

**GOVERNMENT OF THE DISTRICT OF COLUMBIA
DEPARTMENT OF GENERAL SERVICES**



ATTACHMENT A2

TECHNICAL REQUIREMENTS AND SUBMITTAL GUIDE

[ATTACHMENT WILL APPEAR ON THE FOLLOWING PAGE]

GOVERNMENT OF THE DISTRICT OF COLUMBIA

**DEPARTMENT OF GENERAL SERVICES
CAPITAL CONSTRUCTION SERVICES ADMINISTRATION**

TURKEY THICKET RECREATION CENTER ADA UPGRADES

AE SERVICES FOR TURKEY THICKET ADA UPGRADES

“TECHNICAL REQUIREMENTS AND SUBMITTAL GUIDE”

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INDEX

<u>Section Numbers</u>	<u>Section Title</u>	<u>Page</u>
1.	General Information	3
2.	Scope and Definition	3
3.	Surveys and Hazardous Materials	6
4.	Basic Services	9
5.	Design Phases	11
5.1.	Program of Requirements Phase	11
5.2.	Schematic Design Phase	11
5.3.	Design Development Phase	16
5.4	Construction Documents Phase	26
5.5	Compliance Phase	33
5.6	Certification of Drawings	34
5.7	A/E Responsibility to Obtain Building Permits	34
5.8	Construction Administration	35
5.9	Project Closeout	36
6.	Project Calendar	37

DISTRICT OF COLUMBIA DEPARTMENT OF GENERAL SERVICES

“TECHNICAL REQUIRMENTS AND SUBMITTAL GUIDE”

TURKEY THICKET RECREATION CENTER ADA UPGRADES

Turkey Thicket ADA Upgrades

1100 Michigan Avenue, NE, Washington, DC 20017

1. GENERAL INFORMATION:

- 1.1. All written requests or correspondence regarding this Contract shall be addressed to the Capital Construction Services Division, Department of General Services (“DGS”), 1250 U Street NW – 4th Floor Washington, DC 20009, unless otherwise specified in the Contract. In all matters pertaining to this Appendix, information and coordination shall be through the DGS Capital Construction Services Division.
- 1.2. All final decisions relating to design are within the purview of the Director, Department of General Services or the Director’s authorized representative.
- 1.3. During the construction period of the facility for which services are to be performed under this Contract, the Architect/Engineer (“A/E”) shall, without additional cost to the District of Columbia (the “District”), be available for complete consulting services on errors, omissions and discrepancies in drawings and specifications for all phases of the design.
- 1.4. Changes in this Attachment-A2 may be made from time to time to accommodate modifications in the requirements of the District, or the requirements for the particular project set forth in the Scope of Work (“SOW”) of the Contract. Such changes, when required, shall be identified as a Supplement and/or Errata Sheet and numbered sequentially, and/or specifically amended. Changes applicable only to a specific project and Contract shall be identified as supplement and/or specifically amended in the SOW, and be applicable to have effect only with respect to the project and Contract number to which attached and made a part thereof.

2. SCOPE AND DEFINITION:

This Attachment-A2 defines both the technical requirements and the submittal schedules as required for the District.

2.1. Technical Requirements:

It is expressly understood and agreed that requirements set forth hereafter are minimum requirements only, not intended to be all inclusive, and that, notwithstanding the absence of any provision of this Attachment-A2. Therefore, it is the responsibility of the A/E to provide all services necessary for a complete and integrated design of the facility specified in the SOW. This will include all design engineering features, equipment, system, etc., usually or customarily found in or necessary for the design of a structure or facility of the kind and type described therein, together with technical specification, design analyses, construction cost estimates and photographs.

2.2. Submittal Schedule:

The preparation of the documents for construction work is complex, exacting, and time-consuming. In each project there are a minimum of three interested parties: the end user, DGS and the A/E. The establishment of a mutually acceptable design with the minimum effort will be accomplished by graphic and textual design solutions to be submitted for critical review and comment at certain development stages. The quantity and the development stage of these submissions will vary according to complexity of the work. Following are the submissions for most projects and their minimum contents, unless specifically amended in supplement(s) and/or Scope of Work Attachment-A1:

<u>NO.</u>	<u>Submission</u>	<u>% Completed</u>
I.	Program of Requirements Phase	15% Completed
II.	Schematic Design Phase.....	35% Completed
III.	Design Development... ..	70% Completed
IV.	Construction Documents Phase	90% Completed
V.	Compliance Phase	Final

2.3. Document Preparation:

All documents to be prepared under this Contract will be:

- 2.3.1. Accomplished by the A/E in a clear, orderly, intelligible and professional manner; suitable for reproduction; and
- 2.3.2. Identified by the appropriate project name and number assigned by DGS.
- 2.3.3. Prior to the submittal of any design drawings, specifications, engineering analyses, construction cost estimates, and studies, the A/E shall completely check and coordinate same for accuracy, compliance with the District of Columbia Building Codes, other applicable codes and regulations, and for compliance with the additional requirements outlined hereafter.

Review Time: The A/E shall submit to DGS, a schedule (Monthly Progress Report) showing the salient features of the Work and its start and finish dates. The A/E shall develop a “Monthly Progress Report Guide” for approval by the Project Manager. In preparing the Schedule of Work, the A/E shall allow time for each review by DGS/Construction Division. The review time allowance in calendar days shall be measured from the time DGS receives the submittal until DGS returns the submittal to the A/E, shall be as follows unless otherwise altered in the SOW:

<u>NO.</u>	<u>SUBMISSION</u>	<u>REVIEW TIME</u> (calendar days)
I.	Program of Requirements Phase-----	20
II.	Schematic Design Phase-----	14
III.	Design Development Phase-----	14
IV.	Construction Documents Phase-----	14
V.	Compliance Phase Final Submission-----	14

Note: The above submissions and schedules may be amended by Scope of Work Attachment-A1 and/or Supplement(s).

