

GOVERNMENT OF THE DISTRICT OF COLUMBIA  
DEPARTMENT OF GENERAL SERVICES



**Addendum No. 3**  
**To**  
**Invitation for Bids (“IFB”) No. DCAM-20-CS-IFB-0002**

**Construction of the Office of State Superintendent of Education Division of Student Transportation (OSSE DOT)**

**Issued: January 27, 2020**

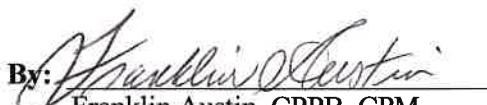
This Addendum No. 3 is issued on January 27, 2020. Except as modified hereby, the IFB remains unmodified.

**Item # 1:** The bids opening time and location is hereby changed as follows:

**January 31, 2020 at 2:30 p.m.**  
Oxon Run Conference Room  
2000 14th Street, NW, 4th Floor | Washington, DC 20009

**Item # 2:** The Living Wage Notice and Living Wage Fact Sheet 2020, are hereby incorporated to this IFB and attached as **Exhibit 1**.

**Item # 3:** The questions and answers spreadsheet is hereby attached as **Exhibit 2**.

**By:**   
Franklin Austin, CPPB, CPM  
Contracting Officer

**Date:** 1/27/2020

- End of Addendum No. 3

**Exhibit 1**

**Living Wage Notice and Living Wage Fact Sheet 2020  
(EXHIBIT WILL APPEAR ON THE FOLLOWING PAGE**

# GOVERNMENT OF THE DISTRICT OF COLUMBIA

## Department of Employment Services

MURIEL BOWSER  
MAYOR



DR. UNIQUE MORRIS-HUGHES  
DIRECTOR

### LIVING WAGE ACT FACT SHEET

The Living Wage Act of 2006, D.C. Official Code §§ 2-220.01 – 2-220.11, provides that District of Columbia government contractors and recipients of government assistance (grants, loans, tax increment financing) in the amount of \$100,000 or more shall pay affiliated employee wages at no less than the current living wage rate.

**Effective January 1, 2020 until June 30, 2020, the living wage rate is \$14.65 per hour.**

**Effective July 1, 2020, the living wage rate and the minimum wage rate are \$15.00 per hour.**

Subcontractors of D.C. government contractors who receive \$15,000 or more from the contract and subcontractors of the recipients of government assistance who receive \$50,000 or more from the assistance are also required to pay their affiliated employees no less than the current living wage rate.

“Affiliated employee” means any individual employed by a recipient who receives compensation directly from government assistance or a contract with the District of Columbia government, including any employee of a contractor or subcontractor of a recipient who performs services pursuant to government assistance or a contract. The term “affiliated employee” does not include those individuals who perform only intermittent or incidental services with respect to the government assistance or contract, or who are otherwise employed by the contractor, recipient or subcontractor.

**Exemptions** – The following contracts and agreements are exempt from the Living Wage Act:

1. Contracts or other agreements that are subject to higher wage level determinations required by federal law (i.e., if a contract is subject to the Service Contract Act and certain wage rates are lower than the District’s current living wage, the contractor must pay the higher of the two rates);
2. Existing and future collective bargaining agreements, provided that the future collective bargaining agreement results in the employee being paid no less than the current living wage;
3. Contracts for electricity, telephone, water, sewer or other services provided by a regulated utility;
4. Contracts for services needed immediately to prevent or respond to a disaster or imminent threat to public health or safety declared by the Mayor;
5. Contracts or other agreements that provide trainees with additional services including, but not limited to, case management and job readiness services, provided that the trainees do not replace employees subject to the Living Wage Act;

6. An employee, under 22 years of age, employed during a school vacation period, or enrolled as full-time student, as defined by the respective institution, who is in high school or at an accredited institution of higher education and who works less than 25 hours per week; provided that he or she does not replace employees subject to the Living Wage Act;
7. Tenants or retail establishments that occupy property constructed or improved by receipt of government assistance from the District of Columbia; provided, that the tenant or retail establishment did not receive direct government assistance from the District of Columbia;
8. Employees of nonprofit organizations that employ not more than 50 individuals and qualify for taxation exemption pursuant to Section 501 (c) (3) of the Internal Revenue Code of 1954, approved August 16, 1954 (68 A Stat. 163; 26. U.S.C. §501(c)(3));
9. Medicaid provider agreements for direct care services to Medicaid recipients, **provided, that** the direct care service is not provided through a home care agency, a community residence facility, or a group home for persons with intellectual disabilities as those terms are defined in section 2 of the Health-Care and Community Residence Facility, Hospice, and Home Care Licensure Act of 1983; D.C. Official Code § 44-501; and
10. Contracts or other agreements between managed care organizations and the Health Care Safety Net Administration or the Medicaid Assistance Administration to provide health services.

## **Enforcement**

The Department of Employment Services (DOES) Office of Wage-Hour and the D.C. Office of Contracting and Procurement share monitoring responsibilities.

**Home Care Final Rule:** The Department of Labor extended overtime protections to home care workers and workers who provide companionship services. Employers within this industry are now subject to recordkeeping provisions.

If you learn that a contractor subject to this law is not paying at least the current living wage, you should report it to the contracting officer. If you believe that your employer is subject to this law and is not paying at least the current living wage, you may file a complaint with the DOES Office of Wage - Hour, located at 4058 Minnesota Avenue, N.E. Suite 3600, Washington, D.C. 20019, call (202) 671-1880, or file your claim on-line: [www.does.dc.gov](http://www.does.dc.gov). Go to "File a Claim" tab.

For questions and additional information, contact the Office of Contracting and Procurement at (202) 727-0252 or the Department of Employment Services on (202) 671-1880.

**Please note:** *This fact sheet is for informational purposes only as required by Section 106 of the Living Wage Act. It should not be relied on as a definitive statement of the Living Wage Act or any regulations adopted pursuant to the law.*

# THE LIVING WAGE ACT OF 2006

D.C. Official Code §§ 2-220.01 – 2-220.11

Recipients of new contracts or government assistance shall pay affiliated employees and subcontractors who perform services under the contracts no less than the current living wage.

**Effective January 1, 2020 until June 30, 2020, the living wage rate is \$14.65 per hour.**

**Effective July 1, 2020, the living wage rate and the minimum wage rate are \$15.00 per hour.**

The requirement to pay a living wage applies to:

- All recipients of contracts in the amount of \$100,000 or more, and all subcontractors that receive \$15,000 or more from the funds received by the recipient from the District of Columbia, and
- All recipients of government assistance in the amount of \$100,000 or more, and all subcontractors of these recipients that receive \$50,000 or more from the government assistance received by the recipient from the District of Columbia.

**“Contract”** means a written agreement between a recipient and the District government.

**“Government assistance”** means a grant, loan, or tax increment financing that result in a financial benefit from an agency, commission, instrumentality, or other entity of the District government.

**“Affiliated employee”** means any individual employed by a recipient who received compensation directly from government assistance or a contract with the District of Columbia government, including employees of the District of Columbia, any employee of a contractor or subcontractor of a recipient who performs services pursuant to government assistance or contract. The term “affiliated employee” does not include those individuals who perform only intermittent or incidental services with respect to the contract or government assistance or who are otherwise employed by the contractor, recipient, or subcontractor.

**Certain exemptions apply:** 1) contracts or agreements subject to wage determinations required by federal law which are higher than the wage required by this Act; 2) Existing and future collective bargaining agreements, provided that the future agreements results in employees being paid no less than the current living wage; 3) contracts for electricity, telephone, water, sewer performed by regulated utilities; 4) contracts for services needed immediately to prevent or respond to a disaster or imminent threat declared by the Mayor; 5) contracts awarded to recipients that provide trainees with services, including but not limited to case management and job readiness services, provided the trainee does not replace employees; 6) employees under 22 years of age employed during a school vacation period, or enrolled as a full-time student who works less than 25 hours per week; 7) tenants or retail establishments that occupy property constructed or improved by government assistance, provided there is no receipt of direct District government assistance; 8) employees of nonprofit organizations that employ not more than 50 individuals and qualify for 501(c)(3) status; 9) Medicaid provider agreements for direct care services to Medicaid recipients, provided, that the direct care service is not provided through a home care agency, a community residence facility, or a group home for persons with intellectual disabilities as those terms are defined in section 2 of the Health-Care and Community Residence Facility, Hospice, and Home Care Licensure Act of 1983; D.C. Official Code § 44-501; and 10) contracts or agreements between managed care organizations and the Health Care Safety Net Administration or the Medicaid Assistance Administration to provide health services.

**Home Care Final Rule:** The Department of Labor extended overtime protections to home care workers and workers who provide companionship services. Employers within this industry are now subject to recordkeeping provisions.

Each recipient and subcontractor of a recipient shall provide this notice to each affiliated employee covered by this notice, and shall also post this notice in a conspicuous site in its place of business. All recipients and subcontractors shall retain payroll records created and maintained in the regular course of business under District of Columbia law for a period of at least 3 years.

To file a claim, visit: Department of Employment Services, Office of Wage-Hour, 4058 Minnesota Avenue, NE, Suite 3600, Washington, D.C. 20019; call: (202) 671-1880; or file your claim on-line: [does.dc.gov](https://does.dc.gov). Go to “File a Claim” tab.

**Exhibit 2**  
**Questions & Answers Spreadsheet**  
**[EXHIBIT WILL APPEAR ON THE FOLLOWING PAGE]**

## INVITATION FOR BIDS (“IFB”)

### Questions & Answers Spreadsheet

#### Construction of the Office of State Superintendent of Education Division of Student Transportation (OSSE DOT) Solicitation Number: DCAM-20-CS-IFB-0002

No.	Questions	Department Responses
1	Section C. The IFB states that there are phasing drawings for the 5 <sup>th</sup> Street NE Terminal. They are not included in the bid documents. Please provide.	Work on the 5 <sup>th</sup> Street Terminal is not part of this procurement.
2	Is there any work at the 5 <sup>th</sup> Street NE Terminal?	See above.
3	Is the contractor responsible for the purchase of the new Temporary Mobile Site Office? Or is the Mobile Office being furnished and installed by DC Government? Or is this the allowance listed under CLIN 003.3 “Site Office” of \$1,100,000?	Yes, the contractor is responsible for the purchase and installation of the new mobile site office and the costs associated with the purchase are listed under CLIN003.3 As part of this scope of work the selected vendor will be required to coordinate all the document preparation, permits, utilities and installation with the manufacturer.
4	The Offer Letter has a CLIN 003 “Phase 1 Allowance” and CLIN 004 “Phase II Allowance”. What price goes into these line items?	These line items are associated with the furniture. Phase 1 is \$250,000 and phase 2 is \$750,000
5	Does the access control and camera system need to integrate with any existing system of software platform or is a standalone system OK.	The access control system is a stand alone system.
6	How many badging stations are requested?	Refer to drawings.
7	Do the plans show device locations?	Device locations shall be provided per infrastructure provided. Plans indicate card reader device locations. Contractor shall coordinate with the agency’s access control vendor.
8	Specification is outdated, confirm that new technology can be estimated meeting criteria of security project.	All bidders must meet the requirements of the design.
9	The Elevator specification 142123.16-4 lists only Thyssenkrupp as an acceptable manufacturer. Are other elevator manufacturers acceptable, provided they meet the specifications?	Yes. Substitutions shall be Equal or better and must meet the space constraints as shown on the plans.

10	The finish schedule shows an 18" x 36" wall tile. However A-404 shows what appears to be a 4" x 4" or 6" x 6", which actually would be more in line with this type job. Please advise as to what we are to use.	6" x 36" standard porcelain tile is acceptable.
11	All overhead doors (002A, 002B, 002C, 002D) are shown in the same room, however, only door 002C is called out to be fire rated on the door schedule. Specification section 083323 calls for both insulated doors (Item 2.3) and fire-rated doors (Item 2.4). <b>Is this correct? Please confirm which doors are to be fire rated and which doors are to be insulated.</b>	002A, 002B, and 002D are insulated not fire rated. 002C is insulated and fire rated.
12	The existing doors at this location are sectional type doors, however, the plans and specifications call for coiling doors at the new building. <b>Please confirm that the existing sectional doors are to be replaced with coiling doors.</b>	Provide new doors replacing existing.
13	Where is the FF&E Specs located for the above project?	The basis of design is provided on the FF&E schedule.
14	There seems to be some confusion on plant material numbers and sizes. On L100_P2_Landscape plan it shows 129 trees in total. And for the Perennials and Grasses it shows 2,061 of the Nasella tenuissima 2 Gal. 4,468 Rhus aromatica 2 Gal. But for the Bio-retention mix I can't tell if it's 3,517 total and then the percentages for each type of plant or what? It also states the Bio-retention plants are to be 2 Gal but then where it lists the plant material it says 1 gal. 2 Gal are typically a lot harder to find for most Perennials. Please clarify plant and tree count.	<p>The number of trees is governed by the plan representation, which is as noted under the Landscape Legend.</p> <p>For the bioretention areas, the number of plants is as shown under the Landscape Legend (governed again by the areas shown on the plan), listed as "See Bioretention Mix Plant Schedule, This Sheet".</p> <p>The percentage of each type of plant within the bioretention areas is as shown under the Bioretention Mix Plant Schedule. For instance, for Echinacea, 10% of 3,517 plants would be 352 plants, and so forth, for all plants listed under the Bioretention Mix Plant Schedule (for a total of 3,517 bioretention plants or as shown).</p> <p>The other perennials and grasses listed under the Landscape Legend are in addition to the bioretention plants.</p> <p>The perennials and grasses should be 2 gallons. 3 gallons would also be accepted.</p>



15	Where are the Division 01 GENERAL REQUIREMENTS spec sections that are usually listed before Section 017823 Oper & Maint Data? Typically, there are 10 to 15 more sections in Division 01, starting at 011000 Summary and continuing thru 017700 Closeout Procedures.	See Attached Division 1 Specification Sections.
16	Cable Trays for Electrical Systems. Within the Electrical Specs Page 9 of section 260943 mentions Section “260536” for these cable trays. However, they were not included in the electrical specs. Nor were they listed in the Table of Content. Would you be able to provide this specs?	Cable trays will not be used for lighting controls, conduit will be used. Specification 260536 will not be used on this project.
17	Drawings A-901 & A-902 (Phase 2) show Fuel Station & Wash Station Canopies with notes that say “to be delegated design”, but there are no specifications or design information for the foundations, steel framing or metal roofing. Please provide some construction details and specifications, so we can get pricing for this work.	The delegated contractor will be required to provide details specific for their delegated design selection.
18	Section 051200 STRUCT STEEL FRAMING, para 2.1 parts E thru H, contain questions to the architect and yellow highlighted text. Is all this information correct as-is, or is the architect supposed to edit this spec?	Section 051200 is valid and must meet the requirements of the contract documents, LEED Project Manual, and Green Building Act.
19	Section 051213 for Architecturally Exposed Structural Steel (AESS) calls for AISC Certifications in para 1.8 Quality Assurance, but the 051200 Struct Steel specs do not mention these requirements. Please clarify if AISC Certifications for Fabricators and Erectors are required for all the steel work on this project, or if this requirement can be waived?	Per the specification, AISC certification is required for the AESS, AISC certification is not required for other steel work.
20	Many of the Spec Sections appear to have multiple choices or selections to be made for various materials or finishes, all shown in [brackets] with bold text. An example of this is in Section 08113 Hollow Metal Doors & Frames, which both	Factory finish is required for all materials. The most stringent requirement shall apply without an approved substitution request.

	[Prime] and [Factory] are listed as the Exposed Finish in para 2.2 part B.3, and also list both choices under para 2.8. Are all these multiple-choice issues up to the contractor to select which one they want to provide, or will the architect make these selections prior to bid by addendum?	
21	There are two very different vegetated roof sections included in the specbook, Section 077100 and Section 329700. Section 077100 seems to have more details about the complete system. Which section are we to follow for this project?	Provide system per basis of design P2 – Sedum Herbs Perennials published in Conservation Technology, Green Roof Systems ( <a href="http://conservationtechnology.com/greenroof.html">http://conservationtechnology.com/greenroof.html</a> )
22	In the Division 7 specs, GreenGrid 4” ultra-extensive modules are being called out. The GreenGrid “ultra-extensive” modules are 2.5” high, not 4” in height and weigh approximately 14-17psf. If you are looking for the 4.25” depth “extensive” system, the weight is approximately 26-30psf. Module sizes for the extensive system come in 1’x2’ or 2’x2’ sizes. Module sizes in the 2.5” or 6” depth only come in 2’x2’ sizes. The 6” system weighs ~44-50psf. Which tray depth are we supposed to provide?	Provide system per basis of design P2 – Sedum Herbs Perennials published in Conservation Technology, Green Roof Systems ( <a href="http://conservationtechnology.com/greenroof.html">http://conservationtechnology.com/greenroof.html</a> )
23	Sheet CIV946 is calling out 6” of media in the calculations, not 4” as specified in division 7 specs. Is this a mistake?	5” of media shall be used.
24	Sheet A-306, detail 2 is showing a completely different type of green roof system that is Built-In-Place, not a modular tray system that is specified. Please clarify what type of system we are to provide?	Provide system per basis of design P2 – Sedum Herbs Perennials published in Conservation Technology, Green Roof Systems ( <a href="http://conservationtechnology.com/greenroof.html">http://conservationtechnology.com/greenroof.html</a> )
25	Where is the office furniture specifications located in the RFP?	The basis of design is provided on the FF&E schedule.
26	The Table of Contents, p. TOC-1, states under Division 1 - General Requirements that the General Requirements will be sent under separate cover. The Division 01 specs start at section 017823. Are there any missing specs? We cannot find any other Division 01 specs sent under separate cover. Please confirm.	See attached.
27	Please confirm if Commissioning Agent will be paid for by Contractor or by Owner.	Costs for the Commissioning Agent shall be paid by the Selected Contractor.

28	Please confirm FF&E allowances are inclusive of furnishing and installing the FF&E as shown on the drawings.	Correct. FFE allowances are inclusive of supplying an installing FFE.
29	Please confirm IT Requirement allowances are inclusive of furnishing and installing the IT systems.	See the IT Requirements document which includes all IT equipment and installation costs.
30	Please clarify what is included in the IT Requirements allowances.	See IT requirements documents.
31	Please confirm what insurances should go in this CLIN.	Refer to Section I.8 (of the IFB). Please include insurance cost in CLIN 002. Please also complete the breakdown sheets (See Form of Offer Letter and Bid Form).
32	The provided schedule shows an NTP of November 2019. Please confirm what the new NTP date is. Also, please confirm if a new updated schedule will be provided showing start/end dates of the phases of work.	We anticipate to issue the Notice to Proceed (“NTP”) on/about February 7, 2020.  A new schedule will be provided based on the NTP date.
33	One of the submission requirements is IFB pages 1-77 with page 1 signed. Please confirm a copy of the IFB is to be submitted with the cover page signed as part of the proposal. There is also no requirement for the bid form Attachment J.2. Please confirm if the J.2	Confirmed. Please note that the cover page/award page must include all the addendums to IFB and signed.  The Bid Form is required.
34	Please confirm if the list of 5 construction projects in the past 10 years similar in size and scope of this project is to be included in the bid submission or can be submitted after award. It is not included as a submission requirement.	Please include the past construction projects with the submission.
35	Please confirm the estimated budget for this project.	The estimated construction budget is \$10-15M.
36	All overhead doors (002A, 002B, 002C, 002D) are shown in the same room, however, only door 002C is called out to be fire rated on the door schedule. Specification section 08 33 23 calls for both insulated doors and fire-rate doors. Please confirm which doors are fire-rated and which doors are insulated.	002A, 002B, and 002D are insulated not fire rated. 002C is insulated and fire rated.
37	Please confirm that the existing sectional doors are to be replaced with coiling doors.	Provide new doors replacing existing.
38	Please confirm the existing building construction type.	The extent of demolition and new construction does not make the existing building construction type relevant.
39	Please confirm if leak detection is required for the green roofs.	Provide leak detection system.
40	Please confirm roof type below the mechanical equipment.	Roofing system is specified in Section 075423

41	Per the panelboard specification, the only acceptable metering panelboard manufacturer is PowerLogic BCPM by SQD unless another manufacturer is approved as a substitute. Please confirm if Siemens is an acceptable manufacturer for these metering panelboards.	Approved equal panel boards are allowed.
42	Please confirm if devices for lighting controls must meet BAA compliance.	Please Refer to Section H.7 (of the IFB) - Buy American Act Provision.
43	Please confirm if light fixtures are to be DALI-based. Spec section 260943 specifies a DALI system, but no DALI system is mentioned on the drawings.	Light fixtures are not required to be DALI based.
44	Please confirm if A/V system and associated components at the lectern will be provided by A/V contractor.	Yes, A/V system and associated components at the lectern will be provided by contractor.

**Exhibit 2.1**

**Division 01 - Specifications Sections**

**[EXHIBIT WILL APPEAR ON THE FOLLOWING PAGE]**

## SECTION 01 10 00 - SUMMARY

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

A. Section Includes:

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

#### 1.3 DEFINITIONS

- A. District and District Representatives: Refer to General Conditions of Contract for Construction for District's administration of construction contract.
- B. COTR is Contracting Officer's Technical Representative, and where context requires, term "COTR" means "District." The COTR is responsible for technical aspects of project and technical liaison with Contractor as well as final inspection and acceptance as specified in Contract. The COTR is not authorized to make any commitments or otherwise obligate District or authorize any changes which affect contract price, terms, or conditions.
1. District may appoint other entities to manage day-to-day activities for the execution of the Project.
  2. Where term "Architect" or "Engineer" is used in Contract Documents, it shall be construed to mean "COTR."
  3. Where term "Construction Manager" or "CM" is used in Contract Documents, it shall be construed to mean "COTR."

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1.4 PROJECT IDENTIFICATION

A. Project Identification: OSSE-DOT 1601 W. Street Bus Terminal

1. Project Number: OSSE-000004-RENO
2. Project Location: 1601 W Street NE, Washington, DC 20018
3. Ward: 5

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

1. The Reeves Center, 2000 14<sup>th</sup> Street, NW, Suite 800, Washington, DC 20009.

C. Architect: Alphatec, PC 1525 18<sup>th</sup> Street NW, Washington, DC 20036

1. Architect's Consultants: The Architect has retained the following design professionals who have prepared designated portions of the Contract Documents:
  - a. Civil Engineer: A. Morton Thomas + Associates, 10 Q Street NE #490, Washington, DC 20002
  - b. Structural Engineers: Silman, 1053 31<sup>st</sup> NW, Washington, DC 20007
  - c. Geotechnical Engineers: GEI Consultants, 1620 I St NW #800, Washington, DC 20006
  - d. Mechanical Electrical Plumbing Fire: Alphatec, PC 1525 18<sup>th</sup> Street NW, Washington, DC 20036

D. District Consultants: The District has retained the following design professionals who have prepared designated portions of the Contract Documents:

1. Information Technology: OCTO, 200 I Street SE, Washington, DC 20003
2. Telecommunications: DC NET, 655 15<sup>th</sup> Street NE, Washington, DC 20005
3. Site Office: Modular Genius, 1201 South Mountain Road, Joppa, MD 21085

E. Construction Manager: Kramer Consulting, 2000 M Street NW, Suite 850, Washington, DC 20036

1. Construction Manager has been engaged for this Project to serve as an extension to the COTR role, to advise the District, and to provide assistance in administering the Contract including, but not limited to, field quality control administration.

F. Electronic Project Management (ePM) System: An Electronic Project Management system administered by The District will be used for purposes of managing communication and documents during the construction stage.

1. See Section 013100 "Project Management and Coordination." for requirements for using the ePM.

#### 1.5 WORK COVERED BY CONTRACT DOCUMENTS

- A. The Work of Project is defined by the Contract Documents and consists of the following:  
The complete modernization of an existing facility into a Bus Terminal for the Office of the State Superintendent of Education (OSSE). The four-story (30,000 GSF) facility includes the following operational categories: bus care, storage, driver intake/waiting, and dispatch, training, recreational areas, and administrative and office. The 3-acre site is inclusive of the following operational categories: bus parking, passenger vehicle parking, perimeter fencing/screening and control access, guard booths, bus wash station and bus fueling station. OSSE will relocate and consolidate its Adams Place and New York Avenue terminals to the W Street location, which will become the main bus repair and maintenance facility for OSSE's fleet.

