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SECTION 01 11 00 - SUMMARY OF WORK

PART 1 – GENERAL

This project will replace the asphalt paving between the park Visitor Center and the Main park drive at the Vanderbilt Mansion NHS. The existing paving is pitched towards the building, failing to move water away from the building. This serves as the principal walkway between the Vanderbilt Visitor Center and the Main parking lot.

1.1 SUMMARY

A. This Section includes the following:

1. Work covered by the Contract Documents.

2. Contractor use of premises.
3. Public use of site.
4. Work Restrictions.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

A. Project Location: Vanderbilt Mansion National Historic Site, Dutchess County, Hyde Park NY. The area that needs repaving includes the entire walkway between the main entrance road and the Visitor Center. Total area is approximately 3,400 sq, ft.

B. The work includes, but is not limited to, removal and disposal of all asphalt paving from the work zone, Removal of gravel and soil to a suitable subgrade, application of asphalt reinforcing fabric, furnishing and compaction of aggregate base to meet DOT standard, asphalt surface replacement finished flush with the adjacent pavement, establishing grade away from building, and surrounding site restoration including topsoil, backfill and seeding.

C. Work area involves approximately 3,400 square feet of asphalt paving. *Offeror is responsible for field verifying all conditions prior to bid. No price adjustment will be made for failure to conduct site visit to confirm quantities and conditions.*

D. Project will be constructed under a single prime contract.

1.3 CONTRACTOR USE OF SITE

A. General: Contractor shall have access to and use of the project site for construction operations, only during the performance period and solely for the purpose of performing the work in this contract. Contractor's use of the site is limited by the Government's right to perform work or to retain other contractors on portions of Project.

1. The work zone will be closed to pedestrian and vehicle traffic and will remain so until the conclusion of the project. The Park Service will re-route traffic through the park along an alternate route. This is not optimal and NPS requests that the contractor exercises all available measures to minimize the amount of time that this route must remain closed.

B. Storage of Materials: Confine storage of materials to staging area locations mutually acceptable to the Contractor and the Contracting Officer. Stage fill and borrow material as directed by the COR.

C. Preservation of Natural Features:

1. Prevent damage to natural surroundings. Restore damaged areas, repair or replace any damaged trees and plants as directed by the Contract Officer and at no additional expense to the Government.
2. Provide temporary barriers to protect existing trees and plants and root zones.
3. Do not remove, injure, or destroy trees or other plants without prior approval. Consult with Contracting Officer and remove agreed-on roots and branches that interfere with construction.
4. Do not fasten ropes, cables, or guys to existing trees.

5. Carefully supervise excavating, grading, filling, and other construction operations near trees to prevent damage.

D. Driveways and Entrances: COR will identify areas near the jobsite where the contractor can store materials and equipment.

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. Construction Camp: Establishment of a camp within the park will not be permitted.

F. Hauling Restrictions: Comply with all legal load restrictions in the hauling of materials. Load restrictions on park roads outside of the area marked “Authorized Vehicles Only” are identical to the state load restrictions with such additional regulations as may be imposed by the Park Superintendent. A special permit will not relieve Contractor of liability for damage which may result from moving of equipment.

1.4 PUBLIC USE OF SITE

A. The Vanderbilt Mansion and grounds will remain open during the project and visitors must be allowed to enjoy the unencumbered areas of the park. Contractor shall conduct operations to ensure the least inconvenience to the public. Road closures will be permitted when required, upon specific approval of Contracting Officer.

1.5 WORK RESTRICTIONS

A. On-Site Work Hours: Work must be performed between the hours of 7 a.m. and 5 p.m., Monday through Friday.

1. Weekend and NPS Holiday Hours: No work shall be performed on the weekends and NPS holidays without prior approval from the Contract Officer.
2. Early Morning Hours: No work shall be performed before 7 a.m. unless approved by the Contract Officer.

B. Existing Utilities

1. Existing Utilities: Notify Contracting Officer and utility companies of proposed locations and times for excavation.
2. Contractor shall be responsible for locating and preventing damage to known utilities. If damage occurs, the contractor must immediately report the damage to the Contract Officer and must provide for the repair of the utility by competent, qualified and certified utility repairmen at no additional expense to the Government.

3. If damage occurs to an unknown utility, cease work in that area and notify the Contract Officer immediately.

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

1. Notify Contracting Officer not less than 48 hours in advance of proposed utility interruptions.
2. Do not proceed with utility interruptions without Contracting Officer's written permission.
3. Disruptions to facilities outside the project limits shall be prevented by investigation of existing utilities and protection during construction. Contactor shall be responsible for all cost associated with remedy of accidental disruptions to facilities outside the project limits.

END OF SECTION 01 11 00

SECTION 01 32 16 – CONSTRUCTION SCHEDULE

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.

SUBMITTALS

C. Electronic Copies: All schedules and reports submitted shall be emailed to the Contract Officer with a CC to the COR. 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.

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

E. 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.

F. 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.

QUALITY ASSURANCE

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

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

COORDINATION

H. Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate Contractors.

I. 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.

END OF SECTION 01 32 16

SECTION 01 33 23 - SUBMITTAL PROCEDURES

GENERAL

SUMMARY

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

DEFINITIONS

B. Action Submittals: Written, graphic information, and physical samples that require Government's responsive action.

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

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

GENERAL SUBMITTAL PROCEDURES

F. General: Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual specific sections.

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

G. 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.

H. Submittal List: A submittal list has been attached to the end of this Specification Section. The intent is to provide an overall summary of submittal requirements and not a comprehensive list. The requirements of the individual Specification Sections, terms and conditions of the Contract still apply regardless of what is shown on the submittal list.

I. Processing Time: Allow enough time for submittal review, including time for re-submittals. 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 14 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required.
   b. Re-submittal Review: Allow 7 days for review of each re-submittal.
2. Informational submittals
   a. Review: Allow 10 days for review of each submittal.

J. 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.
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.

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

3. 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).

L. 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-16E and clearly indicate the extent of revision.
3. Re-submit submittals until they are marked "Approved" or "Approved with notations".

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

N. 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.

PRODUCTS

ACTION SUBMITTALS

P. 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 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. Printed performance curves.
    e. Operational range diagrams.
    f. Compliance with specified referenced standards.
    g. Testing by recognized testing agency.
4. Submit product data in PDF file format before or concurrent with samples.

R. 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.

S. 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.

INFORMATIONAL SUBMITTALS

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

1. Send informational submittals as PDF electronic files by email to the Contract Officer and the COR. Include other parties by cc as directed by the COR.
2. 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. Mail originals to the Contract Officer.
3. Informational submittals that do not comply with the requirements specified in the Contract Documents will be rejected and one copy will be returned.