2.3.3.1. **Monthly Progress Report:** See General Provisions, Section 3.

2.3.3.2. **Time:**

It is understood and agreed that time is of the essence for the performance of the Services provided or required by this Contract. The A/E shall assist the District in preparing, modifying and updating a schedule that will include the A/E's Services, DGS reviews and approvals, and the review and approval of governmental authorities having jurisdiction over the Project and the orderly progress of the design and development of the Project and each Phase thereof (the "Project Schedule"). The Project Schedule shall be prepared so as to coordinate with the dates and objectives of the District's schedules, the Design Schedules, the Construction Phase Schedule, and will not delay the construction and/or completion of the Project. Should the A/E become aware of delays from any source caused by the A/E or others, the A/E shall provide written notice to the Project Manager of such delays within three (3) days of becoming aware of such delays.

2.4. **Reviews:**

2.4.1. The preparation of construction documents is a combined effort of the professional A/E, DGS, the user, and other assignees that are experts in their disciplines. The documents must accurately and completely reflect the design concept to ensure the Project is constructed properly. DGS retains private professional architects and engineers to accomplish this work, confident that their expertise and experience will yield proper documents for the construction of a complete project.

The District shall provide reviews to aid in the correct interpretation of the users' requirements to encourage appropriate creativity in design, corroborate the selected engineering system, and to assess the production of the project. DGS does not consider checking and cross-checking for accuracy of the document to be its obligation. The A/E is completely responsible for all facets of the development of the documents' constructability reviews. The constructability review process shall assure that:

2.4.1.1. The project, as detailed in the plans and specifications, can be constructed using standard construction methods, materials and techniques;

2.4.1.2. The plans and specifications provide the contractor with clear, concise information that can be utilized to prepare a competitive, cost-effective bid; and

2.4.1.3. The Work, when constructed in accordance with the plans and specifications, will result in a project that can be maintained in a cost-effective manner by the District over the life of the project.

3. SURVEYS AND HAZARDOUS MATERIALS:

3.1. Surveys:

3.1.1. Plat Map:

A “Plat Map” for the project site will be obtained by the A/E to be incorporated in the construction documents.

3.2. Hazardous Materials & Contamination:

Removal, Encapsulation, or Enclosure: When the Scope-of-Work Attachment-A1 calls for the alteration and/or modernization of any part or all of any existing building or facility, including Plumbing System, the A/E shall prepare and furnish a report as set forth below:

3.2.1. The A/E shall be responsible conducting an initial field check to determine whether or not asbestos exists on the premises. If findings are positive, the A/E shall promptly contact the Project Manager to report the locations and the extent of the asbestos. The A/E shall also furnish photographs of the asbestos and submit a comprehensive cost estimate for removal, encapsulation, and enclosure of the asbestos that shall be in accordance with the current Public Law and OSHA standards and regulations. The A/E shall notify the Project Manager of any suspicion of hazardous materials or contamination if detected.

3.2.2. When Asbestos exists on the premises, the report from the A/E shall contain inspection photographs as follows:

Requirements for Asbestos Inspection Photographs:

3.2.2.1.1. Photographs shall be created digitally and reproducible in enough detail to clearly delineate the issue.

- 3.2.2.1.2. Each photo shall be uniquely identified so as to clearly identify the location of the issue, the name/number of the Project, date taken, and other pertinent information as necessary.

4. BASIC SERVICES:

The A/E's basic services shall consist of all services included in and attendant to the stages as described hereinafter in this Section. It is the responsibility of the A/E to provide all services necessary for a complete and integrated design of the facility specified in the SOW. This may include, without limitation, all architectural, engineering, technical, interior design, administrative, and other services related to all architectural, structural, mechanical, electrical, plumbing, fire protection, life safety systems, civil engineering, interior design, FF&E, landscape design, vertical transportation (including elevators and pneumatic tubes), IT and telecommunications, medical equipment planning, acoustical, vibration and noise, audio/visual design, lighting design, security system design, graphics/signage/way finding design, materials management, roofing and waterproofing, traffic and parking, hardware materials, and other elements and services as typically provided by an A/E and its consultants for similar projects in similar locations necessary to fully and properly complete the Project, and any and all other services identified in any other provision of this Contract as Basic Services. The A/E recognizes, agrees, and accepts that the District is relying upon it for the complete and total design, development, implementation and administration of the design of the Project and each Phase thereof and, notwithstanding the specific listing of services contained in this Section.

4.1. Review Comments:

All DGS review comments shall be in writing, as these comments are incorporated in the documents. The A/E shall carefully indicate the action taken. If incorporated, the word "done", "complied" or "not complied" will be written adjacent to the comment; if the comment is not acceptable to the A/E, the A/E shall note that the request is "not done or not complied because [insert reason]." The A/E and DGS shall discuss within ten (10) days after each review, and agree to a mutually acceptable action. The final decision, in every instance, remains with DGS. If the A/E cannot concur, the A/E shall modify the work in accordance with DGS directive, then write to DGS that "the work has been done but not in accordance with his professional judgment because [insert reason]."

4.2. Consultations:

In addition to these required submissions, DGS is available for consultation at any time during the contract. This office urges understanding and agreement throughout the job by frequent consultation via telephone, email or in person.

4.3. Conferences:

The A/E shall furnish all information material necessary to coordinate the project with all agencies and with DGS. The A/E or its authorized representative shall attend all meetings, arranged by other agencies or community groups or the Project Manager, to obtain the necessary approval of such agencies or groups. The A/E shall furnish all information, data and exhibits required for such meetings or reviews.

