

## INTERIM AGREEMENT

This **INTERIM AGREEMENT** ("Interim Agreement") is entered into this \_\_\_\_ day of \_\_\_\_\_, 2023 ("Effective Date of this Interim Agreement") by and between the City of Alexandria, Virginia ("City") and Skanska USA Civil Southeast Inc. ("Design-Builder"), with its principal place of business located at 8521 Leesburg Pike, Suite 220, Vienna, VA 22182.

### RECITALS

**WHEREAS**, the City intends to design and construct certain improvements associated with the City's Waterfront Implementation Project ("Project"), with the Project goals including, among other things, increasing pedestrian connectivity, improving the park system, and mitigating floods caused by heavy rainfall, tidal backflow, and storm surges; and

**WHEREAS**, the City determined that its goals for the design and construction of the Project would be best-served by implementing a "progressive design-build" delivery process through a two-step, best value procurement process, as allowed under the Public-Private Education Facilities and Infrastructure Act of 2002 (Va. Code § 56-575 et seq.) ("PPEA") and the Public-Private Education Facilities and Infrastructure Act Guidelines adopted and issued by the City ("PPEA Guidelines") to implement the PPEA; and

**WHEREAS**, under the PPEA and PPEA Guidelines, the progressive design-build process results in a public entity contracting with a design-builder to perform the following sequential phases of services:

(a) Phase 1 Services, whereby the public entity and design-builder enter into an interim agreement requiring the design-builder to: (1) perform programmatic, design and other preliminary services to help the public entity determine the scope, price and schedule of the project; and (2) prepare and submit to the public entity a guaranteed maximum price ("GMP") proposal that, among other things, establishes the commercial terms associated with the Phase 2 Services; and

(b) Phase 2 Services, whereby the public entity and design-builder (presuming that they reached agreement upon the commercial terms associated with the Phase 2 Services) enter into a comprehensive agreement, requiring the design-builder to complete the Project design, construct the Project in accordance with such design, and perform any other required tasks under the comprehensive agreement; and

**WHEREAS**, on or about October 3, 2022, the City issued a Request for Qualifications ("RFQu") soliciting interested parties to submit a Statement of Qualifications ("SOQ") to serve as the design-builder for the Project; and

**WHEREAS**, on or about November 18, 2022, Design-Builder submitted an SOQ, and on or about January 13, 2023, the City notified Design-Builder that it was one of the shortlisted proposers invited to respond to a Request for Proposals ("RFP"); and

**WHEREAS**, on or about March 24, 2023, Design-Builder submitted its proposal ("Design-Builder's Proposal") in response to the RFP; and

**WHEREAS**, on or about May 12, 2023, the City notified Design-Builder that it was the successful proposer; and

**WHEREAS**, on or about August 9, 2023, the City, after negotiating the commercial terms for Design-Builder's performance of the Phase 1A Services, notified Design-Builder that it was awarded this Interim Agreement.

**NOW, THEREFORE**, in consideration of the mutual covenants and obligations contained herein, the City and Design-Builder hereby agree as follows:

## **ARTICLE 1**

### **DEFINITIONS AND CONTRACTING APPROACH**

1.1 **Definitions.** For the purposes of this Interim Agreement, the following words and terms shall have the meanings specified below. Terms that are not otherwise defined herein have the meaning set forth in the Comprehensive Agreement. When a definition refers to the definition in the Comprehensive Agreement, such definition means the definition set forth in the version of the Comprehensive Agreement set forth in Exhibit 1.1(a).

*Affiliate* means, (a) any person or entity which directly or indirectly through one or more intermediaries controls, or is controlled by, or is under common control with, Design-Builder or any of its members, partners or shareholders holding an interest in Design-Builder; and (b) any person or entity for which ten percent (10%) or more of the equity interest in such person or entity is held directly or indirectly, beneficially or of record by: (i) Design-Builder; (ii) any of Design-Builder's members, partners or shareholders that own ten percent (10%) or more of Design-Builder or Design-Builder's members, partners or shareholders; or (iii) any Affiliate of Design-Builder under clause (a) of this definition. For purposes of this definition the term "control" means the possession, directly or indirectly, of the power to cause the direction of the management of a person and/or entity, whether through voting securities, by contract, family relationship or otherwise.

*Basis of Design* has the meaning set forth in Section 2.1.2 below.

*Basis of Design Documents* mean those documents developed as part of the Phase 1A Services as set forth in Section 2.1.2 below.

*Baseline Schedule* means the schedule submitted by Design-Builder with its GMP Proposal that demonstrates, among other things, how Design-Builder shall complete all Phase 2 Services timely and achieve Substantial Completion on or before the Scheduled Substantial Completion Date.

*Books and Records* means all documents (whether paper, electronic, or other media) and electronically stored information, including, but not limited to, any and all books, correspondence, receipts, vouchers, estimates, records, contracts, cost data, schedules, subcontracts, schedules, job cost reports, and other data, including computations and projections, of Design-Builder related to bidding, negotiating, pricing, or performing the Work.

*City* means the City of Alexandria, Virginia.

*City-Furnished Information* means any written information provided to Design-Builder by or on behalf of the City in connection with this Interim Agreement, including but not limited to that information set forth in Exhibit 2.5.1.

*City Indemnatee* means and includes each of the City and Owner's Advisor, and, with respect to each of the foregoing, each of its respective representatives, officers, employees, members, or other constituent entities, subconsultants, authorized agents, and other duly authorized representatives.

*City's Project Criteria* mean the City's programmatic requirements and objectives for the Project, and specific criteria and requirements, as set forth in the Conceptual Design Report, and upon which the Basis of Design Documents shall be based.

*Completed Work Product* means: (i) Work Product that has been sealed with a professional engineer's stamp for and on behalf of Design-Builder; and (ii) all other Work Product that has been accepted and acknowledged by both Parties in writing as having been fully performed as of the date the City terminates Design-Builder for convenience pursuant to Section 11.2.1 below.

*Comprehensive Agreement* means that contract awarded by the City to Design-Builder for the Phase 2 Services, the form of which is set forth in Exhibit 1.1(a).

*Conceptual Design Report* means that document designated as such in the City-Furnished Information.

*Confidential Information* has the meaning set forth in Section 14.2 below.

*Contingency* has the meaning set forth in the Comprehensive Agreement.

*Contract Price* has the meaning set forth in Section 4.1 below.

*Cost of the Work* has the meaning set forth in the Comprehensive Agreement.

*DB-Related Entity* means Design-Builder, Design Consultants and Subcontractors of any tier, and anyone for whose acts any of them may be legally or contractually responsible.

*Day(s) or day(s)* mean calendar day or days, unless specifically stated otherwise.

*Designated City-Furnished Information* has the meaning set forth in Section 2.5.2 below.

*Design-Builder* has the meaning set forth in the Preamble.

*Design-Builder's Fee* has the meaning set forth in Section 4.6.1 below.

*Design-Builder's General Conditions* has the meaning set forth in the Comprehensive Agreement.

*Design-Builder's Proposal* has the meaning set forth in the Preamble.

*Design Consultant* is a qualified, licensed design professional, eligible to provide, among other things, professional engineering, architectural and/or land surveying services, who is not an employee of Design-Build, but is retained by Design-Build or another DB-Related Entity, to furnish design services required under the Contract Documents. For the avoidance of doubt, the Lead Designer is a Design Consultant.

*Early Work Packages* has the meaning set forth in Section 5.7 below.

*Effective Date of this Interim Agreement* shall mean the date set forth on the first page of this Interim Agreement.

*Final Phase 1A Schedule* has the meaning set forth in Section 3.2.1 below.

*GMP Proposal* means that proposal submitted by Design-Build to the City under Article 5 hereof.

*GMP Proposal Acceptance Period* means sixty (60) days from the date the City receives the GMP Proposal from Design-Build.

*GMP Proposal Design Documents* means those design documents referenced in Section 5.2 below and upon which the terms of the GMP Proposal are based.

*Good Engineering and Construction Practices* mean those methods, techniques, standards, and practices which, at the time they are to be employed and in light of the circumstances known or reasonably believed to exist at such time, are generally recognized and accepted as good engineering, equipping, installation, construction, commissioning, and testing practices for the design, construction, and improvement of capital projects similar to the Project in scope and complexity using the design-build delivery method, as followed in the locality of the Project.

*Governmental Approval* means any authorization, consent, approval, license, lease, ruling, permit, certification, exemption, or registration by or with any Governmental Unit.

*Governmental Unit* means any national, state, or local government, any political subdivision thereof, or any governmental, quasi-governmental, judicial, public or statutory instrumentality, administrative agency, authority, body or other person and/or entity having jurisdiction over the performance of the Work, the Project or the Parties.

*Gross Negligence* means: (a) a marked and flagrant departure from the standard of conduct of a reasonable person acting in the circumstances at the time of the alleged misconduct; (b) intentional wrongdoing or such wanton or reckless conduct or omissions as constitutes a reckless disregard for harmful, foreseeable and avoidable risks or consequences; or (c) a lack of care that demonstrates reckless disregard for safety (whether human safety or the safety of property), *provided, however*, that Gross Negligence does not include any act or failure to act insofar as it: (x) constituted mere ordinary negligence; or (y) was done or omitted in accordance with the prior written approval of all Parties.

*Guaranteed Maximum Price (sometimes referred to as the "GMP")* means that monetary value designated as such in the Comprehensive Agreement.



*Incomplete Work Product* means all Work Product other than Completed Work Product, including any Work that remains in a state of partial completion as of the date the City terminates the Design-Builder for convenience pursuant to Section 11.2.1 below.

*Initial 90-Day Schedule* means that schedule attached as part of Design-Builder's Proposal and set forth in Exhibit 3.2.1.

*Interim Agreement Liability Cap* is the difference between the monies paid to Design-Builder by the City under this Interim Agreement and the monies paid to Design-Builder for any Early Work Packages.

*Key Personnel* means those individuals designated as such in Exhibit 2.4.1.

*Lead Designer* means Johnson, Mirmiran & Thompson, Inc.

*Legal Requirements* mean all applicable federal, state, and local laws, codes, ordinances, rules, statutes, regulations, orders and decrees, and other requirements of any Governmental Unit, including, without limitation, any interpretation of such items by the applicable Governmental Unit.

*Marine Work Subcontractor* means McLean Contracting Inc.

*Non-Reimbursable Costs* has the meaning set forth in the Comprehensive Agreement.

*Notice of Intent to Award* means the written notice provided from the City to Design-Builder that the City intends to award Design-Builder the Comprehensive Agreement.

*Notice of Non-Award* means the written notice provided from the City to Design-Builder that the City does not intend to award Design-Builder the Comprehensive Agreement.

*Open-Book Basis* means allowing the City to review all underlying assumptions, records, stand-alone Subcontractor quotes, and other data associated with each element of pricing, or any adjustment thereto, including assumptions as to Costs of the Work, schedule, composition of equipment, equipment rates, labor rates and burdens, production rates, estimating factors, contingency and indirect costs, risk pricing, inflation and deflation rates, profit, home office overhead rates, fees, charges, levies, incentives, and other items reasonably required by the City to satisfy itself as to the reasonableness and accuracy of the amounts proposed by Design-Builder.

*Owner's Advisor* means Carollo Engineers, Inc., and its subconsultants.

*Party or Parties* means, as applicable: (a) in the singular, the City or Design-Builder; or (b) in the plural, the City and Design-Builder.

*Payment Bond* has the meaning set forth in Section 7.1.1(b) below.

*Performance Bond* has the meaning set forth in Section 7.1.1(a) below.

*Phase 1 Compensation* has the meaning set forth in Exhibit 4.2 below.

*Phase 1 Services* mean the work performed by Design-Builder under this Interim Agreement, including but not limited to those Phase 1 Services set forth in Exhibit 2.1.1.

*Phase 1A NTP* means the Phase 1A Notice to Proceed described in Section 3.1.1 below.

*Phase 1A Services* mean those services described in Section 2.1.2 below.

*Phase 1A Services Schedule* means that schedule developed by Design-Builder and approved by the City in accordance with Section 3.2.1 below.

*Phase 1B NTP* means the Phase 1B Notice to Proceed described in Section 3.1.2 below.

*Phase 1B Proposal* means that proposal submitted by Design-Builder to the City under Article 5 hereof.

*Phase 1B Proposal Acceptance Period* means sixty (60) days from the date the City receives the Phase 1B Proposal from Design-Builder.

*Phase 1B Services* mean those services described in Section 2.1.3 below.

*Phase 1B Services Schedule* means that schedule developed by Design-Builder and approved by the City in accordance with Section 3.2.2 below.

*Phase 2 Services* mean the work to be performed by Design-Builder under the Comprehensive Agreement, including any work that is part of an Early Work Package.

*Pre-Existing Intellectual Property* has the meaning set forth in Section 9.4 below.

*Project* means the Waterfront Implementation Project.

*Project Organizational Chart* has the meaning set forth in Exhibit 2.4.1.

*RFP* has the meaning set forth in the Preamble.

*Scheduled Substantial Completion Date* means the date that is set forth in the Comprehensive Agreement, which is the date by which Design-Builder is obligated to achieve Substantial Completion of the entire Work, subject to adjustment as set forth in the Comprehensive Agreement.

*Self-Perform Work* means Work performed by employees of Design-Builder, Marine Work Subcontractor, or any of their Affiliates.

*Subcontract* means any contract entered into by Design-Builder and any other DB-Related Entity in connection with the carrying out a portion of the Work.

*Subcontractor* means any person or entity (other than Design Consultants) with whom Design-Builder has entered into any Subcontract for such person or entity to perform any portion of the Work, including Suppliers.

*Sub-Subcontractor* means any person or entity having a direct contract with a Subcontractor.

*Substantial Completion* has the meaning set forth in the Comprehensive Agreement.

*Supplier* means any person or entity retained by a DB-Related Entity to provide Equipment and Materials, or construction equipment, supplies or other goods to be used in the performance of the Work but not incorporated into the Work.

*Willful Misconduct* means the intentional or deliberate commission of an act, or omission to act, when the person taking such action or omitting to take such action: (a) knows the action or omission is wrongful; or (b) is recklessly or consciously indifferent as to whether the act or omission is wrongful or not.

*Work* means the Phase 1 Services and the Phase 2 Services, inclusive of all work, services, activities and other obligations to be performed by Design-Builder under this Interim Agreement and the Comprehensive Agreement, including without limitation, design, engineering, permitting, procurement of Equipment and Materials, project management, supervision, construction, commissioning, start-up, testing and all other services and deliverables reasonably inferable from the Contract Documents as required for the proper and safe operation of the Project with the operating characteristics set forth in the Contract Documents and to otherwise achieve Final Completion.

*Work Product* means all drawings, specifications, calculations, data, models, images, materials, products, documents, and work developed or produced by or on behalf of Design-Builder in connection with the Project, including, without limitation all materials, products, and such items developed or produced by all Design Consultants and Subcontractors of any tier, in all forms, whether in hard-copy, digital or electronic data, or any other medium.

1.2 Contracting Approach. The City has entered into this Interim Agreement with Design-Builder for the limited purpose of having Design-Builder perform the Phase 1 Services. The Phase 1 Services have been subdivided into Phase 1A and Phase 1B Services, with the primary goal of Phase 1A being to develop an agreed-upon Basis of Design to enable the City to obtain requisite approvals for the Project's scope and budget. After the Basis of Design has been agreed upon, and presuming that the Parties reach agreement on the commercial terms for Phase 1B, Design-Builder will advance the design and ultimately provide the City with a GMP Proposal that will establish the commercial terms for Design-Builder executing the Phase 2 Services in accordance with the Comprehensive Agreement. If the Parties agree upon the terms by which Design-Builder will execute the Work in accordance with the Comprehensive Agreement and the Alexandria City Council approves an award of the Comprehensive Agreement to Design-Builder, the City will issue Design-Builder a Notice of Intent to Award. If the Parties are unable to agree upon the terms by which Design-Builder will execute the Work in accordance with the Comprehensive Agreement, or if the City determines for any other reason not to recommend to the Alexandria City Council that Design-Builder be awarded the Comprehensive Agreement, or if the Alexandria City Council in its sole discretion elects not to award the Comprehensive Agreement to Design-Builder, the City will issue Design-Builder a Notice of Non-Award, which will end Design-Builder's involvement on the Project.

1.3 The City's Rights to Deliver the Project without Design-Builder's Involvement. For the avoidance of doubt, and notwithstanding anything else to the contrary in this Interim Agreement, Design-Builder acknowledges that the City is under no obligation to enter into any further agreement with Design-Builder, including the Comprehensive Agreement. The City has the unconditional right to deliver the Project without Design-Builder's involvement and using, in the City's sole discretion, whatever means of delivering the Project that the City determines to be in its best interests.

1.4 Relationship between the City and Design-Builder. The City and Design-Builder commit at all times to cooperate fully with each other, and proceed on the basis of trust and good faith to permit each party to realize the benefits afforded under this Interim Agreement.

## **ARTICLE 2**

### **DESIGN-BUILDER'S SERVICES AND RESPONSIBILITIES**

#### **2.1 Scope of Work.**

2.1.1 Phase 1 Services Generally. Design-Builder shall provide the Phase 1 Services specifically described in Exhibit 2.1.1. The Phase 1 Services consist generally of: (a) preparing the Project's design on a progressive basis; (b) preparing, submitting, and negotiating the GMP Proposal on an Open-Book Basis and in accordance with Article 5 below; and (c) providing services related to the design, including permitting activities, cost modeling, scheduling, risk assessment, value engineering, constructability reviews, site surveying, and geotechnical investigations. The Phase 1 Services are broken down into two sequential components, Phase 1A and Phase 1B, with the scope of work under each component being identified in Exhibit 2.1.1.

2.1.2 Phase 1A Services. The general purpose of Phase 1A is for Design-Builder to perform preliminary design services to develop a Basis of Design. The Phase 1A Services consist generally of: (a) meeting with the City and Owner's Advisor to determine how to achieve the Project goals, including the provision of operations and maintenance services; (b) reviewing the City-Furnished Information, including City's Project Criteria and the Conceptual Design Report, and determining what additional information is needed to develop the Basis of Design; (c) developing the Basis of Design Documents based upon City's Project Criteria, as such criteria may be revised by the City; (d) cost modeling, scheduling, and risk assessment associated with the Basis of Design Documents; and (e) preparing the Phase 1B Proposal.

2.1.3 Phase 1B Services. The general purpose of Phase 1B is for Design-Builder to advance the development of the Basis of Design Documents to a level that would enable a GMP Proposal to be reasonably prepared. The Phase 1B Services consist generally of: (a) developing the GMP Proposal Design Documents; (b) cost modeling, scheduling, and other preconstruction services associated with the GMP Proposal; and (c) preparing and negotiating the GMP Proposal.

2.1.4 Construction Activities at the Project Site. As of the Effective Date of this Interim Agreement, the Phase 1 Services do not include the performance by Design-Builder of any construction activities at the Project site. If the City and Design-Builder determine that the best interests of the Project would be served by having Design-Builder perform one or more Early Work Packages involving construction activities at the Project site, they will proceed in

accordance with Section 5.7 below. For the avoidance of doubt, Design-Builder's site visits and investigations shall not be construed as being construction activities.

2.1.5 Changes to Phase 1 Services. The City, without invalidating this Interim Agreement, may make changes to the Phase 1 Services by written notice to Design-Builder. If Design-Builder believes that any such change will affect the cost or time to perform its responsibilities under this Interim Agreement, Design-Builder shall, before proceeding with the change, comply with Sections 3.4 and/or 4.1.2 below and await further instruction from the City. Design-Builder shall not perform any additional Phase 1 Services unless approved in writing by the City. Compensation for additional work shall be based on the rates set forth in Exhibit 4.2.

2.1.6 Operations and Maintenance Services. As of the Effective Date of this Interim Agreement the City had not yet determined the manner in which operations and maintenance services would be provided after Substantial Completion and what role, if any Design-Builder might play in providing those services. The Parties will be discussing this during Phase 1A, and it is anticipated that the City will make a determination on this prior to executing the Phase 1B amendment.

## 2.2 Design Professional Services.

2.2.1 Use of Qualified, Licensed Professionals. Design-Builder shall, consistent with applicable state licensing Legal Requirements, provide or furnish through Design Consultants or qualified, licensed design professionals employed by Design-Builder, the necessary design services, including architectural, engineering, and other design professional services, for the preparation of the required drawings, specifications, and other design submittals to permit Design-Builder to complete the Phase 1 Services.

2.2.2 Design Consultant Subcontracts. Design-Builder and Lead Designer may enter into Subcontracts with such Design Consultants as they deem necessary to assist in the performance of the Phase 1 Services, *provided, however*, that such Subcontracts shall be subject to the approval of the City, which approval will not be unreasonably withheld.

2.2.3 No Contractual or Legal Relationship with the City. Nothing in this Interim Agreement is intended or deemed to create any legal or contractual relationship between the City and any Design Consultant other than the intended third-party beneficiary rights in favor of the City as set forth in Section 2.2.5 below.

2.2.4 Incorporation into Subcontracts. Design-Builder shall incorporate all applicable obligations and understandings of this Interim Agreement applicable to design services in its respective Subcontracts with any Design Consultant and Subcontractors, and require that such obligations be flowed down to lower-tiered Design Consultants, including but not limited to the obligations relative to ownership and use of the Work Product set forth in Article 9 of this Interim Agreement.

2.2.5 Conditional Right of City to Contract with Design Consultants. Design-Builder acknowledges that the City's ability to successfully complete the Project may be significantly impacted if: (a) the City issues Design-Builder a Notice of Non-Award or terminates Design-Builder for either cause or convenience; and (b) certain Design Consultants (including the Lead Designer) are not available to continue working on the Project. Consequently, Design-Builder hereby agrees that if the City issues Design-Builder a Notice of Non-Award under Section

5.5.1 below, or exercises its rights to terminate under either Sections 11.1.1 or 11.2.1 below, the City shall have the right, but not the obligation, to contract directly with any and all Design Consultants for services related to this Project. Design-Builder shall take such steps as are reasonably necessary to enable the City to implement such relationships, including having a provision in its Subcontracts with Design Consultants that, in the event Design-Builder is not awarded the Comprehensive Agreement or is terminated under this Interim Agreement for any reason, the Design Consultant will in good faith negotiate with the City the contractual terms (e.g., scope of work, compensation and other requirements) associated with such Design Consultant continuing to work on the Project. For the avoidance of doubt, Design-Builder shall have no liability to the City for those acts or omissions of a Design Consultant that take place after the Design Consultant enters into a contract with the City.

2.3 Standard of Care. All Phase 1 Services shall be performed in accordance with: (a) this Interim Agreement; (b) applicable Legal Requirements and Governmental Approvals; and (c) Good Engineering and Construction Practice. Notwithstanding the above, if any of (a), (b) or (c) in the preceding sentence conflict, the Phase 1 Services shall be performed in accordance with the more stringent standard.

2.4 Personnel and Subcontractors.

2.4.1 Key Personnel. Design-Builder's Key Personnel are set forth in Exhibit 2.4.1. Design-Builder acknowledges that the qualifications of its Key Personnel were an essential element to Design-Builder being awarded this Interim Agreement, and further acknowledges the importance of its Key Personnel in successfully performing the Phase 1 Services and, if a Comprehensive Agreement is awarded to Design-Builder, the Phase 2 Services. Absent separation of employment, none of the Key Personnel may be withdrawn from the Project without prior written approval of the City, with it being understood and agreed that Design-Builder will provide the City with at least thirty (30) days written notice of any request to withdraw any Key Personnel. Any replacement personnel shall have equivalent skill, experience and reputation, and the City shall have the right to determine whether any replacement personnel are qualified or otherwise approved to work on the Project. The City shall not unreasonably withhold approval of staff changes.

2.4.2 The City's Objection to Personnel. Design-Builder shall remove or replace, or have removed or replaced, any personnel, including Key Personnel, performing the Work if the City has a reasonable objection to such individual and the City considers such removal necessary and in the best interest of the Project. In such case, the City shall notify Design-Builder in writing and allow a reasonable period of time for the transition to different personnel.

2.4.3 Use of Subcontractors for Phase 1 Services. If Design-Builder believes that it is in the best interests of the Project to retain the services of a Subcontractor to assist in the performance of the Phase 1 Services, it shall so advise the City. The City shall have the right, in its sole discretion, to determine whether to allow such Subcontractor to be retained and the manner, if any, in which such Subcontractor will be retained and compensated.

2.5 City-Furnished Information.

2.5.1 Status of the City-Furnished Information. Except as set forth in Section 2.5.2 below, the City makes no representation or warranty as to the accuracy, completeness, or sufficiency of any City-Furnished Information, including that set forth in Exhibit 2.5.1. Design-

Builder shall, as part of the Phase 1 Services, carefully study all City-Furnished Information and independently verify and confirm the accuracy, completeness, and sufficiency of any City-Furnished Information that will be used in performing the Work.

2.5.2 Status of the Designated City-Furnished Information. Notwithstanding Section 2.5.1 above, Design-Builder shall be entitled to reasonably rely upon the accuracy of the City-Furnished Information set forth in Exhibit 2.5.2 ("Designated City-Furnished Information") in the performance of its work. The City does not represent that the Designated City-Furnished Information is complete or sufficient for purposes of Design-Builder's performance of the Work. Design-Builder shall, as part of the Phase 1A Services, be responsible for identifying to the City what, if any, information is required in addition to the Designated City-Furnished Information to develop a complete and sufficient design for the Project, and shall so advise the City of this during the performance of its Phase 1A Services.

2.5.3 Discovery of Material Inaccuracies. If Design-Builder discovers any material inaccuracies in the City-Furnished Information (including Designated City-Furnished Information), it shall promptly report such discovery in writing to the City. The Parties will meet and confer on how to address such material inaccuracies.

2.6 Project Kick-Off Meeting. The Parties will meet within seven (7) days after the Phase 1A NTP to discuss issues affecting the administration of this Interim Agreement, including the procurement of any outstanding Design Consultants, processes relating to submittals and payment, the potential for Early Work Packages, and other matters that will facilitate the ability of the Parties to perform their obligations under this Interim Agreement.

### **ARTICLE 3**

#### **TIME FOR RENDERING PERFORMANCE**

##### **3.1 Dates of Commencement.**

3.1.1 Phase 1A Services. Design-Builder shall commence the Phase 1A Services upon Design-Builder's receipt of the Phase 1A Notice to Proceed ("Phase 1A NTP") for the Phase 1A Services. The City will issue to Design-Builder the Phase 1A NTP within seven (7) days after the Effective Date of this Interim Agreement, unless the Parties mutually agree otherwise in writing.

3.1.2 Phase 1B Services. Design-Builder shall commence the Phase 1B Services upon Design-Builder's receipt of the Phase 1B Notice to Proceed ("Phase 1B NTP") for the Phase 1B Services. The City will issue to Design-Builder the Phase 1B NTP within seven (7) days after the Effective Date of the Phase 1B Amendment, unless the Parties mutually agree otherwise in writing.

##### **3.2 Schedule for Performance of Phase 1 Services.**

3.2.1 Phase 1 Services Schedule. Within thirty (30) days from the Phase 1A NTP, Design-Builder shall submit to the City, for its review and approval, a proposed Final Phase 1A Schedule that includes, among other things, the order in which Design-Builder proposes to carry out the Phase 1A Services that includes, among other things: (a) the order in which Design-Builder proposes to carry out the Phase 1A Services; and (b) the times when submissions and approvals or consents by the City are required, *provided, however*, that such times shall be no

less than twenty-one (21) days. The proposed Final Phase 1A Schedule shall be derived from the Initial 90-Day Phase 1A Schedule. Upon approval of the Final Phase 1A Schedule, Design-Builder shall provide monthly updates depicting the actual progress of its performance of the Phase 1A Services as compared to the projected progress of the work associated with the Phase 1A Services. The Initial 90-Day Schedule shall be the basis for monitoring Design-Builder's performance of the Phase 1A Services until such time as the Phase 1A Services Schedule has been approved by the City.

3.2.2 Phase 1B Services Schedule. The Phase 1B Schedule shall be that schedule developed during Phase 1A and set forth in the Phase 1B Amendment. Design-Builder shall provide monthly updates depicting the actual progress of its performance of the Phase 1B Services as compared to the projected progress of the work associated with the Phase 1B Services.

3.2.3 Early Work Package Schedules. Each Early Work Package shall have a schedule that will be set forth in the Early Work Package Amendment. Design-Builder shall provide monthly updates depicting the actual progress of its performance of the Early Work Package as compared to the projected progress of the work associated with the Early Work Package. This schedule shall be distinct from the Phase 1A and Phase 1B Schedules.

### 3.3 Completion of Phase 1 Services.

3.3.1 Phase 1A Services. The Phase 1A Services shall be deemed complete upon the earlier to occur of: (a) the City and Design-Builder executing the Phase 1B Amendment; or (b) the City exercising its rights under Section 5.4.4(c) below to terminate this Interim Agreement for convenience.

3.3.2 Phase 1B Services. The Phase 1B Services shall be deemed complete upon the earlier to occur of: (a) execution by the City and Design-Builder of the Comprehensive Agreement; or (b) the City exercising its rights under Section 5.5.1 below to issue to Design-Builder of a Notice of Non-Award.

3.4 Time Extensions. If Design-Builder believes that it is entitled to an adjustment in the Phase 1A Services Schedule, the Phase 1B Services Schedules, or an Early Work Package Schedule, it shall, within ten (10) days of becoming aware of the event or situation giving rise to the requested relief, submit to the City a written notice of its request for relief, describing the facts, circumstances and contractual basis for the relief sought, with sufficient specificity for the City to assess the matter.

3.5 Liquidated Damages under the Comprehensive Agreement. If Design-Builder does not achieve Substantial Completion on or before the Scheduled Substantial Completion Date set forth in the Comprehensive Agreement, the City will suffer damages which are difficult to determine and accurately specify. To compensate the City for those damages, Design-Builder will be obligated to pay the City liquidated damages in an amount to be established in the Comprehensive Agreement. The City will advise Design-Builder prior to Design-Builder's submission of the GMP Proposal as to the amount of such liquidated damages.



## **ARTICLE 4**

### **CONTRACT PRICE AND PAYMENT**

#### **4.1 Contract Price and Changes to Contract Price.**

4.1.1 Contract Price. As of the Effective Date of this Interim Agreement, the Contract Price is \$3,669,426.00, which represents the compensation to Design-Builder for the Phase 1A Services. It is understood that the Contract Price will be increased as Design-Builder's scope of services for Phase 1B and Early Work Packages (if any) are implemented respectively through the execution of the Phase 1B Amendment and Early Work Package amendments. The Contract Price is deemed to include all sales, use, consumer, and other taxes mandated by applicable Legal Requirements.

4.1.2 Changes to Contract Price. If Design-Builder believes that it is entitled to an adjustment in the Contract Price, it shall, within ten (10) days of becoming aware of the event or situation giving rise to the requested relief, submit to the City a written notice of its request for relief, describing the facts, circumstances and contractual basis for the relief sought, with sufficient specificity for the City to assess the matter.

4.2 Basis for Phase 1 Compensation. The basis for the Phase 1 compensation is set forth in Exhibit 4.2, which exhibit includes, among other things, hourly rates and other information associated with pricing associated with the Phase 1 Services. The Parties commit to using Exhibit 4.2 in negotiating the Phase 1B Service compensation, as well as changes to the Phase 1 Services.

#### **4.3 Payment Process.**

4.3.1 Application for Payment. Design-Builder shall submit an application for payment to the City by the tenth (10th) day of each month following the performance of services for which Design-Builder is entitled to payment hereunder. Each application for payment shall: (a) be in the form approved by the City; (b) identify the services performed during the preceding month; (c) indicate the total amount requested for payment; (d) indicate the total amount paid Design-Builder through the date of the Application for Payment; and (e) include such other information or documentation as the City may reasonably require.

4.3.2 Payment by the City. The City shall make payment to Design-Builder of all properly supported invoiced amounts within thirty (30) days following receipt of an acceptable Application for Payment. In the event of a disputed or contested invoice, the City may withhold from payment only that portion so contested and shall pay the undisputed portion.

4.3.3 Retainage. No retainage will be withheld by the City for payments made to Design-Builder under this Interim Agreement, *provided, however*, in the event the City and Design-Builder execute an amendment to this Interim Agreement authorizing Design-Builder to perform an Early Work Package, such amendment will address what, if any, retainage will be withheld on such Early Work Package payments.

4.3.4 Final Payment. The City shall make final payment to Design-Builder of all monies due under this Interim Agreement within thirty (30) days after its receipt from Design-Builder of a Final Application for Payment. The Final Application for Payment shall be accompanied by such documentation as the City may require, including appropriate releases.

Design-Builder shall submit its final application for payment after, as applicable, the City exercises its right to: (a) terminate the Interim Agreement for convenience under Section 5.4.4(c) below; (b) issue a Notice of Intent to Award to Design-Builder the Comprehensive Agreement under Section 5.4.3 below; or (c) issue a Notice of Non-Award under Section 5.4.4(d) below.

4.4 Design-Builder's Right to Suspend and/or Terminate for Late Payment. If the City fails to make any undisputed payment due Design-Builder within forty-five (45) days after receipt of an acceptable Application for Payment, then Design-Builder may, after giving seven (7) days written notice to the City, suspend performing of services under this Interim Agreement until the City has paid Design-Builder in full all undisputed amounts due. If payment has not been made within sixty (60) days after Design-Builder has suspended, Design-Builder may exercise its termination rights under Section 11.1.1 below. Design-Builder shall have no rights to suspend work and/or terminate this Interim Agreement on the grounds that the City has failed to pay Design-Builder disputed amounts.

4.5 Interest. Payments due and unpaid by the City to Design-Builder shall bear interest commencing seven (7) days after payment is due in accordance with Va. Code § 2.2-4355.

4.6 Design-Builder's Fee.

4.6.1 Amount and Basis of Fee. Design-Builder's Fee is [REDACTED], which is that percentage fee proposed in Design-Builder's Proposal. Design-Builder's Fee will be used in the negotiation of the GMP Proposal and, if applicable, Early Work Package proposals. Design-Builder's Fee represents Design-Builder's compensation for profit and Non-Reimbursable Costs for work performed under the Comprehensive Agreement and any Early Work Package that may be authorized under this Interim Agreement.

4.6.2 Application of Design-Builder's Fee. Design-Builder's Fee shall be applied to the Cost of the Work, *provided, however*, that there shall be no Design-Builder's Fee applied to Design-Builder's premiums for the Performance Bond, Payment Bond and the Builder's Risk Insurance.

## **ARTICLE 5**

### **PHASE 1B AND GMP PROPOSALS**

5.1 Submission of Proposals.

5.1.1 Format of Proposal. Upon written authorization by the City, Design-Builder shall submit to the City, as applicable, a Phase 1B Proposal and a GMP Proposal. The specific format of a proposal, including the format of supporting documentation and line items of the Work, shall be initially developed by Design-Builder and provided to the City for its review and approval. The format of a specific proposal shall be agreed upon at least forty-five (45) days prior to the submittal of such proposal.

5.1.2 Status of the GMP Proposal Design Documents. The Parties acknowledge that the GMP Proposal Design Documents are not fully completed Released for Construction Documents and that such documents will be further developed under the Comprehensive Agreement. The GMP Proposal, including the GMP itself, represents Design-Builder's offer to fully complete the Project, including, without limitation, its offer to provide and construct, at no

increase in the GMP, items that are not shown in the GMP Proposal Design Documents, but which are a logical development of the design intent reflected in the GMP Proposal Design Documents.

## 5.2 Proposal Contents.

5.2.1 Phase 1B Proposal. The Phase 1B Proposal shall include the following, unless the Parties mutually agree otherwise:

- (a) A proposed compensation amount for the Phase 1B Services;
- (b) A detailed description of the Phase 1B Services, made in conformance with Exhibit 2.1.1.
- (c) A proposed Phase 1B Services Schedule;
- (d) A listing of any assumptions, clarifications or qualifications made by Design-Builder in providing the Phase 1B Services that are material to any part thereof;
- (e) A statement of additional services that may be performed in Phase 1B, but which are not included in the proposed compensation amount;
- (f) An updated commitment letter from Design-Builder's surety, verifying that Design-Builder has bonding capacity in the amount of the projected Project cost based on the Basis of Design Documents;
- (g) Such other information and materials as the City may reasonably request; and any other information reasonably requested by the City; and
- (h) Confirmation that the Phase 1B Proposal will remain valid during the Phase 1B Proposal Acceptance Period.

5.2.2 GMP Proposal. The GMP Proposal shall include the following, unless the Parties mutually agree otherwise:

- (a) A proposed GMP, which shall be the sum of:
  - (i) The estimated Cost of the Work, inclusive of the Contingency;
  - (ii) Design-Builder's General Conditions; and
  - (iii) Design-Builder's Fee.

The proposed GMP shall be supported by a detailed cost estimate organized by trade categories, including any Allowance Payment Items and Contingency.

- (b) The GMP Proposal Design Documents, with all such documents to be listed and attached to the GMP Proposal;
- (c) A list of the assumptions and clarifications made by Design-Builder in the preparation of the GMP Proposal, which list is intended to supplement the information contained in the GMP Proposal Design Documents, and shall include the Geotechnical Baseline Report ("GBR");

(d) The Scheduled Substantial Completion Date upon which the proposed GMP is based, and the proposed Baseline Schedule;

(e) A schedule of submittals listing each required submittal and the times for submitting, reviewing, and processing each submittal;

(f) A proposed schedule of values for all of the Work which will include quantities and prices of items that when added together equal the GMP and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work;

(g) A cash flow projection estimating that portion of the GMP to be due during each month of performance;

(h) If applicable, a list of Allowance Payment Items, Allowance Payment Values, and a statement of their basis;

(i) If applicable, a schedule of alternate prices;

(j) If applicable, a schedule of unit prices;

(k) If applicable, a statement of additional services which may be performed but which are not included in the GMP and which, if performed, shall be the basis for an increase in the GMP and/or Scheduled Substantial Completion Date;

(l) A subcontracting plan for the Phase 2 Services which will, among other things, set forth a list of Subcontractors whose bids/proposals have been accepted by City and also identify proposed Self-Perform Work;

(m) A list of Early Work Packages that have been negotiated and agreed upon by the City and Design-Builder;

(n) An updated letter from its surety or sureties verifying that Design-Builder has bonding capacity in the amount of the GMP;

(o) An updated list of Key Personnel and Design-Builder's Project Organizational Chart;

(p) A specimen Builder's Risk Insurance policy with all appropriate attachments, sub-limits that has been approved by the City, and a letter of certification from Design-Builder or Design-Builder's insurance broker confirming that Builder's Risk Insurance in the form of such specimen policy shall be procured prior to the commencement of on-site construction;

(q) Such other information and materials as the City may reasonably request; and

(r) Confirmation that the GMP Proposal will remain valid during the GMP Proposal Acceptance Period.