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

V. Contractors Construction Schedule: Comply with the requirements specified.

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

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

Z. Storm Water Pollution Prevention Plan: Comply with the requirements specified in Section 01 57 23 "Temporary Storm Water Pollution Prevention."

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

BB. 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.

END SECTION 01 33 23

SECTION 01 35 13.22 – ARCHEOLOGICAL PROTECTION

GENERAL

SUMMARY

A. The work of this section consists of protecting archeological resources contained in soil deposits. The site surrounding the Vanderbilt Mansion is known to be of archaeological interest and this contract requires that all reasonable measures be taken to protect and preserve the concealed resources that may be impacted by this project.

DEFINITIONS

B. Archeological Resources: Archeological resources are the physical evidences of past human activity, including evidences of the effects of that activity on the environment. Archeological resources represent both prehistoric and historic time periods. They are found above and below ground and under water.

C. Archeologically Sensitive Areas: Areas that have the potential to contain significant (National Register eligible) archeological resources. If National Register eligible or listed archeological resources could not be avoided, an appropriate mitigation strategy would be developed in consultation with the state historic preservation officer and, if necessary, associated American Indian tribes.

D. Non-sensitive Areas: Areas with little, if any, potential of containing significant (National Register eligible) archeological resources.

E. Archeological Monitor: Representative of the Government designated to oversee construction activities that could disturb archeological resources.

F. Archeological Resources Protection Act (ARPA) of 1979 (P.L. 96-95; 93 Stat. 712): defines archeological resources as any material remains of past human life or activities that are of archeological interest and at least 100 years old; Section 4 of the statute describes the requirements that must be met before Federal authorities can issue a permit to excavate or remove any archeological resource on Federal or Indian lands; the curatorial requirements of artifacts, and other materials excavated or removed.

SUBMITTALS

G. Daily Work Schedule; Submit a Daily work Schedule detailing construction work in archeologically sensitive areas. Submit to Contracting Officer 30 days before start of ground disturbing site work.

QUALITY ASSURANCE

H. At least one week before on-site work begins, Contractor shall meet with Contracting Officer and Archeological Monitor to discuss Daily Work Schedule and equipment and special methods to be used in archeologically sensitive areas. Contractor shall ensure that approved Daily Work Schedule is followed throughout construction

PRODUCTS

DAILY WORK SCHEDULE

I. A Daily Work Schedule is required for all work occurring within archeologically sensitive areas. Include all work that is to occur within the area and key the schedule to the drawings to include the following:

1. Starting and ending dates of ground-disturbing construction.
2. Locations of temporary facilities, such as barriers, field offices, staging areas, sanitary facilities, borrow pits, and haul and access roads.

3. Types of construction, such as clearing, topsoil stripping, structure or trench excavation, landscaping, and post construction clean-up.
4. Methods and equipment used for each type of construction.
5. Plan for relocating work in the event of temporary work stoppages at each archeologically sensitive area

EXECUTION

OBSERVATION

J. Archeological Monitor will observe all ground-disturbing site work, including construction of temporary facilities, at all archeologically sensitive areas, from a safe location mutually agreed on by Contractor and Monitor. As new ground is broken, Monitor will examine excavated materials, using construction layout centerline and perimeter staking as a reference point to record locations of findings.

DISCOVERY OF RESOURCES

K. If Archeological Monitor discovers resources, immediate halt and relocation of the work to a non-sensitive area, if possible, may be required to allow Monitor to identify and document resources and if necessary, develop an appropriate mitigation plan. While Archeological Monitor is documenting resources in sensitive areas, Contractor shall relocate work to non-sensitive areas where monitoring is not normally required.

L. If resources are discovered while Archeological Monitor is absent, stop work immediately and report the discovery to the Contracting Officer.

WORK STOPPAGE

M. The Contractor shall plan, schedule, and execute the work to prevent stoppages at one area from stopping all work at the construction site

END OF SECTION 01 35 13.22

SECTION 01 35 23 - SAFETY REQUIREMENTS

GENERAL

SUMMARY

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

SUBMITTALS

B. Accident Prevention Plan: 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.

QUALITY ASSURANCE

C. 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.

D. Qualifications of Employees:

1. All employees must be physically qualified 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.

ACCIDENT REPORTING

E. Reportable Accidents: 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.

ACCIDENT PREVENTION PLAN

F. 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 of responsible supervisor to carry out the program.
2. Weekly and monthly safety meetings.
3. First aid 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.
5. Training, both initial and continuing.

6. Planning for possible emergency situations, such as floods, fires, cave-ins, slides, explosions, power outages, and wind storms. Such planning shall take into consideration the nature of construction, site conditions, and degree of exposure of persons and property.

FIRST AID FACILITIES

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

PERSONNEL PROTECTIVE EQUIPMENT

H. Meet requirements of applicable ANSI standards.

EXECUTION

EMERGENCY INSTRUCTIONS

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

FIRE AND LIFE SAFETY

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

K. Store hazardous materials in accordance with manufacturer’s and OSHA recommendations. Maintain readily available, on site, MSDS for each chemical.

1. Immediately report all spills of hazardous materials to the park.
2. Maintain a spill emergency response kit.

PROTECTIVE EQUIPMENT

L. 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.

M. Inspect and maintain other protective equipment and devices before use and on a periodic basis to ensure safe operation.

SAFETY MEETINGS

N. As a minimum, conduct 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.

O. 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 Officer will attend the meeting and enter the results of the meetings into the daily log.

HARD HATS AND PROTECTIVE EQUIPMENT AREAS

P. A hard hat 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.

Q. 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 at all times. As a minimum, provide two hard hats for use by visitors.

TRAINING

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

S. 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 42 00 - REFERENCES

GENERAL

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 http://www.epa.gov/epp/guidance/finalguidancetoc.htm.

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.

QUALITY ASSURANCE

K. 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.

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

M. 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.

INDUSTRY STANDARDS

N. 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.

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

P. 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.

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

END OF SECTION 01 42 00

SECTION 01 67 00 - PRODUCT REQUIREMENTS

GENERAL

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.

DEFINITIONS

B. 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.

C. Basis-of-Design Product Specification: Where a specific manufacturer's product is named and accompanied by the words "basis of design," including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of additional manufacturers named in the specification.