4.4. Small Scale Drawings:

The A/E shall provide small scale drawings of floor plans for the new additions and existing buildings and the site along with the final submission of the contract drawings. Drawings will be 1" = 30' scale. Minimum sheet size is 11" x 17", Site plans will be drawn at a scale of 1" = 50'. Record square foot area on each floor plan as well as the square feet area on the site plan. Submit the originals reproducible and one (1) set of prints.

4.5. Submission Copies:

At each submission the A/E shall submit blue line prints and loaded computer disk(s) in quantities as detailed hereunder unless modified in Scope of Work Attachment-A1:

<u>PHASE</u>	<u>DISK(S)</u>	<u>PRINTS</u>
I. Program of Requirements Phase	1 set	4 sets
II. Schematic Design Phase	1 set	4 sets (two full-size; two half-size)
III. Design Development Phase	1 set	4 sets (two full-size; two half-size)
IV. Construction Documents Phase	1 set	5 sets (4 full-size; one half-size) Per 5.7.2
V. Compliance Phase	1 set	2 sets and the signed drawings
Specifications, Final (Compliance Phase)	1 set	4 sets

When the contemplated design of the facility is expected to involve architectural features that are likely to have impact on the use by the physically handicapped, the number of sets of prints required for submission of the Schematic, and Design Development Phases will be increased by one (1) set. That is to say, three (3) sets will be required instead of the two (2) sets indicated in the chart.

4.6. Computerized Drafting:

All design drafting shall be prepared utilizing Computerized Graphic Software as specified by the Project Manager.

5. DESIGN PHASES:

5.1. Program of Requirements Phase:

The A/E will be responsible for performing feasibility analysis, site development, programmatic test fit and cost estimating services for the new combined facility at the existing site described in document Attachment-A1 Scope of Work before fully developing the Construction Documents and associated specifications for the site selected by ADA for construction.

The Pre-development scope of services include, but are not limited to:

- 5.1.1 Development of Program of Requirements (“POR”) and how those requirements could be designed and implemented on the selected site. The A/E will conduct interviews of all current staff, review of current staffing and equipment procurement plans. The POR must clearly state the minimal design standards, work adjacencies, specialized equipment specifications, and facility circulation requirements that will serve as the basis of design for the A/E.
- 5.1.2 Development of conceptual site massing, programmatic layout and circulation drawing for the existing site. Drawings should include a minimum of one (1) section of the site layout.
- 5.1.3 Preliminary estimate of Construction Cost using area, volume or similar conceptual estimating techniques based on the POR and site requirements.

5.2. Schematic Design Phase:

The purpose of this phase is to arrive at an approved design scheme that fully addresses the program requirements and other information furnished by the District, and that responds to applicable laws, codes and regulations pertaining to the use and location of the project. This phase will prepare sufficient information for the client to select an approach to the design, and to reach a documented understanding with the A/E regarding the requirements of the project. Further, consistent with the Schematic Design, a complete Design Development will be prepared and presented for Client’s written approval.

The goal of Schematic Design is the evaluation of the program, District Standards – including environmental considerations -- schedule, budget, and applicable laws, codes and regulations that pertain to the project. Informed by this evaluation, alternative approaches to design and construction will be explored, and a Project Requirements document prepared for sign-off by the Client.

- 5.2.1. The A/E shall prepare a preliminary evaluation of the District’s Standards, program, schedule, budget for the Cost of Work, site, and the proposed procurement or delivery

method and other Initial Information, each in terms of the other, to ascertain the requirements of the Project. The A/E shall promptly notify the DGS of (1) any inconsistencies discovered in the information, and (2) other information or consulting services that may be reasonably needed for the Project.

- 5.2.2. The A/E shall present its preliminary evaluation to the DGS and shall discuss with the DGS alternative approaches to design and construction of the Project, including the feasibility of incorporating environmentally responsible design approaches. The A/E shall reach an understanding with the DGS regarding the requirements of the Project.
- 5.2.3. Based on the Project's requirements agreed upon with the DGS, the Architect-Engineer shall prepare and present for the DGS's approval a preliminary design illustrating the scale and relationship of the Project components.
- 5.2.4. The A/E shall consider environmentally responsible design alternative, such as material choices and building orientation, together with other considerations based on program and aesthetics, in developing a design that is consistent with the DGS's program, schedule and budget for the Cost of the Work. The A/E shall prepare a written report discussing energy conservation measures and techniques to be employed consistent with the DGS's Standards or the A/E's proposed variances from the DGS's Standards. Such written report shall include an analysis of the cost savings attributable to the incorporation of such measures and techniques.

5.2.5. Project Requirements Document:

- 5.2.5.1. A group of drawings and documents manifesting the A/E's understanding of the client's requirements as defined in the documents and an assessment of the context (conditions, codes, and requirements) within those requirements must be met.
- 5.2.5.2. The drawing size shall be variable on a reproducible medium.

5.2.6. Subject Matter:

- 5.2.6.1. As it relates to the Condition Assessment Report, the A/E shall:
 - 5.2.6.1.1. Review Condition Assessment Reports prepared by DGS and critically review and assess the findings.
 - 5.2.6.1.2. Attend site visits to verify existing site information and data collection.
 - 5.2.6.1.3. Provide drawings that fully describe existing conditions and locations of existing utilities.
 - 5.2.6.1.4. Provide digital and hard copy graphic documentation of existing site conditions to include, but not be limited to photographs.
 - 5.2.6.1.5. Identify areas that require additional investigation as it relates to

structural defects and other pertinent matters that adversely affect the constructability of the Project.

5.2.6.2. Site Survey (See Section 3.1)

5.2.6.3. Hazardous Materials Report (See Section 3.2.)

5.2.6.4. Plumbing Assessment

5.2.6.4.1. Prepare Plumbing Systems Assessments, including all ADA plumbing requirements. Develop acceptable Engineering strategies to be considered within the Design Phase.