5.3 Review and Adjustment to Proposals. After submission of a proposal under Section 5.2 above, Design-Builder and the City shall meet to discuss and review such proposal, with the understanding that: (a) all information shall be provided by Design-Builder on an Open-Book Basis; (b) Design-Builder shall provide such information as the City may reasonably request relative to such proposal; and (c) Design-Builder shall identify and justify any costs that are significantly different than Design-Builder's latest cost model. If the City has any comments regarding the proposal, or finds any inconsistencies or inaccuracies in the information presented, it shall promptly notify Design-Builder of such comments or findings. If appropriate, Design-Builder shall, upon receipt of the City's notice, make appropriate adjustments to the proposal. Design-Builder is also on notice that the City may, at any time, submit the proposal to either the Owner's Advisor or an independent third party for review and verification.

5.4 Negotiation of and City's Actions on Proposal.

5.4.1 Negotiation. If the City determines that there is merit in considering the proposal, it shall so notify Design-Builder, whereupon the Parties shall negotiate in good faith and attempt to reach agreement on the terms of the proposal.

5.4.2 Agreement on Phase 1B Proposal. If the Parties reach agreement on the Phase 1B Proposal, as such proposal may be amended by Design-Builder to reflect discussions between the Parties, the Parties will execute an appropriate amendment to this Interim Agreement reflecting such agreement.

5.4.3 Agreement on GMP Proposal. If the Parties reach agreement on the GMP Proposal, as such proposal may be amended by Design-Builder to reflect discussions between the Parties, and the Alexandria City Council approves an award of the Comprehensive Agreement to Design-Builder, the City will issue Design-Builder a Notice of Intent to Award.

5.4.4 Failure to Agree upon Proposal. If the Parties are unable to reach an agreement on either the Phase 1B Proposal or the GMP Proposal, the City may:

(a) Continue to evaluate and suggest modifications to the proposal, whereupon, if such modifications are accepted in writing by Design-Builder, then the Parties shall be deemed to have agreed upon the modified proposal, in which case the Parties shall proceed in accordance with, as applicable, Sections 5.4.2 or 5.4.3 above;

(b) Authorize Design-Builder to continue to advance the design of the Project under this Interim Agreement or as an additional service, as applicable, and/or have Design-Builder provide another proposal at a later point in time, which proposal shall comply with this Article 5; or

(c) In the case of the Phase 1B Proposal, exercise its rights to terminate the Interim Agreement for convenience under Section 11.2.1 below; and

(d) In the case of the GMP Proposal, exercise its rights to issue a Notice of Non-Award under Section 5.5 below.

## 5.5. Notice of Non-Award.

5.5.1 City's Right to Issue Notice of Non-Award. The City has the right, at any time and in its sole discretion, to issue Design-Builder a Notice of Non-Award. In addition to any other rights available to City under this Interim Agreement, the City shall have the right to contract with Design Consultants in accordance with Section 2.2.5 above upon its issuance of a Notice of Non-Award.

5.5.2 Furnishing of Documents. If the City issues a Notice of Non-Award, the City and Design-Builder shall promptly meet and confer about the documents and other materials prepared by Design-Builder, Design Consultants and, if applicable, Subcontractors as part of the Phase 1 Services. Design-Builder shall furnish, or cause to be furnished, to the City all design documents and other materials, including but not limited to schedules, bid packages, cost estimates, and procurement documents, requested by the City, which documents shall, to the extent they were not already Work Product, be deemed Work Product.

5.5.3 Remedies. If the City issues a Notice of Non-Award, Design-Builder's sole and exclusive right and remedy shall be to be paid for all Phase 1 Services properly performed through the date of the Notice of Non-Award. Design-Builder shall not be entitled to any overhead or profit on unperformed Work or services of any other kind. In no case shall Design-Builder or any other DB-Related Entity be entitled to anticipatory or unearned profits, unabsorbed overhead, opportunity costs, or consequential or other damages as a result of the City's failure to award the Comprehensive Agreement to Design-Builder.

5.6 Design-Builder's Rights if the City Fails to Act. If the City fails to exercise any of its options under Section 5.4.4 within, as applicable, the Phase 1B Proposal Acceptance Period or the GMP Proposal Acceptance Period, as such times may be extended by mutual agreement of the Parties, Design-Builder may, after giving the City thirty (30) days written notice of its intention to do so, declare the applicable proposal null and void. Additionally, Design-Builder may: (a) relative to the Phase 1B Proposal, declare that the City has constructively terminated this Interim Agreement for convenience under Section 11.2.1 below, in which case Design-Builder's sole rights and remedies shall be as stated in Section 11.2.2 below; and (b) relative to the GMP Proposal, declare that the City has constructively issued a Notice of Non-Award, in which case Design-Builder's sole rights and remedies shall be as stated in Section 5.5 above.

5.7 Early Work Packages. The Parties anticipate that there may be some elements of the Phase 2 Services that are more appropriately undertaken by Design-Builder before the Parties enter into a Comprehensive Agreement or agree upon a GMP for the entire Work ("Early Work Packages"). The City shall have the sole discretion as to whether to consider and/or authorize an Early Work Package. If the City authorizes Design-Builder to prepare a commercial proposal for an Early Work Package, the Parties will agree upon the specific process for doing so, with the understanding that the process is intended to generally follow the submittal and negotiation process set forth above for a GMP Proposal. It is anticipated that agreed-upon Early Work Packages will be contracted for through an amendment to this Interim Agreement, which amendment shall set forth all commercial terms specific to that Early Work Package including, if applicable, any agreed-upon limitations of liability associated with such Early Work Package. For the avoidance of doubt, Early Work Packages are considered part of the Phase 2 Services.

5.8 Savings and Contingency. The Party negotiations of the GMP Proposal and the Comprehensive Agreement will define and establish the mechanism for addressing, among other things: (a) savings (i.e., the difference between the GMP and the actual Cost of the Work and Design-Builder's Fee); and (b) Contingency.

## **ARTICLE 6**

### **SELF-PERFORM WORK AND SUBCONTRACTS**

6.1 Subcontractor Participation in Performance of the Phase 1 Services. If Design-Builder wishes to retain any Subcontractor to provide assistance to Design-Builder in the performance of the Phase 1 Services, Design-Builder shall so notify the City. The Parties shall meet and confer about the most appropriate way of having such Subcontractors participate, and the City will have ultimate authority to determine whether and how any Subcontractor will be awarded a Subcontract to provide Phase 1 Services under this Interim Agreement and, if so, the commercial arrangement with the applicable Subcontractor. Notwithstanding the above, it is understood that the Marine Work Subcontractor will be providing Phase 1 Services, and that its compensation for Phase 1A Services is included in the Contract Price.

#### **6.2 Self-Perform Work.**

6.2.1 General. Self-Perform Work will be performed during both Phase 1 and Phase 2, with the understanding that the specific scope of Self-Perform Work will be determined by mutual agreement of the Parties during Phase 1. Self-Perform Work packages shall either be negotiated or subject to competition, as determined by the City in its sole and absolute judgment.

6.2.2 Self-Perform Work Subject to Negotiations. If the City determines that the Self-Perform Work package will be subject to negotiation, Design-Builder shall submit a proposal for such package based upon: (a) the estimated Cost of the Work for such Self-Perform Work, with the entity performing Self-Perform Work pricing its labor on actual wages plus the appropriate multiplier on such wages; and (b) Design-Builder's Fee being applied to such Cost of the Work. Self-Perform Work performed by the Marine Work Subcontractor will also include a fair and reasonable fee for such contractor to cover its profit and Non-Reimbursable Expenses. For the avoidance of doubt, the entity performing Self-Perform Work shall provide such information as the City may reasonably request, with the understanding that all information that formed the basis for the applicable estimate will be provided to the City on an Open-Book Basis. If the Parties are unable to reach an agreement on the proposal, the City may, in its sole and absolute judgment: (x) withdraw its permission that the applicable Work be deemed Self-Perform Work; or (y) give Design-Builder permission to submit a competitive proposal in accordance with Section 6.2.3 below.

6.2.3 Self-Perform Work Subject to Competition. If the City determines that the Self-Perform Work package will be subject to competition, Design-Builder shall be allowed to perform such package if: (a) Design-Builder submits its bid or proposal for such package in the same manner as all other Subcontractors; and (b) the City determines that Design-Builder's bid or proposal provides the best value for the City. If Design-Builder wishes to submit a bid or proposal for such package, the City shall have the right to require the submittal of all bids or proposals for such work directly to the City and/or Owner's Advisor (and not to Design-Builder) for review and evaluation. Design-Builder further acknowledges and understands that its bid or proposal shall be provided on an Open Book Basis.

### 6.3 Work to Be Performed through Subcontractors

6.3.1 Fixed-Price Subcontracts. It is contemplated that, with the exception of the Marine Work Subcontractor, all first-tier Subcontractors are to be awarded fixed-price Subcontracts through a low bid, competitive procurement process, unless otherwise expressly authorized by the City in writing.

6.3.2 Bidding Process. Design-Builder shall be responsible for dividing the Work associated with the Phase 2 Services into suitable bid packages. Design-Builder shall develop and discuss with the City a proposed list of bidders for each Subcontract and, unless the City agrees otherwise in writing, shall obtain bids from at least three (3) bidders for all Subcontracts where the budgeted amount for the Subcontract is in excess of \$250,000. The three (3) bidder requirement of the preceding sentence shall not apply if the Parties agree that Design-Builder will likely not be able to obtain three (3) bids or proposals from qualified and suitable bidders. In connection with all Subcontractor procurements, Design-Builder shall:

- (a) Develop procurement procedures in consultation with the City and prepare all necessary procurement documents;
- (b) Advertise for bids or proposals and receive bids or proposals;
- (c) Open and review all bids or proposals in a manner that does not disclose the contents of the bids or proposals to persons not employed by Design-Builder, the City or Owner's Advisor;
- (d) Evaluate the bids or proposals in accordance with the selection criteria established in the procurement documents; and
- (e) Recommend a bid or proposal for approval by the City in accordance with such evaluation.

All bids or proposals shall be made available to the City on request.

6.3.3 Selection. The City may accept Design-Builder's recommendation or may make its own selection against whom Design-Builder makes no reasonable objection. If the City selects a Subcontractor other than the one recommended by Design-Builder and if the City's selected Subcontractor's final contract amount is higher than the final amount proposed by Design-Builder's recommended Subcontractor, the GMP will be adjusted to reflect any difference. The City may, in its sole discretion, reject any or all bids and proposals received for any bid package, and may require Design-Builder to obtain new or revised bids or proposals.

6.3.4 City and Owner's Advisor Rights to Participate in Procurement Process. The City and Design-Builder shall meet and confer during Phase 1 about the role that City anticipates playing during the procurement of Subcontractors. Without limiting any of the foregoing, Design-Builder acknowledges and agrees that the City and Owner's Advisor shall have the right to: (a) review and comment on all procurement documents; (b) attend any bid or proposal openings; (c) attend any meetings with prospective Subcontractors, including scope review meetings; (d) review all bids, proposals, and other information developed or otherwise resulting from any competitive procurement, including Design-Builder's tabulation, scoring or evaluation



materials; and (e) otherwise participate in the negotiation and contract award process. Unless the City decides otherwise, Design-Builder shall provide the City, upon award of a Subcontract, with a description of the competitive process undertaken in connection with such Subcontract award, together with copies of all material documents used in connection therewith and agreements resulting therefrom.

6.3.5 Best Value Proposals. Notwithstanding the expectation that all first-tier Subcontracts will be awarded on a low bid, competitive basis, the City and Design-Builder may agree that there is a benefit to the Project to awarding some Subcontracts on a best-value basis that would consider factors other than price. Design-Builder shall identify aspects of the Work where this procurement approach might be beneficial and discuss this with the City, including how price and other non-price factors will be considered in the procurement and award process.

6.4 Work to be Performed through Design Consultants. The City shall have the right to approve all Design Consultants on the Project, regardless of whether such Design Consultants were identified in Design-Builder's Proposal and/or evaluated by the City during the procurement process. In furtherance of this, the City and Design-Builder will, at the kick-off meeting established by Section 1.2.6 above, meet and confer to discuss Design-Builder's use of, and plan for procuring, Design Consultants.

## **ARTICLE 7**

### **BONDS AND INSURANCE**

7.1 Bonds. If the Parties enter into the Comprehensive Agreement, Design-Builder shall be obligated to provide a Performance Bond and a Payment Bond in accordance with the requirements of the Comprehensive Agreement.

7.2 Insurance. Design-Builder shall procure and maintain the insurance as required by Exhibit 7.2.

## **ARTICLE 8**

### **LEGAL REQUIREMENTS**

8.1 Compliance with Legal Requirements. Design-Builder shall perform the Work in accordance with all Legal Requirements and shall provide all notices applicable to the Work as required by the Legal Requirements.

8.2 Changes in Legal Requirements. Design-Builder will be entitled to an adjustment in the Contract Price and time of performance to the extent Design-Builder is adversely impacted by any changes in the Legal Requirements enacted after the Effective Date of this Interim Agreement, provided Design-Builder satisfies the requirements of Sections 3.4 and 4.1.2 above. Notwithstanding the above, the relief afforded by this Section 8.2 shall not apply to changes in Legal Requirements relating to: (a) Design-Builder's or any other DB-Related Entity's corporate existence or the maintenance of its business; (b) changes in Legal Requirements affecting payroll taxes or other taxes associated with labor; or (c) changes in Legal Requirements affecting taxes imposed on an entity's gross revenue, income or profits.

## **ARTICLE 9**

### **WORK PRODUCT**

9.1 City's Rights in Work Product. Design-Builder hereby assigns and conveys to the City all right, title, and interest, including all copyrights, patents, or any other intellectual property rights (but excluding Pre-Existing Intellectual Property) in all Work Product and all ideas or methods specifically developed for such Work Product. All Work Product will become the property of the City on the earlier of: (a) the City's payment to Design-Builder of monies due in accordance with this Interim Agreement and not subject to a good faith dispute; (b) the date any Work Product is delivered to the City; or (c) upon any termination of this Interim Agreement. The City's use of any Work Product for any purpose other than the Project, without the involvement of Design-Builder, shall be at its own risk, and Design-Builder shall have no liability to the City for or relating to any such use.

9.2 DB-Related Entities. Except as specifically provided in Section 9.4 below, no DB-Related Entity will own or claim any copyright, patent, or any other intellectual property right in or with respect to any Work Product or ideas or methods specifically developed for such Work Product.

9.3 Design-Builder's Right to Retain Copies of Work Product. Design-Builder may make and retain copies of the Work Product for information, reference and use by DB-Related Entities solely with respect to the Work. No DB-Related Entity may use the Work Product for any other purpose without the specific written consent of the City.

9.4 Pre-Existing Intellectual Property. The City acknowledges and agrees that in the performance of services under this Interim Agreement, a DB-Related Entity may use proprietary algorithms, software, hardware, databases, other background technology, and other proprietary information that the DB-Related Entity developed or licensed from third parties prior to the Effective Date of this Interim Agreement ("Pre-Existing Intellectual Property"). Without limiting the City's rights with respect to the Work Product or the Project, the DB-Related Entity will retain all right, title, and interest in such Pre-Existing Intellectual Property. However, the City shall have the irrevocable, perpetual, and unrestricted right from and after the Effective Date of this Interim Agreement to use (or permit use of) all Pre-Existing Intellectual Property incorporated in the Work Product or the Project, all oral information received by the City in connection with the Work, and all ideas or methods represented by Pre-Existing Intellectual Property incorporated in the Work Product or the Project, in each case without additional compensation. Design-Builder hereby licenses such irrevocable, perpetual, and unrestricted rights to the City. The City's use of such license rights for any purpose other than the Project shall be at its own risk, and Design-Builder shall have no liability to the City for or relating to any such use.

## **ARTICLE 10**

### **BOOKS AND RECORDS**

10.1 Proper Financial Management. Design-Builder shall keep full and detailed accounts and exercise such controls as required by Exhibit 2.1.1, as well as may be necessary for proper financial management, using accounting and control systems in accordance with generally accepted accounting principles, consistently applied.

10.2 Retention and Audit of Books and Records. During the performance of the Work and for a period of three (3) years after Final Payment, the City and its accountants shall be

afforded access to, and the right to audit from time-to-time, upon reasonable notice, all Books and Records relating to the Work, all of which Design-Builder shall preserve for a period of three (3) years after Final Payment. Such inspection shall take place at Design-Builder's offices during normal business hours unless another location and time is agreed to by the Parties. The City may take possession of such Books and Records by reproducing such Books and Records for off-site review. When requested in the City's written notice of examination and/or audit, Design-Builder shall provide the City with copies of electronic and electronically stored Books and Records in a reasonably usable format that allows the City to access and analyze all such Books and Records. For Books and Records that require proprietary software to access and analyze, Design-Builder shall provide the City with the means to do so, including a license authorizing the City to access and analyze all such Books and Records.

10.3 Items Not Subject to Audit. For the avoidance of doubt, the City shall not have the right to audit any items for which it has accepted a lump sum proposal or agreed upon a fixed price/lump sum, including, but not limited to any agreed-upon billing rates, multipliers or markups agreed to by the City and Design-Builder as part of this Interim Agreement, which are only subject to audit to confirm that such agreed-upon billing rate, multiplier or markup has been charged in accordance with this Interim Agreement.

10.4 Flow-Down in Subcontracts. Design-Builder shall insert a clause containing all the provisions of this Article 10 in all Subcontracts having values over \$100,000.00.

## **ARTICLE 11**

### **TERMINATION AND SUSPENSION**

#### **11.1 Termination for Cause.**

11.1.1 Process. If either Party fails to perform material obligations under this Interim Agreement, then the other Party may provide written notice to the breaching Party that it intends to terminate this Interim Agreement unless the problem cited is cured, or commenced to be promptly cured, within seven (7) days of the breaching Party's receipt of such notice. If the breaching Party fails to cure, or reasonably commence and diligently continue to cure, such problem, then the non-breaching Party may give a second written notice to the breaching Party of its intent to terminate within an additional seven (7) day period. If the breaching Party, within such second seven (7) day period, fails to cure, or reasonably commence and diligently continue to cure, such problem, then the non-breaching Party may declare the Interim Agreement terminated for default by providing written notice to the breaching Party of such declaration. If Design-Builder's basis for termination is that the City has failed to pay Design-Builder undisputed amounts, Design-Builder shall, as a condition precedent to exercising its rights under this Section 11.1.1, first comply with Section 4.4 above. Notwithstanding anything to the contrary in this Interim Agreement, Design-Builder shall not have the right to terminate this Interim Agreement on the grounds that the City has failed to pay Design-Builder amounts in dispute.

11.1.2 Remedies. If Design-Builder terminates the City for cause pursuant to Section 11.1.1 above, Design-Builder's sole and exclusive right and remedy shall be that set forth in Section 11.2.2 below. If the City terminates Design-Builder for cause, the City shall have the remedies available to it under applicable Legal Requirements, subject to the terms of this Interim Agreement.

## 11.2 Termination for Convenience.

11.2.1 Process. The City may terminate this Interim Agreement, in whole or in part, for the convenience of the City, without prejudice to any right or remedy otherwise available to the City, if the City determines in its sole discretion that such a termination is in its interests. The City shall implement such termination by providing Design-Builder with a written notice of termination, specifying the extent of the termination and the effective date. Upon receipt of such notice, Design-Builder shall immediately comply with the directions given in such notice, including discontinuing all Phase 1 Services affected unless such notice directs otherwise.

11.2.2 Remedies. If the City terminates Design-Builder for convenience pursuant to Section 11.2.1 above, Design-Builder's sole and exclusive right and remedy shall be to be paid for all Phase 1 Services properly performed through the date of the notice of termination. Design-Builder shall not be entitled to any overhead or profit on unperformed Work or services of any other kind. In no case shall Design-Builder or any other DB-Related Entity be entitled to anticipatory or unearned profits, unabsorbed overhead, opportunity costs, or consequential or other damages as a result of the City's termination for convenience.

11.2.3 Work Product Liability. If the City terminates Design-Builder for convenience pursuant to Section 11.2.1 above, the following shall apply.

(a) Design-Builder's liability for any use of the Completed Work Product after the date of such termination shall be limited in accordance with Article 13 below.

(b) Design-Builder shall have no liability, except for fraud, fraudulent misrepresentation, Willful Misconduct, Gross Negligence, or criminal acts, for any use of any Incomplete Work Product after the date of such termination, including in circumstances where the City continues to make use of the Incomplete Work Product on the Project through engaging a Design Consultant to finish the Phase 1 Services and/or engaging a separate contractor to undertake the Phase 2 Services.

11.3 Right to Contract with Design Consultants. In addition to any other rights available to City under this Interim Agreement, the City shall have the right to contract with Design Consultants in accordance with Section 2.2.5 above if it terminates Design-Builder under either Sections 11.2 or 11.3 above.

11.4 Furnishing of Documents. If the City has exercised its rights to terminate under either Sections 11.1.1 or 11.2.1 above, the City and Design-Builder shall promptly meet and confer about the documents and other materials prepared by Design-Builder, Design Consultants and, if applicable, Subcontractors as part of the Phase 1 Services. Design-Builder shall furnish, or cause to be furnished, to the City all design documents and other materials, including but not limited to schedules, bid packages, cost estimates, and procurement documents, requested by the City, which documents shall, to the extent they were not already Work Product, be deemed Work Product.

11.5 City's Right to Suspend. City may order Design-Builder in writing to suspend all or any part of the Phase 1 Services without cause for such period of time as the City may determine to be appropriate for its convenience. Design-Builder will be entitled to an adjustment in the Contract Price and time of performance resulting from such suspension, provided Design-Builder satisfies the requirements of Sections 3.4 and 4.1.2 above.

11.6 Termination for Non-Appropriation of Funds. The City has the right to terminate this Interim Agreement based on the non-appropriation of funds, as set forth in Section 14.5 below.

## **ARTICLE 12**

### **INDEMNIFICATION**

12.1 Design-Builder's Indemnity. Design-Builder, to the fullest extent permitted by applicable Legal Requirements, shall indemnify, hold harmless and defend the City Indemnitees from and against claims, losses, damages, liabilities, including attorneys' fees and expenses, for bodily injury, sickness or death, and property damage or destruction (other than to the Work itself) to the extent resulting from the Gross Negligence, Willful Misconduct or negligent acts or omissions of Design-Builder or any DB-Related Entity. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity that would otherwise exist as to a party or person described in this Section 12.1.

12.2 No Limitation. If an employee of Design-Builder or any DB-Related Entity has a claim against any City Indemnitee, Design-Builder's indemnity obligation set forth in Section 12.1 above shall not be limited by any limitation on the amount of damages, compensation or benefits payable by or for Design-Builder or any DB-Related Entity under any employee benefit acts, including workers' compensation or disability acts.

## **ARTICLE 13**

### **LIABILITY LIMITATIONS**

#### **13.1 Interim Agreement Liability Cap.**

13.1.1 General. Subject to Sections 13.1.2 and 13.3 below, Design-Builder's liability to the City under this Interim Agreement with respect to damages arising out of the performance or unexcused non-performance of any work performed by a DB-Related Entity under this Interim Agreement, whether such damages are based upon contract, breach of warranty (express or implied), tort (including negligence), strict liability, or any other legal theory, shall not exceed the Interim Agreement Liability Cap.

13.1.2 Purpose. The purpose of the Interim Agreement Liability Cap is to limit Design-Builder's liability to the City for the Phase 1 Services if the Parties do not enter into the Comprehensive Agreement. Design-Builder acknowledges and agrees that the Interim Agreement Liability Cap: (a) is not intended to, and will not, limit Design-Builder's liability for any Phase 2 Services, including Early Work Packages, regardless of whether or not such liability arises out of or relates to the performance or unexcused non-performance of the Phase 1 Services performed under this Interim Agreement; and (b) shall cease to apply, and shall be of no further force or effect, once the Parties enter into the Comprehensive Agreement.

13.2 Waiver of Consequential Damages. To the fullest extent permitted by law, and notwithstanding any other provision of this Interim Agreement (other than Section 13.3 below), in no event, whether arising out of contract, breach of warranty (express or implied), tort (including negligence), strict liability, or any other cause of or form of action whatsoever, shall either Party be liable to the other for any consequential damages (including, without limitation, damages for loss of use, loss of profits or anticipated profits, loss of revenue, and loss of business opportunity)

arising out of or in connection with the performance or non-performance of its obligations under this Interim Agreement.

13.3 Exclusions. Notwithstanding Sections 13.1 or 13.2 above, or anything else in the Interim Agreement, Design-Builder's liability for the following shall not be limited or released in any way for the following liabilities, losses, damages, costs, or expenses:

(a) Any loss, cost or expense, to the extent such loss, cost or expense is paid by the proceeds of insurance (excluding payment of deductibles) up to the specific amounts Design-Builder is required to carry under Section 7.2 above;

(b) Any loss, cost or expense arising out of or connected with Design-Builder's fraud, fraudulent misrepresentation, Willful Misconduct, Gross Negligence, or criminal acts;

(c) Any loss, cost or expense incurred by Design-Builder in connection with Design-Builder's indemnification obligations set forth in Article 12 above; and

(d) Any loss, cost, expense or penalties incurred by Design-Builder to any person or entity (other than the City) in any legal proceedings.

#### 13.4 Applicability

13.4.1 Other Persons and Entities. The provisions of this Article 13 shall be binding on and extend to the benefit of all successors, assignees, employees, officers, directors and Affiliates of each Party; provided, however, that the amount of Design-Builder's liability shall not exceed the aggregate the limits set forth in Section 13.1 above.

13.4.2 Binding Effect. Except to the extent prohibited by applicable Legal Requirements or specific terms to the contrary in this Article 13, the releases, waivers, limitations of liability and other terms in this Article 13 shall apply even in the event of the fault, negligence (in whole or in part), tort, strict liability, breach of contract or otherwise, of the person or entity in whose favor such provisions operate

### **ARTICLE 14** **MISCELLANEOUS**

14.1 Defined Terms. Capitalized terms used in this Interim Agreement, to the extent not defined in Section 1.1 above, have the meanings indicated in the Comprehensive Agreement.

14.2 Confidentiality. The term "Confidential Information" means information which is determined by the transmitting Party to be of a confidential or proprietary nature and: (a) the transmitting Party identifies as either confidential or proprietary; (b) the transmitting Party takes steps to maintain the confidential or proprietary nature of the information; and (c) the document is not otherwise available in or considered to be in the public domain. The receiving Party agrees to maintain the confidentiality of the Confidential Information and agrees to use the Confidential Information solely in connection with the Project.

14.3 Representations and Warranties. Design-Builder represents and warrants that:

(a) It is qualified to do business in the Commonwealth of Virginia and that it will take such action as, from time to time hereafter, may be necessary to remain so qualified;

(b) It is not in arrears with respect to payment of any monies due and owing the Commonwealth of Virginia, or any department or unit thereof, including but not limited to the payment of taxes and employee benefits, and that it shall not become so in arrears during the term of this Interim Agreement;

(c) It shall comply with Va. Code § 40.1-29 and Va. Code § 11-4.6 regarding non-payment of wages.

14.4 Ethics in Public Contracting. The provisions of law set forth in Article IV of the Virginia Public Procurement Act, entitled "Ethics in Public Contracting," (Va. Code § 2.2-4367 et seq.), Alexandria City Code § 3-3-121 et seq.; the State and Local Government Conflict of Interest Act, Va. Code § 2.2-3100 et seq.; the Virginia Governmental Frauds Act, Va. Code § 18.2-498.1 et seq.; and Articles 2 and 3 of Chapter 10, Title 18.2 of the Code of Virginia, all as the same may be amended from time to time and are incorporated herein by reference. Design-Builder shall incorporate the above clause in its Subcontracts with each Design Consultant and Subcontractor.

14.5 Non-Appropriation of Funds. This Interim Agreement is conditioned upon an annual appropriation made by the City Council of the City of Alexandria of funds sufficient to pay the compensation due Design-Builder under this Interim Agreement. If such an appropriation is not made in any fiscal year, and the City lacks funds from other sources to pay the compensation due under this Interim Agreement, the City will be entitled, at the beginning of or during such fiscal year, to terminate this Interim Agreement. In that event, the City will not be obligated to make any payments under this Interim Agreement beyond the amount properly appropriated for Interim Agreement payments in the immediately prior fiscal year. The City will provide Design-Builder written notice of termination of this Interim Agreement due to the non-appropriation of funds at least fifteen (15) calendar days before the effective date of the termination. However, the City's failure to provide such notice will not extend this Interim Agreement into a fiscal year in which funds for Interim Agreement payments have not been appropriated.

14.6 Equal Employment Opportunity.

14.6.1 Discrimination Prohibited. Design-Builder hereby agrees not to discriminate against any employee or applicant for employment on account of race, color, sex, religion, ancestry, national origin, marital status, age, sexual orientation, disability, when such person is a qualified person with a disability, or any other basis prohibited by applicable Legal Requirements relating to discrimination in employment, except where there is a bona fide occupational qualification reasonably necessary to the normal operation of Design-Builder. Design-Builder agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.

14.6.2 Affirmative Action. Design-Builder hereby agrees to implement an affirmative action employment program as defined in Section 12-4-3 of the Alexandria City Code to ensure nondiscrimination in employment under guidelines to be developed by the Human Rights Commission of the City of Alexandria (the "Commission") and approved by the City Council of the City of Alexandria.

14.6.3 EOE Statement. Design-Builder hereby agrees to include in all solicitations or advertisements for employees placed by or on behalf of Design-Builder the words “Equal Opportunity Employer” or a symbol approved by the Commission meaning the same.

14.6.4 Notice to Labor Unions. Design-Builder hereby agrees to notify each labor organization or representative of employees with which Design-Builder is bound by a collective bargaining agreement or other contract of Design-Builder’s obligations pursuant to this equal employment opportunity clause.

14.6.5 Reports to the City. Design-Builder hereby agrees to submit to the City Manager and the City’s Human Rights Administrator, upon request, no more frequently than annually, regular equal employment opportunity reports on a form to be prescribed by the City’s Human Rights Administrator with the approval of the City Manager, except that the Administrator may request more frequent special reports of particular employers provided the Commission has found such employers to have violated any provision of Chapter 4 of Title 12 of the Alexandria City Code.

14.6.6 Compliance with Federal Requirements Sufficient. Notices, advertisements, and solicitations placed in accordance with federal Legal Requirements shall be deemed sufficient for the purpose of meeting the requirements of this section.

14.6.7 Accommodation of Disabled Workers. Design-Builder hereby agrees to make reasonable accommodation to the known physical or mental limitations of an otherwise qualified person with a disability who is an applicant or employee, unless Design-Builder can demonstrate that the accommodation would impose an undue hardship on the operation of its business.

14.6.8 Reasonable Accommodations. For the purposes of this section, reasonable accommodation may include: (i) making facilities used by employees readily accessible to and usable by persons with a disability; and (ii) job restructuring, part-time or modified work schedules, the acquisition or modification of equipment or devices, the provision of readers or interpreters, and other similar actions.

14.6.9 Undue Hardship. In determining whether an accommodation would impose an undue hardship on the operation of Design-Builder’s business, factors to be considered include but are not limited to the following:

- (a) The overall size of Design-Builder’s business with respect to the number of employees, the number and type of facilities, and the size of the budget;
- (b) Design-Builder’s type of operation, including the composition and structure of Design-Builder’s work force; and
- (c) The nature and cost of the accommodation needed.

14.6.10 Refusal to Employ. Design-Builder may not deny any employment opportunity to a qualified person with a disability who is an employee or applicant if the basis for the denial is the need to make reasonable accommodation to the physical or mental limitations of the employee or applicant.



14.6.11 Subcontracts. Design-Builder hereby agrees to include the provisions in Sections 14.6.1 through 14.6.10 in every Subcontract so that such provisions will be binding upon each Design Consultant and Subcontractor.

14.6.12 Non-compliance. In the event of Design-Builder's noncompliance with any provision of this equal employment opportunity clause, upon a finding of such noncompliance by the City's Human Rights Commission and certification of such finding by the City Manager, the City Council of the City of Alexandria may terminate or suspend or not renew, in whole or in part, this Interim Agreement.

#### 14.7 Drug-Free Workplace.

14.7.1 Drug-Free Workplace. During the performance of this Interim Agreement, Design-Builder agrees to: (a) provide a drug-free workplace for Design-Builder's employees; (b) post in conspicuous places, available to employees and applicants for employment, a statement notifying employees that the unlawful manufacture, sale, distribution, dispensation, possession, or use of a controlled substance or marijuana is prohibited in Design-Builder's workplace and specifying the actions that will be taken against employees for violations of such prohibition; (c) state in all solicitations or advertisements for employees placed by or on behalf of Design-Builder that Design-Builder maintains a drug-free workplace; and (d) include the provisions of the foregoing clauses in every Subcontract over \$10,000, so that the provisions will be binding upon each Design Consultant and Subcontractor.

14.7.2 Definition. For the purposes of this Section 14.7, "drug-free workplace" means a site for the performance of work done in connection with this Interim Agreement, in accordance with Chapter 3, Title 3, of the Code of the City of Alexandria, the employees of which are prohibited from engaging in the unlawful manufacture, sale, distribution, dispensation, possession or use of any controlled substance or marijuana during the performance of this Interim Agreement.

14.8 Compliance with the Immigration Reform and Control Act of 1986. During the performance of any Work, Design-Builder shall not knowingly employ an unauthorized alien as defined in the federal Immigration Reform and Control Act of 1986, as amended.

14.9 Design-Builder's Payment Obligations to Design Consultants and Subcontractors. Design-Builder is obligated as follows:

(a) Design-Builder is to be liable for the entire amount owed to any first-tier Design Consultant and Subcontractor, provided, however, that Design-Builder shall not be liable for amounts otherwise reducible due to Design Consultant's or Subcontractor's noncompliance with the terms of its Subcontract. In the event Design-Builder withholds all or a part of the amount promised to Design Consultant or Subcontractor under the Subcontract, Design-Builder shall notify such Design Consultant or Subcontractor, in writing, of its intention to withhold all or a part of Design Consultant's or Subcontractor's payment with the reason for nonpayment. Payment by the City shall not be a condition precedent to Design-Builder's payment to any first-tier Design Consultant or Subcontractor, regardless of Design-Builder receiving payment for amounts owed to Design-Builder.

(b) Design-Builder shall take one of the two following actions within seven (7) days after receipt of amounts paid to Design-Builder by City for work performed by a first-tier Design Consultant or Subcontractor: (i) pay Design Consultant or Subcontractor for the proportionate share of the total payment received from the City attributable to the work performed by Design Consultant or Subcontractor; or (ii) notify the City and Design Consultant or Subcontractor, in writing, of Design-Builder's intention to withhold all or a part of Design Consultant's or Subcontractor's payment with the reason for nonpayment.

(c) Design-Builder shall provide the City with its federal employer identification numbers.

(d) Design-Builder is obligated to pay interest to its first-tier Design Consultants and Subcontractors on all amounts owed by Design-Builder that remain unpaid after seven (7) days following receipt by Design-Builder of payment from the City for work performed by Design Consultant or Subcontractor, except for amounts withheld as allowed in Paragraph (b) above. Interest shall accrue at the rate of one percent (1%) per month. Design-Builder's obligation to pay an interest charge to Design Consultants and Subcontractors pursuant to this Paragraph (d) shall not be construed to be an obligation of the City, and any such interest charge shall be deemed a non-reimbursable expense. No change orders shall be allowed for the purpose of providing reimbursement for any interest charge.

(e) Design-Builder shall flow down to each first-tier Design Consultant and Subcontractor the provisions of this Section 14.9, thereby obligating such Design-Consultants and Subcontractors to meet the same payment and interest requirements to its Design Sub-Consultants and Sub-Subcontractors as Design-Builder is obligated to its Design Consultants and Subcontractors.

#### 14.10 Claims and Disputes.

14.10.1 Notice of Intent to File a Claim. If Design-Builder believes that it is entitled to relief against the City for matters that are unresolved under Sections 3.4 or 4.1.2 above, or for any other matters, then Design-Builder may make a formal claim against the City on such matters. Design-Builder shall initiate the claim process by submitting to the City a written notice labeled "Notice of Intent to File a Claim" no later than fifteen (15) days of the time of the occurrence or the beginning of the work upon which the claim is based.

14.10.2 Notice of Claim. If Design-Builder decides to pursue its claim, it shall submit to the City a written notice labeled "Notice of Claim." In no event shall the Notice of Claim be submitted to the City more than sixty (60) days after Final Payment. The Notice of Claim shall include a statement of Design-Builder's position, specification of the remedy sought, and supporting documentation, which supporting documentation shall include, as applicable, information submitted by Design-Builder pursuant to Sections 3.4 and 4.1.2 above. Design-Builder shall also include with its Notice of Claim a statement certifying that the claim is made in good faith, that supporting documentation is accurate and complete, and that to the best of Design-Builder's knowledge and belief, the relief requested accurately reflects the full relief to which Design-Builder is entitled.

14.10.3 Substantiation of Claim. Responsibility to substantiate a claim shall rest solely and exclusively with Design-Builder and compliance with all notice, submittal and

documentation requirements in the Contract Documents, including those under Sections 3.4 and 4.1.2 above and this Section 14.10 shall be a condition precedent to the assertion of any claim. Any claim failing to comply with the preceding sentence shall be barred.

