shall be applied to direct costs only. Profit shall not be applied to overhead amounts; and overhead shall not be applied to profit. Home office overhead shall contain only allowable, allocable, and reasonable costs per the contract documents and FAR Part 31. Profit percentages are based on risk factors found in FAR Part 31which have been applied to the specific type of work included in this project. Negotiated rates shall not exceed the following percentages for OH&P for contractor self-performed work:
   Overhead 10%
   Profit 7.5%

2. Total aggregate limit of markup (OH&P) for contractor and subcontractors on modification work shall not exceed 25%. The NPS will not be responsible for allocation of percentages between contractor and subcontractors at any tier.
3. If contractors form a partnership, than the partnership may only receive home office overhead and profit in the same amount as an individual contractor (refer to par 1.3,E,1 above). It is the responsibility of the partners to decide on the division of revenue.
4. Combined Increases and Decreases: On proposals involving both increases and decreases in the Contract Price, the overhead and profit mark-ups are required on the net increases and deducted on net decreases.
5. At no time can profit be calculated on Overhead or itself, it must be calculated on direct costs of work only.

1.2 Contract Line Item No.1:

1. This item consists of the installation of a support system / stabilization of building 124 as indicated on the contract drawings and specifications.

2. Measurement for payment will be lump sum.

3. Payment will be made at the contract lump sum price.

END OF SECTION 01 26 01

SECTION 01 27 00 – DEFINITION OF CONTRACT LINE ITEMS

PART 1 - GENERAL

1.1 SUMMARY

A. The intent of this section is to explain, in general, what is and what is not included in a contract line item, and the limits or cut-off points where one item ends and another begins.

B. If no contract line item exists for a portion of the work, include the costs in a related item.

1.2 CONTRACT LINE-ITEM NO.1

A. This item consists of the installation and stabilization of Building 124 as indicated on the Contract Drawings and specifications herein.

B. Measurement for payment will be lump sum.

C. Payment will be made at the contract lump sum price.

PART 2 - PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

END OF SECTION 01 27 00

SECTION 01 31 00 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:

1. Definitions
2. Construction Coordination.
3. Submittals
4. Coordination Drawings.
5. Requests for Information (RFIs).
6. Project meetings.
7. Environmental Coordination.
8. Related Requirements:

9. Section 01 32 16 “Construction Schedule” for preparing and submitting Contractor’s construction schedule.
10. Section 01 73 40 “Execution” for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.
11. Section 01 77 00 “Closeout Procedures” for coordinating closeout of the Contract.

1.2 DEFINITIONS

A. Agency with Jurisdiction

B. Construction Permits – Contractor Provided

C. Government Furnished Permits

1.3 CONSTRUCTION COORDINATION

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

1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
2. Coordinate installation of different components with other Contractors to ensure maximum accessibility for required maintenance, service, and repair.
3. Make adequate provisions to accommodate items scheduled for later installation.

4. Where availability of space is limited, coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair of all components, including mechanical and electrical.
5. Properly plan construction operations to include permit requirements. Allow enough time to execute permit provisions to maintain work schedule, site visits, inspections, and reporting deadlines.

B. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.

C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:

1. Preparation of Contractor's Construction Schedule.
2. Installation and removal of temporary facilities and controls.
3. Delivery and processing of submittals.
4. Progress meetings.
5. Permit requirements.
6. Project closeout activities.
7. As-built drawings (hard copies and AutoCAD)

1.4 SUBMITTALS

A. Division 01 documents: The following items shall be submitted a minimum of one week prior to the Preconstruction Conference. Contracting Officer will notify Contractor of tentative date for the Pre-Construction Conference.

1. Letter designating Project Superintendent.
2. Construction Schedule.
3. Accident Prevention Plan.
4. A list of Subcontractors for this project.
5. Written statements from subcontractors certifying compliance with applicable labor standard clauses.
6. Satisfactory evidence of liability insurance coverage and workman’s compensation for the Contactor and all subcontractors.

B. The listed items must be provided to the Contracting Officer before the Pre-Construction Conference is held. If all of these documents have not been received one week prior to the scheduled Pre-Construction Conference date, the conference will be cancelled, Notice to Proceed will not be issued, and the Contracting Officer will consider other contractual remedies. Work shall not commence until written Notice to Proceed has been issued.

1.5 REQUESTS FOR INFORMATION (RFIs)

A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI

1. CO will not respond to RFIs submitted by other entities controlled by Contractor.
2. Coordinate and submit RFIs in a prompt manner to avoid delays in the work.

B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:

1. RFI number, numbered sequentially.
2. Date.
3. RFI subject.
4. Specification Section number and title and related paragraphs, as appropriate.
5. Drawing number and detail references, as appropriate.
6. Field dimensions and conditions, as appropriate.
7. Contractor's suggested resolution. If Contractor's suggested resolution impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
8. Contractor's signature.
9. Requested date for response.
10. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.

    a. Include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments on attached sketches.

11. The following are not considered to be RFIs and will receive no action:

    a. Requests for approval of submittals.
    b. Requests for approval of substitutions.
    c. Requests for approval of Contractor's means and methods.
    d. Requests for coordination information already indicated in the Contract Documents.
    e. Requests for adjustments in the Contract Time or the Contract Sum.
    f. Requests for interpretation of Architect's actions on submittals.
    g. Incomplete RFIs or inaccurately prepared RFIs.

12. CO's action may include a request for additional information, in which case time for response will date from time of receipt of additional information.
13. CO's action on RFIs may result in the need for a change to the Contract Time or the Contract Sum. All contract changes will be processed following the terms and conditions of the contract.

1.6 PROJECT MEETINGS

A. Preconstruction Conference: Before start of construction, Contracting Officer will arrange an on-site meeting with Contractor. The meeting agenda will include the following as a minimum:

1. Roles & Responsibilities/ Lines of Authority.
2. Park rules and regulations.
3. Jobsite Safety.
4. Project Schedule.
5. Resolution of comments on required Division 01 documents.
6. Coordination of Subcontractors.

7. Labor law application.
8. Modifications.
9. Payments to Contractor.
10. Payroll reports.
11. Contract time.
12. Liquidated damages.
13. Contractor Performance Evaluation.
14. Display of Hotline posters.
15. Notice to proceed.
16. Correspondence procedures.
17. Acceptance/rejection of work.
18. Progress meetings.
19. Submittal procedures.
20. Environmental requirements.
21. Permit requirements.
22. As-constructed drawings
23. Saturday, Sunday, holiday and night work.
24. Reference materials.
25. Schedule of Values

B. Progress Meetings: The Contracting Officer will schedule weekly meetings with the Contractor.

1. Attendees: In addition to Government Representatives, each Contractor, Subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with the Project and authorized to conclude matters relating to the Work.
2. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. The meeting agenda will include the following:

    a. Approval of minutes of previous meetings.
    b. Submittal status.
    c. Up-to-date project schedule.
    d. Requests for information (RFI) and other issues.
    e. Modifications.
    f. Work in progress and projected.

        1) Status of required inspections (Special Inspections, Accessibility, etc.)

    g. Inspections of work in progress and projected (Special inspections,
    h. Construction Schedule update (provide updated CPM).
    i. Permit requirements.
    j. Other business relating to work.

C. Preinstallation Conferences: Conduct a preinstallation conference at Project site before each construction activity that requires coordination with other construction.

1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and

installations that have preceded or will follow, shall attend the meeting. Advise CO of scheduled meeting dates.

2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:

    a. Contract Documents.
    b. Options.
    c. Related RFIs.
    d. Related Change Orders.
    e. Purchases.
    f. Deliveries.
    g. Submittals.
    h. Possible conflicts.
    i. Compatibility requirements.
    j. Time schedules.
    k. Weather limitations.
    l. Warranty requirements.
    m. Compatibility of materials.
    n. Acceptability of substrates.
    o. Temporary facilities and controls.
    p. Space and access limitations.
    q. Regulations of agency(ies) with jurisdiction.
    r. Testing and inspecting requirements.
    s. Installation procedures.
    t. Coordination with other work.
    u. Required performance results.
    v. Protection of adjacent work.
    w. Protection of construction and personnel.

3. Record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.
4. Reporting: Distribute minutes of the meeting to each party present and to other parties requiring information.
5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.

1.7 ENVIRONMENTAL COORDINATION

A. Perform project quality control in accordance with requirements specified in Related Sections, including:

    1. Quality Requirements.
    2. Regulatory Requirements.
    3. Hazardous Waste Abatement and Management.
    4. Noise & Acoustics Management.
    5. Construction Waste Management.

B. Treatment of Animal Nesting:

1. Prior to removal of an inactive nest, contractor shall coordinate with Park to confirm that the nest is not protected under the Endangered Species Act (ESA) or the Bald and Golden Eagle Protection Act (BGEPA). Nests protected under ESA or BGEPA cannot be removed without valid permit.

1.8 PERMITS

A. General:

1. Permits and Responsibilities: The Contractor shall, without additional expense to the Government, be responsible for obtaining any necessary licenses and permits, and for complying with any Federal, State 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. The Contractor shall also be responsible for all materials delivered and work performed until completion and acceptance of the work.
2. For the purpose of this contract the Contractor will not be considered an agent of the Government. Therefore the Contractor will comply with the appropriate Federal, State and local laws.

B. Potential Permits: The permits listed below were identified during the design process as likely to be required based on typical means and methods of construction. The list is provided to assist the contractor in determining which permits will be required for the contract's chosen means and methods. The list shall not be considered complete, as it is the responsibility of the contractor to determine means and methods, and obtain the required permits. It is the responsibility of the Contractor to obtain all permits required to legally conduct the work.

1. N/A unless required by Park or Jurisdiction having authority

C. Coordination with Agency(ies) with Jurisdiction Issuing Permits

1. Coordination: Contact the Agency(ies) with Jurisdiction as needed and sufficiently in advance to avoid delaying the work: Coordinate meetings, reporting requirements, inspections, or any other requirements.

D. Administrative Procedures:

1. Coordinate scheduling and timing of required administrative provisions of project permits with Agency(ies) with Jurisdiction, Construction Manager, and Park to avoid conflicts and to ensure orderly execution of the Work.
2. Supply all needed information to Agency(ies) with Jurisdiction issuing permits, pay any fees required and provide all material needed to comply with the permit's conditions and provisions.
3. Send permit copies to contracting officer when the permits are obtained.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 31 00

SECTION 01 32 16 – CONSTRUCTION SCHEDULE

PART 1 - GENERAL

1.1 SUMMARY

A. This Section consists of Construction Schedule requirements including but not limited to the following:

1. Schedule of Values
2. Construction Schedule Requirements.
3. Construction Schedule Updates.
4. Time Impact Analysis.

B. Purpose: The purpose of the Construction Schedule is to ensure adequate planning, coordination, scheduling, and reporting during execution of the work by the Contractor. The Construction Schedule will assist the Contractor and Contracting Officer in monitoring the progress of the work, evaluating proposed changes, and processing the Contractor's monthly progress payment.

1.2 DEFINITIONS

A. 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 activities are activities on the critical path. They 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.

B. 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 the Contracting Officer.

C. 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.

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

E. Float: The measure of leeway in starting and completing an activity.

1. Float: Float is not for the exclusive use or benefit of either the Government or the Contractor but is jointly owned.
2. Free float is the amount of time an activity can be delayed without adversely affecting the early start of the successor activity.

3. Total float is the measure of leeway in starting or completing an activity without adversely affecting the planned Project completion date.

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

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

1.3 SUBMITTALS

A. Electronic Copies: All schedules and reports submitted shall be posted on the NPS DSC SharePoint project website, provided in the native electronic file format. It is the intent of the Government to limit the number of printed reports to only those reports determined by the project team to be essential.

B. Schedule of Values: After contract award and before the Pre-Construction conference submit a schedule of dollar values based on the Contract Price Schedule.

C. Construction Baseline Schedule: After contract award and before the Pre-Construction conference, submit two paper copies of baseline schedule, large enough to show entire schedule for entire construction period.

D. CPM Reports: Concurrent with CPM schedule, submit three paper copies of each of the following computer-generated reports. Format for each activity in reports shall contain activity number, activity description, [**cost**] and resource loading, original duration, remaining duration, early start date, early finish date, late start date, late finish date, and total float in calendar days.

1. Activity Report: List of all activities sorted by activity number and then early start date, or actual start date if known.
2. Logic Report: List of predecessor and successor tasks for all activities, sorted in ascending order by activity number and then early start date, or actual start date if known.
3. Total Float Report: List of all activities sorted in ascending order of total float.

E. Construction Schedule Updates: On or before the 7th day preceding the progress payment request date, submit estimates of the percent completion of each schedule activity and necessary supporting data. Provide two paper copies.

F. Construction Schedule Revisions and Time Impact Analysis: For each Construction Schedule revision submit two paper copies of a Time Impact Analysis. Each Time Impact Analysis shall include a Fragmentary Network (Fragnet), incorporated into the currently accepted Construction Schedule, demonstrating how the Contractor proposes to incorporate a modification, change, delay, or Contractor request.

1.4 QUALITY ASSURANCE

A. The Contractor shall meet with the Contracting Officer on the day of the preconstruction conference to go over the following:

1. Review software limitations, content and format for reports.
2. Verify availability of qualified personnel needed to develop and update schedule.
3. Discuss constraints, including Phasing, work stages, area separations and interim milestones.
4. Review delivery dates for Government-furnished products.
5. Review schedule for work of separate Government contracts.
6. Review time required for review of submittals and re-submittals.
7. Review requirements for tests and inspections by independent testing and inspecting agencies.
8. Review time required for completion and startup procedures.
9. Review time required for obtaining and activating permits.
10. Review and finalize list of construction activities to be included in schedule.
11. Review baseline schedule comments, resolve issues and progress on incorporating them
12. Review procedures for updating schedule.
13. Discuss reporting requirements and establish a protocol for naming and transmitting electronic schedules.

B. Contractor's Schedule Representative: Before or at the preconstruction conference, designate an authorized representative to be responsible for the preparation and maintenance of the Construction Schedule. A resume outlining the qualifications of the Scheduler shall be submitted to the Contracting Officer for acceptance. The Scheduler shall have prepared and maintained at least 5 previous schedules of similar size and complexity similar to this Contract, demonstrating proficiency in the use of scheduling software. The authorized representative will be responsible for preparing the Baseline Schedule, all required updates, revisions, Time Impact Analyses, and preparation of reports.

1.5 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 Construction Baseline Schedule with the Schedule of Values, list of subcontracts, Submittals Schedule, progress reports, payment requests, and other required schedules and reports.

1. In developing the Construction Baseline Schedule, ensure that the Subcontractor’s work at all tiers, as well as the prime Contractor’s work, is included and coordinated.
2. Secure time commitments for performing critical elements of the Work from parties involved.
3. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

PART 2 - PRODUCTS

2.1 SCHEDULE OF VALUES

A. Breakdown each lump-sum item into component work activities used in the schedule, for which progress payments may be requested. The work activities broken out within the schedule of values

shall be integrated into and made a logical part of the construction baseline schedule submitted under this specification. The total costs for the component work activities shall equal the contract price for that lump-sum item. The Contracting Officer may request data to verify accuracy of dollar values. Include mobilization, general condition costs, overhead and profit in the total dollar value of unit price items and in the component work activities for each lump-sum item. Do not include mobilization, general condition costs, overhead or profit as a separate item.

B. Do not break down unit price items. Use only the contract price for unit price items.

C. The total cost of all items shall equal the contract price. The Schedule of Values will form the basis for progress payments.

D. An acceptable Schedule of Values shall be agreed upon by the Contractor and Contracting Officer before the first progress payment is processed.

2.2 CONSTRUCTION SCHEDULE REQUIREMENTS

A. Construction Baseline Schedule: Prepare Construction Baseline Schedule using a computerized, cost and resource-loaded**,** time-scaled CPM network analysis diagram for the Work.

1. Develop and finalize Construction Baseline Schedule so it can be accepted for use no later than 30 days after date established for the Notice of Award.

    a. Failure to include any work item required for performance of this Contract shall not excuse Contractor from completing all work within applicable completion dates, regardless of Governments acceptance of the schedule.

2. Establish procedures for monitoring and updating Construction Baseline Schedule and for reporting progress. Coordinate procedures with progress meeting and payment request dates.

B. Construction Baseline Schedule Preparation: Prepare a list of all activities required to complete the Work. Using the preliminary CPM network diagram, prepare a skeleton network to identify probable critical paths.

1. Activities: Indicate the estimated duration, sequence requirements, and relationship of each activity in relation to other activities.
2. Critical Path Activities: Identify critical path activities, including those for interim completion dates. Scheduled start and completion dates shall be consistent with Contract milestone dates.
3. Processing: Process data to produce output data on a computer-drawn, time-scaled network. Revise data, reorganize activity sequences, and reproduce as often as necessary to produce the CPM schedule within the limitations of the Contract Time.
4. The Construction Baseline Schedule as developed shall show the sequence and interdependence of activities required for complete performance of the work. Ensure all work sequences are logical and the Construction Baseline Schedule shows a coordinated plan of the work.
5. Resource loading of each activity shall include all personnel by labor category and equipment type and capacity proposed to complete the activity in the duration shown.

6. Consider seasonal weather conditions in planning and scheduling all work influenced by high and low ambient temperatures, wind, or precipitation to ensure completion of all work within the contract time.
7. Time Frame: Proposed duration assigned to each activity shall be the Contractor's best estimate of time required to complete the activity considering the scope and resources planned for the activity.

    a. An early finish date may be shown but the late finish date must be the same date as the last day of the contract period. An early completion schedule must contain the following:

        1) Insert an activity titled “Project Float” as a successor to the last activity in the early project completion schedule network.
        2) Add a milestone titled “Contract End Date” as a successor to the activity “Project Float”.
        3) Add duration to the activity “Project Float” as required so the milestone “Contract End Date” equals the last day of the Contract Period.

    b. Contract completion date shall not be changed by submission of a schedule that shows an early completion date.
    c. The Contractor shall limit use of lead or lag duration’s between schedule activities.
    d. Project Calendars: Develop and incorporate the following calendars:

        1) Administrative Calendar: Include a calendar that is based on a 7 day week to be used on any activities that are based on calendar days. Apply this calendar to administrative tasks or any other tasks that are not affected by non-working days (Federal Holidays, weather, etc.).
        2) Project Calendar: Include a calendar that is based on the planned work week for the project. Include Federal Holidays, weekends, and any other non-work days indicated in the contract documents. Apply this calendar to activities which are not anticipated to be affected by weather.
        3) Weather Calendar: Utilize the Project Calendar and show anticipated normal downtime related to weather as non-working time. Weather days shall be based on data for the local area from a reliable source like the National Oceanic and Atmospheric Administration (NOAA), National Park Service records, or source acceptable to the Contracting Officer. Apply this calendar to activities that are anticipated to be affected by weather.

    e. Activity Duration: Define activities so no activity is longer than 15 days, except for non-construction activities including mobilization, shop drawings and submittals, fabrication and delivery of materials and equipment.
    f. Procurement Activities: Include procurement process activities for the following long lead items and major items, requiring a cycle of more than 60 calendar days, as separate activities in the schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.

    g. Submittal Review Time: Include review and re-submittal times indicated. Coordinate submittal review times in Construction Baseline Schedule.

h. Substantial Completion: Allow time for Government administrative procedures necessary for certification of Substantial Completion. (For more information, refer to Division 01 Specification 01 77 00 Closeout Procedures.)

8. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.

a. Phasing: Arrange list of activities on schedule by phase.
b. Work under More Than One Contract: Include a separate activity for each contract.
c. Work Restrictions: Show the effect of the following items on the schedule:

1) Coordination with existing construction.
2) Limitations of continued occupancies.
3) Uninterruptible services.
4) Partial occupancy before Substantial Completion.
5) Use of premises restrictions.
6) Provisions for future construction.
7) Seasonal variations.
8) Environmental control.
9) Permit provisions.

d. Work Stages: Indicate important stages of construction for each major portion of the Work.

1) Subcontract awards.
2) Submittals.
3) Purchases.
4) Mockups.
5) Fabrication.
6) Sample testing.
7) Deliveries.
8) Installation.
9) Tests and inspections.
10) Adjusting.
11) Curing.
12) Building flush-out.
13) Building commissioning activities.

C. Joint Review, Revision, and Acceptance:

1. Within seven calendar days of receipt of the Contractor's proposed Construction Baseline Schedule, the Contracting Officer and Contractor shall meet for joint review, correction, or adjustment of the initial Construction Baseline Schedule. Any areas which, in the

opinion of the Contracting Officer, conflict with timely completion of the project shall be subject to revision by the Contractor.