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

E. 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.

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

H. 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/epp/guidance/finalguidancetoc.htm.

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

J. 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.

SUBMITTALS

K. Record Submittals as specified in – Sustainable Design Close-Out Documentation, submit the following:

1. Affirmative Procurement Reporting Form. Submit on form in Appendix A of this Section, or similar form as approved by Contracting Officer.
2. Safety Data Sheets (SDS): For each product required by OSHA to have a SDS, submit an SDS. SDS shall be prepared within the previous five years. Include information for SDS Sections 1 – 16 in accordance with ANSI Z400.1 and as follows:
    a. Section 1: Chemical Product and Company Identification.
    b. Section 2: Composition/Information on Ingredients.
    c. Section 3: Hazards Identification.
    d. Section 4: First Aid Measures.
    e. Section 5: Fire Fighting Measures.
    f. Section 6: Accidental Release Measures.
    g. Section 7: Handling and Storage.
    h. Section 8: Exposure Controls/Person Protection.
    i. Section 9: Physical and Chemical Properties.
    j. Section 10: Stability and Reactivity Data.
    k. Section 11: Toxicological Information. Include data used to determine the hazards cited in Section 3. Identify acute data, carcinogenicity, reproductive effects, and target organ effects. Provide written description of the process used in evaluating chemical hazards relative to preparation of the SDS.
    l. Section 12: Ecological Information. Include data regarding environmental impacts during raw materials acquisition, manufacture, and use. Include data regarding environmental impacts in the event of an accidental release.
    m. Section 13: Disposal Considerations. Include data regarding the proper disposal of the chemical. Include information regarding recycling and reuse. Indicate whether or not the product is considered to be "hazardous waste" according the US EPA Hazardous Waste Regulations 40 CFR 261.
    n. Section 14: Transportation Information. Identify hazard class for shipping.
    o. Section 15: Regulatory Information. Identify federal, state, and local regulations applicable to the material.
    p. Section 16: Other Information. Include additional information relative to recycled content, biobased content, and other information regarding environmental and health impacts. Identify the date SDS was prepared.

QUALITY ASSURANCE

L. 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.

PRODUCT DELIVERY, STORAGE, AND HANDLING

M. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft. Comply with manufacturer's written instructions.

N. 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.

O. 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 or surrounding garden environment.
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.

PACKAGING

P. Where Contractor has the option to provide one of the listed products or equal, preference shall be given to products with minimal packaging and easily recyclable packaging as defined in ASTM D5834.

Q. Maximize use of source reduction and recycling procedures outlined in ASTM D5834.

R. Provide minimum 45 percent post-consumer recycled content and minimum 100 percent recovered fiber content of industrial paperboard in accordance with EPA's Comprehensive Procurement Guidelines and ASTM D5663.

S. Provide minimum 10 percent post-consumer recycled content and minimum 10 percent recovered fiber content of carrier board in accordance with EPA's Comprehensive Procurement Guidelines and ASTM D5663.

T. Provide minimum 5 percent post-consumer recycled content and minimum 5 percent recovered fiber content of brown papers (e.g., wrapping papers and bags) in accordance with EPA's Comprehensive Procurement Guidelines and ASTM D5663.

ENVIRONMENTALLY PREFERABLE PRODUCTS

U. 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 on-half of the pre-consumer content constitutes at least 10% (based on cost) of the total value of the materials in the project.

PRODUCT WARRANTIES

V. 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 Owner.
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 Owner.

W. 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.
3. Refer to Divisions 02 through 49 Sections for specific content requirements and particular requirements for submitting special warranties.

X. Submittal Time: Comply with requirements in Division 01 Section "Closeout Procedures."

PRODUCTS

PRODUCT SELECTION PROCEDURES

Y. 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.

Z. 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.

COMPARABLE PRODUCTS

AA. 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 owners, if requested.
5. Samples, if requested.

EXECUTION

PROTECTION AFTER INSTALLATION

BB. 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

GENERAL

SUMMARY

A. This Section includes general procedural requirements governing execution of the Work including, but not limited to, the following:

1. Coordination with utility service providers.
2. Construction layout.
3. Field engineering and surveying.
4. General installation of products.
5. Quantity Surveys.
6. Progress cleaning.
7. Starting and adjusting.
8. Protection of installed construction.
9. Correction of the Work.

SUBMITTALS (Not Used)

PRODUCTS (Not Used)

EXECUTION

EXAMINATION

B. Existing Utilities: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities and other construction affecting the Work.

1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; and underground electrical services.
2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.

C. Acceptance of Conditions: Examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.

PREPARATION

D. 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.

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

F. 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”.

CONSTRUCTION LAYOUT

G. 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.

H. Establish grade elevation and coordinate finished surface with surrounding features like paving, drain bodies, gates and stone pillars.

I. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and invert elevations.

INSTALLATION

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

1. Make vertical work plumb and make horizontal work level. Pitch water shedding surfaces gradually to drain.
2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
3. Conceal pipes, ducts, and wiring in finished areas, unless otherwise indicated.

K. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.

L. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.

M. 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.

N. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.

O. 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.

Q. Joints: Match existing jointing. 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.

R. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

PROGRESS CLEANING

S. 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 (27 deg C).
3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.

T. 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.

U. 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.

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

W. 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.

X. 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.

Y. 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.

Z. 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.

AA. 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.

PROTECTION OF INSTALLED CONSTRUCTION

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

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

CORRECTION OF THE WORK

DD. Repair or remove and replace defective construction. Restore damaged substrates and finishes.

1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.

EE. Restore permanent facilities used during construction to their specified condition.

FF. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.

GG. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.

END OF SECTION 01 73 40

SECTION 01 74 19 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

GENERAL

SUMMARY

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

1. Salvaging nonhazardous demolition and construction waste.
2. Recycling nonhazardous demolition and construction waste.
3. Disposing of nonhazardous demolition and construction waste.

DEFINITIONS

B. Construction Waste: Site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.

C. Demolition Waste: Site improvement materials resulting from demolition or selective demolition operations.

D. 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.

E. 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.

F. 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

G. 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.

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

I. 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.

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

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

PERFORMANCE REQUIREMENTS

L. General: This project shall minimize the 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.

M. Salvage /Recycle Requirements: 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:

1. Land clearing debris (chipped debris can be used on site for mulch or erosion control)
2. Clean dimensional wood, palettes
3. Plywood, OSB, and particle board
4. Concrete (can be ground and used for fill on site)
5. Asphaltic concrete (can be ground and used for fill on site)
6. Cardboard, paper, packaging, newsprint
7. Metals (from banding, stud trim, piping, rebar, roofing, other trim, steel, iron, galvanized sheet steel, stainless steel, aluminum, copper, zinc, lead, brass, and bronze)
8. Other mixed construction and demolition waste as appropriate

N. 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.

O. Existing items and material to be removed during the deconstruction/demolition phase shall be reused in the construction phase of the Project if possible. Items that cannot be reused and are able to be recycled must be recycled. Items considered for reuse must be in salvageable condition and must meet the quality standards set forth in these specifications. The Contractor shall ensure that the quality of the item(s) in question will meet or exceed accepted industry or trade standards for first quality commercial grade application. During construction, deconstruction, or demolition the Contracting Officer may designate other objects or materials for reuse.

P. Salvage/Recycle Requirements: Government goal is to salvage and recycle as much nonhazardous demolition and construction waste as possible.