14.10.4 City Decision. The City shall render a final written decision on a claim within ninety (90) days after the delivery of the Notice of Claim. If the City does not take action on the claim within the time required above, the claim will be deemed to be denied by the City.

14.10.5 Design-Builder Response to City Decision. The City's denial of the claim will be final and binding on the Parties unless Design-Builder delivers written notice to the City of its intent to pursue litigation within thirty (30) days following the written decision or deemed denial of the claim, and files appropriate pleadings to initiate litigation within six (6) months following the written decision or deemed denial of the claim. Design-Builder shall have no right to initiate litigation prior to its receipt of the City's final determination on the claim, or, if the City has not made a final determination, the date the claim is deemed denied pursuant to Section 14.10.4 above.

14.10.6 City's Right to Institute Litigation. Nothing in the Contract Documents shall be construed to prevent the City from instituting legal action against Design-Builder at any time.

14.10.7 Continuation of Work. No dispute between Design-Builder and the City shall interfere with the progress of the Work. Design-Builder shall have the duty to diligently proceed with the Work in accordance with the City's instructions despite any dispute, including but not limited to those events where the Parties are in disagreement as to whether instructions from the City constitute a change to the Work and justify adjustments to the Contract Price or schedule of work. Design-Builder's sole recourse in the event of such a dispute will be to pursue its rights under Section 14.11.1 above. For the avoidance of doubt, this Section 14.10.7 shall not be construed as affecting Design-Builder's rights to suspend and/or terminate for late payment under Section 4.4 above.

14.10.8 Claims against City Officials. Design-Builder shall make no claim whatsoever against any elected official, appointed official, authorized representative or employee of the City for, or on account of, anything done or omitted to be done in connection with this Interim Agreement.

14.11 Choice of Law and Venue. This Interim Agreement shall be governed by the laws of the Commonwealth of Virginia, without giving effect to its conflict of law principles. Any and all legal proceedings between the Parties shall be solely and exclusively initiated and maintained in either the Circuit Court of the City of Alexandria, Virginia or the United States District Court for the Eastern District of Virginia. These two courts shall have exclusive and binding jurisdiction and venue over any and all disputes arising under the Contract, and City and Design-Builder each irrevocably consents to the jurisdiction of such courts in any such proceeding and waives any objection it may have to the jurisdiction of any such proceeding. Any legal proceedings shall consist of a bench trial and not a trial by jury, and each party hereby waives its right to a jury trial in connection with any legal proceedings.

14.12 Notice. All notices required by the terms of this Interim Agreement shall be in writing. Notice will be deemed to have been validly given: (a) if delivered in person to the individual intended to receive such notice; or (b) one business day after being sent by overnight delivery via a nationally recognized courier service (e.g., FedEx or UPS), postage, transmittal or shipping charges prepaid, to the address set forth below:

If to Design-Builder:

Stephen Skippen  
Skanska USA Civil Southeast Inc.  
8521 Leesburg Pike, Suite 220  
Vienna, VA 22182

If to the City of Alexandria, Virginia:

Matthew Landes  
Department of Project Implementation, City of Alexandria  
301 King Street, Suite 3200  
Alexandria, VA 22314

With copies to:

Joanna C. Anderson, Esq.  
Office of the City Attorney, City of Alexandria  
301 King Street, Suite 1300  
Alexandria, VA 22314

and

Terry A. Suehr  
Director, Department of Project Implementation, City of Alexandria  
301 King Street, Suite 3200  
Alexandria, VA 22314

14.13 No Third Party Beneficiaries. Nothing under this Interim Agreement shall be construed to give any rights or benefits in this Interim Agreement to anyone other than the City and Design-Builder, and all duties and responsibilities undertaken pursuant to this Interim Agreement will be for the sole and exclusive benefit of the City and Design-Builder and not for the benefit of any other party. For the avoidance of doubt, this provision is not intended to affect the City's rights under Section 2.2.5 above.

14.14 Assignment. Neither the Interim Agreement nor any right, privilege, delegation, or interest thereunder may be assigned or transferred in whole or in part by the City or Design-Builder without the prior written consent of the other Party, and any attempted assignment or transfer without such written consent shall be void. Notwithstanding the above, Design-Builder's consent of the City's assignment or transference shall not be required for assignments relating in any way to the financing of the Interim Agreement, Work or Project. Design-Builder shall execute such assignments, consents, and other documents as may be reasonably requested to give effect to or implement any assignment or conveyance of the Interim Agreement or any right, privilege, delegation, or interest thereunder.

14.15 Severability. The invalidity or unenforceability of any portion of this Interim Agreement will not affect the validity or enforceability of the balance of this Interim Agreement, which will be construed and enforced as if this Interim Agreement did not contain the invalid or unenforceable portion, unless deletion of the invalid portion would defeat the clear purpose of this Interim Agreement.

14.16 Survival. Any provision of this Interim Agreement that contemplates performance subsequent to any termination or expiration of the Interim Agreement shall survive any termination or expiration of this Interim Agreement and shall remain in full force and effect according to their terms.

14.17 Non-Waiver. The failure of Design-Builder or the City to exercise any right, power or option arising under this Interim Agreement or to insist upon strict compliance with the terms of this Interim Agreement shall not constitute a waiver of the terms and conditions of this Interim Agreement with respect to any other or subsequent breach thereof or a waiver by Design-Builder or City of its rights at any time thereafter to require exact and strict compliance with all the terms thereof.

14.18 Sovereign Immunity. Notwithstanding any other provision of this Interim Agreement to the contrary, nothing in this Interim Agreement nor any action taken by the City pursuant to this Interim Agreement nor any document which arises out of this Interim Agreement shall constitute or be construed as a waiver of the sovereign immunity of the City, or of its elected and appointed officials, officers and employees.

14.19 Entire Agreement. This Interim Agreement, inclusive of all Exhibits, constitutes the entire agreement among the Parties pertaining to the work and supersedes all prior and contemporaneous agreements and understandings of the Parties in connection therewith.

14.20 Oral Modification. No oral statements of any person whosoever shall, in any manner or degree, modify or otherwise affect the terms of this Interim Agreement.

14.21 FEMA Grant Requirements. Because the Work may be funded, in whole or in part, with grant(s) from the Federal Emergency Management Agency ("FEMA"), an agency under the U.S. Department of Homeland Security, this Interim Agreement may be subject to certain requirements associated with the grants. Grants from FEMA mandate the inclusion of certain contract provisions, which are set forth in Exhibit 14.21. Consequently, Design-Builder agrees that it will fully comply with all of the provisions contained in such Exhibit, and that in the event any other provision of this Interim Agreement conflicts with any provision in Exhibit 14.21, the provisions contained in Exhibit 14.21 shall govern.

14.22 Exhibits. The following exhibits (“Exhibits”) are specifically made part of, and incorporated by reference into, this Interim Agreement:

Exhibit 1.1(a)	Form of Comprehensive Agreement
Exhibit 2.1.1	Scope of Phase 1 Services
Exhibit 2.4.1	List of Key Personnel and Project Organizational Chart
Exhibit 2.5.1	City-Furnished Information
Exhibit 2.5.2	Designated City-Furnished Information
Exhibit 3.2.1	Initial 90-Day Schedule
Exhibit 4.2	Phase 1 Compensation
Exhibit 7.2	Insurance Requirements
Exhibit 14.21	FEMA Grant Requirements

**IN WITNESS WHEREOF**, intending to be bound, the Parties have entered into this Interim Agreement as of the Effective Date of this Interim Agreement.

**CITY:**

City of Alexandria, Virginia

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Printed Name)

\_\_\_\_\_  
(Title)

Date: \_\_\_\_\_

**DESIGN-BUILDER:**

Skanska USA Civil Southeast Inc.

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Printed Name)

\_\_\_\_\_  
(Title)

Date: \_\_\_\_\_

**EXHIBIT 1.1(a)**  
**Comprehensive Agreement**  
**for the**  
**Waterfront Implementation Project**  
**City of Alexandria**  
  
[ATTACHED]

**Exhibit 1.1(a)**  
**Comprehensive Agreement**

[Attached]



## COMPREHENSIVE AGREEMENT

This **COMPREHENSIVE AGREEMENT** ("Agreement") is entered into this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_ ("Agreement Date") by and between the City of Alexandria, Virginia ("City") and \_\_\_\_\_ ("Design-Builder"). In consideration of the mutual covenants and obligations contained herein, the City and Design-Builder hereby agree as follows:

### WITNESSETH:

**WHEREAS**, the City intends to design and construct certain improvements associated with the City's Waterfront Implementation Project ("Project"); and

**WHEREAS**, the City determined that its goals for the design and construction of the Project would be best-served by implementing a "progressive design-build" delivery process through a two-step, best value procurement process, as allowed under the Public-Private Education Facilities and Infrastructure Act of 2002 (Va. Code § 56-575 et seq.) ("PPEA") and the Public-Private Education Facilities and Infrastructure Act Guidelines adopted and issued by the City ("PPEA Guidelines") to implement the PPEA; and

**WHEREAS**, as the result of the City's procurement process, the City and Design-Builder entered into an Interim Agreement dated \_\_\_\_\_, whereby Design-Builder agreed, among other things, to: (a) perform programmatic, design and other preliminary services to help the City determine the scope, price and schedule of the Project; and (b) prepare and submit to the City a GMP Proposal for the Work contemplated by this Agreement; and

**WHEREAS**, on or about \_\_\_\_\_, Design-Builder submitted the GMP Proposal to the City and, after conducting negotiations on such proposal, reached agreement on the terms required for the City to award this Agreement to Design-Builder; and

**WHEREAS**, on or about \_\_\_\_\_, the City issued a Notice of Intent to Award this Agreement to Design-Builder; and

**WHEREAS**, Design-Builder has fulfilled all conditions precedent to the award of this Agreement.

**NOW, THEREFORE**, in consideration of the mutual covenants and obligations contained herein, City and Design-Builder hereby agree as follows:

### **Article 1** **Scope of Work**

1.1 **Scope of Work**. Design-Builder shall complete all Work as specified or indicated in the Contract Documents.

1.2 **Effect of Interim Agreement**. Design-Builder acknowledges that it was retained by the City under the Interim Agreement to perform, among other things, the GMP Proposal Design Document. As a result of having undertaken such services, Design-Builder acknowledges that it has, except as specifically set forth in this Agreement, satisfied itself with respect to all aspects of the Project and the Work to commit to all obligations in the Contract Documents. Accordingly,

Design-Builder hereby acknowledges and agrees that:

(a) All Work Product existing as of the Agreement Date, including the GMP Proposal Design Documents, was prepared solely by Design-Builder and DB-Related Parties;

(b) During its performance of the Interim Agreement, Design-Builder was capable of conducting and did conduct investigations to verify or supplement its understanding of the: (i) the City-Furnished Information, including the Conceptual Design Report and City's Project Criteria; (ii) existing Site conditions at the Project; and (iii) anything else reasonably needed to commit to its obligations in the Contract Documents;

(c) Except for the Designated City-Furnished Information, the City has made no representation or warranty to Design-Builder that the information contained in the Contract Documents or provided to Design/Builder in conjunction with the Interim Agreement, including but not limited to the City-Furnished Information, is sufficient, complete or accurate. Design-Builder assumes responsibility for the sufficiency, completeness, and accuracy of all such information, notwithstanding the fact that the City may have provided, reviewed and/or approved such information; and

(d) Design-Builder shall have no right to claim or seek an adjustment to the Contract Price or Contract Times as the result of: (i) any incomplete, inaccurate, ambiguous, or inadequate information or requirements contained in or among any of the Contract Documents; (ii) the City's review or approval of any Contract Documents; or (iii) City's involvement during the Interim Agreement.

## **Article 2**

### **Contract Documents and Definitions**

2.1 Agreement and Exhibits. The Agreement consists of this document and the following exhibits which are attached hereto or shall be attached hereto in accordance with the provisions of this Agreement ("Exhibits"), and which are specifically made a part of the Agreement by this reference:

Exhibit 4.2.1	Design-Builder's Rate Classification Schedule
Exhibit 4.7.1	Allowance Payment Items
Exhibit 5.1.1	Schedule of Values
Exhibit 11.1(a)	Insurance Requirements
Exhibit 11.1(b)	Specimen Builder's Risk Insurance Policy
Exhibit 11.2.1	GMP Proposal Design Documents
Exhibit 11.2.2	City's Project Criteria
Exhibit 11.2.3	Designated City-Furnished Information
Exhibit 11.2.4	GMP Clarifications and Assumptions
Exhibit 11.2.5	Baseline Schedule
Exhibit 11.2.6	Key Personnel and Organizational Chart
Exhibit 11.2.7	Responsibility Matrix for Governmental Approvals
Exhibit 11.2.8	Geotechnical Baseline Report
Exhibit 11.10	Davis-Bacon Wage Decisions
Exhibit 11.11	FEMA Grant Requirements
Exhibit 11.12	Division Owner Requirements
Exhibit 11.13(a)	Form of Performance Bond

Exhibit 11.13(b)	Form of Payment Bond
Exhibit 11.14	General Conditions of Contract

2.2 Contract Documents. The Contract Documents consist of: (a) this Agreement, inclusive of all Exhibits; and (b) the following, which shall be designated, completed, delivered, prepared, or issued after the Agreement Date and are not attached hereto:

- (i) The Construction Documents; and
- (ii) Any and all written amendments, Change Orders, Work Change Directives, and Minor Changes amending, modifying, or supplementing the Contract Documents.

For the avoidance of doubt, except for the City's Project Criteria, nothing contained in the City-Furnished Information (inclusive of the Conceptual Design Report) is to be construed as being a Contract Document.

## 2.3 Inconsistencies, Conflicts or Ambiguities.

2.3.1 Intent. The Contract Documents are intended to permit the Parties to complete the Work and all obligations required by the Contract Documents within the GMP and Contract Times. The Contract Documents are intended to be complementary and interpreted in harmony so as to avoid conflict, with words and phrases interpreted in a manner consistent with construction and design industry standards. In the event inconsistencies, conflicts or ambiguities between or among the Contract Documents are discovered, the City and Design-Builder shall attempt to resolve such ambiguities, conflicts or inconsistencies informally. Requirements contained in one component of the Contract Documents and not contained in another component of the Contract Documents shall not be deemed an inconsistency, conflict or ambiguity.

2.3.2 Order of Precedence. The following order of precedence shall apply in the case of direct, irresolvable conflicts between or among Contract Documents:

- (a) All written amendments to this Agreement.
- (b) Change Orders, Work Change Directives and Minor Changes.
- (c) Exhibit 11.11 (FEMA Grant Requirements)
- (d) This Agreement, including all Exhibits except: (i) Exhibit 11.2.1 (GMP Proposal Design Documents); (ii) Exhibit 11.2.2 (City's Project Criteria); (iii) Exhibit 11.2.3 (Designated City-Furnished Information); Exhibit 11.11 (FEMA Grant Requirements); Exhibit 11.12 (Division Owner Requirements); and Exhibit 11.14 (General Conditions of Contract).
- (e) Exhibit 11.14 (General Conditions of Contract).
- (f) Exhibit 11.12 (Division Owner Requirements).
- (g) The Construction Documents.
- (h) Exhibit 11.2.2 (City's Project Criteria).

- (i) Exhibit 11.2.1 (GMP Proposal Design Documents).
- (j) Exhibit 11.2.3 (Designated City-Furnished Information)

2.3 Amending the Contract Documents. The Contract Documents may only be amended, modified, or supplemented through a written amendment executed by the Parties or a Change Order, Work Change Directive, or Minor Change issued in accordance with Article 9 of the General Conditions of Contract.

2.4 Defined Terms. Terms used in this Agreement will have the meanings indicated in the General Conditions of Contract.

2.5 Entire Agreement. This Agreement represents the entire agreement between the City and Design-Builder relating to the Project and supersedes all prior negotiations, representations, or agreements, including the Interim Agreement.

### **Article 3** **Contract Times**

3.1 Commencement Date. Design-Builder shall commence the Work upon receipt of the Notice to Proceed ("Commencement Date"). The Commencement Date shall be no later than fifteen (15) days after the Agreement Date, unless the Parties mutually agree otherwise in writing.

3.2 Contract Times.

3.2.1 Scheduled Substantial Completion Date. Substantial Completion shall be achieved as expeditiously as reasonably practicable, but in no event later than \_\_\_\_\_ ("Scheduled Substantial Completion Date").

3.2.2 Scheduled Final Completion Date. Final Completion of the Work shall be achieved as expeditiously as reasonably practicable, but in no event later than sixty (60) days after the Substantial Completion Date (the last day of such 60-day period being referred to as the "Scheduled Final Completion Date").

3.3 Schedule Adjustments. All of the scheduled completion dates set forth in Section 3.2 above (collectively referred to as "Contract Times") shall be subject to adjustment in accordance with the General Conditions of Contract.

3.4 Time of the Essence. The City and Design-Builder mutually agree that the Scheduled Substantial Completion Date and Scheduled Final Completion Date, individually and collectively, are of the essence of this Agreement.

3.5 Delay Liquidated Damages. Design-Builder understands that if any of the Contract Times is not attained, the City will suffer damages which are difficult to determine and accurately specify. To compensate the City for such damages, Design-Builder hereby agrees to pay the City Delay Liquidated Damages as follows:

3.5.1 Substantial Completion. If the Substantial Completion Date has not been achieved by the Scheduled Substantial Completion Date, then Design-Builder shall pay to the City Delay Liquidated Damages of \_\_\_\_\_ Dollars (\$\_\_\_\_\_) per day for each day between the Scheduled Substantial Completion Date and the Substantial Completion Date.

3.5.2. Final Completion. If the Final Completion Date has not been achieved by the Scheduled Final Completion Date, Designer-BUILDER shall pay to the City Delay Liquidated Damages of \_\_\_\_\_ Dollars (\$\_\_\_\_\_) per day for each day between the Scheduled Final Completion Date and the Final Completion Date.

3.6 Delay Liquidated Damages Not Penalty. The Parties acknowledge, recognize and agree on the following:

(a) that because of the unique nature of the Project, it is difficult or impossible to determine with precision the amount of damages that would or might be incurred by the City as a result of Design-BUILDER's failure to complete the Work on or before the applicable Contract Times;

(b) that any sums which would be payable under this Agreement as Delay Liquidated Damages are in the nature of liquidated damages, and not a penalty, and are fair and reasonable, and such payment represents a reasonable estimate of fair compensation for the losses that may reasonably be anticipated from such failure;

(c) that any sums which would be payable under this Agreement as Delay Liquidated Damages shall be in lieu of all liability for any and all extra costs, losses, expenses, claims, penalties and any other damages, whether direct, indirect, special or consequential, and of whatsoever nature incurred by the City which are occasioned by any delay in achieving the applicable Contract Time(s); and

(d) that, in recognition of the acknowledgments above, Design-BUILDER is expressly estopped from arguing, and waives any rights it may have to argue, that Delay Liquidated Damages are a penalty and that they are not enforceable.

For the avoidance of doubt, and notwithstanding anything to the contrary in Paragraph (c) above, Delay Liquidated Damages are not intended to excuse Design-BUILDER from liability for any other breach of its obligations under the Contract Documents.

#### **Article 4** **Contract Price**

##### **4.1 Contract Price and GMP.**

4.1.1 Contract Price. The City shall pay Design-BUILDER a contract price for the proper performance of the Work and all other obligations under the Contract Documents ("Contract Price"). The Contract Price is comprised of, and equals the sum of, the following:

- (a) Cost of the Work, as defined in Section 4.2 below.
- (b) Design-BUILDER's General Conditions, as defined in Section 4.3 below.
- (c) Design-BUILDER's Fee, as defined in Section 4.5 below.

The Contract Price shall be paid in accordance with Article 5 below.

4.1.2 Guaranteed Maximum Price ("GMP"). The GMP is the amount of \_\_\_\_\_ Dollars (\$\_\_\_\_\_), as such GMP may be adjusted in accordance with \_\_\_\_\_ of the General Conditions of Contract. Design-BUILDER

guarantees that it shall not exceed the GMP, and that it will be responsible for paying all costs of completing the Work which exceed the GMP. The GMP is deemed to include all sales, use, consumer and other taxes mandated by applicable Legal Requirements. Design-Builder does not guarantee any specific line item provided as part of the GMP.

4.2 Cost of the Work. The term “Cost of the Work” shall mean costs reasonably and actually incurred by Design-Builder in the proper performance of the Work. The Cost of the Work shall include only the following:

.1 Wages of design professionals or construction workers directly employed by Design-Builder to perform design or construction of the Work at the Site or, with the City’s agreement, at locations off the Site; *provided, however*, that the costs for those employees of Design-Builder performing design services shall be calculated on the basis of prevailing market rates for design professionals performing such services or, if applicable, those rates set forth in Exhibit 4.2.1 (Design-Builder’s Rate Classification Schedule).

.2 A multiplier applied to the wages of the employees of Design-Builder covered under Section 4.2.1 above as compensation for the costs incurred or customarily paid for employee benefits, project-related bonuses, premiums, taxes, insurance, contributions and assessments required by law, and/or collective bargaining agreements. The multiplier for Design-Builder’s professional, salary-based on-site personnel shall be \_\_\_\_%. The multiplier for Design-Builder’s craft/field, hourly-based on-site personnel shall be \_\_\_\_%. The multiplier for all off-site personnel of Design-Builder shall be \_\_\_\_%.

.3 Payments properly made by Design-Builder to Subcontractors and Design Consultants for performance of portions of the Work.

.4 Costs incurred by Design-Builder in repairing or correcting defective, damaged or nonconforming Work (including any warranty or corrective Work performed after Substantial Completion), provided that such Work was beyond the reasonable control of Design-Builder, or caused by the ordinary mistakes or inadvertence, and not the negligence, of Design-Builder or those working by or through Design-Builder, and provided further that no Design-Builder’s Fee shall apply to such costs. If the costs associated with such Work are recoverable from insurance, Subcontractors or Design Consultants, Design-Builder shall exercise reasonable commercial efforts to obtain recovery from the appropriate source and provide a credit to the City if recovery is obtained, net of any costs and expenses reasonably incurred by Design-Builder in pursuing and obtaining such recovery.

.5 Costs, including transportation, inspection, testing, storage and handling, of materials, equipment and supplies incorporated or reasonably used in completing the Work.

.6 Costs (less salvage value) of Equipment and Materials, supplies, temporary facilities, machinery, equipment and hand tools not customarily owned by the workers that are not fully consumed in the performance of the Work and which remain the property of Design-Builder, including the costs of transporting, inspecting, testing, handling, installing, maintaining, dismantling and removing such items.

.7 Rental charges and the costs of transportation, installation, minor repairs and replacements, dismantling and removal of temporary facilities, machinery, equipment and hand tools not customarily owned by the workers, which are provided by Design-Builder at the Site, whether rented from Design-Builder or others, and incurred in the performance of the Work.

.8 Fuel and utility costs incurred in the performance of the Work.

.9 Costs for Governmental Approvals, permits, royalties, licenses, tests, and inspections incurred by the Design-Builder as a requirement of the Contract Documents.

.10 The cost of defending suits or claims for infringement of patent rights arising from the use of a particular design, process, or product required by the City, paying legal judgments against Design-Builder resulting from such suits or claims, and paying settlements with the City's consent.

.11 Costs incurred in preventing damage, injury or loss in case of an emergency affecting the safety of persons and property.

.12 Premiums for the Performance Bond, Payment Bond, and Builder's Risk Insurance, *provided, however*, that no Design-Builder's Fee shall apply to such costs.

.13 Sales, use or similar taxes, tariffs, or duties incurred in the performance of the Work.

.14 Other costs reasonably and properly incurred in the performance of the Work to the extent approved in writing by the City.

4.3 Design-Builder's General Conditions. The term "Design-Builder's General Conditions" shall mean Design-Builder's costs reasonably and actually incurred by Design-Builder for supervisory, construction management and overhead-related items in connection with the proper performance of the Work and which are not covered by the Cost of the Work. Design-Builder's General Conditions shall include only the following:

.1 Base wages or salaries of Design-Builder's supervisory and administrative personnel engaged in the performance of the Work and who are located at the Site or working off-Site to assist in the production or transportation of Equipment and Materials, or any material or equipment necessary for the Work.

.2 A multiplier applied to the wages of the employees of Design-Builder covered under Section 4.3.1 above as compensation for the costs incurred or customarily paid by Design-Builder for employee benefits, project-related bonuses, premiums, taxes, insurance, contributions and assessments required by law, and/or collective bargaining agreements. The multiplier for professional, salary-based on-site personnel shall be \_\_\_\_%. The multiplier for craft/field, hourly-based on-site personnel shall be \_\_\_\_%. The multiplier for all off-site personnel shall be \_\_\_\_%.

.3 Costs of removal of debris and waste from the Site not performed or required to be performed by Subcontractors.

.4 The reasonable costs and expenses incurred in establishing, operating and

demobilizing the Site office, including the cost of facsimile transmissions, long distance telephone calls, postage and express delivery charges, telephone service, photocopying, reasonable petty cash expenses.

.5 Vehicles for the transport of persons, such as passenger cars and pick-up trucks, to the extent used by any of Design-Builder's personnel while performing their Project-related responsibilities.

4.4 Non-Reimbursable Costs. The Cost of the Work and Design-Builder's General Conditions shall not include the following:

.1 Salaries and other compensation for Design-Builder personnel stationed at Design-Builder's principal or branch offices, except as expressly provided for in Sections 4.2.1 and 4.3.1 above.

.2 Expenses of Design-Builder's principal office and offices other than the Project Site office.

.3 Overhead and general expenses, except as expressly provided for in Sections 4.2 and 4.3 above.

.4 Bonuses, profit sharing, thrift or similar plans paid to employees of Design-Builder, whether or not such employee worked on the Project, except as expressly provided for in Sections 4.2.2 and 4.3.2 above.

.5 The cost of Design-Builder's capital used in the performance of the Work.

.6 Insurance premiums incurred or paid by Design-Builder, other than the Builder's Risk insurance.

.7 Accounting and data processing costs.

.8 Any costs not specifically set forth in Sections 4.2 and 4.3 above.

.9 Costs that would cause the GMP to be exceeded.

.10 Costs and expenses incurred to obtain any Governmental Approval, permit, license, registration, or other approval, or fee or charge incurred, in connection with the general operations of Design-Builder and not required specifically and exclusively for the performance of the Work.

4.5 Design-Builder's Fee.

4.5.1 Design-Builder's Fee Amount. Design-Builder's Fee shall be \_\_\_\_\_ (\$\_\_\_\_\_), and represents the compensation to Design-Builder for profit and the non-reimbursable costs identified in Section 4.4 above. Design-Builder's Fee was calculated by applying a percentage of \_\_\_\_\_ (\_\_\_%) to the estimated Cost of the Work, with no fee to be applied for Contingency or any Allowance Payment Item.

4.5.2 Adjustment to Design-Builder's Fee. Design-Builder's Fee will be adjusted as follows:



(a) For additive Change Orders, including additive Change Orders arising from both additive and deductive items, it is agreed that Design-Builder shall receive a Design-Builder's Fee not to exceed \_\_\_\_% of the additional Costs of the Work incurred for that Change Order.

(b) For deductive Change Orders, including deductive Change Orders arising from both additive and deductive items, it is agreed that Design-Builder's Fee shall be reduced by an amount equal to \_\_\_\_% applied to the net reduction in Costs of the Work.

(c) For Costs of the Work that are drawn from the Contingency or incurred for an Allowance Payment Item, it is agreed that Design-Builder shall receive a Design-Builder's Fee of \_\_\_\_% of such Costs of the Work.

#### 4.6 Contingency.

4.6.1 Use of Contingency. The GMP includes a contingency line item ("Contingency") as part of the estimated Cost of the Work. The Contingency is available for Design-Builder's exclusive use for unanticipated Costs of the Work that it has incurred that are not the basis for a Change Order under the Contract Documents, plus the applicable Design-Builder's Fee, but subject to: (i) City approval as more specifically described in Section 4.6.2 below; and (ii) other limitations set forth in the Contract Documents. By way of example, and not as a limitation, such unanticipated Costs of the Work may include: (a) trade buy-out differentials; (b) overtime or acceleration; (c) escalation of labor and material costs; (d) correction of defective, damaged or nonconforming Work, including design errors or omissions, however caused, but as limited under Section 4.2.4 above; (e) Subcontractor defaults; and (f) deductibles incurred by Design-Builder under the insurance required under Exhibit 11.1 (Insurance Requirements) (but not to exceed \$25,000 per occurrence). The Contingency is not available to the City for any reason, including, but not limited to, changes in scope or any other item which would enable Design-Builder to increase the GMP under the Contract Documents.

4.6.2 Draw upon Contingency. Design-Builder may draw upon the Contingency by making a written request to the City, identifying the reason and amount of the draw, and by obtaining the City's written approval, which shall not be unreasonably withheld. If the City approves a draw against the Contingency, Design-Builder shall, in its Applications for Payment, show an increase in the relevant line item by the amount drawn and a decrease in the line item for the Contingency.

4.6.3 Notice of Anticipated Charges Against Contingency. Design-Builder shall provide the City notice of all anticipated charges against the Contingency, and shall provide the City as part of its monthly status report an accounting of the Contingency, including all reasonably foreseen uses or potential uses of the Contingency in the upcoming three (3) months.

4.6.4 Subcontractor Defaults and Insurance or Bond Reimbursement. Design-Builder agrees that with respect to any expenditure from the Contingency relating to a Subcontractor default or any event for which insurance or bond may provide reimbursement, Design-Builder will in good faith exercise reasonable steps to obtain performance from the Subcontractor and/or recovery from any surety or insurance. If Design-Builder is subsequently reimbursed for said costs, then said recovery will be credited back to the Contingency, net of any reasonable costs and expenses incurred by Design-Builder in pursuing such recovery.

#### 4.7 Allowance Payment Items and Allowance Payment Values

4.7.1 General. The GMP includes all Allowance Payment Items set forth in Exhibit 4.7.1 (Allowance Payment Items), with the corresponding Allowance Payment Values for the Allowance Payment Items also being set forth in such exhibit.

4.7.2 Performance of Work on Allowance Payment Items. No work shall be performed on any Allowance Payment Item without Design-Builder first obtaining in writing advanced authorization to proceed from the City.

4.7.3 Reconciliation of Allowance Payment Values. If the actual costs for an Allowance Payment Item differ from the stated Allowance Payment Value, the GMP shall ultimately be adjusted accordingly by Change Order. If, at the time the Final Application for Payment, the actual costs for any Allowance Payment Value are less than the corresponding Allowance Payment Value, such difference shall be reflected in a Change Order that reduces the GMP by such difference.

#### 4.8 Savings.

4.8.1 Shared Savings. If upon Final Completion the sum of: (a) the actual Cost of the Work incurred by Design-Builder (e.g., not including any unused portions of the Contingency or Allowance Payment Values); (b) Design-Builder's General Conditions; and (c) Design-Builder's Fee is less than the GMP, as such GMP may have been adjusted over the course of the Project, then the difference ("Savings") shall be treated at the rate of \_\_\_\_\_ percent (\_\_\_%) to the City and \_\_\_\_\_ percent (\_\_\_%) to Design-Builder.

4.8.2 Payment of Savings. The City's and Design-Builder's respective shares of Savings shall be calculated and paid as part of Final Payment under Section 5.3 below, with the understanding that to the extent Design-Builder incurs costs after Final Completion which would have been payable to Design-Builder as a Cost of the Work, the Parties shall recalculate the amount of Savings and each share in light of the costs so incurred.

4.9 Self-Perform Work. If any of Design-Builder's Self-Perform Work is performed on a lump sum basis, such lump sum shall be treated in the same manner as if the lump sum was performed by a Subcontractor for purposes of determining Cost of the Work. If such Self-Perform Work is performed on a GMP or Cost of the Work basis, it will be paid in accordance with Sections 4.2 and 4.3 above. Marine Work Subcontractor's Self-Perform Work shall be performed on a lump sum basis. For the avoidance of doubt, the entity performing Self-Perform Work shall provide such information as the City may reasonably request, with the understanding that all information that formed the basis for the applicable estimate will be provided to the City on an Open-Book Basis, with all cost information being transparent and based on actual, verifiable costs compliant with Sections 4.2 and 4.3 above.

### **Article 5** **Payment Procedures**

#### 5.1 Progress Payments.

5.1.1 Submission. Design-Builder shall submit to the City on the \_\_\_\_\_ (\_\_\_) day of each month, beginning with the first month after the Commencement Date,

Applications for Payment in accordance with Article 6 of the General Conditions of Contract. The Schedule of Values for the Work is set forth in Exhibit 5.1.1 (Schedule of Values).

5.1.2 Payment. The City shall make payment within thirty (30) days after the City's receipt of each properly submitted and accurate Application for Payment in accordance with Article 6 of the General Conditions of Contract, but in each case less the total of payments previously made, and less amounts properly withheld under Section 6.3 of the General Conditions of Contract or otherwise.

## 5.2 Retainage on Progress Payments.

5.2.1 Retainage. The City will withhold retainage in the amount of five percent (5%) on progress payments due Design-Builder. When fifty percent (50%) of the Work has been satisfactorily completed by Design-Builder and Design-Builder is otherwise in compliance with its contractual obligations, the City will not retain any additional retention amounts from Design-Builder's subsequent Applications for Payment. If Design-Builder is forecasting Substantial Completion to be forty-five (45) calendar days beyond the Scheduled Substantial Completion Date, the progress will be considered unsatisfactory, and the City shall resume withholding five percent (5%) of each invoiced amount from future payments until the City and Design-Builder have agreed upon a plan for mitigating such delay.

5.2.2 Reduction of Retainage at Substantial Completion. Within thirty (30) days after the Substantial Completion Date, the City shall release to Design-Builder all retainage, less an amount equal to: (a) two hundred percent (200%) of the reasonable value of all remaining Punch List items as of the Substantial Completion Date; and (b) all other amounts the City is entitled to withhold pursuant to Section 6.3 of the General Conditions of Contract.

5.3 Final Payment. The City shall pay the outstanding retention at Final Payment, in accordance with Section 6.6 of the General Conditions of Contract.

5.4 Interest. Payments due and unpaid by the City to Design-Builder shall bear interest commencing seven (7) days after payment is due in accordance with Va. Ann. § 2.2-4355.

5.5 City's Rights to Offset Delay Liquidated Damages. The City shall have the right to withhold Delay Liquidated Damages from any monies unpaid, otherwise due, or to become due, to Design-Builder, to demand and receive payment from Design-Builder of such Delay Liquidated Damages, and to initiate applicable dispute resolution procedures under Article 10 of the General Conditions of Contract to recover such Delay Liquidated Damages. The withholding of such damages from any monies unpaid, otherwise due, or to become due shall be in addition to retainage under the Contract Documents. The City has the discretion to allow Delay Liquidated Damages to accrue without withholding and by doing so does not waive any rights to withhold them at a later time.

5.6 Design-Builder's Payment Obligations to Subcontractors. Design-Builder is obligated as follows:

- (a) Design-Builder is to be liable for the entire amount owed to any first-tier Subcontractor, *provided, however,* that Design-Builder shall not be liable for amounts

otherwise reducible due to Subcontractor's noncompliance with the terms of its Subcontract. In the event Design-Builder withholds all or a part of the amount promised to Subcontractor under the Subcontract, Design-Builder shall notify Subcontractor, in writing, of its intention to withhold all or a part of Subcontractor's payment with the reason for nonpayment. Payment by the City shall not be a condition precedent to Design-Builder's payment to any first-tier Subcontractor, regardless of Design-Builder receiving payment for amounts owed to Design-Builder.

(b) Design-Builder shall take one of the two following actions within seven (7) days after receipt of amounts paid to Design-Builder by City for work performed by a first-tier Subcontractor: (i) pay Subcontractor for the proportionate share of the total payment received from the City attributable to the work performed by Subcontractor; or (ii) notify the City and Subcontractor, in writing, of Design-Builder's intention to withhold all or a part of Subcontractor's payment with the reason for nonpayment.

(c) Design-Builder shall provide the City with its federal employer identification numbers.

(d) Design-Builder is obligated to pay interest to its first-tier Subcontractors on all amounts owed by Design-Builder that remain unpaid after seven (7) days following receipt by Design-Builder of payment from the City for work performed by Subcontractor, except for amounts withheld as allowed in Paragraph (b) above. Interest shall accrue at the rate of one percent (1%) per month. Design-Builder's obligation to pay an interest charge to a Subcontractor pursuant to this Paragraph (d) shall not be construed to be an obligation of the City, and any such interest charge shall be deemed a Non-Reimbursable Expense. No Change Orders shall be allowed for the purpose of providing reimbursement for any interest charge.

(e) Design-Builder shall flow down to each first-tier Subcontractor the provisions of this Section 5.6, thereby obligating the Subcontractor to meet the same payment and interest requirements to its Sub-Subcontractors as Design-Builder is obligated to its Subcontractors.

## **Article 6**

### **Self-Perform Work and Subcontracts**

#### **6.1 Self-Perform Work.**

6.1.1 General. As of the Agreement Date, the Self-Perform Work is that Work identified in Exhibit 11.2.4 (GMP Clarifications and Assumptions). No additional Self-Perform Work shall be allowed without the City's permission, which permission may be withheld or conditioned by the City in its sole and absolute judgment. Subject to Exhibit 11.2.4 (GMP Clarifications and Assumptions), Self-Perform Work packages shall either be negotiated or subject to competition, as determined by the City in its sole and absolute judgment.

6.1.2 Self-Perform Work Subject to Negotiations. If the City determines that the Self-Perform Work package will be subject to negotiation, Design-Builder shall submit a proposal for such package based upon: (a) the estimated Cost of the Work for such Self-Perform Work, with the entity performing Self-Perform Work pricing its labor on actual wages plus the appropriate multiplier on such wages; and (b) Design-Builder's Fee being applied to such Cost of the Work. Self-Perform Work performed by the Marine Work Subcontractor will also include a fair and

reasonable fee for such contractor to cover its profit and Non-Reimbursable Expenses. For the avoidance of doubt, the entity performing Self-Perform Work shall provide such information as the City may reasonably request, with the understanding that all information that formed the basis for the applicable estimate will be provided to the City on an Open-Book Basis. If the Parties are unable to reach an agreement on the proposal, the City may, in its sole and absolute judgment: (x) withdraw its permission that the applicable Work be deemed Self-Perform Work; or (y) give Design-Builder permission to submit a competitive proposal in accordance with Section 6.1.3 below.