2. Within seven calendar days after the joint review between the Contractor and Contracting Officer, the Contractor shall revise and resubmit the Construction Baseline Schedule in accordance with agreements reached during the joint review.
3. In the event the Contractor fails to define any element of work, activity, or logic, and the Contracting Officer review does not detect this omission or error, such omission or error, when discovered by the Contractor or Contracting Officer, shall be corrected by the Contractor within seven calendar days and shall not affect the contract period.
4. Upon acceptance of the Construction Baseline Schedule by the Contracting Officer, save the schedule as a baseline and update on a monthly basis. The construction schedule update will be used to evaluate the Contractor's monthly applications for payment based upon information developed at the monthly Construction Schedule update meeting.

D. Cost Correlation: In the heading of the schedule, provide a cost correlation line, indicating planned and actual costs. On the line, show dollar volume of the Work performed as of dates used for preparation of payment requests.

1. Contractor shall assign cost to construction activities on the Construction Baseline Schedule. Costs shall not be assigned to submittal activities unless specified otherwise but may, with Contracting Officer's approval, be assigned to fabrication and delivery activities. Costs shall be included for testing and commissioning activities, operation and maintenance manuals, punch list activities, Project Record Documents, and demonstration and training (if applicable).
2. Each activity cost shall reflect an accurate value based on the Contract Price Schedule.
3. Total cost assigned to activities shall equal the total Contract Price.

E. Recovery Schedule: When periodic schedule update indicates the Work is 14 or more calendar days behind the current accepted schedule, a separate recovery schedule indicating means by which Contractor intends to regain compliance with the schedule must also be submitted. Indicate changes to working hours, working days, crew sizes, and equipment required to achieve compliance, and date by which recovery will be accomplished.

F. Computer Software: Prepare schedules using a program that has been developed specifically to manage construction schedules.

1. Use Microsoft Project or Primavera, for Windows 10 operating system.
2. The Contractor shall provide to the Contracting Officer a licensed copy of the software used to create the Construction Baseline Schedule and a software reference manual. The software and reference manual will be returned to the Contractor at completion of the Contract

PART 3 - EXECUTION

3.1 CONSTRUCTION SCHEDULE UPDATES

A. Progress Meeting Updates: Provide a 2 week look-ahead schedule, derived from the currently accepted schedule, before each weekly progress meeting. Utilize the look-ahead schedule to facilitate and take notes on discussions held during the progress meeting.

B. Monthly Schedule Updates:

1. General: Update the Construction Schedule on a monthly basis to reflect actual construction progress and activities throughout the entire contract period and until project substantial completion. The status date of each schedule update shall be the 7th day preceding the progress payment request date.
2. Procedure: The Contractor shall meet with the Contracting Officer each month at a Construction Schedule update meeting to review actual progress made through the status date of the Construction Schedule update, including dates activities were started and/or completed and the percentage of work completed on each activity started and/or completed.
3. Reports: Concurrent with making revisions to schedule, prepare tabulated reports showing the following:

    a. Identification of activities that have changed.
    b. Changes in early and late start dates.
    c. Changes in early and late finish dates.
    d. Changes in activity durations in workdays.
    e. Changes in the critical path.
    f. Changes in total float or slack time.
    g. Changes in the Contract Time.

4. Narrative: The report shall include a brief description of the actual progress made during the update period; actual and potential delaying activities; any impediments to progress; issues related to inclement weather; progress toward established milestones and project float. The report shall include a brief description of the work anticipated to be performed in the next month. Any minor revisions to the schedule should be identified so they can be evaluated and accepted or rejected.
5. As the Work progresses, indicate Actual Completion percentage for each activity.
6. If the schedule update shows a late finish date after the contract completion date, at a minimum, include the following in the narrative with your submission:

    a. Any known delays.
    b. Actions that will be taken to get back on schedule.
    c. Pending modifications.
    d. Impediments or constraints affecting progress.

7. Progress Payments: The monthly updating of the currently accepted Construction Schedule shall be an integral part of the process upon which progress payments will be made under this contract. If the Contractor fails to provide schedule updates or revisions, then a portion of the monthly payment may be retained until such corrections have been made.

C. Distribution: Distribute copies of accepted schedule to Contracting Officer, Contracting Officers Representative, Construction Management Representative, Subcontractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.

1. Post copies in Project meeting rooms and temporary field offices.
2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

D. Construction Schedule Revisions:

1. Required Revisions: If, as a result of the monthly schedule update, it appears the currently accepted Construction Schedule no longer represents the actual prosecution and progress of the work, the Contracting Officer will request, and the Contractor shall submit, a revision to the Construction Schedule. The Contractor may also request reasonable revisions to the currently accepted Construction Schedule in the event the Contractor's planning for the work is revised. If the Contractor desires to make changes, the Contractor shall notify the Contracting Officer in writing, stating the reason for the proposed revision. Accepted revisions will be incorporated into the currently accepted Construction Schedule for the next monthly schedule update.
2. Procedure: If revision to the currently accepted Construction Schedule is contemplated, the Contractor or Contracting Officer shall so advise the other in writing at least seven calendar days prior to the next monthly schedule update meeting, describing the revision and reasons for the revision. Government-requested revisions will be presented in writing to the Contractor, who shall respond in writing within seven calendar days.
3. Reports: Concurrent with making revisions to schedule, prepare tabulated reports showing the following:

    a. Identification of activities that have changed.
    b. Changes in early and late start dates.
    c. Changes in early and late finish dates.
    d. Changes in activity durations in workdays.
    e. Changes in the critical path.
    f. Changes in total float or slack time.

3.2 TIME IMPACT ANALYSIS FOR CONTRACT MODIFICATIONS CHANGES DELAYS AND CONTRACTOR REQUESTS:

1. Requirements: When contract modifications or changes are initiated, delays are experienced, or the Contractor desires to revise the currently accepted Construction Schedule, the Contractor shall submit to the Contracting Officer a written time impact analysis illustrating the influence of each modification, change, delay, or Contractor request on the contract time.
2. Time Extensions: Activity delays, which result in projecting a late completion date, shall not automatically mean that an extension of the contract time is warranted or due the Contractor. It is possible that a modification, change, or delay will not affect existing critical path activities or cause non-critical activities to become critical. A modification, change, or delay may result in only absorbing a part of the available total float that may exist within an activity chain of the Schedule, thereby not causing any effect on the contract time. Time extensions will be granted in accordance with the terms of the contract.
3. Extension of the contract time will be granted only to the extent the equitable time adjustments to the activity or activities affected by the modification, change, or delay exceeds the total (positive or zero) float available on a particular activity.
4. Procedure: Each time impact analysis shall be submitted within the time period stated in a request for proposal, or the time period designated under the clauses entitled Changes or Default. In cases where the Contractor does not submit a written request for extension of time and a time impact analysis within the designated time, it is mutually agreed that the particular modification, change, delay, or Contractor request does not require an extension

of the contract time. Upon acceptance, the time impact analysis shall be incorporated into the currently accepted Construction Schedule at the next monthly schedule update.

5. Contract Modifications: For each proposed contract modification and concurrent with its submission, prepare a time-impact analysis using fragnets to demonstrate the effect of the proposed change on the overall Construction Schedule.

END OF SECTION 01 32 16

SECTION 01 32 33 – PHOTO DOCUMENTATION FOR HISTORIC PRESERVATION PROJECTS

PART 1 - GENERAL

1.1 SUMMARY

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

1. Existing Condition images.
2. Periodic construction images.

B. See Division 01 Section "Closeout Procedures" for a complete listing of closeout documents.

C. See Division 01 Section "Demonstration and Training" for submitting videotapes of demonstration of equipment and training of NPS personnel.

1.2 SUBMITTALS

A. Construction Images: Submit images electronically within 7days of taking the image. Include the following for each:

1. Include Date, time and number (sequentially number all images) in filename.
2. Description of vantage point, indicating location, direction (by compass point), and elevation or story of construction.
3. Submit digital images exactly as originally recorded in the digital camera, without alteration, manipulation, editing, or modifications using image-editing software.

B. Closeout: Submit a complete set of digital image electronic files as a Project Record Document**.** Submit on either a Compact Disc (CD) or Digital Video Disc (DVD).

1. Provide an index as a separate file on the Disc. List each image as a file name with number, date, and time. Include description and or vantage point image was taken.
2. Submit images that have the same aspect ratio as the sensor, un-cropped.

PART 2 - PRODUCTS

2.1 FORMAT REQUIREMENTS

A. Media: CD-R Archival Gold or DVD-R Archival Gold

B. Media Labels: Archival CD/DVD labeling markers, archival labels, or direct print CD

C. Images: Provide sRGB color images in JPEG format. Minimum sensor size of 10 mega pixels, and at an image resolution of not less than 3200 x 2400 pixels.

PART 3 - EXECUTION

3.1 CONSTRUCTION IMAGES

A. General: Take digital images using the maximum range of depth of field, and that are in focus, to clearly show the Work. Images with blurry or out-of-focus areas will not be accepted.

1. Maintain index with each set of Construction images that identifies the number, date, time, and description for each.
2. Maintain one set of images accessible in the field office at the Project site, available at all times for reference.

B. Existing Condition Images: Before commencement of demolition and starting construction, take color digital images of Project site and surrounding properties, including existing items to remain during construction, from different vantage points, as directed by Contracting Officer.

1. Flag extent of work area including areas within extent of temporary protection before recording construction images.
2. Take 8 separate images to show existing conditions adjacent to property before starting the Work.
3. Take 8 separate images of existing buildings either on or adjoining property to accurately record physical conditions at start of construction.

C. Periodic Construction Images: Take 12 color, digital images weekly with the cutoff date associated with each Application for Payment. Select vantage points to show status of construction and progress since last images were taken.

D. Additional Images: Contracting Officer may issue requests for additional images, in addition to periodic Construction images specified.

1. Three days notice will be given, where feasible.
2. In emergency situations, take additional images within 24 hours of request.
3. Circumstances that could require additional images include, but are not limited to, the following:

a. Immediate follow-up when on-site events result in construction damage or losses.
b. Images to be taken at fabrication locations away from Project site.
c. Substantial Completion of a major phase or component of the Work.
d. Extra record images at time of final acceptance.

END OF SECTION 01 32 33

SECTION 01 33 23 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.

1.2 DEFINITIONS

A. Action Submittals: Written and graphic information that requires Government's responsive action.

B. Informational Submittals: Written information that does not require Government's responsive action. Submittals may be rejected for not complying with the requirements.

1.3 GENERAL SUBMITTAL PROCEDURES

A. General: Prepare and submit submittals required by individual Specification Sections. Types of submittals should be referenced as specified on the contract drawings.

1. Contracting Officer reserves the right to require submittals in addition to those called for in individual sections.

B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities. Review them for legibility, accuracy, completeness, and compliance with Contract Documents.

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 the Work so processing will not be delayed because of need to review submittals concurrently for coordination.

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

C. Processing Time: Allow enough time for submittal review, including time for re-submittals, as follows. Time for review shall commence when an e-mail notification is received by the Contracting Officer (or designee) indicating the submittal has been posted on the NPS SharePoint website and is ready for review. When the Contracting Officer has completed their review, an e-mail notification will be sent to the Contractor indicating the submittal has been processed. 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 re-submittals.

1. Action Submittals

   a. Initial Review: Allow 20 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required.
   b. Re-submittal Review: Allow 15 days for review of each re-submittal.

2. Informational Submittals

   a. Review: Allow 10 days for review of each submittal.

D. Approved Equals:

1. For each item proposed as an "approved equal," submit supporting data, including:

   a. Drawings and samples as appropriate.
   b. Comparison of the characteristics of the proposed item with that specified.
   c. Changes required in other elements of the work because of the substitution.
   d. Name, address, and telephone number of vendor.
   e. Manufacturer's literature regarding installation, operation, and maintenance, including schematics for electrical and hydraulic systems, lubrication requirements, and parts lists. Describe availability of maintenance service, and state source of replacement materials.

2. A request for approval constitutes a representation that Contractor:

   a. Has investigated the proposed item and determined that it is equal or superior in all respects to that specified.
   b. Will provide the same warranties for the proposed item as for the item specified.
   c. Has determined that the proposed item is compatible with interfacing items.
   d. Will coordinate the installation of an approved item and make all changes required in other elements of the work because of the substitution.
   e. Waives all claims for additional expenses that may be incurred as a result of the substitution.

E. Identification: Submittal number or other unique identifier, including revision identifier.

1. Submittal number shall use a sequential number (e.g., .001). Re-submittals shall include an alphabetic suffix after another decimal point (e.g., .001.A).

F. Re-submittals: Make re-submittals using the same process used with the initial submittal.

1. Note date and content of previous submittal.
2. Note date and content of revision in the title block on the CM-SPE and clearly indicate the extent of revision.
3. Re-submit submittals until they are marked "Approved" or "Approved with notations".

G. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, and others as necessary for performance of construction activities.

H. Use for Construction: Use only final submittals with mark indicating “Approved” or “Approved with notations”. Ensure all notations have been incorporated and, at a minimum, keep one copy of the final approved submittal on site for use during construction.

1.4 CONTRACTOR’S USE OF CAD FILES

A. General: At Contractor’s written request, copies of CAD files will be provided to Contractor for Contractor’s use in connection with Project, subject to the following conditions:

1. Files will be provided as is; no format or other changes to files or changes to the objects in the drawing will be done by the Government.

PART 2 - PRODUCTS

2.1 ACTION SUBMITTALS

A. Product Data: Collect information into a 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 the following information, as applicable:

   a. Manufacturer’s product specifications.
   b. Manufacturer’s installation instructions: When Contract Documents require compliance with manufacturer’s printed instructions, provide one complete set of instructions to Contracting Officer and keep another complete set of instructions at the project site until substantial completion.
   c. Manufacturer’s catalog cuts: Submit only pertinent pages; mark each page of standard printed data to identify specific products proposed for use.
   d. Wiring diagrams showing factory-installed wiring.
   e. Printed performance curves.
   f. Operational range diagrams.
   g. Compliance with specified referenced standards.
   h. Testing by recognized testing agency.

4. Submit product data in PDF file format before or concurrent with samples.

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

1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable

   a. Dimensions.
   b. Identification of products.
   c. Schedules.

d. Notation of coordination requirements.
e. Notation of dimensions established by field measurement.
f. Relationship to adjoining construction clearly indicated.
g. Seal and signature of professional engineer if specified.

2. Submit shop drawings as a PDF electronic file.

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

1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
2. Identification: Attach label on unexposed side of Samples that includes the following:

a. Generic description of Sample.
b. Product name and name of manufacturer.
c. Sample source.
d. Submittal Number and title of appropriate Specification Section.

3. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
4. 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.

a. Number of Samples: Submit two full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Contracting Officer will return submittal with options selected.

5. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.

a. Number of Samples: Submit four sets of Samples. Contracting Officer will retain three Sample sets; remainder will be returned.

D. Construction Materials: The Contractor is encouraged to submit for approval products made out of recycled or environmentally responsible material. Every effort will be made by the National Park Service to approve these materials.

2.2 INFORMATIONAL SUBMITTALS

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

1. Certificates and Certifications: Provide a notarized statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
2. Informational submittals that do not comply with the requirements specified in the Contract Documents will be rejected and one copy will be returned.

B. Coordination Drawings: Comply with the requirements specified in Section 01 31 00 "Project Management and Coordination."

C. Contractors Construction Schedule: Comply with the requirements specified in Section 01 32 16 "Construction Schedule."

D. Accident Prevention Plan: Comply with the requirements specified in Section 01 35 23 "Safety Requirements."

E. Quality Control Plan: Comply with the requirements specified in Section 01 40 00 "Quality Requirements."

F. 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 contracting officers, and other information specified.

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

H. Installer Certificates: Prepare written statements on manufacturer's letterhead certifying that Installer complies with the requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.

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

J. Product Certificates: Prepare written statements on manufacturer's letterhead certifying that product complies with the requirements in the Contract Documents.

K. Material Certificates: Prepare written statements on manufacturer's letterhead certifying that material complies with the requirements in the Contract Documents.

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

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

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

O. Preconstruction Test Reports: Prepare reports written by a 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 in the Contract Documents.

P. Compatibility Test Reports: Prepare reports written by a 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.

Q. Field Test Reports: Prepare reports written by a 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 the requirements in the Contract Documents.

R. 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 a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.

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

T. Manufacturer's Field Reports: Prepare written information documenting factory-authorized service representative's tests and inspections. Include the following, as applicable:

1. Statement on condition of substrates and their acceptability for installation of product.
2. Summary of installation procedures being followed, whether they comply with the requirements and, if not, what corrective action was taken.
3. Results of operational and other tests and a statement of whether observed performance complies with the requirements.

U. Permit Compliance Products: Prepare required information for compliance with permit provisions. Products include written notification of project startup, suspension, and completion of work; photo documentation of site conditions; reports; and drawings.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

A. Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions.

3.2 CONTRACTING OFFICER'S ACTION

A. General: Submittals will be returned disapproved without technical review if identification information is missing, not filled in, or if placed on the back of the submittal; an incorrect number or format of submittals is provided; the transmittal form is incorrectly filled out; submittals are not coordinated; or submittals do not show evidence of Contractor's approval.

1. Any work done or orders for materials or services placed before approval shall be at the Contractor's own risk.

B. Action Submittals: Contracting Officer will review each submittal, make marks to indicate corrections or modifications required, and return one copy. Contracting Officer will annotate the CM-16 Transmittal Form indicating the action taken, as follows:

1. The returned submittal will be marked in one of three ways as defined below:

a. APPROVED: Acceptable with no corrections.
b. APPROVED WITH NOTATIONS: Minor corrections or clarifications required. All comments are clear and no further review is required. The Contractor shall address all review comments when proceeding with the work.
c. DISAPPROVED - RESUBMIT: Rejected as not in accordance with the contract or as requiring major corrections or clarifications. The Contracting Officer will identify the reasons for disapproval. The Contractor shall revise and resubmit with changes clearly identified.

C. Informational Submittals: Contracting Officer will review each submittal and will not return it, or will reject and return one copy if it does not comply with the requirements. Contracting Officer will forward each submittal to appropriate party.

D. Partial submittals are not acceptable, will be considered non-responsive, and will be returned without review.

END OF SECTION 01 33 23

SUBMITTAL LIST AND REVIEW ESTIMATE

SUBMITTALS LIST

Park/PMIS/Project Title

SUBMITTAL			REQUIREMENTS(indicate with an "X")								A/E REVIEW TIME (indicate number of hours)						
			INFORMATIONAL				ACTION										
Spec. Sec.	Par. No.	Description	CERT./LAB TEST	REPORT/CALC. OR PLAN	Mfg. DATA & INSTRUCTIONS		SHOP DRAWING	SAMPLE	Mfg. DATA & INSTRUCTIONS		ARCH (hrs)	CE (hrs)	SE (hrs) - WJE	ME (hrs)	EE (hrs)	PM - Coor. (hrs)	LA (hrs)
13216	1.3	Schedule of Values															
13216	1.3	Construction Baseline Schedule															
13216	1.3	CPM Reports															
13216	1.3	Construction Schedule Revisions and Time Impact Analysis															
13591	1.3	Historic Preservation Treatment Plan															
13591	1.3	Alternative Methods and Materials															
13591	1.3	Existign Conditions (Photographs or Videotape)															
14000	1.4	Quality Control Plan															
15723	1.3	SWPPP															
15723	1.3	UPPP															
15723	1.3	Inspection Schedule															
15723	1.3	Erosion Control Products															
17340	1.2	Landfill Receipts															
17340	1.2	Quantity Surveys															
177419	1.4	Waste Management Plan															
177419	1.4	Landfill and Incinerator Disposal Records															
17823	1.2	O&M Manual															
24119	1.4	Protection plan		X									1				
24119	1.4	Documentation of existing conditions		X									0.5				
24119	1.4	Inventory report		X									1				
50400	1.4	**Steel**															
		House/Cab wall, roof, and floor repair shop drawings					X						4				
		Operator's controls stabilization shop drawings					X						2				
		Wire rope installation shop drawings					X						4				
		Product Data/Test Reports: steel	X						X				0.5				
		Product Data/Test Reports: wire rope	X						X				1				
		Product Data/Test Reports: bolts, nuts, washers	X						X				0.5				
		Manuf. Certificates - Welding Consumables	X						X				0.5				
		Welder Performance Qualification Record (WPQR)		X									1				
		Metallurgist Report		X									0.5				
		Welding Procedure Specification (WPS)							X				2				
		Material Test Reports	X										1				
		Procedure Qualification Record (PQR)		X									0.5				
		Fabricator Qualifications			X								0.5				
		Fabricator quality control manual		X									0.5				
		QC Inspector Qualifications			X								0.5				
		Installer Qualifications			X								0.5				
75600	1.4	**Fluid Applied Roofing (ALT)**															
		Product Data: written instructions for evaluating, preparing, and treating substrate			X								0.5				
		Product Data: technical data including tested physical and performance properties							X				0.5				
		Application instructions			X								1				
		Roofing shop drawings					X						2				
		Roofing membrane samples						X					0.5				
		Flashing samples						X					0.5				
		Installer Certification	X										0.5				

ACTION SUBMITTAL REVIEW ESTIMATE

(Complete this portion for AE Const. Serv. task order negotiation.)