SUBMITTALS

Q. Waste Management Plan: After award of the contract and prior to the scheduled Pre-Construction Conference, the Contractor shall submit a draft Waste Management Plan to the Contracting Officer for approval. Submit three copies of plan. Revise and resubmit Plan as required by the Contracting Officer. Approval of the Contractor's Plan will not relieve the Contractor of responsibility for compliance with applicable environmental regulations.

R. Progress Documentation: Supplemental to the Waste Management Plan, document solid waste disposal, diversion, and cost/revenue analysis and submit a completed worksheet on a monthly basis. Use Appendix A - Project Waste Management Plan Worksheet, and report totals to date for all column headings. Use Appendix B for solid waste volume to weight conversions.

S. Recycling and Processing Facility Records: Indicate receipt and acceptance of recyclable waste by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.

T. 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.

U. Qualification Data: For Waste Management Coordinator.

V. Progress payment requirements:

1. With each Application for payment, submit updated Project Waste Management Plan worksheet for solid waste disposal and diversion.
2. With each Application for Payment, submit manifests, weight tickets, receipts, and invoices specifically identifying the Project and waste material.

W. Closeout Submittals

1. With Closeout Submittals, submit a summary of the Project Waste Management Plan worksheet for solid waste disposal and diversion. Submit on form in Appendix A of this Section.

QUALITY ASSURANCE

X. Waste Management Coordinator Qualifications: Experienced firm, with a record of successful waste management coordination of projects with similar requirements, that employs a LEED™-Accredited Professional, certified by the USGBC, as waste management coordinator. Waste management coordinator may also serve as LEED™ coordinator.

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

Z. Waste Management Meeting: Conduct separate meeting or cover in the Pre-Construction Conference and comply with requirements in Division 01 Section "Project Management and Coordination." Review methods and procedures related to waste management including, but not limited to, the following:

1. Review and discuss waste management plan including responsibilities of Waste Management Coordinator.
2. Review requirements for documenting quantities of each type of waste and its disposition.
3. Review and finalize procedures for materials separation and verify availability of containers and bins needed to avoid delays.
4. Review procedures for periodic waste collection and transportation to recycling and disposal facilities.
5. Review waste management requirements for each trade.

PRODUCTS

WASTE MANAGEMENT PLAN

AA. General: Develop plan consisting of waste identification and waste reduction work plan. Include separate sections in plan for demolition and construction waste. Indicate quantities by weight or volume but use same units of measure throughout waste management plan.

BB. Waste Identification: Indicate anticipated types and quantities of demolition, site-clearing and construction waste generated by the Work. Include estimated quantities and assumptions for estimates.

CC. Waste Reduction Work Plan: List each type of waste and whether it will be salvaged, recycled, or disposed of in landfill or incinerator. Include points of waste generation, total quantity of each type of waste, quantity for each means of recovery, and handling and transportation procedures.

1. Salvaged Materials for Reuse: For materials that will be salvaged and reused in this Project, describe methods for preparing salvaged materials before incorporation into the Work.
2. Recycled Materials: Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers.
3. Disposed Materials: Indicate how and where materials will be disposed of. Include name, address, and telephone number of each landfill and incinerator facility.
4. Handling and Transportation Procedures: Include method that will be used for separating recyclable waste including sizes of containers, container labeling, and designated location on Project site where materials separation will be located.

EXECUTION

PLAN IMPLEMENTATION

DD. 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.

EE. Waste Management Coordinator: Engage a waste management coordinator to be responsible for implementing, monitoring, and reporting status of waste management work plan.

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

GG. 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.

HH. Separation facilities:

1. The Contractor shall designate and the Contracting Officer shall approve a specific area or areas to facilitate separation of materials for potential reuse, salvage, recycling, and return.
2. 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.
3. Recycling and waste bin areas are to be kept neat and clean and clearly marked in order to avoid co-mingling of materials.
4. Bins shall be protected during non-working hours from off-site contamination.
5. The garbage dumpsters should be checked periodically to monitor recyclables being thrown away or if there are undocumented materials that could be recycled.

II. 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.

SALVAGING DEMOLITION WASTE

JJ. Salvaged Items for Reuse in the Work:

1. Clean salvaged items.
2. 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.

KK. Salvaged Items for Sale: Not permitted on Project site.

RECYCLING DEMOLITION AND CONSTRUCTION WASTE, GENERAL

LL. General: Recycle paper and beverage containers used by on-site workers.

MM. Recycling Incentives: Revenues, savings, rebates, tax credits, and other incentives received for recycling waste materials shall accrue to Contractor.

NN. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to the maximum extent practical.

1. Provide appropriately marked containers or bins for controlling recyclable waste until they are removed from Project site. Include list of acceptable and unacceptable materials at each container and bin.
    a. Inspect containers and bins for contamination and remove contaminated materials if found.
2. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
3. Stockpile materials away from construction area. Do not store within drip line of remaining trees.
4. Store components off the ground and protect from the weather.
5. Remove recyclable waste off Governments property and transport to recycling receiver or processor.

RECYCLING CONSTRUCTION WASTE

OO. Packaging:

1. Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.
2. Polystyrene Packaging: Separate and bag materials.

3. Pallets: As much as possible, require deliveries using pallets to remove pallets from Project site. For pallets that remain on-site, break down pallets into component wood pieces and comply with requirements for recycling wood.
4. Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.

PP. Site-Clearing Wastes: Chip brush, branches, and trees at landfill facility.

QQ. Wood Materials:

1. Clean Cut-Offs of Lumber: Grind or chip into small pieces.
2. Clean Sawdust: Bag sawdust that does not contain painted or treated wood.

DISPOSAL OF WASTE

RR. General: Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.

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

SS. Burning: Do not burn waste materials.

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

END OF SECTION 01 74 19

SECTION 01 77 00 - CLOSEOUT PROCEDURES

GENERAL

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. Final Acceptance of the Work.
5. Warranties.
6. Final Cleaning

PROJECT RECORD DRAWINGS

B. 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.

C. 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.

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

CLOSEOUT SUBMITTALS

E. 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:

1. Submit specific warranties, guarantees, workmanship bonds, final certifications, and similar documents.
2. Submit Project Record Documents, operation and maintenance manuals, final completion construction digital images recorded on CD-R or DVD-R with index and descriptions, and similar final record information.
3. Complete final cleaning requirements.

SUBSTANTIAL COMPLETION AND FINAL INSPECTION

F. When project, or designated portion of project, is substantially complete, request in writing a final inspection. Upon receipt of written request that project is substantially complete, the Contracting Officer will proceed with inspection within 10 days of receipt of request or will advise the Contractor of items that prevent the project from being designated as substantially complete.