6.1.3 Self-Perform Work Subject to Competition. If the City determines that the Self-Perform Work package will be subject to competition, Design-Builder shall be allowed to perform such package if: (a) Design-Builder submits its bid or proposal for such package in the same manner as all other Subcontractors; and (b) the City determines that Design-Builder's bid or proposal provides the best value for the City. If Design-Builder wishes to submit a bid or proposal for such package, the City shall have the right to require the submittal of all bids or proposals for such work directly to the City and/or Owner's Advisor (and not to Design-Builder) for review and evaluation. Design-Builder further acknowledges and understands that its bid or proposal shall be provided on an Open Book Basis.

6.2 Work to Be Performed through Subcontractors.

6.2.1 Fixed-Price Subcontracts. It is contemplated that, with the exception of the Marine Work Subcontractor, all first-tier Subcontractors are to be awarded fixed-price Subcontracts through a low bid, competitive procurement process, unless otherwise expressly authorized by the City in writing.

6.2.2 Bidding Process. Design-Builder shall be responsible for dividing the Work into suitable bid packages. Design-Builder shall develop and discuss with the City a proposed list of bidders for each Subcontract and, unless the City agrees otherwise in writing, shall obtain bids from at least three (3) bidders for all Subcontracts where the budgeted amount for the Subcontract is in excess of \$250,000. The three (3) bidder requirement of the preceding sentence shall not apply if the Parties agree that Design-Builder will likely not be able to obtain three (3) bids or proposals from qualified and suitable bidders. In connection with all Subcontractor procurements, Design-Builder shall:

- (a) Develop procurement procedures in consultation with the City and prepare all necessary procurement documents;
- (b) Advertise for bids or proposals and receive bids or proposals;
- (c) Open and review all bids or proposals in a manner that does not disclose the contents of the bids or proposals to persons not employed by Design-Builder, the City or Owner's Advisor;
- (d) Evaluate the bids or proposals in accordance with the selection criteria established in the procurement documents; and
- (e) Recommend a bid or proposal for approval by the City in accordance with such evaluation.

All bids or proposals shall be made available to the City on request.

6.2.3 Selection. The City may accept Design-Builder's recommendation or may make its own selection against whom Design-Builder makes no reasonable objection. If the City selects a Subcontractor other than the one recommended by Design-Builder and if the City's selected Subcontractor's final contract amount is higher than the final amount proposed by Design-Builder's recommended Subcontractor, the GMP will be adjusted to reflect any difference. The City may, in its sole discretion, reject any or all bids and proposals received for any bid package, and may require Design-Builder to obtain new or revised bids or proposals.

6.2.4 City and Owner's Advisor Rights to Participate in Procurement Process. The City and Design-Builder shall meet and confer about the role that City anticipates playing during the procurement of Subcontractors. Without limiting any of the foregoing, Design-Builder acknowledges and agrees that the City and Owner's Advisor shall have the right to: (a) review and comment on all procurement documents; (b) attend any bid or proposal openings; (c) attend any meetings with prospective Subcontractors, including scope review meetings; (d) review all bids, proposals, and other information developed or otherwise resulting from any competitive procurement, including Design-Builder's tabulation, scoring or evaluation materials; and (e) otherwise participate in the negotiation and contract award process. Unless the City decides otherwise, Design-Builder shall provide the City, upon award of a Subcontract, with a description of the competitive process undertaken in connection with such Subcontract award, together with copies of all material documents used in connection therewith and agreements resulting therefrom.

6.2.5 Best Value Proposals. Notwithstanding the expectation that all first-tier Subcontracts will be awarded on a low bid, competitive basis, the City and Design-Builder may agree that there is a benefit to the Project to awarding some Subcontracts on a best-value basis that would consider factors other than price. Design-Builder shall identify aspects of the Work where this procurement approach might be beneficial and discuss this with the City, including how price and other non-price factors will be considered in the procurement and award process.

6.3 Work to be Performed through Design Consultants. The City shall have the right to approve all Design Consultants on the Project, regardless of whether such Design Consultants were identified in Design-Builder's Proposal and/or evaluated by the City during the procurement process.

## **Article 7** **Work Product**

7.1 City's Rights in Work Product. Design-Builder hereby assigns and conveys to the City all right, title, and interest, including all copyrights, patents, or any other intellectual property rights (but excluding Pre-Existing Intellectual Property) in all Work Product and all ideas or methods specifically developed for such Work Product. All Work Product will become the property of the City on the earlier of: (a) the City's payment to Design-Builder of monies due in accordance with this Agreement and not subject to a good faith dispute; (b) the date any Work Product is delivered to the City; or (c) upon any termination of this Agreement. The City's use of any Work Product for any purpose other than the Project, without the involvement of Design-Builder, shall be at its own risk, and Design-Builder shall have no liability to the City for or relating to any such use.

7.2 DB-Related Entities. Except as specifically provided in Section 7.4 below, no DB-Related Entity will own or claim any copyright, patent, or any other intellectual property right in or with respect to any Work Product or ideas or methods specifically developed for such Work

Product.

7.3 Design-Builder's Right to Retain Copies of Work Product. Design-Builder may make and retain copies of the Work Product for information, reference and use by DB-Related Entities solely with respect to the Work. No DB-Related Entity may use the Work Product for any other purpose without the specific written consent of the City.

7.4 Pre-Existing Intellectual Property. The City acknowledges and agrees that in the performance of services under this Agreement, a DB-Related Entity may use proprietary algorithms, software, hardware, databases, other background technology, and other proprietary information that the DB-Related Entity developed or licensed from third parties prior to the Agreement Date ("Pre-Existing Intellectual Property"). Without limiting the City's rights with respect to the Work Product or the Project, the DB-Related Entity will retain all right, title, and interest in such Pre-Existing Intellectual Property. However, the City shall have the irrevocable, perpetual, and unrestricted right from and after the Agreement Date to use (or permit use of) all Pre-Existing Intellectual Property incorporated in the Work Product or the Project, all oral information received by the City in connection with the Work, and all ideas or methods represented by Pre-Existing Intellectual Property incorporated in the Work Product or the Project, in each case without additional compensation. Design-Builder hereby licenses such irrevocable, perpetual, and unrestricted rights to the City. The City's use of such license rights for any purpose other than the Project shall be at its own risk, and Design-Builder shall have no liability to the City for or relating to any such use.

## **Article 8**

### **Books and Records**

8.1 Proper Financial Management. Design-Builder shall keep full and detailed accounts and exercise such controls as may be necessary for proper financial management, using accounting and control systems in accordance with generally accepted accounting principles, consistently applied.

8.2 Retention and Audit of Books and Records. During the performance of the Work and for a period of three (3) years after Final Payment, the City and its accountants shall be afforded access to, and the right to audit from time-to-time, upon reasonable notice, all Books and Records relating to the Work, all of which Design-Builder shall preserve for a period of three (3) years after Final Payment. Such inspection shall take place at Design-Builder's offices during normal business hours unless another location and time is agreed to by the Parties. The City may take possession of such Books and Records by reproducing such Books and Records for off-site review. When requested in the City's written notice of examination and/or audit, Design-Builder shall provide the City with copies of electronic and electronically stored Books and Records in a reasonably usable format that allows the City to access and analyze all such Books and Records. For Books and Records that require proprietary software to access and analyze, Design-Builder shall provide the City with the means to do so, including a license authorizing the City to access and analyze all such Books and Records.

8.3 Items Not Subject to Audit. For the avoidance of doubt, the City shall not have the right to audit any items for which it has accepted a lump sum proposal or agreed upon a fixed price/lump sum, including, but not limited to any agreed-upon billing rates, multipliers or markups agreed to by the City and Design-Builder as part of this Agreement, which are only subject to audit to confirm that such agreed-upon billing rate, multiplier or markup has been charged in accordance with this Agreement.

8.4 Flow-Down in Subcontracts. Design-Builder shall insert a clause containing all the provisions of this Article 8 in all Subcontracts having values over \$100,000.00.

## **Article 9**

### **Design-Builder's Representations**

9.1 Representations. Design-Builder makes the following representations as of the Agreement Date:

(a) Design-Builder has examined, carefully studied, and thoroughly understands the Contract Documents and the City-Furnished Information associated with the Work;

(b) Design-Builder has visited the Site and has become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work;

(c) Design-Builder is familiar with and is satisfied as to all Legal Requirements that may affect cost, progress, or performance of the Work;

(d) Design-Builder has correlated the Contract Documents with the information known to Design-Builder, information obtained from the City-Furnished Information, and observations made during visits to the Site;

(e) Design-Builder has given City written notice of all conflicts, errors, ambiguities, or discrepancies that Design-Builder has discovered in the Contract Documents and City-Furnished Information as of the Agreement Date and the written resolution thereof by City is acceptable to Design-Builder;

(f) The GMP Proposal Design Documents are based upon and comply with the City's Project Criteria;

(g) The Contract Documents are sufficiently complete to indicate and convey an understanding of all terms and conditions for performance and furnishing of the Work, including having enabled Design-Builder to establish the GMP;

(h) The GMP contains sufficient monies to perform all Work, including Design-Builder's obligation to provide and construct any items that are not explicitly contained in the GMP Proposal Design Documents, but which are reasonably inferable from such documents and necessary to provide a fully-functioning Project conforming to the Contract Documents; and

(i) Design-Builder shall be bound by and shall perform its obligations in full compliance with the Contract Documents.

## **Article 10**

### **Liability Limitations**

10.1 Limitation of Liability for Delay Liquidated Damages. Design-Builder's total aggregate liability to the City for the payment of Delay Liquidated Damages shall not exceed an amount equal to \_\_\_ percent (\_\_\_%) of the Contract Price.



## 10.2 Maximum Liability Cap.

10.2.1 General. Subject to Section 10.2.2 below, Design-Builder's liability to the City under this Agreement with respect to damages arising out of the performance or unexcused non-performance of any work performed by a DB-Related Entity under this Agreement, whether such damages are based upon contract, breach of warranty (express or implied), tort (including negligence), strict liability, or any other legal theory, shall not exceed an amount equal to one hundred percent (100%) of the Contract Price ("Maximum Liability Cap"), which amount specifically includes any Delay Liquidated Damages paid by Design-Builder.

10.2.2 Exclusions. Notwithstanding Section 10.2.1 above, or anything else in the Contract Documents, Design-Builder's liability for the following shall not be limited or released in any way by the Maximum Liability Cap for the following liabilities, losses, damages, costs or expenses:

- (a) Any loss, cost or expense, to the extent such loss, cost or expense is paid by the proceeds of insurance (excluding payment of deductibles) up to the specific amounts Design-Builder is required to carry under Exhibit 11.1 (Insurance Requirements) of this Agreement;
- (b) Any loss, cost or expense arising out of or connected with Design-Builder's fraud, fraudulent misrepresentation, Willful Misconduct, Gross Negligence, or criminal acts;
- (c) Any loss, cost or expense incurred by Design-Builder in connection with Design-Builder's indemnification obligations set forth in Article 7 of the General Conditions of Contract; and
- (d) Any loss, cost, expense or penalties incurred by Design-Builder to any person or entity (other than the City) in any legal proceedings.

10.2.3 Costs to Complete the Work. Notwithstanding the provisions in Section 10.2.1, the costs incurred by Design-Builder in performing the Work and achieving Final Completion shall not be construed as being part of or limited by the Maximum Liability Cap.

## 10.3 Waiver of Consequential Damages.

10.3.1 General. To the fullest extent permitted by law, and notwithstanding any other provision of this Agreement (other than Section 10.3.2 below), in no event, whether arising out of contract, breach of warranty (express or implied), tort (including negligence), strict liability, or any other cause of or form of action whatsoever, shall either Party be liable to the other for any consequential damages (including, without limitation, damages for loss of use, loss of profits or anticipated profits, loss of revenue, and loss of business opportunity) arising out of or in connection with the performance or non-performance of its obligations under this Agreement.

10.3.2 Exclusions. Notwithstanding Section 10.3.1 above, or anything else in the Contract Documents, Design-Builder's liability for the following shall not be limited or released in any way for the following liabilities, losses, damages, costs or expenses:

- (a) Any loss, cost or expense, to the extent such loss, cost or expense is paid by the proceeds of insurance (excluding payment of deductibles) up to the specific

amounts Design-Builder is required to carry under Exhibit 11.1 (Insurance Requirements) of this Agreement;

(b) Any loss, cost or expense arising out of or connected with Design-Builder's fraud, fraudulent misrepresentation, Willful Misconduct, Gross Negligence, or criminal acts;

(c) Any loss, cost or expense incurred by Design-Builder in connection with Design-Builder's indemnification obligations set forth in Article 7 of the General Conditions of Contract;

(d) Any loss, cost, expense or penalties incurred by Design-Builder to any person or entity (other than the City) in any legal proceedings; and

(e) Design-Builder's obligation to pay Delay Liquidated Damages in accordance with Section 3.5 above.

#### 10.4 Applicability

10.4.1 Other Persons and Entities. The provisions of this Article 10 shall be binding on and extend to the benefit of all successors, assignees, employees, officers, directors and Affiliates of each Party; *provided, however*, that the amount of Design-Builder's liability shall not exceed the aggregate the limits set forth in Section 10.2 above.

10.4.2 Binding Effect. Except to the extent prohibited by applicable Legal Requirements or specific terms to the contrary in this Article 10, the releases, waivers, limitations of liability and other terms in this Article 10 shall apply even in the event of the fault, negligence (in whole or in part), tort, strict liability, breach of contract or otherwise, of the person or entity in whose favor such provisions operate.

### **Article 11** **Miscellaneous**

11.1 Insurance Requirements. Design-Builder shall procure and maintain the insurance required by Exhibit 11.1(a) (Insurance Requirements). Design-Builder shall procure, prior to the commencement of on-site construction, the Builder's Risk Insurance policy in accordance with the specimen policy set forth in Exhibit 11.1(b) (Specimen Builder's Risk Insurance Policy).

#### 11.2 Miscellaneous Exhibits.

11.2.1 GMP Proposal Design Documents. The GMP Proposal Design Documents are set forth in Exhibit 11.2.1 (GMP Proposal Design Documents).

11.2.2 City's Project Criteria. City's Project Criteria are set forth in Exhibit 11.2.2 (City's Project Criteria).

11.2.3 Designated City-Furnished Information. The Designated City-Furnished Information is set forth in Exhibit 11.2.3 (Designated City-Furnished Information).

11.2.4 GMP Clarifications and Assumptions. The clarifications and assumptions associated with the GMP are set forth in Exhibit 11.2.4 (GMP Clarifications and Assumptions).

11.2.5 Baseline Schedule. The Baseline Schedule is set forth in Exhibit 11.2.5 (Baseline Schedule).

11.2.6 Key Personnel and Organizational Chart. The Key Personnel and Design-Builder's Project Organizational Chart are set forth in Exhibit 11.2.6 (Key Personnel and Design-Builder's Project Organizational Chart).

11.2.7 Responsibility Matrix for Governmental Approvals. The responsibility matrix for Governmental Approvals is set forth in Exhibit 11.2.7 (Responsibility Matrix for Governmental Approvals).

11.2.8 Geotechnical Baseline Report. The Geotechnical Baseline Report is set forth in Exhibit 11.2.8 (Geotechnical Baseline Report).

11.3 Representations and Warranties. Design-Builder represents and warrants that:

(a) It is qualified to do business in the Commonwealth of Virginia and that it will take such action as, from time to time hereafter, may be necessary to remain so qualified;

(b) It is not in arrears with respect to payment of any monies due and owing the Commonwealth of Virginia, or any department or unit thereof, including but not limited to the payment of taxes and employee benefits, and that it shall not become so in arrears during the term of this Agreement;

(c) It shall comply with Va. Code § 40.1-29 and Va. Code § 11-4.6 regarding non-payment of wages.

11.4 Ethics in Public Contracting. The provisions of law set forth in Article IV of the Virginia Public Procurement Act, entitled "Ethics in Public Contracting," (Va. Code § 2.2-4367 et seq.), Alexandria City Code § 3-3-121 et seq.; the State and Local Government Conflict of Interest Act, Va. Code § 2.2-3100 et seq.; the Virginia Governmental Frauds Act, Va. Code § 18.2-498.1 et seq.; and Articles 2 and 3 of Chapter 10, Title 18.2 of the Code of Virginia, all as the same may be amended from time to time and are incorporated herein by reference. Design-Builder shall incorporate the above clause in its Subcontracts with each Design Consultant and Subcontractor.

11.5 Non-Appropriation of Funds. This Agreement is conditioned upon an annual appropriation made by the City Council of the City of Alexandria of funds sufficient to pay the compensation due Design-Builder under this Agreement. If such an appropriation is not made in any fiscal year, and the City lacks funds from other sources to pay the compensation due under this Agreement, the City will be entitled, at the beginning of or during such fiscal year, to terminate this Agreement. In that event, the City will not be obligated to make any payments under this Agreement beyond the amount properly appropriated for Agreement payments in the immediately prior fiscal year. The City will provide Design-Builder written notice of termination of this Agreement due to the non-appropriation of funds at least fifteen (15) calendar days before the effective date of the termination. However, the City's failure to provide such notice will not extend this Agreement into a fiscal year in which funds for Agreement payments have not been appropriated.

11.6 Equal Employment Opportunity.

11.6.1 Discrimination Prohibited. Design-Builder hereby agrees not to discriminate against any employee or applicant for employment on account of race, color, sex, religion, ancestry, national origin, marital status, age, sexual orientation, disability, when such person is a qualified person with a disability, or any other basis prohibited by applicable Legal Requirements relating to discrimination in employment, except where there is a bona fide occupational qualification reasonably necessary to the normal operation of Design-Builder. Design-Builder agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.

11.6.2 Affirmative Action. Design-Builder hereby agrees to implement an affirmative action employment program as defined in Section 12-4-3 of the Alexandria City Code to ensure nondiscrimination in employment under guidelines to be developed by the Human Rights Commission of the City of Alexandria (the "Commission") and approved by the City Council of the City of Alexandria.

11.6.3 EOE Statement. Design-Builder hereby agrees to include in all solicitations or advertisements for employees placed by or on behalf of Design-Builder the words "Equal Opportunity Employer" or a symbol approved by the Commission meaning the same.

11.6.4 Notice to Labor Unions. Design-Builder hereby agrees to notify each labor organization or representative of employees with which Design-Builder is bound by a collective bargaining agreement or other contract of Design-Builder's obligations pursuant to this equal employment opportunity clause.

11.6.5 Reports to the City. Design-Builder hereby agrees to submit to the City Manager and the City's Human Rights Administrator, upon request, no more frequently than annually, regular equal employment opportunity reports on a form to be prescribed by the City's Human Rights Administrator with the approval of the City Manager, except that the Administrator may request more frequent special reports of particular employers provided the Commission has found such employers to have violated any provision of Chapter 4 of Title 12 of the Alexandria City Code.

11.6.6 Compliance with Federal Requirements Sufficient. Notices, advertisements, and solicitations placed in accordance with federal Legal Requirements shall be deemed sufficient for the purpose of meeting the requirements of this section.

11.6.7 Accommodation of Disabled Workers. Design-Builder hereby agrees to make reasonable accommodation to the known physical or mental limitations of an otherwise qualified person with a disability who is an applicant or employee, unless Design-Builder can demonstrate that the accommodation would impose an undue hardship on the operation of its business.

11.6.8 Reasonable Accommodations. For the purposes of this section, reasonable accommodation may include: (i) making facilities used by employees readily accessible to and usable by persons with a disability; and (ii) job restructuring, part-time or modified work schedules, the acquisition or modification of equipment or devices, the provision of readers or interpreters, and other similar actions.

11.6.9 Undue Hardship. In determining whether an accommodation would impose an undue hardship on the operation of Design-Builder's business, factors to be considered include but are not limited to the following:

- (a) The overall size of Design-Builder's business with respect to the number of employees, the number and type of facilities, and the size of the budget;
- (b) Design-Builder's type of operation, including the composition and structure of Design-Builder's work force; and
- (c) The nature and cost of the accommodation needed.

11.6.10 Refusal to Employ. Design-Builder may not deny any employment opportunity to a qualified person with a disability who is an employee or applicant if the basis for the denial is the need to make reasonable accommodation to the physical or mental limitations of the employee or applicant.

11.6.11 Subcontracts. Design-Builder hereby agrees to include the provisions in Sections 11.7.1 through 11.7.10 in every Subcontract so that such provisions will be binding upon each Design Consultant and Subcontractor.

11.6.12 Non-compliance. In the event of Design-Builder's noncompliance with any provision of this equal employment opportunity clause, upon a finding of such noncompliance by the City's Human Rights Commission and certification of such finding by the City Manager, the City Council of the City of Alexandria may terminate or suspend or not renew, in whole or in part, this Agreement.

#### 11.7 Drug-Free Workplace.

11.7.1 Drug-Free Workplace. During the performance of this Agreement, Design-Builder agrees to: (a) provide a drug-free workplace for Design-Builder's employees; (b) post in conspicuous places, available to employees and applicants for employment, a statement notifying employees that the unlawful manufacture, sale, distribution, dispensation, possession, or use of a controlled substance or marijuana is prohibited in Design-Builder's workplace and specifying the actions that will be taken against employees for violations of such prohibition; (c) state in all solicitations or advertisements for employees placed by or on behalf of Design-Builder that Design-Builder maintains a drug-free workplace; and (d) include the provisions of the foregoing clauses in every Subcontract over \$10,000, so that the provisions will be binding upon each Design Consultant and Subcontractor.

11.7.2 Definition. For the purposes of this Section 11.7, "drug-free workplace" means a site for the performance of work done in connection with this Agreement, in accordance with Chapter 3, Title 3, of the Code of the City of Alexandria, the employees of which are prohibited from engaging in the unlawful manufacture, sale, distribution, dispensation, possession or use of any controlled substance or marijuana during the performance of this Agreement.

11.8 Compliance with the Immigration Reform and Control Act of 1986. During the performance of any Work, Design-Builder shall not knowingly employ an unauthorized alien as defined in the federal Immigration Reform and Control Act of 1986, as amended.

11.9 Applicability of Davis-Bacon Act. All DB-Related Parties performing physical Work at the Site are required to comply with the Davis-Bacon Act, 40 U.S.C. § 3141 et seq., as supplemented by Department of Labor Regulations (29 CFR Part 5, "Labor Standards Provisions Applicable to Contracts Governing Federally Financed and Assisted Construction"). The applicable Davis-Bacon Wage Decisions are set forth in Exhibit 11.9 (Davis-Bacon Wage

Decisions). Changes to such wage rates over the course of the Project shall be the responsibility of Design-Builder and shall not be eligible for claims or changes to the Contract Price.

11.10 FEMA Grant Requirements. Because the Work may be funded, in whole or in part, with grant(s) from the Federal Emergency Management Agency ("FEMA"), an agency under the U.S. Department of Homeland Security, this Interim Agreement may be subject to certain requirements associated with the grants. Grants from FEMA mandate the inclusion of certain contract provisions, which are set forth in Exhibit 11.10 (FEMA Grant Requirements). Consequently, Design-Builder agrees that it will fully comply with all of the provisions contained in such Exhibit, and that in the event any other provision of this Agreement conflicts with any provision in Exhibit 11.10, the provisions contained in Exhibit 11.10 shall govern.

11.11 Notice. All notices required by the terms of this Agreement shall be in writing. Notice will be deemed to have been validly given: (a) if delivered in person to the individual intended to receive such notice; or (b) one business day after being sent by overnight delivery via a nationally recognized courier service (e.g., FedEx or UPS), postage, transmittal or shipping charges prepaid, to the address set forth below:

If to Design-Builder:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

If to the City:

City of Alexandria, Virginia

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

With copies to:

Office of the City Attorney, City of Alexandria

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

and

Director of Department of Project Implementation, City of Alexandria

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

11.12 Division Owner Requirements. The Division Owner Requirements are set forth in Exhibit 11.12 (Division Owner Requirements).

11.13 Forms of Performance Bond and Payment Bond. The form of the Performance Bond is set forth in Exhibit 11.13(a) (Form of Performance Bond) and the form of the Payment Bond is set forth in Exhibit 11.13(b) (Form of Payment Bond).

11.14 General Conditions of Contract. The General Conditions of Contract are set forth in Exhibit 11.14 (General Conditions of Contract).

**IN WITNESS WHEREOF**, the City and Design-BUILDER have signed this Agreement in duplicate. One counterpart each has been delivered to the City and Design-BUILDER.

**CITY:**

**DESIGN-BUILDER:**

City of Alexandria, Virginia

\_\_\_\_\_  
*(Name of Design-Builder)*

\_\_\_\_\_  
*(Signature)*

\_\_\_\_\_  
*(Signature)*

\_\_\_\_\_  
*(Printed Name)*

\_\_\_\_\_  
*(Printed Name)*

\_\_\_\_\_  
*(Title)*

\_\_\_\_\_  
*(Title)*

Date: \_\_\_\_\_

Date: \_\_\_\_\_

**EXHIBIT 4.2.1**

**Design-Builder's Rate Classification Schedule -  
COMPREHENSIVE AGREEMENT**

**for the**

**Waterfront Implementation Project**

**City of Alexandria**

[NOT INCLUDED]



**EXHIBIT 4.7.1**

**Allowance Payment Items -  
COMPREHENSIVE AGREEMENT**

**for the**

**Waterfront Implementation Project**

**City of Alexandria**

[NOT INCLUDED]

**EXHIBIT 5.1.1**

**Schedule of Values -  
COMPREHENSIVE AGREEMENT**

**for the**

**Waterfront Implementation Project**

**City of Alexandria**

[NOT INCLUDED]

**EXHIBIT 11.1(a)**

**Insurance Requirements –  
COMPREHENSIVE AGREEMENT**

**for the**

**Waterfront Implementation Project**

**City of Alexandria**

**A. Design-Builder Insurance Coverages**

Design-Builder shall obtain and maintain the following insurance and limits of liability at all times during the period on which the Agreement is in full force and effect, provided, however, that Builder's Risk Insurance shall be obtained and maintained as set forth in Paragraph (g) below. The required insurance must be obtained and maintained from insurance companies that have at least an A.M. Best's Insurance Guide ("Best's Guide") Rating of A- and Financial Size Category of Class VII or better, according to the most current edition of the Best's Guide, and are authorized to do business in the Commonwealth of Virginia. Design-Builder, at its own cost, may purchase any additional insurance it believes necessary to protect its interests.

(a) Workers' Compensation and Employer's Liability Insurance. Design-Builder shall obtain and maintain Workers' Compensation insurance with statutory workers' compensation (Coverage A) limits and employer's liability (Coverage B) limits of at least \$1,000,000 bodily injury by accident, each accident, and \$1,000,000 bodily injury by disease, each employee. Coverage will be extended, if needed, to cover any claims under the United States Longshore and Harbor Workers' Compensation Act (33 U.S.C. §§ 901-950) and the Jones Act (46 U.S.C. §30104).

(b) Commercial General Liability Insurance. Design-Builder shall obtain and maintain Commercial General Liability insurance with a combined single limit of \$2,000,000 and in the aggregate annually. Such insurance shall include coverage for premises and operations, independent contractors, personal injury, product and completed operations, explosion, collapse and underground, and broad form contractual liability. Completed operations coverage shall continue to be carried for a period of at least five (5) years after Final Completion.

(c) Automobile Liability Insurance. Design-Builder shall obtain and maintain Automobile Liability insurance providing liability coverage for claims of bodily injury and property damage arising from the ownership, maintenance or use of all owned/leased, non-owned and hired motor vehicles used in the performance of the Work. Such policy shall provide coverage of \$1,000,000 combined single limit of liability for bodily injury and property damage. Coverage shall include pollution liability arising from overturn and collision.

(d) Umbrella/Excess Liability Insurance. Design-Builder shall obtain and maintain an Umbrella/Excess Liability insurance policy in excess of the limits above for employer's liability, commercial general liability, and automobile liability in the amount of \$15,000,000 per occurrence and in the aggregate annually.

(e) Contractor's Pollution Liability Insurance. Design-Builder shall obtain and maintain Contractor's Pollution Liability insurance in the amount of \$5,000,000 per occurrence

and in the aggregate annually. Such insurance shall cover bodily injury, property damage, cleanup/remediation costs or other amounts which Design-Builder or any DB-Related Party is legally obligated to pay arising out of the Work, any transit and/or disposal at non-owned disposal sites, and shall remain in full force and effect for the period of the Work and a five (5)-year extended reporting period after Final Completion.

(f) Professional Liability Insurance. Design-Builder or Lead Engineer shall obtain and maintain Professional Liability insurance with a limit of \$5,000,000 per claim and in the aggregate annually. Such insurance must provide coverage from the first date any professional services were rendered for the Project and must remain in full force and effect during the performance of the Work and be maintained or include an extended reporting period of at least five (5) years after Final Completion.

(g) Builder's Risk Insurance. Design-Builder shall obtain and maintain during on-site construction and until Substantial Completion an "All Risks" Builder's Risk insurance policy on a completed value basis, including permanent and temporary works, and site preparation, based upon the specimen policy that is set forth in Exhibit 11.1(b). Covered causes of loss shall include, but not be limited to, fire, explosion, collapse, earth movement

**B. Insurance to be Maintained by First-Tier Design Consultants and Subcontractors**

1. General and Limits. Design-Builder will cause all first-tier Design Consultants and Subcontractors to obtain and maintain the following minimum insurance coverages or be responsible for maintaining such coverages on behalf of each party. City Indemnitees shall be additional insureds on each such policy on a primary, non-contributory basis for the coverages set forth in Paragraphs (b), (c) and (d) below.

(a) Workers' Compensation and Employer's Liability Insurance with statutory workers' compensation (Coverage A) limits and employer's liability (Coverage B) limits of \$500,000 bodily injury by accident, each accident, and \$500,000 bodily injury by disease, each employee. Coverage will be extended, if needed, to cover any claims under the United States Longshore and Harbor Workers' Compensation Act (33 U.S.C. §§ 901-950) and the Jones Act (46 U.S.C. § 30104).

(b) Commercial General Liability Insurance including coverage for premises and operations, independent contractors, personal injury, product and completed operations, explosion, collapse and underground, and contractual liability. Minimum limits for Design Consultants and Subcontractors with Subcontracts valued at less than or equal to \$1 million shall have the minimum limits of no less than \$1,000,000 per occurrence and in the aggregate annually. For those Design Consultants and Subcontractors with Subcontracts valued at greater than \$1 million, such coverage shall have limits of no less than \$1,000,000 million per occurrence and in the aggregate annually.

(c) Automobile Liability Insurance with a limit of at least \$500,000 combined single limit for bodily injury and property damage covering all owned (if any), non-owned, hired, or borrowed vehicles on site or off.

(d) Umbrella/Excess Liability Insurance in excess of the underlying limits noted above for employer's liability, commercial general liability, and automobile liability for Subcontracts valued at more than \$1 million, coverage shall be in the amount of \$4 million per occurrence and

in the aggregate annually.

2. CCIP. Should Design-Builder implement a contractor-controlled insurance program (“CCIP”) providing compliant insurance for all participants with regard to on-site activities, all first-tier Subcontractors enrolled in the CCIP shall still be responsible for procuring and maintaining automobile liability insurance and the other insurance coverages noted above with regard to off-site work. City Indemnitees shall be included as additional insureds on a primary, non-contributory basis for the applicable insurance coverages set forth in Paragraph 1(b), 1(c) and 1(d) above.

**C. Insurance to be Maintained by Suppliers**

Design-Builder shall require Suppliers to purchase and maintain commercial general liability, automobile liability and any other insurance that is appropriate for their participation in the Project.

**EXHIBIT 11.1(b)**

**Specimen Builder's Risk Insurance Policy –  
COMPREHENSIVE AGREEMENT**

**for the**

**Waterfront Implementation Project**

**City of Alexandria**

**[NOT INCLUDED]**

**EXHIBIT 11.2.1**

**GMP Proposal Design Documents –  
COMPREHENSIVE AGREEMENT**

**for the**

**Waterfront Implementation Project**

**City of Alexandria**

[NOT INCLUDED]

## EXHIBIT 11.2.2

### City's Project Criteria – COMPREHENSIVE AGREEMENT

for the

Waterfront Implementation Project

City of Alexandria

***[Note: The City's Project Criteria have been initially developed with the Conceptual Design Report. During Phase 1A, the City's Project Criteria may be further refined. If they are approved by the Owner, along with other aspects of the Phase 1B Amendment, they will be included here, as refined. During Phase 1B, the City's Project Criteria may also be further refined. If any such refinements are approved by the Owner, along with other aspects of the Phase 2 Amendment, they will be included here, as refined. For purposes of the foregoing, all references to approval by the Owner mean approval by the Owner, in its sole discretion, in accordance with the Agreement].***

The City's Project Criteria are a summary of the City's programmatic requirements and objectives for the Project, and specific criteria and requirements, as set forth in the Conceptual Design Report. The City's Project Criteria is defined as the fixed criteria in the Conceptual Design Report. The Design-Builder is entitled to reasonably rely upon the City's Project Criteria, which shall serve as the basis for the Basis of Design Documents.



**EXHIBIT 11.2.3**

**Designated City-Furnished Information –  
COMPREHENSIVE AGREEMENT**

**for the**

**Waterfront Implementation Project**

**City of Alexandria**

[NOT INCLUDED]

**EXHIBIT 11.2.4**

**GMP Clarifications and Assumptions –  
COMPREHENSIVE AGREEMENT**

**for the**

**Waterfront Implementation Project**

**City of Alexandria**

[NOT INCLUDED]

**EXHIBIT 11.2.5**

**Baseline Schedule –  
COMPREHENSIVE AGREEMENT**

**for the**

**Waterfront Implementation Project**

**City of Alexandria**

**[NOT INCLUDED]**

**EXHIBIT 11.2.6**

**Key Personnel and Organization Chart –  
COMPREHENSIVE AGREEMENT**

**for the**

**Waterfront Implementation Project**

**City of Alexandria**

[NOT INCLUDED]

**EXHIBIT 11.2.7**

**Responsibility Matrix for Governmental Approvals –  
COMPREHENSIVE AGREEMENT**

**for the**

**Waterfront Implementation Project**

**City of Alexandria**

[NOT INCLUDED]

**EXHIBIT 11.2.8**

**Geotechnical Baseline Report –  
COMPREHENSIVE AGREEMENT**

**for the**

**Waterfront Implementation Project**

**City of Alexandria**

[NOT INCLUDED]

**EXHIBIT 11.10**

**Davis-Bacon Wage Decision –  
COMPREHENSIVE AGREEMENT**

**for the**

**Waterfront Implementation Project**

**City of Alexandria**

[NOT INCLUDED]

## **EXHIBIT 11.11**

### **FEMA Grant Requirements – COMPREHENSIVE AGREEMENT**

**for the**

**Waterfront Implementation Project**

**City of Alexandria**

Design-Builder understands that the Project may receive funding provided by the Federal Emergency Management Agency (“FEMA”). A condition to such assistance is the application of certain Legal Requirements to the Agreement and Design-Builder (“FEMA Requirements”). This Exhibit 11.11 identifies such Legal Requirements. Design-Builder agrees that it shall comply with all such Legal Requirements, and, through flow-down provisions in Subcontracts, require all applicable DB-Related Entities to comply with such requirements to the extent mandated by the applicable FEMA Requirement.

#### **1. Equal Employment Opportunity**

FEMA requires that with respect to Equal Employment Opportunity the following language be used without modification. This language uses the following undefined terms: “contractor,” “subcontractor,” “subcontract and purchase order,” and “applicant.” The term “contractor” shall be construed to mean “Design-Builder;” the term “subcontractor or vendor” shall be construed to mean “DB-Related Entities;” the terms “subcontract and/or purchase order” shall be construed to mean “Subcontract;” and the term “applicant” shall be construed to mean “the City.”

During the performance of this contract, the contractor agrees as follows:

1. The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action shall include, but not be limited to the following:

Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

2. The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.



3. The contractor will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the contractor's legal duty to furnish information.
4. The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
5. The contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
6. The contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
7. In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
8. The contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (8) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance:

Provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

The applicant further agrees that it will be bound by the above equal opportunity clause with respect to its own employment practices when it participates in federally assisted construction work: *Provided*, That if the applicant so participating is a State or local government, the above equal opportunity clause is not applicable to any agency, instrumentality or subdivision of such government which does not participate in work on or under the contract.

The applicant agrees that it will assist and cooperate actively with the administering agency and the Secretary of Labor in obtaining the compliance of contractors and subcontractors with the equal opportunity clause and the rules, regulations, and relevant orders of the Secretary of Labor, that it will furnish the administering agency and the Secretary of Labor such information as they may require for the supervision of such compliance, and that it will otherwise assist the administering agency in the discharge of the agency's primary responsibility for securing compliance.

The applicant further agrees that it will refrain from entering into any contract or contract modification subject to Executive Order 11246 of September 24, 1965, with a contractor debarred from, or who has not demonstrated eligibility for, Government contracts and federally assisted construction contracts pursuant to the Executive Order and will carry out such sanctions and penalties for violation of the equal opportunity clause as may be imposed upon contractors and subcontractors by the administering agency or the Secretary of Labor pursuant to Part II, Subpart D of the Executive Order. In addition, the applicant agrees that if it fails or refuses to comply with these undertakings, the administering agency may take any or all of the following actions: Cancel, terminate, or suspend in whole or in part this grant (contract, loan, insurance, guarantee); refrain from extending any further assistance to the applicant under the program with respect to which the failure or refund occurred until satisfactory assurance of future compliance has been received from such applicant; and refer the case to the Department of Justice for appropriate legal proceedings.