SUBMITTAL LIST AND REVIEW ESTIMATE

SUBMITTALS LIST

Park/PMIS/Project Title

SUBMITTAL			REQUIREMENTS(indicate with an "X")								ACTION SUBMITTAL REVIEW ESTIMATE (Complete this portion for AE Const. Serv. task order negotiation.) A/E REVIEW TIME (indicate number of hours)						
			INFORMATIONAL				ACTION										
Spec. Sec.	Par. No.	Description	CERT./LAB TEST	REPORT/CALC. OR PLAN	Mfg. DATA & INSTRUCTIONS		SHOP DRAWING	SAMPLE	Mfg. DATA & INSTRUCTIONS		ARCH (hrs)	CE (hrs)	SE (hrs) - WJE	ME (hrs)	EE (hrs)	PM - Coor. (hrs)	LA (hrs)
		Installer Qualifications			X				X				0.5				
		Sample Warranty						X					0.5				
8015191	1.4	**Windows, Doors, & Louvers**															
		Product Data: Descriptions of materials and hardware							X				1				
		Test reports and certifications	X										1				
		Coating and glazing manufacturer's recommendations for coloring glazing putty			X								0.5				
		Instructions for handling, storage, and installation			X								0.5				
		Existing condition survey report and elevation drawings		X									1				
		Restoration program plan		X									1				
		Window shop drawings					X						3				
		Door shop drawings					X						2				
		Louver shop drawings					X						1				
		Color selection samples						X					1				
		Louver blade sample						X					1				
		Glass samples						X					1				
		Hardware samples						X					1				
		Spring clip samples						X					0.5				
		Glazing putty samples/colors						X					0.5				
		Contractor Qualifications			X								0.5				
99713	1.4	**Coating**															
		Product Data: written instructions for evaluating, preparing, and treating substrate			X								2				
		Product Data: technical data including tested physical and performance properties							X				2				
		Mixing, handling, and application instructions			X								0.5				
		Instructions for protecting surrounding areas from overspray			X								1				
		VOC Certification	X						X				0.5				
		Certification that the coating is free of lead, asbestos, barium, and mercury	X										0.5				
		Color Chart							X				0.5				
		Decoding information			X								0.5				
		Manufacturer's approved equipment list			X								0.5				
		Manufacturer's inspection plan			X								1				
		Manufacturer's statement of maximum permissible surface chloride concentration			X								0.5				
		Manufacturer's qualifications			X								0.5				
		Manufacturer's technical representative qualifications			X								0.5				
		Manufacturer's written approval of contractor			X								0.5				
		Damaged coating repair procedure							X				1				
		Contractor Qualifications							X				0.5				
		SSPC QP1,2 certifications	X										0.5				
		Supervisor qualifications							X				0.5				
		Painter qualifications							X				0.5				
		Quality control representative qualifications							X				0.5				
		Safety, protection, enclosure, and inspection plans		X									2				
		Coating samples						X					1				

SUBMITTAL LIST AND REVIEW ESTIMATE

SUBMITTALS LIST

Park/PMIS/Project Title

SUBMITTAL			REQUIREMENTS(indicate with an "X")								A/E REVIEW TIME (indicate number of hours)						
			INFORMATIONAL				ACTION										
Spec. Sec.	Par. No.	Description	CERT./LAB TEST	REPORT/CALC. OR PLAN	Mfg. DATA & INSTRUCTIONS		SHOP DRAWING	SAMPLE	Mfg. DATA & INSTRUCTIONS		ARCH (hrs)	CE (hrs)	SE (hrs) - WJE	ME (hrs)	EE (hrs)	PM - Coor. (hrs)	LA (hrs)
		Repair procedure							X				1				
		Maintenance recommendations			X								1				
		Sample Warranties						X					0.5				
										Total	0	0	65	0	0	0	0

ACTION SUBMITTAL REVIEW ESTIMATE

(Complete this portion for AE Const. Serv. task order negotiation.)

SECTION 01 35 23 - SAFETY REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. This section includes establishing an effective accident prevention program and providing a safe working environment for all personnel and visitors.

1.2 SUBMITTALS

A. Accident Prevention Plan (APP): After contract award and before the Pre-Construction conference, submit for review, an Accident Prevention Plan. The Contracting Officer will review the proposed Plan. If the plan requires any revisions or corrections, the Contractor shall resubmit the Plan within 10 days. No progress payments will be made until the Plan is accepted.

1.3 QUALITY ASSURANCE

A. Comply with contract clauses entitled "Accident Prevention" and "Permits and Responsibilities". In case of conflicts between Federal, State, and local safety and health requirements, the most stringent shall apply. Equipment or tools not meeting OSHA requirements will not be allowed on the project sites. Failure to comply with the requirements of this section and related sections may result in suspension of work.

B. Qualifications of Employees:

1. All employees must be physically and able to perform their assigned duties in a safe manner.
2. Do not allow employees to perform work whose ability or alertness is impaired because of prescription or illegal drug use, fatigue, illness, intoxication, or other conditions that may expose themselves or others to injury.
3. Operators of vehicles, hoisting equipment, and hazardous plant equipment shall be able to understand signs, signals, and operating instructions, and be fully capable of operating such equipment. Provide operating instructions for all equipment. Newly hired operators shall be individually tested by an experienced operator or supervisor to determine if they are capable of safely operating equipment. Retain copies of all operators licenses and/or certifications onsite.

1.4 ACCIDENT REPORTING

A. Reportable Accidents (per OSHA 29CFR 1904): A project reportable accident is defined as death, occupational disease, traumatic injury to employees or the public, fires, and property damage by accident in excess of $100. Notify Contracting Officer immediately in the event of a reportable accident. Within 7 days of a reportable accident, fill out and forward to Contracting Officer an Accident/Property Damage Report (Form CM-22). Form may be obtained from the Contracting Officer.

PART 2 - PRODUCTS

2.1 ACCIDENT PREVENTION PLAN (APP)

A. The Plan shall be written to comply with OSHA and project requirements (a generic plan is not acceptable) including but not limited to the following:

1. Name and qualifications of responsible supervisor to carry out the program.
2. Weekly and monthly safety meetings shall be documented with topic and attendees.
3. First aid and rescue procedures.
4. Outline of each phase of the work, the hazards associated with each major phase, and the methods proposed to provide for property protection and safety of the public, National Park Service personnel, and Contractor's employees. Identify the work included under each phase, with a Job Hazard Analysis (JHA)/Job Safety Analysis (JSA), etc for work activities such as trenching, confined space entry, etc.
5. Training, both initial and continuing.
6. Planning for possible emergency situations, such as cave-ins, earthquake, explosions, fires, floods, power outages, slides, and wind storms. Such planning shall take into consideration the nature of construction, site conditions, and degree of exposure of persons and property.

2.2 FIRST AID FACILITIES

A. Provide adequate facilities for the number of employees and appropriate to the hazards associated with the types of ongoing construction work at the site.

2.3 PERSONNEL PROTECTIVE EQUIPMENT

A. Meet requirements of applicable ANSI standards. Selection shall conform to OSHA 29CFR 1926.95 Subpart E and 1926.1153.

PART 3 - EXECUTION

3.1 EMERGENCY INSTRUCTIONS

A. Post telephone numbers and reporting instructions for ambulance, physician, hospital, fire department, and police in conspicuous locations at the work site.

3.2 FIRE AND LIFE SAFETY

A. Comply with the requirements of NFPA 241 (Standard for Safeguarding Construction, Alteration, and Demolition Operations).

B. Store hazardous materials in accordance with manufacturer’s and OSHA 29CFR1926 Subpart D requirements. Maintain readily available, on site, MSDS/Safety Data Sheets (SDS) for each chemical.

1. Immediately report all spills of hazardous materials to the park.
2. Maintain a spill emergency response kit.
3. Train employees how to respond to a spill and use the emergency response kit.

3.3 PROTECTIVE EQUIPMENT

A. Inspect personal protective equipment daily and maintain in a serviceable condition. Clean, sanitize, and repair personal items, as appropriate, before issuing them to another individual.

B. Inspect, maintain, and document other protective equipment and devices before use and on a periodic basis to ensure safe operation. Retain inspection documentation onsite.

3.4 SAFETY MEETINGS

A. As a minimum, conduct one weekly 15-minute "toolbox" safety meetings. These meetings shall be conducted by a foreman or supervisor and attended by all construction personnel at the worksite. Topics need to coincide with work scheduled for the following week. Document and submit meeting minutes to the Contracting Officer within one day after the meeting.

B. Conduct monthly safety meetings for all levels of supervision. Meetings shall be attended by all contractors and subcontractors performing work on the site. Notify the Contracting Officer of meeting dates and times. These meetings shall be used to review the effectiveness of the Contractor's safety effort, to resolve current health and safety problems, to provide a forum for planning safe construction activities, and for updating the Accident Prevention Plan. The Contracting Officers Representative will attend the meeting and enter the results of the meetings into the daily log.

3.5 HARD HATS AND PROTECTIVE EQUIPMENT AREAS

A. A hard hat use area shall be designated by the Contractor. The hard hat area shall be posted by the Contractor in a manner satisfactory to the Contracting Officer.

B. It is the Contractor's responsibility to require all those working on or visiting the site to wear hard hats and other necessary personal protective equipment in good repair at all times. As a minimum, maintain **six** hard hats and all other APP required equipment.

3.6 TRAINING

A. First Aid: Provide adequate training to an adequate number of personnel to ensure prompt and efficient first aid.

B. Hazardous Material: Train and instruct each employee exposed to hazardous material in safe and approved methods of handling and storage. Hazardous materials are defined as explosive, flammable, poisonous, corrosive, oxidizing, irritating, or otherwise harmful substances that could cause death or injury.

END OF SECTION 01 35 23

SECTION 01 35 91 - HISTORIC PRESERVATION TREATMENT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes special procedures for historic treatment on the Project including, but not limited to, the following:

1. Definitions.
2. Submittals.
3. Quality Assurance.
4. Storage and protection of existing historic materials.
5. Project site conditions.
6. Historic Preservation Treatment Plan
7. Protection, General.
8. Protection during application of chemicals.
9. Protection during use of heat-generating equipment.
10. Historic preservation treatment procedures.

1.2 DEFINITIONS

A. "Preservation": To apply measures necessary to sustain the existing form, integrity, and materials of a historic property. Work may include preliminary measures to protect and stabilize the property.

B. "Rehabilitation": To make possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features that convey its historical, cultural, or architectural values.

C. "Restoration": To accurately return the form, features, and character of a property to its appearance at a particular period of time by means of the removal of features from other periods in its history and the repair and reconstruction of missing and deteriorated features from the restoration period.

D. "Reconstruction": To reproduce in the exact form and detail a building, structure, or artifact as it appeared at a specific period in time. Reconstructed elements do not possess historic integrity in their own right since it is not original fabric.

E. "Stabilize": To apply measures designed to reestablish a weather-resistant enclosure and the structural reinforcement of an item or portion of the building while maintaining the essential form as it exists at present. This level of intervention is aimed at retarding or arresting adverse impacts to structures.

F. "Protect and Maintain": To remove deteriorating corrosion, reapply protective coatings, and install protective measures such as temporary guards; to provide the least degree of intervention.

G. "Repair": To stabilize, consolidate, or conserve; to retain existing materials and features while employing as little new material as possible. Repair includes patching, piecing-in, splicing, consolidating, or otherwise reinforcing or upgrading materials. Within restoration, repair also includes limited replacement in kind, rehabilitation, and reconstruction, with compatible substitute materials for deteriorated or missing parts of features when there are surviving prototypes.

H. "Replace": To duplicate in its entirety a historic element or feature by matching its historic pattern, detail and appearance. . Replacement is justified when original or historic elements are damaged beyond repair or are missing. Replacement methods includes the following conditions:

1. Replacement with Original or Historic Fabric: Includes fabric salvaged from other locations or projects having identical architectural qualities. It means duplication of appearance using identical material possessing historical significance.
2. Replacement with New Materials: Includes replacement with new material of like kind (custom fabricated of manufactured) that is currently in production. It means duplication of appearance using like material.
3. Replacement with Substitute Materials: Includes replacement with a compatible substitute that is frequently contemporary and unlike the historic fabric. It means duplication of appearance using modern (non-traditional) material Use of substitute materials is not approved unless matching materials are not available.

I. "Remove": To demolish or detach items from existing construction and legally dispose of them off-site unless indicated to be removed and salvaged or removed and reinstalled.

J. "Remove and Salvage": To detach items from existing construction and deliver them to the NPS as directed.

K. "Remove and Reinstall": To detach items from existing construction, repair and prepare them for reuse, and reinstall them where indicated.

L. "Existing to Remain" or "Retain": Existing items of construction that are not to be removed and that are not otherwise indicated to be removed and salvaged, or removed and reinstalled.

M. "Material in Kind": Material that closely matches existing materials, through comparison of architectural qualities and salient characteristic such as species, cut, color, grain, , dimension, profile, thickness, and finish.

1.3 SUBMITTALS

A. Historic Preservation Treatment Plan:

1. After the contract award and before the Pre-Construction conference, submit for approval a written Historic Preservation Treatment Plan (HPTP).
2. If the plan requires any revisions or corrections, the contractor shall resubmit the plan within 10 days.
3. No change in the approved plan may be made without written concurrence by the Contracting Officer.

B. Alternative Methods and Materials: If alternative methods and materials to those indicated are proposed for any phase of work, provide a written description including evidence of successful use on other, comparable projects, and program of testing to demonstrate effectiveness for use on this Project.

C. Photographs or Videotape: Show existing conditions of adjoining construction and site improvements, including finish surfaces that might be misconstrued as damage caused by historic treatment operations. Submit before work begins.

1.4 QUALITY ASSURANCE

A. Historic Preservation Treatment Specialist Qualifications: An experienced firm with the required certifications and training that can demonstrate through past performance that they are qualified to perform this work.

1.5 STORAGE AND PROTECTION OF HISTORIC MATERIALS

A. Removed and Salvaged Historic Materials:

1. Clean salvaged historic items.
2. Pack or crate items after cleaning. Identify contents of containers.
3. Store items in a secure area until delivery to the NPS.
4. Transport items to storage area as designated by Contracting Officer.
5. Protect items from damage during transport and storage.
6. Do not dispose of items removed from existing construction without prior written consent of Contracting Officer.

B. Removed and Reinstalled Historic Materials:

1. Clean and repair historic items to functional condition adequate for intended reuse.
2. Pack or crate items after cleaning and repairing. Identify contents of containers.
3. Protect items from damage during transport and storage.
4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.

C. Existing Historic Materials to Remain: Protect construction indicated to remain against damage and soiling during historic treatment. When permitted by Contracting Officer, items may be removed to a suitable, protected storage location during historic treatment and reinstalled in their original locations after historic treatment operations are complete.

D. Storage and Protection: When removed from their existing location, store historic materials within a weather-tight enclosure where they are protected from wetting by rain, snow, or ground water, and temperature variations. Secure stored materials to protect from theft.

1. Identify removed items with an inconspicuous mark indicating their original location.
2. Develop a key plan when many similar items are scheduled for removal and reinstallation.

1.6 PROJECT-SITE CONDITIONS

A. Exterior Cleaning and Repairing:

1. Proceed with the work only when forecasted weather conditions are favorable.

a. Wet Weather: Do not attempt repairs during rainy or foggy weather. Do not apply primer, paint, putty, or epoxy when the relative humidity is above 80 percent. Do not remove exterior elements of structures when rain is forecast or in progress.
b. Do not perform exterior wet work when the air temperature is below 40 deg F (5 deg C).
c. Do not begin cleaning, patching, or repairing when there is any likelihood of frost or freezing.
d. Do not begin cleaning when either the air or the surface temperature is below 45 deg F (7 deg C) unless approved means are provided for maintaining a 45 deg F (7 deg C) temperature of the air and materials during, and for 48 hours subsequent to, cleaning.

2. Perform cleaning and rinsing of the exterior only during daylight hours.

B. National Park Service will occupy portions of building immediately adjacent to historic treatment area. Conduct historic treatment so National Park Service operations will not be disrupted. Provide not less than 72 hours' notice to Contracting Officer of activities that will affect National Park Service operations.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 HISTORIC PRESERVATION TREATMENT PLAN

A. Prepare a written technical plan for preservation work covering all preservation components of the project. The plan must verify that the construction strategy and the intent is compatible with the Department Of Interior's standards for the Treatment of Historic Properties, guidelines for the Treatment of Cultural Landscapes, and National Park Service management policies for cultural resources. The plan must satisfy both the project scope and resource protection requirements. The plan shall include the following:

1. Organized list of preservation components of the project, systems, and tasks.
2. Staging and sequence of the work.
3. Disassembly and reassembly techniques and steps.
4. Equipment and tools required.
5. Supplies and materials with manufacturer or supplier identified.
6. Skilled trades and crafts required.
7. Anticipated testing and analysis of fabric.
8. Additional investigations for the extents or magnitude of treatments needed.
9. Protective measures.
10. Seasonal limitations on the work.

11. Alternative means if primary treatment method is unfeasible.
12. Work conducted off-site (Approval from CO required prior to taking resources off-site).

3.2 PROTECTION, GENERAL

A. Comply with manufacturer's written instructions for precautions and effects of products and procedures on adjacent building materials, components, and vegetation.

B. Ensure that supervisory personnel are present when work begins and during its progress.

C. Temporary Protection of Historic Materials during Construction:

1. Protect existing materials during installation of temporary protections and construction. Do not deface or remove existing materials.
2. Attachments of temporary protection to existing construction shall be approved by Contracting Officer prior to installation.

D. Protect landscape work adjacent to or within work areas as follows:

1. Provide barriers to protect tree trunks.
2. Bind spreading shrubs.
3. Use coverings that allow plants to breathe and remove coverings at the end of each day. Do not cover plant material with a waterproof membrane for more than 8 hours at a time.
4. Set scaffolding and ladder legs away from plants.

E. Existing Drains: Prior to the start of work or any cleaning operations, test drains and other water removal systems to ensure that drains and systems are functioning properly. Notify Contracting Officer immediately of drains or systems that are stopped or blocked. Do not begin Work of this Section until the drains are in working order.

1. Provide a method to prevent solids including stone or mortar residue from entering the drains or drain lines. Clean out drains and drain lines that become blocked or filled by sand or any other solids because of work performed under this Contract.
2. Protect storm drains from pollutants. Block drains or filter out sediments, allowing only clean water to pass.

3.3 PROTECTION DURING APPLICATION OF CHEMICALS

A. Protect persons, motor vehicles, surrounding surfaces of building being restored, building site, plants, and surrounding buildings from harm or damage resulting from applications of chemical cleaners and paint removers.

B. Comply with requirements in Division 01 Section "Temporary Facilities and Controls."

C. Cover adjacent surfaces with materials that are proven to resist chemical cleaners selected for Project unless chemicals being used will not damage adjacent surfaces. Use covering materials that contain only waterproof, UV-resistant adhesives. Apply masking agents to comply with manufacturer's written instructions. Do not apply liquid masking agent to painted or porous surfaces. When no longer needed, promptly remove masking to prevent adhesive staining.

D. Do not clean surfaces during winds of sufficient force to spread cleaning solutions to unprotected surfaces.

E. Neutralize and collect alkaline and acid wastes and dispose of outside park boundaries.

F. Dispose of runoff from chemical operations by legal means and in a manner that prevents soil erosion, undermining of paving and foundations, damage to landscaping, and water penetration into building interiors.