G. If, following final inspection, the work is determined to be substantially complete, Contracting Officer will prepare a Punch List to be corrected before final acceptance and issue a Letter of Substantial Completion. Contractor shall complete the work described on the Punch List within 30 calendar days, as weather permits. If the Contractor fails to complete the work within this time frame, the Contracting Officer may either replace or correct the work with an appropriate reduction in the contract price or charge for re-inspection costs in accordance with the Inspection of Construction clause of the contract.

H. If, following final inspection, the work is not determined to be substantially complete; Contracting Officer will notify Contractor in writing. After completing work, Contractor shall request a new final

inspection. All re-inspection costs may be charged against the Contractor in accordance with the Inspection of Construction clause of the contract.

FINAL ACCEPTANCE OF THE WORK

I. After all deficiencies have been corrected, a Letter of Final Acceptance will be issued.

WARRANTIES

J. 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.

K. 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.

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

PRODUCTS

MATERIALS

M. See Division 01 Specification Section “Execution” for information on cleaning agents.

EXECUTION

FINAL CLEANING

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

END OF SECTION 01 77 00

SECTION 01 90 00 – ACCEPTANCE OF WORK

PART 1 - GENERAL

1.1 CONFORMITY WITH CONTRACT

A. Follow the requirements of FAR Clause 52.246-12 Inspection of Construction.

References to standard test methods of AASHTO, ASTM, GSA, and other recognized standard authorities refer to the methods in effect on the date of solicitation for bids.

Perform work according to the contract requirements. Perform all work to the lines, grades, cross-sections, dimensions, and processes or material requirements shown on the plans or specified in the contract.

Incorporate manufactured materials into the work according to the manufacturer's recommendations or to these specifications, whichever is stricter.

Plan dimensions and contract specification values are the values to be strived for and complied with as the design values. Perform work and provide material that is uniform in character and reasonably close to the prescribed value or within the specified tolerance range. The purpose of a tolerance range is to accommodate occasional minor variations from the median zone that are unavoidable for practical reasons.

The Government may inspect, sample, or test all work at any time before final acceptance of the project. When the Government tests work, copies of test reports are furnished to the Contractor upon request. Government tests may or may not be performed at the work site. If Contractor testing and inspection is verified by the Government, the Contractor's results may be used by the Government to evaluate work for acceptance. Do not rely on the availability of Government test results for process control.

Acceptable work conforming to the contract will be paid for at the contract unit bid price. Four methods of determining conformity and accepting work are described in Subsections 1.2 to 1.4 inclusive. The primary method of acceptance is specified in each Section of work. However, work may be rejected at any time it is found by any of the methods not to comply with the contract.

Remove and replace work that does not conform to the contract, or to prevailing industry standards where no specific contract requirements are noted, at no cost to the Government.

As an alternative to removal and replacement, the Contractor may submit a written request to be given permission to perform corrective measures to bring the work into conformity.

The request must contain supporting rationale and documentation. Include references or data justifying the proposal based on an evaluation of test results, effect on service life, value of material or work, quality, aesthetics, and other tangible engineering basis. The COR will determine disposition of the nonconforming work.

When standard manufactured items are specified (such as fence, wire, plates, rolled shapes, pipe conduits, etc., that are identified by gauge, unit mass, section dimensions, etc.), the identification will

be considered to be nominal masses or dimensions. Unless specific contract tolerances are noted, established manufacturing tolerances will be accepted.

1.2 VISUAL INSPECTION

A. Acceptance is based on visual inspection of the work for compliance with the contract and prevailing industry standards.

1.3 CERTIFICATION

A. For material manufactured off-site, use a manufacturer with an ISO 9000 certification or an effective testing and inspection system. Require the manufacturer to clearly mark the material or packaging with a unique product identification or specification standard to which it is produced.

Other than references in or to the FAR or Federal Law, when these Standard Specifications reference certifications; certificates; or certified documents, equipment, or individuals, these references are not certifications under Section 4301 of Public Law 104 106, National Defense Authorization Act for Fiscal Year 1996. These references refer to documentation of non-regulatory, peripheral contract requirements that are required to be validated by an individual or organization having unique knowledge or qualifications to perform such validation.

Material accepted by certification may be sampled and tested at any time. If found not in conformance with the contract, the material will be rejected whether in place or not.

One of the following certifications may be required:

1. Production certification. Material requiring a production certification is identified in the Acceptance Subsection of each Section. Require the manufacturer to furnish a production certification for each shipment of material. Include the following with each production certification:

   a) Date and place of manufacture;

   b) Lot number or other means of cross-referencing to the manufacturer's inspection and testing system; and

   c) Substantiating evidence that the material conforms to the contract quality requirements as required by FAR 46.105(a)(4), including all of the following:
      i. Test results on material from the same lot and documentation of the inspection and testing system;
      ii. A statement from the manufacturer that the material complies with all contract requirements; and
      iii. Manufacturer's signature or other means of demonstrating accountability for the certification.

2. Commercial certification. When a certification is required, but not a production certification, furnish one commercial certification for all similar material from the same manufacturer.

   A commercial certification is a manufacturer's or Contractor's representation that the material complies with all contract requirements. The representation may be labels, catalog data, stamped specification standards, or supplier's certifications indicating the material is produced to a commercial standard or specification.

1.4 MEASURED OR TESTED CONFORMANCE

A. Provide all necessary production and processing of the work and control performance of the work so that all of the work complies with the contract requirements.

   Results from inspection or testing shall have values within the specified tolerances or specification limits. When no tolerance values are identified in the contract, the work will be accepted based on customary manufacturing and construction tolerances.

1.5 PARTIAL AND FINAL ACCEPTANCE

A. Maintain the work during construction and until the complete project is accepted. Damage caused by the Contractor prior to final acceptance of the entire project will be repaired at the Contractor’s expense. See FAR Clause 52.236-11 Use and Possession Prior to Completion.

1. Partial acceptance. When a separate portion of the project is completed, a final inspection of that portion may be requested. If the portion is complete and in compliance with the contract, it may be accepted. If accepted, the CO will relieve the Contractor of further responsibility for maintenance of the completed portion. Partial acceptance does not void or alter any of the terms of the contract.

   When public traffic is accommodated through construction and begins using sections of roadway as they are completed, continue maintenance of such sections until final acceptance.

2. Final acceptance. When notified that the entire project is complete, an inspection will be scheduled. If all work is determined to be complete, the inspection will constitute the final inspection and the Contractor will be notified in writing of final acceptance as of the date of the final inspection. Final acceptance relieves the Contractor of further responsibility for the maintenance of the project.

   If the inspection discloses any unsatisfactory work, the CO will provide to the Contractor a list of the work that is incomplete or requires correction. Immediately complete or correct the work. Furnish notification when the work has been completed as provided above.