5.2.6.5. Program. The programs for the facility may consist of the following:

5.2.6.5.1. Designing all proposed work to be maintained by the current staff and/or similar levels of capability.

5.2.6.5.2. Ensuring that all affected areas of the building are in full ADA compliance, based on the value and extent of the work and the code requirements. This provision shall not be construed to increase program requirements. Design tactile signage and other items as may be required.

To address the program the A/E shall:

5.2.6.5.3. The A/E shall confirm that the programmatic and functional requirements of the facilities are met, and that any deficiencies are remedied by the scope of the program. All developed solutions must not hinder existing shelter programs that are to remain in place. The A/E shall confirm that the programmatic and functional requirements of the facilities are met, and that any deficiencies are remedied by the scope of the program.

5.2.6.5.4. Provide Program Analyses, including defined programmatic requirements.

5.2.6.6. Code and Regulatory Requirements

5.2.6.6.1. A/E shall provide initial Code reviews and summaries. A/E shall prepare a report listing all required submission set DCRA permitting, and approval by applicable oversight agencies. A/E shall update its schedule to reflect any time frame duration changes resulting from this review.

5.2.6.7. UFAS/ADAAG Compliance Report

5.2.6.7.1. The compliance report shall identify any aspects of the above work that may have impacts on UFAS/ADAAG compliance for

the facility.

5.2.6.8. Summary of Options

- 5.2.6.8.1. The A/E shall use the existing Conditions Assessment Report and other reports to prepare a summary of strategies or approaches that successfully address the programs and reconciles the above findings.

5.2.6.9. Permit Requirements:

- 5.2.6.9.1. Floor plan(s), two (2) elevations, one (1) each longitudinal and transverse sections, and site plan.

- 5.2.6.9.2. Drawing dimensions shall be to the appropriate scale. Minimum scale will be 1/8" = 1'-0" for plans and elevation, 1/4" = 1'-0" for sections, and 1" = 50' for the site plan (s). North arrow and Building Identification Number (BIN) shall be shown on all floor and site plan (s). The sheet size is variable, but shall be adequate for a clear submission. Approval of sheet size and bin shall be obtained from the Project Manager prior to start of design.

- 5.2.6.9.3. Notes and dimensions shall be sufficient to enable the reviewer(s) to analyze the submission for conformance to the project requirement and to evaluate the quality of design. Include tentative elevations of finish grade and each floor.

- 5.2.6.9.4. Material of construction shall be identified in a general manner.

- 5.2.6.9.5. Required egress information:

- 5.2.6.9.5.1. Square footage of all interior spaces.

- 5.2.6.10.5.2. Square footage of all interior spaces as allotted per Scope of Work Attachment-A1.

- 5.2.6.10.5.3. Egress requirements showing calculated population, egress flow diagram, required exit units and area classification.

5.2.6.10. Reviews:

- 5.2.6.10.1. This submission shall be made to DGS for review by the user, the Construction Division and the Project Manager. Others may review for program conformance.

- 5.2.6.10.2. More than one (1) submission may be required before acceptance.

5.2.6.11. Budget Review:

5.2.6.12.1.1. Review construction budget to ensure Project Scope is consistent with budget amount.

5.2.6.12.1.2. The A/E is required to design within budget at every stage of design unless otherwise authorized. If the design is over the budgeted amount, the A/E shall redesign the submittal until the scope and budget differences are resolved to the satisfaction of DGS.

5.2.7. Deliverables:

5.2.7.1. Preliminary Design

5.2.7.2. Existing Conditions Report

5.2.7.3. Site Survey

5.2.7.4. Hazardous Material Report

5.2.7.5. Plumbing Assessment

5.2.7.6. Project Program

5.2.7.7. Code and Regulatory Report

5.2.7.8. Summary of Options

5.2.7.9. Budget Review

5.2.7.10. Other items as required in the Scope of Work

5.3.Design Development Phase:

The goal of this phase is the preparation and approval of Design documents. The documents shall consist of architectural drawings to fully describe a design that is consistent with the District's Program, and addresses all issues stated in the Project Requirements document. It shall also include a schedule and a cost estimate. The Design documents shall be submitted for the Client's written approval.

5.3.1. Definition:

The Design Development Phase consists of drawings, description of materials, area tabulations and all other graphic representations necessary to convey the project's concept. The A/E will schedule a pre-design conference immediately after approval of the Pre-development and Schematic Phase. The purpose is to establish both a mutual understanding of the project and a common acceptance of the proposed engineering system(s). In-depth discussion shall require simple plans and shall develop acceptable Engineering solutions to be included within the Construction Documents.

5.3.1.1. The drawings shall be developed from the annotated Predevelopment and Schematic drawings. These drawings shall be accurate, sufficiently complete architecturally to enable an exhaustive check for conformance to the Scope of Work. All pertinent information must be included. These documents should confirm that all items identified in the Preliminary Report have been addressed, including but not limited to:

5.3.1.1.1. Existing Conditions (Site and Plumbing)

5.3.1.1.2. Site Survey

5.3.1.1.3. Hazardous Materials

5.3.1.1.4. Plumbing Assessment

5.3.1.1.5. Project Program

5.3.1.1.6. Code/ADAAG

5.3.1.1.7. Summary of Options

5.3.1.1.8. Budget Review

5.3.1.2. The A/E shall schedule a pre-design conference immediately after approval of the Pre-development and Schematic Phase. The purpose is to establish both a mutual understanding of the project and a common acceptance of the proposed engineering system(s). In-depth discussion will require simple plans and will develop acceptable Engineering solutions to be included within the Construction Documents.

5.3.1.3. The Engineering drawings prepared in the Design Phase shall include

information and written comments that will be sufficiently complete to portray, on sheets for each discipline, the proposed engineering systems. The drawings for this phase may be prepared to a convenient and easily read scale.