#### 1.6 TYPE OF CONTRACT

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

#### 1.7 PHASED CONSTRUCTION

- A. The Work shall be conducted in two (2) phases, with each phase substantially complete as indicated:
1. Phase I: Providing a swing space for temporary operations of OSSE's 5<sup>th</sup> Street Terminal. Work of this phase shall commence within 99 days after Notice to Proceed and be substantially complete and ready for occupancy no later than July 2020.
  2. Phase II: Construction of the New Bus Depot Facility. This work shall commence and the end of Phase I and shall be substantially complete and ready for occupancy by August 2022.
- B. Before commencing Work of each phase, submit an updated copy of Contractor's construction schedule showing the sequence, commencement and completion dates[, and move-out and -in dates of District's personnel] for all phases of the Work.

#### 1.8 EXISTING CONDITIONS

- A. Contractor: Responsible to determine existing conditions on Project site by examination, whether shown on Drawings or not.
- B. In addition to demolition which is specified in other Sections and that which may be specifically shown on Drawings, cut, move or remove items as necessary to allow Work to proceed. Provide such items as:
1. Repair or removal of unsafe or unsanitary conditions.



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

#### 1.9 DISTRICT-FURNISHED PRODUCTS

- A. District will furnish products indicated. The Work includes receiving, unloading, handling, storing, protecting, and installing District-furnished products and making building connections.
- B. District-Furnished Products:
  1. Telephones
  2. Information Technology Equipment

#### 1.10 CONTRACTOR-FURNISHED, DISTRICT-INSTALLED PRODUCTS

- A. Contractor shall furnish products indicated on Drawings as applicable. The Work includes unloading, handling, storing, and protecting Contractor-furnished products as directed and turning them over to District at Project closeout.

#### 1.11 ACCESS TO SITE

- A. General: Contractor shall have full use of site for construction operations during construction period. Contractor's use of site is limited only by District's right to perform work or to retain other contractors on portions of Project.
  1. Contractor Parking: Vehicle parking for Contractor and construction personnel shall be the responsibility of the Contractor.
- B. Use of Site: Limit use of site to areas within the Contract limits indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated. Site has very limited lay down area.
  1. Driveways and Entrances: Keep driveways, loading areas, and entrances serving premises clear and available to District, District's employees, the public, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
    - a. Schedule deliveries to minimize use of driveways and entrances.
    - b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

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

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

1.12 DISTRICT'S OCCUPANCY REQUIREMENTS

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

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

1.13 WORK RESTRICTIONS

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

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

1. Notify District not less than two (2) work days in advance of proposed utility interruptions.

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2. Do not proceed with utility interruptions without District's written permission.
- C. Noise, Vibration, and Odors: Coordinate with the COTR operations that may result in high levels of noise and vibration, odors, or other disruption to District occupancy.
1. Notify Architect and the District not less than 2 work days in advance of proposed disruptive operations.
  2. Obtain Architect, Construction Manager, and/or the District written permission before proceeding with disruptive operations.
  3. Obtain required approvals from authorities having jurisdiction.
- D. Nonsmoking Building: Smoking is not permitted within the building or within 25 feet of entrances, operable windows, or outdoor-air intakes.
- E. Controlled Substances: Use of tobacco products and other controlled substances on the Project site is not permitted.
- F. No eating or drinking is allowed in the building at any phase during Construction.
- G. Employee Identification: If required by the Contract, Contractor shall provide identification badges for Contractor personnel working on Project site. Require personnel to use identification tags at all times.

#### 1.14 PERMITS AND RESPONSIBILITIES

- A. Permits: The Contractor shall, without additional expense to the District, be responsible for obtaining any necessary licenses, fees, inspections, and permits, other than the building permit, and for complying with any federal, and municipal laws, codes, and regulations applicable to the performance of the work. The Contractor shall also be responsible for all damages to persons or property that occur as a result of the Contractor's fault or negligence, and shall take proper safety and health precautions to protect the work, the workers, the public, and the property of others. The Contractor shall also be responsible for all materials delivered and work performed until completion and acceptance of the entire work, except for any completed unit of work which may have been accepted under the contract.
- B. The Contractor shall not load or permit any part of the construction or site to be loaded so as to endanger its safety.
- C. When required for the safety of the Work or adjoining structures, the Contractor shall shore up, brace, underpin and protect foundations and other portions of existing structures which are in any way affected by the Work. The Contractor, before commencement of any part of the Work, shall give any notice to the District.

#### 1.15 SPECIFICATION FORMATS AND CONVENTIONS

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

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1. Section Identification: The Specifications use Section numbers and titles to help cross-referencing in the Contract Documents. Sections in the Project Manual are in numeric sequence; however, the sequence is incomplete because all available Section numbers are not used. Consult the table of contents at the beginning of the Project Manual to determine numbers and names of Sections in the Contract Documents.
  2. Division 01: Sections in Division 01 govern the execution of the Work of all Sections in the Specifications.
- B. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
1. Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred as the sense requires. Singular words shall be interpreted as plural, and plural words shall be interpreted as singular where applicable as the context of the Contract Documents indicates.
  2. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by Contractor. Occasionally, the indicative or subjunctive mood may be used in the Section Text for clarity to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.
    - a. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
- C. Where performance type specifications are used within Specifications or where pre-engineered or Contractor designed systems, elements, equipment or components are called for, District shall have right to rely on Contractor's design. Approval by District of Contractor's Design Submittals shall be limited to acknowledgment that design was prepared with intent of meeting specified performance criteria, but neither District's review or approval shall constitute review of design itself, of designer's calculations, or of effectiveness of design in actually satisfying specified criteria.
- D. Work under this Contract may be specified by combination of descriptive, performance, reference standard and name brand specifications. Where Specifications define characteristics of Contractor designed systems, items or components, Contractor responsible to design, engineer, manufacture, and install systems, items and components to meet specified functional requirements, performance requirements, quality standards, durability standards, and conditions of use as well as all applicable codes, regulations and referenced trade or industry standards. Contractor: Perform such design by employing engineers licensed by pertinent jurisdiction and require engineers to seal and sign designs necessary to perform Work.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 10 00

## SECTION 01 21 00 – ALLOWANCES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. This Section includes administrative and procedural requirements governing allowances.
  - 1. Certain items are specified in the Contract Documents by allowances. In some cases, these allowances include installation. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and equipment to a later date when additional information is available for evaluation. If necessary, additional requirements beyond established allowances will be issued by Change Order.
- B. Types of allowances include the following:
  - 1. Lump-sum allowances.
  - 2. Quantity allowances.
  - 3. Contingency allowances
- C. Contractor agrees that allowance quantities and amounts shall be valid and in effect for the duration of the Project or as stated in the Solicitation.
- D. Related Sections include the following:
  - 1. Division 01 Section "Unit Prices" for procedures for using unit prices.

#### 1.3 SELECTION AND PURCHASE

- A. At the earliest practical date after award of the Contract, advise Contracting Officer's Technical Representative (COTR) of the date when final selection and purchase of each product or system described by an allowance must be completed as dictated by the Project Schedule to avoid delaying the Work.
- B. At COTR's request, obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the Work.
- C. Purchase products and systems selected by COTR from the designated supplier.

1.4 ACTION SUBMITTALS

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

1.5 INFORMATIONAL SUBMITTALS

- A. Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.
- B. Submit time sheets and other documentation to show labor time and cost for installation of allowance items that include installation as part of the allowance.
- C. Coordinate and process submittals for allowance items in same manner as for other portions of the Work.

1.6 COORDINATION

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

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

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

3.2 PREPARATION

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

3.3 SCHEDULE OF ALLOWANCES

- A. Allowance No. 1 – IT Requirements for Phase I: Include the Lump Sum of \$35,000.00 for Phase I IT Requirements as specified in Divisions 26 and 27 and on the Drawings.
  - 1. This allowance includes material cost, receiving, handling, installation and Contractor overhead and profit.

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- B. Allowance No. 2 - Furnitures, Fixtures, and Equipment for Phase I: Include Lump Sum of \$400,000.00 for Phase I Furnitures, Fixtures and Equipment as shown on the Drawings. Specifications to be developed.
1. This allowance includes material cost, receiving, handling, installation and Contractor overhead and profit.
- C. Allowance No. 3 - Site Office Requirements for Phase I: Include the Lump Sum of \$1,100,000.00 for Site Office Requirements as shown on the Drawings.
1. This allowance includes material cost, receiving, handling, installation and Contractor overhead and profit.
- D. Allowance No. 4 - IT Requirements for Phase II: Include the Lump Sum of \$335,000.00 for Phase II IT Requirements as specified in Divisions 26 and 27 and on the Drawings.
1. This allowance includes material cost, receiving, handling, installation and Contractor overhead and profit.
- E. Allowance No. 5 – Furnitures, Fixtures, and Equipment: - Include the Lump Sump of \$700,000.00 for Phase II Furnitures, Fixtures and Equipment as shown on the Drawings. Specifications to be developed.
1. This allowance includes material cost, receiving, handling, installation and Contractor overhead and profit.

END OF SECTION 01 21 00



## SECTION 01 26 00 - CONTRACT MODIFICATION PROCEDURES

### PART 1 GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

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

#### 1.3 BASIS FOR ESTABLISHING COSTS

- A. Combined Increases and Decreases: On proposals involving both increases and decreases in Contract Price, above overhead and profit percentage mark-ups will be allowed on net increases only. On net decreases, deduct corresponding overhead and profit.
- B. Allowable costs: Comply with following requirements for proposals and record keeping for Change Order work.

##### 1. Labor:

- a. Report cost of Change Order labor by itemizing each craft or trade or other specialty involved, and indicating hourly rate for each and hours required, excluding premium pay, paid to employees proposed by Contractor to be directly engaged in Change Order work. Hourly rates shall be reflective of the Wage Determination for the applicable trades referenced for the Project.
- b. Costs of Labor: Cost for wages prevailing for each craft or types of workers performing work under Change Order at time Change Order is done or contemplated to be performed, plus employer payments of applicable burdens including payroll taxes, Social Security, unemployment insurances, workers compensation insurance, health and welfare, pension, FICA, FUTA, and other direct costs resulting from Federal, State or local laws, as well as assessments or benefits such as union dues, apprenticeship funds, subsistence and/or mileage, required by lawful collective bargaining agreements.
- c. Use of labor classification that would increase Change Order cost not allowed unless Contractor establishes necessity for such additional costs to satisfaction of District.

- d. Labor productivity assumed by Contractor in its lump sum Change Order cost proposals shall be same as that assumed by Contractor for similar work included in bid estimates underlying Contract Price as of execution of this contract. National estimating standards including RS Means, Mechanical Contractors Association (MCA) and National Electrical Contractors Association (NECA) shall not be used by Contractor in Change Order cost proposals. Propose productivity factors that are applicable to work under each contemplated lump sum Change Order and provide data supporting their derivation and reasonableness to District for its review and consideration. Contractor: Prepare change order cost estimates utilizing most favorable productivity assumptions.
  - e. Report labor costs for equipment operators and helpers only when such costs are not included in invoices for equipment rental, if applicable.
  - f. Apportion labor cost for working foremen to their assigned work and only that portion applicable to Change Order work shall be paid. In no case may Contractor's change order cost estimates assume more than one foreman per six workers for Change Order work.
  - g. In event District directs Contractor to perform work on basis which will result in costs for premium time, premium portion of applicable wages for Change Order work which Contractor was directed by District to be performed other than normal working hours may be allowed by District, including social security taxes, unemployment insurance, and union fringe benefits if required by lawful union agreements.
2. Materials:
- a. Report cost of materials at invoice or lowest current price at which such materials are locally available (whichever yields lowest cost to District) and delivered to job site in quantities involved, plus sales tax (if applicable), freight and delivery.
  - b. Reduce proposal in proportion to any pertinent tax or other rebates that shall inure to Contractor's benefit.
  - c. District reserves right to approve materials and sources of supply, or to supply materials to Contractor if necessary, for progress of Work, or other reason at District's discretion.
  - d. No markup shall be applied to any material provided by District.
3. Equipment (Including Tools):
- a. No payment will be made to Contractor for use of Contractor-owned equipment or tools.
  - b. Regardless of ownership, rates (including mark-up, if any) to be used in determining equipment rental costs shall not exceed rates listed for pertinent region, in "Construction Equipment Ownership and Operating Expense Schedule", latest edition, published by Department of Army, US Army Corps of Engineers, Washington, DC.
  - c. Rental rates paid shall include cost of fuel, oil, lubrication, supplies, small tools, necessary attachments, repairs and maintenance of any kind, depreciation, storage, insurance, and incidentals.

- d. Necessary loading and transportation costs for equipment used on Change Order work may be included in Contractor Change Order proposals, if the transportation costs are associated only with the change order work. If the equipment is required to perform Contract work, loading and transportation costs will not be allowed.
  - e. If equipment is used intermittently and, when not in use, could be returned to its rental source at less expense to District than holding it at work site, it shall be returned, unless Contractor elects to keep it at work site at no expense to District.
  - f. Equipment: Acceptable to District, in good working condition, and suitable for purpose for which it is to be used.
  - g. Use manufacturer's ratings and manufacturer's approved modifications to classify equipment and it shall be powered by unit of at least minimum rating recommended by manufacturer.
  - h. Reported rental time for equipment already at job site shall be duration of its use on Change in Work, commencing at time it is first put into actual operation on Change in Work, plus time required to move it from its previous site and back or to closer site.
4. Other Items and Expenditures:
- a. District may authorize other items that may be required on Change Order work. Such items include labor, services, material and equipment which are different in their nature from those required for Work specified in this contract and which are of type not ordinarily available from Contractor or any of Subcontractors at any tier. Submit proposals or invoices covering all such items in detail with Contractor's Change Order proposals.
- C. Methods Used in Determining Adjustments to Contract Time: Adjustments to Contract Schedule which may or may not result in adjustments to Contract Time flowing from Change Orders are controlled by provisions in construction scheduling specification (see Section 01 32 00 "Construction Progress Documentation.")
- D. Extended Overhead Costs: Costs that may be incurred by Contractor as result of extension of Contract Time. Applicability of extended overhead costs for time extensions are governed by requirements of Section 01 32 00 "Construction Progress Documentation." Extended overhead costs, if allowed in accordance with stipulations set out in Section 01 32 00 "Construction Progress Documentation," shall only include costs incurred on Project site and shall exclude cost categories included in overhead and profit mark-ups as set out in this Section.
- E. Steps In Change Order Procedure:
- 1. Request for Proposal: Request for Proposal (RFP) defines proposed changes in Work which are contemplated by District and which may or may not result in Change Order(s). RFPs: Prepared and given to Contractor by District.
  - 2. Notice of Potential Impact: Upon receipt of RFP, immediately review and evaluate scope of such RFP's and make immediate determination of any potential impact on Work. In event

potential cost or schedule impact is determined, notify District immediately, but in no case more than three business days after Contractor's receipt of RFP. District may direct Contractor to stop work in area affected by change to minimize cost impact or may direct Contractor to proceed with change described in RFP or some modification thereof, as District deems fit.

3. **Timing of Proposal Submission:** Submit proposals and breakdown as promptly as possible, but no later than 10 working days following Contractor's receipt of District's RFP. **Content and Format of Proposal:** Submit proposals for contemplated Change Orders in form of fixed price proposal, unless otherwise requested by District. Furnish summaries and details of Change Order proposals in format and on forms required by District. With each proposal for change involving increase or decrease in Contract Price, submit itemized breakdown that includes following, and any other information requested by District:
  - a. Labor costs (separated into trades), including payroll burdens.
  - b. Material quantities and unit prices. (Separated into trades)
  - c. Construction Equipment (priced as described herein).
  - d. Subcontractor costs.
  - e. Other approved items and expenditures.
  - f. Mark-ups for overhead, profit and other costs as defined above.
4. **Proposal Review:** In considering proposals for changes in Work involving added work, reduced or deleted work, or any combination thereof, Contractor proposals will be checked in detail by District, utilizing unit prices where specified or agreed upon, with objective of arriving at equitable adjustments.
5. **Change Order Issuance:** District will prepare Change Order if Contractor's proposal, or amended version thereof, is acceptable and agreed upon by District. Contractor: Authorized to proceed only after District issues notice to proceed with work in Change Order.
6. **Procedure In Event of Non-Agreement:** When necessity to proceed with change does not allow sufficient time to properly develop and check Change Order proposal, or cost of Change Order work cannot be agreed upon using lump sum, unit prices or other pricing method satisfactory to District, or because of failure to reach agreement, or for other reason deemed by District to be in District's interest, District may, at its sole discretion, order Contractor to proceed on basis of price to be determined at earliest practicable date ("Price Determined Later" or "PDL" Change Order). Upon such written direction, perform work directed and record applicable costs. Provide District copies of such records every week such work is underway.
7. **Miscellaneous Requirements:**
  - a. **Obligations of Surety under Change Orders:** Changes in Work, or extensions of time, made pursuant to Contract, shall in no way release Contractor or Surety from their obligations. Surety: Waive notice of such changes or extensions.
  - b. Change Orders, supplemental agreements and District-approved revisions to Drawings and Specifications will take precedence over pertinent elements of Contract Documents that are thereby amended or deleted.

- c. No change in Work, whether by way of alteration, addition, clarification or interpretation, shall be basis of adjustment to Contract Price or Contract Time unless and until authorized by District in Change Order, executed in accordance with requirements of Contract Documents.
- d. Agreement on any Change Order shall constitute final settlement of all matters related thereto, including all direct and indirect costs associated with such change, and any and all adjustments to Contract Price and/or Contract Time.
- e. Failure of Contractor and District to agree on adjustment of Contract Sum or Contract Time shall not excuse Contractor from proceeding with prosecution and performance of Work not affected by Change Orders. Contractor shall ensure that Contractor and Subcontractors, Sub-subcontractors and Suppliers handle all disputes in manner which will permit Work to proceed on schedule while any matter in dispute is being resolved.
- f. If Contractor claims that additional cost or time is involved because of:
  - (1). Written interpretation issued by District.
  - (2). Order by District to stop Work where Contractor was not at fault.
  - (3). Written order for change in Work not issued under RFP.
  - (4). Other Contractor claims of any nature.

Provide immediate written notice of such claim, enumerating in detail any potential cost and/or schedule impacts. These Notices: Termed "Change Order Requests" (COR's). No COR shall be valid and Contractor shall be deemed to have finally waived such claim unless notice is provided as described above, within 10 working days of Contractor's actual knowledge of initiation of event or thing which gave rise to COR. Give above notice before proceeding to execute work, except in emergency endangering life or property in which case proceed in accordance with District's direction. Any change in Contract Price or Contract Time resulting from COR's shall not be paid unless authorized by duly executed Change Order.

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

- A. Changes in cost resulting from Change Orders, Price Determined Later, or Change Directives shall include only those costs provided in "Standard Contract Provisions" agreed to by the Contractor and the District.
- B. Contractor shall provide sufficient information for evaluation of proposed changes within 15 days following receipt of a Field Order (Price Determined Later – Construction Change Directive). Contractor shall immediately advise the District in writing if any requested "Bulletin" cannot be priced and submitted to the District within 15 days of receipt. The District will determine if additional time is warranted, and will notify the Contractor of its determination. In no case shall the Contractor be allowed more than 20 days for pricing of a Price Determined Later Bulletin – Construction Change Directive. Contractor shall not be entitled to a time extension should its proposal not be received by the COTR prior to the required time.
- C. Contract modification cost proposal shall include the following:

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

#### 1.5 BOND, OVERHEAD, AND PROFIT CALCULATIONS ON MODIFICATIONS

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

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

1.6 CORRELATION OF CONTRACTOR SUBMITTALS

- A. Promptly revise Schedule of Values and Application for Payment forms to record each approved Change Order as separate line item and adjust Contract Sum.
- B. Promptly revise progress schedules to reflect change in Contract Time, revise sub-schedules, if any, to adjust times for other items or Work affected by change.
- C. Promptly enter changes in Project Record Documents.

1.7 SUBMITTAL

- A. Minor changes in Work, Request for Proposals, Change Order Requests, Change Orders, Basic Change Directives (DCN), and PDL Change Orders, shall be issued and tracked using Prolog Converge software to keep traditional paper-based modifications to minimum. Refer to Section 01 31 00 "Project Management and Coordination." Include appropriate back-up information for changes.
- B. Cooperate and use his best efforts to implement internet-based modification procedure.
- C. Ensure that all modification data is ultimately captured on internet-based system.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 26 00

SECTION 01 31 00 - PROJECT MANAGEMENT AND COORDINATION

PART 1 GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SECTION INCLUDES

- A. Administrative and supervisory requirements necessary for coordinating construction operations including, but not limited to:
  - 1. Electronic Project Management (ePM) system.
  - 2. General project coordination procedures.
  - 3. Pre Installation Conferences.
  - 4. Progress Meetings.
  - 5. Required Reporting.
  - 6. LEED Orientation Meeting.
  - 7. Closeout Conference.
  - 8. Coordination Meetings.
  - 9. Administrative and supervisory personnel qualifications.
  - 10. Request for Interpretation / Information (RFI).
  - 11. Phasing Plan.

1.3 SUBMITTALS

- A. The following documents shall be submitted, discussed, issued, and tracked using the Contract Project Management Software through the ePM system to keep traditional paper-based modifications to minimum:
  - 1. Minor Changes in Work.
  - 2. Requests for Proposals (RFP).
  - 3. Change Order Requests.
  - 4. Change Orders.
  - 5. Price Determined Later (PDL) Change Order, also known as Basic Change Directive (BCN), Construction Change Directive.
- B. Qualifications: Provide qualifications of personnel identified in this Section under Quality Assurance Article.
- C. Key Personnel: Provide names, addresses and qualifications of key personnel within 5 days after Award of Contract. Include name of individual who is designated to sign documents.



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

#### 1.4 QUALITY ASSURANCE

- A. On-Site Superintendent: Shall have minimum 5 years experience on projects of similar size and scope as the Project.
- B. ePM Administrator: Proficient user of project management software system used by Contractor or successfully completed a minimum of 1 project using the software system prior.

#### 1.5 CONTRACT PROJECT MANAGEMENT SOFTWARE

- A. District will implement procedure to provide Project communications on internet-based system.
- B. Use internet-based software system used by DGS to facilitate contract administration communications. The list below indicates the documents that require use of the electronic communications. All correspondence requires a cover sheet.
  1. Schedules.
  2. Submittals (except samples)
  3. RFI's
  4. Requests for Payment
  5. Change Order Directives
  6. Meeting Minutes.
  7. Daily reports.
  8. Other correspondence and reports necessary as required by contract.
- C. To alleviate redundancy and confusion, internet-based communications and submittals will be used exclusively by the District and Contractor, including CM and A/E when applicable. There shall not be a mix of hard-copy and electronic communications on the Project. Only hard-copy submittals requiring samples for initial selection or verification will be accepted by the COTR.

#### 1.6 COORDINATION

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

1.7 COMMISSIONING

- A. Selected Building Equipment and System shall be commissioned. Participate in commissioning process as defined in Section 01 91 13 "General Building Commissioning Requirements."
- B. Commissioning Process shall be directed by Commissioning Authority; Contractor shall fully participate in the Commissioning Processing by committing resources and subcontractors. Provide services of qualified personnel to co-operate and coordinate with Commissioning Authority

1.8 ADMINISTRATIVE AND SUPERVISORY PERSONNEL

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

1.9 PREINSTALLATION CONFERENCES

- A. Conduct Pre-Installation Conference at Project Site before each construction activity that requires coordination with other construction. Invite COTR, Construction Manager, and Architect/Engineer of Record to participate in conferences.
- B. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by installation, and its coordination or integration with other materials and installations that have preceded or will follow.
  - 1. Contractor shall record significant discussions and agreements and disagreements of each conference, and approved schedule. Promptly distribute record of meeting to everyone concerned, including COTR using Contract Project Management software.

1.10 PROGRESS MEETINGS

- A. Schedule District's Progress Meetings at Project Site weekly to keep project on schedule, to review progress, and to solve or avert potential problems. Notify COTR of scheduled meeting dates.
  - 1. Coordinate dates of meetings with preparation of Request for Payment application.
- B. Attendees: In addition to representatives of COTR, subcontractors as appropriate, or others as requested by COTR with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings.
  - 1. COTR, or designated person, will chair District's progress meeting, record and update and maintain, and distribute the meeting minutes.
- C. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.

1. Contractor's Construction Schedule: Review progress since last meeting. Determine where each activity is in relation to Contractor's Construction Schedule, whether on time or ahead or behind schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to insure that current and subsequent activities will be completed within Contract Time.
2. Review present and future needs of each entity present, including, but not limited to, following:
  - a. Interface requirements.
  - b. Time.
  - c. Sequences.
  - d. Status of submittals.
  - e. Deliveries.
  - f. Off-site fabrication problems.
  - g. Access.
  - h. Site utilization.
  - i. Temporary facilities and services.
  - j. Hours of work.
  - k. Safety - Hazards and risks.
  - l. Housekeeping.
  - m. Quality and work standards.
  - n. Requests for Information.
  - o. Change Orders.
  - p. Documentation of information for payment requests.
  - q. Detailed Construction Schedule.
  - r. Three-Week Look-Ahead Schedule.