3.4 PROTECTION DURING USE OF HEAT-GENERATING EQUIPMENT

A. Comply with the following procedures while performing work with heat-generating equipment, including welding, cutting, soldering, brazing, paint removal with heat, and other operations where open flames or implements utilizing heat are used:

1. Obtain Contracting Officer's approval for operations involving use of open-flame or welding equipment.

    a. Notification shall be given for each occurrence and location of work with heat-generating equipment.
    b. Obtain the appropriate permit from the park as required.

2. As far as practical, use heat-generating equipment in shop areas or outside the building.
3. Before work with heat-generating equipment commences, furnish personnel to serve as a fire watch (or watches) for location(s) where work is to be performed.
4. Do not perform work with heat-generating equipment in or near rooms or in areas where flammable liquids or explosive vapors are present or thought to be present. Use a combustible gas indicator test to ensure that the area is safe.
5. Remove and keep the area free of combustibles, including, rubbish, paper, waste, etc., within area of operations.

    a. If combustible material cannot be removed, provide fireproof blankets to cover such materials.

6. Where possible, furnish and use baffles of metal or gypsum board to prevent the spraying of sparks or hot slag into surrounding combustible material.
7. Prevent the extension of sparks and particles of hot metal through open windows, doors, holes, and cracks in floors, walls, ceilings, roofs, and other openings.
8. Inspect each location of the day's work not sooner than 30 minutes after completion of operations to detect hidden or smoldering fires and to ensure that proper housekeeping is maintained.

B. Where sprinkler protection exists and is functional, maintain it without interruption while operations are being performed. If operations are performed close to automatic sprinkler heads, shield the individual heads temporarily with guards.

3.5 HISTORIC PRESERVATION TREATMENT PROCEDURES

The principal aim of preservation work is to halt the process of deterioration and stabilize the item's condition, to sustain the integrity of the historic element, feature or structure being preserved. Cyclic maintenance is often required as well as repair work. Repair is required where specifically indicated. The following procedures shall be followed:

1. Retain as much existing material as possible; repair and consolidate rather than replace.
2. Use additional material or structure to reinforce, strengthen, prop, tie, and support existing material or structure.
3. Use reversible processes wherever possible.
4. Use traditional replacement materials and techniques if possible. New work shall be distinguishable from old work and original materials and techniques.
5. Record the existing condition before commencing with repair work; document with preconstruction photos, sketches and field notes. Record repair work during construction with periodic construction photos and daily inspection reporting. Photo documentation is specified in Division 01 Section "Photo Documentation For Historic Preservation Projects".

B. Prohibit smoking by personnel performing work on or near historic structures.

C. Notify Contracting Officer of visible changes in the integrity of material or components whether due to environmental causes including biological attack, UV degradation, freezing, or thawing; or due to structural defects including cracks, movement, or distortion.

   1. Do not proceed with the work in question until directed by Contracting Officer.

D. Where Work requires existing features to be removed, cleaned, and reinstalled, perform these operations without damage to the material itself, to adjacent materials, or to the substrate.

E. Identify new or replacement materials and features with inconspicuous, permanent marks to distinguish them from original materials. Record the legend of identification marks and the locations of these marks on Record Drawings.

F. When cleaning, match samples of existing materials that have been cleaned and identified for acceptable cleaning levels. Avoid over-cleaning to prevent damage to existing materials during cleaning. Only the gentlest methods available should be attempted. Initiate cleaning using hand cleaning methods before introducing power cleaning methods and equipment.

END OF SECTION 01 35 91

SECTION 01 40 00 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes 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 the Contract Document requirements. The quality of all work shall be the responsibility of the Contractor.

1. Specified tests, inspections, and related actions do not limit Contractor's other quality assurance and control procedures that facilitate compliance with the Contract Document requirements.

1.2 DEFINITIONS

A. Quality Assurance Services: Activities, actions, and procedures performed before and during execution of the work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.

B. Quality Control Services: Tests, inspections, procedures, and related actions during and after execution of the work to evaluate that actual products incorporated into the work and completed construction comply with requirements.

C. Product Testing: Tests and inspections that are performed by a Nationally Recognized Testing Laboratory (NRTL), a National Voluntary Laboratory Accreditation Program (NVLAP), or a testing agency qualified to conduct product testing, to establish product performance and compliance with industry standards.

D. Source Quality Control Testing: Tests and inspections that are performed at the source, i.e., plant, mill, factory, or shop.

E. Field Quality Control Testing: Tests and inspections that are performed on-site for installation of the work and for completed work.

F. Testing Agency or Laboratory: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.

G. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.

1. Using a term such as “carpentry” does not imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as “carpenter.” It also does not imply that requirements specified apply exclusively to trades people of the corresponding generic name.

1.3 CONFLICTING REQUIREMENTS

A. Reference Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quality levels, comply with the most stringent requirement. Refer uncertainties and requirements that are different, but apparently equal, to Contracting Officer for a decision before proceeding.

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

1.4 SUBMITTALS

A. Quality Control Plan:

1. After contract award and before the Pre-Construction conference, submit for approval a written Contractor Quality Control (CQC) plan.
2. If the plan requires any revisions or corrections, the Contractor shall resubmit the plan within 10 days.
3. The Government reserves the right to require changes in the plan during the contract period as necessary to obtain the quality specified.
4. No change in the approved plan may be made without written concurrence by the Contracting Officer.

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

C. Contractor's Quality Control Daily Reports: Submit showing all inspections and tests on the first workday following the date covered by the report. Quality Control Supervisor shall utilize the DSC forms available by accessing the DSC Workflows website, http://www.nps.gov/dscw/publicforms.htm.

1. Review CMR Dailies and reconcile any differences prior to posting CQC Dailies on the SharePoint Project Website.

D. Test Reports

1. Test reports shall be completed by the person performing the test.
2. Submit Daily Test Information Sheets with Quality Control Daily Reports.
3. Submit failing test results and proposed remedial actions within four hours of noted deficiency.
4. Submit three copies of complete test results no later than one calendar day after the test was performed.

E. Off-Site Inspection Reports: Submit prior to shipment.

F. If the CQC plan and Quality Control Daily Reports are not submitted as specified, the Contracting Officer may retain all payments until such time a plan is accepted and implemented, or may retain payments for work completed on days there are no Quality Control Daily Reports.

G. Permits, Licenses, and Certificates: For NPS 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 the work.

1.5 QUALITY ASSURANCE

A. General: Qualifications paragraphs in this Article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.

B. Contractors Quality Control Staff:

1. The Contractor's Quality Control Supervisor may also perform other duties.
2. The Contractor's designated Quality Control Supervisor shall be on the project site whenever contract work is in progress.
3. The Contractor's job supervisory staff may be used to assist the Quality Control Supervisor supplemented, as necessary, by additional certified testing technicians.

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, as well as sufficient production capacity to produce required units.

E. 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.

F. 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 products that are similar to those indicated for this Project in material, design, and extent.

G. Testing Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 329; and with additional qualifications specified in individual Sections; and where required by Contract, is acceptable to the Contracting Officer.

1. NRTL: A nationally recognized testing laboratory according to 29 CFR 1910.7.
2. NVLAP: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.
3. All measuring devices, laboratory equipment, and instruments shall be calibrated at established intervals against certified standards in accordance with NIST requirements. Upon request, measuring and testing devices shall be made available for use by the Government for verification tests.

1.6 QUALITY CONTROL

A. The Contractor is responsible for all testing and inspections. Inspect and test work as needed to ensure that the quality of materials, workmanship, construction, finish, and functional

performance are in compliance with applicable specifications, drawings, and those required by the Building Code.

1. Engage a qualified testing agency to perform these quality-control services.
2. Submit the appropriate report, for each quality-control service.
3. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.

B. The Contracting Officer may designate test locations.

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

D. Re-testing/Re-inspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and re-inspecting, for construction that replaced work that failed to comply with the Contract Documents.

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

1. Notify Contracting Officer and Contractor promptly of irregularities or deficiencies observed in the work during performance of its services.
2. Determine the location from which test samples will be taken and in which in-situ tests are conducted.
3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
4. Submit 3 copies of the certified written report of each test, inspection, and similar quality-control service through Contractor.
5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the work.

F. 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. Provide the following:

1. Access to the 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 in obtaining samples.
4. Facilities for storage and field curing of test samples.
5. 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.

G. Coordination: Coordinate sequence of activities to accommodate required quality assurance and control services with a minimum of 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.

PART 2 - PRODUCTS

2.1 QUALITY CONTROL PLAN

A. The Quality Control Plan shall include:

1. A list of personnel responsible for quality control and assigned duties. Include each person's qualifications.
2. A copy of a letter of direction to the Contractor's Quality Control Supervisor outlining assigned duties.
3. Names, qualifications, and descriptions of laboratories to perform sampling and testing, and samples of proposed report forms.
4. Methods of performing, documenting, and enforcing quality control of all work.
5. Methods of monitoring and controlling environmental pollution and contamination as required by regulations and laws.

PART 3 - EXECUTION

3.1 OFF-SITE CONTROL

A. Items that are fabricated or assembled off-site shall be inspected for quality control at the place of fabrication.

3.2 ON-SITE CONTROL

A. Notification:

1. Notify the Contracting Officer at least 48 hours in advance of the preparatory phase meeting.
2. Notify the Contracting Officer at least 24 hours in advance of the initial and follow-up phases.

B. Preparatory Phase: Perform before beginning each feature of work.

1. Review control submittal requirements with personnel directly responsible for quality assurance and quantity control of the work. As a minimum, the Contractor's Quality Control Supervisor and the foreman responsible for the feature of work shall be in attendance.
2. Review all applicable specifications sections and drawings related to the feature of work.
3. Ensure that copies of all referenced standards related to sampling, testing, and execution for the feature of work are available on site.
4. Ensure that provisions have been made for field control testing.
5. Examine the work area to ensure that all preliminary work has been completed.
6. Verify all field dimensions and advise the Contracting Officer of discrepancies with contract documents.
7. Ensure that necessary equipment and materials are at the project site and that they comply with approved shop drawings and submittals.
8. Document all preparatory phase activities and discussions on the Contractor's Quality Control Daily Report.

C. Initial Phase:

1. As soon as work begins, inspect and test a representative portion of a particular feature of work for quality of workmanship.
2. Review control testing procedures to ensure compliance with contract requirements.

D. Follow-Up Phase: Inspect and test as work progresses to ensure compliance with contract requirements until completion of work.

E. Additional Preparatory and Initial Phases: Additional preparatory and initial phases may be required on the same feature of work for the following reasons:

1. Quality of on-going work is unacceptable.
2. Changes occur in the applicable quality control staff, on-site production supervision, or work crew.
3. Work on a particular feature of work is resumed after a substantial period of inactivity.

3.3 ENFORCEMENT

A. The Contractor shall stop work on any item or feature pending satisfactory correction of any deficiency noted by the quality control staff or the Contracting Officer.

3.4 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 areas of contract documents. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible.

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

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

2.4.2B CONTRACTOR'S QUALITY CONTROL (CQC) DAILY REPORT

REPORT NO:		PMIS No:	

PROJECT	CONTRACT NO.	DATE
PARK	CONTRACTOR	CONTRACTORS REPRESENTATIVE

WEATHER (Rain, Snow, Cloudy, Windy, etc.)	MOISTURE AMOUNT (INCHES)	TEMPERATURE MIN. MAX.	WEATHER DELAY Yes ☐ No ☐	DESCRIBE WEATHER DELAYED WORK	GROUND CONDITIONS (Dry, Damp, Wet, Frozen, etc.

PRIME CONTRACTOR:

EMPLOYEES BY JOB CATEGORIES	NUMBER	HOURS	EQUIPMENT ON JOB (inc. model, manufacture, size, year)	NO. UNITS	EQUIPMENT HOURS WORKING		
					YES	STANDBY	MOB/DEMOB DATE
Project Manager							
Superintendent							
Quality Control Officer							
Safety Officer							
Laborers							

MATERIALS DELIVERED	QUANTITY	OFFICIAL VISITORS

WORK PERFORMED BY PRIME: (Include detail description per each activity including location, quantities, production, etc.)

SPECIFIC INSPECTIONS: (Inspections performed, results, and corrective actions, Primes & Subs)

TESTING:

Was any testing performed today YES ☐ / NO ☐ . (Complete and attach Test Report Information Sheets.)

Type and Location of Testing:

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SUBCONTRACTOR(S):	PMIS No:		Date:	

SUBCONTRACTOR NAME

EMPLOYEES BY JOB CATEGORIES	NUMBER	HOURS	EQUIPMENT ON JOB (Inc. model, manufacture, size, year)	NO. UNITS	EQUIPMENT HOURS WORKING			
					YES	STANDBY	MOB/DEMOB DATE	

MATERIALS DELIVERED	QUANTITY	EQUIPMENT MOBILIZIED/DEMOBILIZED

WORK PERFORMED BY SUBCONTRACTOR: Include detail description per each activity Inc. location, quantity, production, etc.

SUBCONTRACTOR NAME

EMPLOYEES BY JOB CATEGORIES	NUMBER	HOURS	EQUIPMENT ON JOB (Inc. model, manufacture, size, year)	NO. UNITS	EQUIPMENT HOURS WORKING			
					YES	STANDBY	MOB/DEMOB DATE	

MATERIALS DELIVERED	QUANTITY	EQUIPMENT MOBILIZIED/DEMOBILIZED

WORK PERFORMED BY SUBCONTRACTOR: Include detail description per each activity Inc. location, quantity, production, etc.

SUBCONTRACTOR NAME

EMPLOYEES BY JOB CATEGORIES	NUMBER	HOURS	EQUIPMENT ON JOB (Inc. model, manufacture, size, year)	NO. UNITS	EQUIPMENT HOURS WORKING			
					YES	STANDBY	MOB/DEMOB DATE	

MATERIALS DELIVERED	QUANTITY	EQUIPMENT MOBILIZIED/DEMOBILIZED

WORK PERFORMED BY SUBCONTRACTOR: Include detail description per each activity Inc. location, quantity, production, etc.

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SUBCONTRACTOR(S):	PMIS No:		Date:	

SUBCONTRACTOR NAME

EMPLOYEES BY JOB CATEGORIES	NUMBER	HOURS	EQUIPMENT ON JOB (Inc. model, manufacture, size, year)	NO. UNITS	EQUIPMENT HOURS WORKING			
					YES	STANDBY	MOB/DEMOB DATE	

MATERIALS DELIVERED	QUANTITY	EQUIPMENT MOBILIZIED/DEMOBILIZED

WORK PERFORMED BY SUBCONTRACTOR: Include detail description per each activity Inc. location, quantity, production, etc.

SUBCONTRACTOR NAME

EMPLOYEES BY JOB CATEGORIES	NUMBER	HOURS	EQUIPMENT ON JOB (Inc. model, manufacture, size, year)	NO. UNITS	EQUIPMENT HOURS WORKING			
					YES	STANDBY	MOB/DEMOB DATE	

MATERIALS DELIVERED	QUANTITY	EQUIPMENT MOBILIZIED/DEMOBILIZED

WORK PERFORMED BY SUBCONTRACTOR: Include detail description per each activity Inc. location, quantity, production, etc.

SUBCONTRACTOR NAME

EMPLOYEES BY JOB CATEGORIES	NUMBER	HOURS	EQUIPMENT ON JOB (Inc. model, manufacture, size, year)	NO. UNITS	EQUIPMENT HOURS WORKING			
					YES	STANDBY	MOB/DEMOB DATE	

MATERIALS DELIVERED	QUANTITY	EQUIPMENT MOBILIZIED/DEMOBILIZED

WORK PERFORMED BY SUBCONTRACTOR: Include detail description per each activity Inc. location, quantity, production, etc.

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[redacted]

[redacted]

[redacted]

CONSTRUCTION DEFICIENCIES OR RE-TESTING REQUIRED:

OTHER COMMENTS

CERTIFICATION:

[redacted]

[redacted]	[redacted]

[redacted] [redacted]

END OF SECTION 01 40 00

SECTION 01 42 00 – REFERENCE STANDARDS

PART 1 - GENERAL

1.1 ENVIRONMENTAL DEFINITIONS

A. Definitions pertaining to sustainable development: As defined in ASTM E2114 and as specified herein.

B. Biobased Materials: As defined in the Farm Security and Rural Investment Act, for purposes of Federal procurement of biobased products, "biobased" means a "commercial or industrial product (other than food or feed) that is composed, in whole or in significant part, of biological products or renewable domestic agricultural materials (including plant, animal, and marine materials) or forestry materials." Biobased materials also include fuels, chemicals, building materials, or electric power or heat produced from biomass as defined by The Biomass Research and Development Act of 2000.

1. Biobased content: The amount of biobased carbon in the material or product as a percentage of weight (mass) of the total organic carbon in the material or product.

C. Chain-of-Custody: Process whereby a product or material is maintained under the physical possession or control during its entire life cycle.

D. Deconstruction: Disassembly of buildings for the purpose of recovering materials.

E. DFE (Design for the Environment): A technique that includes elements of resource conservation and pollution prevention as applied in various product sectors. A technique that incorporates approaches which are part of product (or assembly) concept, need and design. Considerations involve material selection, material and energy efficiency, reuse, maintainability and design for disassembly and recyclability. Refer to ISO Guide 64 for additional clarification.

F. Environmentally preferable products: Products and services that have a lesser or reduced effect on the environment in comparison to conventional products and services. Refer to EPA's Final Guidance on Environmentally Preferable Purchasing at www.epa.gov/oppt/epp.

G. Non-Renewable Resource: A resource that exists in a fixed amount that cannot be replenished on a human time scale. Non-renewable resources have the potential for renewal only by geological, physical, and chemical processes taking place over of millions of years. Examples include: iron ore, coal, and oil.

H. Perpetual Resource: A resource that is virtually inexhaustible on a human time scale. Examples include solar energy, tidal energy, and wind energy.

I. Recycled Content Materials: Products that contain pre-consumer or post-consumer materials as all or part of their feedstock. Recycled content claim shall be consistent with Federal Trade Commission (FTC) Guide for the Use of Environmental Marketing Claims.

J. Renewable Resource: A resource that is grown, naturally replenished, or cleansed, at a rate which exceeds depletion of the usable supply of that resource. A renewable resource can be exhausted

if improperly managed. However, a renewable resource can last indefinitely with proper stewardship. Examples include: trees in forests, grasses in grasslands, and fertile soil.

1.2 QUALITY ASSURANCE

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. Conflicting Requirements: Where compliance with two or more standards is specified, and the standards may establish different or conflicting requirements for minimum quantities or quality levels comply with the most stringent requirement. Refer uncertainties and requirements that are different, but apparently equal, to Contracting Officer for a decision before proceeding.