5.3.2. Subject Matter:

- 5.3.2.1. Floor plan(s), four (4) elevations, one (1) each longitudinal and transverse sections and site plan.
- 5.3.2.2. Drawing dimensions shall be to the appropriate scale. Minimum scale will be $1/8" = 1'-0"$ for floor plans and elevations, $1/4" = 1'-0"$ for section, $1/2" = 1'-0"$ for typical wall sections, and $1' = 50"$ for plot plan. North-arrow will be shown on all floor and site plans(s). The sheet size is 29" x 41" (unless modified in Scope of Work Attachment-A1), and must be legible, clear, and easily read.
- 5.3.2.3. Notes and dimensions shall be adequate for the information required.
- 5.3.2.4. All rooms shall be identified and sized, typical furnishing and equipment to be named and location, elevations to be developed identifying façade to include fenestration types and openings, site development, overall dimensions, approximate floor and finish grade elevations.
- 5.3.2.5. A description of materials in which shall be included the proposed engineering systems (structural, mechanical and electrical), materials of construction, and other information describing the project. This shall include, but not be limited to, indicating intended locations and provisions for mechanical systems, meter rooms, and duct chases.
- 5.3.2.6. Provide on the drawings (within the confines of the area delineated), the seating capacity of assembly halls, auditoriums, gymnasiums and stadiums, plus any other spaces when identification of capacity is essential to the determination of compliance with the Code and Scope of Work.
- 5.3.2.7. The requirements of the Building Code will be equaled or exceeded. For egress, show the calculated population, egress flow diagram (complex system), identify required, existing and the area classification. Also identify the type of occupancy, type of construction, fire safety requirements, and all other building code requirements.
 - 5.3.2.7.1. Include ADA diagrams confirming code and ADA compliance, and any special provisions required.
- 5.3.2.8. General Submission Requirements for All Projects: The A/E shall provide on each plan drawing, the gross square foot area of each plan or plans on the sheet. On the cover or index sheet, provide the gross square footage of the complete building project. The area of the site is to be expressed separately in terms of gross area.
 - 5.3.2.8.1. The required information is applicable to each review

submission and shall be prominently called out and shown as follows:

5.3.2.8.1.1. When a single floor plan only is shown, the square footage is to be placed in proximity of the Title Block. If more than one floor plan is shown on a sheet, show square footage as a part of floor plan identification. For example: (2nd Floor Plan; Area = _____ square feet, etc.).

5.3.2.8.1.2. On the Cover or Index Sheet, the required information may be shown by “Key Plan” or schedule. The A/E shall prepare, but need not submit, computations in support or aggregate figures unless requested.

5.3.3. Architectural Standards for the Project:

5.3.3.1. The Index sheets shall incorporate Schematic and Design Phase comments and additional sheets as may be required for the A/E to accomplish its work.

5.3.3.2. The computation developed to determine egress requirements.

5.3.3.3. Descriptive Specifications, not in detail, but that describe the project, its intent, and its systems and identifies key areas for consideration or that shall require additional study.

5.3.3.4. Preliminary Cost Estimate representing the likely cost, possibly established on a per-system or per-square foot basis, of the Design should accompany each design Option if there is more than one (1).

5.3.4. Plumbing Standards for the Project:

5.3.4.1. The major components and services shall be drawn on the plans in a legible and simple manner to include all rooms and spaces identifying all plumbing fixtures.

5.3.4.2. Prior to the pre-design meeting, the A/E shall confer with all utility organizations and confirm availability of service and recommendations that shall be addressed.

5.3.5. Specifications:

5.3.5.1. Outline Specifications including all of the likely relevant Construction Specification Institute (CSI) sections.

5.3.6. Reviews:

- 5.3.6.1. The review submission(s) will be delivered to DGS for review by the user and the Project Manager. Others may review for aesthetics, orientation, and placement.
- 5.3.6.2. If the project is to be submitted to either the US Commission of Fine Arts (CFA), the Historic Preservation Review Board (HPRB), the National Capital Planning Commission (NCPC) or the Community, the A/E shall prepare a set of plans for a formal presentation by mounting on board stock (board mounting not required for NCPC), by shading, by crisp black lines and bold, clear lettering. The submissions may be reviewed by Commission members from a distance of ten to twelve feet; hence prepare this submission accordingly. At the option of the A/E, a rendering may be prepared for submission to CFA; if the work is accepted and the rendering remains correct, it may be used as the one for which DGS has contracted. A model is optional except as specified in Scope of Work Attachment-A1.
- 5.3.6.3. If the submission is rejected by DGS, the A/E may revise and resubmit promptly; if CFA or NCPC rejects the submission, the earliest resubmission time is one (1) month. It is incumbent upon the A/E to carefully and completely prepare the submission.
- 5.3.6.4. It is entirely the A/E's responsibility to prepare a design acceptable to all authorized review agencies.
- 5.3.6.5. The A/E is required to design within budget at every stage of design unless otherwise authorized. If the design is over the budgeted amount, the A/E shall redesign the submittal until the scope and budget differences are resolved to the satisfaction of DGS.
- 5.3.6.6. Acceptance of this submission by the authorized review agencies establishes the aesthetics and the configuration of the project. Only minor refinements of these items will be permitted thereafter. However, interior spaces and operating systems continue to be subjected to intensive review and adjustment.

5.3.7. Deliverables:

- 5.3.7.1. Design Drawings
- 5.3.7.2. Area Tabulations
- 5.3.7.3. Preliminary Cost Estimate
- 5.3.7.4. Descriptive Specifications
- 5.3.7.5. Special Reports as required
- 5.3.7.6. Other items as required in the Scope of Work

5.3.8. Color Chart Submissions

- 5.3.8.1. Miniature samples shall be used if possible. Lithographs generally are not acceptable. For ceramic floor tiles, use sufficient individual tiles to show pattern.
- 5.3.8.2. Paper reproductions of items such as metal partitions, steel equipment, laminated plastics, porcelain enamels, and similar facsimiles which appear to be actual finishes specified are acceptable.