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

#### 1.11 REPORTING REQUIREMENTS

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

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

<b>DAILY REPORTS</b>	<b>WEEKLY REPORTS</b>	<b>MONTHLY REPORTS</b>	<b>OTHER REPORTING PERIODS</b>
	Due: Within 7 days after payment date of payroll period.	Required Attachments	Initial Report + One Report Every 3 Months.
	Weekly Payroll Records showing compliance with 40 USC 276a-276a 7 (Davis-Bacon Act)	Material Location Reports (Refer to Section 01 32 00)	Field Correction Reports. As needed. (Refer to Section 01 32 00)
	Weekly Statement of Compliance, required under the Copeland Regulations of the Secretary of Labor (29 CFR, Part 3)	Copy of First Source Agreement Contract Compliance Report (due not later than 10th of the month; original goes to DOES)	Site Utilization Plan (15 days after NTP): 1 time only. See Section 01 50 00 "Temporary Facilities & Controls."
		Monthly Progress Reports: Including: <ul style="list-style-type: none"> <li>• Progress Narrative</li> <li>• Schedule Narratives</li> <li>• Cost Update</li> <li>• PCN/CO's</li> <li>• RFI's</li> <li>• Safety Narrative</li> <li>• Inspections by Third Parties</li> <li>• LEED Compliance</li> <li>• Progress Photographs</li> <li>• Start-up &amp; Commissioning</li> </ul>	
		Monthly CBE Compliance Report	
		Waste Reduction Report (See Section 01 74 19 "Construction Waste Management")	
		Quality Assurance Reports (See Section 01 79 90 "Quality Assurance Reporting")	

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

- B. Some forms listed above may be specified in other Sections. Refer to other Sections for requirements.
- C. Other forms as may be requested by the COTR and not specified in the Construction Documents.

#### 1.12 LEED ORIENTATION MEETING

- A. Contractor shall attend a LEED orientation meeting conducted by the Architect/Engineer at Project site.
- Attendees: Authorized representatives of the Contractor and District, COTR, Architect, and other consultants. Contractor and its superintendent, installer and representatives of manufacturers and fabricators and other concerned parties shall attend the meetings. All participants at the meeting shall be familiar with the Project and authorized to conclude matters relating to the Work.
  - Agenda: Discuss LEED requirements for each trade; including the following:
    - LEED action plans.
    - LEED progress reports.
    - LEED documentation submittals.
    - Recycled content of materials.
    - Regional materials.
    - Certified wood.
    - Low-emitting materials.
    - Construction waste management.
    - Construction indoor air quality management

#### 1.13 CLOSEOUT CONFERENCE

- A. Schedule Project Closeout conference with sufficient time to prepare for requesting Substantial Completion.
- B. Attendees: Contractor shall invite COTR, subcontractors, installers, fabricators (as necessary).
- C. Agenda: Contractor shall prepare agenda and include the following and items for discussion that are required by other Sections:
- Start-up of facilities and systems.

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

#### 1.14 COORDINATION MEETINGS

- A. Supplement progress meetings and pre-installation meetings with coordination meetings as required to ensure careful coordination of various activities involved.
- B. Request representation at each meeting by every party currently involved in coordination or planning for construction activities involved.
- C. Notify COTR of coordination meetings.
- D. Record meeting results and distribute copies using Contract Project Management software to everyone in attendance and to others affected by decisions or actions resulting from each meeting.

#### 1.15 REQUEST FOR INTERPRETATION / INFORMATION (RFI)

- A. Where possible, request clarifications at next appropriate project meeting, with response entered into meeting minutes. Where clarification at meeting is not possible, either because of urgency of need or complexity of item, prepare and submit RFI.
- B. Contractor shall submit to the COTR all RFI's from subcontractor or material supplier. Contractor shall review and sign each RFI prior to submittal.
  1. RFI from subcontractor or material supplier submitted directly to the COTR will be returned unanswered.
- C. Do not submit RFI for following:

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1. To request approval of submittals. Comply with Section 01 33 00 "Submittal Procedures."
  2. To request approval of substitutions. Comply with Section 01 60 00 "Product Requirements."
  3. To request coordination of various materials and systems indicated on Contract Documents with field conditions and with each other. Comply with Section 01 31 00 "Project Management and Coordination."
  4. To provide information required by Record Documents specified in Section 01 78 39 "Project Record Documents."
  5. To request changes which are known to entail additional cost or credit. Comply with Section 01 26 00, "Contract Modification Procedure."
- D. If Contractor believes response to RFI results in change in Contract Sum, Contract Time, or both, comply with Section 01 26 00, "Contract Modification Procedure."
- E. Submit, track and respond to RFI's using Electronic Project Management (ePM) system to keep traditional paper-based RFIs to minimum.
1. Cooperate and use his best efforts to implement the internet-based RFI procedure.
  2. Ensure that all RFI data is ultimately captured on internet-based system.
- F. Number RFIs sequentially using only next sequential number; include date submitted.
1. Renumber RFIs if directed by COTR.
  2. Include RFI numbers on all attachments.
  3. Identify Drawing, detail and Specification Section.
  4. Identify supportable time response information is required to avoid impact on Construction Schedule and Cost.
- G. Contractor should attempt to include proposed written and graphic solutions. Include a recommended solution as applicable.
- H. Improper or Frivolous RFI: Will be returned unanswered.
- I. Maintain current and accurate Request for Information Log as follows:
1. Maintain for duration of Contract.
  2. Indicate current status of RFI's at all times; submit log as requested COTR.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

END OF SECTION 01 31 00

## SECTION 01 31 15 - COORDINATION DRAWINGS

### PART 1 GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. This Section includes requirements for Contractor to coordinate drawings with installers, fabricators and subcontractors prior to installation.
- B. Refer to other Sections where Submittal Requirements include Coordination Drawings.

#### 1.3 COORDINATION

- A. Schedule construction operations in sequence required to obtain best results where installation of one part of Work depends on installation of other components, before or after its own installation.
  - 1. Coordinate installation of different components with other contractors to ensure maximum accessibility for required maintenance, service, and repair.
  - 2. Coordinate scheduling, submittals, and Work of various Sections to assure efficient and orderly sequence of installation of interdependent elements, in particular long lead and critical items.
  - 3. Make adequate provisions to accommodate items scheduled for later installation.
- B. If necessary, prepare memoranda for distribution to each party involved outlining special procedures required for coordination. Include such items as required notices, reports, and attendance at meetings.
  - 1. Prepare similar memoranda for installers, fabricators and subcontractors where coordination of their work is required.
- C. Equipment: Verify characteristics of elements of interrelated operating equipment are compatible; coordinate work of various Sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.
  - 1. Spaces: Coordinate space requirements and installation of mechanical, electrical, and other Work indicated diagrammatically.
    - a. Resolve routing and space allocations before Work is started in order to prevent interference and loss of time. Prepare coordination drawings and hold pre-installation conferences when appropriate.



- b. Assist in apportioning space conditions to make satisfactory adjustments where installed work in close proximity to work of other contractors will interfere with other work.
2. Follow routing indicated for pipes, ducts, and conduits as closely as practicable, with due allowance for available physical space. Make runs parallel with lines of building. Utilize space efficiency to maximize accessibility for other installations, for maintenance, and for repairs.
  - a. Adjust location of pipes, equipment, fixtures, and like, to avoid encountered and anticipated interference.
  - b. Determine exact route and location of each pipe and piece of equipment prior to installation.
  - c. Make offsets, transitions and changes in direction of pipes as required to maintain proper headroom and pitch of sloping lines. Provide air vents and drains as required to effect offsets, transitions, and changes in direction.
3. Layout of plumbing, fire protection, mechanical, electrical, and communications systems, equipment, fixtures, piping, ductwork, conduit, specialty items, and accessories indicated on Drawings is diagrammatic. Variations in alignment, elevation, and details required to avoid interferences and satisfy architectural and structural limitations are not necessarily indicated.
  - a. Prior to installation of material and equipment, review and coordinate Work of all Drawings to establish exact space conditions.
  - b. Prepare coordination drawings where required to coordinate Work.
  - c. Where available space is inadequate or where reasonable modifications are not possible, request information from Contracting Officer's Technical Representative (COTR) before proceeding.
4. Coordinate installation to prevent conflicts and cooperate in making, without extra charge, reasonable modifications in layout as needed.
5. Provide clear access to control points, valves, strainers, control devices, and specialty items of every nature related to such systems and equipment to obtain maximum head room. Provide adequate clearances as necessary for operation and maintenance.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

END OF SECTION 01 31 15

## SECTION 01 32 00 - CONSTRUCTION PROGRESS DOCUMENTATION

### PART 1 GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and General Conditions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.
- B. Coordinate the Schedule with the Application for Payment; refer to Section 01 29 00 "Payment Procedures."

#### 1.2 SUMMARY

- A. Administrative and procedural requirements for schedules and reports required for proper performance of Work.
- B. Contractor's Responsibility shall include but not be limited to the following for providing, coordinating, and managing Construction Progress Documents:
  - 1. Ensure timely execution of Work using critical path method schedule, because timely Contractor performance is essential to this Contract.
  - 2. Allow District to monitor Contractor's Contract Schedule continuously so that District may audit Contractor's management of Contract Schedule via comparison to the approved Contract Schedule under District's control.
  - 3. Use approved Contract Schedule for management of entire Work and make no change, modification, or updating of logic and/or durations in Contract Schedule without prior written concurrence from District.
  - 4. Ensure adequate planning, scheduling, and reporting during execution of Work so it may be executed in orderly and expeditious manner within specified time constraints.
  - 5. Ensure coordination of self-performed work with work of:
    - a. all elements of Contractor's organization, including subcontractors.
    - b. between subcontractors and vendors at all tiers.
    - c. District personnel and District consultants.
    - d. Separate contractors.
- C. Required Scheduling Software: District will provide Contractor with one (1) login for District's version of software; additional logins shall be acquired by the Contractor and assigned to the District for the purpose of the Project.
  - 1. Utilize Primavera (P6) Enterprise Project Portfolio Management.
  - 2. Set adjustable settings, including those pertaining to float calculation and progress/logic override, in accordance with District's instructions, which shall require most conservative available settings.

## SECTION 01 32 33 - PHOTOGRAPHIC DOCUMENTATION

### PART 1 GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. This section includes administrative and procedural requirements for the following:
  - 1. Existing Site Condition Photographs.
  - 2. Progress Photographs.
  - 3. Finished Project Photographs.
- B. Digital Images: '.jpg' format' or other approved format.

#### 1.3 SUBMITTALS

- A. Qualification Data: For firms and persons specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.
- B. Key Plan: Submit key plan of Project site and building with notation of vantage points marked for location and direction of each item of photographic documentation. Indicate elevation or story of construction. Include same label information as corresponding item of photographic documentation.
- C. Existing Site Condition Photographs: Submit within [5][10][15][20] days of taking photographs.
  - 1. Digital Images: Submit complete set of digital image electronic files with each submittal of prints on CD-ROM in format specified. Identify electronic media with date photographs were taken. Submit images that have same aspect ratio as sensor, uncropped.
- D. Progress Photographs: On 15th day of each month provide progress photographs of the site at each work area, at the direction of the COTR.
- E. Finished Project Photographs: When Project is ready for Final Acceptance by the District, submit perspective view of the Project and 3 photographs of areas designated by the COTR.

1.4 QUALITY ASSURANCE

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

1.5 USAGE RIGHTS

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

PART 2 PRODUCTS

2.1 PHOTOGRAPHIC MEDIA

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

PART 3 EXECUTION

3.1 PHOTOGRAPHS, GENERAL

- A. Date Stamp: Unless otherwise indicated, date and time stamp each photograph as it is being taken so stamp is integral to photograph.
- B. Field Office Prints: Retain copy of photographic documentation in field office at Project site, available at all times for reference.
  - 1. Identify photographs same as for those submitted to COTR.

3.2 CONSTRUCTION PHOTOGRAPHS

- A. Existing Site Condition Photographs: Before commencement of excavation, commencement of demolition, and starting construction, take photographs of Project site and surrounding properties, including existing items to remain during construction, from different vantage points, as directed by COTR.
  - 1. Flag excavation areas and construction limits before taking construction photographs.
  - 2. Take 20 or more photographs to show existing conditions adjacent to property before starting the Work.
  - 3. Take 20 or more photographs of existing buildings either on or adjoining property to accurately record physical conditions at start of construction.
  - 4. Take additional photographs as required to record settlement or cracking of adjacent structures, pavements, and improvements.

B. Periodic Construction Photographs:

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

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

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

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

1. Photographer will be given three (3) days' notice, where feasible.
2. In emergency situations, photographer shall take additional photographs within 24 hours of request.
3. Circumstances that could require additional photographs include, but are not limited to:
  - a. Special events planned at Project site.
  - b. Immediate follow-up when on-site events result in construction damage or losses.
  - c. District's request for special publicity photographs.

END OF SECTION 01 32 33

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

### 1.3 PRE-SCHEDULE MEETING

- A. The Contractor and the delegated Scheduler shall meet with the District representatives within 10 days after Notice to Proceed and before the detailed CPM schedule is developed, to address questions regarding this Section and to discuss the District's requirements to facilitate the expeditious preparation, review, and acceptance of the Schedule.

### 1.4 DEFINITIONS

- A. DCS: Detailed Construction Schedule.
- B. Data Date: Last Work Day of each month, for months between NTP and Acceptance, in accordance with schedule update requirements of this specification.
- C. Work: Entirety of work to be performed by Contractor under this Contract.
- D. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.
  - 1. Critical Activity: An activity on the critical path that must start and finish on the planned early start and finish times.
  - 2. Predecessor Activity: An activity that precedes another activity in the network.
  - 3. Successor Activity: An activity that follows another activity in the network.
- E. Cost Loading: The allocation of the schedule of values for the completion of an activity as scheduled. The sum of costs for all activities must equal the total Contract Sum unless otherwise approved by Architect.
- F. CPM: Critical Path Method, which is a method of planning and scheduling a construction project where activities are arranged based on activity relationships. Network calculations determine when activities can be performed and the critical path of Project.
- G. Critical Path: The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.
- H. Milestone: The starting or ending point of an activity.
- I. Float: The measure of leeway in starting and completing an activity. Float time is not for the exclusive use or benefit of either District or Contractor, but is a jointly owned, expiring Project resource available to both parties as needed to meet schedule milestones and Contract completion date.

- J. Fragnet: A partial or fragmentary network that breaks down activities into smaller activities for greater detail.
- K. Major Area: A story of construction, a separate building, or a similar significant construction element.
- L. Network Diagram: A graphic diagram of a network schedule, showing activities and activity relationships.
- M. Resource Loading: The allocation of manpower and equipment necessary for the completion of an activity as scheduled.
- N. Network: A network diagram is a graphic representation showing the relationship of activities and events in the correct sequences required to complete the Project with the Contract Time.
- O. Resource Loading: The allocation of manpower and equipment necessary for the completion of an activity as scheduled.
- P. Day: Calendar day unless otherwise noted. Contract uses calendar days.

#### 1.5 SUBMITTALS

- A. Detailed Construction Schedule (DCS): Submit to District within 20 calendar days following NTP, 2 hard copies in color and editable-electronic copy of detailed time-scaled precedence format network graphics and reports of proposed DCS in a format and level of detail approved by the COTR containing following:
  - 1. Narrative of Contractor's proposed methodology, including proposed general sequencing plan.
  - 2. Activity number, description, duration, cost loading, resource loading, coding structure and total float for each activity.
  - 3. Sequence of operations for Work and order and interdependencies of Work activities. Indicate major points of interface or interrelation of such activities with activities of District and/or other contractors.
  - 4. Conformance with and identification of Milestone durations and/or dates specified.
  - 5. Contractor shall develop and include interim milestones in the CPM.
  - 6. Delivery of District-furnished material and/or equipment, if applicable.
  - 7. Primary, Secondary and Tertiary Critical path (or paths).
- B. Three-Week Look-Ahead Schedule.
- C. Qualifications: Provide qualifications for Scheduler assigned to the project. Within 5 days after Award of Contract, provide the following:
  - 1. Name and address of proposed Scheduler.
  - 2. List of prior construction projects and 3 selected Primavera network samples that the proposed scheduler has prepared. The 3 CPM schedules shall be for projects similar in complexity and magnitude of this Project.
- D. Daily Construction Reports. As described in this Section.

1.6 QUALITY ASSURANCE

- A. Scheduler Qualifications: Experienced in CPM scheduling and reporting, with capability of producing CPM reports and diagrams.
1. Scheduler shall be proficient in scheduling software used by the Contractor and shall have successfully completed a project similar to size and scope of this Project using scheduling software.
- B. Prescheduling Conference: Conduct conference at Project site to comply with requirements in Section 01 31 00 "Project Management and Coordination." Review methods and procedures related to Schedules and Reports, including, but not limited to, following:
1. Review software limitations and content and format for reports.
  2. Review time required for review of submittals and resubmittals.
  3. Review time required for completion and startup procedures.

1.7 COORDINATION

- A. Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate contractors.
- B. Coordinate Contractor's Construction Schedule with the Schedule of Values, list of subcontracts, Submittals Schedule, progress reports, payment requests, and other required schedules and reports.
1. Secure time commitments for performing critical elements of the Work from parties involved.
  2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

1.8 MILESTONES

- A. Milestones listed in Contract Documents represent only major items of work or interface dates. Milestones are considered essential to satisfactory performance of this Contract and to coordination of work on Project. Indicate Milestones in Detailed Construction Schedule (DCS) as either start or finish milestones with anticipated finish dates.
- B. Milestones represent latest allowable completion durations, measured from Contract's initial District-issued Notice to Proceed (NTP). Unless specifically excepted by Change Order, Alternates, or Options, if any, and if exercised by District, work shall be performed by Contractor within durations set out below. Coordinate application of following Milestones with contents of this specification and Work. All milestones will be of zero duration and tied to activities.

Code	Milestone Description	Calendar Days from NTP
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Code	Milestone Description	Calendar Days from NTP
1	***Construction NTP***	0
2	Demo Complete	<Insert Day Here>
3	Front-end Submittals approved	<Insert Day Here>
4	Excavation complete	<Insert Day Here>
5	Foundation complete	<Insert Day Here>
6	Substructure complete	<Insert Day Here>
7	Complete coordinated shop-drawings	<Insert Day Here>
8	Superstructure complete	<Insert Day Here>
9	Building Dry-in	<Insert Day Here>
10	Permanent Power / systems	<Insert Day Here>
11	Start Commissioning	<Insert Day Here>
12	All Interior Finishes complete	<Insert Day Here>
13	Commissioning complete	<Insert Day Here>
14	Substantial Completion (Certificate of Occupancy Permit)	<Insert Day Here>
15	Project Final Acceptance/Completion	<Insert Day Here>

#### 1.9 ACTIVITY LEADS AND LAGS

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

#### 1.10 WORK DAYS

- A. Work Days: Defined as days in calendar during period of Work performance, excluding Saturdays, Sundays and legally-mandated federal employee holidays which apply to area in which Work is performed. Work days are considered fully available for Contractor to perform work indicated in pertinent activities in Contract Schedule, unless, upon Contractor request, authorized District's representative:
1. Contemporaneously annotates Contractor's daily report with acknowledgement that day reported upon was unavailable to Contractor for excusable causes, such as unusual severe weather or immitigable effects thereof.
  2. Identifies specific activities by number so affected.
  3. Identifies extent of such impact for each affected activity (i.e. percentage reduction of crew or equipment effectiveness and/or progress).
- B. Recognized Holidays: New Years Day, Inaugural Day, Martin Luther King's Birthday, President's Day, Memorial Day, Independence Day, Emancipation Day, Labor Day, Columbus Day, Veterans Day, Thanksgiving Day and Christmas Day.

1.11 WEATHER DAYS

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

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

1.12 SCHEDULER RESPONSIBILITIES

- A. Contractor shall designate an authorized representative of his firm who shall be responsible for assisting in the preparation of the CPM schedule and review/report progress of the project with COTR using scheduling software approved by COTR. The Contractor's representative shall have direct project control and complete authority to act on behalf of the Contractor in fulfilling requirements of this Section and such authority will not be interrupted throughout the duration of the project.
- B. Scheduler shall have use of software and computer facilities capable of delivering detailed graphic and tabular printouts, as well as electronic transfer of data. When requested by the COTR, Scheduler shall be able to produce reports within 48 hours of request.

1.13 DETAILED CONSTRUCTION SCHEDULE (DCS) CRITERIA

- A. Contract Schedule: Document that controls Contractor's timely execution of Work. It is initially defined by number of Work Days listed in Contract Documents for completion of each Milestone and for completion (in calendar days) of Work, until District approves Detailed CPM Schedule which will be identified as "Detailed Construction Schedule" or "DCS" by the COTR and the District. Upon acceptance of the DCS by the District, the DCS becomes the Contract Schedule.
1. Upon approval by District of mutually agreed Change Orders that amend the DCS, the most current such approved amended version of DCS becomes the Contract Schedule.
- B. Special Constraints: Minimize special constraints and add none during execution of Work without District's express approval. Clearly identify and explain proposed special constraints including:
1. Finish-to-finish, start-to-start, start-to-finish, and finish-to-start leads and lags.

2. Starts-on, starts-no-earlier, finishes-on and finishes-no-earlier date constraints.
  3. Special calendars, beyond approved standard five day and seven day calendars.
  4. Resource caps.
- C. Duration and Cost Limits: Ensure that level of detail of Contractor's DCS is function of complexity of work involved. Ensure that activities have duration of not more than 15 Work Days and have value equal or less than \$50,000.00, unless District expressly authorizes exception. In assessing proposed exceptions, District will take into account special attributes of Work, such as long-lead equipment with extended engineering, fabrication and delivery schedules.
- D. Key Items Procurement Report required during construction phase for "key" (major equipment and materials and long-lead (over eight weeks, from order placement to delivery)) items fabricated or supplied for Work. Include in DCS activities for submittal, submittals review, fabrication, in-plant testing, shipment and delivery, field installation, field testing, commissioning, functional performance testing, acceptance and O&M manuals for key items.
- E. Schedule reports indicating activity numbers, description, estimated duration in Work Days, early start and finish dates, late start and finish dates, total and free float available for each and every activity and responsibility code for each activity.
- F. Cost reports including following activity information, sorted by labor category:
1. Activity number and appropriate description.
  2. Total cost proposed for each activity.
  3. Computer-produced cash-flow analysis and graphics generated by both early start and late start activity dates.
- G. Labor and Equipment Allocation Report: Narrative report indicating anticipated allocation of labor and equipment resources and work shifts to be utilized on Work. Identify with particularity equipment that is shared by activities such as hoisting and level of need of each such item of equipment for pertinent activities.
- H. Details of Each Calendar. Base schedule on standard workweek consisting of five, 8-hour days (Monday through Friday), subject to Government holidays described above. Contractor may propose working outside of normal work hours, including multiple shifts, working holidays and weekends, and other non-standard calendars, provided Contractor obtains District approval minimum of five work days in advance of proposed occurrence of work outside of normal hours. Contractor's Schedule Calendars: Indicate Government holidays as non-working days, unless District expressly approves otherwise.
- I. Activity Details: Incorporate following elements and requirements in proposed DCS:
1. Use clear and concise activity descriptions, designed to ensure that beginning and end of each activity shall be readily observable and verifiable during execution of Work.
  2. Restrict each activity to single performing organization including Contractor self-performing work organization(s), subcontractors, manufacturers, fabricators, and time-sensitive suppliers. Involve such performing organizations in development of Contract Schedule and secure their

individual and collective express commitment to satisfy requirements of Contract Schedule proposed by Contractor to District. Cause said commitment from said performing organizations to be represented in form of signed acceptance by such parties, included with DCS submittal.

3. Code activities in DCS that are District responsibility to execute as District responsibility activities. Include such activities as review and acceptance of documentation (including DCS schedule), submittals, issuance of NTP's and other District activities. Allow adequate duration for District review activities and as noted in other sections of Contract, but never less than seven working days unless District expressly approves otherwise.
4. In addition to identification of responsible organization, each activity shall have codes identifying areas of work. Ensure that areas of work are planned and scheduled in DCS in manageable increments. Code such increments and assign code to each activity.
5. Distribute Contract Price over activities (cost loading). Mobilization, bond and insurance costs may be indicated separately on individual activities; however, prorate other general requirement costs, such as overhead and profit, throughout activities. Divide each activity's cost loading into each of labor, material, and equipment where Contractor desires to receive payment for uninstalled material delivered to project site separate from labor and/or equipment expenditure on activities concerned.
6. Activities for each of permits, notices, tests and inspections for pertinent activities and phases.
7. Build schedule to reflect incremental completion of project (by floor/by area/by systems/equipment). Include appropriate time for Contractor and District for inspection and development of incomplete and/or deficient work (IDW) lists, as well as correction and verification of IDW. Include time for re-inspection and re-correction where appropriate.
8. Submittals, in coordination with level of detail indicated in key items procurement report.
9. Include adequate activities to allow District to track LEED certification process.