## 2. Contract Work Hours and Safety Standards Act

1. Overtime requirements. No DB-Related Entity contracting for any part of the Agreement work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.
2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1) of this section the DB-Related Entity responsible therefor shall be liable for the unpaid wages. In addition, such DB-Related Entity shall be liable to the United States for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1) of this section, in the sum of \$27 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of

forty hours without payment of the overtime wages required by the clause set forth in paragraph (1) of this section.

3. Withholding for unpaid wages and liquidated damages. The City shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the DB-Related Entity under any this Agreement or any other federal contract with Design-Builder, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by Design-Builder, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2) of this section.
  4. Subcontracts. Design-Builder shall insert in any first-tier Subcontracts the clauses set forth in paragraph (1) through (4) of this section and also a clause requiring each Design Consultant and Subcontractor to include these clauses in any lower tier subcontracts. Design-Builder shall be responsible for compliance by any Design Consultant and Subcontractor and lower-tier Design Consultants and Subcontractors with the clauses set forth in paragraphs (1) through (4) of this section.
3. Clean Air Act and Federal Water Pollution Control Act

Clean Air Act

- a. Design-Builder agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. § 7401 et seq.
- b. Design-Builder agrees to report each violation to the City and understands and agrees that the City will, in turn, report each violation as required to assure notification to the Federal Emergency Management Agency, and the appropriate Environmental Protection Agency Regional Office.
- c. Design-Builder agrees to include these requirements in each Subcontract exceeding \$150,000.

Federal Water Pollution Control Act

- a. Design-Builder agrees to comply with all applicable standards, orders, or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et seq.
- b. Design-Builder agrees to report each violation to the City and understands and agrees that the City will, in turn, report each violation as required to assure notification to the Federal Emergency Management Agency, and the appropriate Environmental Protection Agency Regional Office.
- c. Design-Builder agrees to include these requirements in each Subcontract exceeding \$150,000.

#### 4. Debarment and Suspension

- a. This Agreement is a covered transaction for purposes of 2 C.F.R. pt. 180 and 2 C.F.R. pt. 3000. As such, Design-Builder is required to verify that none of Design-Builder's principals (defined at 2 C.F.R. § 180.995) or its Affiliates (defined at 2 C.F.R. § 180.905) are excluded (defined at 2 C.F.R. § 180.940) or disqualified (defined at 2 C.F.R. § 180.935).
- b. Design-Builder must comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C, and must include a requirement to comply with these regulations in any lower tier covered transaction it enters into.
- c. This certification is a material representation of fact relied upon by the City. If it is later determined that Design-Builder did not comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C, in addition to remedies available to the City, the federal government may pursue available remedies, including but not limited to suspension and/or debarment.
- d. Design-Builder agrees to comply with the requirements of 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C throughout the period that it is performing work under this Agreement. Design-Builder further agrees to include a provision requiring such compliance in its lower tier covered transactions.

#### 5. Byrd Anti-Lobbying Amendment

Contractors who apply or bid for an award of \$100,000 or more shall file the certification required by Appendix A, 44 C.F.R. Part 18 – Certification Regarding Lobbying, which is set forth below. Each tier certifies to the tier above that it will not and has not used federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, officer or employee of Congress, or an employee of a Member of Congress in connection with obtaining any Federal contract, grant, or any other award covered by 31 U.S.C. § 1352. Each tier shall also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the City who in turn will forward the certification(s) to the awarding agency.

##### Certification for Contracts, Grants, Loans, and Cooperative Agreements

The undersigned certifies, to the best of his or her knowledge and belief, that:

1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

2. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
3. The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

The Contractor, \_\_\_\_\_, certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Contractor understands and agrees that the provisions of 31 U.S.C. Chap. 38, Administrative Remedies for False Claims and Statements, apply to this certification and disclosure, if any.

\_\_\_\_\_  
Signature of Contractor's Authorized Official

\_\_\_\_\_  
Name and Title of Contractor's Authorized Official

\_\_\_\_\_  
Date

#### 6. Procurement of Recovered Materials

In the performance of this Agreement, Design-Builder shall make maximum use of products containing recovered materials that are EPA-designated items unless the product cannot be acquired—

- a. Competitively within a timeframe providing for compliance with the contract performance schedule;
- b. Meeting contract performance requirements; or
- c. At a reasonable price.

Information about this requirement, along with the list of EPA- designated items, is available at EPA's Comprehensive Procurement Guidelines web site, <https://www.epa.gov/smm/comprehensive-procurement-guideline-cpg-program>.

Design-Builder also agrees to comply with all other applicable requirements of Section 6002 of the Solid Waste Disposal Act.

7. Copeland "Anti-Kickback" Act

Design-Builder shall comply with 18 U.S.C. § 874, 40 U.S.C. § 3145, and the requirements of 29 C.F.R. Part 3 as may be applicable. Design-Builder shall insert in any first-tier Subcontracts the requirement that such Subcontractors comply with the above statutes and regulations, and also a clause requiring each Design Consultant and Subcontractor to include such statutes and regulations in its lower tier subcontracts. Design-Builder shall be responsible for compliance by any Design Consultant and Subcontractor and lower-tier Design Consultants and Subcontractors with such statutes and regulations.

8. Prohibition on Contracting for Covered Telecommunications Equipment or Services

a. Definitions. As used in this clause, the terms backhaul; covered foreign country; covered telecommunications equipment or services; interconnection arrangements; roaming; substantial or essential component; and telecommunications equipment or services have the meaning as defined in FEMA Policy 405-143-1, Prohibitions on Expending FEMA Award Funds for Covered Telecommunications Equipment or Services (Interim), as used in this clause—

b. Prohibitions.

(1) Section 889(b) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019, Pub. L. No. 115-232, and 2 C.F.R. § 200.216 prohibit the head of an executive agency on or after Aug. 13, 2020, from obligating or expending grant, cooperative agreement, loan, or loan guarantee funds on certain telecommunications products or from certain entities for national security reasons.

(2) Unless an exception in paragraph (c) of this clause applies, Design-Builder and other DB-Related Entities may not use grant, cooperative agreement, loan, or loan guarantee funds from the Federal Emergency Management Agency to:

(i) Procure or obtain any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology of any system;

(ii) Enter into, extend, or renew a contract to procure or obtain any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology of any system;

(iii) Enter into, extend, or renew contracts with entities that use covered telecommunications equipment or services as a substantial or essential

component of any system, or as critical technology as part of any system;  
or

(iv) Provide, as part of its performance of this contract, subcontract, or other contractual instrument, any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system.

c. Exceptions.

(1) This clause does not prohibit Design-Builder or any other DB-Related entity from providing—

(i) A service that connects to the facilities of a third-party, such as backhaul, roaming, or interconnection arrangements; or

(ii) Telecommunications equipment that cannot route or redirect user data traffic or permit visibility into any user data or packets that such equipment transmits or otherwise handles.

(2) By necessary implication and regulation, the prohibitions also do not apply to:

(i) Covered telecommunications equipment or services that:

i. Are not used as a substantial or essential component of any system; and

ii. Are not used as critical technology of any system.

(ii) Other telecommunications equipment or services that are not considered covered telecommunications equipment or services.

d. Reporting requirement.

(1) In the event Design-Builder identifies covered telecommunications equipment or services used as a substantial or essential component of any system, or as critical technology as part of any system, during contract performance, or Design-Builder is notified of such by a DB-Related Entity at any tier or by any other source, Design-Builder shall report the information in paragraph (d)(2) of this clause to the recipient or subrecipient, unless elsewhere in the Contract Documents are established procedures for reporting the information.

(2) Design-Builder shall report the following information pursuant to paragraph (d)(1) of this clause:

(i) Within one business day from the date of such identification or notification: The contract number; the order number(s), if applicable; supplier name; supplier unique entity identifier (if known); supplier Commercial and Government Entity (CAGE) code (if known); brand; model number (original equipment manufacturer number, manufacturer part number, or wholesaler number); item description; and any readily available information about mitigation actions undertaken or recommended.

(ii) Within 10 business days of submitting the information in paragraph (d)(2)(i) of this clause: Any further available information about mitigation actions undertaken or recommended. In addition, the contractor shall describe the efforts it undertook to prevent use or submission of covered telecommunications equipment or services, and any additional efforts that will be incorporated to prevent future use or submission of covered telecommunications equipment or services.

- e. Subcontracts. Design-Builder shall insert the substance of this clause, including this paragraph (e), in all Subcontracts.

#### 9. Domestic Preference for Procurements

As appropriate, and to the extent consistent with law, Design-Builder should, to the greatest extent practicable, provide a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States. This includes, but is not limited to iron, aluminum, steel, cement, and other manufactured products.

For purposes of this clause:

Produced in the United States means, for iron and steel products, that all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States. Manufactured products mean items and construction materials composed in whole or in part of non-ferrous metals such as aluminum; plastics and polymer-based products such as polyvinyl chloride pipe; aggregates such as concrete; glass, including optical fiber; and lumber.



**EXHIBIT 11.12**

**Division 01 Owner Requirements –  
COMPREHENSIVE AGREEMENT**

**for the**

**Waterfront Implementation Project**

**City of Alexandria**

[ATTACHED]



**CITY OF ALEXANDRIA, VA**

SPECIFICATIONS FOR

**Waterfront Implementation Project**

**CLIENT PROJECT NO. 1047**

**DIVISION 01 OWNER REQUIREMENTS**

**AUGUST 2023 - FINAL**



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## SECTION OR-01110

### SUMMARY OF WORKGENERAL

#### 1.01 SUMMARY

- A. Section includes identification and summary description of the Work:
  - 1. Description of the Work.
  - 2. Location of Project.
  - 3. Owner-furnished property.
  - 4. Coordination of Work.

#### 1.02 THE WORK

- A. The Work to be done under this Agreement includes the furnishing of project management, labor, materials, tools and equipment for the final design and construction of the Project in accordance with the Agreement. Design-Builder is responsible for ensuring Project meets the technical and performance requirements defined by the Agreement.
- B. Scope of specific Work elements include in the Project consist of the following:
  - 1. *[To be completed during Phase 1B Services prior to the GMP Proposal]*.
- C. The general scope for construction Work includes:
  - 1. Obtaining necessary permits and approvals per the Owner-approved Governmental Approvals Plan *(to be developed by Design-Builder during Phase 1A Services)* and as otherwise required by the Agreement.
  - 2. Obtaining and managing space associated with construction Work such as laydown areas, parking, and materials storage.
  - 3. Mobilization and General Conditions.
  - 4. Supervising Subcontractors and Design-Builder personnel performing the Work.
  - 5. Maintaining site security and implementing health and safety practices.
  - 6. Implementing quality-management procedures per the Owner-approved Quality Management Plan.
  - 7. Performing wetland and environmental mitigation measures that are Design-Builder's responsibility in accordance with the Agreement.
  - 8. Erosion control and any other environmental controls and measures required by the Governmental Approvals Plan and the Agreement.
  - 9. Excavation and grading of the Site.
  - 10. Site dewatering and disposal.
  - 11. Structural excavation.
  - 12. Equipment, materials, and Subcontractor procurement.
  - 13. Coordinating with the Owner and/or utility providers for supply of power, telecommunications, and potable water to the Site.
  - 14. Instrumentation and control.
  - 15. Final grading, paving, and landscaping.
  - 16. Demobilization.
  - 17. Commissioning, startup, acceptance testing, and training and associated manual development.

18. Record documents.
19. Project closeout.
20. Providing warranty coverage for constructed Work.
21. *[Any additional items to be added during Phase 1 prior to the GMP proposal].*

### **1.03 LOCATION OF PROJECT**

- A. The Work is located at the Site, as defined in the Agreement.

### **1.04 OWNER-FURNISHED PROPERTY**

- A. The Owner shall deliver to the Design-Builder, for use only in connection with this Agreement, the property described in the Contract Documents, at the times and locations stated therein. If the Owner-furnished property, suitable for its intended use, is not so delivered to the Design-Builder, and, if the facts warrant such action, the Owner may equitably adjust any affected provision in accordance with the Agreement.
- B. Title to Owner-furnished property shall remain with the Owner. The Design-Builder shall maintain adequate property control records of the property furnished by the Owner in accordance with sound industrial practice.
- C. Unless otherwise provided in the Agreement, the Design-Builder, upon delivery to them of any Owner-furnished property, assumes the risk of, and shall be responsible for, any loss thereof or damage thereto except for reasonable wear and tear, and except to the extent that such property is consumed in the performance of the Agreement.
- D. The Design-Builder shall, upon completion of this Agreement, prepare for shipment or dispose of all Owner-furnished property not consumed in the performance of this Agreement, as may be directed or authorized by the Owner. If not delivered to the Owner, the net proceeds of any disposal shall be credited to the Contract Price or paid in such other manner as the Owner may direct.

### **1.05 COORDINATION OF WORK**

- A. Obtain construction schedules from Subcontractors and assume responsibility for correctness. Incorporate schedules from Subcontractors into the Project Schedule to plan for and comply with sequencing constraints as required by the Agreement, including Section OR-01320 - Project Management and Progress Reporting.

## **1.06 OTHER CONTRACTS**

- A. The Owner may undertake or award other contracts for work at or near the Site of the Work performed under this Agreement. The Design-Builder shall fully cooperate with the other contractors and with Owner employees on site. The Design-Builder shall carefully adapt scheduling and performance of the Work, heeding any directions provided by Owner. The Design-Builder shall not commit, or permit any act that will interfere with the performance of work by other contractors or by Owner employees.

## **PART 2 PRODUCTS**

Not Used.

## **PART 3 EXECUTION**

Not Used.

END OF SECTION



**SECTION OR-01140**  
**WORK RESTRICTIONS**

**PART 1    GENERAL**

**1.01    SUMMARY**

- A. Section includes requirements for sequencing and scheduling the Work affected by Existing Facilities, work restrictions and coordination between construction operations, including:
  - 1. Use of Site and premises.
  - 2. Access to Site.
  - 3. Scheduling and sequencing constraints.
  - 4. Shutdown and construction constraints.
- B. Existing Facilities include but are not limited to parks, stormwater collection system, and walking trails.

**1.02    SUBMITTALS**

- A. In accordance with Section OR-01300 - Submittal Procedures.

**1.03    DESIGN-BUILDER'S USE OF SITE AND PREMISES**

- A. Limit use of Site to allow:
  - 1. Continuous and on-going operation of Existing Facilities by Owner or its partners unless otherwise approved by Owner.
- B. Design-Builder shall control Site access in accordance with Site security requirements described in Section OR-01500 Temporary Facilities and Control.
- C. Access to Site: Design-Builder's access to the Site as specified in the Agreement and Construction Documents.
- D. Construction operations including staging and material storage:
  - 1. Limited to the Site and in accordance with Agreement and Owner-approved Site Management Plan (*to be developed by Design-Builder during Phase 1B Services prior to GMP Proposal*) unless Owner approves in writing the temporary use of additional areas. Design-Builder shall perform construction operations to maintain access in the easements as indicated in the Construction Documents or public right-of-way.
- E. Unfavorable Construction Conditions: During unfavorable weather, wet ground, or other unsuitable construction conditions, the Design-Builder shall confine its operations to Work that is not adversely affected by such conditions. No portion of the Work shall be constructed under conditions that adversely affect the quality thereof, unless means or precautions are taken by the Design-Builder to protect and properly perform the Work. Design-Builder shall maintain suitable access to areas in which Work is actively being performed and common use areas.

- F. Provide security for all products, materials, and equipment stored on the Site, including those of Subcontractors.

#### **1.04 GENERAL CONSTRAINTS ON SEQUENCE AND SCHEDULING OF WORK**

- A. The marina and area businesses must remain in operation during construction to the extent possible. Conduct Work in a manner that will not impair the operational capabilities of local businesses.
- B. Maintain access to the existing parks, marinas, and waterfront promenade (continuous walking path) during construction to the extent possible.
- C. Archaeological monitoring is required for ground disturbance activities. Coordinate with the Owner-assigned environmental project manager/lead monitor prior to any ground disturbing activities.
- D. Time Restrictions for Performing General Work:
  - 1. Design-Builder shall perform Work onsite during Owner permitted construction hours as specified in the Agreement, unless otherwise stipulated for after-hours activities.
  - 2. Work will be prohibited on the following Owner-observed holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day, For Work on other Owner-observed holidays, including but not limited to Martin Luther King Jr. Day, President's Day, Indigenous People's Day, Day after Thanksgiving, and Christmas Eve, Design-Builder shall adhere to any Owner-required restrictions.
  - 3. Design-Builder may request extended work hours in writing in accordance with the applicable Owner-required restrictions, and as documented within the Governmental Approvals Plan. Extended work hours must be approved by the Owner.
  - 4. Emergency work may be performed without prior permission, but Owner must be immediately notified. Contact information for on-site operations staff to contact during emergencies will be provided at the preconstruction conference described in Section OR-01320 - Project Management and Progress Reporting.
- E. Safety work practices for construction Work during COVID-19, as recommended by OSHA, and as necessary given the threat of COVID-19 at the time of the construction Work.
- F. Work sequence and constraints:
  - 1. Design-Builder is responsible for adhering to applicable environmental requirements and shall execute the Work in accordance with the Owner-approved Baseline Schedule.
  - 2. During performance of the Work, Design-Builder shall update the Baseline Schedule in accordance with the Agreement, including Section OR-01320 Project Management and Progress Reporting.
  - 3. *[Specific work sequencing and constraints to be further developed during Phase 1B Services prior to GMP Proposal].*

- G. Road and Facility Access:
1. Design-Builder shall conduct operations to minimize interference with local traffic flow. Provide Owner 14 days advance written notice before any road outage and coordinate road outages with Owner.
  2. Design-Builder shall maintain means of access to adjacent properties at all times.
  3. Design-Builder shall provide access for emergency response vehicles at all times.
  4. Design-Builder is responsible for coordinating with Owner to allow for the Owner to issue public notifications (e.g. business owners, etc.) prior to construction Work commencement, road closures, and other disruptions to the public potentially caused by the Work.
  5. *[Additional or modified requirements to be further developed during Phase 1B Services prior to GMP Proposal]*

#### **1.05 SHUTDOWN AND CONSTRUCTION CONSTRAINTS**

- A. Design-Builder shall comply with general shutdown constraints:
1. Execute the Work while the Existing Facilities are in operation, unless approved otherwise.
  2. Accomplish Work without a shutdown where practicable.
  3. Indicate required shutdowns of Existing Facilities or interruptions of existing operations on Project Schedule. There must be an Owner-approval for each shutdown or interruption of existing operations.
  4. Shutdowns will be permitted to the extent that operation of the Existing Facilities will not be jeopardized and identified constraints are satisfied.
  5. Submit notification of required shutdowns of Existing Facilities at least 21 calendar days prior to the planned date of shutdown.

#### **1.06 REQUIREMENTS FOR MAINTAINING CONTINUOUS OPERATION OF EXISTING FACILITIES**

- A. Design-Builder shall conduct the Work and provide temporary facilities required to keep the Existing Facilities continuously operational as required by Section OR-01500 - Temporary Facilities and Controls.

### **PART 2 PRODUCTS**

Not Used.

### **PART 3 EXECUTION**

Not Used.

END OF SECTION

## **SECTION OR-01290**

### **PAYMENT PROCEDURES AND CHANGE MANAGEMENT**

#### **PART 1 GENERAL**

##### **1.01 SUMMARY**

- A. This Section specifies administrative and procedural requirements necessary for payment and change management including:
  - 1. Schedule of Values.
  - 2. Application for Payment.
  - 3. Change Orders.
  - 4. Allowances.

##### **1.02 SUBMITTALS**

- A. In accordance with the Section OR-01300 - Submittal Procedures.

##### **1.03 SCHEDULE OF VALUES**

- A. Design-Builder shall prepare a Schedule of Values for the Phase 2 Work based on the Contract Price and in conformance with the schedule of values submitted as part of the GMP Proposal.
- B. No changes shall be made to the Schedule of Values without Owner's prior approval, and changes accepted by Owner and incorporated into the Schedule of Values is a condition precedent to the issuance of payment.
- C. The Schedule of Values shall identify the estimated total number of construction units for each kind of work and the value of each unit.
- D. The Owner and Design-Builder will agree to the rules of credit for each unit of the Schedule of Values for those specific items that are to be paid via lump sum. Rules of credit identify the method for determining completion and value of Work completed for lump sum items. Examples of rules of credit include physical percent complete, pre-defined value, and level of effort.
- E. Whenever the schedule is changed or revised to include approved Change Orders that change the Work or Allowance authorizations, the Schedule of Values shall also be revised such that the total of all items shall sum to the current Contract Price. Scope additions shall be added to the Schedule of Values as new line item(s).
- F. Updated Schedule of Values shall be submitted with each Application for Payment as required in this section and will be a condition of recommendation for payment by the Owner.

1. For lump sum items, updated Schedule of Values will include the Design-Builder's estimated percent completion of each line-item included in the Schedule of Values.
- G. Format and Content:
1. Schedule of Values shall be a listing of all Work, listed in numerical order, and organized by specification section showing that the sum total of all activities equals the Contract Price.
  2. Schedule of Values shall include Allowances in accordance with the following:
    - a. The initial Schedule of Values will identify on separate lines each Allowance Item and Allowance Value defined in the Contract Price.
    - b. As Allowance Items are authorized for use, a new sub line item to the authorized Allowance Item will be added with the Allowance Value equal to the amount authorized.
    - c. At no time will the sum of the Allowance Value sub line-item budgets exceed the initial Allowance Value unless revised by a Change Order.
  3. Schedule of Values shall include line item for premiums for bonds and insurance.
  4. Schedule of Values shall include line item for General Conditions.
  5. Design-Builder shall include design activities and deliverables on the Schedule of Values. Design-Builder shall distinguish between design activities and services during construction activities.
  6. Round amounts to nearest whole dollar.
  7. In accordance with the rules of credit, provide separate line items in the Schedule of Values for lump sum items such as initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
  8. Each item in the Schedule of Values and Application for Payment shall be complete.
  9. Support costs with data on an open-book basis that will substantiate their correctness.

#### **1.04 APPLICATION FOR PAYMENT**

- A. Payment Application Times: The date for each progress payment and the period of Work covered by each Application for Payment is indicated in the Agreement.
- B. Payment Application Forms: The Application for Payment form shall be completed and submitted in accordance with the Agreement.
- C. Application Preparation: Complete every entry on each Application for Payment. Notarize and execute the Application for Payment by a person authorized to sign legal documents on behalf of Design-Builder. Owner will return incomplete applications without action or payment.
  1. Base Application for Payment on the breakdown of costs for each activity in the Schedule of Values and in accordance with the Agreement. Identify each activity on the Schedule of Values, the value of each activity, the estimated percent complete for each activity (for lump sum items), and the value of Work completed for both the payment period and Project to date.
  2. Include amounts of Change Orders executed before last day covered by the Application for Payment.

3. For stored materials:
    - a. Design-Builder shall be paid the invoice amount for materials (less retainage). Submit invoice with the Application for Payment. Any additional amount for procurement of the material (including delivery, storage, preparation, installation, transport to the site, etc.) listed or calculated from the Schedule of Values shall be paid after installation.
    - b. Stored materials can be properly stored onsite in a location approved by the Owner or offsite in an appropriate bonded and insured warehouse according to storage specifications contained in the Construction Documents and manufacturer's instructions and recommendations.
    - c. Complete the Stored Materials Form with the Application for Payment. The Stored Materials Form is provided as a Supplement to this Section.
    - d. Design-Builder shall provide security and proper storage of materials and equipment including adequate insurance against loss or damage in accordance with the Agreement. This shall include notification of location of stored material, submittal of manufacturer's instructions for storage (if provided), and photographs of stored materials indicating the proper protection and showing the amount of materials stored at that particular location.
    - e. Design-Builder shall provide appropriate stored material and equipment, lubrication, maintenance, electrification, storage area temperature and moisture control and warranties.
    - f. Owner must be allowed access to visually inspect stored equipment and materials at its request. Payment for stored materials shall not become due unless the Owner representative has access to inspect those stored materials.
  4. All invoiced Work shall be documented to the Owner's satisfaction.
    - a. Labor charges shall identify personnel by name, their assigned billing category/role, the hours charged and the total amount charges (hours times billing rate) for each Schedule of Values item.
    - b. Bond and Insurance premium reimbursement requests shall be documented with receipts.
- D. Monthly Payments; Retainage: The Design-Builder shall make and certify the amount of the Work performed and may apply for partial payment. Thereafter, the Owner may, in their discretion, revise the estimate to show the actual value of Work completed in accordance with their observation of the Work. The Design-Builder agrees to be bound by the Owner's revisions to its Application for Payment. Whenever the monthly estimate, after approval by the Owner's representative, shows that the value of the Work completed during the previous month exceeds one thousand dollars (\$1,000.00), the Owner will issue a Certificate of Payment for such Work. Such certificate will authorize payment by the Owner in an amount equal to the value of the Work completed less any sums retained or deducted by the Owner under the terms of the Contract Documents, and less retainage of five (5) percent of payments claimed. In accordance with Section 3-3-56 of the Code of the City of Alexandria, within forty-five (45) calendar days after receipt of each Certificate of Payment, the Owner shall pay the Design-Builder in accordance with the applicable Certificate and the Contract Documents. Within thirty (30) calendar days of the submission of the Application for Payment, the Owner will notify the Design-Builder of any defects or improprieties that would prevent payment by the scheduled payment date.

- E. Escrow Account in Lieu of Retainage: The Design-Builder may elect to use the escrow account procedure for utilization of retainage funds authorized by Section 3-3-51 of the Code of the City of Alexandria. In the event the Design-Builder elects to use the escrow account procedure, it shall submit an escrow agreement form, executed by the appropriate parties, within fifteen (15) calendar days after Notification to Proceed. The escrow agent shall be a trust company, bank or savings institution with its principal office located in the Commonwealth of Virginia. A copy of the approved escrow agreement form is available from the Purchasing Agent. If the Design-Builder fails to submit a fully executed escrow agreement, in proper form, within the required fifteen (15) calendar days, it shall forfeit its right to use the escrow account procedure and shall be subject to normal withholding of retainage.
- F. Owner's Right to Withhold Payment: The Owner may withhold payment to such extent as may be necessary to protect the Owner due to loss because of:
1. Defective Work not remedied;
  2. Third party claims filed or reasonable evidence indicating probable filing of such claims;
  3. Failure of the Design-Builder to make payments properly to Subcontractors or for labor, materials or equipment;
  4. Reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Price;
  5. Damage to the Owner or another contractor;
  6. Reasonable evidence that the Work will not be completed within the Contract Time;
  7. Persistent failure to carry out the Work in accordance with the Contract Documents; or
  8. Liability, damage, or loss due to injury to persons or damages to the Work or property of other contractors, subcontractors or others, caused by the act or neglect of the Design-Builder of any of its Subcontractors.
- G. Application of Withheld Funds: The Owner shall have the right, as an authorized representative for the Design-Builder and without the Surety's consent, to apply any such amounts so withheld in such manner as the Owner may deem proper to satisfy such claims or to secure such protection. The application of these amounts shall be deemed payments for the account of the Design-Builder and shall reduce the Owner's obligation to the Design-Builder accordingly.
- H. Provide updated Progress Schedule matching the progress reported in the Schedule of Values and associated schedule narrative with the Monthly Project Status Report that accompanies each Application for Payment as required by Section OR-01320 Project Management and Progress Reporting. Approval of the updated Progress Schedule shall not be a prerequisite for invoice payment.
- I. Provide the Risk Register, updated through the month to reflect new, complete, expired, or updated risks.

- J. Maintain an updated set of drawings to be used as record drawings in accordance with Section OR-01700 - Execution Requirements. As a prerequisite for monthly progress payments, exhibit, or make available, the updated record drawings for review by the Owner.
- K. The Application for Payment shall include the following documents in accordance with the Agreement:
  - 1. Waivers of lien and similar attachments from Subcontractors as required.
  - 2. Monthly Project Status Report.
  - 3. Affidavits attesting to Equipment and Materials not yet incorporated into the Project and insurance coverage for offsite Equipment and Materials. All stored Equipment and Materials must clearly be labeled "Property of City of Alexandria, Waterfront Implementation Project".
- L. Submit signed and notarized Application for Payment.
- M. Owner has the right to review all design services and construction services, performed at the Site or elsewhere, to determine whether the quantity and quality of labor, services, equipment, and materials are as required by the Agreement and as represented in the Application for Payment.

#### **1.05 FINAL APPLICATION FOR PAYMENT**

- A. Upon meeting requirements set forth by Section OR-01770 - Closeout Procedures and the Agreement, Design-Builder shall submit the Final Application for Payment in accordance with the Agreement.

#### **1.06 CHANGE PROCEDURES**

- a. A. Change procedures shall be administered in accordance with the Comprehensive Agreement. .

#### **1.07 ALLOWANCES**

- A. Allowance Payment Items are indicated in the Agreement.
- B. Unless agreed upon by Owner, a minimum of 20 calendar days prior to performing Work on any particular Allowance Item, Design-Builder shall provide Owner with an itemized summary of the costs of the Work for such Allowance Item. Owner will validate itemized costs and the Allowance Value prior to providing Design-Builder authorization to proceed with any Allowance Item. Summary shall be submitted in accordance with the Submittal Requirements.

### **PART 2 PRODUCTS**

Not Used.



## **PART 3 EXECUTION**

### **3.01 SUPPLEMENTS**

- A. The supplements listed below, following “End of Section,” are a part of this Section. Owner will provide Design-Builder an electronic form for their use.
  - 1. Stored Materials and Equipment Form.

END OF SECTION

**SECTION OR-01290 - SUPPLEMENT 1**  
**STORED MATERIALS AND EQUIPMENT FORM**



**SECTION OR-01300**  
**SUBMITTAL PROCEDURES**

**PART 1    GENERAL**

**1.01    SUMMARY**

- A. Section includes requirements and procedures for submitting shop drawings, product data, samples, and other Submittals relating to construction administration. This section does not include requirements and procedures associated with the City's Development Review Process or other City review requirements and procedures.
  - 1. Electronic Submittal requirements.
  - 2. Owner's review of Submittals.
  - 3. Submittal content requirements and procedures.
- B. All submittals shall be clearly identified by reference to a specification section and/or detail drawing if applicable. Submittals shall be clear and legible and shall include sufficient presentation of the data.
- C. No portion of the Work requiring Construction Documents shall be started nor shall any materials be fabricated or installed prior to the approval of such items. Fabrication performed, materials purchased, or on-site construction accomplished which does not conform to Owner-approved Construction Documents shall be at the Design-Builder's risk. Owner shall not be liable for any expense or delay due to corrections or remedies required to accomplish conformity, except where relief is expressly provided under the Agreement.
- D. Provide or furnish products and execute the Work in accordance with the accepted Submittals, unless in conflict with Construction Documents.

**1.02    ELECTRONIC SUBMITTALS**

- A. Unless specifically required in this Section, by Owner, or elsewhere in the Agreement, each Submittal shall be made in an electronic format. Design-Builder shall provide capabilities for hard copies of all Submittals to be available to Owner at end of the Project.
- B. Samples shall be submitted via hard copy. Other submittals that include large format drawings or very lengthy documents may be considered by the Owner for hardcopy distribution.
- C. Each submittal will be an electronic file in the Adobe Acrobat Portable Document Format (PDF) or a native file. Use the latest Adobe version available at the time of execution of the Agreement. General information shall be added to each PDF file, including title, subject, author, and keywords.
  - 1. PDF files shall be unsecured, unencrypted, and not password protected.

2. The following actions within Adobe Acrobat shall be allowed:
  - a. Printing.
  - b. Content copying or extraction.
  - c. Extraction for access.
  - d. Commenting.
  - e. Fitting for form fields.
  - f. Signing.
  - g. Creation of duplicate information.
- D. The PDF files shall be set up to print legibly at either 8-1/2-inch by 11-inch, 11-inch by 17-inch, or 22-inch by 34-inch paper sizes. No other paper sizes will be accepted.
- E. New electronic files shall be required for each re-submittal.
- F. Each electronic file shall also include a standard transmittal letter in format approved by the Owner to this section. Hardcopy files, if required by specifications, shall also include standard transmittal letter which shall be scanned and submitted electronically for record of transmittal of submittal and disposition.
- G. Owner will reject any submittal that is not electronically submitted, unless otherwise permitted by the Owner.
- H. Electronic submittal PDF files are not to be combined files or collections of files/drawings. Each drawing document must stand alone.
- I. Design-Builder shall provide the Owner with the authorization to reproduce and/or redistribute each file as many times as necessary for the project.
- J. Design-Builder shall include all costs for preparation of electronic copies of the submittal in its pricing, including all re-submittals, record copies, and final copies. Design-Builder shall provide final accepted submittals in hard copies to Owner at the end of the Project.
- K. Where multiple submittals are required, provide a separate submittal for each specification section.
  1. In order to expedite construction, the Design-Builder may make more than one submittal per specification section, but a single submittal may not cover more than one specification section:
  2. The only exception to this requirement is when one specification section covers the requirements for a component of equipment specified in another section.
- L. Attachments:
  1. Specification section: Include with each submittal reference to the relevant specification section, including relevant addendum updates.
    - a. Provide a list of all numbered deviations with a clear explanation and reason for the deviation.

2. Drawings: Include with each submittal a reference to the relevant drawing, including relevant addendum updates.
  - a. Provide a list of all numbered deviations with a clear explanation and reason for the deviation.
  - b. Provide field dimensions and relationship to adjacent or critical features of the Work or materials.
- M. Design-Builder shall prepare submittal information in sufficient detail to show compliance with specified requirements.
  1. Determine and verify quantities, field dimensions, product dimensions, specified design and performance criteria, materials, catalog numbers, and similar data.
  2. Coordinate submittal with other submittals and with the requirements of the Design Documents.
  3. Check, verify, and revise submittals as necessary to bring them into conformance with Construction Documents and actual field conditions.
- N. Submittals such as shop drawings and product data shall be of suitable quality for legibility and reproduction purposes. Every line, character, and letter shall be clearly legible. Drawings shall be useable for further reproduction to yield legible hard copy.

### **1.03 OWNER'S REVIEW OF SUBMITTALS**

- A. All submittals must be reviewed and processed by the Design-Builder.
- B. Design-Builder shall provide the Owner with access to view all submittals electronically regardless if a submittal(s) is designated for review by the Owner.
- C. The Owner has the right to review any submittal. A select number of submittals will be designated specifically for Owner review, and Owner will review for concurrence with Design-Builder's review. Submittals designated for Owner review shall be reviewed and comments resolved first by the Design-Builder. Owner will acknowledge receipt of these submittals. Design-Builder may request concurrent Owner review of time-sensitive submittals. Approval of request is at the discretion of the Owner but will not be unreasonably withheld.
- D. Owner's review shall not relieve Design-Builder of their responsibility for errors, omissions, or deviations in the drawings and data, nor of sole responsibility for compliance with the Construction Documents. Neither shall Owner's review release Design-Builder fulfilling purpose of installation nor from Design-Builder's liability to replace defective work.
- E. Owner's submittal review period shall be 21 consecutive calendar days in length and shall commence on the first calendar day immediately following the date of providing the submittal or resubmittal to Owner.
- F. When a submittal cannot be returned within the specified period, Owner will, within a reasonable time after receipt of the submittal, give notice of the date by which that submittal will be returned.

- G. Schedule delays:
1. No adjustment of Contract Times or Contract Price will be allowed due to Owner's review of submittals, unless all of the following criteria are met:
    - a. Owner has failed to review and return first submission within the agreed upon time frame.
    - b. Design-Builder demonstrates that delay in progress of Work is directly attributable to Owner's failure to return submittal within time indicated and accepted by Owner.
- H. If the Design-Builder considers any correction indicated on the shop drawings to constitute a change, the Design-Builder shall give written notice thereof to the Owner within 10 calendar days following return of submittal. Such notice does not need to include pricing.
- I. Resubmittal of Drawings and Data:
1. Design-Builder shall accept full responsibility for the completeness of each resubmittal. Design-Builder clearly identify each correction or change made and shall verify that all corrected data and additional information previously requested by Owner are provided on the resubmittal.
  2. Design-Builder shall in writing direct specific attention to all revisions and shall list separately any revisions made other than those called for by Owner on previous submissions.
  3. Requirements specified for initial submittals shall also apply to resubmittals. Resubmittals shall bear the number of the first submittal followed by a letter (A, B, etc.) to indicate the sequence of the resubmittal.
  4. Include a response in writing to each of the Owner's comments or questions for submittal packages that are resubmitted in the order that the comments or questions were presented throughout the submittal.
    - a. Acceptable responses to Owner's comments are listed below:
      - 1) "Incorporated" Owner's comment or change is accepted and appropriate changes are made.
      - 2) "Response" Owner's comment not incorporated. Explain why comment is not accepted or requested change is not made. Explain how requirement will be satisfied in lieu of comment or change requested by Owner.
    - b. Design-Builder shall provide responses to all submittal review comments provided by the Owner separately and at a level of detail commensurate with each comment. Review of submittals by Owner is for conformance with Construction Documents. As such, it is expected that Owner questions/comments submittals will be related to compliance with technical requirements of project.
  5. Any need for more than one resubmission, or any other delay in obtaining Owner's review of submittals, will not entitle Design-Builder to extension of the Contract Times unless delay of the Work is directly caused by a change in the Work authorized by a Change Order or by failure of Owner to review any submittal within the submittal review period specified herein and to return the submittal to Design-Builder.

6. Shop drawings and other submittals will be reviewed no more than twice at the Owner's expense. Costs incurred by Owner as a result of additional reviews of a particular submittal after the second time it has been reviewed shall be borne by Design-Builder unless review comments change Agreement requirements. Reimbursement to Owner will be made by deducting such costs from Design-Builder's subsequent progress payments.
7. Design-Builder assumes risk of expense and delays when proceeding with work related to required submittals without review and approval.