5.3.9. Computerized Design Analyses:

- 5.3.9.1. The A/E shall prepare design analyses in reproducible form complete in such detail as to accurately reflect the development of all engineering design, and sufficient to support all design work prepared to date. Mechanical and Plumbing Design Analysis will: (i) be complete and will include detailed room by room heat loss and heat gain calculations; (ii) load summaries; (iii) detailed equipment selection calculations with major performance data and dimensions of all major equipment items; (iv) air balance calculations; (v) ventilation calculations; and (vi) pipe and duct sizing, diagrams, etc.
- 5.3.9.2. Computer Software: Software to be used for HVAC Design Analysis shall be either Carrier Co.'s "E-20" or Trane Co.'s "Trace" program or other approved. For Plumbing Design Analysis, use Elite software or other approved. Approval shall be obtained from DGS prior start of Design analyses.

5.3.10. Construction Cost Estimate:

- 5.3.10.1. The estimating procedure shall be in accordance with Construction Specifications Institute (CSI) master format standards. In preparing the estimate at this stage, it is recognized that many items may not have been ascertained to a point where a quantity survey is possible. Nevertheless, a number of the general construction features will have been selected which shall permit an itemization of basic quantities under the major branches of work, such as: general excavation, concrete, masonry, etc. In those instances where insufficient information has been developed to determine specific quantities, systems, fixtures, or equipment, an appropriate allowance may be indicated. For each allowance, an explanation of its development will be included. This preliminary estimate will show separately (a) the cost of each new building or addition, (b) the work in existing buildings, and (c) costs of all work outside the buildings. The estimate will be broken down to show the cost analyses or allowances (noted as such) based on these units. As example: building construction cost will be shown separately from mechanical and equipment costs and these will be separated into the various trades and types in the summary sheets to the degree practical at this stage of development. Similarly, outside work will show components of grading, roads and sidewalks,

landscaping, sanitary and electrical services, etc. Computer software such as “Means” or other approved software will be used in developing construction cost estimates.

5.3.11. Reviews:

- 5.3.11.1. This review submission shall be delivered to DGS for review by the user, Design and Engineer Division/DGS and other agencies that have a required input.
- 5.3.11.2. The scheduled review submission shall be complete to the degree described. If any discipline is not completed thus, the entire submission will be returned. It is the A/E’s responsibility to ascertain that all work is done to this level, qualitatively and quantitatively, prior to making a submission. DGS shall decide the adequacy of a submission by the working day from the date submission is made.
- 5.3.11.3. The A/E is required to design within budget at every stage of design unless otherwise authorized. If the design is over the budgeted amount, the A/E shall redesign the submittal until the scope and budget differences are resolved to the satisfaction of DGS.
- 5.3.11.4. Acceptance of this submission by the authorized review agencies establishes the project’s structural, mechanical, electrical, HVAC, plumbing and other systems as required. Additionally, site, landscaping, architectural, structural, mechanical, plumbing and electrical plans; sections; elevations; typical construction details; and exterior and interior materials and finishes are defined to fix and describe the size and character of the Project as may be appropriate. The budget estimate is now based on comprehensive design and systems. Outline specifications are provided to establish in general their quality levels.

5.3.12. Deliverables:

- 5.3.12.1. Construction Cost Estimate
- 5.3.12.2. Other items as required in the Scope of Work

5.4. Construction Documents Phase:

The purpose of this phase is to prepare the Construction Documents for the District’s DGS and DCRA Approval. The Construction Documents shall illustrate and describe the complete development of the approved Design Development Documents and shall consist of a complete set of Drawings and Final Specifications setting forth in detail the quality levels of materials and systems, and other requirements for the construction of the work. A detailed cost estimate of the work shall be prepared. The Construction Documents and the cost estimate shall be submitted for the DGS’ written authorization before permitting. Upon receipt of that authorization, the A/E shall submit to appropriate governmental authorities having jurisdiction over the Project, and acquire their permit(s). Further, the A/E shall provide the permitted sets and specifications to the District, which shall be used to prepare

the documents for bidding.

5.4.1. Definition:

- 5.4.1.1. The review shall be at the completion of the construction documents and known as Construction Documents Phase. This is the development of the documents that constitute the Contract for Construction. Included for this review will be complete plans, specifications in draft form, final estimate, and final detail computations. This submission requires that the plans be complete and ready for issue to bidders including the specifications.
- 5.4.1.2. Notes and dimensions will be adequate for the information required.
- 5.4.1.3. The A/E is required to design within budget at every stage of design unless otherwise authorized. If the design is over the budgeted amount, the A/E will redesign the submittal until the scope and budget differences are resolved to the satisfaction of DGS.
- 5.4.1.4. Drawings shall be complete and prepared using Computerized Graphic Software as specified by the Project Manager as specified in the Scope of Work Attachment-A1.
- 5.4.1.5. The plans shall be printed as follows:
 - 5.4.1.5.1. Size 29" x 41" trim line unless stipulated otherwise in Scope of Work Attachment-A1, inside border 1-1/2" on binding edge, 1/2" on other edges.
 - 5.4.1.5.2. Optimum readability is a requirement at full size reproduction.
 - 5.4.1.5.3. A graphic scale shall be shown on each drawing for each scale used.
 - 5.4.1.5.4. The quality and spacing of lines on the drawings must be carefully controlled. Clear space between parallel lines should always be of greater width than the adjoining lines.
 - 5.4.1.5.5. All lettering shall be vertical capitals with an open quality and will be not less than 1/8" high.
 - 5.4.1.5.6. Material symbols shall be bold and not dense.
 - 5.4.1.5.7. Do not use any kind of half tone or opaque shading or hatch except solid black on the face of the drawings where applicable for small or thin sections.
 - 5.4.1.5.8. Drawings shall be of the best quality for possible scanning reproduction.
 - 5.4.1.5.9. The format and wording of the title block to be used on the

drawings shall be approved by DGS before proceeding with printing of blank reproducible sheets.