J. Resource Analyses:

1. Prepare manpower leveling analysis, derived directly from proposed DCS. Submit subject analysis with proposed DCS, in graphic format depicting manpower by principal disciplines. Analysis: Span entire Work duration and include separate graphs for each of a) manpower by discipline per Work Day, and b) man-hour usage by discipline or trade in form of cumulative S-curve. Subject Manpower Leveling Analysis: Include discipline-by-discipline manpower leveling using Contractor-imposed caps for each labor category, which coordinate with Milestone requirements. Through use of such resource caps, identify and correct peaks or troughs in each discipline manpower usage distribution. Present evidence of leveling iterations to District with DCS submission.
2. Present evidence that Contractor's proposed DCS: Not (a) be controlled by limitations in quantities such resources or (b) propose plan for management by Contractor of each resource type that has potential to control critical path or paths at any time during execution of Work.

K. Acceptance of DCS:

1. District's acceptance of Contractor's DCS is condition precedent to progress payments to Contractor.
2. Upon District's acceptance of cost-loaded values, use such values as sole basis for determining progress payments.

3. District's acceptance of proposed DCS signifies only that District's summary review of DCS leads the District to believe that Contractor has met general requirements of this specification pertaining to DCS format and content. Acceptance by District of DCS does not relieve Contractor of any of its responsibility whatsoever for accuracy or feasibility of Contractor's plan for execution of Work, or to perform Work within specified time constraints. Such acceptance does not expressly or impliedly warrant, acknowledge or admit reasonableness of activities, logic, durations, manpower, cost or equipment loading of Contractor's proposed or accepted Contract Schedule.
4. District's acceptance in no way makes District or its representatives insurers of success of Contractor's time performance or liable for time or cost overruns flowing from shortcomings of Contractor-authored Contract Schedule. District disclaims and Contractor waives any District obligation or liability by reason of District's active or passive acceptance of or acquiescence to Contractor's schedule submissions.
5. Should Contractor fail to properly define any element of Work, activity or logic and District review does not detect this omission or error, such omission or error, when discovered by Contractor or District, shall be corrected by Contractor before next monthly schedule update and shall not be cause for delay of completion of Work within specified time constraints. Contractor acknowledges that District is not required or otherwise obligated to discover errors or omissions in Contractor's proposed Contract Schedule.

1.14 UPDATES

- A. Update Contract Schedule every two weeks and in coordination with Contractor's requests for progress payments.
- B. On working day (designated data date) approximately five working days preceding time designated for monthly payment, meet with District for purpose of reviewing Contractor's report of actual progress. Submit Contractor's up-to-date and accurate progress data as of Data Date.
- C. Submit computer reports and network graphics that reflect progress of Work with respect to both cost and time, in accordance with requirements of initial Contractor-proposed DCS. Adjust selection and sort sequence, format and content of reports as directed by District.
- D. Contractor acknowledges that updating Contract Schedule to reflect actual progress made as of date of update is not modification to Contract Schedule's Milestone requirements.
- E. Submit progress report indicating activities (and portions of activities by percentage) completed during reporting period, actual start dates for those activities currently in progress, actual finish dates for those activities which were completed since last update, and progress along and deviations from critical path in terms of days ahead or days behind each individual Milestone date.
- F. Submit narrative report which includes description of status of schedule, problem areas if any, current and anticipated delaying factors and their known and/or forecast impact, and explanation of corrective actions taken and planned.
  1. Submit list of actual number of personnel (or man-hours) by discipline by working day by activity actually engaged on Work during reporting period, with such total stated separately as to on-site office (project work location), administrative management personnel and on-site supervisory personnel.

G. Submit two updated copies of network.

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

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

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

1.15 THREE-WEEK LOOK-AHEAD SCHEDULE

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

1.16 PROGRESS PAYMENTS

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

1.17 REQUESTED TIME ADJUSTMENT SCHEDULE (RTAS)

- A. Updated Contract Schedule submitted by Contractor shall not indicate completion date later than specified time constraints, subject to time extensions approved by District. If Contractor believes it is entitled to time extension, submit to District, within deadlines set out herein and with each contemporaneous monthly update, separate schedule analysis entitled Requested Time Adjustment

Schedule (RTAS). Indicate, in said analysis, in addition to requirements of General Conditions, proposed adjustments in Contract Schedule which, in opinion of Contractor, should be made due to changes, delays or conditions occurring during past month or previously, or which are expected or contended by Contractor. Time-scale said analysis utilizing computer generated and computer drawn network. This paragraph shall not relieve Contractor of its obligation to provide proper and timely separate written notice of impacts to schedule. Contractor acknowledges that its preparation of RTASs is not extra work to Contract and preparation by Contractor of RTASs shall not be cause for Contractor to receive any additional time for performance of Work or additional compensation.

- B. Subject to float sharing requirements defined herein, time extensions will be granted only to extent of equitable and mutually acceptable time adjustments to activity or activities affected by Change Order(s), or where delay consumes total (positive or zero) float of critical activity (or path) and extends Milestone dates, using approved update of Contract Schedule that is current as of issue of District's written request for Contractor proposal connected with potential Change Order or other District-accountability potential schedule effect.
- C. Submit RTAS within 20 calendar days after initiation of thing(s) or event(s) which Contractor contends may lead to potential District-accountability delay in performance of Work, or from time of District's issuance of written request for Contractor proposal connected with potential change order (or documents of like effect), even if such issuance precedes notice to proceed for change order(s) concerned, whichever is later. Other District-caused potential impacts of any category shall be considered to have been initiated upon written initial District direction connected therewith, including direction provided through duly recorded meetings.
- D. Within 14 calendar days following submittal by Contractor to District of RTAS, in proper format and including specified content, District will meet with Contractor to review submittal. Revise and resubmit RTAS within three working days of such meeting, adjusting RTAS to consider issues raised by District in above meeting. District will respond with written decision within seven calendar days following Contractor resubmittal of RTAS. Upon approval, copy of RTAS signed by District will be returned to Contractor and thereafter incorporated into Contract via Change Order. Incorporate results of each approved RTAS in update of Contract Schedule that immediately follows such approval.
- E. Contractor waives its right to submit requests for time extension and to receive time extension unless it meets above requirements for RTASs. Contractor waives any claim for acceleration due to refusal by District to grant time extensions should Contractor fail to comply with submission and justification requirements described herein for RTASs. Contractor's submission of RTASs shall not constitute basis for adjustment in specified time constraints unless approved by District. Actively pursue timely completion of activities pending such approval.

#### 1.18 RESPONSIBILITY FOR COMPLETION

- A. Provide sufficient forces, offices, materials, facilities, plant and equipment, to ensure completion of Work in accordance with most current approved Contract Schedule update. Upon District's written advice that Contractor is behind schedule, as result of inexcusable causes, immediately remediate such time loss by increasing hours of work, number of shifts, overtime operations and/or amount of plant and equipment, without additional cost to District. Contractor acknowledges that such

remedial action by Contractor is not compensable acceleration of performance of Work. Provisions of this paragraph shall not be construed as prohibiting work on Saturdays, Sundays, and holidays, if Contractor so elects and gives written notice to District two working days in advance of it.

#### 1.19 GENERAL CONTRACTOR EVALUATION FORM

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

#### 1.20 REQUIRED REPORTS

- A. Daily Construction Reports: Prepare daily construction report and submit on internet-based Contract Project Management software. Submit daily construction report by noon of following workday. Required information concerning events at site includes, but is not limited to, following:
  - 1. List of subcontractors at site.
  - 2. List of separate contractors at site.
  - 3. Approximate count of personnel at site.
  - 4. High and low temperatures, general weather conditions.
  - 5. Accidents.
  - 6. Meetings and significant decisions.
  - 7. Unusual events (refer to special reports).
  - 8. Stoppages, delays, shortages, and losses.
  - 9. Meter readings and similar recordings.
  - 10. Emergency procedures.
  - 11. Orders and requests of governing authorities.
  - 12. Change Orders received, implemented.
  - 13. Minor changes received and implemented.
  - 14. Services connected, disconnected.
  - 15. Equipment or system tests and startups.
  - 16. Partial Completions, occupancies.
  - 17. Completions authorized.
- B. Special Reports: Submit special reports directly to COTR within one day of reported occurrence. Submit copies to other parties affected by occurrence.
  - 1. Reporting Unusual Events: When event of unusual and significant nature occurs at site, prepare and submit special report. List chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects and similar pertinent information. Advise COTR in advance when such events are known or predictable.
  - 2. Submittal of reports is condition precedent to issuance and payment of subsequent Applications for Payment.



1601 W Street NE Bus Terminal  
Issue for Permit

November 1, 2019

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 32 00

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SECTION 01 33 00 - SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Administrative and procedural requirements for submitting:
  - 1. Shop Drawings.
  - 2. Product Data.
  - 3. Samples.
  - 4. Miscellaneous submittals.
  - 5. Substitution Request Procedures.
- B. Contractor shall utilize the Electronic Project Management (ePM) system for transmitting submittals to the COTR. Only exception will be samples for color selection or verification. Coordinate initiation of software and internet setup with COTR.

1.3 DEFINITIONS

- A. Action Submittals: Written and graphic information that requires Contracting Officer's Technical Representative's (COTR's) responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals."
- B. Informational Submittals: Written and graphic information and physical samples that do not require COTR's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals."
- C. Electronic Project Management (ePM): System used to transfer project documents between the Contractor and District using standard software which has been approved by the COTR for the project.
- D. File Transfer Protocol (FTP): Communications protocol that enables transfer of files to and from another computer over a network and that serves as the basis for standard Internet protocols. An FTP site is a portion of a network located outside of network firewalls within which internal and external users are able to access files.

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

#### 1.4 QUALITY ASSURANCE

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

#### 1.5 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

- A Architect's Digital Data Files: Electronic digital data files of the Contract Drawings will be provided by Architect for Contractor's use in preparing submittals.

- 1. Architect will furnish Contractor one set of digital data drawing files of the Contract Drawings for use in preparing Shop Drawings and Project record drawings.
  - a. Architect makes no representations as to the accuracy or completeness of digital data drawing files as they relate to the Contract Drawings.
  - b. Digital Drawing Software Program: The Contract Drawings are available in AutoCAD.
  - c. Contractor shall execute a data licensing agreement in the form of Agreement form acceptable to Owner and Architect.
  - d. Digital data drawing files will made available upon request.
  - e. The following digital data files will by furnished for each appropriate discipline:
    - 1) Floor plans.
    - 2) Reflected ceiling plans.

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

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

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- C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
1. Initial Review: Allow 10 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect/Construction Manager will advise Contractor when a submittal being processed must be delayed for coordination.
  2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
  3. Resubmittal Review: Allow 7 days for review of each resubmittal.
  4. Sequential Review: Where sequential review of submittals by Architect's consultants, Owner, or other parties is indicated, allow 15 days for initial review of each submittal.
  5. Concurrent Consultant Review: Where the Contract Documents indicate that submittals may be transmitted simultaneously to Architect and to Architect's consultants, allow 15 days for review of each submittal. Submittal will be returned to Architect before being returned to Contractor.

#### 1.6 SUBMITTAL SCHEDULE

- A. After development and COTR's acceptance of Contractor's Construction Schedule, prepare complete Schedule of Submittals. Submit Schedule of Submittals to COTR within 20 days of date of Notice to Proceed. The submittal schedule shall clearly identify/include long-lead and critical early submittals required for the project.
1. Coordinate Submittal Schedule with list of subcontracts, Schedules of Values, and list of products as well as Contractor's Construction Schedule.
- B. Include each type item for which Contractor's drawings, Shop Drawings, coordination drawings, Product Data, Samples, certificates of compliance, manufacturer's certificates, warranties, and other types of submittals are required.
- C. Coordinate preparation of submittal schedule with COTR, allowing more than average for overly complicated submittals and less time than average for those less complicated. Submittal schedule shall prioritize long lead along with early use submittals.
- D. Where submittal is concurrent with or overlaps submittals currently being reviewed, indicate priority of each outstanding submittal.
- E. Prepare schedule in chronological order. Provide following information:
1. Scheduled date for first submittal.
  2. Related Section number.
  3. Submittal category.
  4. Name of subcontractor.

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5. Description of part of Work covered.
  6. Scheduled date for resubmittal.
  7. Number of Contractor's drawings, Shop Drawings, or coordination drawings anticipated within each submittal.
  8. Scheduled date for COTR's final release or approval.
- F. Distribution: Following corrections resulting from COTR's response to initial submittal, print and distribute copies to COTR, subcontractors, and other parties required to comply with submittal dates indicated. Post in internet-based Contract Project Management software system.
1. Post copies in Project meeting room and temporary field office.
  2. When revisions are made, distribute to same parties and post in same locations. Delete parties from distribution when they have completed their assigned part of Work and are no longer involved in construction activities.
  3. Adhere to accepted schedule except when specifically, otherwise permitted.
- G. Schedule Updating: Using standard scheduling software approved by the COTR, revise schedule after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with report of each meeting.

#### 1.7 SUBMITTAL PROCEDURES

- A. General: Electronic copies of CAD Drawings of Contract Drawings will be provided by Architect for Contractor's use in preparing submittals, subject to completion and return of District's release form provided at end of this section.
- B. Contractor cannot submit a "Product Substitution" using the submittal process. Contractor shall submit product substitutions in accordance with this Section.
- C. Coordination: Coordinate preparation and processing of submittals with performance of construction activities. Contractor shall use approved Electronic Project Management (ePM) system to transfer submittals.
1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
  2. Coordinate transmittal of different types of submittals for related parts of Work so processing will not be delayed because of need to review submittals concurrently for coordination.
    - a. COTR reserves right to withhold action on submittal requiring coordination with other submittals until related submittals are received.
- D. Processing Time: Allow enough time for submittal review, including time for resubmittals, as follows. Time for review shall commence on COTR's receipt of submittal.

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1. Initial Review: Allow 10 days for initial review of each submittal. Allow additional time if processing must be delayed to permit coordination with subsequent submittals. COTR will advise Contractor when submittal being processed must be delayed for coordination.
  2. Concurrent Review: Where concurrent review of submittals by COTR's consultants, Contracting Officer, or other parties is required, allow 15 days for initial review of each submittal.
  3. Extended Review: Allow 12 days for initial review of the following submittals:
    - a. HVAC temperature controls.
    - b. HVAC balancing report.
    - c. Coordination drawings.
    - d. Entrances and storefronts.
    - e. Windows and curtain wall.
    - f. Point supported glazing systems.
    - g. Door hardware.
    - h. Laboratory casework.
    - i. Laboratory equipment.
    - j. Electronic security systems.
    - k. If more than five (5) shop drawings of a single trade are received in one week.
  4. If intermediate submittal is necessary, process in same manner as initial submittal.
  5. Allow 7 days for processing each resubmittal.
- E. Identification: Place permanent label or title block on each submittal for identification.
1. Indicate name of firm or entity that prepared each submittal on label or title block.
  2. Provide space approximately four by five inches on label or beside title block to record Contractor's review and approval markings and action taken by COTR.
  3. Include following information on label for processing and recording action taken:
    - a. Project name.
    - b. Date.
    - c. Name and address of Contractor.
    - d. Name and address of subcontractor.
    - e. Name and address of supplier.
    - f. Name of manufacturer.
    - g. Unique identifier, including revision number.
    - h. Number and title of appropriate Specification Section.
    - i. Drawing number and detail references, as appropriate.
    - j. Other necessary identification.
- F. Deviations: Highlight, encircle, or otherwise identify deviations from Contract Documents on submittals.
- G. Additional Copies: Unless additional copies are required for final submittal, and unless COTR observes noncompliance with provisions of Contract Documents, initial submittal may serve as final submittal.

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- H. Transmittal: Package each submittal individually and appropriately for transmittal and handling. Transmit each submittal using transmittal form. Submittals received from sources other than Contractor will be returned by COTR without review.
1. On attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by COTR on previous submittals, and deviations from requirements of Contract Documents, including minor variations and limitations. Include same label information as related submittal.
  2. Include Contractor's certification stating that information submitted complies with requirements of Contract Documents.
  3. Transmittal Form: Submit on Electronic Project Management system.
- I. Resubmittals:
1. Make resubmittals using original submittal number and designation.
  2. Subject to same terms and conditions as original submittal.
  3. COTR will accept not more than one (1) resubmittal.
- J. Distribution: Furnish copies of final submittals to COTR, subcontractors, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
- K. Use for Construction: Use only final submittals with mark indicating action taken by COTR in connection with construction.

## 1.8 SUBMITTAL REQUIREMENTS FOR COMMISSIONING

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

## 1.9 SUBSTITUTION PROCEDURES

- A. No substitutions except as approved by COTR.

## PART 2 PRODUCTS

### 2.1 TIMING OF SUBMITTALS

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

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- B. Contractor shall deliver each action submittal requiring approval in time to allow for adequate review and processing time, including resubmittals if necessary. Schedule shall allow for one resubmittal for each item action submittal. Failure of the Contractor in this respect will not be considered as grounds for an extension of the time for performance of the Contract.
  - C. Contractor shall deliver each informational submittal prior to start of the Work involved unless the submittal is of a type which cannot be prepared until after commencement of the Work. In such a case, submit promptly.
  - D. If a submittal must be processed within a certain time in order to maintain the progress of the Work, Contractor shall so state clearly on the submittal.
  - E. Submittals will be reviewed within a minimum of 10 days for the first processing of each submittal; more time when submittals must be coordinated with later submittals.
  - F. Re-submittals will be reviewed within a minimum of 7 days.
  - G. If a submittal must be delayed for coordination with other submittals not yet submitted, the COTR may at its option either return the submittal with no action or notify the Contractor of the other submittals which must be received before the submittal can be reviewed.

## 2.2 COORDINATING PRODUCT DATA

- A. Contractor shall submit Product Data action submittals for each system or unit of Work as one submittal.
- B. When Product Data action submittals are prepared specifically for this Project (in the absence of standard printed information) Contractor shall submit such information as Shop Drawings and not as product data submittals.

## 2.3 ACTION SUBMITTALS

- A. General: Prepare and submit Action Submittals required by individual Specification Sections.
  - 1. Furnish copies of returned submittal for distribution, project record documents, and operation and maintenance manuals.
- B. Product Data: Collect information into single submittal for each element of construction and type of product or equipment.
  - 1. If information must be specially prepared for submittal because standard printed data are not suitable for use, submit as Shop Drawings, not as Product Data.
  - 2. Mark each copy of each submittal to show which products and options are applicable.
  - 3. Include following information, as applicable:



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

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

1. Preparation: Include following information, as applicable:

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

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

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

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1. Comply with requirements in Section 01 40 00 "Quality Requirements" for mockups if applicable.
  2. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
  3. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for Work, cured and finished in manner specified, and physically identical with product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to
    - a. Partial sections of manufactured or fabricated components.
    - b. Small cuts or containers of materials.
    - c. Complete units of repetitively used materials.
    - d. Swatches showing color, texture, and pattern.
    - e. Color range sets.
    - f. Components used for independent testing and inspection.
  4. Preparation: Mount, display, or package Samples in manner specified to facilitate review of qualities indicated. Prepare Samples to match COTR's sample where so indicated. Attach label on unexposed side that includes following:
    - a. Generic description of Sample.
    - b. Product name or name of manufacturer.
    - c. Sample source.
  5. Additional Information: On attached separate sheet, prepared on Contractor's letterhead, provide following:
    - a. Size limitations.
    - b. Compliance with recognized standards.
    - c. Availability.
    - d. Compliance with governing regulations.
    - e. Statement of acceptable uses or statement indicating suitability of product specified for proposed use.
    - f. Delivery time.
  6. Submit Samples for review of kind, color, pattern, and texture for final check of these characteristics with other elements and for comparison of these characteristics between final submittal and actual component as delivered and installed.
    - a. If variation in color, pattern, texture, or other characteristic is inherent in product represented by Sample, submit at least three sets of paired units that show approximate limits of variations.
    - b. Refer to individual Specification Sections for requirements for Samples that illustrate workmanship, fabrication techniques, details of assembly, connections, operation, and similar construction characteristics.

7. Number of Samples for Initial Selection: Submit two (2) full set of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. COTR will return submittal with options selected.
8. Number of Samples for Verification: Submit five (5) sets of Samples. COTR will retain three (3) Sample sets; remainder will be returned.
  - a. Submit single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
9. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
  - a. Samples that may be incorporated into Work are indicated in individual Specification Sections. Such Samples must be in undamaged condition at time of use.
  - b. Samples not incorporated into Work, or otherwise designated as District's property, are property of Contractor.

## 2.4 INFORMATIONAL SUBMITTALS

- A. General: Prepare and submit Informational Submittals required by other Specification Sections. Copies will not be returned to Contractor unless resubmittal is required.
- B. Certificates and Certifications: Provide notarized statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by officer or other individual authorized to sign documents on behalf of that entity.
- C. Test and Inspection Reports: Comply with Section 01 40 00 "Quality Requirements."
- D. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.
- E. Product Certificates: Prepare written statements on manufacturer's letterhead certifying that product complies with requirements.
- F. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements. Submit record of Welding Procedure Specification (WPS) and Procedure Qualification Record (PQR) on AWS forms. Include names of firms and personnel certified.
- G. Installer Certificates: Prepare written statements on manufacturer's letterhead certifying that installer complies with requirements and, where required, is authorized for this specific Project.
- H. Manufacturer Certificates: Prepare written statements on manufacturer's letterhead certifying that manufacturer complies with requirements. Include evidence of manufacturing experience where required.

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- I. Material Test Reports: Prepare reports written by qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements.
  - J. Preconstruction Test Reports: Prepare reports written by qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements.
  - K. Compatibility Test Reports: Prepare reports written by qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.
  - L. Field Test Reports: Prepare reports written by qualified testing agency, on testing agency's standard form, indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements.
  - M. Product Test Reports: Prepare written reports indicating current product produced by manufacturer complies with requirements. Base reports on evaluation of tests performed by manufacturer and witnessed by qualified testing agency, or on comprehensive tests performed by qualified testing agency.
  - N. Research/Evaluation Reports: Prepare written evidence, from model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include following information:
    - 1. Name of evaluation organization.
    - 2. Date of evaluation.
    - 3. Time period when report is in effect.
    - 4. Product and manufacturers' names.
    - 5. Description of product.
    - 6. Test procedures and results.
    - 7. Limitations of use.
  - O. Maintenance Data: Prepare written and graphic instructions and procedures for operation and normal maintenance of products and equipment. Comply with Section 01 78 23 "Operation and Maintenance Data."
  - P. Design Data: Prepare written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.
  - Q. Manufacturer's Instructions: Prepare written or published information that documents manufacturer's recommendations, guidelines, and procedures for installing or operating product or equipment.

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Include name of product and name, address, and telephone number of manufacturer. Include following, as applicable:

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

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

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

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

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

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

## 2.5 DELEGATED-DESIGN SERVICES

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

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

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

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

## 2.6 OTHER REQUIRED SUBMITTALS

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

## PART 3 EXECUTION

### 3.1 CONTRACTOR'S REVIEW

- A. Review each submittal and check for compliance with Contract Documents. Note corrections and field dimensions. Mark with review stamp before submitting to COTR.
- B. Contractor's Stamp: Stamp each submittal with uniform, review stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's review, stamp, and statement certifying that submittal has been reviewed, and checked for compliance with Contract Documents.
- C. Contractor Signed Stamp: Indicates that Contractor has:
  1. Verified field dimensions and quantities.
  2. Verified field construction criteria, materials, catalog numbers and similar data.
  3. Reviewed and coordinated submittal data with requirements of Work and Contract Documents.
  4. Certifies that submittal complies with Contract Documents.

### 3.2 COTR'S ACTION

- A. General: COTR will not review submittals that do not bear Contractor's review stamp and will return them without action.
- B. Except for submittals for record or for information, where action and return of submittals is required, COTR will review each submittal, mark to indicate action taken, and return.