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 found in Section 01 42 00 Sources for Reference Publications at www.wbdg.org/ffc/dod/unified-facilities-guide-specifications-ufgs (accessible via https://specsintact.ksc.nasa.gov/Masters/Masters.shtml > Downloads section > click on UFGS Master (WBDG website). Names, telephone numbers, and websites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

XX EXAMPLE Association (The)
www.EXAMPLE.org

B. 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 websites 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/en	49 30 2601-3003
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

C. 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, and websites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

ABA & ABAAS United States Access Board	Architectural Barriers Act (ABA) Architectural Barriers Act Accessibility Standards (ABAAS) www.access-board.gov
CoE	Army Corps of Engineers www.usace.army.mil
CPSC	Consumer Product Safety Commission www.cpsc.gov
DOC	Department of Commerce www.commerce.gov
DOD	Department of Defense www.defense.gov
DOJ	Department of Justice www.justice.gov
DOE	Department of Energy www.energy.gov
EPA	Environmental Protection Agency www.epa.gov

FAA	Federal Aviation Administration www.faa.gov
FCC	Federal Communications Commission www.fcc.gov
FDA	Food and Drug Administration www.fda.gov
GSA	General Services Administration www.gsa.gov
HUD	Department of Housing and Urban Development www.hud.gov
LBL	Lawrence Berkeley National Laboratory www.lbl.gov
NCHRP	National Cooperative Highway Research Program (See TRB)
NIST	National Institute of Standards and Technology www.nist.gov
OSHA	Occupational Safety & Health Administration www.osha.gov
PHS	U.S. Department of Health and Human Services www.usphs.gov/ophs/
RUS	Rural Utilities Service (See USDA)
SD	State Department www.state.gov
TRB	Transportation Research Board www.trb.org
USDA	Department of Agriculture www.usda.gov
USP	U.S. Pharmacopeia www.usp.org
USPS	Postal Service www.usps.com

D. 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 websites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

ABAAS	Architectural Barriers Act Accessibility Standards www.access-board.gov
CFR	Code of Federal Regulations Available from Government Printing Office www.gpoaccess.gov/cfr/index.html
DOD	Department of Defense Military Specifications and Standards 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 Available from Department of Defense Single Stock Point http://quicksearch.dla.mil/ Available from General Services Administration www.gsa.gov Available from National Institute of Building Sciences www.nibs.org
FTMS	Federal Test Method Standard (See FS)
MIL	(See MILSPEC)
MIL-STD	(See MILSPEC)
MILSPEC	Military Specification and Standards Available from Department of Defense Single Stock Point http://quicksearch.dla.mil
UFAS	Uniform Federal Accessibility Standards Available from Access Board www.access-board.gov *(UFAS is **only** for housing projects per Fair Housing Act. See also the Fair Housing Act Design Manual, www.huduser.gov/portal/publications/destech/fairhousing.html)*

1.5 ENVIRONMENTAL REFERENCE STANDARDS

A. American Forest and Paper Association:

1. Sustainable Forestry Initiative

B. American Society of Heating Refrigerating and Air Conditioning Engineers (ASHRAE):
- ASHRAE 52.2, *Method of Testing General Ventilation Air Cleaning Devices for Removal Efficiency by Particle Size*
- ASHRAE 55, *Thermal Environmental Conditions for Human Occupancy*
- ASHRAE 62.1, *Ventilation for Acceptable Indoor Air Quality*
- ASHRAE 62.2, *Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings*
- ASHRAE/IESNA 90.1, *Energy Standard for Buildings, Except Low-Rise Residential Buildings*
- ASHRAE 90.2, *Energy Efficient Design of Low-Rise Residential Buildings*

C. American Association of State Highway and Transportation Officials (AASHTO):
- M288 Geotextile Specification for Highway Applications
- MP009-06 Standard Specification for Compost for Erosion/Sediment Control (Filter Berms and Filter Socks)
- MP010-03 Standard Specification for Compost for Erosion/Sediment Control (Compost Blankets)

D. American Society for Testing and Materials International (ASTM):
- A478 Standard Specification for Chromium-Nickel Stainless Steel Weaving and Knitting Wire
- A580/A580M Standard Specification for Stainless Steel Wire
- A653/A653M Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process
- B813 Standard Specification for Liquid and Paste Fluxes for Soldering of Copper and Copper Alloy Tube
- C1240 Standard Specification for Silica Fume Used in Cementitious Mixtures
- C128 Standard Test Method for Density, Relative Density (Specific Gravity), and Absorption of Fine Aggregate
- C131 Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
- C1319 Standard Specification for Concrete Grid Paving Units
- C1338 Standard Test Method for Determining Fungi Resistance of Insulation Materials and Facings
- C136 Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
- C1371 Standard Test Method for Determination of Emittance of Materials Near Room Temperature Using Portable Emissometers
- C1386 Standard Specification for Precast Autoclaved AERATED Concrete (PAAC) Wall Construction Units
- C1483 Standard Specification for Exterior Solar Radiation Control Coatings on Buildings
- C1549 Standard Test Method for Determination of Solar Reflectance Near Ambient Temperature Using a Portable Solar Reflectometer
- C1601 Standard Test Method for Field Determination of Water Penetration of Masonry Wall Surfaces
- C289 Standard Test Method for Potential Alkali-Silica Reactivity of Aggregates (Chemical Method)

- C311 Test Methods for Sampling and Testing Fly Ash or Natural Possolans for Use as a Mineral Admixture in Portland-Cement Concrete
- C33 Standard Specification for Concrete Aggregates
- C593 Standard Specification for Fly Ash and Other Pozzolans for Use With Lime
- C595 Standard Specification for Blended Hydraulic Cements
- C618 Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Concrete
- C67 Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile
- C739 Standard Specification for Cellulosic Fiber (Wood-Base) Loose-Fill Thermal Insulation
- C936 Standard Specification for Interlocking Concrete Paver Units
- C989 Standard Specification for Ground Granulated Blast-Furnace Slag for Use in Concrete and Mortars
- D1435 Standard Practice for Outdoor Weathering of Plastics
- D1557 Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft3(2,700 kN-m/m3))
- D1972 Standard Practice for Generic Marking of Plastic Products
- D198 Standard Test Methods of Static Tests of Lumber in Structural Sizes
- D2103 Standard Specification for Polyethylene Film and Sheeting
- D217 Standard Test Methods for Cone Penetration of Lubricating Grease
- D2369 Standard Test Method for Volatile Content of Coatings
- D3273 Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber
- D3786 Standard Test Method for Hydraulic Bursting Strength of Textile Fabrics-Diaphragm Bursting Strength Tester Method
- D3792 Standard Test Method for Water Content of Coatings by Direct Injection Into a Gas Chromatograph
- D3864 Standard Guide for Continual On-Line Monitoring Systems for Water Analysis
- D3960 Standard Practice for Determining Volatile Organic Compound (VOC) Content of Paints and Related Coatings
- D4017 Standard Test Method for Water in Paints and Paint Materials by Karl Fischer Method
- D4263 Standard Test Method for Indicating Moisture in Concrete by the Plastic Sheet Method
- D4444 Standard Test Methods for Use and Calibration of Hand-Held Moisture Meters
- D4491 Standard Test Methods for Water Permeability of Geotextiles by Permittivity
- D4552 Standard Practice for Classifying Hot-Mix Recycling Agents
- D4632 Standard Test Method for Grab Breaking Load and Elongation of Geotextiles
- D4716 Test Method for Determining the (In-plane) Flow Rate per Unit Width and Hydraulic Transmissivity of a Geosynthetic Using a Constant Head
- D4833 Standard Test Method for Index Puncture Resistance of Geotextiles, Geomembranes, and Related Product
- D4840 Standard Guide for Sampling Chain-of-Custody Procedures
- D4887 Standard Test Method for Preparation of Viscosity Blends for Hot Recycled Bituminous Materials
- D5106 Standard Specification for Steel Slag Aggregates for Bituminous Paving Mixtures
- D5116 Standard Guide for Small-Scale Environmental Chamber Determinations of Organic Emissions from Indoor Materials/Products
- D5199 Standard Test Method for Measuring the Nominal Thickness of Geosynthetics

- D5261 Standard Test Method for Measuring Mass per Unit Area of Geotextiles
- D5268 Standard Specification for Topsoil Used for Landscaping Purposes
- D5359 Standard Specification for Glass Cullet Recovered from Waste for Use in Manufacture of Glass Fiber
- D5505 Standard Practice for Classifying Emulsified Recycling Agents
- D5509 Standard Practice for Exposing Plastics to a Simulated Compost Environment
- D5512 Standard Practice for Exposing Plastics to a Simulated Compost Environment Using an Externally Heated Reactor
- D5539 Standard Specification for Seed Starter Mix
- D5957 Standard Guide for Flood Testing Horizontal Waterproofing Installations
- D5603 Standard Classification for Rubber Compounding Materials—Recycled Vulcanizate Particulate Rubber
- D5663 Standard Guide for Validating Recycled Content in Packaging Paper and Paperboard
- D5759 Standard Guide for Characterization of Coal Fly Ash and Clean Coal Combustion Fly Ash for Potential Uses
- D5792 Standard Practice for Generation of Environmental Data Related to Waste Management Activities: Development of Data Quality Objectives
- D5834 Standard Guide for Source Reduction Reuse, Recycling, and Disposal of Solid and Corrugated Fiberboard (Cardboard)
- D5851 Standard Guide for Planning and Implementing a Water Monitoring Program
- D5852 Standard Test Method for Erodibility Determination of Soil in the Field or in the Laboratory by the Jet Index Method
- D6002 Standard Guide for Assessing the Compostability of Environmentally Degradable Plastics
- D6006 Standard Guide for Assessing Biodegradability of Hydraulic Fluid
- D6007 Standard Test Method for Determining Formaldehyde Concentration in Air from Wood Products Using a Small Scale Chamber
- D6046 Standard Classification of Hydraulic Fluids for Environmental Impact
- D6081 Standard Practice for Aquatic Toxicity Testing of Lubricants: Sample Preparation and Results Interpretation
- D6108 Standard Test Method for Compressive Properties of Plastic Lumber and Shapes
- D6109 Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastic Lumber
- D6112 Standard Test Methods for Compressive and Flexural creep and Creep-Rupture of Plastic Lumber and Shapes
- D6117 Standard Test Methods for Mechanical Fasteners In Plastic Lumber and Shapes
- D6155 Standard Specification for Nontraditional Coarse Aggregates for Bituminous Paving Mixtures
- D6245 Standard Guide for Using Indoor Carbon Dioxide Concentrations to Evaluate Indoor Air Quality and Ventilation
- D6261 Standard Specification for Extruded and Compression Molded Basic Shapes Made from Thermoplastic Polyester (TPES)
- D6262 Standard Specification for Extruded, Compression Molded, and Injection Molded Basic Shapes of Poly(aryl ether ketone) (PAEK)
- D6270 Standard Practice for Use of Scrap Tires in Civil Engineering Applications
- D6329 Standard Guide for Developing Methodology for Evaluating the Ability of Indoor Materials to Support Microbial Growth Using Static Environmental Chambers

- D6330 Standard Practice for Determination of Volatile Organic Compounds (Excluding Formaldehyde) Emissions from Wood-Based Panels Using Small Environmental Chambers Under Defined Test Conditions
- D6345 Standard Guide for Selection of Methods for Active, Integrative Sampling of Volatile Organic Compounds in Air
- D6400 Standard Specification for Compostable Plastics
- D6435 Standard Test Method for Shear Properties of Plastic Lumber and Plastic Lumber Shapes
- D6629 Standard Guide for Selection of Methods for Estimating Soil Loss by Erosion
- D6662 Standard Specification for Polyolefin-Based Plastic Lumber Decking Boards
- D6712 Standard Specification for Ultra-High-Molecular-Weight Polyethylene (UHMW-PE) Solid Plastic Shapes
- D6886 Standard Test Method for Speciation of the Volatile Organic Compounds (VOCs) in Low VOC Content Waterborne Air-Dry Coatings by Gas Chromatography
- D692 Standard Specification for Coarse Aggregate for Bituminous Paving Mixtures
- D696 Standard Test Method for Coefficient of Linear Thermal Expansion of Plastics Between -30°C and 30°C With a Vitreous Silica Dilatometer
- D698 Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft3 (600 kN-m/m3))
- D7186 Standard Practice for Quality Assurance Observation of Roof Construction and Repair
- E1021 Standard Test Methods for Measuring Spectral Response of Photovoltaic Cells
- E1038 Standard Test Method for Determining Resistance of Photovoltaic Modules to Hail by Impact with Propelled Ice Balls
- E1039 Standard Test Method for Calibration of Silicon Non-Concentrator Photovoltaic Primary Reference Cells Under Global Irradiation
- E1040 Standard Specification for Physical Characteristics of Nonconcentrator Terrestrial Photovoltaic Reference Cells
- E1105 Standard Test Method for Field Determination of Water Penetration of Installed Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform or Cyclic Static Air Pressure Difference
- E1171 Standard Test Method for Photovoltaic Modules in Cyclic Temperature and Humidity Environments
- E1333 Standard Test Method for Determining Formaldehyde Concentrations in Air and Emission Rates from Wood Products Under Defined Test Conditions Using a Large Chamber
- E1362 Standard Test Method for Calibration of Non-Concentrator Photovoltaic Secondary Reference Cells
- E1433 Standard Guide for Selection of Standards on Environmental Acoustics
- E1462 Standard Test Methods for Insulation Integrity and Ground Path Continuity of Photovoltaic Modules
- E1596 Standard Test Methods for Solar Radiation Weathering of Photovoltaic Modules
- E1597 Standard Test Method for Saltwater Pressure Immersion and Temperature Testing of Photovoltaic Modules for Marine Environments
- E1609 Standard Guide for Development and Implementation of a Pollution Prevention Program
- E1686 Standard Guide for Selection of Environmental Noise Measurements and Criteria
- E1690 Standard Test Method for Determination of Ethanol Extractives in Biomass
- E1721 Standard Test Method for Determination of Acid-Insoluble Residue in Biomass

- E1755 Standard Test Method for Ash in Biomass
- E1758 Standard Test Method for Determination of Carbohydrates in Biomass by High Performance Liquid Chromatography
- E1780 Standard Guide for Measuring Outdoor Sound Received from a Nearby Fixed Source
- E1799 Standard Practice for Visual Inspections of Photovoltaic Modules
- E1802 Standard Test Methods for Wet Insulation Integrity Testing of Photovoltaic Modules
- E1821 Standard Test Method for Determination of Carbohydrates in Biomass by Gas Chromatography
- E1827 Standard Test Methods for Determining Airtightness of Buildings Using an Orifice Blower Door
- E1830 Standard Test Methods for Determining Mechanical Integrity of Photovoltaic Modules
- E1861 Standard Guide for Use of Coal Combustion By-Products in Structural Fills
- E1918 Standard Test Method for Measuring Solar Reflectance of Horizontal and Low-Sloped Surfaces in the Field
- E1971 Standard Guide for Stewardship for the Cleaning of Commercial and Institutional Buildings
- E1980 Standard Practice for Calculating Solar Reflectance Index of Horizontal and Low-Sloped Opaque Surfaces
- E1991 Standard Guide for Environmental Life Cycle Assessment of Building Materials/Products
- E2047 Standard Test Method for Wet Insulation Integrity Testing of Photovoltaic Arrays
- E2114 Standard Terminology for Sustainability Relative to the Performance of Buildings
- E2128 Standard Guide for Evaluating Water Leakage of Building Walls
- E2129 Standard Practice for Data Collection for Sustainability Assessment of Building Products
- E2397 Standard Practice for Determination of Dead Loads and Live Loads associated with Green Roof Systems
- E2398 Standard Test Method for Water Capture and Media Retention of Geocomposite Drain Layers for Green Roof Systems
- E2399 Standard Test Method for Maximum Media Density for Dead Load Analysis of Green Roof Systems
- E2400 Standard Guide for Selection, Installation, and Maintenance of Plants for Green Roof Systems
- E241 Standard Guide for Limiting Water-Induced Damage to Buildings
- E2432 Standard Guide for General Principles of Sustainability Relative to Buildings
- E408 Standard Test Methods for Total Normal Emittance of Surfaces Using Inspection-Meter Techniques
- E413 Standard Classification for Rating Sound Insulation
- E477 Standard Test Method for Measuring Acoustical and Airflow Performance of Duct Liner Materials and Prefabricated Silencers
- E648 Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source
- E683 Standard Practice for Installation and Service of Solar Space Heating Systems for One- and Two-Family Dwellings
- E779 Standard Test Method for Determining Air Leakage Rate by Fan Pressurization

- E781 Standard Practice for Evaluating Absorptive Solar Receiver Materials When Exposed to Conditions Simulating Stagnation in Solar Collectors With Cover Plates
- E782 Standard Practice for Exposure of Cover Materials for Solar Collectors to Natural Weathering Under Conditions Simulating Operational Mode
- E823 Standard Practice for Nonoperational Exposure and Inspection of a Solar Collector
- E881 Standard Practice for Exposure of Solar Collector Cover Materials to Natural Weathering Under Conditions Simulating Stagnation Mode
- E90 Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements
- E903 Standard Test Method for Solar Absorptance, Reflectance, and Transmittance of Materials Using Integrating Spheres
- E948 Standard Test Method for Electrical Performance of Photovoltaic Cells Using Reference Cells Under Simulated Sunlight
- F1869 Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride
- F2034 Standard Specification for Sheet Linoleum Floor Covering
- F2170 Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes

E. Bat Conservation International:
- Bat Approved Bat Houses

F. Carpet and Rug Institute
- Green Label & Green Label Plus Testing Programs, www.carpet-rug.org/green-label-plus.html

G. Center for Resource Solutions
- Green-e program

H. EPA:
- Comprehensive Procurement Guidelines
- ENERGY STAR
- Environmentally Preferable Purchasing Program Final Guidance
- GreenScapes program
- Heat Island Initiative
- Indoor Air Quality Building Education and Assessment Model (I-BEAM)
- National Environmental Performance Track
- Pollution Prevention (P2)
- Product Stewardship Program
- Significant New Alternatives Policy (SNAP) Program

I. Federal Trade Commission:
- Guide for the Use of Environmental Marketing Claims

J. Forest Stewardship Council:
- Chain-Of-Custody
- Forest Management

K. Green Building Initiative (GBI):

- Green Globes - US

L. Green Seal:
- GC-03 Anti-Corrosive Paints
- GC-12 Occupancy Sensors
- GC-13 Split-Ductless Air-Source Heat Pumps
- GS-05 Compact Fluorescent Lamps
- GS-11 Paints
- GS-13 Windows
- GS-14 Window Films
- GS-31 Electric Chillers
- GS-32 Photovoltaic Modules
- GS-36 Commercial Adhesives
- GS-37 Industrial & Institutional Cleaners

M. International Iron and Steel Institute:
- CO2 Breakthrough Program

N. International Organization of Standardization:
- Guide 64; Guide for Inclusion of Environmental Aspects in Product Standards
- 9660 Information processing -- Volume and file structure of CD-ROM for information interchange
- 14001 Environmental management systems – Specification with guidance for use
- 14004 Environmental Management Systems – General Guidelines on Principles, Systems and Supporting Techniques
- 14020 Environmental labels and declarations – General principles
- 14024 Environmental labels and declarations – Type I environmental labelling - Principles and procedures
- 14040 Environmental management – Life cycle assessment – Principles and framework

O. National Association of Home Builders:
- Advanced Framing Techniques: Optimum Value Engineering

P. National Institute of Building Sciences:
- MOIST program for transfer of heat and moisture
- Whole Building Design Guide

Q. National Institute of Standards and Technology:
- BEES (Building for Environmental and Economic Sustainability) Lifecycle Decision Support Tool

R. Sheet Metal and Air Conditioning Contractors' National Association:
- IAQ Guidelines for Occupied Buildings Under Construction

S. Southcoast Air Quality Management District:
- 1168 Adhesive And Sealant Applications

T. US Composting Council:

- Seal of Testing Assurance Program

U. US Department of Agriculture:
- Biobased Products – Definitions and Descriptions

V. US Green Building Council:
- LEED™ 2009 Green Building Rating System

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 42 00

SECTION 01 50 00 - TEMPORARY FACILITIES AND CONTROLS

1.1 SUMMARY

A. This Section includes requirements for temporary utilities, support facilities, and security and protection facilities.

1.2 DEFINITIONS

A. Permanent Enclosure: As determined by Contracting Officer, 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.

1.3 USE CHARGES

A. General: Cost or use charges for temporary facilities shall be included in the Contract Sum as required.

B. Water Service: Fire hydrants are located on base that are owned by Boston Water and Sewer Commission (BWSC). Coordinate with BWSC if fire hydrants are available to use. Contractor is responsible for metering and paying applicable use charges.

C. Electric Power Service: Electric power from existing system is not available for use. Contractor shall be responsible for providing their own temporary power as required to complete the work.

1.4 QUALITY ASSURANCE

A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.

B. Environmental Protection: Provide environmental protection as required by agency(ies) with jurisdiction and as indicated in the Contract Documents. Coordinate with requirements of the following:

1. Regulatory Requirements.
2. Hazardous Waste Management.

C. Accessible Temporary Egress: Comply with applicable provisions in the U.S. Architectural & Transportation Barriers Compliance Board's ABAAS Accessibility Guidelines.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Temporary materials may be new or used, but must be adequate in capacity for the required usage, must not create unsafe conditions, and must not violate requirements of applicable codes and standards.

B. Pavement: Comply with pavement Sections.

C. Lumber and Plywood: Comply with requirements in Division 06 Section Rough Carpentry

D. Portable chain link fencing is required around Contractor storage areas: Minimum 2-inch (50-mm), 9-gage, galvanized steel, chain-link fabric fencing; minimum 6 feet (1.8 m) high with galvanized steel pipe posts; minimum 2-3/8-inch- (60-mm-) OD line posts and 2-7/8-inch- (73-mm-) OD corner and pull posts, with 1-5/8-inch- (42-mm-) OD top and bottom rails. Provide concrete or galvanized steel bases for supporting posts.

E. Safety Barrier Fence: Orange plastic fence, minimum height, 4 feet.

F. Barrier Tape: Yellow tape Imprinted with "CAUTION: CONSTRUCTION AREA", manufactured by Reef Industries, Inc., Houston, Texas, or approved equal.

2.2 TEMPORARY FACILITIES

A. Field Offices, General: Not applicable.

B. Contracting Officers Field Office: Not applicable.

C. Storage and Fabrication Sheds: Temporary weather tight sheds or other covered facilities for storage of materials subject to weather damage. Number and size of structures shall be subject to Contracting Officer's approval.