END OF SECTION 01 90 00

SECTION 02 14 19 – REMOVAL OF STRUCTURES AND OBSTRUCTIONS

PART 1 - GENERAL

1.1 DESCRIPTION

A. This work consists of the following:

The removal and disposal of existing sidewalk which consists of four (4”) inch concrete slab approximately 96 linear feet by 4 feet wide with joints every four feet and a 7’ x 7’ adjoining concrete entrance area in the middle flanked by bluestone curbing that is to remain in place.

Saw-cutting existing pavement where sidewalk adjoins building structures to the East and West.

The removal and resetting of one 2’ x 4’ bluestone paver in its same location.

The removal of topsoil adjacent to the sidewalk to only the extent necessary for setting and levelling forms or screeds.

PART 2 – MATERIALS

2.1 MATERIALS

A. Backfill Material. Furnish a well-graded, compactable material free of excess moisture, muck, frozen lumps, roots, sod, or other deleterious material conforming to the following:

1. For all structures and pipes other than plastic pipe:
   a. Maximum particle size 3 inches
   b. Soil classification, AASHTO M 145 A-1, A-2, or A-3

PART 3 – EXECUTION

3.1 CONSTRUCTION REQUIREMENTS

A. Removing Material

1. Saw cut sidewalks, curbs, pavements, and structures when partial removal is required.

2. Remove only the minimum amount of material needed for flush installation following adequate compaction. Do not over-dig or excavate beyond limits for the sake of ease or convenience.

3. Do not permit debris to enter waterways, travel lanes open to public traffic, or areas designated not to be disturbed.

4. Compacting. Determine optimum moisture content and maximum density according to AASHTO T 99, method C. Adjust the moisture content of the backfill material to a moisture content suitable for compaction. Compact material placed in all layers to at least 95 percent of the maximum density. Determine the in-place density and moisture content according to AASHTO T 310 or other approved

test procedures. Do not apply density requirements as measured by AASHTO T 310 to material that is incapable of being tested or compacted to maximum values determined by AASHTO T 99. For these materials, fill the voids around the rock in each layer with earth or other fine material. Compact each layer, full width, until there is no visible evidence of further consolidation.

B. Disposing of Material

1. Dispose of debris and unsuitable and excess material as follows:

a. Remove from project. Recycle or dispose of material legally off the project. Furnish a statement documenting the nature and quantity of material processed or sold for recycling. Otherwise, furnish a signed copy of the disposal agreement before disposal begins.

b. Coordinate with the COR for placement of dumpster, dump truck or trailer in proximity to the site to minimize traffic for disposal.

C. Acceptance: See Section 01 90 00

END OF SECTION 02 14 19

SECTION 02 14 20 – STRUCTURE EXCAVATION AND BACKFILL

PART 1 - GENERAL

1.1 DESCRIPTION

A. This work consists of excavating material for the construction of structures. The work includes preparing foundations, bedding, and backfilling.

PART 2 - MATERIALS

2.1 MATERIALS

A. Backfill Material. Furnish a well-graded, compactable material free of excess moisture, muck, frozen lumps, roots, sod, or other deleterious material conforming to the following:
1. For all structures and pipes other than plastic pipe:
a. Maximum particle size 3 inches
b. Soil classification, AASHTO M 145 A-1, A-2, or A-3

B. Bedding Material. Furnish material free of excess moisture, muck, frozen lumps, roots, sod, or other deleterious material conforming to the following:
1. Maximum particle size 1/2 inch or half the corrugation depth, whichever is smaller
2. Soil classification, AASHTO M 145 A-1, A-2-4, A-2-5, or A-3

PART 3 - EXECUTION

3.1 CONSTRUCTION REQUIREMENTS

A. Preparation for Excavation

1. Clear the area of vegetation and obstructions according to Specification 31 11 00.

B. General

1. Excavate trenches or foundation pits to a width and length that allows room for work. When excavation is complete, request approval as to the character and suitability of the foundation material. The foundation shall provide a firm foundation of uniform density throughout its length and width.

2. Conserve suitable material for structural backfill from excavated material. Do not deposit excavated material in or near a waterway. Do not stockpile excavated material or allow equipment closer than 2 feet from the edge of the excavation.

3. Dispose of unsuitable or excess material legally off the project. Shape and compact the waste material in its final location.

4. Remove all water necessary to perform work

C. Compacting: Determine optimum moisture content and maximum density according to AASHTO T 99, method C. Adjust the moisture content of the backfill material to a moisture content suitable for compaction. Compact material placed in all layers to at least 95 percent of the maximum density. Determine the in-place density and moisture content according to AASHTO T 310 or other approved test procedures.

D. Acceptance

1. Material for backfill, bedding, and foundation fill will be evaluated under Subsections 01 90 00 1.2 and 01 90 00 1.4.

END OF SECTION 02 14 20

SECTION 31 00 00 – EARTHWORK

PART 1 - GENERAL

1.1 DESCRIPTION

A. This work consists of excavating material and constructing embankments. This includes stockpiling, placing, sloping, shaping, compacting, and finishing earthen material.

1.2 DEFINITION

A. General excavation consists of all material excavated from the areas as shown on the plans

B. Embankment construction consists of placing and compacting excavated material. This work includes preparing foundation for embankment

C. Conserved topsoil

1. Excavated material conserved from the general excavation that is suitable for growth of grass, cover crops, or native vegetation.

D. Waste

1. Excess and unsuitable roadway excavation and sub-excavation that cannot be used.

PART 2 – MATERIALS

2.1 MATERIALS

A. Conform to the following section and subsections:

1. Select borrow – Furnish granular material free of excess moisture, muck, frozen lumps, roots, sod, or other deleterious material conforming to the following:

(a) Gradation Table 31 00 00-1

(b) Liquid limit, AASHTO T 89 30 max.

2. Water – Conform to the following:

(a) Water for mixing or curing cement concrete, mortar, or grout. Conform to AASHTO M 157. Potable water of known quality may be used without testing according to AASHTO T 26. Potable water is safe for human consumption as defined by the public health authority having jurisdiction.

(b) Water for planting or care of vegetation. Furnish water that is free of substances injurious to plant life such as oils, acids, alkalis, or salts.

(c) Water for earthwork, pavement courses, dust control, and incidental construction. Furnish water free of substances detrimental to the work.

PART 3 – EXECUTION

3.1 CONSTRUCTION REQUIREMENTS

A. Preparation for General Excavation:

Know the location of all utilities in the general area.

B. Conserved Topsoil

1. Conserve topsoil from excavated areas. Stockpile conserved topsoil at an approved location.

C. Compaction. Lightly compact the excavated area. Do not compact to an extent that would prohibit the growth of vegetation.