1. Compliance with specified characteristics is Contractor's responsibility and not considered part of COTR's review and indication of action taken.
  2. Acceptance of submittals with deviations shall not relieve Contractor from responsibility for additional costs of changes required to accommodate such deviations. Deviations included in submittals without prior acceptance are excepted from review of submittals whether noted or not on returned copy.
  3. Review of separate item shall not indicate acceptance of assembly of which item is part.
  4. Make only those revisions required or accepted by COTR.
  5. Notations by COTR which increase Contract Cost or Contract Time shall be brought to COTR's attention, in writing, before proceeding with affected Work.
  6. When professional certification of performance criteria of materials, systems or equipment is required by Contract Documents, COTR shall be entitled to rely upon accuracy and completeness of such calculations and certifications.
- C. Action Submittals: COTR will review each submittal, make marks to indicate corrections or modifications required, and return submittal. COTR will stamp each submittal with action stamp and will mark stamp appropriately to indicate action taken, as follows:
1. Reviewed, No Exceptions: Means fabrication, manufacture, or construction may proceed providing submittal complies with Contract Documents.
  2. Reviewed, Exceptions Noted, Resubmission Not Required: Means fabrication, manufacture, or construction may proceed providing submittal complies with COTR's notations and Contract Documents. If Contractor cannot comply with notations, make revisions and resubmit as described for submittals stamped Reviewed, Exceptions Noted, Resubmission Required.
  3. Reviewed, Exceptions Noted, Resubmission Required: Means fabrication, manufacture, or construction may proceed, however; submittal did not fully demonstrate full extent of all conditions, details and coordination with other surrounding work and, therefore requires additional information, and rework as noted. Resubmit shop drawings for 'Reviewed, No Exceptions' or 'Reviewed, Exceptions Noted, Resubmission Required'. Do not fabricate, manufacture or construct specific areas requiring additional information prior to resubmittal.
  4. Rejected, Resubmission Required: Means submittal does not comply with design intent of Contract Documents. Do not use submittals stamped Rejected, Resubmission Required. Make revisions and resubmit.
  5. Other: Means documents have not been reviewed by COTR and submittal is returned to Contractor for several possible reasons, including, but not limited to following: submittal not requested, submittal not complete, submittal not coordinated, or submittal bears no resemblance to design intent.
- D. Informational Submittals: COTR will review and return each submittal marked either "For Information Only" or indicating that submittal does not comply with requirements.
- E. Submittals not required by Contract Documents will not be reviewed and may be discarded.

END OF SECTION 01 33 00

SEE CONDITIONS OF USE AGREEMENT FORM THAT FOLLOWS



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### ELECTRONIC DATA TRANSFER AGREEMENT

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

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

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

By: \_\_\_\_\_ Date: **<Insert Date Here>**

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

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

## SECTION 01 35 00 – SPECIAL PROCEDURES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

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

#### 1.3 SUBMITTALS

- A. Safety Program: Provide Safety Program and Plan for approval by COTR prior to start of Work. Safety Program shall comply with requirements in Article 27 "Safety Program" of Standard Contract Provisions.
- B. Erosion and Pollution Control Program and Plan.
- C. Safety Officer: Provide name and qualifications for person who will be acting as Safety Officer for this Project.
- D. Certificates: Provide training certificate for operators of explosive-actuated tools.

#### 1.4 SECURITY PROCEDURES

- A. The following security procedures shall be followed by Contractor, as a minimum.
  - 1. Limit access to the Project to persons involved in the Work.
  - 2. Provide secure storage of materials for which the District has made payment and which are stored on Site.
  - 3. Secure completed Work prior to occupancy as required to prevent loss.
  - 4. Secure and protect facilities and property of the District and Occupants in areas of the Work.

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

#### 1.5 SAFETY PROCEDURES

- A. Take precautions to prevent fires and to facilitate fire-fighting operations, including, but not limited to the following:
  1. Keep temporary and permanent fire fighting facilities readily accessible; keep fire fighting routes open.
  2. Do not allow smoking in building or in areas where highly combustible or explosive materials are present.
  3. Carefully supervise operations of potential fire sources, including heating units.
  4. Conduct welding operations in manner to prevent fire; comply with local regulations.
  5. Provide personnel for fire watch during welding operations.
- B. Precautions to prevent accidents due to physical hazards, including, but not limited to the following:
  1. Provide barricades, warning lights, or signs as required to inform personnel, building occupants and the public of the hazard being protected against.
  2. Safety Barricades: Comply with regulations by authorities having jurisdiction.
  3. Provide temporary walkways where walking surfaces are hazardous.
  4. Notify the COTR before beginning Work that involves hazardous operations.

#### 1.6 SITE SECURITY

- A. It shall be the responsibility of the Contractor to secure the site from the period of Notice to Proceed to Substantial Completion or the issuance of the Occupancy permit. Shall include the Contractors assets and the District's assets. Contractor shall provide On-Site Security personnel.
- B. Construction Fence: Enclose entire construction site, including staging areas, with a chain link fence in temporary setting of concrete masonry units as specified in Division 01 "Temporary Facilities and Controls" section. Provide in accordance with layout of construction limits shown on drawings. Maintain separate gates for personnel and vehicles. Provide locks for gates and hold under strict security control, locking gates at end of each working day.
- C. Construction Site Security: Provide maintenance and cleaning of entire construction site on a daily basis. Secure all construction equipment, machinery and vehicles, park and store only within fenced area, and render inoperable during non-work hours. Contractor is responsible to insure that no construction materials, tools, equipment, machinery or vehicles can be used for unauthorized entry or other damage or interference to activities and security of existing facilities adjacent to and in the vicinity of construction site.
- D. Construction Site Lighting: During hours of darkness, provide perimeter lighting along line of construction fence, and area lighting with construction site, furnishing 1.5 footcandles of illumination at ground level. Provide 5.0 footcandles of illumination at all gates and entrances

to temporary buildings and new structures under construction. Make provisions for operation of lighting during power failures and include automatic re-start. Shield lighting to block glare from penetration into adjacent properties.

#### 1.7 SITE SAFETY

- A. Traffic Control: Posted speed limits and driving regulations will be strictly enforced by the District. The District reserves the right to take action deemed appropriate regarding violations including, but not limited to, refusal to permit violators to enter upon or remain on the premises.
  - 1. Escort appropriately to and from the site all large crawler or mobile cranes operating on site and take all precautions necessary to prevent damage to District's property during operation both on and off site.
  - 2. Obtain advance written authorization from authorities having jurisdiction for all road blocks, detours and other interruptions of normal traffic flow that may be needed to facilitate construction operations.
- B. Adverse Weather Conditions: In the event of adverse weather conditions that may cause downed fences, flying debris, damage to the site or damage from the site to the public or public right of way, Contractor shall take immediate action to secure the site to prevent damage or injury to the public or damage to the site. Contractor shall notify the COTR as to the condition of the Site immediately after inspection.
- C. Do not use tools or equipment which produces harmful levels of noise.
- D. Keep the site and adjacent public ways free of hazardous and unsanitary conditions and public nuisances.
- E. Control rodents and other pests; prevent infestation of adjacent sites and buildings due to pests on the Site.
- F. Keep public right of way streets and sidewalks free of debris due to the Work. Public right of way, street, and sidewalk cleaning and debris removal shall be performed regularly and when requested by the COTR.
- G. Provide adequate traffic control by means of signs, signals, and flagmen, as necessary.
- H. Provide temporary means of draining roofs where required.
- I. Conduct construction operations so that no part of the Work and no part of the existing construction is subjected to damaging operations or influences which are in excess of those to be expected during normal occupancy conditions.
- J. Provide temporary supports as required to prevent movement and structural damage or failure.

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1.8 FALL PROTECTION

- A. Contractor shall provide fall protection in accordance with OSHA construction industry safety standards, 29 *Code of Federal Regulations, Subpart M, Fall Protection*, 1926.500, 1926.501, 1926.502, and 1926.503, including required systems and procedures designed to prevent employees from falling off, onto, or through working levels and to protect employees from being struck by falling objects. Contractor shall comply with the performance-oriented requirements to provide the necessary protection, including but not limited to:
1. Where protection is required, select fall protection systems appropriate for given situations.
  2. Use proper construction and installation of safety systems.
  3. Supervise employees properly.
  4. Use safe work procedures.
  5. Train workers in the proper selection, use, and maintenance of all protection systems.

1.9 SCAFFOLDING

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

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1.10 LADDERS

- A. Use the correct ladder for the task.
- B. Have a competent person visually inspect a ladder before use for any defects such as:
  - 1. Structural damage, split/bent side rails, broken or missing rungs/steps/cleats and missing or damaged safety devices;
  - 2. Grease, dirt or other contaminants that could cause slips or falls;
  - 3. Paint or stickers (except warning labels) that could hide possible defects.
- C. Make sure that ladders are long enough to safely reach the work area.
- D. Mark or tag ("Do Not Use") damaged or defective ladders for repair or replacement, or destroy them immediately.
- E. Never load ladders beyond the maximum intended load or beyond the manufacturer's rated capacity.
- F. Be sure the load rating can support the weight of the user, including materials and tools.
- G. Avoid using ladders with metallic components near electrical work and overhead power lines.

1.11 STAIRWAYS

- A. Stairway treads and walkways must be free of dangerous objects, debris and materials.
- B. Slippery conditions on stairways and walkways must be corrected immediately.
- C. Make sure that treads cover the entire step and landing.
- D. Stairways having four or more risers or rising more than 30 inches must have at least one handrail.

1.12 TRENCHING

- A. Never enter an unprotected trench.
- B. Always use a protective system for trenches feet deep or greater.
- C. Employ a registered professional engineer to design a protective system for trenches 20 feet deep or greater.
- D. Protective Systems:
  - 1. Sloping to protect workers by cutting back the trench wall at an angle inclined away from the excavation not steeper than a height/depth ratio of 1 1/2 :1, according to the sloping requirements for the type of soil.

2. Shoring to protect workers by installing supports to prevent soil movement for trenches that do not exceed 20 feet in depth.
  3. Shielding to protect workers by using trench boxes or other types of supports to prevent soil cave-ins.
- E. Always provide a way to exit a trench--such as a ladder, stairway or ramp--no more than 25 feet of lateral travel for employees in the trench.
- F. Keep spoils at least two feet back from the edge of a trench.
- G. Make sure that trenches are inspected by a competent person prior to entry and after any hazard-increasing event such as a rainstorm, vibrations or excessive surcharge loads.
- H. Provide maximum allowable slopes for excavations less than 20 ft. based on soil type and angle to the horizontal.

#### 1.13 CRANES

- A. Check all crane controls to insure proper operation before use.
- B. Inspect wire rope, chains and hook for any damage.
- C. Know the weight of the load that the crane is to lift.
- D. Ensure that the load does not exceed the crane's rated capacity.
- E. Raise the load a few inches to verify balance and the effectiveness of the brake system.
- F. Check all rigging prior to use; do not wrap hoist ropes or chains around the load.
- G. Fully extend outriggers.
- H. Do not move a load over workers.
- I. Barricade accessible areas within the crane's swing radius.
- J. Watch for overhead electrical distribution and transmission lines and maintain a safe working clearance of at least 10 feet from energized electrical lines.

#### 1.14 HAZARD COMMUNICATION

- A. Failure to recognize the hazards associated with chemicals can cause chemical burns, respiratory problems, fires and explosions.
- B. Maintain a Material Safety Data Sheet (MSDS) for each chemical in the facility.
1. Make this information accessible to employees at all times in a language or formats that are clearly understood by all affected personnel.
  2. Train employees on how to read and use the MSDS.

- 3. Follow manufacturer's MSDS instructions for handling hazardous chemicals.
- C. Train employees about the risks of each hazardous chemical being used.
- D. Provide spill clean-up kits in areas where chemicals are stored.
- E. Have a written spill control plan.
- F. Train employees to clean up spills, protect themselves and properly dispose of used materials.
- G. Provide proper personal protective equipment and enforce its use.
- H. Store chemicals safely and securely.

1.15 EROSION AND POLLUTION CONTROL

- A. The Contractor shall take such measures, as determined to be adequate in the opinion of the COTR, which will prevent soil erosion from the site in question.
- B. The Contractor shall conduct all operations in such a manner as to prevent when possible and otherwise minimize the contamination of watercourses by sediment bearing materials or other pollutants.
- C. The Contractor shall maintain effective erosion control for the duration of suspension of all or a portion of the construction operation

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 35 00



## SECTION 01 40 00 - QUALITY REQUIREMENTS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

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

#### 1.3 DEFINITIONS

- A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of Work to guard against defects and deficiencies and ensure that proposed construction complies with requirements.
- B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of Work to evaluate that completed construction complies with requirements. Services do not include contract enforcement activities performed by District.
- C. Mockups: Full-size, physical example assemblies to illustrate finishes and materials. Mockups are used to verify selections made under Sample submittals, to demonstrate aesthetic effects and, where indicated, qualities of materials and execution, and to review construction, coordination, testing, or operation; they are not Samples. Mockups establish standard by which Work will be judged.
- D. Testing Agency: Entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean same as testing agency.

1.4 DELEGATED DESIGN

- A. Performance and Design Criteria: Where professional design services or certifications by design professional are specifically required of Contractor by Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
  - 1. If criteria indicated are not sufficient to perform services or certification required, submit written request for additional information to COTR.

1.5 CONFLICTING REQUIREMENTS

- A. General: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirements. Refer uncertainties and requirements that are different, but approved equal, to A/E for a decision before proceeding.
- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these, indicated numeric values are minimum or maximum, as appropriate, for the context of the requirements. Refer uncertainties to A/E for a decision before proceeding.
- C. Anything shown on the drawings and not mentioned in the specifications, or mentioned in the Specifications and not shown on the drawings, shall have the same effect as if shown or mentioned in both. In case of conflict or inconsistency between the Drawings and the Specifications, the Contractor shall assume the more stringent interpretation, and submit the matter writing to the A/E for a determination. Any adjustment by the Contractor without such determination shall be at its own risk and expense.

1.6 SUBMITTALS

- A. Qualification Data: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in form of recent report on inspection of testing agency by recognized authority.
- B. Contractor's Quality-Control Plan: For quality-assurance and quality-control activities and responsibilities.
- C. Delegated-Design Submittal: In addition to Shop Drawings, Product Data, and other required submittals, submit statement, signed and sealed by responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by design professional, indicating that products and systems are in compliance with performance and design criteria indicated. Include list of codes, loads, and other factors used in performing these services.
- D. Schedule of Tests and Inspections: Prepare in tabular form and include the following:
  - 1. Specification Section number and title.
  - 2. Description of test and inspection.

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

E. Reports:

1. Unless Contractor is responsible for this service, independent testing agency shall submit certified written report of each inspection, test, or similar service, in duplicate to COTR.
2. If Contractor is responsible for service, submit certified written report of each inspection, test, or similar service in duplicate to COTR.
  - a. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
3. Reports: Include following:
  - a. Date of issue.
  - b. Project title and number.
  - c. Name, address, and telephone number of testing agency.
  - d. Dates and locations of samples and tests or inspections.
  - e. Names of individuals making tests and inspections.
  - f. Description of Work and test and inspection method.
  - g. Identification of product and Specification Section.
  - h. Complete test or inspection data.
  - i. Test and inspection results and interpretation of test results.
  - j. Ambient conditions at time of sample taking and testing and inspecting.
  - k. Comments or professional opinion on whether tested or inspected Work complies with Contract Document requirements.
  - l. Name and signature of laboratory inspector.
  - m. Recommendations on retesting and reinspecting.

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

## 1.7 QUALITY ASSURANCE

- A. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- B. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

- C. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
- D. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance.
- E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar to those indicated for this Project in material, design, and extent.
- F. Specialists: Certain sections of Specifications may require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists: Satisfy qualification requirements indicated and engaged for activities indicated.
  - 1. Requirement for Specialists: Not supersede building codes and similar regulations governing Work, nor interfere with local trade-union jurisdictional settlements and similar conventions.
- G. Testing Agency Qualifications: Agency with experience and capability to conduct testing and inspecting indicated, as documented by ASTM E 548, and that specializes in types of tests and inspections to be performed.
  - 1. The testing agency's facilities and procedures shall be prequalified as being accredited by the National Institute of Standards and Technology (NIST) and Washington Area Council of Engineering Laboratories (WACEL) and which specialize in the types of inspections and tests to be performed.
  - 2. The testing agency shall be authorized by the authorities having jurisdiction to perform testing and inspection services in the District of Columbia.
  - 3. The testing agency shall employ individuals who will be performing the inspections and testing who are certified by the following organizations for the material testing categories listed.
    - a. ACI (American Concrete Institute): Concrete and laboratory.
    - b. NICET (National Institute for Certification in Engineering Technology): Soils and concrete.
    - c. ASNT (American Society for Nondestructive Testing): Metal fabrications and architectural precast concrete connections.
    - d. AWS (American Welding Society): Metal fabrications and architectural precast concrete connections.
    - e. WACEL (Washington Area Council of Engineering Laboratories): Metal fabrications and architectural precast concrete connections, concrete, soils.
- H. Preconstruction Testing: Where required by other Sections, testing agency shall perform preconstruction testing for compliance with specified requirements for performance and test methods.

1. Contractor Responsibilities: Include following:
    - a. Provide test specimens and assemblies representative of proposed materials and construction. Provide sizes and configurations of assemblies to adequately demonstrate capability of product to comply with performance requirements.
    - b. Submit specimens in timely manner with sufficient time for testing and analyzing results to prevent delaying Work.
    - c. Fabricate and install test assemblies using installers who will perform same tasks for Project.
    - d. When testing is complete, remove assemblies; do not reuse materials on Project.
  2. Testing Agency Responsibilities: Submit two copies of certified written report of each test, inspection, and similar quality-assurance service to COTR, with additional copy to Contractor. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from Contract Documents.
- I. Mockups: Before installing portions of Work requiring mockups, build mockups for each form of construction and finish required to comply with following requirements using materials indicated for completed Work. Refer to other Sections and the Drawings for complete Mock-up requirements; do not start Work until the mock-up has been approved in writing by COTR.
1. District: May require mock-ups of any element or assembly of Work that occurs 12 or more times including work of all specification sections including plumbing, mechanical, and electrical.
  2. Build mockups in location and of size indicated or, if not indicated, as directed by COTR.
  3. Notify COTR seven days in advance of dates and times when mockups will be constructed.
  4. Demonstrate proposed range of aesthetic effects and workmanship.
  5. Obtain COTR's approval of mockups before starting work, fabrication, or construction.
  6. Maintain mockups during construction in undisturbed condition as standard for judging completed Work.
  7. Final Disposition of Mockups: As specified in individual specification Sections.
- J. District of Columbia Special Inspections: All testing and inspections required by the District of Columbia Special Inspections requirements as described in the publication, "District of Columbia Building Code Supplement" will be performed by the Owner's independent testing agency.
- K. Exterior Wall Testing and Inspection Program – On Site:
1. The Owner will engage an Independent Testing and Inspection Agency(ies) and Laboratory(ies) to conduct a random field testing and inspection program during the exterior wall erection to check for conformance with the drawings, specifications, and adherence to accepted shop drawings. The testing and inspection shall include:
    - a. Review of all field welder certifications and independently recertify, if required.
    - b. Detailed review of all field welding procedures for compliance with AWS Specifications as well as good engineering practices.
    - c. Weld Testing:
      - 1) All welds to hot rolled steel shapes shall be visually inspected. 25% at random shall be measured and documented. 5% shall be tested.

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

Division 8 Sections "Aluminum Windows" and "Glazed Aluminum Curtain Walls".

1.8 CONTRACTOR'S QUALITY-CONTROL PLAN

- A. Quality-Control Plan, General: Submit quality-control plan within 10 days of Notice to Proceed, and not less than five days prior to preconstruction conference. Submit in format acceptable to Architect. Identify personnel, procedures, controls, instructions, tests, records, and forms to be used to carry out Contractor's quality-assurance and quality-control responsibilities. Coordinate with Contractor's construction schedule.
- B. Quality-Control Personnel Qualifications: Engage qualified full-time personnel trained and experienced in managing and executing quality-assurance and quality-control procedures similar in nature and extent to those required for Project.
  - 1. Project quality-control manager [may also serve as Project superintendent] [shall not have other Project responsibilities].
  - 2. <Insert qualifications appropriate to Project>.
- C. Submittal Procedure: Describe procedures for ensuring compliance with requirements through review and management of submittal process. Indicate qualifications of personnel responsible for submittal review.
- D. Testing and Inspection: In quality-control plan, include a comprehensive schedule of Work requiring testing or inspection, including the following:
  - 1. Contractor-performed tests and inspections including subcontractor-performed tests and inspections. Include required tests and inspections and Contractor-elected tests and inspections.
  - 2. Special inspections required by authorities having jurisdiction and indicated on the "Statement of Special Inspections."
  - 3. Owner-performed tests and inspections indicated in the Contract Documents including tests and inspections indicated to be performed by the Commissioning Authority.
- E. Continuous Inspection of Workmanship: Describe process for continuous inspection during construction to identify and correct deficiencies in workmanship in addition to testing and inspection specified. Indicate types of corrective actions to be required to bring work into compliance with standards of workmanship established by Contract requirements and approved mockups.
- F. Monitoring and Documentation: Maintain testing and inspection reports including log of approved and rejected results. Include work Architect has indicated as nonconforming or defective. Indicate corrective actions taken to bring nonconforming work into compliance with requirements. Comply with requirements of authorities having jurisdiction.

1.9 QUALITY CONTROL

- A. District Responsibilities: Where quality-control services are indicated as District's responsibility, District will engage qualified testing agency to perform these services.
1. District: Contract directly for soil and concrete testing. District may elect to engage agencies for other special tests on as needed basis.
  2. District: Furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and description of types of testing and inspecting they are engaged to perform.
  3. Payment for code required testing services will be made to testing and inspecting agency directly by District. Payment for other testing will be made to testing and inspecting agency directly by Contractor.
  4. Costs for retesting and re-inspection of construction that replaces or is necessitated by work that failed to comply with Contract Documents will be charged to Contractor, and Contract Sum will be adjusted by Change Order.
- B. Contractor Responsibilities: Unless otherwise indicated, provide quality-control services specified and required by authorities having jurisdiction.
1. Engage qualified testing agency to perform quality-control services.
    - a. Contractor: Not employ same entity engaged by District, unless agreed to in writing by District.
  2. Notify testing agencies at least 72 hours in advance of time when Work that requires testing or inspecting will be performed.
  3. Testing and inspecting requested by Contractor and not required by Contract Documents are Contractor's responsibility.
- C. Special Tests and Inspections: District will engage testing agency to conduct special tests and inspections required by authorities having jurisdiction as responsibility of District.
1. Testing Agency: Notify COTR and Contractor promptly of irregularities and deficiencies observed in Work during performance of its services.
  2. Testing Agency: Submit copy of certified written report of each test, inspection, and similar quality-control service to COTR, with additional copies to Contractor and to authorities having jurisdiction.
  3. Testing Agency: Submit final report of special tests and inspections at Completion, which includes list of unresolved deficiencies.
  4. Testing Agency: Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from Contract Documents.
  5. Testing Agency: Retest and reinspect corrected work.
- D. Manufacturer's Field Services: Where indicated, engage factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing.



- E. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspection, for construction that revised or replaced Work that failed to comply with requirements established by Contract Documents.
- F. Testing Agency Responsibilities: Cooperate with COTR and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
  - 1. Notify COTR and Contractor promptly of irregularities or deficiencies observed in Work during performance of its services.
  - 2. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
  - 3. Submit copy of certified written report of each test, inspection, and similar quality-control service to COTR and additional copy to Contractor.
  - 4. Do not release, revoke, alter, or increase requirements of Contract Documents or approve or accept any portion of Work.
  - 5. Do not perform any duties of Contractor.
- G. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Auxiliary services required include, but are not limited to:
  - 1. Access to Work.
  - 2. Incidental labor and facilities necessary to facilitate tests and inspections.
  - 3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency or District in obtaining samples.
  - 4. Facilities for storage and field-curing of test samples.
  - 5. Where required by testing agencies, delivery of samples to testing agencies.
  - 6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
  - 7. Security and protection for samples and for testing and inspecting equipment at Project site.
- H. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and quality-control services with minimum delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
  - 1. Schedule times for tests, inspections, obtaining samples, and similar activities.
- I. Schedule of Tests and Inspections: Prepare a schedule of tests, inspections, and similar quality-control services required by the Contract Documents. Submit schedule within 30 days of date established for commencement of the Work.
  - 1. Distribution: Distribute schedule to Owner, Architect, testing agencies, and each party involved in performance of portions of the Work where tests and inspections are required.