#### **1.04 CONSTRUCTION SUBMITTAL CONTENT**

- A. For Submittals subject to Owner's review, submit to Owner for review for limited purpose of checking for conformance with information given and design concept expressed in Design Documents.
- B. Project work, materials, fabrication, and installation shall conform to approved shop drawings, applicable samples, and product data.
- C. Shop Drawings:
  1. All shop drawings submitted by Subcontractors for approval shall be sent directly to the Design-Builder for checking. The Design-Builder shall be responsible for their submission at the proper time to prevent delays in delivery of materials.
  2. All deviations from the Construction Documents shall be identified within each submittal. Such submittals shall, as pertinent to the deviation, indicate essential details of all changes proposed.
  3. Details:
    - a. Fabrication drawings: drawn to scale and dimensioned.
    - b. Front, side, and, rear elevations, and top and bottom views, showing all dimensions.
    - c. Locations of conduit entrances and access plates.
    - d. Component layout and identification.
    - e. Weight.
    - f. Finish.
    - g. Temperature limitations, as applicable.
    - h. Nameplate information.
- D. Product Data and Manufacturer's Instructions:
  1. Manufacturer's instructions, when made available by manufacturers, and installation, erection, or application in accordance with manufacturer's instructions are required, prior to installation, erection, or application of equipment and other project components.
  2. Submit printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing.
  3. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.
  4. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.



5. If applicable, submittals for equipment shall include a listing of all installations where identical or similar equipment has been installed and been in operations for a period of at least one year.
6. Indicate product utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
7. Cross out non-applicable information and clearly mark applicable information with citations to and terminology consistent with Agreement.
8. Details:
  - a. Supplier name and address.
  - b. Subcontractor name and address.
9. Include:
  - a. Catalog cuts.
  - b. Bulletins.
  - c. Brochures.
  - d. Manufacturer's Certificate of Compliance: signed by product manufacturer along with supporting reference data, affidavits, and tests, as appropriate.
  - e. Manufacturer's printed recommendations for installation of equipment.
  - f. Quality photocopies of applicable pages from manufacturer's documents.
10. Completely fill out a motor data sheet, for every motor furnished:
  - a. Submit one copy of the motor data sheet to the Owner for review as part of the asset management data.

**E. Samples:**

1. Samples for selection as specified in product sections:
  - a. Submit to Owner for aesthetic, color, or finish selection.
  - b. Submit samples of finishes, textures, and patterns for Owner selection.
2. Submit samples to illustrate functional and aesthetic characteristics of products, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
3. Include identification on each sample, with full Project information.
  - a. Clearly label samples to indicate any that represent non-standard colors, materials, products, or equipment lines and that if selected, will require an increase in Contract Times or Contract Price.
4. Submit number of samples specified in individual specification sections; Owner will retain two samples.
5. Reviewed samples which may be used in the Work are indicated in individual specification sections.
6. Samples will not be used for testing purposes unless specifically stated in specification section.

**F. Design Data:**

1. Submit for information for limited purpose of assessing conformance with information given and design concept expressed in Construction Documents.
2. Defined in technical sections.
3. Calculations must bear the original seal and signature of a Professional Engineer licensed in the Commonwealth of Virginia and who provided responsible charge for the design.

**G. Operation and Maintenance Manuals:**

1. See Section OR-01770 - Closeout Procedures.

H. Certificates:

1. Certificates are statements printed on the manufacturer's or supplier's letterhead and signed by responsible officials of manufacturer of product, system, or material. Certifications shall provide a clear statement that the product, system or material meets the specified requirements of Design Documents. All certificates shall be dated after the Effective Date of the Agreement and shall clearly indicate the project name and project number.
2. When specified in individual specification sections, submit certification by manufacturer, installation/application subcontractor, or Design-Builder to Owner, in quantities specified for product data.
3. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
4. Certificates may be recent or previous test results on material or product but must be acceptable to Owner.

I. Factory Test Reports:

1. Submit test reports for information purposes.
2. Include the following information:
  - a. A description of the test.
  - b. List of equipment used.
  - c. Name of the person conducting the test.
  - d. Date and time the test was conducted.
  - e. Ambient temperature and weather conditions.
  - f. All raw data collected.
  - g. Calculated results.
  - h. Clear statement if the test passed or failed the requirements stated in Design Documents.
  - i. Signature of the person responsible for the test.

## **1.05 REQUESTS FOR INFORMATION**

- A. Requests for Information (RFIs): Design-Builder's field stand and/or Subcontractors may issue RFIs to request clarifications. If an RFI requires Owner input, use Owner's RFI form to submit to Owner for review; number RFIs consecutively and add a consecutive letter to RFI number on modified submittals of the same item (i.e., RFI-4A); Owner will respond on the same form. For each RFI, allow 21 calendar days excluding delivery time to and from Design-Builder for Owner to respond. In the event that the Design-Builder identifies an RFI as critical to the progress of the Project, Owner will make every effort to reduce the review time of the RFI.
- B. The Design-Builder shall maintain an RFI log and assign numbers. Log shall be available to Owner to review at any time and include the following fields:
1. RFI Number.
  2. Issue date.
  3. Description of issue and response.
  4. Response date.

## **PART 2 PRODUCTS**

Not Used.

## **PART 3 EXECUTION**

### **3.01 SUBMITTAL PROCEDURES**

- A. Design-Builder shall prepare and transmit each submittal sufficiently in advance of performing the related work or other applicable activities, or within the time specified in the individual work sections, of the Specifications, so that the installation will not be delayed by processing times including disapproval and resubmittal (if required), coordination with other submittals, testing, purchasing, fabrication, delivery and similar sequenced activities. No extension of time will be authorized because of the Design-Builder's failure to transmit submittals sufficiently in advance of the Work.
- B. The Design-Builder shall utilize a three-character submittal identification numbering system in the following manner:
  - 1. The six-digit specification section should be listed.
  - 2. The next four digits shall be the numbers 0001 to 9999 to sequentially number each separate item or drawing submitted.
  - 3. The last character shall be a letter, A to Z, indicating the submission or resubmission of the same submittal, i.e., A = 1st submission, B = 2nd submission, C = 3rd submission, etc.
  - 4. A typical submittal number would be as follows:
    - a. 033000 = Section for Concrete.
    - b. 0008 = The eighth initial submittal under this Section.
    - c. B = The second submission (first resubmission) of that particular shop drawing.
- C. Included within the transmittal letter, each shop drawing, sample and product data submitted by the Design-Builder shall have affixed to it following certification statement including the Design-Builder's company name and signed by the Design-Builder: "Certification Statement: By this submittal, I hereby represent that I have determined and verified all field measurements, field construction criteria, materials, dimensions, catalog numbers and similar data and I have checked and coordinated each item with other applicable Accepted shop drawings and all Agreement requirements."
- D. Documents submitted to Owner that do not conform to specified requirements shall be subject to rejection by Owner, and upon request by Owner, Design-Builder shall resubmit conforming documents. If conforming Submittals cannot be obtained, such documents shall be retraced, redrawn, or photographically restored as may be necessary to meet such requirements.
- E. If the Design-Builder considers any correction indicated on the shop drawings to constitute a change to the Contract Documents, the Design-Builder shall give written notice thereof to the Owner prior to executing the Work in question.

- F. When the shop drawings have been completed to the satisfaction of the Owner, the Design-Builder shall carry out the construction in accordance therewith and shall make no further changes therein except upon written acceptance by the Owner.
- G. Where standard drawings are furnished which cover several variations of the general class of equipment, each drawing shall be annotated to indicate exactly which parts of the drawing apply to the equipment being furnished. Use hatch marks to indicate variations that do not apply to the Submittal. The use of "highlighting markers" will not be an acceptable means of annotating Submittals. Annotation shall also include proper identification of the submittal permanently attached to the drawing. Edit all submittals so that the submittal specifically applies to only the equipment furnished. Neatly cross out all extraneous text, options, models, etc. that do not apply to the equipment being furnished, so that the information remaining is only applicable to the equipment being furnished. Pages containing all extraneous information should not be include in the submittal.
- H. Prepare submittals in the English language. Do not include information in other languages.
- I. Present measurements in customary American units (feet, inches, pounds, etc.).
- J. Show dimensions, construction details, wiring diagrams, controls, manufacturers, catalog numbers, and all other pertinent details.
- K. Indicate project designated equipment tag numbers from P&IDs for submittal of devices, equipment, and assemblies.
- L. Indicate special utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

END OF SECTION

## **SECTION OR-01320**

### **PROJECT MANAGEMENT AND PROGRESS REPORTING**

#### **PART 1 GENERAL**

##### **1.01 SUMMARY**

- A. Design-Builder shall schedule and coordinate the Work of Subcontractors and others performing or furnishing any of the Work. This includes coordinating Site visits of all manufacturers and Subcontractors and coordinating interfaces and field coordination of others as necessary to effectively install and startup facilities.
- B. Section includes preparation, submittal, and maintenance of Phase 2 Project Schedule and reports, contract time adjustments, and payment requests:
  - 1. Scheduler.
  - 2. Scheduling format and software.
  - 3. Schedule preparation.
  - 4. Submittal of Phase 2 Project Schedule.
  - 5. Payment requests and cash flow.
  - 6. 3-Week Look-Ahead Schedule.
  - 7. Schedule of Values.
  - 8. Adjustment of Contract Times and Milestones.
  - 9. Summary schedule.
  - 10. Schedule of Submittals.
  - 11. Startup, commissioning and acceptance schedule submittal.
  - 12. Revisions to Project Schedule.
- C. This Section also includes administrative provisions for coordinating design and construction operations on the Project including the following:
  - 1. Reports.
  - 2. Other administrative requirements including photograph and video documentation.
  - 3. Project meetings.

##### **1.02 DEFINITIONS**

- A. Activity:
  - 4. A discrete part of the Project that can be identified for planning, scheduling, monitoring, and controlling the construction Work. Activities included in a Project Schedule consume time and resources.
  - 5. Critical activities are activities on the critical path. They must start and finish on the planned start and finish times.
  - 6. Predecessor activity is an activity that must start or complete before a given activity can be started. Use of negative lag shall be minimized.
  - 7. Successor activity is an activity that can not start until the predecessor activity allows it. Use of negative lag shall be minimized.
- D. Critical Path Method (CPM): A schedule network analysis technique used to determine the amount of scheduling flexibility (the amount of total float) on various

logical network paths in the Project Schedule network, and to determine the minimum total duration of an activity. Start and finish dates are calculated by means of a forward pass, using a specified start date. Late start and finish dates are calculated by means of a backward pass, starting from a specified completion date, which sometimes is the activity's early finish date determined during the forward pass.

- E. Critical Path: Generally, but not always, the sequence of schedule activities determining the duration of an activity. Usually, it is the longest path through the activity. However, a critical path can end, as an example, on a schedule milestone that is in the middle of the schedule model and that has a finish-on-or-before imposed date schedule constraint.
- F. Float: The measure of leeway in starting and completing an activity. Float time is not for the exclusive use or benefit of either Party, but is a jointly owned, expiring Project resource available to both Parties as needed to meet Milestones and other schedule milestones. Free float is the amount of time an activity can be delayed without adversely affecting the early start of the following activity. Total float is the measure of leeway in starting or completing an activity without adversely affecting a Milestone Deadline.
- G. Fragnet: A partial or fragmentary network that breaks down activities into smaller activities of greater detail.
- H. Gantt Chart: A graphic display of schedule-related information. In the typical Gantt chart, schedule activities or work breakdown structure (WBS) components are listed down the left side of the chart, dates are shown across the top and activity durations are shown as date-placed horizontal bars.
- I. Lag: An offset or delay from an activity to its successor. It is based on the calendar of the successor activity.
- J. Milestones: Key or critical point in time for reference or measurement.
- K. Network Diagram: A graphic diagram of a network schedule, showing activities and activity relationships.
- L. Work Package: A deliverable or project work component at the lowest level of each branch of the WBS. The work package includes the schedule activities and schedule milestones required to complete the work package deliverable or project work component.

### **1.03 SCHEDULER**

- A. Scheduler shall be dedicated to the Project, or other commitment level agreed to by the Parties.

- B. Scheduler shall attend Project meetings called for in this Section with the Project Schedule as an agenda item. Remote attendance is generally acceptable provided Owner may require the Scheduler attend specific meetings in person rather than remotely.

#### **1.04 SCHEDULING FORMAT AND SOFTWARE**

- A. Phase 2 Project Schedule format: Utilize CPM format.
- M. Prepare computerized Phase 2 Project Schedule utilizing Oracle Primavera P6 Project Management.
- N. Use defined coding structure, identifying the code fields and the associated code values to be applied to the project schedule. The coding structure and is used to prepare various Owner schedule reports and queries.
- O. Schedule filenames shall comply with established Project file naming convention.
- P. Post submitted files to the web-based construction document management system in accordance with the Submittal Requirements.

#### **1.05 SCHEDULE PREPARATION**

- A. Design-Builder's preparation and submittal of the Baseline Phase 2 Project Schedule and each updated Phase 2 Project Schedule represents Design-Builder's intention to execute the Work within specified time and constraints. Design-Builder shall update the Phase 2 Project Schedule no less than monthly and otherwise in accordance with the Agreement. Any changes to the Phase 2 Project Schedule shall include activity percent complete and minor logic revisions to address current implementation strategy. Design-Builder shall not make any changes to Work deliverables or scope in the Phase 2 Project Schedule.
- Q. The Phase 2 Project Schedule shall include detailed work activities for Phase 2 final design and construction that was submitted to and approved by Owner as part of the GMP Proposal.
- R. Design-Builder shall coordinate each construction activity in the network with other activities and schedule them in proper sequence.
- S. Activity durations in the Phase 2 Project Schedule shall be in terms of working days. Reference schedule to working days with Notice to Proceed.
- T. With the exception of management and administrative activities, each construction work activity's original duration shall not exceed 25 working days unless otherwise approved by the Owner. Activities longer than 25 working days shall be subdivided by location, station, or other sub-element to comply with the 25-day criteria.

- U. Calendars: Design-Builder can create and utilize any number of calendars necessary to convey the work-periods for accurate duration usage for activities in the project schedule. There are two conditions for these calendars: (1) they shall contain all Owner-observed holidays; and (2) they shall convey the accurate workdays during which Work will be performed.
- V. Float is for the mutual benefit of both Parties. Changes to the Project that can be accomplished within this available period of float may be made by Owner without extending any Milestone Deadline, by utilizing float. Time extensions will not be granted nor delay damages owed unless there is no available float and Work extends beyond Final Completion. Likewise, Design-Builder may utilize float to offset delays other than delays caused by Owner. Mutual use of float shall continue until all available float shown by schedule has been utilized by either Owner or Design-Builder, or both.
- W. Non-sequestering of float: Pursuant to float sharing requirements of this Section, Owner may reject schedule Submittals for use of float suppression techniques such as (without limitation) preferential sequencing or logic, special lead or lag logic restraints, extended activity durations or imposed dates.
  - 1. Schedule logic: Assembled to show order in which Design-Builder proposes to carry out Work.
  - 2. Include the following items in the schedule:
    - a. Coordination with existing construction.
    - b. Use of premises restrictions.
    - c. Seasonal variations affecting work period.
    - d. Environmental control measures.
    - e. Known outages and/or bypasses of operating facilities.
- X. The schedule activities shall be cost-loaded to the work activity level equal to the Schedule of Values as agreed upon by Owner and Design-Builder. The sum total of all cost loaded activities shall equal the total Contract Price, including Owner-approved Change Orders. This shall be equivalent to the total of the Schedule of Values for the Project.
- Y. Milestone Deadlines and/or operational constraints set forth in Agreement shall be included on the Project Schedule. Finish on or before constraints are to be applied to these Milestone Deadlines.
- Z. Activities for which the Owner and other contractors are responsible shall be clearly identified in the Project Schedule.
- AA. When Change Orders are approved by the Owner, the Design-Builder shall adjust the Project Schedule to account for any changed activities. This adjustment shall include the costs required for these activities.

#### **1.06 PROJECT SCHEDULE SUBMITTAL FORMAT**

- A. Design-Builder shall submit electronically, in accordance with the Submittal Requirements, all schedule outputs and reports required under the Agreement.
- B. Design Builder shall submit the Oracle P6 export file in XER format.



- C. Design Builder shall submit a schedule narrative report, which clearly defines each change made to the schedule from its prior progress update. This includes activity additions, deletions, revisions, logic changes, etc. The schedule narrative report shall include an analysis of any negative variance to any Milestone Deadline or associated date. The report will describe the cause of the negative variance and what the Design-Builder is doing to recover any negative variance.
- D. Design Builder shall submit a clear, legible, and accurate schedule in PDF format. The format shall be 11x17 in and calendar based, time scaled, graphical Gantt chart diagram showing predecessors, successors, and dependencies. Activities shall be grouped by WBS.
- E. The timescale will be sized to show entire activity bars. The tabular portion shall include (in order) the following columns: activity ID, activity description, original duration, remaining duration, start date, finish date, total float, baseline original duration, baseline start date, baseline finish date, start variance, and finish variance.
- F. Gantt chart portion will include the current Phase 2 Project Schedule bars with their respective approved Baseline Phase 2 Project Schedule bars immediately below.
- BB. Indicate the critical path for the Project.
- CC. Delineate the specified duration and identify the planned Final Completion as a milestone. Show the time period between the planned and actual Final Completion as float.
- DD. Identify known planned system shutdown dates, temporary bypass periods, temporary operation period(s), system tie-in dates, specified interim completion or milestone dates, and Milestone Deadlines as milestones.
- EE. In addition to construction activities, include submission dates and review periods for:
  - 1. Equipment and long-lead material deliveries over eight weeks.
  - 2. Approvals required by Governmental Unit or other third parties.
- FF. Produce large poster-sized Gantt chart posted somewhere visible within Design-Builder's onsite office/trailer.

## **1.07 CASH FLOW PROJECTIONS**

- A. After the Baseline Phase 2 Project Schedule has been submitted and accepted by the Owner, furnish a tabular and graphic report showing estimated progress payments for each month of the Project. This tabulation will be based on the summation of the cost-loaded activities. The total of all anticipated progress payments shall equal the current Contract Price.
- GG. Include quarterly updates to the tabular and graphic report showing estimated progress payments for each month of the Project.

## **1.08 THREE-WEEK LOOK-AHEAD SCHEDULE**

- A. Submit to Owner weekly a three-week look-ahead schedule showing the activities completed during the previous week and the Design-Builder's schedule of activities for the following three weeks ("3-Week Look Ahead Schedule"). Design-Builder should indicate what activities have changed durations from the previous 3-Week Look Ahead Schedule.
- HH. Use the logic and conform to the status of the current accepted Project Schedule update when producing the weekly schedule.
- II. The activity designations used in the 3-Week Look-Ahead Schedule must be consistent with those used in the Phase 2.
- JJ. Design-Builder and Owner must agree on the format of the 3-Week Look-Ahead Schedule.
- KK. The 3-Week-Look-Ahead Schedule shall be discussed at each Project progress meeting in planning for upcoming Work.

## **1.09 ADJUSTMENT OF CONTRACT TIMES**

- A. The Project Schedule shall be adjusted only for causes specified in the Agreement.
- LL. If the Design-Builder believes that a delay event qualifies as an Excusable Delay, the Design-Builder shall demonstrate the delay to the critical path. This proof, in the form of a Time Impact Analysis, along with other Change Order documentation specified in the Agreement, may entitle the Design-Builder to an adjustment of the Contract Times to the extent permitted under the Agreement.
- MM. Time Impact Analysis:
  - 1. Use the accepted schedule update that is current relative to the time frame of the Excusable Delay. The following shall be included:
    - a. Actual start dates of activities that have been started.
    - b. Actual finish dates of activities that have been completed.
    - c. Percentage of completion of activities that have been started but not finished or a remaining duration for that activity.
    - d. Actual dates on which milestones were achieved.
  - 2. Activities shall be updated by inputting percent complete figures and actual dates.
  - 3. Retained logic settings shall be used for each update.
    - a. When "out of sequence" activities occur, the following steps shall be taken:
      - 1) Create a report that identifies all of the "out of sequence" activities.
      - 2) Change the logic, add activities or both to correct the "out of sequence" condition. Make sure the activities that follow the "out of sequence" activity are scheduled.
      - 3) Write, as part of the narrative, a description of the "out of sequence" activity and the changes made to the schedule because of that activity.

4. Represent the Excusable Delay in the schedule by:
    - a. Inserting new activities associated with the Excusable Delay into the schedule,
    - b. Revising activity logic, or
    - c. Revising activity durations.
  5. If the critical path or Milestones are impacted as a result of adding this Excusable Delay to the schedule, a time extension equal to the magnitude of the impact may be warranted to the extent permitted under the Agreement.
  6. The Time Impact Analysis shall be prepared in accordance with the Agreement.
- NN. Indicate clearly that the Design-Builder has used, in full, all float available for the work involved in the request, including any float that may exist between the Scheduled Final Completion Date and Final Completion Date. Utilize the latest version of the Project Schedule update accepted at the time of the alleged Excusable Delay, and all other relevant information, to determine the adjustment of the Project Schedule.
- OO. Adjustment of the Project Schedule will be made only for the amount of time that the Design-Builder is actually delayed by an Excusable Delay.
- PP. Actual delays in activities which do not affect the critical path work or which do not move the Design-Builder's Scheduled Final Completion Date beyond the Final Completion Date will not be the basis for an adjustment to the Contract Times or compensation for delays.
- QQ. Owner will, after receipt of Design-Builder's notice of Excusable Delay review the facts and advise the Design-Builder in writing of Owner's determination.
1. If Owner determines the Project Schedule should be adjusted, Design-Builder shall include the new Project Schedule data in the next Project Schedule update.
  2. When the Owner has not yet made a final determination as to the adjustment of the Project Schedule and the Parties are unable to agree as to the amount of the adjustment to be reflected in the Project Schedule, Design-Builder shall reflect the amount of time adjustment in an interim schedule that Owner may accept (in its sole discretion) as appropriate for such interim purpose. The Parties understand and agree that any such interim acceptance by the Owner shall not be binding and shall be made only for the purpose of continuing to schedule the Work until such time as a final Owner determination as to any adjustment of the Project Schedule has been made. Design-Builder shall revise the Project Schedule prepared thereafter in accordance with Owner's final determination.

## **1.10 SCHEDULE OF SUBMITTALS**

- A. Schedule of Submittals shall include Submittals required under the Agreement, including test procedures, operation and maintenance manuals, and shop drawings.

RR. Schedule of Submittals shall be arranged by WBS and in chronological order by date specified in the Phase 2 Project Schedule and Phase 2 Schedule of Deliverables, and it shall include time required for review, resubmittal, ordering, manufacturing, fabrication, and delivery as specified in the Agreement when establishing dates. The Schedule of Submittals shall identify those Submittals that Owner has identified for its review.

SS. Schedule of Submittals:

1. Due date: Within 30 calendar days after Notice to Proceed.
2. Format:
  - a. Include all Submittals.
  - b. Indicate week and month anticipated for each Submittal.
  - c. Indicate Submittals requiring Owner's review.
  - d. Indicate "Priority" submittals where Owner's review time can impact the Project Schedule.
    - 1) "Priority" indication will not alter review times specified in the Submittal Requirements.
    - 2) Owner will endeavor to provide early review of "Priority" submittals where practicable.

#### **1.11 COMMISSIONING PLAN AND SCHEDULE SUBMITTAL**

A. Proposed Commissioning Plan and Schedule:

3. In accordance with Section 01757 - Commissioning and Training.

TT. The Phase 2 Project Schedule shall be integrated with the Commissioning Plan and Schedule.

UU. The training schedule shall include a list of Owner training sessions and scheduled dates. Design-Builder shall indicate whether trainings are tentative or firmly scheduled and include updated list with monthly updates.

#### **1.12 FINAL SCHEDULE SUBMITTAL**

A. The final Project Schedule update shall be the "As-Built Schedule."

1. The As-Built Schedule shall reflect the exact manner in which the Project was constructed by reflecting actual start and completion dates for all activities accomplished on the Project.

#### **1.13 PROGRESS REPORTS**

A. Daily Field Observation Reports: Using template proposed by Design-Builder and approved by Owner, prepare a daily field observation report to indicate Work observed. Reports shall include, at a minimum:

1. Number and role of personnel on site, including Subcontractors and visitors.
2. Equipment onsite.
3. Weather conditions.
4. Photographs of Work observed.
5. Description of Work inspected.
6. Quality characteristics of compliance Work.
7. Identification of Defects.

8. Corrective action taken on current and previous Defects.
  9. Material location reports that includes a comprehensive list of materials delivered to and stored at the Site. List shall be cumulative, showing materials previously reported plus items recently delivered. Include with list a statement of progress on and delivery dates for materials or items of equipment fabricated or stored away from Site.
- VV. Monthly Project Status Report (PSR): The Design-Builder shall produce and submit a Monthly PSR summarizing progress on the Project. The PSR shall be submitted with the Design-Builder's monthly invoice to the Owner for review and approval. In addition, the PSR shall be reviewed during executive level monthly meetings. The structure of each PSR shall include the following core topics and shall be amended as required by the Owner to suit the evolution of the Project.
1. Format:
    - a. Section 1. Activities Conducted During Reporting Period
      - 1) Summary
      - 2) By Phase 2 Task
    - b. Section 2. Planned Activities for the Next Reporting Period
      - 1) Summary
      - 2) By Phase 2 Task
    - c. Section 3. Areas Requiring Action or Resolution
      - 1) Summary
      - 2) Proposed Change Order Summary
      - 3) Contingency
    - d. Updated Project Schedule progressed through reporting period.
    - e. Status of procurement and delivery of equipment and material on the critical path.
    - f. Project Safety Statistics
      - 1) TRIR - Total Recordable Incident Rate
      - 2) LTIR - Lost Time Incident Rate
      - 3) NMIR - Near Miss Incident Rate
      - 4) Cumulative Project Manhours
  2. The PSR shall include an updated Risk Register, including an analysis of near-term or critical risks.
  3. The PSR shall include updated Change Order Requests, inclusive of City's Notice of Proposed Change and Design-Builder Proposed Change Orders, and the following attachments:
    - a. Executed Change Order Log. The Change Order Log should identify Contingency uses and status of approved and remaining Allowances.
    - b. Updated Submittal Log.
    - c. Updated RFI Log.
    - d. Photographs, including a few key photographs representing work completed during the reporting period
  4. Each PSR shall be submitted to the Owner for review in PDF format. All PDF layouts and reports for PSRs shall be as agreed upon by the Parties.

#### **1.14 OTHER ADMINISTRATIVE REQUIREMENTS**

- A. Staff Names: Within 21 calendar days of starting construction operations, submit a list of Key Personnel other personnel in attendance at the Site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers,

including mobile and office telephone numbers as well as primary vehicle make/model/license plates. Provide names, addresses, and telephone numbers of individuals assigned as standbys in the absence of individuals assigned to Project.

5. Post copies of list in Project meeting room; document management system; in Design-Builder's temporary field offices; provide to Owner's staff and make available at the Site during work hours.
6. Design-Builder shall provide updated list within one week of any changes.

## **PART 2 PRODUCTS**

Not Used.

## **PART 3 EXECUTION**

### **3.01 MEETINGS**

- A. Preconstruction Conference:
  1. Design-Builder will schedule the preconstruction conference to occur before the start of general construction and hold the conference at the Site or another location convenient to the Parties.
    - a. Attendees: Authorized representatives of Owner, Design-Builder Key Personnel, major Subcontractors and others as appropriate shall attend the conference.
    - b. Agenda: Discuss items of significance that could affect progress, including the following:
      - 1) Owner and Design-Builder's team member contacts, roles, responsibilities, and communication requirements.
      - 2) Schedules and Milestones.
      - 3) Design-Builder work zone and office trailer locations.
      - 4) Procedures: Includes change management, document controls, schedule management, submittals management, and RFIs.
      - 5) Project Record Document requirements.
      - 6) Lockout/tagout procedures and requirements.
      - 7) Use of the Site.
      - 8) Responsibility for temporary facilities and controls
      - 9) Standard vehicle traffic onsite.
      - 10) Parking availability.
      - 11) Equipment deliveries and priorities.
      - 12) Site safety requirements (safety vests, OSHA) and first aid.
      - 13) Site security and access procedures.
      - 14) Progress cleaning.
      - 15) Meetings.
      - 16) Work hours.
      - 17) Quality control.
    - c. Minutes: Design-Builder shall record minutes and distribute electronic copies within seven calendar days after the meeting to participants.

- B. Monthly Executive Meetings:
1. Design-Builder will schedule and administer formal executive meetings throughout progress of the Work at maximum monthly intervals with the first meeting scheduled approximately 30 calendar days after the preconstruction conference. Executive meetings will be held to resolve any outstanding issues and to provide the Owner with an opportunity to discuss with executive staff any concerns they see with the Project and reporting
  2. Attendance Required: Owner representatives, Design-Builder's Project Manager, and Design-Builder's Construction Manager (if different than the Project Manager).
  3. Agenda shall be open to facilitate the exchange of pertinent information and discussion.
  4. Minutes: Design-Builder will record changes for update and distribute electronic copies within seven calendar days after meeting to participants.
- C. Weekly Construction Progress Meetings:
1. Upon start of construction, Design-Builder will schedule and administer meetings throughout progress of the Work at maximum weekly intervals.
  2. Design-Builder will make arrangements for meetings, prepare agenda with copies for participants, and preside at meetings.
  3. Attendance Required: Owner representatives, Design-Builder's Project Manager, Design-Builder's Construction Manager (if different than the Project Manager), Commissioning Manager as appropriate to agenda topics for each meeting.
  4. Agenda:
    - a. Review of Work progress.
    - b. Field observations, problems, and decisions.
    - c. Identification of problems delaying planned progress, hazards and risks.
    - d. Site safety.
    - e. Review of critical submittals.
    - f. Review of critical RFIs, change documents, issues and action items.
    - g. Review of upcoming tie-ins or shut-downs within 3-week window.
    - h. Review of offsite fabrication and delivery schedules.
    - i. Maintenance of Phase 2 Project Schedule.
    - j. Corrective measures to regain projected schedules.
    - k. Review 3-Week-Look-Ahead Schedule and planned progress during succeeding work period.
    - l. Schedule update, if required
    - m. Coordination of projected progress.
    - n. Maintenance of quality and work standards.
    - o. Effect of proposed changes on Phase 2 Project Schedule and coordination.
    - p. Other business relating to Work.
  5. Design-Builder will record minutes and distribute electronic copies within one day after meeting to participants.
- D. Pre-Installation Meetings:
1. Design-Builder when required by the Agreement or as requested by Owner, will convene pre-installation meetings at the Site before commencing applicable Work.

2. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Owner of scheduled meeting dates seven calendar days prior to the meeting.
  3. Do not proceed with installation if the issues raised during the conference are not successfully agreed on by the Parties. Initiate whatever actions are necessary to resolve impediments to those issues and reconvene the conference at earliest feasible date.
- E. Expedited Submittal Review Meetings: To expedite the Submittal process and accelerate the delivery schedule for equipment with long delivery lead times, expedited Submittal review meetings may be held for equipment identified by the Design-Builder. Design-Builder shall identify such meetings on the Project Schedule and coordinate the meetings with Owner as needed.
- F. Other Meetings:
1. Operation & Maintenance Workshop(s):
    - a. *[To be determined during Phase 1 Services prior to GMP Proposal].*
  2. Commissioning meetings as required in Section OR-01757 – Commissioning and Training.

### 3.02 SCHEDULE UPDATES

- A. Prepare each update using most recent accepted version of the Project Schedule, including:
1. Actual start dates of activities that have been started.
  2. Actual finish dates of activities that have been completed.
  3. Percentage of completion of activities that have been started but not finished.
  4. Actual dates on which milestones were achieved.
  5. Update activities by inputting percent complete figures with actual dates.
  6. When necessary, input remaining durations for activities whose finish dates cannot be calculated accurately with a percent complete figure only.
  7. Revisions to the Project Schedule may be included that have been previously approved by Owner.
- B. Submit written narrative report in conjunction with each Project Schedule update to describe:
1. Activities added to or deleted from the Project Schedule. Identify added activities in manner distinctly different from original activity designations.
  2. Changes in sequence or estimated duration of activities.
  3. “Out of Sequence” analysis as specified above.
  4. Current or anticipated problems and delays affecting progress, impact of these problems or delays and measures taken to mitigate impact.
  5. Assumptions made and activities affected by incorporating Change Order Work into the Project Schedule.
  6. Critical path.



### **3.03 REVIEW AND ACCEPTANCE OF SCHEDULES**

- A. Owner will review Phase 2 Project Schedule, Project Schedule updates and revisions, and Time Impact Analysis to ascertain compliance with specified Project constraints, reasonableness of durations and sequence, accurate inter-relationships and completeness.
- B. Written comments on review of Project Schedule updates and revisions and Time Impact Analysis will be returned to Design-Builder within 14 calendar days after receipt by Owner.
- C. Revise and resubmit schedule in accordance with Owner's comments within 14 calendar days after receipt of such comments or request joint meeting to resolve objections.

### **3.02 PHOTOGRAPHIC AND VIDEO DOCUMENTATION**

- A. Design-Builder will provide preconstruction video and construction photography to view and record construction throughout the duration of the Project, until Completion.
- D. Photograph and Video Submittals:
  - 1. Preconstruction Photographs: Submit, prior to start of construction, for Owner review and approval photographs of Site and haul routes. Construction may not begin in any area until the preconstruction photographs have been submitted and approved by Owner.
  - 2. Preconstruction Video: Submit, prior to start of construction, for Owner review and approval video of Site and haul routes. Construction may not begin in any area until the preconstruction videos have been submitted and approved by Owner.
  - 3. Construction Progress Photographs: Electronically store construction progress photographs at mutually acceptable location. Indicate which photos will be utilized in final deliverables in accordance with Section OR-01770 - Closeout Procedures.
  - 4. Post-Construction Photographs: Submit for Owner review and approval.
  - 5. Photograph and video files shall be electronically stored in mutually accessible location, organized in manner approved by Owner, and stored within one month from date taken.
- E. Photograph and Video Quality:
  - 1. General: Photographs and video shall be clear and sufficient to show significant detail. They shall not be blurred, taken in shadow, or too distant.
  - 2. Photographic images shall be captured in digital format, with a minimum of 12-megapixel resolution, using minimal JPG compression.
  - 3. Each photograph shall include a date / time stamp in the image, showing when the image was created.
  - 4. All video recordings shall be captured in Hi-Definition digital.
- F. Digital File Metadata Requirements: Digital files for photographs and videos shall, at a minimum, contain the following metadata:
  - 1. File Name.

2. Date and Time Taken.
  3. GPS location.
  4. All other metadata inherently provided by the camera or video equipment.
- G. Prior to Photographic and Video Documentation:
1. Mark Utilities: During potholing activities, Design-Builder shall have Utilities marked and take photographs of marked utilities.
  2. Coordinate with Owner: For any Work that requires a representative of the Owner to be present, Design-Builder shall provide Owner prior written notice within reasonable amount of time.
- H. Preconstruction Video:
1. Design-Builder shall prepare a color video recording with audio of all the areas to be affected by construction. All preconstruction video recordings shall have sufficient detail to reveal the condition (including defects and damage) of all existing features, such as pavement, driveways, culverts, inlets, sidewalks, landscaping, vegetation, river banks, trees, structures, foundations, electrical equipment, power lines, railroad, flood protection, existing unit processes, interior of existing water services buildings, buried valves, and other such items in the construction area, and in the immediate adjacent areas, which might be affected by the construction operations. In addition, videographer shall move beyond the construction zone as needed to insure documentation of features and areas that may not be adequately recorded. Preconstruction videos shall view along the edges of the construction area and with the affected areas.
  2. All preconstruction video recording shall be done with a representative of the Owner present.
  3. Design-Builder shall document all pre-existing conditions/elements of the Site as listed for the preconstruction photographs.
  4. The video documentation shall provide a clear and continuous view of the Project areas showing all visible Utilities and features within the limits of construction.
  5. To preclude the possibility of tampering or editing in any manner, all video recordings shall, by electronic means, generate and display continuously and simultaneously on the screen digital information to include the date and time of recording. The time information shall consist of hours, minutes and seconds, separated by colons (i.e., 10:35:18).
  6. The audio video recording shall consist of one video and one audio track which shall be recorded simultaneously. All tracks shall consist of original live recordings and thus shall not be copies of other audio and video recordings.
  7. Recordings may be broken up by area or building.
  8. The audio track shall contain the narrative commentary. Ample descriptive narrative shall be recorded simultaneously during all recordings. Narration shall include clearly audible comments that will deliver, direction of view and rotation, construction zone, and other location information.
  9. Rotations of 360-degrees shall typically be made at the beginning and end of each video segment.

10. The rate of speed in the general direction of travel of the conveyance used during recording shall be controlled to provide a usable image. On average, the rate of forward travel during videotaping shall be no faster than walking speed. Design-BUILDER shall not utilize motorized equipment to move during the video recording.
  11. Panning rates and zoom-in, zoom-out rates shall be controlled sufficiently such that playback will produce clarity of the object viewed.
  12. Video shall zoom in and out frequently to give details of existing equipment and structures and their relative locations.
  13. All recording shall be done during times of good visibility. No recording shall be done during periods of visible precipitation, unless otherwise authorized by Owner.
- I. Preconstruction Photographs:
1. The principle reason for obtaining photographs is to clearly document existing conditions at facilities before the Design-BUILDER begins its activities.
  2. Preconstruction photographs shall be taken at sufficient intervals to be able to carefully document the preconstruction conditions of the Work inside and outside.
  3. Overlapping composition techniques shall be employed to insure maximum photographic coverage as well as panoramic technical to see a full structure or area.
  4. Preconstruction photographs shall be taken after the Utility locations have been marked.
  5. Preconstruction photographs shall be taken with a representative of the Owner present.
  6. All preconstruction photographs shall have sufficient detail to reveal the condition (including defects and damage) of all existing features, such as pavement, driveways, culverts, inlets, sidewalks, landscaping, vegetation, creek banks, trees, structures, foundations, electrical equipment, power lines, railroad, flood protection, existing unit processes, equipment, building columns, roofing systems, facades, electrical equipment, interior of existing buildings, buried valves, and other such items along the construction route, and in the immediate adjacent areas, which might be affected by the construction operations.
  7. At a minimum, preconstruction photographs shall be taken of the following views:
    - a. As much of the construction zone as possible including staging areas.
    - b. Along all roadways– all pre-existing curb damage not called for replacement within the Work and shall include major cracks.
    - c. All driveways, steps, and curbs, architectural features, and curb ramps (both sides of road).
    - d. Fence and gate conditions.
    - e. Other privately or publicly owned features or facilities that might be disturbed by the construction.
    - f. All in-service assets and out-of-service assets to be removed.
    - g. Views of the areas around the construction area with an emphasis on nearby property. Include any rail lines.
    - h. Views of structures and buildings, both inside and adjacent to the Site and easements in areas where Design-BUILDER will be working within five feet of any structure.