D. Toilets: Sufficiently lighted and ventilated toilet facilities in weatherproof, sight proof, handicap accessible, sturdy enclosures with privacy locks. Separate toilets for men and women are required.

2.3 EQUIPMENT

A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.

B. HVAC Equipment: Provide vented, self-contained, liquid-propane-gas or fuel-oil heaters with individual space thermostatic control.

1. Use of gasoline-burning space heaters, open-flame heaters, or salamander-type heating units is prohibited.
2. Heating Units: Listed and labeled for type of fuel being consumed, by a testing agency acceptable to agency(ies) with jurisdiction, and marked for intended use.
3. Permanent HVAC System: Not applicable.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.

B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.2 TEMPORARY UTILITY INSTALLATION

A. General: Install temporary service or connect to existing service.

1. Arrange with utility company, NPS, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services. Acquire all necessary permits.

B. Storm Sewers and Drainage: Provide temporary utilities to remove effluent lawfully.

1. Connect temporary sewers to municipal system as directed by the agency(ies) with jurisdiction.

C. Non-potable water for construction is not available within the park boundaries. The Contractor shall furnish non-potable water from a source outside the park boundary.

D. Potable water is not available on site. Furnish cool, potable water for construction personnel in locations convenient to work stations.

E. Sanitary Facilities: Provide temporary toilets, and wash facilities for use by construction personnel.

1. Place in approved locations secluded from public observation and convenient to work stations. Relocate as work progress requires.
2. Maintain and clean toilet facilities at least weekly.
3. Completely remove sanitary facilities on completion of work.

F. Telephone Service: No telephone service is available on site for Contractor's use. Make arrangements with Telephone Company as required and pay all costs.

G. Toilets: Use of existing toilet facilities will not be permitted.

H. Heating: Provide temporary heating as required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of low temperatures or high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed.

1. Use of permanent heating system will not be allowed without written authorization from Contracting Officer. When the permanent heating system is approved for use as temporary

heating, pay all costs until final acceptance. Permanent heating system must be sufficiently complete, including controls, to permit safe operation

2. Provide and maintain adequate approved facilities, as required for safety and construction requirements, during the progress of the work. Provide ample clearance around stoves and heaters and all chimney and vent connections to prevent ignition of combustible material
3. Install and maintain temporary filters when air handing equipment is used for temporary heating. Install new filters before final acceptance in addition to any extra sets of filters required. Clean coils as determined by Contracting Officer.
4. Warranties for equipment used for temporary heating shall start on date of Final Acceptance.

I. Ventilation and Humidity Control: Provide temporary ventilation required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce ambient condition required and minimize energy consumption.

J. Electric Power Service: Use of existing electric power service is not available unless permitted by the Contracting Officer and equipment is maintained in a condition acceptable to the NPS.

1. When temporary connections are removed, restore existing utility services to their original condition.

K. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.

1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.

3.3 SUPPORT FACILITIES INSTALLATION

A. General: Comply with the following:

1. Provide incombustible construction for offices, shops, and sheds located within construction area or within 50 feet of building lines. Comply with NFPA 241.
2. Maintain support facilities until near Substantial Completion. Remove structures, equipment, and furnishings, and terminate services after punch list is 100 percent completed or when directed by Contracting Officer. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Contracting Officer.

B. Traffic Controls: Erect and maintain barricades, lights, danger signals, and warning signs in accordance with Manual on Uniform Traffic Control Devices (MUTCD), Part IV, latest edition.

1. Protect existing site improvements to remain including curbs, pavement, and utilities.
2. Maintain access for fire-fighting equipment and access to fire hydrants.
3. Illuminate barricades and obstructions at night; keep safety lights burning from sunset to sunrise.
4. Adequately barricade and post open cuts in or adjacent to thoroughfares.
5. Protect pedestrian traffic by guardrails or fences.

6. When pedestrian traffic is detoured onto a roadway, provide temporary walkways with protection as required at ends and overhead. For walkways, use lumber running parallel to direction of traffic movement and provide ramps at changes of elevation.
7. Cover pipes, hoses, and power lines crossing sidewalks and walkways with troughs using beveled edge boards.
8. Install Barrier Tape where directed by Contracting Officer. Keep a minimum of two rolls on site at all times

C. Parking: Use designated areas of existing parking areas where indicated on the drawings for temporary use for activities such as deliveries. If no parking spaces are shown, coordinate parking with Park. Contractor/visitor excess vehicle parking is also available where indicated on the drawings. Coordinate use of parking spaces and obtain permission from Contracting Officer prior to use.

D. Dewatering Facilities and Drains: Comply with requirements of the agency(ies) with jurisdiction. Maintain Project site, excavations, and construction free of water.

1. Dispose of rainwater in a lawful manner that will not result in flooding Project or adjoining properties nor endanger permanent Work or temporary facilities.
2. Remove snow and ice as required to minimize accumulations.

E. Project Identification and Temporary Signs: Provide Project identification and other signs as required. Fence, barricade, or otherwise block off the immediate work area to prevent unauthorized entry.

1. Provide temporary, directional signs for construction personnel and visitors.
2. Maintain and touchup signs so they are legible at all times.
3. Erect and maintain sufficient detour signs at road closures and along detour routes.

F. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of agency(ies) with jurisdiction.

G. Lifts and Hoists: Provide facilities necessary for hoisting materials and personnel as required.

1. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.

3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

A. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.

B. Cleaning of Equipment: The Contractor shall ensure that prior to moving on to the Project Area, all equipment, is free of soil, seeds, vegetative matter, or other debris that could contain or hold seeds. Ensure that all equipment has been pressure washed and is free of exotic species prior to start-up of operations and moving of equipment to Project Area. Equipment shall be considered free of soil, seeds, and other debris when a visual inspection does not disclose such material. Disassembly of equipment components or specialized inspection tools are not required.

C. Tree and Plant Protection: Refer to Section 01 11 00 “Summary of Work”.

D. Pest Control: Follow NPS requirements and practices to minimize attraction and harboring of rodents, roaches, and other pests and to perform extermination and control procedures at regular intervals so Project will be free of pests and their residues at Substantial Completion. Perform control operations lawfully, using environmentally safe materials.

E. Site Enclosure Fence: Before construction operations begin, furnish and install chain link fencing in a manner that will prevent people and animals from easily entering site except by entrance gates.

1. Extent of Fence: As indicated on Drawings.
2. Locate vehicular gates to avoid interference with traffic on public thoroughfares.
3. Locate pedestrian entrance gates as required to provide controlled personnel entry.

F. Security Enclosure and Lockup: Install substantial temporary enclosure around partially completed areas of construction. Provide lockable entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security.

G. Barricades, Warning Signs, and Lights: Comply with requirements of agency(ies) with jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.

H. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weathertight enclosure for building exterior.

1. Where heating or cooling is needed and permanent enclosure is not complete, insulate temporary enclosures.

I. Temporary Fire Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241.

1. Responsible Person: A capable and qualified person shall be placed in charge of fire protection. The responsibilities shall include locating and maintaining fire protective equipment and establishing and maintaining safe torch cutting and welding procedures.
2. Smoking: Smoking within buildings or temporary storage sheds is prohibited.
3. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition according to requirements of NPS. Check with park; many require “burn permits” for welding.
4. Develop and supervise an overall fire-prevention and -protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.
5. Provide temporary standpipes and hoses for fire protection as required. Hang hoses with a warning sign stating that hoses are for fire-protection purposes only and are not to be removed. Match hose size with outlet size and equip with suitable nozzles.
6. Hazard Control: Take all necessary precautions to prevent fire during construction. Do not store flammable or combustible liquids in existing buildings. Provide adequate ventilation during use of volatile or noxious substances.

7. Spark Arresters: Equip all gasoline or diesel powered equipment used during periods of potential fire hazards or in potential forest and grass fire locations with spark arresters approved by the USDA Forest Service.

    a. Written determinations of periods and areas of potential fire hazard will be issued by Contracting Officer.

8. Buildings: Furnish a minimum of one extinguisher for each 1,500 square feet of area or major fraction thereof.

    a. Travel distance from any work station to the nearest extinguisher shall not exceed 75 feet.

9. Vehicles and Equipment: Provide one extinguisher on each vehicle or piece of equipment.
10. Service and Refueling Areas: Locate areas a minimum of 75 feet from buildings. Shut down equipment before refueling.

3.5 OPERATION, TERMINATION, AND REMOVAL

A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.

B. Maintenance: Maintain facilities in good operating condition until removal.

    1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.

C. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.

D. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of 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 property of Contractor. NPS reserves right to take possession of Project identification signs.
    2. At Substantial Completion, clean and renovate permanent facilities used during construction period.

END OF SECTION 01 50 00

SECTION 01 57 19.12 – NOISE & ACCOUSTICS MANAGEMENT

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes:

1. Special requirements for noise and acoustics management during deconstruction and renovation operations.

1.2 DEFINITIONS

A. Ambient noise level: The total noise associated with a given environment, being usually a composite of normal or existing sounds from all sources near and far, excluding the noise source at issue.

B. Daytime: The hours from 7 a.m. to 9 p.m. on weekdays and 9 a.m. to 9 p.m. on weekends and holidays.

C. Nighttime: All non-daytime hours.

D. Property line: The real or imaginary line along the ground surface and its vertical extension, which separates real property owned or controlled by one person from contiguous real property owned or controlled by another person or from any public right-of-way or from any public space.

E. Receiving noise area: Any real property where people live or work and where noise is heard, excluding the project or source area.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 NOISE MANGEMENT

A. Noise Control: Perform deconstruction and renovation operations to minimize noise. Perform noise-producing work in less sensitive hours of the day or week as directed by the Contracting Officer.

B. Repetitive and/or intermittent, high-level noise: Permitted only during Daytime.

1. Do not exceed the following dB(A) limitations at 50 feet:

Sound Level in dB(A)	Time Duration of Impact Noise
70	More than 12 minutes in any hour
80	More than 3 minutes in any hour

2. Maximum permissible construction equipment noise levels at 50 feet:

EARTHMOVING	dB(A)	MATERIALS HANDLING	dB(A)
Front Loaders	75	Concrete Mixers	75
Backhoes	75	Concrete Pumps	75
Dozers	75	Cranes	75
Tractors	75	Derricks Impact	75
Scrapers	80	Pile Drivers	95
Graders	75	Jack Hammers	75
Trucks	75	Rock Drills	80
Pavers, Stationary	80	Pneumatic Tools	80
Pumps	75	Saws	75
Generators	75	Vibrators	75
Compressors	75		

C. Ambient Noise:

1. Maximum noise levels (dB) for receiving noise area at property line shall be as follows:

a. Residential receiving area — Daytime: 65 dB; Nighttime: 45 dB

b. Commercial/Industrial receiving area — Daytime: 67 dB; Nighttime: 65 dB

2. In the event the existing local ambient noise level exceeds the maximum allowable receiving noise level (dB), the receiving noise level maximum for construction operations shall be adjusted as follows:

a. Residential receiving area: Maximum 3 additional dB above the local ambient as measured at property line.
b. Commercial/Industrial receiving area: Maximum 5 additional dB above the local ambient as measured at the property line.

3.2 FIELD QUALITY CONTROL

A. Assess potential effects of construction noise on adjacent neighbors in accordance with ASTM E1686 and as follows:

1. Ambient noise measurement: Measure at the property line at a height of at least four (4) feet above the immediate surrounding surface. Average the ambient noise level over a period of at least 15 minutes.
2. Ambient noise measurement at urban sites: Conduct during morning peak traffic hour between 7 A.M. and 9 A.M. and afternoon peak traffic hour between 4 P.M. and 6 P.M. In addition, conduct a 24-hour measurement at the proposed project site to document the noise pattern throughout the day. Adjust and weight for seasonal and climatic variations.

B. Monitor noise produced from construction operations in accordance with ASTM E1780.

END OF SECTION 01 57 19.12

SECTION 01 57 23 - TEMPORARY STORM WATER POLLUTION PREVENTION

SECTION 01 57 23 – UNDER-AN-ACRE POLLUTION PREVENTION

PART 1 - GENERAL

1.1 SUMMARY

A. Federal Regulations for controlling discharges of pollutants (including chemicals, erodible material, and trash) from municipal separate storm sewer systems, construction sites, and industrial activities, were brought under the National Pollution Discharge Elimination System (NPDES) permit process by amendments to the Clean Water Act (CWA), and promulgation of federal stormwater regulations issued by the U.S. Environmental Protection Agency (USEPA). The USEPA uses the amount of ground disturbance as a measure of a project potential to generate pollution from erosion. NPDES Phase I regulates discharges from construction sites that disturb 5 acres or more. NPDES Phase II regulations expand the existing General Permit requirements under Phase I to include/regulated discharges from construction sites that disturb land equal to or greater than one (1) acre and less than 5 acres, known as Small Construction Activity. Construction disturbances 1 acre and above typically require a formal NPDES permit and a formal Stormwater Pollution Prevention Plan (SWPPP) must be submitted to the Agency(ies) with Jurisdiction for review and approval.

B. NPS Standards and Guidelines require that water quality be protected at all times to ensure compliance with the Organic Act. The Contractor shall prepare an Under-An-Acre Pollution Prevention Plan (UPPP) for each project resulting in less than 1 acre of soil disturbance or not otherwise subject to the requirements of the NPDES program.

C. The work of this section consists of implementing measures to prevent discharges of pollutants, including temporary storm water pollution during construction activities, either through compliance with the NPDES permit program; Or in conformance with NPS guidance for UPPPs.

D. The work of this section consists of implementing measures to Temporary Storm Water Pollution during construction activities, either through compliance with the NPDES permit program; Or in conformance with NPS guidance for UPPPs.

1.2 DEFINITIONS

A. Definitions pertaining to sustainable development: As defined in ASTM E2114.

B. Environmental Pollution and Damage: The presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances; or degrade the utility of the environment for aesthetic, cultural, or historical purposes.

C. National Pollution Discharge Elimination System (NPDES) Phase I: Regulates discharges from construction sites that disturb 5 acres or more.

D. NPDES Phase II: Regulations expand the existing General Permit requirements under Phase I to include and regulate discharges from construction sites that disturb land equal to or greater than one (1) acre and less than 5 acres, known as Small Construction Activity.

E. Storm Water Pollution Prevention Plan (SWPPP): Developed and implemented stormwater management measures to protect surface water from pollutants during construction activities disturbing an acre or more in compliance with federal, state, and local requirements for permit approval under the NPDES program.

F. UPPP: Developed and implemented pollution prevention plan (including stormwater management measures, if needed) to protect the environment from pollutants on construction projects with less than one acre of disturbance in conformance with NPS guidelines.

1.3 SUBMITTALS

A. After contract award and before the pre-construction conference, prepare and submit:
   1. A SWPPP showing that the SWPPP satisfies all Federal and State NPDES permit requirements;
   2. A UPPP in conformance with NPS guidelines and adherence to all applicable construction storm water management practices.

B. Inspection Schedule: Submit schedule for inspection and monitoring of all pollution prevention measures.

C. Inspection Schedule: Submit schedule for inspection and monitoring of all storm water pollution prevention measures.

D. Erosion Control Products: Submit manufacturer's product information and installation recommendations for silt fence, filter fabric, erosion control blanket, straw bales, and any other materials proposed for use on this project.

1.4 QUALITY ASSURANCE

A. The Contractor shall prepare and submit a plan to the Contracting Officer (CO) for review and concurrence.

B. Orientation Meeting: The Contractor shall be responsible for arranging and conducting an Erosion and Sediment Control meeting/briefing to inform all parties scheduled to be on-site during the project of the measures to be implemented for proper erosion and sediment control (may be included as part of the Pre-Construction Meeting).

   1. Installation of silt fences, storm drain protection, and all other forms of erosion and sediment control shall not begin until after this meeting has occurred.

C. Orientation Meeting: The Contractor shall be responsible for arranging and conducting a Pollution Prevention meeting/briefing to inform all parties scheduled to be on-site during the project of the measures to be implemented for proper pollution prevention and control (may be included as part of the Pre-Construction Meeting).

1. Installation of silt fences, storm drain protection, and all other forms of pollution prevention controls shall not begin until after this meeting has occurred.

D. Pollution Prevention Manager: The Contractor shall designate the Pollution Prevention Manager who will be responsible for the implementation, inspection, maintenance, and amendments to the approved plan.

1. The Pollution Prevention Manager shall be familiar with UPPP procedures and Best Management Practices (BMPs) and shall ensure that emergency procedures and the plan are updated as needed and available for inspection.

2. When changes in the approved plan are required, the Pollution Prevention Manager shall prepare and certify an amendment and submit to the CO for review and concurrence.

E. Pollution Prevention and Erosion Control Manager: The Contractor shall designate the Pollution Prevention and Erosion Control Manager who will be responsible for the implementation, inspection, maintenance, and amendments to the approved plan.

1. The Pollution Prevention and Erosion Control Manager shall be familiar with temporary storm water pollution prevention procedures and Best Management Practices (BMPs) and shall ensure that emergency procedures and the plan are updated as needed and available for inspection.

2. When changes in the approved plan are required, the Pollution Prevention and Erosion Control Manager shall prepare and certify an amendment and submit to the CO for review and concurrence.

PART 2 - PRODUCTS

2.1 UNDER-AN-ACRE POLLUTION PREVENTION PLAN:

2.2 TEMPORARY STORM WATER POLLUTION PREVENTION PLAN:

A. Provide a SWPPP which satisfies all Federal and State NPDES permit requirements and includes the following information and forms:

1. Site description.
2. Identification and contract information for Pollution Prevention and Erosion Control Manager.
3. Expected sequencing of operations and construction schedule.
4. Weather monitoring procedure.
5. Descriptions and details BMPs for of pollution prevention and erosion controls, including dust control.
6. Pollution prevention and erosion control plans.
7. Controls for other potential onsite storm water pollutants.
8. Applicable specifications.
9. Maintenance and inspection procedures and forms.
10. Description of potential non-storm water discharges at site.

11. Notice of Intent (NOI) form.
12. Notice of Termination (NOT) form.
13. Contractor and Sub-contractor Certification forms.
14. Other record keeping forms and procedures.
15. Housekeeping Best Management Practices, including vehicle wash-down areas, protection of equipment storage and maintenance areas, and sweeping of roadways related to hauling activities.

B. Provide a UPPP which conforms to all NPS requirements (utilize UPPP template) and include the following information and forms:
1. Responsible Parties
2. General Information: Project Scope, Project Details, Site Information, and Spill Prevention.
3. Standards and Constraints
4. Project Scheduling
5. Known Data on Soil and Fill
6. Activities with the Potential to Generate Sediment
7. Activities and Materials with the Potential to Pollute Storm Water
8. Management and Reporting BMPs
9. Waste Management BMPs
10. Non-Storm Water Pollution Control BMPs
11. Soil Stabilization BMPs
12. Sediment Control BMPs
13. Other Pollution Control BMPs
14. References
15. Preparer's Certification
16. Appendices: Contact Information, Pollution Prevention Control Map or Sheet(s), Standard Installation Specifications for each BMP, and Blank forms.

PART 3 - EXECUTION

3.1 ENVIRONMENTAL PROTECTION

A. Protection of Natural Resources: Comply with applicable regulations and these specifications. Preserve the natural resources within the project boundaries and outside the limits of work performed under this Contract in their existing condition or restore to an equivalent or improved condition as approved by the CO.

B. Construction Zone: Arrange construction activities to minimize pollution (i.e., erosion, trash, etc.) to the maximum practical extent.

1. Clearing, excavation, and grading shall be limited to those areas of the project site necessary for construction. Minimize the area exposed and unprotected.
2. Clearly mark and delineate the limits of work activities.
3. Equipment shall not be allowed to operate outside the limits of work or to disturb existing vegetation.
4. Excavation and grading shall be completed during the dry season to the maximum extent possible

5. Material should be stored away from locations where water is present to the greatest extent practicable.

3.2 REGULATORY REQUIREMENTS

A. Permits: The Contractor shall obtain all required NPDES permits in a manner that results in no impacts to scheduled work. The Contractor shall account for the possibility of significant lead time in scheduling and executing the work.

1. Implement the requirements of the NPDES permit for erosion control due to storm water runoff during construction.
2. Implement all good housekeeping practices, inspections and record keeping.
3. Prior to construction, the Contractor and all subcontractors shall sign certifications (included in the plan) that they understand the requirements of the NPDES permit.
4. All subcontractors shall comply with the requirements of the NPDES under the supervision of the Contractor.
5. The accepted plan must comply with the terms and conditions of the EPA permit.