E. Disposal of Unsuitable or Excess Material

1. Dispose of unsuitable or excess material legally off the project.

F. Acceptance

1. Material for conserved topsoil will be evaluated under Subsections 01 90 00 1.2 and 01 90 00 1.4.

2. Excavation and construction will be evaluated under Subsections 01 90 00 1.2 and 01 90 00 1.4.

3. Clearing and removal of obstructions will be evaluated under Section 31 11 00.

4. Placing of conserved topsoil will be evaluated under Section 32 91 19.13.

END OF SECTION 31 00 00

SECTION 31 11 00 – CLEARING AND GRUBBING

PART 1 - GENERAL

1.1 DESCRIPTION

B. All This work consists of clearing and grubbing within the clearing limits designated on the plans.

PART 2 – PRODUCTS

2.1 MATERIALS

A. Backfill Material – Furnish excavated material free of excess moisture, muck, frozen lumps, roots, sod, or other deleterious material conforming to the following:

PART 3 – EXECUTION

3.1 CONSTRUCTION REQUIREMENTS

A. General

1. Construct erosion control measures according to Section 31 25 00. This is a refined garden environment and the vegetation at the site is of cultural importance. Do not clear, cut, trim, prune or otherwise damage trees, bushes, shrubs of other plants without the written consent of the COR. Perform work within designated limits. Do not damage vegetation designated to remain. If vegetation designated to remain is damaged or destroyed, repair or replace the vegetation in an acceptable manner at the direction of the COR. Treat cuts or scarred surfaces of trees and shrubs with tree wound dressing.

B. Clearing

1. Within the clearing limits, clear trees, brush, downed timber, and other vegetation as follows:

a. Cut all trees, shrubs, and branches so they fall within the clearing limits.

C. Grubbing

a. Grub deep enough to remove stumps, roots, buried logs, moss, turf, or other vegetative debris.

b. Backfill grubbing holes with excavated material to the level of the surrounding ground. Compact backfill.

i. Backfill – Place backfill in horizontal layers that, when compacted, do not exceed 6 inches in depth. Compact each layer according to Section 02 14 20.

Bring backfill up evenly on all sides of the structure, and extend each layer to the limits of the excavation or to natural ground.

ii. Compaction – Compact material placed in all layers to at least 95 percent of the maximum density. Determine the inplace density and moisture content according to AASHTO T 310 or other approved test procedures.

Do not apply density requirements as measured by AASHTO T 310 to material that is incapable of being tested or compacted to maximum values determined by AASHTO T 99. For these materials, fill the voids around the rock in each layer with earth or other fine material. Compact each layer, full width, until there is no visible evidence of further consolidation.

D. Disposal: Remove from premises. Recycle or dispose of material legally off the premises. Furnish a statement documenting the nature and quantity of material processed or sold for recycling. Otherwise, furnish a signed copy of the disposal agreement before disposal begins.

E. Acceptance

1. Clearing and grubbing will be evaluated under Subsection 01 90 00 1.2

END OF SECTION 31 11 00

SECTION 32 11 23 - AGGREGATE BASE COURSE

PART 1 - GENERAL

1.1 DESCRIPTION

A. This work consists of constructing one or more courses of aggregate on a prepared surface.

1.2 SUBMITTALS

A. National Park Service (NPS) approval is required for submittals listed below before placement and installation of any base material.

1. Submit certified test reports to the CO for approval not less than 30 days before material is required for the work. Test reports shall be provided for base material and shall include gradation and liquid limit at a minimum.

2. Submit a representative 100-pound sample of aggregate proposed for use if requested by the COR.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Water for earthwork, pavement courses, dust control, and incidental construction. Furnish water free of substances detrimental to the work.

B. Base Course Aggregate: Furnish hard, durable particles or fragments of crushed stone or crushed gravel conforming to NH DOT Item Number 304.2, with 50% minimum fractured faces, and which meets the following gradation:

NYSDOT Base Course Materials, Item 304.2

Sieve Size	Percent Passing by Weight	
6 inch:	100%	
3/4 inch:	--	
No. 4:	25%-70%	
No. 200:	0-12%	(Sand—Fraction passing #4)

Fractured faces, ASTM D 5821 50% min.

Free from organic matter and lumps or balls of clay

Do not use material that breaks up when alternately frozen and thawed or wetted and dried.

Obtain the aggregate gradation by crushing, screening, and blending processes as necessary. Fine aggregate, material passing the No. 4 sieve, shall consist of natural or crushed sand and fine mineral particles.

PART 3 - EXECUTION

3.1 AGGREGATE BASE

A. Mixing and Spreading – Determine the optimum moisture content according to AASHTO T 180, method D. Mix the aggregate and adjust the moisture content to obtain a uniform mixture with a moisture content within 2 percent of the optimum moisture content. Spread and shape the mixture on the prepared surface in a uniform layer.

B. Surface Tolerance – If grade finishing stakes are required, finish the surface to within ±0.05 feet from staked line and grade elevation.

If grade finishing stakes are not required, shape the surface to the required template and check the surface with a 10-foot straightedge. Defective areas are surface deviations in excess of 1/2 inch in 10 feet between any two contacts of the straightedge with the surface.

Correct all defective areas by loosening the material, adding or removing material, reshaping, and compacting.

C. Maintenance – Maintain the aggregate course to the correct line, grade, and cross section by blading, watering, rolling, or any combination thereof until placement of the next course.

Remove all organic, deleterious, or oversize material larger than 6 inches from the top 6 inches of subgrade. Scarify to a 6-inch depth, remove surface irregularities, and shape to provide a uniform surface. Finish earth surfaces to within 0.05 feet and rock surfaces to within 0.10 feet of the required line, cross-section, and grade.

Dispose of unsuitable or excess material legally off the project.

When there is a pay item for waste, shape and compact the waste material in its final location. Do not mix clearing or other material not subject to payment with the waste material.

Compact according to Subsection 3.1.F.

E. Aggregate Surface Reconditioning – Excavate soft and unusable areas to the limits designated by the CO. Scarify to the depth of the aggregate surface or to a depth of 8 inches, whichever is less, and remove surface irregularities.

Dispose of unsuitable or excess material legally off the project.

When there is a pay item for waste, shape and compact the waste material in its final location. Do not mix clearing or other material not subject to payment with the waste material.

Compact according to Subsection 3.1.F.

F. Compacting – Determine the maximum density of the mixture according to AASHTO T 180, method D. Compact each layer full width. Roll from the sides to the center, parallel to the centerline of the path. Along curbs, headers, walls, and all places not accessible to the roller, compact the material with approved tampers or compactors.

Compact each layer to at least 95 percent of maximum density. Determine the in-place density and moisture content according to AASHTO T 310 or other approved test procedures.

G. Aggregate must be delivered as uniform mixtures of fine and coarse aggregate and shall be spread in layers or windrows without segregation. Segregated materials shall be remixed until uniform.