1.10 MECHANICAL AND ELECTRICAL COORDINATION

- A. Contractor shall provide a staff member or members as necessary who have the responsibility to perform mechanical and electrical coordination.
  - 1. Qualifications: Experienced in coordination of mechanical and electrical work on projects of similar type and scale, including administration and supervision. Personnel shall be approved by the COTR.
- B. Coordinate all HVAC, plumbing, fire protection, electrical, and site utility work, and coordinate that Work with the other work on the Site.
  - 1. Where space is limited, coordinate arrangement of mechanical, electrical, and other work to fit.
  - 2. Coordinate cutting and patching activities and sequencing.
  - 3. Coordinate use of temporary facilities.
- C. Prepare coordination drawings where required and where indicated.
- D. Prepare and maintain a separate schedule of activities which relate to the Work; include:
  - 1. Submittals.
  - 2. Temporary utilities.
  - 3. Commissioning
- E. Participate in progress meetings. Report progress, changes required in schedules, and unresolved problems.
- F. Review submittals for compliance with the Contract Documents, and for coordination with other Work including but not limited to:
  - 1. Check field dimensions, clearances, relationships to available space, and anchors.
  - 2. Check compatibility with equipment, other Work, electrical characteristics, and operational control requirements.
  - 3. Check motor voltages and control characteristics.
  - 4. Coordinate controls, interlocks, wiring of switches, and relays.
  - 5. Coordinate wiring and control diagrams.
  - 6. Review the effect of changes on other Work.
- G. Obtain and distribute installation requirements for each item of equipment requiring mechanical or electrical connections; include:
  - 1. Electrical power characteristics.
  - 2. Control wiring requirements.
- H. Observe and maintain records of tests and inspections.
- I. Observe Work for compliance with Contract Documents and Commissioning Plan and notify the applicable Contractor or Subcontractor in writing of deficiencies in the Work.

- J. Coordinate and observe start-up, demonstration, and functional testing of equipment and systems.
- K. Coordinate maintenance of Record Documents.
- L. Assist the Commissioning Representative and COTR with final inspections.

PART 1 PRODUCTS (Not Used)

PART 2 EXECUTION

3.1 INSTALLATION STANDARDS

- A. Compliance: Install manufactured items in accordance with manufacturer's written instructions.
- B. Inconsistencies: Contractor shall refer inconsistencies between the manufacturer's instructions and the Drawings and Specifications to the COTR for resolution.
- C. Contractor shall require the Installer of each major component to inspect both the substrate and conditions under which Work is to be performed. Contractor shall not proceed until unsatisfactory conditions have been corrected in a manner acceptable to the manufacturer and the installer.
- D. Contractor shall inspect materials or equipment immediately upon delivery and again prior to installation to be certain the items are not damaged or defective.
- E. Contractor shall provide attachment and connection devices and use methods necessary for securing Work true to line and level. Contractor shall allow for expansion and building movement.
- F. Contractor shall provide uniform joint widths in exposed Work. Contractor shall arrange joints in exposed Work to obtain the best visual effect as determined by the COTR. All anchorage devices and materials shall be fully concealed in the work unless otherwise approved by the COTR.
- G. Contractor shall recheck measurements and dimensions before starting each installation.
- H. Contractor shall install each component during weather conditions and Project status that shall ensure the best possible results. Contractor shall insulate each part of the completed construction from incompatible material as necessary to prevent deterioration.
- I. Contractor shall coordinate temporary enclosures with required inspections and tests to minimize the necessity of uncovering completed construction for that purpose.
- J. Contractor shall where mounting heights are not indicated, install individual components at standard mounting heights recognized within the industry for the particular application indicated.

3.2 REPAIR AND PROTECTION

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

1. Provide materials and comply with installation requirements specified in other Sections of these Specifications. Restore patched areas and extend restoration into adjoining areas in manner that eliminates evidence of patching.
  2. Cutting and Patching: Comply with Section 01 73 00 "Execution."
- B. Protect construction exposed by or for quality-control service activities.
- C. Repair and protection are Contractor's responsibility, regardless of assignment of responsibility for quality-control services.

END OF SECTION 01 40 00

## SECTION 01 42 00 - REFERENCES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 DEFINITIONS

- A. General: Basic Contract definitions are included in the Conditions of the Contract.
- B. "Approved": When used to convey Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.
- C. "Directed": A command or instruction by Architect. Other terms including "requested," "authorized," "selected," "required," and "permitted" have the same meaning as "directed."
- D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."
- E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.
- F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- G. "Install": Operations at Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
- H. "Provide": Furnish and install, complete and ready for the intended use.
- I. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

#### 1.3 INDUSTRY STANDARDS

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

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

- B. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.
- C. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.
  - 1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.

#### 1.4 ABBREVIATIONS AND ACRONYMS

- A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Thomson Gale's "Encyclopedia of Associations" or in Columbia Books' "National Trade & Professional Associations of the U.S."
- B. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

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

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

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



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

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

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

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

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

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

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

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



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

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

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

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

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

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

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

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

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

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

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

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Available from Access Board

(202) 272-  
0080

[www.access-board.gov](http://www.access-board.gov)

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

MDOT Maryland Department of Transportation

Maryland Dept of Environment

VDOT Virginia Department of Transportation

Virginia Dept of Environment

- G. Local Government Agencies:

DCDOT District of Columbia Department of Transportation

DCRA Department of Consumer and Regulatory Affairs

DCDOE D.C. Department of the Environment

- H. Local Utilities and Commissions:

DCWASA D. C. Water and Sewer Authority  
<http://dcwasa.com>

(202)787-2000

PEPCO Potomac Electric Power Company  
[www.pepco.com](http://www.pepco.com)

(202)833-7500

WG Washington Gas Company  
[www.washgas.com](http://www.washgas.com)

1-800-752-7520

WGES      Washington Gas Energy Services  
[www.wges.com](http://www.wges.com)

1-888-884-9437

PRODUCTS (Not Used)

PART 2 - EXECUTION (Not Used)

END OF SECTION 01 42 00

**Exhibit 2.2**  
**Geo Tech Design Analysis**  
**[EXHIBIT WILL APPEAR ON THE FOLLOWING PAGE]**



### **III. GEOTECHNICAL DESIGN**

### **III. GEOTECHNICAL DESIGN**

#### **A. INTRODUCTION:**

##### **1. PREVIOUS INVESTIGATION**

GeoCapitol Engineering, LLC (GeoCapitol) performed a subsurface investigation summarized in their geotechnical engineering report dated February 22, 2018 for AMAR Group LLC at the 1601 W Street NE property. The subsurface investigation consisted of ten (10) Standard Penetration Test (SPT) borings and laboratory testing. The depths of the borings varied, with two (2) borings 50 feet in depth, two (2) borings 30 feet in depth, three (3) borings 10 to 15 feet in depth and the remaining borings hitting refusal within 6.5 feet in depth. All borings were performed within the property limits on the paved surface at the top of the slope. Laboratory testing consisted of soil classification testing, Modified Proctor tests, California Bearing Ratio (CBR) tests and a direct shear test. GeoCapitol also performed three (3) test pits along the existing westernmost building on the site to assess the dimensions of the existing footings.

##### **2. SUPPLEMENTAL INVESTIGATION**

GEI Consultants, Inc. (GEI) will supplement GeoCapitol's subsurface investigation with an additional SPT boring, Cone Penetrometer Tests (CPTs), Dilatometer Tests (DMTs) and Borehole Shear Tests (BSTs). Additional soil laboratory testing will also be performed. The supplemental investigation performed by GEI will focus on validating the subsurface information gathered by GeoCapitol, determining the subsurface stratigraphy as the site transitions to the east, and obtaining in-situ properties of the soils within and at the bottom of the existing slope. Of particular interest is the elevation of the top of the Potomac Clay layer along the alignment of the retaining wall, for GeoCapitol's investigation suggests that it gradually slopes down towards the east of the site. GEI is proposing

to perform two (2) CPTs outside the site limits along Montana Ave NE to gain a better understanding of the subsurface conditions along the existing slope. Logistical challenges for conducting these borings exist related to site access and permitting.

**B. APPLICABLE CODES:**

1. 2013 District of Columbia Building Code Chapter 18 Section 1803
2. CSX Public Project Information – For Construction and Improvement Projects That May Involve the Railroad (Revised April 8, 2015)
3. ASTM D1586 – Standard test Method for Standard Penetration Test (SPT) and Split-Barrel Sampling of Soils
4. ASTM D5778 – Standard Test Method for Electronic Friction Cone and Piezocone Penetration Testing of Soils
5. ASTM D6635 – Standard Test Method for Performing the Flat Plate Dilatometer
6. ASTM D2487 – Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System)
7. ASTM D4318 – Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
8. ASTM D2216 – Standard Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass
9. ASTM D422 – Standard Test Method for Particle-Size Analysis of Soils (Withdrawn 2016)
10. ASTM D1883 – Standard Test Method for California Bearing Ratio (CBR) of Laboratory-Compacted Soils
11. ASTM D1557 – Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort

**C. EXISTING CONDITIONS:**

The site, located at 1601 W Street NE, is bounded to the north by W Street NE, to the east by Montana Avenue NE, to the south by CSX tracks and to the west by a paving company. The site was previously a crane mechanic yard, with five buildings ranging from sheds to warehouses surrounded by paved surfaces. A vegetated slope is present along the southern and eastern boundary of the site.

**D. BORING LOCATIONS:****1. GEOCAPITOL BORING LOCATIONS**

GeoCapitol performed ten (10) SPT borings within the paved surface and three (3) test pits along the existing westernmost building. The approximate boring and test pit locations advanced by GeoCapitol are included in Figure X appended to this report.

**2. PROPOSED GEI BORING LOCATIONS**

GEI is proposing to perform an additional SPT boring, along with several CPTs, DMTs and BSTs, as shown in Figure XX appended to this report. The goal of GEI's investigation is to corroborate and supplement the data previously obtained by GeoCapitol. The locations are subject to change depending on site conditions and utility locations.

PROPERTY LINE

PROPOSED RETAINING WALL

LOT  
241

SPT-101

CPT-101

LOT  
227

CPT-104

CPT-103



## **E. GEOTECHNICAL REPORT:**

### **1. PROPOSED DEVELOPMENT**

The Department of General Services (DGS) on behalf of the Office of the State Superintendent of Education (OSSE) purchased the site located at 1601 W Street NE to renovate into a bus terminal for OSSE school bus vehicles. OSSE vehicles currently using the Adams Place NE and New York Avenue NE bus terminals will transfer to the renovated bus terminal at 1601 W Street NE. Site developments include a combined office building and bus maintenance facility, a bus washing station, and a fueling station. The proposed grading is not expected to change significantly relative to the current grade. The proposed structures are expected to be relatively lightly loaded. Column loads were not provided at the time of writing.

A retaining wall is proposed along the southern and eastern site boundaries to increase the paved parking surface. Site improvements related to stormwater management are also proposed. This retaining wall is expected to be a Mechanically Stabilized Earth (MSE) wall or another type of backfilled wall. The height of this wall ranges from approximately 15 feet along the edges to approximately 30 feet at the center.

### **2. GEOLOGY**

Based on USGS geologic maps, the site is situated within the Coastal Plain Physiographic Province. The Coastal Plain Province consists of a wedge of unconsolidated to over-consolidated sediments including gravel, sand, silt and clay, which overlaps the rocks of the eastern Piedmont along an irregular line of contact known as the Fall Zone. Eastward, this wedge of sediments thickens to more than 8,000 feet at the Atlantic coast line. The Coastal Plain deposits underlying the site consist of the lower Cretaceous period clay-dominated lithofacies of the Potomac Formation.

### 3. SUBSURFACE CONDITIONS

The subsurface conditions encountered in the GeoCapitol borings and test pits are described below. The subsurface profile has been divided into two (2) primary soil layers. For detailed descriptions of soil samples, refer to the borehole logs in Appendix X.

#### a. Layer I – Fill

This layer consists of lean CLAY (CL) with sand/gravel and clayey SAND (SC) with gravel. Fill material was encountered within each boring to a depth ranging between 9 feet in the NW corner of the site to 34 feet in the SE portion of site, corresponding to approximately El. +100 to El. +69. The depth of the Fill layer increases significantly towards the SE portion of the site. SPT N-values ranged between 3 and 13 blows per foot (bpf) with an average of 8 bpf, indicating a very loose to medium relative density for cohesionless soils and a soft to stiff consistency for cohesive soils.

#### b. Layer II – Potomac Formation Clay

The Fill layer is underlain by the clay dominated soils of the lower Cretaceous Potomac Formation. This layer consists of fat CLAY (CH), fat CLAY (CH) with sand and lean CLAY (CL) with sand. The Potomac Formation Clay was encountered in five (5) borings at depths ranging between 9 feet in the NW corner of the site to 34 feet in the SE portion of site, corresponding to a top of Potomac Formation between approximately El. +100 to El. +69. SPT N-values range between 13 and 24 bpf with an average of 18 bpf, indicating a very stiff consistency. All borings that encountered the Potomac Formation terminated within the Potomac Formation. The remaining borings terminated in the Fill layer.

The borings advanced by GeoCapitol suggests that the top of the Potomac Formation slopes from the NW to the east of the site at a rate of approximately 7 feet vertical over 100 feet horizontal. GEI's

supplemental subsurface investigation will include two CPTs along Montana Avenue NE to determine how the top of the Potomac Formation transitions off the site.

#### 4. GROUNDWATER CONDITIONS

Groundwater readings were taken in the field during and after drilling. Of the ten (10) borings advanced, groundwater was only encountered in boring B-8 at a depth of 8 feet below grade, or approximately El. +97.5 during drilling. No measurements after drilling were obtained as the boreholes caved at shallow depths. In the absence of other groundwater data, GeoCapitol recommended using a groundwater level at El. +104 for design to account for seasonal fluctuations.

The groundwater elevation recommended for design by GeoCapitol is likely higher than in-situ conditions. As the CPTs proposed for GEI's supplemental subsurface investigation will measure porewater pressures, additional information on the groundwater conditions at the site will be obtained.

#### 5. LABORATORY TESTING RESULTS

GeoCapitol performed soil laboratory tests on a select number of soil samples. Eleven (11) samples were subjected to grain size distribution, Atterberg Limits and moisture content tests for soil classification purposes. An additional fifteen (15) samples were tested for moisture content only. The results of these tests are appended to this report in Appendix XX. GeoCapitol also performed a direct shear test on a Potomac Formation sample, along with three (3) CBR tests on bulk samples taken from within the top 10 feet of the soil profile. The results of these tests are also appended to this report in Appendix XX.



GEI will supplement the data obtained by GeoCapitol by testing select soil samples from the proposed SPT boring. Grain size distribution, Atterberg Limits and moisture content tests will be performed to corroborate GeoCapitol's testing. A bulk sample from soil within the top 5 feet will also be used to provide an additional CBR value for pavement design.

## 6. ENVIRONMENTAL TESTING

GeoCapitol performed a Phase I Environmental Site Assessment (ESA) for the subject property, with findings and recommendations summarized in a report dated October 25, 2017. Two Leaking Underground Storage Tank (LUST) cases were reported on the site, with at least one case closed. The status of the other LUST case is unclear. Based on the desktop study performed by GeoCapitol and observations of surface stains in the gravel parking areas, GeoCapitol recommended additional investigations to determine the extent of potential contamination.

GeoCapitol noted petroleum odors during drilling in three borings, but a Photoionization Detector (PID) did not measure Volatile Organic Compounds (VOCs) in the soil samples. GeoCapitol's geotechnical report mentioned additional chemical laboratory testing for a variety of environmental parameters but results of these tests were not provided by DGS. It is unclear whether this additional chemical laboratory testing was part of a waste characterization program, or whether these tests were part of a Phase II ESA.

GEI will perform waste characterization testing of one composite sample generated from the drilling spoils of the additional SPT boring. The waste characterization testing will be for spoil disposal only. While one composite sample is adequate to dispose of the drilling spoils, additional sampling and testing will be necessary during construction to dispose of site soils or water

depending on the quantity of excavated soils, dewatering activities and the presence of contaminants.

The waste characterization testing should not be considered as a Phase II ESA, as it will not be able to determine the depth and/or extent of potential contamination in the soil. A Phase II ESA as defined by DOEE requirements also require groundwater sampling and testing, which is not included in the waste characterization scope.

## 7. SEISMIC SITE CLASS AND LIQUEFACTION POTENTIAL

The International Building Code (IBC) 2012 and American Society of Civil Engineers' Minimum Design Loads for Buildings and Other Structures manual (ASCE Standard 7-10) requires site classification for seismic design based on the upper 100 feet of soil profile.

Boreholes B-9 and B-10 extended to a maximum depth of 50 feet below ground surface, less than the 100 foot depth typically required for site classification. However, the typical soil profile in the area and the subsurface information collected from nearby sites may be used to assess the geologic conditions prevailing in the immediate vicinity for soils from 50 feet to 100 feet below ground surface. The deeper soils appear to be a continuation of Potomac Formation soils, similar to the soils encountered in boreholes B-9 and B-10.

Based on this information, the site may be classified as Site Class D in accordance with the criteria noted in Table 20.3-1 Site Classification of ASCE Standard 7-10. This standard is referenced by the 2013 District of Columbia Building Code, Section 1613.

Liquefaction of the soils during an earthquake event are unlikely due to the predominantly cohesive nature of the soil profile at the site, and due to the relative density of the few cohesionless soils.

## 8. FOUNDATION RECOMMENDATIONS

Based on the preliminary drawings, all existing buildings will be demolished, with the exception of the northern façade of the westernmost building, which will be preserved and incorporated into the proposed office and bus maintenance building. The proposed building is a three-story steel frame structure with a lower level finished floor elevation (FFE) at approximately El. +108. Exact foundation loads were not available at this stage of the design, so 150 kip column loads were assumed in the analysis.

### a. Shallow Foundations on Native Soils

Shallow foundations bearing on Layer II soils is a feasible option to support the proposed structure. In general, the Fill (Layer I) is not suitable to support shallow foundations (spread footings) due to the potential for excessive differential settlements within the building structure. Subsequently, shallow foundations should bear on competent Layer II soils with a slab on grade. Given the proposed FFE is at El. +108, undercuts of up to 10 feet to remove the fill material and reach competent native soils are likely required. These undercuts can be backfilled with a lean cement mix (flowable fill) to subgrade elevations, or the footings can extend further down to bear directly on competent native soils.

We recommend that the following criteria be used for the design of the foundations.

- i. Design footings for an allowable bearing pressure of 4,000 psf. Total and differential post-construction settlements should be limited to 1.0 inch and 0.5 inches, respectively.
- ii. A minimum footing width of 36 inches wide is recommended.
- iii. Design exterior footings to bear at least 2.5 feet below the finished exterior grade for frost protection.
- iv. The tops of all footings should be at least 6 inches below the bottom of the overlying floor slabs.
- v. The results of subsurface investigations indicate the native soils consist of CL or CH soils. Wet, plastic, or soft soils or material with organics shall be undercut and replaced with suitable controlled backfill.
- vi. We recommend that a mud mat be placed at the footing subgrade to prevent damage to the subgrade soils after excavation for the footings.
- vii. Spacing between footings shall be at least 1.5 times the width of the larger foundation to minimize any reduction in bearing capacity due to overlapping zones of influence.
- viii. An allowable coefficient of friction of 0.30 is recommended for sliding.
- ix. Maintain positive drainage away from the structure to prevent water from infiltrating under footings. Tie all roof gutters and leaders into a stormwater drainage system for drainage away from the structure. Do not allow stormwater from the roof area to drain directly onto pavement areas or into permeable areas adjacent to the structure.

b. Shallow Foundations Bearing on Ground Improvement

Ground improvement with shallow foundations can be used as an alternative to undercutting the Layer I soils. We recommend the use of

stone columns or rigid inclusions ground improvement for this purpose. Either method will require the use of a loaded transfer platform to distribute foundation loads to the stone columns or rigid inclusions. We recommend that the ground improvement be placed under column and wall footings.

We recommend that the ground improvement be designed to provide a minimum allowable bearing pressure of 6,000 pounds per square feet (psf) at column locations and maintain maximum building settlements of 1 inch total and 0.5 inch differential over 100 feet. The design for ground improvement is typically provided by the specialty contractor retained to perform the work. Reputable contractors with experience in this area and with the techniques recommended below are included in Paragraph 18.

- i. Stone aggregate columns are a ground improvement option for the proposed structure. Stone columns require auger drilling to the desired bearing elevation and the placement of aggregate in the hole in compacted lifts to the ground surface. The final design for the stone columns, including column diameter, spacing and gradation of the aggregate fill, is the responsibility of the specialty contractor. We recommend that the aggregate consist of sands and gravel with less than 15% fines. The addition of grout to the aggregate is recommended. A typical aggregate column diameter is 30 inches.
- ii. Rigid inclusion is the generic term for a ground improvement technology used to improve the soil characteristics of a compressible soil layer and to reduce settlement by using rigid concrete elements. The objective of this system is to increase the stiffness of the soil mass through the use of concrete inclusions and a load transfer platform (LTP). The rigid inclusion is typically constructed by drilling a 12 to 18 inch diameter auger into the

ground and pumping cement grout into the hole under pressure as the auger is withdrawn. The cement grout columns are installed in an evenly distributed grid. Part of the load of the overlying structure will be transferred down to a competent layer through the grout column while the remaining load is transferred to the surrounding soil through skin friction.

We recommend that the rigid inclusion system be designed so that the loads are transferred into the Potomac Clay, at a minimum. We recommend maintaining a maximum tributary area of 100 square feet per column and a minimum column diameter of 12 inches.

#### 9. SLAB RECOMMENDATIONS

The foundation system presented above allow for the use of a slab on grade for the lowest level of the proposed structure. If fill soils, wet, plastic, or soft soils or material with organics are encountered at the subgrade, this material should be undercut and replaced with suitable controlled backfill. We recommend that contraction joints be incorporated between the slab on grade and the columns and perimeter walls of the proposed building. Given the potential contamination present at the site, a vapor barrier below the lowest level floor slab is also recommended.

#### 10. SUB-DRAINAGE SYSTEM RECOMMENDATIONS

Groundwater was only encountered in one boring during drilling. While GEI believes that the design groundwater elevation of El +104 recommended by GeoCapitol is significantly higher than what is present at the site, groundwater is potentially present at shallow depths. Given the potential for seasonal variations in the water table elevation, we recommend that a sub-drainage system be added to the proposed structure. As mentioned above,

a vapor barrier is also recommended below the lowest level floor slab. We recommend that the groundwater be tested for the presence of iron and iron ochre constituents prior to the final design of the sub-drainage system.

We recommend that the permanent subsurface drainage system consist of the following components:

- a. Subsurface drainage pipes should be placed around the perimeter and under the slab at spacings no more than 30 feet on center.
- b. Drain pipes should consist of 6 or 8-inch Schedule 40 PVC pipe or corrugated, slotted polyethylene pipe per ASTM F-405.
- c. Drain pipes should have a minimum of 2 rows of perforations equally spaced around the pipe circumference.
- d. The perforations should have a maximum size of ½ inch.
- e. The slotted pipes should have at least 4 inches of filter material around the pipe.
- f. The filter material should be wrapped in filter fabric (Mirafi 140).
- g. The pipe should be sloped to drain into a total of two sump areas.
- h. Each sump should contain a set of duplexed sump pumps each with a capacity of 25 gpm.

## 11. NEW UTILITIES

Due to the presence of Fill between the curb and the building footprint, GEI recommends that trenches for new utilities outside of the building footprint be undercut by 1 foot and backfilled with compacted structural fill to reduce potential settlement.

## 12. BELOW GRADE WALLS

The proposed plan includes a basement wall approximately 25 feet south of the existing façade to remain. Support of excavation (SOE) might be required to construct the proposed below-grade space.

The permanent basement walls should be designed to withstand lateral earth pressures. We recommend a linearly increasing lateral at-rest earth pressure of approximately 48 psf per vertical foot of wall (48H) to the bottom of the basement wall. Based on the groundwater conditions noted at the site by GeoCapitol, we expect hydrostatic pressures will act on the basement wall. We recommend a linearly increasing lateral at-rest earth pressure of approximately 86psf per vertical foot of wall (86H) starting at El. +104 to the bottom of the basement wall. GEI will verify the groundwater elevation recommended by GeoCapitol and update the wall pressure recommendations as needed.

Dead loads, live and vibration loads, and earthquake loads should be added to the lateral earth pressure load where appropriate for a design total load. The wall design shall also include any surcharge loads that may develop within a 45° slope from the toe of the wall using 50% of the adjacent surcharge load over the height of the wall.

The basement walls should be waterproofed. Rain water and water falling on impermeable surfaces should be tied to subgrade stormwater sewers and directed away for basement walls. □□

Temporary SOE is required for vertical excavations deeper than 4 feet to support the cut face. Temporary walls should be designed to withstand lateral earth pressures and surcharge loads from construction staging, equipment, stockpiles, and adjacent traffic loads. Based on the existing grades and the proposed lowest level of the structure, cut heights up to 11 feet can be expected. A SOE system consisting of cantilevered soldier piles and lagging is therefore feasible.