- 5.4.1.6. Specifications shall follow MasterSpec (Latest Version) to be used as a guide; deleted, appended and corrected by the A/E. DGS (DGS) shall review and note the comments with required changes prior to its return to the A/E.

5.4.2. Subject Matter:

The minimum work accomplished for the review shall have progressed to the levels hereinafter described:

- 5.4.2.1. Architectural: (min. scale 1/8" = 1'-0") at appropriate scales to adequately describe the work.
- 5.4.2.2. Floor plans – dimensioned, completely referenced partitions and fixed equipment located, doors and windows, egress location and identification of sections, details, and other pertinent data.
- 5.4.2.3. Elevations – fully completed indicating materials, fenestration, finish grade, etc.
- 5.4.2.4. Details – door and window, all other as needed.
- 5.4.2.5. Schedule – completed.
- 5.4.2.6. All other – fully complete in keeping with the spirit and intent of the plans.
- 5.4.2.7. Marked-up plans, computations, notes and a copy of the DGS review comments (with annotated action taken by A/E) from the previous submission.

5.4.3. Additional Plumbing Standards for the Project:

- 5.4.3.1. Floor plans.
- 5.4.3.2. All riser diagram(s) to include water and sanitary.
- 5.4.3.3. Schedules – completed and catalogue cuts.
- 5.4.3.4. Toilet and equipment room layouts at 1/4" scale, minimum.
- 5.4.3.5. Marked-up plans, computations, notes, and a copy of DGS review comments (with annotated action taken by A/E) from the previous submission.

5.4.4. Final Specifications:

The A/E shall submit Final Specifications at the end of the Construction Document Phase. The A/E shall prepare and submit two (2) copies of the complete specifications for review and comment. Preparation of specifications will be accomplished by marking-up a copy of the latest version of the AIA MASTERSPEC® Specifications (as a guide) in accordance with the requirements set forth, and with the addition of double-spaced typed inserts and pages, bound in loose leaf folders, as well as loaded on computer disk (or CD) properly labeled with Project No., Project Title and date.

5.4.9 Construction Cost Estimates:

5.4.9.1 The cost shall be based on an accurate detailed quantity survey of both labor and material. Any approved standard estimating procedure will be acceptable provided that the conclusions are presented in the order and detail shown on the CSI MasterFormat. Lump sums or allowances for major items of the estimates will not be used. However, quantity surveys that could be used to order materials, while desirable from a cost control viewpoint, are not necessary. For example, concrete formwork may be priced on the basis of square area for slabs, walls, beams, etc., rather than the actual quantity of lumber or metal formwork required. Plumbing take-offs will show the linear feet of various pipe sizes, but need not itemize fittings. Fittings may be calculated as a percentage allowance. The same procedure may be used for fittings on ductwork and electric conduit where appropriate.

5.4.9.2 Explanation of Terms on Recapitulation Form:

Gross Building Area: The gross square foot areas will include all spaces (including all openings in floors) measured to the exterior surfaces of the enclosing walls for all floors, basements, balconies, mezzanines, usable attics, service and equipment rooms, penthouse(s), enclosed passages, and tunnels. The total will include ½ the gross area for pitched roof space (not usable attic), roof enclosures, cornices, areaways, pipe spaces, crawl spaces, covered areas, such as open play areas under buildings, and all other unfinished excavated spaces. The item 1.0 "General Expenses" on the Recapitulation Form: These are the costs experienced by the General Contractor, which are not covered in the other items enumerated on the Recapitulation Form.

5.4.9.3 The computation copy will be sharp and legible.

5.4.9.4 Construction Cost Estimates will be required at the 35% Completion and 90% Completion phase.

5.4.10 Reviews:

5.4.10.1 The review submission shall be delivered to DGS for review by the user, Design and Engineer Division/DGS and other agencies that have a required input.

5.4.10.2 The scheduled review submission shall be complete to the degree described. If any discipline is not completed thus. The entire submission will be returned. It is the A/E's responsibility to ascertain that all work is done to this level, qualitatively and quantitatively, prior to making a submission. The Department of Real Estate Services will usually decide the adequacy of a submission by the working day from the date submission is made.

5.4.10.3 The A/E is required to design within budget at every stage of design unless otherwise authorized. If the design is over the budgeted amount, the A/E will redesign the submittal until the scope and budget differences are resolved to the satisfaction of DGS.

5.4.10.4 Acceptance of this submission by the authorized review agencies establishes the project's further development of the approved Design Development Documents and shall consist of Drawings and Specifications setting forth in detail the quality levels of materials and systems and other requirements for the construction of the Work. The A/E shall also incorporate into the Construction Documents the design requirements of government authorities having jurisdiction over the Project. Any adjustments to the budget estimate shall be reviewed and resolved.

5.4.11 Deliverables:

5.4.11.1 Construction Document Drawings

5.4.11.2 Architectural - marked-up DGS review comments from previous submission

5.4.11.3 Plumbing computerized load analyses, sizing calculations and marked- up DGS review comments from previous submission

5.4.11.4 Final Specifications

5.4.11.5 Construction Cost Estimate

5.4.11.6 Other items as required in the Scope of Work

5.5 Compliance Phase

5.5.1 Definition:

5.5.1.1 The Compliance Phase will consist of all documents fully completed, signed and ready to print.

5.5.1.2 The plans will be in accordance with Section 4.3.1.2. as approved by the Project Manager prior to start of design, as well as accompanied by computer disk (or CD) loaded with the entire design work and with

proper labels. The labels will identify project number(s), project title and date as well as agreement number.