H. The Contractor shall request an inspection by the COR and obtain acceptance of the prepared subgrade before proceeding with placement of the aggregate base.

I. Dust Control – If in the opinion of the COR there is excessive dust being generated by the aggregate course, the COR may require the Contractor to apply a dust palliative in accordance with Section 306.

J. Acceptance – Acceptance will be based on aggregate quality characteristics for gradation, Los Angeles abrasion, fractured faces, organic matter, clay and percent compaction.

END OF SECTION 32 11 23

SECTION 32 91 19.13 – TOPSOIL PLACEMENT AND GRADING

PART 1 - GENERAL

1.1 DESCRIPTION

A. This work consists of furnishing and placing topsoil and placing conserved topsoil

PART 2 – PRODUCTS

2.1 MATERIALS

A. Furnished Topsoil – Furnish fertile, friable, free draining, sandy loam soil that is free of subsoil, refuse, stumps, roots, brush, weeds, rocks larger than 1 inch, or other substances detrimental to the development of vegetative growth. Demonstrate that the soil can sustain healthy crops of grass, shrubs, or other plant growth. Conform to the following:

1. Texture

   (a) Organic matter, AASHTO T 267 3 to 10%

   (b) Sand, AASHTO T 88 20 to 70%

   (c) Silt, AASHTO T 88 10 to 60%

   (d) Clay, AASHTO T 88 5 to 30%

2. pH, AASHTO T 289: 6 to 8

B. Conserved Topsoil – Excavated material conserved from the roadway excavation and embankment foundation areas that is suitable for growth of grass, cover crops, or native vegetation.

PART 3 – EXECUTION

3.2 TOPSOIL PLACEMENT AND GRADING

A. Preparing Areas. Shape all slopes and disturbed areas to be covered with topsoil. Disk or scarify slopes 1V:3H or flatter to a depth of 4 inches.

B. Placing Topsoil. Provide at least 2 days notice before the start of topsoil placement. Do not place topsoil when the ground or topsoil is frozen, excessively wet, or otherwise in a condition detrimental to the work. Use all conserved topsoil before furnishing topsoil. Keep the roadway surfaces clean during hauling and spreading operations.

Spread topsoil to a depth that, after settlement, provides the required depth. Break clods and lumps with harrows, disks, or other appropriate equipment to provide a uniform textured soil. Remove and dispose of clods and stones larger than 1 inch, stumps, roots, and other litter as described below.

C. Acceptance

Material for furnished topsoil will be evaluated under Subsections 01 90 00 1.2 and 01 90 00 1.3.

Material for conserved topsoil will be evaluated under Subsection 01 90 00 1.2.

Placing furnished and conserved topsoil material will be evaluated under Subsections 01 90 00 1.2 and 01 90 00 1.4.

END OF SECTION 32 91 19.13

SECTION 32 92 20 – SEEDING AND PLANTING

PART 1 - GENERAL

1.1 DESCRIPTION

All This work consists of soil preparation, watering, fertilizing, seeding, and mulching. Seeding and mulching methods can be performed by hand.

PART 2 – PRODUCTS

2.1 MATERIALS

A. Topsoil disturbed during construction may be repurposed for grading to new sidewalk. If additional topsoil is necessary it will be provided by the park.

B. Fertilizer. Furnish standard commercial grade dry formulated fertilizer conforming to the standards of the Association of Official Analytical Chemists International, applicable State and Federal regulations, and required minimum percentages of available nutrients.

Supply the fertilizer in new, clean, sealed, and properly labeled containers with name, mass, and guaranteed analysis of contents clearly marked.

Liquid fertilizer containing the minimum percentage of available nutrients may be used.

C. Seed. Conform to the Federal Seed Act, the Federal Noxious Weed Act, and applicable State and local seed and noxious weed laws. Do not use wet, moldy, or otherwise contaminated or damaged seed. Furnish each seed type in separate sealed container. Clearly label each container with the following:

1. Name and type of seed;
2. Lot number;
3. Net mass;
4. Percent of purity, germination, and hard seed;
5. Percent of maximum weed seed content;
6. Seed Origin;
7. Noxious weeds present;
8. Other crop seed;
9. Inert matter;
10. Name and address of seed distributor; and
11. Mixture percent of each component.

Inoculate legume seed with approved cultures according to the manufacturer's instructions.

D. Mulch.

1. Grass straw cellulose fiber. Furnish processed grass straw fiber conforming to the following:

a) Nontoxic to seed or other plant material;
b) Free of growth or germination inhibiting substances;
c) Free of weed seed;
d) Air dried to a moisture content of 10±0.2 percent;
e) Air dried to a uniform mass of ±5 percent;
f) Packaged in new containers

PART 3 – EXECUTION

3.3 SEEDING AND SODDING

A. General. Apply turf establishment to finished slopes and ditches within 7 days after completion of construction on a portion of the site. Do not seed during windy weather or when the ground is excessively wet, frozen, snow covered, extremely dry, cloddy, hard pan, or not friable.

B. Preparing Seedbed. Grade the seeding area to line and grade. Remove all weeds, sticks, stones 2 inches in diameter and larger, and other debris detrimental to application, growth, or maintenance of the turf.

Cultivate the seeding area to a minimum depth of 4 inches and prepare a firm but friable seedbed before seeding. Do not cultivate aggregate-topsoil courses that were previously dry seeded under Section 32 91 19.14.

C. Watering. Moisten seeding areas before seeding and maintain the moisture until 10 days after germination.

D. Fertilizing. Apply fertilizer by the following methods:

1. Dry method. Incorporate the fertilizer into the upper portion of the seedbed before seeding.

E. Seeding. Apply seed by the following methods:

1. Dry method. Apply the seed with approved power driven seeders, drills, or other mechanical equipment. Hand-operated seeding methods are also satisfactory. Lightly compact the seedbed within 24 hours after seeding.

Apply seed at the following rates:

Name of Seed	Percentage of mix
Kentucky Bluegrass	60
Creeping Red Fescue	20
Perennial Ryegrass	20
Total	100

The seed mix shall be submitted to the Contracting Officer prior to placing for approval. The blend shall include 2 to 3 varieties of each seed type.

F. Mulching. Apply mulch within 48 hours after seeding by the following methods:

Apply wood fiber or grass straw cellulose fiber mulch at a rate of 1500 pounds per acre.

Apply so that no gaps exist between the matrix and the soil.

Mulch by hand areas inaccessible to mulching equipment.

G. Protecting and Caring for Seeded Areas. Protect and care for seeded areas including watering when needed until final acceptance. Repair all damage to seeded areas by reseeding, refertilizing, and remulching. Apply supplemental applications of seed, mulch, fertilizer, lime, or ammonium nitrate.

END OF SECTION 32 92 20

REFERENCE PHOTOS

Included seperately