### 13. RETAINING WALL RECOMMENDATIONS

A vegetated slope is present along the southern and eastern boundaries of the site, with elevation differences between 15 feet in the SW corner to 35 feet in the SE portion of the site. To maximize the site's footprint, a retaining wall along the southern and eastern limits of the site is proposed. The proposed retained wall heights range between 15 feet and 30 feet. A mechanically stabilized earth (MSE) retaining wall is a feasible option for this site.

We recommend that the following criteria be used for the design of the retaining wall.

- a. The retaining wall should bear in the Potomac Formation.
- b. Design retaining wall for an allowable bearing pressure of 4,000 psf. Total post-construction settlements should be limited to 1.0 inch.
- c. Include surcharge loads consistent with the proposed traffic and parking layout.
- d. The minimum embedment depth from bottom of wall to finished grade should be  $H/7$ , where H represents the retained soil height.
- e. Design the retaining wall for a minimum factor of safety against sliding of 1.5.
- f. Design the retaining wall such that the resultant load is within the middle third of the footing.
- g. Design the retaining wall for a minimum factor of safety against global stability of 1.5.
- h. Design the soil reinforcement for a minimum factor of safety against pullout of 1.5.
- i. Soil reinforcement can be either inextensible or extensible reinforcement.
- j. Vertical spacing of soil reinforcement shall not exceed 32 inches.

- k. Minimum soil reinforcement length should be  $0.7H$ , where  $H$  represents the retained soil height.
- l. Damage reduction factors shall be considered in the design of the soil reinforcement to take installation damage, creep and durability factors into account.

GeoCapitol performed a global stability analysis of the existing slope at the SE corner of the site, where the elevation difference is greatest. Residual friction angles were used but residual cohesion was neglected, resulting in a factor of safety against global stability less than 1.0. GEI will obtain additional information to confirm the strength parameters of the soils and revisit the global stability analysis of the existing condition and the proposed retaining wall. If GEI's analyses show an inadequate factor of safety against global stability, a stabilization system in the form of piles at the base of the wall will be required.

#### 14. PRELIMINARY RECOMMENDATIONS FOR EXCAVATION

Excavations will be required to remove the fill material for the construction of the retaining wall and for building foundations. Based on the subsurface investigation program performed by GeoCapitol, we believe it is feasible to remove the overburden soils using conventional heavy earthmoving equipment in proper working condition. Soil slopes and exposed soil surfaces will be subject to degradation through weathering and will require treatment to maintain stability.

Temporary construction excavations above the water table that are less than 5 feet in depth may be constructed with 1.5 Horizontal to 1 Vertical (1.5H:1V) side slopes in soil, unless otherwise noted. Localized instabilities in such excavations may occur due to the possibility of loose Fill material.

In such areas, the excavation sides should be sloped at an inclination of 2H:1V, or flatter. Side slopes should be protected from excessive disturbance and surface water runoff. All excavations should be performed in accordance with local, state, and federal regulations, including current OSHA excavation safety standards.

#### 15. PRELIMINARY RECOMMENDATIONS FOR ENVIRONMENTAL CHARACTERIZATION AND DISPOSAL CONSIDERATIONS

As noted previously, GeoCapitol noted petroleum odors during the subsurface investigation. The results of the environmental testing performed by GeoCapitol were not provided as part of the contract documents.

GEI will perform waste characterization testing of one composite sample generated from the drilling spoils, which is sufficient for spoil disposal only. As mentioned previously, additional sampling and testing will be necessary during construction to dispose of site soils or water depending on the quantity of excavated soils, dewatering activities and the presence of contaminants.

Prior to commencing construction excavation, a soils management and disposal plan should be developed that will identify necessary testing, suitable reuse and disposal alternatives.

#### 16. PRELIMINARY RECOMMENDATIONS FOR SUBGRADE PREPARATION AND BACKFILL PLACEMENT

The subgrade should be stripped of all vegetation, existing Fill, and soft or otherwise unsuitable soils such as high plasticity soils with a LL greater than 40 and a PI greater than 20. Disposal of any on-site debris should be performed in accordance with local, state, and Federal regulations.

Existing utilities that are not planned to be reused should be removed, along with any unsuitable backfill materials. Care should be taken during site grading operations to avoid damaging any utilities that are to remain in service.

Imported soil backfill within the building footprint should consist of granular material complying with ASTM D-2487 soil classification groups GP, GM, GC, SM, SC, SW and SP and should be well-graded. Clayey silt and silty sand with high fines content or material with a Liquid Limit greater than 40 and Plasticity Index greater than 20 are not acceptable for reuse as backfill within the building footprint.

Imported soil backfill used for the reinforced soil behind the retaining wall should consist of granular material complying with less than 15% fines and a Plasticity Index equal to or less than 6. The reinforced soil backfill material shall be free of organics, recycled materials and other deleterious substances.

GEI recommends that all backfill beneath structures be placed in uniform, horizontal lifts and compacted to at least 95% of the maximum laboratory dry density as determined by ASTM D1577 (Modified Proctor). Fill should be compacted at moisture content within  $\pm 2\%$  of optimum. Fill placed within the building footprint and behind the retaining wall should be placed in horizontal, eight-inch maximum loose lifts. In areas to support the slab the uppermost one-foot (after compaction) shall be compacted to 100% of the material's maximum dry density.

Placement and compaction of all backfill materials should be monitored and tested by a GEI representative. GEI recommends that all fill placement be

tested in accordance with ASTM D6938 (Nuclear Methods) to verify the density, degree of compaction, and moisture content of the fill. The specifications should call for frequent testing on placed and compacted fill. If any portion of the fill fails to meet the compaction requirements, the area should be reworked, recompact, and retested until the specified compaction is achieved.

If construction is performed during freezing weather, special precautions might be required to prevent the subgrade soils from freezing. Foundations constructed on frozen soil may result in subsequent settlement of the structure. All subgrades should be free of frost before placement of concrete. Soils that have frozen should be removed and replaced with compacted structural fill. The footing and the soil adjacent to the footing should be insulated until they are backfilled. Soil placed as fill should be free of frost, as should the ground on which it is placed. If the foundation is constructed and left exposed during the winter, precautions should be taken to prevent freezing of the underlying soil.

Any loose or disturbed soil should be removed from the bottom of the excavation, and the subgrade should be compacted with a vibrator compactor weighing at least 200 pounds. If compaction begins to cause the subgrade to “pump” or become unstable, the material should be removed and replaced with approved structural backfill.

## 17. PRELIMINARY RECOMMENDATIONS FOR PAVEMENT DESIGN

The site will serve as a terminal for up to 236 school buses and 56 cars. The entire site with the exception of the bio-retention areas and the proposed office/bus maintenance building will be subjected to traffic loading. The design recommendations noted herein are for the traditional pavement only.

The design of the traditional pavement sections is based on an anticipated daily traffic over the 25-year life of the project. The assumed anticipated traffic volumes consist of approximately 1100 average daily traffic (ADT) with 90% bus traffic. The area is anticipated to see access of a fire truck/ambulance 10 times a year. If different traffic loading conditions are required, the asphalt pavement sections should be redesigned using the applicable traffic loading.

The pavement was designed in accordance with United Facilities Criteria (UFC) 3-201-01 Civil Engineering using the modelling software PCASE. The California Bearing Ratio (CBR) value of 10.0 recommended by GeoCapital was used in the pavement analysis. GEI will take an additional bulk sample to confirm the CBR values of the in-situ soils. As a portion of the site will be on controlled backfill, laboratory testing should be performed on the controlled backfill and native subgrade soils to define the strength and CBR value of both materials. If strength and CBR values vary considerably between the two materials, additional pavement designs would be required.

The CBR value of 10.0 assumes a properly compacted subgrade soil and controlled backfill. We recommend that the graded aggregate layer consist of gravels, crushed stone, crushed rock (GW, GP) with 0 to 1.5 percent of fines or with 0 to 3 percent sands (SW, SP) with a minimum CBR value of 80.

The recommended design section for the paved parking lot is shown in Table 1 below. The thickness below assumes that frost does not penetrate into the subgrade and that the subgrade is not frost-susceptible.

**Table 1: Flexible Pavement Recommendations for Parking Lot**

Layer Type	Thickness (inches)
Asphalt	4.0
Graded Aggregate	9.0

We recommend that topsoil, any soft, high plasticity or unsuitable materials, or any rubble or debris encountered near the ground surface of all paved areas be removed and disposed off-site. The stripped surface should be proofrolled and carefully observed at the time of construction in order to aid in identifying localized soft or unsuitable materials which should be removed. Good drainage should be provided to minimize the possibility of the subgrade materials becoming saturated over a long period of time.

We suggest that, at the time of construction, California Bearing Ratio (CBR) and Atterberg Limits tests be performed in the proposed pavement areas on representative subgrade materials to confirm the design assumptions noted herein. If the CBR value for the subgrade is less than the assumed value, the asphalt pavement section should be redesigned using the new CBR value.

We recommend that the base course be proofrolled using a fully-loaded, rubber tire, six-wheel dump truck having a minimum gross load of 60,000 pounds. Two passes in each of two perpendicular directions should be performed. Areas that experience pumping or rutting under the proofroll should be improved by over-excavating unstable base and backfilling the over-excavation as described below. We recommend the proofroll be observed by a GEI representative.

## 18. PRELIMINARY RECOMMENDATIONS FOR STORMWATER MANAGEMENT

It is our understanding that all stormwater collected at the site will be directed to a stormwater filter prior to discharging into an existing 15 inch diameter storm sewer below W Street NE. The bio-retention areas will not rely on soil infiltration to manage stormwater.



**Exhibit 2.3**  
**Sustainability Design Analysis**  
**[EXHIBIT WILL APPEAR ON THE FOLLOWING PAGE]**

## **IX. SUSTAINABLE DESIGN**

## **IX. SUSTAINABLE DESIGN**

### **A. INTRODUCTION:**

The DC government desires that their facilities and construction methods incorporate sustainable design features to the greatest extent possible while achieving LEED Silver.

### **B. DCRA GREEN DETERMINATION REQUEST FORM:**

Please refer to the following page.



# DCRA - Green Building Department

## Green Determination Request Form

### Directions:

Form to be completed and signed by Project Architect and project owner/tenant\*. It may be submitted at any time prior to building permit plan submissions to DCRA. If utilizing a Third Party Agency for Plan Review, this form shall be submitted to DCRA Green Building Division prior to any TPR Notice of Intent can be authorized.

### Project Contact Information

Application Date:

Address (include floor and suite #)	
Square and LOT (Zoning)	
Tenant/Owner name*	
Tenant/Owner Phone #	
T/O representative name	
T/O representative email	
Architecture Firm	
Architect Phone #	
Architect name	
Architect email	

Provide project scope of work description: (provide attachment if more space is required.)

Project Information		Yes	No	If answered "Yes" :
1	Does this project involve a Change of Use group?			Provide & attach description outlining change.
2	Does this project involve a Change of Space Conditioning?~			
3	Is there a BZA or PUD case associated with this project?			Provide & attach Case determination.
4	Is this <i>New Construction</i> ?			skip to question #8
5	In this an <i>Addition</i> ?			List ft <sup>2</sup> of Addition(all floors):
6	Is this an <i>Alteration</i> as defined by the IEBC?			List ft <sup>2</sup> of alteration area (incude I, II, & III):
6.1	Is this <i>Level-III alteration</i> as defined by IEBC?			
7	Is this Demolition Only?^			List Demolition ft <sup>2</sup> :
7.1	Is it interior only demolition?			
7.2	Is it a RAZE?+			attach narrative of proposed project for site.
8	Is this district owned or charter school?			attach narrative and supporting documentation of financing sources, financing value, current DC tax assesment of property improvements per office of tax revenues, & singed esimate of construction costs from for entire project.
9	Is there any District Financing or District Instrumentality Financing involved in this project, including any loans, land transfer, grants, tax relief, etc as defined by Green Building Act)?			

\* Building Owner shall be listed if work being proposed is directly controlled by the owner or owner representiitve. Tenant shall be listed if the work being proposed is included within the limits of a contacted tenant space within the building.

~ As defined by IECC or ASHRAE 90.1; any *unconditioned* , *semi-heated* , or *low-energy space* (room or building) being converted into a *conditioned space*.

^For demolition only projects, see DCRA Code Interpretations for Green Construction Code (GCC) applicability.

+ For Raze only projects, see DCRA Code Interpretation for GCC applicability.

	Yes	No	If Yes, :
10	have there been, or will there be other building permits for this building for this owner/tenant within 1 year?		
10.1	Disclose any building Permits at this lot obtained by the owner/tenant, either submitted to DCRA within the previous year, or planned to be submitted within one year of this date. This includes phased construction, several spec suites, etc. Provide narrative along with scope and any permit numbers in an attached form.		
11	List project Area^:		
	above grade floors*		ft <sup>2</sup>
	below grade floors		ft <sup>2</sup>
	site work		ft <sup>2</sup>
	total project area		ft <sup>2</sup>
12	Identify project type / space use (check all that apply)		
	Residential		Hotel/Motel (or other R1 Use-group (IBC))
	Non-Residential		Tenant Fit-Out
	Mixed Use (if yes attach description and ft <sup>2</sup> of each area type.)		1st time Tenant Fit-Out ( in new building or newly revamped building.)
	Educational (if yes circle one: Public -- Private -- Charter )		
13	Provide any additional information you feel pertinent to this project Determination in Exhibits attached to this request.		

I/we would like to request a determination on the applicable requirements under the Green Building Act, DC Green Construction Code, and DC Energy Conservation Code for the following project based on the facts provided in this document and in attachments.

### Authentication:

By signing below, under penalties of perjury, I declare that I have examined this request, including accompanying documents, and to the best of my knowledge and belief, the request contains all the relevant facts relating to the request, and such facts are true, correct, and complete.

Owner/Tenant representative

Signature & Date

Printed Name

Architect or Design Principle in charge

Signature & Date

Printed Name

Note: Additional information about the Green Building Division, codes referenced, compliance options, reference guides, code interpretations, and much more can be found on our website, [buildgreendc.org](http://buildgreendc.org). Scoping language for the DC Green Construction Code and DC Energy Conservation Code can be found in the current DCMR-A sections 101.4.7 and 101.4.9.

^ Project Area includes all alteration (Level I, II, & III), addition, and new construction areas including below grade level work, occupied penthouses, and site work located on lot, but excluding roof area work if not covered, mechanical penthouse areas, and interior demolition area if the same as alteration area. Project area shall include all phases of construction in this area.

\* Above grade floor project ft<sup>2</sup> includes any occupied penthouse ft<sup>2</sup>. Project ft<sup>2</sup> shall exclude roof area work if not covered, mechanical penthouse areas. Project area shall include all phases of construction in area calculations.

## DCRA - Green Building Department

# Green Determination

Submit Green Building Determination Request to:

green.building@dc.gov

or

Department of Consumer and Regulatory Affairs  
2nd floor- Green Building Department  
1100 4th Street SW, Washington, DC 20024

Project address / name:

No	Yes	
		<b>DC Green Building Act (GBA).</b> As outlined in published Law or chapter 3 of DC-IgCC, DCMR-K
		<div style="margin-left: 20px;">a. Public side, Requiring the following certification:</div>
		<div style="margin-left: 40px;">i. LEED Certified</div>
		<div style="margin-left: 40px;">ii. LEED Silver</div>
		<div style="margin-left: 40px;">iii. LEED Gold –LEED for Schools</div>
		<div style="margin-left: 40px;">iv. EGC-Enterprise Green Communities Certified</div>
		<div style="margin-left: 20px;">a. Private side, Requiring the following certification:</div>
		<div style="margin-left: 40px;">i. LEED Certified</div>
		<div style="margin-left: 40px;">ii. LEED Gold –LEED for School</div>
		<b>DC Green Construction Code (DC-IgCC).</b> 2012 IgCC amended by 2013 DCMR-K. Reference DCMR 101.4.9.4 for alternative compliance paths. If choosing DC-GCC, the flowing sections will apply to this project:
		<div style="margin-left: 20px;">i. Section 611 and Chapter 9-Commissioning</div>
		<div style="margin-left: 20px;">ii. Section 505, Material Selection</div>
		<div style="margin-left: 20px;">iii. APPENDIX-A , Project Electives</div>
		<div style="margin-left: 20px;">iv. Other:</div>
		<b>DC Energy Code (DC-IECC).</b> 2012 IECC as Amended by 2013 DCMR-I & 2010 ASHRAE 90.1 alternative compliance path option. Note: all projects require an Energy Code review & Energy code compliance.
		<div style="margin-left: 20px;">i. Either DC-IECC or 2010 ASHRAE 90.1 are acceptable.</div>
		<div style="margin-left: 20px;">ii. 2010 ASHRAE 90.1 required. Optional prescriptive, performance, or trade-of path due to GBA required compliance path.^</div>
		<div style="margin-left: 20px;">iii. 2010 ASHRAE 90.1 required. Optional prescriptive, performance, or trade-of path. Due to base building designed to 90.1 standard.~</div>
		<div style="margin-left: 20px;">iv. DC-IECC (2012 IECC Amended by 2013 DCMR-I,) required due to base building designed to DC-IECC tandard.~</div>

Notes:

Completed by:

Date:

This Determination is based on information provided by owner and Architect. If at any point in the future, it is deemed that this information was not accurate or complete, DCRA Green Building Department reserves the right to alter this determination, possibly changing required compliance paths. If at any point during design or construction, the selections or declared amounts listed change, it is the owner and Architects responsibility to contact DCRA Green building department for direction.

^ If complying with LEED V4 or EGC, ASHRAE 90.1 2010 shall be your required Energy code compliance path.

~ If a first time tenant fit-out, project shall be required to utilize the same Energy code compliance path as base building was designed and built under.

**C. ENVIRONMENTAL INTAKE FORM:**

Please refer to the following page.

## Environmental Intake Form ☐

### Owner & Contact Information ☐

Complete address of proposed work

Square <input type="checkbox"/>	Suffix (if any) <input type="checkbox"/>	Lot <input type="checkbox"/>	Application date (4 numbers for year)
Number <input type="checkbox"/>	Ext <input type="checkbox"/>	Official street name <input type="checkbox"/>	Quadrant <input type="checkbox"/> Unit/Suite <input type="checkbox"/>
1601		W STREET	NE

Project name <input type="checkbox"/>	Application number (if applicable) <input type="checkbox"/>	Project Description <input type="checkbox"/>	
DGS BUS TERMINAL			
6. Owner	7. Complete mailing address (include zip)	8. Phone	9. Email, if you prefer e-notice
OSSE			
10. Agent for owner, if applicable	11. Complete mailing address (include zip)	12. Phone	13. Email, if you prefer e-notice

### Project Scope ☐

Scope (Check all that this project involves.)	No	Yes	If You Answer "Yes"
1. Is this project a residential structure within R, RF and RA-1 zoning districts?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2. Is this project a single-family structure <b>not</b> built in conjunction with 2 or more units?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3. Is this project an accessory structure, such as a garage, patio, pool, or fence?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4. Is this project only an interior renovation with no building use or capacity change?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5. Is this project in an Economic Development Zone, as defined in DC Official Code § 6-1501 et seq (DC Law 7-177)?	<input type="checkbox"/>	<input type="checkbox"/>	
6. Is this project in the Central Employment Area, defined in DC Zoning Regulations?	<input type="checkbox"/>	<input type="checkbox"/>	
7. Does the project involve <b>only</b> operation, repair, maintenance, or minor alteration of public structures, facilities, mechanical equipment, or topographical features, with <b>negligible or no</b> expansion of use beyond its current use?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
8. Does the owner of this site own adjacent or abutting property?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
9. Do you plan to develop adjacent/abutting property in next 3 years?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Attach a site plan. If there is no plan, attach a written explanation.
10. Do you plan more development that requires permit(s) on any site in this square in next 3 years?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
11. Is this project a solid waste facility?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See EIS Coordinator.
12. Have you prepared an Environmental Impact Statement (EIS) or a functional equivalent, as required by the National Environmental Policy Act of 1969 (NEPA)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Attach the EIS or equivalent.
13. Are you claiming an exemption, other than those listed in this form, from the requirement to submit an Environmental Screening Form, under Title 20 § 7202.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Attach an explanation; cite relevant section of regulations.
14. Is the total project cost more than \$1.90 million, including site preparation and construction?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	If you're not claiming an exemption, attach an EISF.
15. For projects with a total cost of \$1.90 million or less, check all that apply: <ul style="list-style-type: none"> <li>Contains threatened or endangered plant or animal species.</li> <li>Is within 100 feet of a pond, stream, lake, spring, or wetland.</li> <li>Project will produce emission of odorous or other air pollutants (from any source, including VOCs)</li> <li>Project produce, use, or dispose of hazardous substances, as defined in 20 DCMR 7299</li> <li>Will be built on land where the water table depth is less than 3 feet.</li> <li>Will require blasting.</li> <li>Will generate medical, infectious, radioactive, or hazardous waste.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	If you check any item, attach EISF or equivalent.

I certify that all statements on this application are true and complete to the best of my knowledge and belief. I agree to comply with all applicable DC laws and regulations. The making of false statements on this application is punishable by criminal penalties. (DC Code Sec. 22-2514)

Signature of Owner/Authorized Agent \_\_\_\_\_ Date \_\_\_\_\_

### OFFICIAL USE ONLY ☐

#### Environmental Impact Screening Form Required

Yes. Referred to EIS Coordinator ☐ No ☐ DCRA Reviewer \_\_\_\_\_ Date \_\_\_\_\_

NOTE: Building permit approval is not the same as approval of an action or entire project under the Environmental Policy Act of 1989. If you build on the same, adjacent, or abutting property, or expand on work covered by this Environmental Intake Form within 3 years, you may be required to file an EISF for the whole project, including the part covered by this application and permit approval. If the action violates any federal or DC environmental laws, an EISF can be required. ☐

To report waste, fraud, or abuse by any DC government office or official, call the Inspector General: 1-800-521-1639 ☐



**D. BASELINE ENERGY STUDY:**

To be submitted for the upcoming 65% Submission.

**E. USGBC LEED SILVER COMPLIANCE CHECKLIST AND REPORT:**

**1. LEED CERTIFICATION**

The facility will be designed and constructed to meet the requirements of LEED Silver Certification. Sustainable design techniques will be incorporated throughout the facility and site to insure energy efficiency, air quality and occupant comfort. The design will use a whole-building approach to sustainability by optimizing performance in vital areas of human and environmental health: sustainable site development, water savings, energy efficiency, materials selection and indoor environmental quality.

**2. LEED CHECKLIST**

The LEED V4 for BD+C: New Construction and Major Renovation Checklist is the basis of design for this facility. See the attached checklist for the proposed sustainable design elements to be achieved. The attached list is preliminary and the A/E reserves the option of revising the list of proposed credits as design and construction progresses; however, a minimum of 50 points will be achieved.

**3. USGBC REGISTRATION**

The facility will be registered with the USGBC for verification and certification. LEED On-Line is the method of registration and certification. All pertinent information will be provided to the USGBC via LEED Letter Templates as required by the program.