- i. Prominent Utility features, such as: guy wires, poles, signs, valves, fire hydrants, meters, high voltage lines, pull boxes, etc.
  - j. Potomac River and riverbanks within the limits of construction.
  - k. At the discretion of the Design-Builder, photograph offsite roadways that will be subjected to heavy usage such as for delivery of heavy components or equipment. Other significant or prominent features to protect the Parties following construction (e.g. close-up photographs of pre-existing broken curbs, cracked/failed pavement, damaged adjacent retaining walls, etc.).
  - l. Existing Facilities and equipment including building envelopes, roofs, power equipment, valves, security equipment, gates, handrails, grating, lighting, major unit processes, control equipment, and radios that may be safely documented will equipment is in service.
  - m. Views of structures, both inside and adjacent to the ROW/easement in areas where Design-Builder will be working within five feet of any structure.
  - n. Other views as requested by the Owner.
- J. Construction Progress Photographs:
- 1. Provide construction progress photographs to depict the progress of the work. The Design-Builder shall be responsible for photographs of the Site to show the existing and general progress of the Work.
  - 2. Construction progress photographs shall include the following:
    - a. Work not yet covered up.
    - b. Any excavation just prior to any backfilling.
    - c. Any core drilling through an existing structure.
    - d. Any unit process after construction activity prior to filling with wastewater or sludge.
    - e. When mechanical, electrical, plumbing or building inspections are scheduled.
    - f. The beginning of installation of major items of equipment.
    - g. After installation of major items of equipment.
    - h. After the installation of any electrical equipment when unpowered but closed when energized.
    - i. Other significant construction activities.
    - j. As directed by Owner.
- K. Post-Construction Photographs:
- 1. Provide post-construction photographs of the Project area that document the final restoration and construction improvements. Post-construction photographs shall show the general condition of the construction zone (recording finished landscape and other restoration, plus construction improvements), and other areas that may have been affected by construction activities. Post-construction photographs shall be taken from, at a minimum, all points indicated on the view location map.
  - 2. Design-Builder may request that unit processes and electrical equipment be photographed earlier that would be difficult or imprudent to photograph after Substantial Completion.

3. Post-construction photographs shall be taken after Final Completion, and before submission of the Application for final payment. Post-construction photographs shall be incorporated into final deliverables as indicated in Section OR-01770 - Closeout Procedures.
4. Post-construction photographs shall be taken with a representative of the Owner present.

END OF SECTION

**SECTION OR-01329**  
**HEALTH AND SAFETY PLAN**

**PART 1    GENERAL**

**1.01    SUMMARY**

- A.    Section includes development and maintenance of a Health and Safety Plan.

**1.02    RELATED SECTIONS AND REFERENCES**

- A.    National Fire Protection Association (NFPA):
  - 1.    70E - Standard for Electrical Safety in the Workplace.
- B.    Occupational Safety and Health Administration (OSHA) Code of Federal Regulations (CFR) Part 1926 Safety and Health Regulations for Construction.
- C.    Occupational Safety and Health Administration (OSHA) Code of Federal Regulations (CFR) Part 1910 Safety and Health Standards.

**1.03    CONSTRUCTION HEALTH AND SAFETY PLAN**

- A.    Design-Builder shall ensure its Health and Safety Plan is maintained with accurate and correct information. Health and Safety Plan shall be updated to address and incorporate Owner-provided review comments.
  - 1.    Design-Builder shall submit updates of Health and Safety Plan within one week after any changes.
  - 2.    Health and Safety Plan shall include as a section or attachment the Design-Builder's plan for addressing Hazardous Materials or Hazardous Environmental Conditions (per Agreement).
- B.    Design-Builder assumes responsibility for health and safety on the Site, including the health and safety of Subcontractors, and other persons on the Site:
  - 1.    Forward available information and reports to the Safety Officer who shall make the necessary recommendations concerning worker health and safety at the Site.
  - 2.    Employ additional health and safety measures specified by the Safety Officer, as necessary, and in accordance with OSHA guidelines.
- C.    Timely transmit to Owner copies of reports and other documents related to accidents or injuries encountered during construction.
- D.    Smoking will be allowed in designated areas as approved by the Owner. However, there is no smoking allowed in buildings or within 50 feet of NFPA classified areas and envelopes. Design-Builder shall provide signage identifying designated smoking areas, and notification when any changes to the designated areas are made. No smoking will be allowed inside the pumps stations once they are closed in, and no smoking will be permitted anywhere on the Site following delivery of chemicals. Design-Builder will be responsible for safe disposal of cigarette butts.

- E. COVID-19 Safety Measures: Contractors shall comply with all current and future Applicable Laws.
  - 1. Design-Builder shall implement, and require its Subcontractors to implement, measures to protect employees, visitors, and anyone else related to the Project or on the Site from COVID-19 and other infectious diseases. These measures shall be included in Design-Builder's Health and Safety Plan. In its implementation of COVID-19-related safety measures, Design-Builder shall be aware of and comply with the following guidance:
    - a. Virginia Department of Health.
    - b. Virginia Occupational Safety and Health
    - c. OSHA, Guidance on Preparing Workplaces for COVID-19 (OSHA 3990-03), <https://www.osha.gov/Publications/OSHA3990.pdf>
    - d. OSHA, COVID-19 Guidance for the Construction Workforce (OSHA 4000-04), <https://www.osha.gov/Publications/OSHA4000.pdf>
    - e. OSHA, COVID-19 - Control and Prevention / Construction Work, <https://www.osha.gov/SLTC/covid-19/construction.html>

#### **1.04 ACCIDENT PREVENTION**

- A. In performance of this Project, the Design-Builder shall provide for protecting the lives and health of employees and other persons; preventing damage to property, materials, supplies and equipment and avoiding work interruptions. For these purposes the Design-Builder shall: provide appropriate safety barricades, signs and signal lights; and ensure that any additional measures the Owner determines to be reasonably necessary for this purpose is taken.
- B. The Design-Builder shall maintain an accurate record of exposure data on all accidents incident to Work performed under this Agreement which results in death, traumatic injury, occupational disease, or damage to property, supplies, materials or equipment. The Design-Builder shall report this data in the manner prescribed by the Owner.
- C. The Owner will notify the Design-Builder of any non-compliance with these requirements and of the corrective action required. This notice when delivered to the Design-Builder or the Design-Builder's representative at the site of the Work shall be deemed sufficient notice of the non-compliance and corrective action required. After receiving notice, the Design-Builder shall immediately take corrective action. The Owner may issue an order stopping all or part of the Work until satisfactory corrective action has been taken. The Design-Builder shall not base any claim or request for equitable adjustment for additional time or money on any stop order issued under these circumstances.
- D. The Design-Builder shall be responsible for its Subcontractors' compliance with this clause

**PART 2    PRODUCTS**

Not Used.

**PART 3    EXECUTION**

Not Used.

END OF SECTION



## SECTION OR-01400

### QUALITY REQUIREMENTS

#### PART 1 GENERAL

##### 1.01 SUMMARY

- A. This Section includes administrative and procedural requirements for products and workmanship and includes the following:
  - 1. Design-Builder's quality control (QC) Program.
  - 2. Quality Management Plan (QMP).
  - 3. Sampling and testing of materials.
  - 4. Material testing and inspection.
  - 5. Owner-directed testing.
  - 6. Special tests and inspections.
  - 7. Quality management personnel.
  - 8. Manufacturer's field services.
  - 9. Documentation control/ quality records.
  - 10. Design-Builder shall refer and incorporate into its QMP and QC Program procedures and requirements documented in *Minimum Requirements for Quality Assurance and Quality Control on Design Build and Public-Private Transportation Act Projects* (Virginia Department of Transportation; July 2018) that are applicable to the Project. The City's will refer to these requirements and documentation in its review and comment on the Design-Builder's QMP.

##### 1.02 SUBMITTALS

- A. Quality Management Plan updates in accordance with this Section.
- B. Qualification Data: For testing agencies specified herein to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.
- C. Independent Testing Firm Reports: After each test, promptly notify the Owner. Provide interpretation of test results. Include the following:
  - 1. Date of issue.
  - 2. Project title and number.
  - 3. Name, address, and telephone number of testing agency.
  - 4. Dates and locations of samples and tests or inspections.
  - 5. Names of individuals making tests and inspections.
  - 6. Description of the Work and test and inspection method.
  - 7. Identification of product and specification section.
  - 8. Type of test or inspection.
  - 9. Complete test or inspection data.
  - 10. Test and inspection results and an interpretation of test results.
  - 11. Ambient conditions at time of sample taking and testing and inspecting.
  - 12. Conformance with Construction Documents.
  - 13. Name and signature of laboratory inspector.

14. Recommendations on retesting and re-inspecting.
- D. Engineer of Record Statement of Special Inspections: Detailed summary of special inspections required to satisfy building code compliance, and certification that Design-Builder will provide advanced notification to Owner's special inspector prior to construction activity so the Owner's special inspector can perform and document inspection.
- E. Daily Quality Control Records: Complete legible copies of quality control daily records that shall be made available to the Owner. These records shall be maintained using the Daily Field Observation Report form provided in Section OR-01320 Project Management and Progress Reporting.
- F. Design-Builder Monthly Quality Report. Furnish a monthly quality report as part of its Project Status Report (PSR). This monthly report shall include as a minimum:
  1. Summary of quality control staff onsite during the month.
  2. Summary of quality control activities during the month.
  3. Detailed summary of all tests performed by category. Include special tests and special inspections.
  4. Trend analysis of quality control test results.
  5. Log of all outstanding unresolved failing tests.
  6. Defects status.
  7. Quality problems and resolutions.

### **1.03 DESIGN-BUILDER'S QUALITY CONTROL (QC) PROGRAM**

- A. Design-Builder's QC Program is the means by which Design-Builder ensures the quality of the Work meets the minimum quality levels required by the Construction Documents and the Agreement. Design-Builder must establish and maintain a QC Program, performing sufficient inspections and tests of all items of Work, including work of its Subcontractors, to ensure conformance with the requirements of the Construction Documents. Design-Builder's quality control measures shall cover all construction operations and must be correlated with the Design-Builder's Project Schedule and 3-Week Look-Ahead Schedules.
- B. Design-Builder's QC Program shall include the inspections and tests required by the Construction Documents and Agreement in addition to any other inspections and tests by Design-Builder necessary to control quality. Design-Builder shall maintain and submit to Owner adequate records of all inspections and tests, and shall submit all test results on forms developed by the Design-Builder.
- C. Design-Builder shall closely inspect all materials upon delivery, and all Work in progress for compliance with the requirements of the Construction Documents and Agreement. Design-Builder shall promptly reject and return all defective materials and rework any substandard portion of the Work without waiting for inspection or rejection by Owner. Design-Builder shall immediately notify the Owner of any Defect upon discovery.

- D. The Design-Builder shall submit the Design-Builder's Phase 2 Quality Management Plan (QMP) before beginning any of the Phase 2 Work other than mobilization tasks to install temporary facilities. The QMP (including the QC Program) shall meet all objectives and requirements specified herein, and must be specific to this Project and the Agreement.
- E. In addition, the Design-Builder shall include activities within the Three Week Look Ahead Schedule.
- F. The Design-Builder shall utilize only suitably qualified, skilled, and trained personnel experienced in the tasks required to complete the Work in accordance with the quality requirements of the Design Documents and Agreement. Should there be no quality basis specifically prescribed for any portion of the Work, the quality and testing procedures shall be in accordance with Good Industry Practice.

#### **1.04 DESIGN-BUILDER'S QC PROGRAM AND QMP REQUIREMENTS**

- A. The QMP, as defined herein, establishes specific minimum staffing, documentation, reporting, and procedural requirements that Design-Builder must implement and maintain throughout Phase 2.
- B. Design-Builder shall establish and maintain a QC Program as described in its QMP for Phase 2.
- C. The QC Program must cover on-site and off-site Work and must be correlated with the Design-Builder's Phase 2 Project Schedule and 3-Week Look-Ahead Schedule.
- D. Owner reserves the right to require changes in the QC Program and operations as necessary to ensure the specified quality of Work.
- E. Design-Builder must notify the Owner, in writing, of any proposed change to the QMP and QC Program, including changes to QC organization or personnel, a minimum of seven calendar days prior to a proposed change. Proposed changes are subject to acceptance by the Owner, not to be unreasonably withheld.
- F. Provide a schedule of tests and inspections. Prepare a schedule of tests, inspections, and similar quality-control services required by the Construction Documents. This Schedule shall 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.
- G. Audits: The QC Program shall provide for regularly scheduled documented audits to verify that QC procedures are being fully implemented by Design-Builder and its Subcontractors. Audit records shall be made available to Owner upon request.
- H. Owner's review and acceptance of the Design-Builder's QMP and QC Program shall not relieve the Design-Builder from any of its obligations for the performance of the Work in accordance with the Agreement.

- I. Design-Builder shall provide Owner a hardcopy of the Owner-approved final QMP and any Owner-approved updates. Design-Builder shall maintain and make available the hardcopy in its field office at all times.

#### **1.05 DESIGN-BUILDER'S QC MANAGER AND QC ORGANIZATION**

- A. The Design-Builder shall provide a QC Manager at the Site to implement and manage the Design-Builder's QC Program, including the coordination, performance, and execution of construction inspection and testing. The QC Manager shall report to the Design-Build Manager and shall have no supervisory or managerial responsibility over the work force.
- B. The QC Manager shall not be absent from the Site for more than two consecutive weeks at a time.
- C. No on-site Work requiring testing shall be performed unless the QC Manager or Alternate QC Manager is at the Site, unless otherwise allowed by the Owner.
- D. The QC Manager's duties include the following:
  1. Be on the Site at all times during performance of Work, with complete authority to take any actions necessary to ensure conformance with the requirements of the Construction Documents. In the event of the QC Manager's absence, the Alternate QC Manager shall be present and have the same authority as the QC Manager.
  2. Implement and manage the QC Program for each definable feature and portion of the Work.
  3. Immediately stop any work that does not comply with requirements of the Construction Documents, and coordinate with the Design-Builder and Owner to discuss corrective measures, if applicable, to be implemented by the Design-Builder.
  4. Ensure that Design-Builder's QC organization, including Subcontractors, is staffed with qualified personnel to perform all required inspections and tests.
  5. Supervise and coordinate the inspections and tests made by the Design-Builder's QC organization, including the tests and inspections of the Work of Subcontractors.
  6. Provide 48-hour notice to Owner of tests and inspections to be conducted. Such notice shall be through the Project management tool and may also be provided during communication at regular Project meetings.
  7. Ensure that all required tests are performed and results are reported, whether by Owner or by the Design-Builder. Indicate whether test results do or do not conform to requirements of the Construction Documents. Submit corrective action plan(s) for Defects.
  8. Recommend removal of any person from the Project that consistently fails to perform Work properly.
  9. Report to Design-Build Manager the identity of any Subcontractor who's Work consistently fails to meet the requirements of the Construction Documents.
  10. Initiate and conduct all QC meetings required herein. Distribute meeting minutes to Design-Builder and Owner within three days of each meeting.
  11. Provide in a timely manner all required QC Manager certifications specified herein.
  12. Certify completion prior to requesting Milestone completion inspections.

13. At the Site, perform daily/weekly/monthly maintenance and updating of the following:
  - a. Testing plan and log.
  - b. Rework items list.
  - c. Review of Project Record Documents, which are maintained by the Design-Builder. Design-Builder shall mark the Project Record Documents in accordance with Section OR-01700 Execution Requirements to show any deviations made from the requirements of the Construction Documents and to indicate the actual materials and equipment incorporated into the Work.
- E. Attend all key Project meetings.
- F. In addition to the Design-Builder's QC Manager, the Design-Builder shall provide other personnel as needed to perform QC functions with the necessary qualifications, authority and organizational freedom to identify quality problems and to initiate and recommend solutions. These personnel shall be on site as requested by the QC Manager to support their activities as often as necessary to remedy any quality issues and verify that the Work is being performed properly. These personnel shall be reflected on the QC organization chart.
- G. At all times during performance of the Work, the Design-Builder's Construction Manager, Superintendents, and foremen shall be fully informed of the Design-Builder's QC Program and QMP. The Design-Builder's Construction Manager, Superintendents and the foreman(s) shall attend the QA/QC Meetings as required herein before beginning work on that portion of the Work.

#### **1.06 DESIGN-BUILDER'S QC PLANS**

- A. On a monthly basis, the Design-Builder shall submit within its 3-Week-Look-Ahead Schedule a listing of anticipated activities in accordance with a format and procedures developed in cooperation with and acceptable to Owner to allow for scheduling of testing services.
- B. Each 3-Week-Look-Ahead Schedule shall include sufficient information to allow Owner to properly schedule and coordinate testing services and other Owner quality assurance activities, including at a minimum mutually agreeable inspection/testing hold points and any special QC requirements for a particular portion of the Work or specialty trade regardless of who will be performing such QC activities.
- C. Should work proceed past an inspection or test hold point prior to witnessing a passing inspection or test, the subsequent work will not be accepted until the previous work prior to the inspection or test hold point has been approved.

#### **1.07 QUALITY CONTROL (QC) MEETINGS**

- A. After submission and acceptance of the Design-Builder's overall QMP (during Phase 1A) and before any portion of the Phase 2 Work begins, except for mobilization activities, the Design-Builder's QC Manager shall call for an initial QC Meeting to develop a mutual understanding of the QC Program requirements for all

on-site and off-site Work, including documentation, administration, and coordination of Design-Builder's management, production and QC personnel.

- B. At this initial meeting, Design-Builder must explain in detail all aspects of its QC program and how quality control will be implemented for each definable area of the Work.
- C. Meeting attendees at this initial QC meeting will be, at a minimum, Owner, Design-Builder's Design-Build Manager, Design Manager, Superintendents, QC Manager, Alternate QC Manager, and representatives from the primary Major Subcontractors.
- D. The QC Manager must conduct the initial QC Meeting, prepare and sign the meeting minutes, and provide copies to each attendee for review and comment within three days after this meeting.
- E. In addition to the Design-Builder's required QC Meetings, Owner may also request QC Meetings and all requested attendees are required to attend, either on-site or remotely. Should such a QC Meeting be called, Owner will conduct these meetings, prepare and sign a record of discussion, and provide copies of this record of discussion to all attendees within three days after the meeting.

#### **1.08 SAMPLING AND TESTING**

- A. General:
  - 1. Testing, inspections and source quality control may occur on or off Site. Perform off-site testing, inspections and source quality control as required by the Construction Documents and Owner.
  - 2. Design-Builder is responsible for inspecting materials and equipment at manufacturing facility to verify quality as required by technical specifications.
  - 3. Where tests will be performed by Owner or by an independent laboratory or agency, the Design-Builder will assist the Owner with obtaining samples of all materials as required by the Owner Representative without a change in the GMP (Phase 2).
  - 4. The sample or samples of materials to be tested shall be selected by such laboratory or agency or Owner, and not by the Design-Builder.
  - 5. No material for which the Construction Documents require a Submittal and approval of tests, certificates of compliance or other documentation shall be incorporated in the Work until such Submittal has been made by Design-Builder and approved by Owner.
- B. Sampling:
  - 1. Furnish specimens of materials when requested.
  - 2. Do not use materials which are required to be tested until testing indicates satisfactory compliance with specified requirements.
  - 3. Specimens of materials will be taken for testing whenever necessary to determine quality of material.
- C. Test Standards:
  - 1. Perform sampling, specimen preparation, and testing of materials in accordance with specified standards, and when no standard is specified.

2. Standards and publication references in Construction Documents shall be edition or revision in effect on date stipulated.

#### **1.09 INSPECTION AND TESTING OF THE WORK**

- A. Where the Construction Documents require work to be field tested or approved, it shall be tested in the presence of Owner Representative or its authorized designee. Owner shall have the right to any shop or factory tests. The results of any tests performed by the Design-Builder shall be made available for the information of Owner and indicate compliance or non-compliance with Construction Documents. Inspections, tests or favorable reviews by Owner or others shall not relieve the Design-Builder from its obligation to perform the work in accordance with the requirements of the Construction Documents or for its sole responsibility for the quality of workmanship and materials.
- B. Except as specifically required under the technical specifications for testing and inspection, all tests for materials furnished by the Design-Builder will be done in accordance with the Agreement and Good Industry Practice.
- C. Design-Builder shall be responsible for all testing services in connection with the following:
  1. Concrete materials and trial batch mixtures.
  2. Masonry units and masonry grout and mortar materials and design mixtures.
  3. Asphaltic concrete materials and design mixtures.
  4. Embedment, fill, and backfill materials.
  5. Pipe welding.
  6. Coatings.
  7. All other tests and engineering data required for Engineer of Record's review of materials proposed to be used in the Work and for confirmation of compliance with Construction Documents.
- D. Independent Testing Firm Requirements:
  1. The Design-Builder shall contract with an independent testing firm, acceptable to the Owner, to:
    - a. Perform quality control testing to demonstrate compliance with specified requirements in the Construction Documents for various work and materials.
    - b. Perform special inspection testing required to be inspected for compliance with the governing codes, including building code special inspection requirements. Owner's representative will inspect the Work to confirm compliance with building code special inspection requirements, but all associated testing is the responsibility of the Design-Builder (via the Independent Testing Firm).
    - c. The firm shall not be a subsidiary of any DB-Related Entity.
    - d. The firm shall have no principal owners who have any ownership or part ownership in any DB-Related Entity.
  2. Prior to start of Work, submit the following:
    - a. Testing laboratory name, address, and telephone number, and names of full-time registered engineer and responsible officer.

3. The Independent Testing Firm will perform and meet the following requirements:
    - a. Use a laboratory authorized to operate in the State.
    - b. Meet "Recommended Requirements for Independent Laboratory Qualification," published by the American Council of Independent Laboratories.
    - c. Meet the requirements of ASTM E329.
    - d. As applicable to the scope of design, the Independent Testing Firm shall be accredited by the American Association of State Highway and Transportation Officials (AASHTO) for the tests they will perform and as appropriate to the construction work being performed.
    - e. Maintain full time registered engineer on staff assigned to the Project to review services.
    - f. Calibrate testing equipment at reasonable intervals with devices of accuracy traceable to National Bureau of Standards (NBS) or accepted values of natural physical constants.
  2. Limits on Testing Firm:
    - a. Agency or laboratory may not release, revoke, alter, or enlarge on requirements of Construction Documents.
    - b. Agency or laboratory may not approve or accept any portion of the Work.
    - c. Agency or laboratory may not assume duties of Design-Builder.
    - d. Agency or laboratory may not stop the Work.
- E. Independent verification testing may be performed by the Owner. The Design-Builder shall provide adequate lighting, ventilation, ladders and other protective facilities as may be necessary for the safe performance of inspections.
- F. The Design-Builder shall notify Owner at least two hours before any inspection is required to be performed or to witness the Design-Builder's on-site field testing.
- G. Whenever the Design-Builder varies the period during which work is carried on each day, the Design-Builder shall give 48 hours' notice to Owner so that proper inspection may be provided.
- H. The Design-Builder shall give Owner written notification at least 30 days prior to the shipment of materials and equipment to be tested and/or inspected at the point of origin. Satisfactory tests and inspections at the point of origin shall not be construed as a final acceptance of the materials and equipment nor shall such tests and inspections preclude retesting or re-inspection at the Site of the Work.
- I. The distribution and number of tests conducted for the materials to be supplied and/or placed shall be located uniformly within and along work areas and within the facility components to be constructed in order to provide a reasonable sampling of work quality in accordance with the Agreement and Good Industry Practice.
- J. All tests which require the services of a laboratory to determine compliance with the Construction Documents shall be performed by the independent testing firm meeting requirements of this Section and the Agreement. The Design-Builder shall notify Owner of the intended laboratory to be used within 10 days prior to engaging the laboratory services. Owner is to notify to the Design-Builder the acceptance or concerns of the laboratory within five days of notification by the Design-Builder.



- K. Retesting or reinspection required because of nonconformance to specified requirements will be performed by same independent testing firm on request by Owner. Payment for retesting or reinspection will be paid for by Design-Builder.
- L. Owner-Verifications Testing:
1. Owner may perform quality assurance, or verification, testing during the performance of the Work.
  2. Where such tests and inspections are required by Agreement to be performed by the Design-Builder, Owner will pay for the additional tests and inspections as part of the specified Allowance Item in the Project Specific Information (Phase 2).
  3. The Owner shall reserve the right to make independent investigations and tests as specified in the following paragraph and failure of any portion of the Work to meet any of the qualitative requirements of the Construction Documents shall be reasonable cause for the Owner to require the removal or correction and reconstruction of any such Work.
  4. In addition to any other inspection or QA provisions that may be specified, Owner shall have the right to independently select, test, and analyze, additional test specimens of any or all of the materials to be used. Results of such tests and analyses shall be considered along with the tests or analyses made by Design-Builder to determine compliance with the applicable specifications for the materials so tested or analyzed provided that wherever any portion of the Work is discovered, as a result of such independent testing or investigation by Owner, which fails to meet the requirements of the Construction Documents, be borne by Design-Builder.
- M. Coordination of Other Inspections:
1. The Design-Builder shall schedule all Owner and any other agency inspections in accordance with Owner and agency requirements, as applicable. The Design-Builder shall notify the Owner of all building and other Work component inspection notices and schedules. Failure of the Design-Builder to coordinate and schedule these inspections shall not be cause for any Claim. All correspondence with or other inspection agencies shall be copied to Owner.
- N. Special Tests and Inspections:
1. As provided for in the Construction Documents, laws and regulations, specialized tests shall be performed by Design-Builder and inspections shall be performed by Owner's special inspectors certified by the International Code Council (ICC) or with other required certifications.
- O. Inspections and Tests by Serving Manufacturers:
1. Unless otherwise indicated in the Construction Documents, the Design-Builder shall cause all required tests and inspections to be conducted by materials, equipment or systems manufacturers. Additionally, all tests and inspections required by materials, equipment or systems manufacturers as conditions of warranty or certification of Work shall be made, the cost of which shall be included in the Cost of the Work.

- P. Water for Testing:
1. The conveyance of water for Work in this Section shall be the responsibility of the Design-Builder and shall be at the Design-Builder's expense. The Design-Builder shall submit a written summary of water needs for testing including a description, volume, location and duration of use to the Owner for approval within 10 days of need. Owner shall provide approval of the type of water, locations where connections may be made and the backflow protection, if required, within five days of notification by the Design-Builder.

#### **1.10 MANUFACTURER'S FIELD SERVICES**

- A. Field services to be provided by Manufacturer are described in Section 01757 - Commissioning and Training.
- B. Manufacturer's representative must be an authorized representative of the manufacturer, factory trained, and experienced in the technical applications, installation, operation, and maintenance of respective equipment, subsystems, or system, with full authority by the equipment manufacturer to issue the certifications required of the manufacturer.

#### **1.11 DOCUMENTATION CONTROL/QUALITY RECORDS**

- A. Design-Builder shall establish methods for control and distribution of Construction Documents and supplemental information to Subcontractors at which are the most current drawings, specifications and information to construct and complete the Work. This would include any clarifications, RFI responses, Submittal responses, Directive Letters, and Change Orders. Design-Builder shall also check to be sure that working foreman have the most current information for the work under their supervision.
- B. Design-Builder shall maintain evidence of activities affecting quality, including operating logs, records of inspections and tests, audit reports, material analyses, personnel qualification and certification records, procedures, and document review records.
- C. Quality records shall be maintained electronically in mutually accessible location to provide for timely retrieval, and traceability. Quality records shall be protected from deterioration, damage, or destruction.
- D. Source and Field Testing/Sampling Log: The Design-Builder's QC staff shall create and continuously maintain the Source and Field Testing/Sampling Log. It shall contain a detailed log, in tabular format, indicating the characteristic or quality to be tested or sampled, the test method followed, the frequency, the sample or test location, and the designation of responsibility.
- E. The Design-Builder's QC Manager shall maintain a dedicated set of records that indicate the date, location and test number of the specific field test performed during the progress of the Work. Location information shall include both horizontal and vertical references as applicable. Records of retests shall identify the original location and test number of the failed test being repeated.

- F. To the extent that field testing and sampling is conducted by the Owner, the QC Manager shall assist in documenting test and sample locations and numbers in cooperation with Owner. QC Manager shall ensure all required testing and sampling is performed and documented.
- G. QC Reporting and Certifications: The following Quality Control Report and Certifications shall be furnished by the Design-Builder to Owner.
1. QC Manager's QC Report and Certification:
    - a. QC Manager shall provide a QC Report that includes the following Certification statement signed by the QC Manager or Alternate QC Manager:

*"On behalf of Design-Builder, I certify that this report is complete and correct, that equipment and material used, and Work performed during this reporting period are in compliance with the requirements of the Agreement to the best of my knowledge, except as noted in this Report."*

Certified by QC Manager\_\_\_\_\_ Date\_\_\_\_\_  
(Signature)

- b. The QC Report is intended to be a vehicle for good communication and record keeping.
    - c. The QC Report shall include summary information defined by the QC Manager and Owner through mutual agreement.
    - d. The QC Report shall be issued by the QC Manager in a mutually agreeable format in accordance with Section OR-01320 Project Management and Progress Reporting, and more frequently if deemed necessary by both the QC Manager and Owner.
  2. QC Manager's Substantial Completion Certification:
    - a. Prior to requesting Substantial Completion inspection for any part of the Work, the QC Manager must furnish the following Substantial Completion Certification to Owner:

*"To the best of my knowledge the portion of the Work as described herein has been completed, inspected, tested and is in full compliance with the requirements of the Agreement except for the minor corrective items (punch list items) listed in the attached Corrective Items List."*

Certified by QC Manager\_\_\_\_\_ Date\_\_\_\_\_  
(Signature)

3. QC Manager's Record Document Certification:
  - a. Accompanying submission of the Record Documents, and prior to requesting Final Payment, the QC Manager must furnish the following Certification to Owner:

*"To the best of my knowledge the attached Project Record Documents for (Contract Name and Number) were prepared in accordance with the requirements of the Agreement, are accurate and complete, and may be relied on by the Owner to locate installed Work."*

**Certified by QC Manager** \_\_\_\_\_ **Date** \_\_\_\_\_  
(Signature)

**END OF SECTION**

## **SECTION OR-01500**

### **TEMPORARY FACILITIES AND CONTROLS**

#### **PART 1 GENERAL**

##### **1.01 SUMMARY**

- A. Section includes:
  - 1. Furnishing, maintaining, and removing construction facilities and temporary controls, including temporary utilities, construction aids, barriers and enclosures, security, access roads, temporary controls including erosion control, project sign, field offices and sheds, traffic control and removal after construction.

##### **1.02 REFERENCES**

- A. American National Standards Institute (ANSI).
- B. Occupational Safety and Health Administration (OSHA).
- C. Manual on Uniform Traffic Control Devices (MUTCD) for Streets and Highways 1988 Edition, and its most current revisions.
- D. Virginia Occupational Safety and Health (VOSH).

##### **1.03 SUBMITTALS**

- A. General: For products specified to be furnished under this Section, submit product data as specified in the Submittal Requirements.
- B. Traffic and Pedestrian Control Plan shall be submitted in accordance with the Submittal Requirements and as required by the City of Alexandria and regulatory authorities having jurisdiction.
  - 1. Traffic and Pedestrian Control Plan shall identify Design-Builder's planned routes within the Site.
  - 2. Include plan if Design-Builder needs to limit traffic at any point during construction.
    - a. Indicate proposed alternate routes available for Owner's and Design-Builder's staff to use, duration alternate route is needed, communication plan for informing the Owner and Site workers of new route.
  - 3. Design-Builder shall keep Traffic and Pedestrian Control Plan up-to-date and re-issue within two weeks before implementing planned changes.
- C. Stormwater Pollution Prevention Plan (SWPPP) shall be submitted as required by the City of Alexandria and regulatory authorities having jurisdiction.

## 1.04 TEMPORARY UTILITIES

- A. Temporary electrical power:
  - 1. Design-Builder shall provide temporary power from source as required to support performance of the Work.
  - 2. Design-Builder shall identify acceptable locations for temporary power and provide all breakers, switches, transformers, and cables required to obtain temporary power from these location(s).
  - 3. Provide and maintain adequate temporary power distribution facilities conforming to Applicable Laws.
- B. Temporary electrical lighting:
  - 1. In work areas, provide temporary lighting sufficient to maintain lighting levels during working hours.
    - a. Provide lighting for construction operations to achieve minimum lighting.
  - 2. When available, permanent lighting facilities may be used in lieu of temporary facilities.
- C. Temporary heating, cooling, and ventilating:
  - 1. Provide heating and ventilate work areas as needed to protect the Work from damage by freezing, high temperatures, weather, and to provide safe environment for workers.
  - 2. Permanent heating system may be utilized when sufficiently completed to allow safe operation.
  - 3. Ventilate enclosed areas to achieve curing of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.
- D. Internet service:
  - 1. Design-Builder shall provide and maintain for high-speed internet service with WIFI capability to field offices and Owner's field offices at time of Project mobilization.
  - 2. The Owner will provide, support, and maintain a firewall of their choosing for use for the duration of the Project. Design-Builder shall provide three lock boxes securely mounted on the wall of the service room for secure storage of each firewall. Each lock box shall be a metal wall mount cube.
    - a.
- E. Temporary water service:
  - 1. Design-Builder shall provide potable water for its work force and Subcontractors at the Site.
  - 2. Potable water service shall be provided by Design-Builder to service all field trailer located at the Site. Provide continuous and adequate potable water service that are in compliance with Applicable Laws.
  - 3. Design-Builder shall provide bottled water service at each field office.
  - 4. Provide service and facilities at time of Project mobilization.
- F. Temporary sanitary facilities:
  - 1. Provide suitable and adequate sanitary facilities that are in compliance with Applicable Laws.
  - 2. Provide sanitary service to field trailers located at the Site.

3. At Completion of the Work, remove sanitary facilities and service and leave Site in neat and sanitary condition.
  4. Provide service and facilities at time of Project mobilization.
- G. Temporary fire protection: Provide sufficient number of fire extinguishers of type and capacity required to protect the Work and ancillary facilities.
- H. First aid: Post first aid facilities and information posters conforming to requirements of OSHA and other Applicable Laws in readily accessible locations.

#### **1.05 CONSTRUCTION AIDS**

- A. To be provided in accordance with Design-Builder's Health and Safety Plan, Construction Site Management Plan, Traffic Control and Pedestrian Plan, and as required by Applicable Laws.
- B. Accident prevention:
1. Guard machinery and equipment, and eliminate other hazards.
  2. Before commencing Construction Work, take necessary action to comply with provisions for safety and accident prevention.
- C. Barricades:
1. Place barriers at ends of excavations and along excavations to warn pedestrian and vehicular traffic of excavations.
  2. Provide barriers with flashing lights after dark.
  3. Keep barriers in place until excavations are entirely backfilled and compacted.
- D. Hazards in public right-of-way:
1. Mark at reasonable intervals, trenches and other continuous excavations in public right-of-way, running parallel to general flow of traffic, with traffic cones, barricades, or other suitable visual markers during daylight hours.
    - a. During hours of darkness, provide markers with torches, flashers, or other adequate lights.
  2. At intersections or for pits and similar excavations, where traffic may reasonably be expected to approach head on, protect excavations by continuous barricades.
    - a. During hours of darkness, provide warning lights at close intervals.
- E. Hazards in protected areas: Mark or guard excavations in areas from which public is excluded, in manner appropriate for hazard.
- F. The Design-Builder shall preserve and protect all structures, equipment, and vegetation (such as trees, shrubs and grass) on, or adjacent to the work site, which do not unreasonably interfere with the Work required under this Agreement. The Design-Builder shall remove trees only when specifically authorized to do so by the Owner, and shall avoid damaging remaining vegetation.
- G. The Design-Builder shall protect from damage all existing improvements and utilities (1) at or near the work site, and (2) on the adjacent property of a third party, the locations of which are made known to or should be known by the Design-Builder.

- H. The Design-Builder shall repair any damage to those facilities, including property of a third party, which are the result of a failure to comply with the requirements of this Agreement, or a failure to exercise reasonable care in performing the Work. If the Design-Builder fails or refuses to repair the damage promptly, the Owner may have the necessary work performed, and charge the cost to the Design-Builder.
- I. Fences:
  - 1. Design-Builder is responsible for security of Project temporary offices and storage areas. As such, Design-Builder shall provide fences as necessary to protect temporary facilities against acts of theft, violence, and vandalism.
    - a. Unless otherwise approved by Owner, security fencing shall be black vinyl mini mesh (1-inch openings), 8 feet tall with triple barbed wire with Owner-approved wrap and screening.
  - 2. When entire or part of Site is to be permanently fenced, permanent fence may be built to serve for both permanent and temporary protection of the Work site, provided that damaged or defaced fencing is replaced prior to Completion.
  - 3. Protect temporary and permanent openings and close openings in existing fences to prevent intrusion by unauthorized persons. Protect plant and material on Site when openings in existing fences are not closed.
  - 4. During night hours, weekends, holidays, and other times when no Work is performed at the Site, provide temporary closures or enlist services of security guards to protect temporary openings.
  - 5. Fence temporary openings when openings are no longer necessary.

#### **1.06 SECURITY**

- A. Make adequate provision for protection of the Work area against fire, theft, and vandalism, and for protection of public against exposure to injury.