B. Notice of Intent (NOI): The Contractor shall file a Notice of Intent and formal SWPPP as required to the Agency(ies) with Jurisdiction.

C. Notice of Termination (NOT): After Substantial Completion of the construction project, file a Notice of Termination (NOT) with the Agency(ies) with Jurisdiction.

D. CO Notification: The Contractor shall notify the CO in writing and by telephone of the following events:

1. The required erosion and sediment control meeting/briefing.
2. Following installation of required sediment control structures.
3. Prior to removal of or modification to sediment control structures.
4. Prior to removal of all sediment control structures.

3.3 TEMPORARY STORM WATER POLLUTION PREVENTION PLAN

3.4 UNDER-AN_ACRE POLLUTION PREVENTION PLAN

A. Review and Acceptance: The Contractor and the CO will jointly review the draft Plan and agree to any needed revisions. The Contractor shall incorporate all revisions, sign, and submit the final Plan to the CO. The final Plan will be the document enforced on the project.

1. The accepted Plan will describe and ensure implementation of the practices which will be used to reduce the pollutants in storm water discharges.
2. The Contractor shall maintain a current copy of the Plan and all associated records and forms at the jobsite throughout the duration of the project.
3. The Plan shall be available at all times for public inspection and for the inspection and use of the CO.
4. Approval of Contractor's Plan will not relieve the Contractor of responsibility for compliance with applicable environmental regulations.

B. Implementation: Implement the Plan as required throughout the construction period and maintain all erosion control elements in proper working order.

1. Do not perform clearing and grubbing or earthwork until the Plan has been implemented.

C. The SWPPP (including inspection forms) and all data used to complete the NOI shall be provided to the CO after Substantial Completion of the project.

3.5 SITE INSPECTIONS AND PLAN REVISIONS

A. Inspections: The Contractor and the CO will perform a weekly inspection of the site.

1. The inspection shall include disturbed areas that have not been completely stabilized, areas used for storage of materials, locations where vehicles enter or exit the site, and all other erosion and sediment controls that are included in the Plan.
2. Inspections shall be documented.
3. The inspection forms shall be retained onsite in the Plan notebook throughout the construction period.

B. Plan Revisions: It may be necessary to revise the Plan during construction to make necessary improvements, revisions, or to respond to unforeseen conditions noted during construction or site inspections.

1. The Plan shall specify the mechanism whereby revisions may be proposed by the Contractor or the CO.
2. The Contractor and the CO will jointly review each revision to the Plan before changes are incorporated and implemented. The Contractor will then provide a revised copy of the Plan to the CO.
3. Accepted modifications will be implemented within 7 calendar days following the date of the inspection when deficiencies or necessary corrections are first noted.

C. Negligence: Provide additional temporary erosion and pollution controls made necessary by Contractor's errors or negligence at no additional cost to the Government.

3.6 HOUSEKEEPING AND SITE MANAGEMENT

A. Materials stored on site should be stored in conformance to federal, state, local, and manufacture's regulations and specifications. Additionally, BMPs should be used to minimize the risk of materials coming into contact with environmental conditions (i.e. water and wind) that could disperse them.

B. Solid waste should be managed in conformance to federal, state, and local regulations. BMPs should be used to minimize the risk of materials coming into contact with the environmental conditions (i.e. water and wind) that could disperse them.

C. The project should include a spill prevention and control plan with provisions placed in the SWPPP.

D. Hazardous waste (including contaminated soil) should be managed in conformance to federal, state, local and NPS regulations and guidelines.

3.7 EROSION CONTROL MEASURES

A. Erosion control measures shall consist of any and all BMPs for storm water discharges, including but not limited to silt fencing, barrier protectors, straw bales, temporary soil retention blankets, excelsior drainage filters, sediment traps and berms.

B. Berms and excelsior drainage filters shall be used to form sediment traps and to control run-on and run-off into other areas, including creeks, streams, marshes, access roads, well areas, and the staging areas.

C. Erosion control measures shall be used to contain only direct precipitation in the construction zone. The contained water shall be allowed to percolate into the ground or drain slowly through the drainage filter sediment traps.

D. Earthen sediment traps or holding ponds shall not be used unless accepted by the CO.

E. Reduce runoff velocity as well as direct surface runoff around and away from all fuel containment, storage, and borrow areas.

F. Divert surface runoff around and away from cut and fill slopes.

G. Place drainage filters around all catch basins to create sediment traps to control run-off from the construction area.

H. Excess water used for dust control shall be contained within the demolition areas by the erosion control measures.

I. The Contractor shall prevent the deposition of materials onto paved areas. The Contractor shall inspect the paved areas for deposited materials weekly and remove the materials immediately.

J. Furnish, install, maintain, and operate necessary control measures and other equipment necessary to prevent erosion as described in the approved SWPPP.

K. Furnish, install, maintain, and operate necessary control measures and other equipment necessary to prevent erosion as described in the approved UPPP.

L. Before the work begins, sufficient equipment shall be available on the site to assure that the operation and adequacy of the erosion control system can be maintained.

3.8 MAINTENANCE OF TEMPORARY FACILITIES

A. Ensure erosion and sediment control structures remain effective throughout excavation and grading operations. Relocate structures as necessary.

B. Inspect control structures after each significant rainfall. Promptly repair breaches which occur.

C. The Contractor shall remove entrapped sediment from behind excelsior drainage filter after each storm.

3.9 REPORTING

A. If a discharge occurs or if the project receives a written notice or order from any regulatory agency, the Contractor will immediately notify the CO and will file a written report to the Agency(ies) with Jurisdiction within 7 days of the discharge event, notice, or order. Corrective measures shall be implemented immediately following the discharge, notice, or order. The report to the Agency(ies) with Jurisdiction shall contain the following items at a minimum:

1. The date, time, location, nature of operation, and type of discharge, including the cause or nature of the notice or order.
2. The BMPs deployed before the discharge event, or prior to receiving the notice or order.
3. The date of deployment and type of BMPs deployed after the discharge event, or after receiving the notice or order, including additional BMPs installed or planned to reduce or prevent re-occurrence.
4. An implementation and maintenance schedule for any affected BMPs.

3.10 SEDIMENT DISPOSAL

A. Sediment excavated from temporary sediment control structures shall be disposed on the site with general fill, or with topsoil. Sediment shall be allowed to dry out as required before reuse.

B. Contractor shall place the sediment removed from traps and other structures where it will not enter a storm drain or watercourse and where it will not immediately reenter the basin.

3.11 REMOVAL OF TEMPORARY POLLUTION CONTROL MEASURES

3.12 REMOVAL OF TEMPORARY STORM WATER POLLUTION CONTROL MEASURES

A. All temporary control measures shall be removed with permission of the CO within 20 working days after final acceptance of the project, and/or once grading is completed and slopes have stabilized.

END OF SECTION 01 57 23

SECTION 01 67 00 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; and environmental requirements.

1.2 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. 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 additional manufacturers named in the specification.

C. Biobased Materials: As defined in the Farm Security and Rural Investment Act, for purposes of Federal procurement of biobased products, “biobased” means a “commercial or industrial product (other than food or feed) that is composed, in whole or in significant part, of biological products or renewable domestic agricultural materials (including plant, animal, and marine materials) or forestry materials.” Biobased materials also include fuels, chemicals, building materials, or EO 13101 defines Environmentally Preferable Products as “…products and services that have a lesser or reduced effect on the environment….This comparison may consider raw materials acquisition, production, manufacturing, packaging, distribution, reuse, operation, maintenance, or disposal of the product….”

D. Environmentally preferable products: Products and services that have a lesser or reduced effect on the environment in comparison to conventional products and services. Refer to EPA’s Final

Guidance on Environmentally Preferable Purchasing for more information http://www.epa.gov/oppt/epp/.

E. Stewardship: Responsible use and management of resources in support of sustainability.

F. Sustainability: The maintenance of ecosystem components and functions for future generations.

1. Recycled Content Materials: Products that contain pre-consumer or post-consumer materials as all or part of their feedstock. Recycled content claim shall be consistent with ISO 140001 Standard for the Use of Environmental Marketing Claims.
2. Rapidly Renewable Material: Material made from plants that are typically harvested within a ten-year cycle.
3. Regional Materials: Materials that are manufactured and extracted, harvested, or recovered within a radius of 500 miles from the Project location.

1.3 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.

1.4 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.

B. Delivery and Handling:

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. Contractor is encouraged to obtain materials in biodegradable or recyclable/reusable packaging which uses the minimum amount of packaging possible.

C. Storage:

1. Store products to allow for inspection and measurement of quantity or counting of units.
2. Store materials in a manner that will not endanger Project structure.
3. Store products that are subject to damage by the elements, under cover in a weather tight enclosure above ground, with ventilation adequate to prevent condensation.
4. Store cementitious products and materials on elevated platforms.

5. Store foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
6. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
7. Protect stored products from damage and liquids from freezing.
8. Store loose granular materials in a well-drained area on solid surfaces to prevent mixing with foreign matter.

1.5 ENVIRONMENTALLY PREFERABLE PRODUCTS

A. Provide environmentally preferable products to the greatest extent possible.

1. To the greatest extent possible, provide products and materials that have a lesser or reduced effect on the environment considering raw materials acquisition, production, manufacturing, packaging, distribution, reuse, operation, maintenance, and/or disposal of the product.
2. Eliminate the use of ozone depleting compounds during and after construction where alternative environmentally preferable products are available, consistent with either the Montreal Protocol and Title VI or the Clean Air Act Amendments of 1990, or equivalent overall air quality benefits that take into account life cycle impacts.
3. Use products meeting or exceeding EPA's recycled content recommendations for EPA-designated products. Use materials with recycled content such that the sum of post-consumer recycled content plus one-half of the pre-consumer content constitutes at least 10% (based on cost) of the total value of the materials in the project.

1.6 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.

1. Manufacturer's Warranty: Preprinted written warranty published by individual manufacturer for a particular product and specifically endorsed by manufacturer to Contracting Officer.
2. 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 Contracting Officer.

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: When specified forms are included with the Specifications, prepare a written document using appropriate form properly executed.

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

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. Government 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," Contracting Officer will make selection.
5. Where products are accompanied by the term "match sample," sample to be matched is Governments.
6. Descriptive, performance, and reference standard requirements in the Specifications establish "salient characteristics" of products.

B. Product Selection Procedures:

1. Product: Where Specifications name a single product and manufacturer, provide the named product that complies with requirements or approved equal.
2. Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements or approved equal.
3. Products: Where Specifications include a list of names of both products and manufacturers, provide one of the products listed that complies with requirements or approved equal.
4. Manufacturers: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements or approved equal.
5. Available Products: Where Specifications include a list of names of both products and manufacturers, provide one of the products listed, or an unnamed product, that complies with requirements. Comply with provisions in Part 2 "Comparable Products" Article for consideration of an unnamed product.
6. Available Manufacturers: Where Specifications include a list of manufacturers, provide a product by one of the manufacturers listed, or an unnamed manufacturer, that complies with requirements. Comply with provisions in Part 2 "Comparable Products" Article for consideration of an unnamed product.
7. Product Options: Where Specifications indicate that sizes, profiles, and dimensional requirements on Drawings are based on a specific product or system, provide the specified product, system, or approved equal.
8. Basis-of-Design Product: Where Specifications name a product and include a list of manufacturers, provide the specified product or a comparable product by one of the other named manufacturers, or approved equal. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named.

9. Visual Matching Specification: Where Specifications require matching an established Sample, select a product that complies with requirements and matches Architect's sample. Contracting Officers decision will be final on whether a proposed product matches.

    a. If no product available within specified category matches and complies with other specified requirements, comply with provisions in Part 2 "Product Substitutions" Article for proposal of 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 that complies with other specified requirements.

    a. Standard Range: Where Specifications include the phrase "standard range of colors, patterns, textures" or similar phrase, Contracting Officer will select color, pattern, density, 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, Contracting Officer will select color, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

2.2 COMPARABLE PRODUCTS

A. Conditions: Contracting Officer will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Contracting Officer will return requests without action, except to record noncompliance with these requirements:

1. Evidence that the proposed product does not require 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 Contracting Officers, if requested.
5. Samples, if requested.

PART 3 - EXECUTION

3.1 PROTECTION AFTER INSTALLATION

A. Provide adequate coverings as necessary to protect installed materials from damage resulting from natural elements, traffic, and subsequent construction. Remove when no longer needed.

END OF SECTION 01 67 00

SECTION 01 73 40 - EXECUTION

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes general procedural requirements governing execution of the Work including, but not limited to, the following:
   1. Construction layout.
   2. Field engineering and surveying.
   3. General installation of products.
   4. Progress cleaning.
   5. Starting and adjusting.
   6. Protection of installed construction.
   7. Correction of the Work.

1.2 SUBMITTALS

A. Landfill Receipts: Submit copy of receipts issued by a landfill facility, licensed to accept hazardous materials, for hazardous waste disposal.

B. Quantity Surveys: Submit 2 copies showing quantities of work performed and actual construction completed and in place.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

A. Existing Conditions: The existence and location of site improvements, and other construction indicated as existing are not guaranteed.

   1. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
   2. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
   3. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

B. Coordination with Utility Service Providers is not expected under this contract.

3.2 PREPARATION

A. 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.

B. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.

C. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of the Contractor, submit a request for information to the Contracting Officer in accordance with Division 01 Specification 01 31 00 “Project Management and Coordination”.

3.3 CONSTRUCTION LAYOUT

A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the existing benchmarks. If discrepancies are discovered, notify Contracting Officer promptly.

3.4 INSTALLATION

A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.

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 Substantial 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. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.

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.

1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by the Contracting Officer.
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.

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.

J. Quantity surveys: Shall be conducted, and the data derived from these surveys shall be used in computing the quantities of work performed and the actual construction completed and in place.

1. The Contractor shall conduct the original and final surveys and surveys for any periods for which progress payments are requested. All these surveys shall be conducted under the direction of a representative of the Contracting Officer, unless the Contracting Officer waives this requirement in a specific instance. The Government shall make such computations as are necessary to determine the quantities of work performed or finally in place. The Contractor shall make the computations based on the surveys for any periods for which progress payments are requested.
2. Promptly upon completing a survey, the Contractor shall furnish the originals of all field notes and all other records relating to the survey or to the layout of the work to the Contracting Officer, who shall use them as necessary to determine the amount of progress payments. The Contractor shall retain copies of all such material furnished to the Contracting Officer.

3.5 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.

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.
3. Contractor shall provide progress cleaning that minimizes sources of food, water, and harborage available to pests.

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.

1. Utilize non-toxic cleaning materials and methods.

a. Comply with GS 37 for general purpose cleaning and bathroom cleaning.
b. Use natural cleaning materials where feasible. Natural cleaning materials include:

1) Abrasive cleaners: substitute 1/2 lemon dipped in borax.
2) Ammonia: substitute vinegar, salt and water mixture, or baking soda and water.
3) Disinfectants: substitute 1/2 cup borax in gallon water.
4) Drain cleaners: substitute 1/4 cup baking soda and 1/4 cup vinegar in boiling water.
5) Upholstery cleaners: substitute dry cornstarch.

E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.

F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

G. 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.

H. 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 Substantial Completion.

I. 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.

J. Limiting Exposures: Supervise construction operations to assure that no part of the construction completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

K. Final Cleaning: At completion of Work, remove all remaining waste materials, rubbish, tools, equipment, machinery and surplus materials, and clean all exposed surfaces; leave Project clean and ready for occupancy.

1. Provide final cleaning in accordance with ASTM E1971.

3.6 STARTING AND ADJUSTING

A. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.

B. Adjust operating components for proper operation without binding. Adjust equipment for proper operation.

C. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

D. 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 Division 01 Section "Quality Requirements."

3.7 PROTECTION OF INSTALLED CONSTRUCTION

A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.

B. Comply with manufacturer's written instructions for temperature and relative humidity.

3.8 CORRECTION OF THE WORK

A. Repair or remove and replace defective construction.

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 40

SECTION 01 74 19 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.1 SUMMARY

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

   A. Salvaging nonhazardous demolition and construction waste.
   B. Recycling nonhazardous demolition and construction waste.
   C. Disposing of nonhazardous demolition and construction waste.

1.2 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. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations.

C. Solid Waste: Garbage, debris, sludge, or other discharged material (except hazardous waste) including solid, liquid, semisolid, or contained gaseous materials resulting from domestic, industrial, commercial, mining, or agricultural operations.

D. Debris: Non-hazardous solid waste generated during the construction, demolition, or renovation of a structure which exceeds 2.5 inch (60 mm) particle size that is: a manufactured object; plant or animal matter; or natural geologic material (e.g. cobbles and boulders). A mixture of debris and other material such as soil or sludge is also subject to regulation as debris if the mixture is comprised primarily of debris by volume, based on visual inspection.

E. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.

F. Environmental Pollution and Damage: The presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances; or degrade the utility of the environment for aesthetic, cultural, or historical purposes.

G. Garbage: Refuse and scraps resulting from preparation, cooking, dispensing, and consumption of food.

H. Hazardous Materials: Any material that is regulated as a hazardous material in accordance with 49 CFR 173, requires a Material Safety Data Sheet (MSDS) in accordance with 29 CFR 1910.1200, or which during end use, treatment, handling, storage, transportation or disposal meets or has components which meet or have the potential to meet the definition of a Hazardous Waste in accordance with 40 CFR 261.

I. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.

J. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.

1.3 PERFORMANCE REQUIREMENTS

A. General: Project shall minimize creation of construction, deconstruction, and demolition waste to protect and restore natural habitat and resources. Factors that contribute to waste such as over packaging, improper storage, ordering error, poor planning, breakage, mishandling, and contamination shall be minimized. A Waste Management Plan shall be developed to ensure that existing site and building materials are reused, salvaged, or recycled. Waste disposal in landfills shall be minimized.

B. If any waste materials encountered during the deconstruction/demolition or construction phase are found to contain lead, asbestos, PCBs, (such as fluorescent lamp ballasts), or other harmful substances, they are to be handled and removed in accordance with local, state, and federal laws and requirements concerning hazardous waste.

C. Salvage/Recycle Requirements: Government goal is to salvage and recycle as much nonhazardous demolition and construction waste as possible. Develop waste management plan that results in end-of-Project rates for salvage/recycling of 50 percent by weight of total waste generated by the Work. The following waste categories, at a minimum, shall be diverted from a landfill:

A. Land clearing debris (chipped debris can be used on site for mulch or erosion control)
B. Clean dimensional wood, palettes
C. Plywood, OSB, and particle board
D. Concrete (can be ground and used for fill on site)
E. Asphaltic concrete (can be ground and used for fill on site)
F. Cardboard, paper, packaging, newsprint
G. Metals (from banding, stud trim, piping, rebar, roofing, other trim, steel, iron, galvanized sheet steel, stainless steel, aluminum, copper, zinc, lead, brass, and bronze)
H. Gypsum drywall—unpainted
I. Non-hazardous paint and paint cans
J. Beverage containers: Aluminum, glass, and plastic containers
K. Insulation
L. Ceiling grid and tiles
M. Ductwork
N. Wiring
O. Other mixed construction and demolition waste as appropriate

1.4 SUBMITTALS

A. Waste Management Plan: After award of contract and prior to the scheduled Pre-Construction Conference, Contractor shall submit a draft Waste Management Plan to the Contracting Officer for approval. Submit 3 copies of plan. Revise and resubmit Plan as required by the Contracting

Officer. Approval of Contractor's Plan will not relieve Contractor of responsibility for compliance with applicable environmental regulations.

B. 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.

1.5 QUALITY ASSURANCE

A. Regulatory Requirements: Comply with hauling and disposal regulations of authorities having jurisdiction.

PART 2 - PRODUCTS

2.1 WASTE MANAGEMENT PLAN

A. General: Develop plan consisting of waste identification work plan. 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 demolition and construction waste generated by the Work. Include estimated quantities and assumptions for estimates.

PART 3 - EXECUTION

3.1 PLAN IMPLEMENTATION

A. General: Implement waste management plan as approved by the Contracting Officer. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.

B. Contractor shall establish contacts with local recycling and reuse companies to set up lines of responsibility. Contractor shall be responsible for coordination in terms of identifying materials, pickup schedules, and standard quality for recycled materials.

C. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work occurring at Project site.

   A. Distribute waste management plan to everyone concerned within three days of submittal return.
   B. 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.