5.5.2 **Technical Specifications:**

In accordance with the approved Draft, the Final Specifications will be prepared for reproduction by Photocopy. The electronic word processing file will be formatted for printing on sheets of 8-1/2" x 11" bond paper with margin for side binding, Times New Roman font type and black imprint. The A/E shall submit in electronic format unless otherwise specified by the Project Manager. Wherever in the specification an item is designated to be installed or performed "where indicated" or "as shown on the drawings" or words of like import, it will be the responsibility of the A/E to check such drawings and determine if such requirement is in fact shown and/or indicated with sufficient clarity so as to preclude the possibility of disagreement as to contract requirement during the actual construction of the facility as designed.

5.5.3 **Design Analysis:**

The A/E shall submit one two (2) copies of all final corrected design analyses, complete in every respect and one (1) set of electronic files with the entire Design Analysis. The electronic files will be labeled as indicated for previous submission.

5.5.4 **Completion:**

Upon acceptance of this submission, the A/E has fulfilled the initial terms of the contract.

5.6. **Certification of Drawings:**

The A/E shall certify that the drawings were prepared under the A/E's supervision and that the A/E acknowledges responsibility for their correctness by placing its professional license stamp and signing the final documents at the completion of Compliance Phase and again by stamping and signing those prints that will be submitted to the Department of Consumer and Regulatory Affairs, Permit Processing Center for a building permit.

5.7. **A/E Responsibility to Obtain Building Permits:**

5.7.1. The A/E shall be responsible for obtaining any such building permits and clearance as may be required for the construction of the Project(s). Permits and clearances are required by Public Law and D.C. Regulations. For example, if the project is located in a historic area or is a property listed on the register of historic places, clearances to proceed must be provided by either the Joint Committee on Landmarks or the Commission of Fine Arts. The conduct of preliminary reviews at the conceptual design stage in conjunction with the Permit Center is encouraged and recommended, particularly, when complex or high cost projects are involved. Step 1 in the procedure for review and permit issuance is to initially contact the Permit Information Counter (the location and telephone number can be obtained from the Project Manager). Other examples of permits and clearances are DCAR, DDOT, DDOE, DOH, SHPO, WASA, etc. The A/E shall develop a Permit and Clearance responsibility matrix to

include: types of permits/clearances necessary for the Project, the processing time period, contact information for person obtaining permit and/or clearance; permit/clearance status, and payment responsibility.

- 5.7.2. The A/E shall submit five (5) sets of drawings to the Permit Processing Center. The Center will retain one (1) set for their permanent file. The remaining four (4) sets of Approved Drawings and the Permit will be given to the A/E who in turn will deliver the same to the Project Manager.
- 5.7.3. The A/E, for no additional fee, shall be responsible to make any and all such changes and/or corrections as may be required by the Department of Consumer and Regulatory Affairs; compliance being a mandatory requirement prior to the issuance of a Permit.
- 5.7.4. A/E shall be compensated for performing Title I services to include obtaining the building permit. The Permit is not for private construction, but shall be for District Owned property. Therefore, the permit shall be issued “NO FEE”.
- 5.7.5. The method of obtaining the requisite DCRA Building Permit shall be at the sole discretion of the A/E. All costs for any method shall be included in the proposal price.
- 5.7.6. The estimated construction cost will be determined by the A/E’s design. The DCRA Building Permit fee shall be paid by DGS.
- 5.7.7. Title-I Services shall not be considered 100% complete pending satisfactory accomplishment of the requirements set forth as above.

5.8. Bidding and Construction Administration Phases

- 5.8.1. Produce electronic documents to be distributed to bidders.
- 5.8.2. Attend one pre-proposal conference and lead one site walk-through.
- 5.8.3. Respond to questions from bidders.
- 5.8.4. Facilitate Pre-Construction meeting and conduct regular bi-weekly construction progress meetings.
- 5.8.5. Provide Construction Administration services:
 - 5.8.5.1. Review, log and approve submittals, shop drawings, Request for Information, etc. Maintain submittal log.
 - 5.8.5.2. Coordinate with Project Manager on all Requests for Change Proposals, Change Orders, etc. including maintaining a log of all such documents.
 - 5.8.5.3. Provide direction for questions and concerns from the contractor and Project Manager in resolution of problems.
- 5.8.6. Provide Field Services for entire construction period

5.8.6.1. Designer’s Construction Administrator to conduct bi-weekly site visits, including observation of demolition, installation of finishes, etc.

5.8.6.2. Provide site visit report to Project Manager bi-weekly.

5.8.7. Conduct Substantial Completion Inspection, coordinate with Project Manager to create punch list, substantiate that items noted are completed, and issue Substantial Completion Certificate.

5.9. Project Close-Out

5.9.1. Provide support services as needed during the project close out process.

5.9.2. Obtain and review all project close-out documents as submitted by the Contractors for completeness before transmitting to the DGS. Close-out documents shall include but are not limited to:

5.9.2.1. Contractor’s red lines and as-built notes

5.9.2.2. Warranty information
5.9.2.3. Operating
and Maintenance Manuals

5.9.2.4 As-Built record drawings (in digital format, both CAD and PDF)

6.0 PROJECT PHASES

Estimated Duration

Program of Requirements Phase	30 calendar days from Notice-to-Proceed (“NTP”)
Schematic Design Phase	30 calendar days after POR
Design Development Phase	30 calendar days after Schematic Design
Construction Documents Phase	30 calendar days after Design Development
Bid Phase	20 calendar days after Construction Development
Construction Administration	90 calendar days after Construction Documents