LEED v4 for BD+C: New Construction and Major Renovation  
Project Checklist

Project Name: DGS Bus Terminal Renovation  
Date:

?	N			
1		Credit	Integrative Process	1
3	24	Location and Transportation		
	16	Credit	LEED for Neighborhood Development Location	16
		Credit	Sensitive Land Protection	1
	1	Credit	High Priority Site	2
	3	Credit	Surrounding Density and Diverse Uses	5
		Credit	Access to Quality Transit	5
		Credit	Bicycle Facilities	1
	1	Credit	Reduced Parking Footprint	1
	1	Credit	Green Vehicles	1

7	0	Sustainable Sites			10
		Prereq	Construction Activity Pollution Prevention	Required	
	1	Credit	Site Assessment	1	
	2	Credit	Site Development - Protect or Restore Habitat	2	
	1	Credit	Open Space	1	
	3	Credit	Rainwater Management	3	
		Credit	Heat Island Reduction	2	
		Credit	Light Pollution Reduction	1	

1	2	Water Efficiency			11
		Prereq	Outdoor Water Use Reduction	Required	
		Prereq	Indoor Water Use Reduction	Required	
		Prereq	Building-Level Water Metering	Required	
		Credit	Outdoor Water Use Reduction	2	
		Credit	Indoor Water Use Reduction	6	
	2	Credit	Cooling Tower Water Use	2	
	1	Credit	Water Metering	1	

2	4	Energy and Atmosphere			33
		Prereq	Fundamental Commissioning and Verification	Required	
		Prereq	Minimum Energy Performance	Required	
		Prereq	Building-Level Energy Metering	Required	
		Prereq	Fundamental Refrigerant Management	Required	
		Credit	Enhanced Commissioning	6	
		Credit	Optimize Energy Performance	18	
	1	Credit	Advanced Energy Metering	1	
	1	Credit	Demand Response	2	
		Credit	Renewable Energy Production	3	
	1	Credit	Enhanced Refrigerant Management	1	
	2	Credit	Green Power and Carbon Offsets	2	

8	0	5	Materials and Resources		13
Y		Prereq	Storage and Collection of Recyclables	Required	
Y		Prereq	Construction and Demolition Waste Management Planning	Required	
		Credit	Building Life-Cycle Impact Reduction	5	
2		Credit	Building Product Disclosure and Optimization - Environmental Product Declarations	2	
2		Credit	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2	
2		Credit	Building Product Disclosure and Optimization - Material Ingredients	2	
2		Credit	Construction and Demolition Waste Management	2	

11	2	1	Indoor Environmental Quality		16
Y		Prereq	Minimum Indoor Air Quality Performance	Required	
Y		Prereq	Environmental Tobacco Smoke Control	Required	
2		Credit	Enhanced Indoor Air Quality Strategies	2	
3		Credit	Low-Emitting Materials	3	
1		Credit	Construction Indoor Air Quality Management Plan	1	
2		Credit	Indoor Air Quality Assessment	2	
1		Credit	Thermal Comfort	1	
1	1	Credit	Interior Lighting	2	
1		Credit	Daylight	3	
	1	Credit	Quality Views	1	
		Credit	Acoustic Performance	1	

1	5	0	Innovation		6
	5		Innovation		5
1			LEED Accredited Professional		1

0	2	0	Regional Priority		4
	1		Regional Priority: § Site Development - Protect or Restore habitat		1
	1		Regional Priority: § Rainwater Management		1
			Regional Priority: Specific Credit		1
			Regional Priority: Specific Credit		1

40	23	36	TOTALS		Possible Points: 110
Certified: 40 to 49 points, Silver: 50 to 59 points, Gold: 60 to 79 points, Platinum: 80 to 110					

# **LEED V4 – New Construction and Major Renovations Project Compliance Report**

**DGS Bus Terminal Renovation  
1601 W Street NE, Washington DC**

**This is a preliminary report for LEED BD+C compliance. The A/E reserves the right to add or change credits during the design.**

## **Integrative Process**

### **IP Credit 1: Integrative Process**

1 Point

#### **Intent**

To support high-performance, cost-effective project outcomes through an early analysis of the interrelationships among systems.

#### **Method of Compliance**

Beginning in pre-design and continuing throughout the design phases, a “simple box” energy modeling analysis and a preliminary water budget analysis are performed to inform the owner’s project requirements (OPR), basis of design (BOD), design documents, and construction documents.

## **Location and Transportation**

### **LT Credit 2: Sensitive Land Protection**

1 Point

#### **Intent**

To avoid the development of environmentally sensitive lands and reduce the environmental impact from the location of a building on a site.

#### **Method of Compliance**

This project is located on a previously developed site and meets all the criteria for this point. Refer to the Location Plan and Civil package for details.

### **LT Credit 3: High Priority Site**

1 Point

#### **Intent**

To encourage project location in areas with development constraints and promote the health of the surrounding area.

#### **Method of Compliance**

This project is located on a U.S. Department of Housing and Urban Development's Qualified Census Tract or Difficult Development Area.

### **LT Credit 4: Surrounding Density and Diverse Uses**

5 Points

#### **Intent**

To conserve land and protect farmland and wildlife habitat by encouraging development in areas with existing infrastructure. To promote walkability, and transportation efficiency and reduce vehicle distance traveled. To improve public health by encouraging daily physical activity.

#### **Method of Compliance**

Option 1 (3 points): The project is located in a site whose surrounding existing density within a ¼ mile radius of the project boundary meets the credit requirement.

And

Option 2 (2 points): The main entrance of the building is located within a ½ mile walking distance of the main entrance of eight or more existing and publicly available diverse uses.

### **LT Credit 6: Bicycle Facility**

1 Point

#### **Intent**

To promote bicycling and transportation efficiency and reduce vehicle distance traveled. To improve public health by encouraging utilitarian and recreational physical activity.

**Method of Compliance**

The functional entry of the project is within a 200-yard bicycling distance from a bicycle network that connects to at least 10 diverse uses and 1 heavy rail station that are within a 3-mile bicycling distance of the project boundary.

## **Sustainable Sites**

### **SS Prerequisite 1: Construction Activity Pollution Prevention**

Required

**Intent**

To reduce pollution from construction activities by controlling soil erosion, waterway sedimentation, and airborne dust.

**Method of Compliance**

An Erosion and Sedimentation control plan is developed for this project and includes all strategies and structures required to meet this prerequisite.

### **SS Credit 1: Site Assessment**

1 Point

**Intent**

To assess site conditions before design to evaluate sustainable options and inform related decisions about site design.

**Method of Compliance**

A site survey or assessment is complete and document, which will include information about topography, hydrology, climate, vegetation, soils, human use, and human health effects.

### **SS Credit 2: Site Development – Protect or Restore Habitat**

2 Points

**Intent**

To conserve existing natural areas and restore damaged areas to provide habitat and promote biodiversity.

**Method of Compliance**

40% of the greenfield area on the site is preserved and protected from all development and construction activity. Also, 30% of all portions of the site identified as previously developed is restored using native or adapted vegetation.

**SS Credit 3: Open Space**

1 Point

**Intent**

To create exterior open space that encourages interaction with the environment, social interaction, passive recreation, and physical activities.

**Method of Compliance**

Physically accessible outdoor space that meets all the criteria of the point and equals to at least 30% of the total site area is provided.

**SS Credit 4: Rainwater management**

3 Points

**Intent**

To reduce runoff volume and improve water quality by replicating the natural hydrology and water balance of the site, based on historical conditions and undeveloped ecosystems in the region.

**Method of Compliance**

Option 1: The runoff from the developed site for the 98<sup>th</sup> percentile of regional or local rainfall events is managed using low-impact development (LID) and green infrastructure.

Or

Option 2: Manage on site the annual increase in runoff volume from the natural

**SS Credit 5: Heat Island Reduction**

2 Points

**Intent**

To minimize effects on microclimates and human and wildlife habitats by reducing heat islands.

**Method of Compliance**

The whole project site is designed to meet the combined roof and nonroof measures using Equation 1 of Option 1, or the roofing material is specified to meet the weighted SR and SRI requirements using Equation 2 of Option 1.

**SS Credit 6: Light Pollution Reduction**

1 Point

**Intent**

To increase night sky access, improve nighttime visibility, and reduce the consequences of development for wildlife and people.

**Method of Compliance**

The lighting is designed to meet both uplight and light trespass requirements, using either the backlight-uplight-glare (BUG) method (option 1) or the calculation method (option 2)

**Water Efficiency**

**WE Prerequisite 1: Outdoor Water Use Reduction**

Required

**Intent**

To reduce outdoor water consumption.

**Method of Compliance**

Option 1: The landscape does not require a permanent irrigation system beyond maximum two-year establishment period.

Or

Option 2: The project's landscape water requirement is reduced by at least 30% from the calculated baseline for the site's peak watering month.

**WE Prerequisite 2: Indoor Water Use Reduction**

Required

**Intent**

To reduce indoor water consumption.

**Method of Compliance**

Employ strategies that in aggregate use 20% less water than the water use baseline calculated for the building.

**WE Prerequisite 3: Building-Level Water Metering**

Required

**Intent**

To support water management and identify opportunities for additional water savings by tracking water consumption.

**Method of Compliance**

Permanent water meter that measures the total potable water use for the building and associated grounds is installed.

**WE Credit 1: Outdoor Water Use Reduction**

2 Points

**Intent**

To reduce outdoor water consumption.

**Method of Compliance**

Option 1: The landscape does not require a permanent irrigation system beyond a maximum two-year establishment period.

Or

Option 2: The project's landscape water requirement (LWR) is reduced by at least 50% from the calculated baseline for the site's peak watering month.

**WE Credit 2: Indoor Water Use Reduction**

3 Points

**Intent**

To reduce indoor water consumption.

**Method of Compliance**

Further reduce fixture and fitting water use from the calculated baseline in WE Prerequisite Indoor Water Use Reduction to 35%.



**WE Credit 4: Water Metering**

1 Point

**Intent**

To support water management and identify opportunities for additional water savings by tracking water consumption.

**Method of Compliance**

Permanent water meters for two or more of the following water system are installed: irrigation, indoor plumbing fixtures and fittings, domestic hot water, reclaimed water, and other process water.

**Energy & Atmosphere****EA Prerequisite 1: Fundamental Commissioning and Verification**

Required

**Intent**

To support the design, construction, and eventual operation of a project that meets the owner's project requirements for energy, water, indoor environmental quality, and durability.

**Method of Compliance**

Fundamental Commissioning for this building is specified for all systems to meet the criteria required for this credit.

**EA Prerequisite 2: Minimum Energy Performance**

Required

**Intent**

To reduce the environmental and economic harms of excessive energy use by achieving a minimum level of energy efficiency for the building and its systems.

**Method of Compliance**

The building systems are designed to compliance with the mandatory provisions of ASHRAE 90.1-2010 and demonstrate a 5% improvement in the building performance rating compared with the baseline building performance rating.

### **EA Prerequisite 3: Building-Level Energy Metering**

Required

#### **Intent**

To support energy management and identify opportunities for additional energy savings by tracking building-level energy use.

#### **Method of Compliance**

Building-level energy meters, or submeters are installed that can be aggregated to provide building-level data representing total building energy consumption (electricity, natural gas, fuel oil, etc).

### **EA Prerequisite 4: Fundamental Refrigerant Management**

Required

#### **Intent**

To reduce stratospheric ozone depletion.

#### **Method of Compliance**

All HVAC equipment is provided with a refrigerant other than CFCs.

### **EA Credit 1: Enhanced Commissioning**

3 Points

#### **Intent**

To further support the design, construction, and eventual operation of a project that meets the owner's project requirements for energy, water, indoor environmental quality, and durability.

#### **Method of Compliance – Option 1 – Whole Building Energy Simulation**

Enhanced Commissioning for this building is specified for all systems to meet the criteria required for this credit.

### **EA Credit 2: Optimize Energy Performance**

4 Points

#### **Intent**

To achieve increasing levels of energy performance beyond the prerequisite standard to reduce environmental and economic harms associated with excessive energy use.

**Method of Compliance**

The building systems are designed to compliance with the mandatory provisions of ASHRAE 90.1-2010 and demonstrate a 12% improvement in the building performance rating compared with the baseline building performance rating.

**EA Credit 3: Advanced Energy Metering**

1 Point

**Intent**

To support energy management and identify opportunities for additional energy savings by tracking building-level and system-level energy use.

**Method of Compliance**

Advanced energy metering have the credit required characteristics is installed for the whole-building energy sources used by the building, and any individual energy end uses that represent 10% or more of the total annual consumption of the building.

**EA Credit 6: Enhanced Refrigerant Management**

1 Point

**Intent**

To reduce ozone depletion and support early compliance with the Montreal Protocol while minimizing direct contributions to climate change.

**Method of Compliance**

All HVAC and refrigerants are designed to comply with Refrigerant Impact Calculation specified in the credit.

**Materials & Resources****MR Prerequisite 1: Storage and Collection of Recyclables**

Required

**Intent**

To reduce the waste that is generated by building occupants and hauled to and disposed of in landfills.

**Method of Compliance**

Dedicated areas that is accessible to waste haulers and building occupants for the collection and storage of recyclable materials for the entire building are provide

## **MR Prerequisite 2: Construction and Demolition Waste Management Planning**

Required

### **Intent**

To reduce construction and demolition waste disposed of in landfills and incineration facilities by recovering, reusing, and recycling materials.

### **Method of Compliance**

A construction and demolition waste management plan that meets the prerequisite criteria is developed and implemented. A final report is provided, detailing all major waste streams generated, including disposal and diversion rates.

## **MR Credit 2: Building Product Disclosure and Optimization – Environmental Product Declarations**

2 Points

### **Intent**

To encourage the use of products and materials for which life-cycle information is available and that have environmentally, economically, and socially preferable life-cycle impacts. To reward project teams for selecting products from manufacturers who have verified improved environmental life-cycle impacts.

### **Method of Compliance**

Option 1 (1 point): At least 20 different permanently installed products are sourced from at least five different manufacturers that meet the disclosure criteria listed in the credit requirement.

And

Option 2 (1 point): 50%, by cost, of the total value of permanently installed products used in this project complies with the criteria listed in the credit requirement.

## **MR Credit 3: Building Product Disclosure and Optimization – Sourcing or Raw Materials**

2 Points

### **Intent**

To encourage the use of products and materials for which life cycle information is available and that have environmentally, economically, and socially preferable life

cycle impacts. To reward project teams for selecting products verified to have been extracted or sourced in a responsible manner.

**Method of Compliance**

Option 1 (1 point): At least 20 different permanently installed products used in the project are from at least five different manufacturers that have publicly released a report from their raw material suppliers which include all the information required by this credit.

And

Option 2 (1 point): At least 25%, by cost, of the total value of permanently installed building projects in this project meet at least one of the responsible extraction criteria listed in the credit requirements.

**MR Credit 4: Building Product Disclosure and Optimization – Material Ingredients**  
2 Points

**Intent**

To encourage the use of products and materials for which life-cycle information is available and that have environmentally, economically, and socially preferable life-cycle impacts. To reward project teams for selecting products for which the chemical ingredients in the product are inventoried using an accepted methodology and for selecting products verified to minimize the use and generation of harmful substances. To reward raw material manufacturers who produce products verified to have improved life-cycle impacts.

**Method of Compliance**

Option 1 (1 point): At least 20 different permanently installed products used in this project are from at least five different manufacturers that demonstrate the chemical inventory of the product to at least 0.1% in one of the listed formats as indicated in the credit requirements.

And/or

Option 2 (1 point): at least 25%, by cost, of the total value of permanently installed products in the project document their material ingredient optimization using the paths listed in this credit requirement.

And/or

Option 3 (1 point): at least 25%, by cost, of the total value of permanently installed products in the project meets the criteria listed in the credit requirement.

**MR Credit 5: Construction and Demolition Waste Management**

2 Points

**Intent**

To reduce construction and demolition waste disposed of in landfills and incineration facilities by recovering, reusing, and recycling materials.

**Method of Compliance**

Option 1 (2 points): At least 75% of the total construction and demolition materials are diverted, and the diverted materials include at least four material streams.

Or

Option 2 (2 points): construction waste generated is no more than 2.5 pounds per square foot of the building's floor area.

**Indoor Environmental Quality****IEQ Prerequisite 1: Minimum Indoor Air Quality Performance**

Required

**Intent**

To contribute to the comfort and well-being of building occupants by establishing minimum standards for indoor air quality (IAQ).

**Method of Compliance**

The minimum outdoor air intake flow for constant-volume mechanical ventilation systems is determined per ASHRAE 62.1-2010. The system is balanced to the design rate, and a monitoring device is installed as required by the credit.

**IEQ Prerequisite 2: Environmental Tobacco Smoke Control**

Required

**Intent**

To prevent or minimize exposure of building occupants, indoor surfaces, and ventilation air distribution systems to environmental tobacco smoke.

**Method of Compliance**

Smoking is prohibited inside the building, and outside the building except in designated smoking areas located at least 25 feet from all entries, outdoor air intakes, and operable windows.

### **IEQ Credit 1: Enhanced Indoor Air Quality Strategies**

2 Points

#### **Intent**

To promote occupants' comfort, well-being, and productivity by improving indoor air quality.

#### **Method of Compliance**

Option 1 (1 point): Entryway systems, interior cross-contamination prevention and filtration are provided per credit requirement.

And

Option 2 (1 point): CO2 concentrations within all densely occupied spaces are monitored per credit requirement.

### **IEQ Credit 2: Low-Emitting Materials**

3 Points

#### **Intent**

To reduce concentrations of chemical contaminants that can damage air quality, human health, productivity, and the environment.

#### **Method of Compliance**

Option 1 (3 points): The products achieve the threshold of compliance with emissions and content standards for the number of product categories as listed in the credit requirements.

Or

Option 2 (3 points): Materials are selected to meet the 90% of compliant using the budget calculation method as listed in the credit requirements.

### **IEQ Credit 3: Construction Indoor Air Quality Management Plan**

1 Point

#### **Intent**

To promote the well-being of construction workers and building occupants by minimizing indoor air quality problems associated with construction and renovation.

**Method of Compliance**

An indoor air quality (IAQ) management plan is developed and implemented for the construction and preoccupancy phases of the building per criteria listed in the credit requirements. Tobacco products are prohibited inside the building and within 25 feet of the building entrance during construction.

**IEQ Credit 4: Indoor Air Quality Assessment**

2 Points

**Intent**

To establish better quality indoor air in the building after construction and during occupancy.

**Method of Compliance**

Option 1 (1 point): Flush-out is provided before or during occupancy per criteria listed in the credit requirement.

Or

Option 2 (2 points): A baseline IAQ testing using protocols consistent with the methods listed in the credit requirement is conducted after construction ends and before occupancy, but under ventilation conditions typical for occupancy, and the contaminants do not exceed the concentration levels listed in the credit requirements.

**IEQ Credit 5: Thermal Comfort**

1 Point

**Intent**

To promote occupants' productivity, comfort, and well-being by providing quality thermal comfort.

**Method of Compliance**

The HVAC systems and the building envelop are designed to meet the requirements of ASHRAE Standard 55-2010.

**IEQ Credit 6: Interior Lighting**

1-2 Points



**Intent**

To promote occupants' productivity, comfort, and well-being by providing high-quality lighting.

**Method of Compliance**

Option 1 (1 point): Lighting controls are provided for 90% of the individual occupant spaces and 100% of shared, multioccupant spaces, per criteria listed in the credit requirements.

And/or

Option 2 (1 point): Strategies to improve the lighting quality are implemented to meet the criteria listed in the credit requirements.

**IEQ Credit 7: Daylight**

1 Point

**Intent**

To connect building occupants with the outdoors, reinforce circadian rhythms, and reduce the use of electrical lighting by introducing daylight into the space.

**Method of Compliance**

Option 1 (2-3 points): The annual computer simulations demonstrate that the spatial daylight autonomy and sunlight exposure1000,250 (ASE1000,250) achieves the percentage as listed in the credit requirement.

Or

Option 2 (1-2 points): the computer modeling demonstrates that illuminance levels meet the criteria of the credit.

Or

Option 3 (2-3 points): the percentage of regularly occupied floor area that achieve illuminance levels between 300 lux and 3,000 lux meets the criteria of the credit.

**IEQ Credit 8: Quality Views**

1 Point

**Intent**

To give building occupants a connection to the natural outdoor environment by providing quality views.

**Method of Compliance**

A direct line of sight to the outdoors via vision glazing for 75% of all regularly occupied floor area is achieved. Also, 75% of all regularly occupied floor area has the kind of view as listed in the credit requirements.

## Innovation

**ID Credit 1.1: Innovation – Sustainable Wastewater Management**

1 Point

**Intent**

To increase the efficiency of wastewater reuse by encouraging water reuse, reduction or recovery.

**Method of Compliance**

Rainwater reuse is implemented in the project.

**ID Credit 1.2: Innovation – Occupant Comfort Survey**

1 Point

**Intent**

To assess building occupants' comfort.

**Method of Compliance**

At least one occupant comfort survey is performed once every 2 year to collect anonymous responses regarding at least acoustics, building cleanliness, indoor air quality, lighting, and thermal comfort. A corrective action plan is developed and implemented per survey results to address comfort issues if the results indicate that more than 20% of occupants are dissatisfied.

**ID Credit 1.3: Innovation – Design for Active Occupants**

1 Point

**Intent**

To improve the health of building users through physical activity while reducing environmental impacts.

**Method of Compliance**

The project building has at least one main stair that enables occupants to travel between the building entrance floors, occupant's own destination floor and common

use floors, and that primary staircase meet the criteria as listed in the credit requirement.

**ID Credit 1.4: Exemplary Performance – TBD**

1 Point

**Intent**

**Method of Compliance**

**ID Credit 1.5: Exemplary Performance – TBD**

1 Point

**Intent**

**Method of Compliance**

**ID Credit 2: LEED Accredited Professional**

1 Point

**Intent**

To encourage the team integration required by a LEED project and to streamline the application and certification process.

**Method of Compliance**

At least one principle participant of the project is a LEED Accredited Professional with a specialty appropriate for the project.

## **Regional Priority**

**IP Credit 1: Regional Priority Specific Credit – Site Development – Protect or Restore Habitat**

1 Points

**Intent**

To provide an incentive for the achievement of credits that address geographically specific environmental, social equity, and public health priorities.

**Method of Compliance**

The project gets this point by successfully earning 2 points from the SSc2.

**IP Credit 2: Regional Priority Specific Credit – Rainwater management**

1 Points

**Intent**

To provide an incentive for the achievement of credits that address geographically specific environmental, social equity, and public health priorities.

**Method of Compliance**

The project gets this point by successfully earning 3 points from the SSc4.

**Exhibit 2.4**  
**Schedule Phase II**  
**[EXHIBIT WILL APPEAR ON THE FOLLOWING PAGE]**





**Exhibit 2.5**  
**Green Roof Comparisons**  
**[EXHIBIT WILL APPEAR ON THE FOLLOWING PAGE]**



# Types of Green Roofs: Benefits



**Extensive  
green roof**

- ◆ Lightweight
- ◆ Suitable for larger areas
- ◆ Low maintenance costs and can be designed for no irrigation
- ◆ More suitable for retrofit projects
- ◆ Low Cost
- ◆ Easy to replace



**Semi-intensive green roof  
(Hybrid)**

- ◆ Combines best features of Intensive and Extensive
- ◆ Maximizes design and plant choice over areas with greatest load capacity
- ◆ Greater coverage at relatively low cost
- ◆ Average amount of maintenance
- ◆ Greater plant diversity
- ◆ Creates opportunities for design



**Intensive  
green roof**

- ◆ Largest plant diversity
- ◆ Best insulation properties and storm water management
- ◆ Greatest range of design
- ◆ Usually accessible
- ◆ Greater variety of use



greensulater







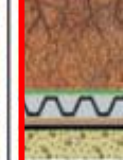

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## Green Roof Systems

With the German evolution of **modern green roof technology** in the last 4 decades more and more **green roof systems** have been developed and existing systems or green roof components have been improved. There are multiple manufactures that offer different green roof solutions for any size of roof. Some systems are better for smaller application other green roof systems are more efficient for large projects. Sometimes a combination of different systems can be the ideal solution in regard of performance, installing costs, maintenance and efficiency.

<div>GREEN ROOF SYSTEMS</div> <div>according FLL</div>	SYSTEMS WITH GRANULAR DRAINAGE				SYSTEMS WITH DRAINAGE PLATES			
								
system designation	G1	G2	G3	G4	P1	P2	P3	P4
typical plants	sedum herbs	sedum herbs perennials	perennials grasses shrubs	grasses shrubs trees	sedum herbs	sedum herbs perennials	perennials grasses shrubs	grasses shrubs trees
extensive soil mix	2"	4"	-	-	3"	5"	-	-
intensive soil mix	-	-	6"	9"	-	-	8"	12"
separation fabric	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"
granular drainage	2"	2"	4"	6"	-	-	-	-
drainage plate	-	-	-	-	1"	1-1/2"	1-1/2"	2-1/2"
drainage mat	-	-	-	-	-	-	-	-
protection mat	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"
nominal thickness	4"	6"	10"	15"	4"	7"	10"	15"
dry weight	19 lbs/ft <sup>2</sup>	28 lbs/ft <sup>2</sup>	45 lbs/ft <sup>2</sup>	69 lbs/ft <sup>2</sup>	14 lbs/ft <sup>2</sup>	23 lbs/ft <sup>2</sup>	34 lbs/ft <sup>2</sup>	52 lbs/ft <sup>2</sup>
saturated weight	26 lbs/ft <sup>2</sup>	41 lbs/ft <sup>2</sup>	70 lbs/ft <sup>2</sup>	105 lbs/ft <sup>2</sup>	23 lbs/ft <sup>2</sup>	37 lbs/ft <sup>2</sup>	57 lbs/ft <sup>2</sup>	85 lbs/ft <sup>2</sup>
minimum slope	0:12	0:12	0:12	0:12	1/4:12	1/4:12	1/4:12	1/4:12
maximum slope	1:12	1:12	1:12	1:12	1:12	1:12	1:12	1:12
water retention/Year*	50%	60%	70%	80%	50%	60%	70%	80%
irrigation system	-	-	subsurface	subsurface	-	-	surface	surface

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\* conservative numbers

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