E. Separation facilities:

A. Contractor shall designate and Contracting Officer shall approve a specific area or areas to facilitate separation of materials for potential reuse, salvage, recycling, and return.
B. Waste and recycling bins are to be placed near each other, and close to the point of waste generation but out of the traffic pattern.
C. Recycling and waste bin areas are to be kept neat and clean and clearly marked in order to avoid co-mingling of materials.
D. Bins shall be protected during non-working hours from off-site contamination.
E. Garbage dumpsters should be checked periodically to monitor recyclables being thrown away or if there are undocumented materials that could be recycled.

F. Materials handling procedures: Materials to be recycled shall be protected from contamination and shall be handled, stored, and transported in a manner that meets the requirements set by the designated facilities for acceptance. Establish a defined area for the operations of each trade, especially woodcutting so that off-cuts will be kept in one area and can be sorted by dimension for future reuse.

3.2 SALVAGING DEMOLITION WASTE

A. Salvaged Items for Reuse in the Work:

A. Clean salvaged items.
B. Pack or crate items after cleaning. Identify contents of containers.
C. Store items in a secure area until installation.
D. Protect items from damage during transport and storage.
E. 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: Not permitted on Project site.

C. Salvaged Items for Governments Use:

A. Clean salvaged items.
B. Pack or crate items after cleaning. Identify contents of containers.
C. Allow for inspection if necessary.
D. Store items in a secure area until delivery to Government.
E. Transport items to storage area designated by Government.
F. Protect items from damage during transport and storage.

3.3 RECYCLING DEMOLITION AND 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.

A. 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.

B. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
C. Stockpile materials away from construction area. Do not store within drip line of remaining trees.
D. Store components off the ground and protect from the weather.
E. Remove recyclable waste off Governments property and transport to recycling receiver or processor.

3.4 RECYCLING DEMOLITION WASTE

A. Structural Steel: Stack members according to size, type of member, and length.
B. Remove and dispose of bolts, nuts, washers, and other rough hardware.
C. Electrical Devices: Separate switches, receptacles, switchgear, transformers, meters, panelboards, circuit breakers, and other devices by type.
D. Conduit: Reduce conduit to straight lengths and store by type and size.
E. Electronic Products: Ensure that all non-usable electronic products are reused, donated, sold, or recycled using environmentally sound management practices at end of life.

3.5 RECYCLING CONSTRUCTION WASTE

A. Packaging:

A. Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.
B. Polystyrene Packaging: Separate and bag materials.
C. 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.
D. Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.

3.6 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.

A. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
B. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

B. Burning: Do not burn waste materials.

C. Disposal: Transport waste materials off Governments property and legally dispose of them.

END OF SECTION 01 74 19

SECTION 01 77 00 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:

1. Project Record Drawings
2. Closeout Submittals
3. Substantial Completion and Final Inspection
4. Permit Closure and Transfer
5. Final Acceptance of the Work
6. Warranties

1.2 PROJECT RECORD DRAWINGS

A. Maintain one complete full-size set of contract drawings and one full-size set of vendor-supplied drawings. Clearly mark changes, deletions, and additions using National Park Service drafting standards to show actual construction conditions. Show additions in red, deletions in green and special instructions in blue.

B. Keep record drawings current. Make record drawings available to the Contracting Officer for inspection at the time of monthly progress payment requests. If project record drawings are not current, the Contracting Officer may retain an appropriate amount of the progress payment.

C. On completion of the total project, submit complete record drawings. Include shop drawings, sketches, and additional drawings that are to be included in the final set, with clear instructions showing the location of these drawings.

1.3 CLOSEOUT SUBMITTALS

A. A list of closeout requirements has been attached at the end of the Division 1 specifications for your convenience. The intent is to provide an overall summary of requirements and not a comprehensive list. The terms and conditions of the contract still require you to satisfy the requirements of the individual specification sections regardless of what is shown on the list. Submit the following before requesting final inspection:

1. Specific warranties, guarantees, workmanship bonds, final certifications, and similar documents.
2. Deliver tools, spare parts, extra materials, and similar items to location designated by Contracting Officer. Label with manufacturer's name and model number where applicable.
3. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
4. Complete final cleaning requirements, including touchup painting.

5. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
6. Instruct NPS personnel in operation, adjustment, and maintenance of products, equipment, and systems.

1.4 FINAL INSPECTION, SUBSTANTIAL COMPLETION AND ACCEPTANCE PROCEDURES

A. Final inspection and substantial completion will be required.

B. Request a final inspection in writing when a project or designated portion of a project is substantially complete. The Contracting Officer will proceed with the inspection within 10 days of receipt of the written request or will advise the Contractor of items that prevent the project from being substantially complete.

C. If the work is determined to be substantially complete, following the final inspection. Contracting Officer will prepare a Punch List and issue a Letter of Substantial Completion.

D. If the work is not determined to be substantially complete following the final inspection, Contracting Officer will notify Contractor in writing. Contractor shall request a new final inspection after completing the work. Re-inspection costs may be charged against the Contractor in accordance with the Inspection of Construction contract clause.

E. Contractor shall complete the Punch List within 30 calendar days, documented weather permitting.

F. If Contractor completes all items of work on the Punch List and all contractually required items, Contracting Officer will issue Letter of final acceptance of work.

G. If the Contractor fails to complete the work within the time frame, the Contracting Officer may correct the work with an appropriate reduction in contract price or charge for re-inspection costs in accordance with the Inspection of Construction contract clause.

1.5 WARRANTIES-

A. Submittal Time: Submit written warranties on request of Contracting Officer for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.

B. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.

1. Bind warranties and bonds in heavy-duty, 3-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 the beginning of document.

C. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 - EXECUTION

2.1 FINAL CLEANING

A. General: Conduct final cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.

B. Cleaning:

1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a portion of Project:

a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
c. Remove tools, construction equipment, machinery, and surplus material from Project site.

d. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials.
e. Remove labels that are not permanent.

1) Do not paint over "UL" and similar labels, including mechanical and electrical nameplates.

END OF SECTION 01 77 00

CLOSEOUT AND OPERATION & MAINTENANCE REQUIREMENTS					
Topic	**Specification Section**	**Requirement**	**Submittal Date**	**Completed**	**Received by Park**
Project Record Drawings					
System Demonstration and Training					
Tools Spare Parts Equipment					
Extra Stock					
Reports					
Keys and keying schedule					
O&M Data Warranties Guarantees					

SECTION 01 78 23 - OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:

1. Manuals, General.
2. Emergency manuals.
3. Operation manuals for systems, subsystems, and equipment.

B. See Divisions 02 through 49 Sections for additional operation and maintenance manual requirements for the Work in those Sections.

1.2 SUBMITTALS

A. Manual: Submit 2 copies of each manual in draft form at least 15 days before final inspection. Contracting Officer will return copy with comments within 15 days of receipt.

B. Format: Submit operations and maintenance manuals in the following format:

1. PDF electronic file. Assemble each manual into a composite electronically indexed file. Submit on digital media acceptable to Contracting Officer.

a. Name each indexed document file in composite electronic index with applicable item name. Include a complete electronically linked operation and maintenance directory.
b. Enable inserted reviewer comments on draft submittals.

2. Correct or modify each manual to comply with Contracting Officers comments. Submit 4 copies of each corrected manual within 15days of receipt of Contracting Officers comments.

1.3 QUALITY ASSURANCE

A. Coordinate with division 01 section on Commissioning. The Commissioning Agent shall review the Operation and Maintenance Manuals for systems that were commissioned.

PART 2 - PRODUCTS

2.1 MANUALS, GENERAL

A. Organization: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain a title page, table of contents, and manual contents.

B. Title Page: Enclose title page in transparent plastic sleeve. Include the following information:

1. Project Title.
2. Location.
3. Park.
4. Contract Number.
5. Prime Contractors Name and Address.
6. Date of Substantial Completion.
7. Binder Volume number.

C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.

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 a single binder.

1. Binders: White, commercial quality, hard back, 3-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch (215-by-280-mm) paper; with clear plastic window sleeve on front and spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.

   a. Cover Sheet: Identify each binder on front and spine, with the project title, location, park, contract number, prime contractor's name and address, date of substantial completion, and binder volume number. Insert cover sheet into clear plastic view pocket on front of binder. Insert sheet into clear plastic view pocket on spine with title "OPERATION AND MAINTENANCE MANUAL," Project title or name, and subject matter of contents. Indicate volume number for multiple-volume sets.

2. Data: Fill binders to no more than 75 percent of capacity. Punch holes shall not obscure any data. When the contents of a single tabbed section covers more than one item, provide colored paper sheets to separate the data for each item.

   a. Manufacturers' Data: Provide originals for color or copyrighted data. Black and white data may be originals or clean, good quality reproductions. Copies produced by facsimile transmission and sheets with stamps, such as submittal approval stamps, will not be acceptable. Include only sheets that apply to items installed; cross out inapplicable data.
   b. Vendor Furnished As-Built Drawings: Maximum 24-inch by 36-inch sheets with minimum character or lettering size of 1/8 inch. Reduced-size reproductions may be provided instead of full-size drawings if the reproductions are clear and legible.

If reduced-size drawings are used, identify as "REDUCED SIZE" and provide graphic scales, if applicable.

c. Custom Data: Data supplemented by drawings and schematics necessary to describe systems adequately.
d. Equipment Data Sheet: Data, using form at the end of this section.
e. Schedules: Schedules reflecting final, as-installed conditions.
f. Data that is poorly reproduced or in any way illegible will be rejected.

3. Dividers: Divider sheets with Mylar reinforced edges and pre-printed numbered tabs aligned with numbers and title lines on index sheet. Include typed list of products and major components of equipment included in the section on each divider, cross-referenced to Specification Section number and title of Project Manual.
4. Protective Plastic Sleeves: Transparent plastic sleeves designed to enclose diagnostic software diskettes for computerized electronic equipment.
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.

2.2 PRODUCT MAINTENANCE MANUAL

A. Content: Organize manual into a 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 the 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 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. Environmental Requirements

1. Identify environmentally preferable products incorporated into the Project. Include: product model; manufacturer’s name, address, phone, and website; and local technical representative, if any

a. Verify that plastic products to be incorporated into the Project are labeled in accordance with ASTM D1972. Where products are not labeled, provide product data indicating polymeric information in Operation and Maintenance Manual.

1) Type 1: Polyethylene Terephthalate (PET, PETE)
2) Type 2: High Density Polyethylene (HDPE).
3) Type 3: Vinyl (Polyvinyl Chloride or PVC).
4) Type 4: Low Density Polyethylene (LDPE).
5) Type 5: Polypropylene (PP).
6) Type 6: Polystyrene (PS).
7) Type 7: Other. Use of this code indicates that the package in question is made with a resin other than the six listed above, or is made of more than one resin listed above, and used in a multi-layer combination.

b. Describe maintenance procedures associated with environmentally preferable materials and systems. Provide cleaning recommendations in accordance with ASTM E1971 and the approved Integrated Pest Management (IPM) plan.

1) Include potential environmental impacts of recommended maintenance procedures and materials.
2) Include potential indoor air quality impacts of the recommended maintenance procedures and materials.
3) Where the proposed maintenance procedures incorporate composting of plastics, assess the potential effect of each type of plastic to be included on the composting process in accordance with ASTM D5509 or ASTM D6002

c. Identify take-back programs and appropriate contact information for the following:

1) Carpet
2) Ceiling Tile
3) Office Equipment

d. Material Safety Data Sheets: Include MSDSs as specified.

2. Develop environmental management programs for the facility as follows:

a. Waste management program: Develop in accordance with ASTM E1609. Maximize use of source reduction and recycling procedures outlined in ASTM D5834.
b. IAQ management program: Provide for evaluation of indoor Carbon Dioxide concentrations in accordance with ASTM D6245. Provide for evaluation of VOCs (volatile organic compounds) in indoor air in accordance with ASTM D6345
c. Water management program: Develop a water monitoring program for surface and ground water on the project site in accordance with ASTM D5851 and consistent with the water management program utilized during construction operations.

E. Maintenance Procedures: Include manufacturer's written recommendations and inspection procedures, types of cleaning agents, methods of cleaning, schedule for cleaning and maintenance, and repair instructions.

F. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.

G. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

2.3 SYSTEMS AND EQUIPMENT MAINTENANCE MANUALS

A. Content: For each system, subsystem, and piece of equipment not part of a 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 and drawing or schedule designation or identifier where applicable.

C. Manufacturers' Maintenance Documentation: Manufacturers' maintenance documentation including the following information for each component part or piece of equipment:

1. Standard maintenance instructions and bulletins.
2. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.
3. Identification and nomenclature of parts and components.
4. List of items recommended to be stocked as spare parts.

D. Maintenance Procedures: Include the 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 video recording, if available.

E. 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.

F. 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.

G. Maintenance Service Contracts: Include copies of maintenance agreements with name and telephone number of service agent.

H. 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 GENERAL

A. At start of project, begin accumulating operation and maintenance data and initiate an index. Install and index all data in binders within 30 days after delivery of items. As custom written data and test results are produced, add them to the operation and maintenance data file.

B. A list of Operation and Maintenance requirements has been attached at the end of the division 01 specifications for your convenience. The intent is to provide an overall summary of requirements and not a comprehensive list. The terms and conditions of the contract still require you to satisfy the requirements of the individual specification sections regardless of what is shown on the list.

C. Keep operation and maintenance data current. Make operation and maintenance binders available to the Contracting Officer for inspection at the time of monthly progress payment requests. If operation and maintenance binders are not current the Contracting Officer may retain an appropriate amount of the progress payment.

3.2 MANUAL PREPARATION

A. Manual Types

1. Emergency Manual: Assemble a complete set of emergency information indicating procedures for use by emergency personnel and by NPS operating personnel for types of emergencies indicated.
2. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.
3. Operation and Maintenance Manuals: Assemble a complete set of operation and maintenance data indicating operation and maintenance of each system, subsystem, and piece of equipment not part of a system.

B. Manual Contents: Including but not limited to:

1. Manufacturers' Data: Where manuals contain manufacturers' standard printed data, include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.

2. Custom Written Data: For data not in manufacturer's standard literature, provide text, drawings, and schematics specifically applicable to installed systems. Include step-by-step descriptions of operating procedures; identification of individual components and their functions; descriptions of how system components relate to one another and operate together to accomplish a common process or function; and sequence of operation for system control circuits. For seasonally operated systems, provide start-up and shutdown instructions.
3. Equipment Data Sheets: For each item of equipment included in the operation and maintenance data, provide an Equipment Data Sheet using the form at the end of this section. For equipment consisting of a driven machine and a driver (for example, a pump and a motor), the equipment data shall cover both the driven machine and the driver. For similar type equipment (for example, multiple exhaust fans of the same model and type), provide a single equipment data sheet with an attached schedule listing the individual equipment items
4. Vendor Furnished As-Built Drawings: Provide for each electrical and each mechanical control system.

    a. For each control system, provide control circuit schematic drawings. Identify each wire and terminal block number. Show terminal numbers on all control devices. Show control wires and devices remote from the control panel.
    b. For each control panel, provide a general arrangement drawing showing location of each control component and terminal block on the panel front and interior. Include a materials list of all panel-mounted control components as well as field-installed control components remote from the panel, identifying components, manufacturer, model number, and initial set points or sensing ranges of devices where applicable.
    c. For packaged equipment systems, provide general arrangement drawings showing interrelationships of the various items of equipment and components.
    d. In addition to the control wiring schematic, provide a power wiring schematic drawing showing the power flow to each motor. Identify each power conductor. Show all over-current protection and motor starting devices.

C. Comply with Division 01 Section "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

END OF SECTION 01 78 23

EQUIPMENT DATA SHEET

Equipment Item: _____ Designation: _____

Function: _____

Location: _____

Project: _____

Model No.: _____ Serial No.: _____

Manufacturer Address and Phone:	Supplier Address and Phone:

Preventive Maintenance Tasks:

Nameplate Data:

Spare Parts Furnished and Other Information:

SECTION 01 81 13 - SUSTAINABLE DESIGN REQUIREMENTS FOR NON LEED™ PROJECTS

PART 1 - GENERAL

1.1 SUMMARY

A. This section includes general requirements and procedures for compliance with the Federal Sustainability requirements. This project is not seeking LEED™ certification but shall comply with the applicable Federal Sustainability requirements. These requirements include laws (Executive Orders and regulations), management policies, building codes and standards, Federal directives, and NPS guidelines.

B. Many of the Federal requirements can be achieved only through intelligent and integrated design of the project and are beyond the control of the Contractor. However, certain requirements relate to the products and procedures used for construction. Therefore, the full cooperation of the Contractor and subcontractors is essential to successful compliance with the Federal requirements.

C. Contractors shall familiarize themselves with the relevant requirements and provide the necessary information and instruction to all subcontractors and installers.

1. Some requirements involve quantifying percentages by weight; these require careful recordkeeping and reporting by the Contractor.
2. See http://www.nps.gov/dscw/ds-sustainability.htm for a list of Federal Sustainability requirements. The applicable Federal Sustainability requirements are also summarized on the project's NPS Project Sustainability Checklist. Contractor is responsible for providing the necessary information in the "Construction" column of the checklist.

D. Related Sections:

1. See Divisions 01 through 49 Sections for sustainability requirements specific to the work of each of these Sections.

1.2 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-accredited certification body.

B. LEED™: Leadership in Energy & Environmental Design. A sustainability rating system developed by the United States Green Building Council.

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. Recycled Content: The recycled content value of a material assembly shall be determined by weight.

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.

E. Biopreferred Products: Commercial or industrial products (other than food or feed) that are composed in whole, or in significant part, of biological products, renewable agricultural materials (including plant, animal, and marine materials), or forestry materials and includes biobased intermediate ingredients or feedstocks.

1.3 FEDERAL SUSTAINABILITY DOCUMENTATION SUBMITTALS

A. Most of the Federal sustainability documentation submittals are aggregations of submittals already required in relevant technical specifications. They are mentioned here to insure that they are collected and organized together to efficiently document compliance with sustainability requirements.

B. Provide preliminary submittals to NPS indicating how the following Federal requirements will be met:

1. Recycled Content: List of specified/proposed materials with recycled content. Indicate cost, post-consumer recycled content, and pre-consumer recycled content for each product having recycled content.

2. Certified Wood: Product data and/or chain-of-custody certificates for products containing certified wood. Include statement indicating cost for each certified wood product.

3. Construction IAQ Management Plan – During Construction:

a. Construction indoor-air-quality management plan.
b. Product data for temporary filtration media.
c. Product data for filtration media used during occupancy.
d. Construction Documentation: Six photographs at three different times during the construction period, along with a brief description of the SMACNA approach employed, documenting implementation of the indoor-air-quality management measures, such as protection of ducts and on-site stored or installed absorptive materials.

4. Construction IAQ Management Plan – Before Occupancy:

a. Signed statement describing the building air flush-out procedures including the dates when flush-out was begun and completed and statement that filtration media was replaced after flush-out.
b. Product data for filtration media used during flush-out and during occupancy.

5. Low Emitting Materials – Adhesives and Sealants: 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. Low Emitting Materials – Paints and Coatings: 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. Low Emitting Materials - Flooring: Product data for products containing composite wood or agrifiber products or wood glues indicating that they do not contain urea-formaldehyde resin.
8. Biopreferred Products: Provide a list of all bio-based products used on this project.

PART 2 - PRODUCTS

2.1 RECYCLED CONTENT OF MATERIALS

A. Recycled Content: Provide building materials with recycled content such that post-consumer recycled content plus one-half of pre-consumer recycled content constitutes a minimum of 10 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, mechanical and electrical components, and specialty items such as elevators and equipment in the calculation.

2.2 BIOPREFERRED PRODUCTS

A. Bio-based products found the USDA Biopreferred Products list (http://www.biopreferred.gov/) shall be used where applicable on this project.

2.3 LOW-EMITTING MATERIALS

A. For applications that are inside the weatherproofing system, use adhesives and sealants that comply with the VOC content limits in specification divisions 2-49

B. For field applications that are inside the weatherproofing system, use paints and coatings that comply with the VOC content limits in specification divisions 2-49

C. Do not use composite wood or agrifiber products or adhesives that contain urea-formaldehyde resin.

PART 3 - EXECUTION

3.1 MEASUREMENT AND VERIFICATION

A. Coordinate with Divisions 2-49 for project requirements regarding the installation of building level metering equipment to measure energy, water, and electric usage.

3.2 INDOOR-AIR-QUALITY MANAGEMENT

A. Coordinate with Section 015719.11 – Indoor Air Quality Management for managing indoor air quality during construction and prior to occupancy.

END OF SECTION 01 81 13