#### **1.07 ACCESS ROADS**

- A. General:
  - 1. Build and maintain access roads to and on site of the Work to provide for delivery of material and for access to existing and operating plant facilities on the Site.
  - 2. Build and maintain dust free roads which are suitable for travel at speed established by Owner.
- B. Off-site access roads:
  - 1. Build roads only in public right-of-way or easements obtained by Owner.
  - 2. Obtain rights-of-way or easements when electing to build along other alignments.
- C. On-site access roads:
  - 1. Protect buried vulnerable Utilities under temporary roads.
  - 2. Maintain on-site access roads free of mud.
    - a. Under no circumstances shall vehicles leaving the site track mud off the Site onto the public right-of-way.
  - 3. Provide unimpeded access for emergency vehicles. Maintain 20-ft wide driveways with turning space between and around combustible materials.



4. Provide and maintain access to fire hydrants and control valves free of obstructions.

## **1.08 TEMPORARY CONTROLS**

- A. Dust control:
  1. Prevent dust nuisance caused by operations, unpaved roads, excavation, backfilling, demolition, or other activities.
  2. Control dust by sprinkling with water, use of dust palliatives, modification of operations, or other means acceptable to agencies having jurisdiction.
- B. Noise control:
  1. In inhabited areas, particularly residential, perform operations in manner to minimize noise.
  2. In residential areas, take special measures to suppress noise during night hours.
  3. Make every effort to minimize noise caused by their operations. Equipment shall be equipped with silencers or mufflers designed to operate in compliance with local, State and federal regulations.
  4. Comply with all Applicable Laws regarding noise control.
- C. Pollution control:
  1. Provide methods, means, and facilities to prevent contamination of soil, groundwater, surface water, and atmosphere from discharge of pollutants, contaminants, hazardous substances, fuel and other hydrocarbon leaks from construction related storage tanks and containers.
  2. Comply with all Applicable Laws regarding protection of the environment, including obtaining any applicable Governmental Approvals and developing any required management plans in accordance with the Agreement and Construction Documents.
  3. Notify Owner immediately in the event that wastewater or any other pollutants are discharged to the environment while conducting activities associated with the Work.
  4. Notify Owner immediately in the event that hazardous or non-hazardous substances are discharged to the environment while conducting activities associated with the Work.
  5. Notify Owner immediately in the event of discharges to the on-site storm sewer and/or sanitary sewer.
  6. Should Design-Builder encounter material reasonably believed to be toxic wastes and hazardous materials (as defined by the Virginia Department of Environmental Quality), which have not been rendered harmless at the Site, the Design-Builder shall immediately stop work at the affected Site and shall report the condition to the Owner in writing. The Owner shall contract for any services required to directly remove and/or abate toxic wastes and hazardous materials, if required by the Site(s), and shall not require the Design-Builder to subcontract for such services. The Work in the affected area shall not thereafter be resumed except by written agreement of the Owner and Design-Builder.

## **1.09 PROJECT SIGNS**

- A. Design-Builder shall provide all material, labor and equipment necessary for the fabrication, printing, and installation of Project identification signs.
- B. Placard Requirements:
  - 1. Size: 6 feet wide by 4 feet tall.
  - 2. Material: Coroplast® corrugated plastic sheeting or approved equal.
  - 3. Sheeting Thickness: 10 mm (approximately one-half (3/8) inch thickness).
  - 4. Sheeting Color: White.
  - 5. Print Method: Direct to Coroplast® with outdoor UV laminate coating.
- C. Frame shall be metal.
- D. Approved project sign(s) shall be erected not less than two days before the start of construction activities. No construction activities shall be performed until the Project signs are erected. Project signs shall remain in place for the duration of the Project and shall be maintained true, plumb, and in neat condition.
- E. Removal of Project Signs:
  - 1. All Project signs shall be maintained for 30 calendar days after Completion of the Work, or as otherwise directed by the Owner.
  - 2. Design-Builder shall remove all Project signs and restore the area disturbed by construction activities in accordance with Section OR-01770 Closeout Procedures.

## **1.10 DESIGN-BUILDER'S AND OWNER'S FIELD OFFICES AND TRAILERS**

- A. Design-Builder shall provide all required field offices and trailers.
- B. Field offices shall be weather-tight, equipped with lighting, electrical outlets, heating, cooling and ventilating equipment, sturdy furniture, drawing rack, and drawing display table. Field office shall have running water and restroom facilities.
- C. Design-Builder's office shall be separate and independent from Owner's offices. Owner's office trailer shall be for sole use of Owner and Owner's Advisor.
- D. Provide space for Project meetings in Design-Builder's trailer, including table and chairs to accommodate 10 persons.
- E. Locate offices as approved by Owner.
- F. Provide temporary utilities, power, water, and sanitary service for all trailers.
- G. Maintain trailers until Final Acceptance, or as agreed upon by Owner.
- H. Provide security lighting for Owner's parking area and entrances to Owner's field offices
- I. Provide security system or service for Owner's and Design-Builder's field offices.

- J. Construction: Portable or mobile buildings, or buildings constructed with floors raised above ground, securely fixed to foundations with steps and landings at entrance doors. Structurally sound, secure, weather tight enclosures for office and storage spaces.
  - 1. Temperature transmission resistance of floors, walls, and ceilings:
  - 2. Compatible with occupancy and storage requirements.
  - 3. Exterior Materials: Weather-resistant and finished in one color acceptable to Owner.
  - 4. Interior Materials in Offices: Sheet-type materials for walls and ceilings, pre-finished or painted; resilient floors and bases. Interior walls shall be insulated for noise attenuation.
  - 5. Lighting for Offices and Restrooms: 50 foot C (538 lx) at desktop height.
  - 6. Exterior lighting at entrances.
  - 7. Fire Extinguishers: Appropriate type fire extinguishers as required throughout facility.
- K. Environmental Control:
  - 1. Heating, Cooling, and Ventilating for Offices:
    - a. Automatic equipment to maintain comfort conditions. 68 degrees F (20 degrees C) heating and 76 degrees F (23 degrees C) cooling.
    - b. HVAC system shall be distributed and balanced.
  - 2. Storage Spaces:
    - a. Heating and ventilation as needed to maintain products in accordance with Construction Documents.
    - b. Lighting for maintenance and inspection of products.
- L. Design-Builder's field office:
  - 1. Design-Builder shall provide a temporary trailer for field office for Design-Builder's team and Subcontractors.
    - a. Design-Builder shall provide parking for its staff and the workforce as needed at an Owner-approved location on the Site.
      - 1) If required to accommodate workforce parking in excess of areas available at the Site, off-site parking shall be arranged and paid by Design-Builder.
    - b. Design-Builder shall be responsible to provide Utility connections for trailer. Design-Builder will pay for Utilities brought to field office from connection with utility service provider. Design-Builder is not responsible for any improvements to Utility Owner's facilities outside of the Site boundaries.
  - 2. Meetings requiring Owner and Design-Builder shall be conducted in Design-Builder's trailer.
    - a. Provide space for Project meetings in Design-Builder's trailer, including table and chairs to accommodate 10 persons.
    - b. See Section OR-01320 Project Management and Progress Reporting for more information about meetings.
  - 3. Maintain on the Site weathertight space in which to keep copies of Contract Documents, progress schedule, shop drawings, and other relevant documents.
  - 4. Provide field office with adequate space to examine documents, and provide lighting and telephone service in that space.

- M. Owner's office trailers with specified equipment installed:
1. Trailer:
    - a. Newly leased by Design-Builder.
    - b. Construction and Furnishing Details:
      - 1) Provide new locks and 5 keys.
      - 2) Provide wood stairs/handrails to access each entrance.
      - 3) Landings minimum 5 feet by 5 feet for each entrance.
      - 4) Decking and roof.
      - 5) Skirting for under pinning of trailers.
      - 6) One first aid kit.
      - 7) Two 10-pound fire extinguishers mounted on trailer walls.
      - 8) One 3-foot by 5-foot entryway/inside door mats for each entry.
      - 9) Floor Coverings:
        - a) Tile or laminate floor coverings.
      - 10) Windows:
        - a) With operable sash, insect screens, and blinds.
        - b) Locate to provide views of construction area.
      - 11) Electrical Distribution Panel:
        - a) Wired to support all equipment listed in this specification, plus one computer at each workstation.
        - b) Service: To be determined by Design-Builder as needed for facilities.
      - 12) Electrical Outlets:
        - a) 110-volt duplex convenience outlets, one on each wall of each room; and sufficient number in the open work area to accommodate workstations.
        - b) Provide outlets appropriate for all electrical appliances and office equipment specified.
      - c. Layout will be approved by Owner.
    2. Four walled offices, each measuring approximately 10 feet by 10 feet containing:
      - a. Two five-shelf bookshelves approximately 3 feet wide by 6 feet tall.
      - b. Two standard four-drawer legal-sized metal filing cabinets with locks and two keys for each lock.
      - c. One desk, one approximately 72 inches by 36 inches with three drawers, and one 48" by 24" computer return with 2 file drawers and a retractable keyboard tray.
      - d. One swivel arm chair (adjustable and fully padded).
      - e. Internet connection (via WIFI).
      - f. Two straight chairs, fully padded.
      - g. One 3-foot by 5-foot dry erase board.
      - h. One waste basket.
    3. Common Use Facilities:
      - a. Kitchen Area Containing:
        - 1) Minimum 20-cubic foot refrigerator with ice maker.
        - 2) Microwave.
        - 3) Sink with hot and cold running water.
        - 4) Garbage disposal and electrical outlet.
        - 5) 8-cup plumbed coffee maker.
        - 6) Approximately 18 square feet of counter space over base cabinets.

- 7) One bottle-less drinking water system to provide filtered drinking water in both hot and cold temperatures.
- 8) Two standard four-drawer legal-sized metal filing cabinets.
- b. Sanitary Facilities:
  - a) Latrine containing one urinal and one stool, sink, and mirror.
  - b) Private lavatory toilet facilities inside with vent fan and hot and cold running water.
  - c) Base cabinet for storage in each latrine.
- c. Conference Area:
  - 1) Minimum 24 feet by 28 feet.
  - 2) Segmented meeting room table that can be separated and reconfigured for multiple meeting purposes and chairs for seating up to 20.
  - 3) 10 swivel arm chairs (adjustable and fully padded).
  - 4) 10 padded folding chairs.
  - 5) One InFocus LP 70+ - DLP Projector – 1400 ANSI Lumens– 1024 by 768, or equal
  - 6) One 4-foot by 6-foot wall-mounted white board.
- N. Computer Systems: Owner shall furnish and install computers required for Owner's staff to work in the field offices. Owner's Advisor shall furnish and install computers required for Owner's Advisor staff to work in the field offices. Each organization is responsible for all maintenance of hardware and software for their system.
- O. Installation for Trailer:
  - 1. Install office trailers ready for occupancy approximately 4 weeks after NTP Phase 2.
  - 2. Obtain all permits necessary for temporary office trailers.
  - 3. Parking: 20 gravel surfaced parking spaces for use by Owner, connected to office by gravel surfaced walk.
  - 4. Employee Residential Occupancy: Not allowed on Owner's property.
- P. Maintenance and Cleaning of Owner Office Trailers:
  - 1. Furnish, replace and replenish light bulbs, fluorescent tubes, hot and cold cups, toilet paper, paper towels, hand soap, air filters and other things required to maintain the offices in a clean condition.
  - 2. Janitorial Services for Offices: Twice a week; cleaning and maintenance for all areas except storage areas including sweeping, vacuuming and mopping of interior, removal of debris, and emptying of wastebaskets.
  - 3. Periodic window cleaning inside and outside on a quarterly basis.
  - 4. Maintain approach walks, decking and parking lot free of mud, water, and debris.
  - 5. Provide boot scraper/brush at each entrance.
- Q. Preparation: Fill and grade sites for temporary structures sloped for drainage away from buildings.

## 1.11 REMOVAL

- A. Clean and repair damage caused by installation or use of temporary facilities.

- B. Remove underground installations to minimum depth of 24 inches and grade to match surrounding conditions.
- C. Restore existing facilities used during construction to specified or original condition.

#### **1.12 EMERGENCIES**

- A. The Design-Builder shall at all times before and after regular working hours, including weekends and holidays, maintain a telephone number where the Design-Builder can be reached on an emergency basis.
- B. Design-Builder shall provide three contacts that are available 24/7 for notification. Contact information for emergency contacts shall be provided at Preconstruction Conference in accordance with Section OR-01320 Project Management and Progress Reporting.
- C. The Design-Builder shall be prepared to act to correct conditions on-site that are deemed to constitute a hazard or an emergency by the Owner or Owner's Advisor and is obligated to act to prevent threatened damage, injury or loss without special instructions from the Owner or Owner's Advisor.
- D. If a condition on the site requires attention after hours, either the Owner or Owner's Advisor shall call the Design-Builder at the emergency telephone number. The Design-Builder is expected to respond within one hour. If for any reason the Design-Builder cannot be reached at the emergency number after a reasonable amount of time (not exceeding 30 minutes) the Owner reserves the right to institute corrective measures, and the costs shall be deducted from payments due to the Design-Builder.
- E. In the event the Design-Builder fails to maintain safe job conditions, including trench settlement and storage of hazardous backfill or construction materials, the Owner, after failure of the Design-Builder to commence substantial steps at the Site to rectify the situation within 2 hours of the time the Design-Builder has been notified of the unsafe condition, may take such precautions, make such repairs, and take any other steps which the Owner in the Owner's discretion considers necessary to protect the property, persons, or Owner.

#### **1.13 TRAFFIC CONTROLS**

- A. During non-working hours all roadways shall be restored in accordance with the approved traffic control permit(s). Requirements may include but are not limited to:
  - 1. Opening roadways to normal operating conditions;
  - 2. Removing construction related equipment off of the roadway during non-working hours;
  - 3. Placing barricades (barrels, type I) equipped with appropriate warning lights adjacent to the work area; and
  - 4. Covering or turning construction signs, except "ROAD CONSTRUCTION AHEAD" signs, from traffic.
- B. The Design-Builder shall follow the requirements for traffic control as described in this Section.

1. Permits.
    - a. Design-Builder must obtain a traffic control (street closure) permit at least 14 days in advance of the proposed closure date in order to allow sufficient time for public notification.
  2. Advance notice of construction activity blocking road access shall be made to all adjacent residents and businesses no less than 48 hours, or more than 72 hours, before construction begins. The notice shall describe the activity anticipated in that area, the duration, and the effects upon the residents and businesses (such as restricted parking). A contact person, address, and direct telephone number shall be included, in addition to a contact person from the local water utility.
- C. Design-Builder shall designate a specific employee to be responsible for the maintenance of the traffic control devices and establish a method of contacting this person during both working and non-working hours. This information will be provided to the Owner.
- D. Access to adjacent properties shall be maintained at all times. Traffic shall be carried through construction. Designated flaggers shall coordinate the movement of traffic through construction at each staging area.
- E. Where agreed to by the Owner, "Emergency No Parking" signs may be installed.
- F. Traffic Control Devices:
  1. Design-Builder shall provide all barricades, cones, construction warning signs, flagmen and incidental devices to protect Design-Builder and Subcontractor personnel and equipment on the Site.

#### **1.14 TEMPORARY BARRIERS AND ENCLOSURES**

- A. Protection of Public and Private Property:
  1. Design-Builder shall protect, shore, brace, support, and maintain all existing public and private property affected by their construction operations.

#### **1.15 EROSION CONTROLS**

- A. Furnish all labor, superintendence, project management, materials, equipment, and incidentals as necessary to comply with this Section.
- B. Prevent erosion of soil on the Site and adjacent property resulting from its construction activities. Effective measures shall be initiated prior to the commencement of clearing, grading, excavation, or other operation that will disturb the natural protection.
- C. Be aware of and follow all current erosion control regulations.
- D. Schedule and conduct all work in a manner that will minimize erosion of soils in the area of the Work. Provide erosion control measures such as diversion channels, sedimentation or filtration systems, berms, staked hay bales, seeding, mulching, or other special surface treatments as required to prevent silting and muddying of streams, rivers, impoundments, lakes, etc. All erosion control

measures shall be in place in an area prior to any construction activity in that area.

- E. Temporary storage and construction buildings shall be located, and construction traffic routed, to minimize erosion. Temporary fast-growing vegetation or other suitable ground cover shall be provided as necessary to control runoff.
- F. All phases of sedimentation and erosion control shall comply with the U.S. EPA NPDES Regulations and Virginia Department of Environmental Quality. These regulations require the preparation of a Stormwater Pollution Prevention Plan (SWPPP) to be prepared by the Design-Builder. Design-Builder shall obtain, pay for, and maintain all necessary Governmental Approvals (other than Owner-Provided Approvals) through duration of construction. SWPPP to be sealed by a registered professional engineer suitably qualified to perform the necessary Work registered in the State. Submit SWPPP in accordance with the Submittal Requirements.
- G. The Contract Price (Phase 2) includes all costs associated with any SWPPP, sedimentation, and erosion control.
- H. Make visual inspection of all sedimentation control devices once per week and promptly after every rainstorm. If such inspection reveals that additional measures are needed to prevent movement of sediment to off-site areas or into the vent trench, promptly install additional devices as needed. Repair sediment controls in need of maintenance promptly.
- I. Once the Site has been fully stabilized against erosion, remove sediment control devices and all accumulated silt. Dispose of silt and waste materials in a proper manner. Regrade all areas disturbed during this process and stabilize against erosion with surfacing materials as indicated on the Construction Documents.
- J. Provide vehicle tracking control at all entry and exit points for construction traffic from excavation and exposed soil areas to adjacent pavement and roads. Any dirt or mud that is tracked onto the adjacent pavement and streets shall be cleaned up immediately.

#### **1.16 FIRE PREVENTION**

- A. Comply with OSHA Regulation 29 CFR Part 1926.352 Fire Prevention.
- B. Prepare and submit for acceptance by the Owner a fire prevention plan describing procedures to be followed when performing Work involving an open flame or generating an arc or heat in sufficient quantity as to provide an ignition source for a flammable/combustible liquid, solid, or gaseous material in the vicinity of the work area.
- C. Implement accepted plan for all applicable Work.



## **1.17 PROGRESS CLEANING AND WASTE REMOVAL**

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in clean and orderly condition.
- B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing spaces.
- C. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.
- D. Collect and remove waste materials, debris, and rubbish from site weekly and dispose off-site.

## **PART 2 PRODUCTS**

Not Used.

## **PART 3 EXECUTION**

Not Used.

**END OF SECTION**

**SECTION OR-01700**  
**EXECUTION REQUIREMENTS**

**PART 1 GENERAL**

**1.01 SUMMARY**

- A. This Section includes general procedural requirements governing the execution of the Work.
  - 1. The Design-Builder shall furnish all labor, materials, equipment, and incidentals as necessary to comply with this Section, including the following:
    - a. Project Record Documents.
    - b. Lines and grade.
    - c. Storage and protection.
    - d. General installation of products.
    - e. Fences.
    - f. Correction of the Work.

**1.02 SUBMITTALS**

- B. Project Record Documents: In accordance with Section OR-01770 Closeout Procedures.

**1.03 PROJECT RECORD DOCUMENT REQUIREMENTS**

- C. Maintain at the Site one set of the following record documents; record actual revisions to the Work:
  - 1. Drawings.
  - 2. Addenda.
  - 3. Change Orders and other modifications to the Agreement.
  - 4. Requests for Information.
  - 5. Reviewed shop drawings, product data, and samples.
  - 6. Construction Documents.
  - 7. Manufacturer's instruction for assembly, installation, and adjusting.
  - 8. As-built schedule showing Baseline Project Schedule and final schedule update.
- D. Provide updated electronic files upon major changes to the Project, but in no case less frequently than once every two months. Ensure entries are complete and accurate, enabling future reference by Owner.
- E. Store record documents separate from documents used for construction.
- F. Record information concurrent with construction progress, not less than weekly.

- G. Record drawings, specifications and shop drawings:
1. Throughout construction, Design-Builder shall maintain a thorough up-to-date record of all changes to the drawings, specifications and other Construction Documents made during construction. As a condition precedent to granting Substantial Completion, Design-Builder shall file with Owner one (1) complete set of redlined documents showing all changes and including Design-Builder's field construction notes neatly and legibly recorded thereon. Such changes shall include, but not be limited to, the exact routing if changed from drawing location of sewer, water gas, oxygen supply, condenser water lines, fuel oil tanks and lines, fire protection lines, and any other buried utility lines, and routing of buried electrical feeder lines and changes to routing of conduit runs which are buried or concealed.
  2. Record drawings shall be approved and stamped by professional engineer licensed in the Commonwealth of Virginia, and shall be submitted in .pdf format and electronic CAD format compatible with the Owner's CAD system. The title block shall indicate "Record Documents" and be dated as of the Date of Substantial Completion. All drawing changes shall be circled with a "cloud" and any applicable Change Order or Amendment number shall be included in a "delta" adjacent to the cloud and recorded in the title block.
  3. All other Record Document changes including, but not limited to, Agreement and specification changes, shall be provided in both a bound hardcopy and in Word format on a flash driver or other electronic storage device approved by Owner. Changes shall be indicated by striking through deleted information and adding revised information in italics. Any applicable Change Order or Amendment number shall be indicated in parentheses immediately following the changed text. Applicable Indices shall indicate those sections containing revisions by denoting these sections with an asterisk (\*) and including a footnote that states "\*\*Revised".
  4. Legibly mark each item on Construction Drawings to record actual construction including:
    - a. Measured depths of foundations in relation to plant datum.
    - b. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
    - c. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
    - d. All field changes of dimension, elevation and detail.
    - e. Details not on original Construction Drawings.
  5. Affix Professional Civil Engineer's signature and registration number to record drawings to certify accuracy of information shown.
  6. Submit copy of site drawing as part of record drawings that identifies location and elevation of constructed facilities that are above grade and a certificate signed by Professional Land Surveyor certifying elevations and locations of the Work are in conformance with Contract Documents as documented in the record drawings.

## **PART 2 PRODUCTS**

Not Used.

## **PART 3 EXECUTION**

### **3.01 PREPARATION**

- A. Existing Utility Information: Design-Builder shall furnish information to local utilities that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction.
- B. Existing Utility Interruptions: Do not interrupt utilities serving the Site occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
  - 1. Comply with requirements of Section OR-01140 Work Restrictions.
  - 2. Comply with the requirements of the Agreement.

### **3.02 LINES AND GRADES**

- A. All survey, layout, and measurement Work shall be performed by Design-Builder as a part of the Work.
- B. Design-Builder shall provide a qualified surveyor or engineer, competent assistants, and such instruments, tools, stakes, and other materials required to complete the survey, layout and measurement Work. Locate and protect control points prior to starting Work on Site, and preserve permanent reference points during construction.
  - 1. Make no changes or relocations without prior written notice.
  - 2. Replace Project control point, when lost or destroyed, in accordance with original survey control.
- C. Set monuments for principal control points and protect them from being disturbed and displaced.
  - 1. Re-establish disturbed monuments.
  - 2. When disturbed, postpone parts of the Work that are governed by disturbed monuments until such monuments are re-established.

### **3.03 PROJECT SITE SURVEY REQUIREMENTS**

- A. Utilize Owner-provided benchmarks referenced to data established by survey control points.
- B. Record permanent benchmark locations with horizontal and vertical data on Project Record Documents in accordance with this Section.

### **3.04 STORAGE AND PROTECTION**

- A. Immediately store and protect products and materials until installed in Work.
- B. Store products with seals and legible labels intact.
- C. Protect painted surfaces against impact, abrasion, discoloration, and other damage.
  - 1. Repaint damaged painted surfaces.

- D. Exterior storage of fabricated products:
  - 1. Place on above ground supports that allow for drainage.
  - 2. Cover products subject to deterioration with impervious sheet covering.
  - 3. Provide ventilation to prevent condensation under covering.
- E. Store moisture sensitive products in watertight enclosures.
- F. Furnish covered, weather-protected storage structures providing a clean, dry, noncorrosive environment for mechanical equipment, valves, architectural items, electrical and instrumentation equipment and special equipment to be incorporated into this project.
  - 1. Storage of equipment shall be in strict accordance with the "instructions for storage" of each equipment supplier and manufacturer including connection of heaters, placing of storage lubricants in equipment, etc.
  - 2. The Design-Builder shall furnish a copy of the manufacturer's instructions for storage to the Owner prior to storage of all equipment and materials.
  - 3. Pumps, motors, electrical equipment, and all equipment with antifriction or sleeve bearings shall be stored in weathertight structures maintained at a temperature above 60°F. Electrical equipment, controls, and insulation shall be protected against moisture and water damage. All space heaters furnished in equipment shall be connected and operated continuously.
- G. Unless otherwise instructed by or required by the equipment manufacturer:
  - 1. Equipment having moving parts, such as gears, bearings, and seals, shall be stored fully lubricated with oil, grease, etc.
  - 2. Equipment having moving parts shall be rotated a minimum of twice a month to ensure proper lubrication and to avoid metal to metal "welding".
- H. Store loose granular materials on solid surfaces in well-drained area.
  - 1. Prevent materials mixing with foreign matter.
- I. Provide access for inspection.

### **3.05 INSTALLATION**

- A. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- B. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Final Completion.
- C. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- D. Anchors and Fasteners: Provide anchors and fasteners in accordance with Good Industry Practice to anchor each component securely in place, accurately located and aligned with other portions of the Work.
- E. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

- F. Protect installed products in accordance with manufacturer's instructions and requirements below.
  - 1. Provide substantial coverings as necessary to protect installed products from damage from traffic and subsequent construction operations.
  - 2. Remove covering at Mechanical Completion or when no longer needed.
  - 3. Replace corroded, damaged, or deteriorated equipment and parts before acceptance of the project.
  - 4. Unless otherwise instructed by or required by the equipment manufacturer, lubricants shall be changed upon completion of installation and as frequently as required thereafter during the period between installation and acceptance. New lubricants shall be put into the equipment by Design-Builder at the time of acceptance.

### **3.06 PROGRESS CLEANING AND WASTE REMOVAL**

- A. General: Clean Site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials lawfully.
  - 1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
  - 2. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of in compliance with Applicable Laws.
  - 3. Collect and remove waste materials, debris, and rubbish from Site weekly and dispose off-site.
  - 4. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing spaces.
- B. Work Areas: Clean areas where Work is in progress to the level of cleanliness necessary for proper execution of the Work. Maintain areas free of waste materials, debris, and rubbish.
  - 1. Remove liquid spills promptly.
  - 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
  - 3. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.
- C. Installed Work: Keep installed Work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- D. Waste Disposal: Burying or burning waste materials on-site will not be permitted. Washing waste materials down sanitary sewers or into waterways will not be permitted.
- E. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration through Mechanical Completion.

- F. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period in accordance with manufacturer's instructions. Adjust and lubricate operable components to ensure operability without damaging effects.
- G. Limiting Exposures: Supervise construction operations to assure that no part of the construction; completed or in progress; is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

### **3.07 FENCES**

- A. All existing fences affected by the Work shall be maintained by Design-Builder until completion of the Work in accordance with Section OR-01500 Temporary Facilities and Controls. Fences which interfere with construction operations shall not be relocated or dismantled until written permission is obtained from the Owner of the fence, and the period the fence may be left relocated or be dismantled has been agreed upon. Where fences must be maintained across the construction easement, adequate gates shall be installed. Gates shall be kept closed and locked at all times when not in use.
- B. On completion of the Work across any tract of land, Design-Builder shall restore all fences to their original or to a better condition and to their original location in accordance with Section OR-01500 Temporary Facilities and Controls.

### **3.08 CORRECTION OF THE WORK**

- A. Repair or remove and replace defective construction. Restore damaged substrates and finishes.
- B. Restore permanent facilities used during construction to their specified or original condition.

END OF SECTION

## **SECTION OR-01757**

### **COMMISSIONING AND TRAINING**

#### **PART 1 GENERAL**

##### **1.01 SUMMARY**

- A. Section includes: Requirements for the Commissioning phase of the Project equipment, systems, subsystems and/or facility, including, but not limited to:
  - 1. Commissioning Manager.
  - 2. Services of Manufacturer's Representatives.
  - 3. Testing and Training Requirements.

##### **1.02 DEFINITIONS**

- A. Acceptance Standards - the standards set forth in this Section that the Project must meet during the Performance Testing and Acceptance Testing.
- B. Acceptance Testing – Test(s) occurring in order to achieve Substantial Completion. Acceptance Testing shall demonstrate the performance of complete Project equipment, systems, and subsystems relative to the Acceptance Standards laid out in this Section.
- C. Commissioning - The process of planning, testing, and process start-up of the installation for compliance with contract requirements and demonstrating, through documented verification, that the project has successfully met the contractual requirements. Commissioning includes training the Owner's staff (or Owner delegate) to operate the facility and transmission of the finalized asset documentation necessary to maintain the equipment.
- D. Component - A basic building block of equipment, subsystems, and systems that requires installation or functional testing but does not have an electrical connection or internal electronics. (Examples: pump discharge piping and manual isolation valves). A component is typical of an asset child or appurtenances.
- E. Device - A basic building block of equipment, subsystems, and systems that requires installation or functional testing and does have an electrical connection or internal electronics. (Examples: water pump pressure transmitter). A device is typical of an asset child or appurtenances.
- F. Equipment - An assembly of component(s) and devices(s) that requires installation or functional testing. (Examples: pump, motor, variable frequent drive, etc.). Equipment is typical of an asset child or appurtenances.
- G. Facility - A grouping of process areas, systems, subsystems, equipment, components, and devices (Examples: pump stations, etc.). Each Facility has a defined number. Project has two anticipated facilities located on the site.



- H. Installation Testing - Testing to demonstrate that subsystem component (piping, power, networks, devices, etc.) is ready and meets the project requirements in advance of functional testing. Installation testing also includes manufacturers' certification of installation and other requirements as specified to prepare equipment/system for Mechanical Testing. Also referred to as Field Acceptance Testing.
- I. Instrumentation and Controls Fine-Tuning - Improving the performance of the Instrumentation Process Control system by operating for an extended time period.
- J. Manufacturer's Certificate of Installation and Functionality Compliance - The form is used during Installation Testing and Mechanical Testing. It is submitted at the end of Mechanical Testing to confirm that the equipment/system is installed in conformance with the Contract Documents and that it meets the Mechanical Testing requirements defined in the Contract Documents.
- K. Mechanical Testing - Testing performed on a completed subsystem to demonstrate that equipment/system meets manufacturers' calibration and adjustment requirements and other requirements as specified. Mechanical Testing includes operating equipment/system manually in local, manually in remote (or remote manual), and automatically in remote (in remote auto) including fault conditions.
- L. Owner Training – Training provided to Owner staff (or Owner delegate) as required by this Section. Owner training includes equipment training, process training, and process control and instrumentation system training.
- M. Product - A system, subsystem or component.
- N. Standard Operating Procedure (SOP) – Detailed procedures for operating equipment or systems under normal operating conditions.
- O. Standard Instructions – One-page summary of key information from SOPs, typically with troubleshooting and fault conditions removed.
- P. System - A grouping of subsystems, equipment, components, and devices that perform a definable function. (Examples: pumping system).

### **1.03 COMMISSIONING MANAGER (CM)**

- A. Commissioning Manager shall be as identified in the Key Personnel list for the Project.
- B. CM responsibilities include the following:
  - 1. Lead efforts relating to Commissioning.
  - 2. Be thoroughly familiar with commissioning requirements in the Contract Documents.
  - 3. Provide technical instruction for commissioning.
  - 4. Provide primary interface with Owner for efforts relating to Commissioning of Project facilities.
  - 5. Coordinate training efforts.
  - 6. Liaison between Owner O&M staff (or Owner delegate) and Design-Builder.

7. Lead and prepare meeting agendas and meeting minutes for all Commissioning Meetings.
- C. CM on-site:
1. Planning Phase: As needed to facilitate meeting all Commissioning requirements.
  2. Testing and Training Phase: Full-time.

#### **1.04 SERVICES OF MANUFACTURER'S REPRESENTATIVES**

- A. Qualifications: Manufacturer's Representatives shall have qualifications as specified in Section OR-01400 Quality Requirements.
- B. Completion of manufacturer on-site services: Owner approval required.
- C. Manufacturer is responsible for determining the time required to perform the specified services.
1. Minimum times specified in the Contract Documents are estimates.
  2. No additional costs associated with performing the required services will be approved.
  3. Manufacturer required to schedule services in accordance with the Design-Builder's project schedule up to and including making multiple trips to project site when there are separate milestones associated with installation, testing, and/or training of each occurrence of manufacturer's equipment.
- D. Design-Builder will be responsible for facilitating the timing of manufacturer representative for systems and processes that will interact. Owner may require certain representatives to be on site at the same time to streamline troubleshooting and startup.
- E. Manufacturer's on-site services as specified in the Contract Documents include the following:
1. Assistance during the Testing and Training and Process Testing Phases of Commissioning.
  2. Provide Manufacturer's Field Reports and data to Design-Builder and Owner in accordance with Section OR-01400 Quality Requirements.
  3. Other requirements as specified in the Contract Documents.
  4. Fulfillment of specified minimum services:
    - a. Furnish manufacturers' services, when required by individual specification section, to meet requirements of this Section.
    - b. Where time is necessary in excess of that stated in the Specifications for manufacturers' services, or when a minimum time is not specified, time required to perform specified services shall be considered incidental.
    - c. Schedule manufacturers' services to avoid conflict with other onsite testing in this project and others, other training of division personnel or other manufacturers' onsite services.
    - d. Only those days of service approved by Owner will be credited to fulfill specified minimum services.
    - e. The Design-Builder shall coordinate manufacturer field services with the systems integrator, so both are on-site during field services.

- f. When specified in individual specification sections, manufacturer's onsite services shall include:
  - 1) Assistance during product (system, subsystem, or component) installation to include observation, guidance, instruction of Design-Builder's assembly, erection, installation or application procedures.
  - 2) Inspection, checking, and adjustment as required for product (system, subsystem, or component) to function as warranted by manufacturer.
  - 3) Revisiting the Site as required to correct problems and until installation and operation are acceptable to Owner.
  - 4) Resolution of assembly or installation problems attributable to or associated with respective manufacturer's products and system.
  - 5) Assistance during all testing, commissioning, and system startup and evaluation.
  - 6) Training of Owner's personnel in the operation and maintenance of respective product as required.
- g. Manufacturer shall complete and sign the Manufacturer's Certificate of Installation and Functionality Compliance (Supplement 1 to this Section) when the equipment or systems have been installed and functionally tested to the satisfaction of the manufacturer and in accordance with the requirements in the Contract Documents.
- h. Equipment Training shall be provided by the Manufacturer's Representative in accordance with this Section.

## **1.05 PLANNING PHASE**

- A. Overview of Planning Phase:
  - 1. Define approach and timing for Commissioning.
- B. Training Plan and Training Schedule:
  - 1. Owner Training will include Equipment Training, Process Training and Process Control and Instrumentation System (PCIS) Training.
  - 2. Training shall be provided by the Design-Builder to the Owner.
  - 3. Design-Builder shall submit a Training Plan that includes a framework for performing both Equipment Training and Process Training. The Training Plan shall include the most current version of the Training Schedule not less than one year prior to the Scheduled Mechanical Completion Date.
  - 4. The Training Plan shall be submitted for Owner review in accordance with Section OR-01300 Submittal Procedures.
  - 5. Training Schedule:
    - a. List specified equipment and systems that require training services and show:
      - 1) Respective manufacturer.
      - 2) Estimated dates for installation completion.
      - 3) Estimated training dates and fixed training dates, as available.
    - b. Allow for separate training sessions for maintenance staff and operations staff.
- C. Commissioning Plan and Schedule:
  - 1. Commissioning overview:

- a. Commissioning Plan shall lay out the Design-Builder's overall plan for performing all testing activities required by this Section and other Contract Documents, as applicable.
  - 2. Submittal timeline:
    - a. Submit Commissioning Plan and detailed schedule of activities within 180 days following Notice to Proceed or not less than 90 calendar days prior to the first planned functional testing of any subsystem or system, whichever is earlier.
  - 3. Schedule requirements:
    - a. Schedule durations and float for commissioning activities to ensure Work does not fall behind schedule due to complications or delays during commissioning.
    - b. Schedule manufacturer's services to avoid conflict with other on-site testing or other manufacturers' on-site services.
    - c. Verify that conditions necessary to allow successful testing have been met before scheduling services.
- D. Acceptance Test Plan:
- 1. The Design-Builder shall develop a written Acceptance Test Plan that describes in detail the plan for preparing for and conducting Acceptance Testing required to demonstrate performance of the facilities in accordance with the Acceptance Standards for the Project as specified in this Section.
  - 2. The Acceptance Test Plan shall include the following:
    - a. Facility configuration to be utilized during Acceptance Testing.
    - b. Staffing Requirements: The specific tasks or activities, both process and non-process related, which are required for successful completion of the test.
    - c. Internal and external communication protocols for the Acceptance Testing period.
    - d. Procedures for demonstrating compliance with the Acceptance Standards herein.
    - e. A list of all parameters to be monitored and a schedule of monitoring, describing sampling locations, analytical methods, and sampling frequencies at which parameters will be monitored on a continuous or other defined basis.
  - 3. Submittal Timing:
    - a. The Design-Builder shall submit a draft Acceptance Test Plan at least 90 days prior to Mechanical Completion.
    - b. The Owner will review the draft Acceptance Test Plan and provide comments to the Design-Builder within 20 days of receipt of the draft.
    - c. The Design-Builder will submit the final Acceptance Test Plan within 20 days of receipt of Owner's comments.

## **1.06 TESTING AND TRAINING PHASE**

- A. Overview of Testing and Training Phase:
  - 1. General:
    - a. Include specified Procedure Development, Owner Training, Installation Testing, Mechanical Testing, PCIS Testing, and Closeout Documentation required by this Section and the technical sections.
  - 2. Design-Builder responsibilities:

- a. Furnish labor, power, chemicals, tools, equipment, instruments, and services required for and incidental to completing commissioning activities in accordance with the approved Commissioning Plan, and Subsystem Testing Plans, as applicable.
  - b. Prior to testing, verify equipment protective devices and safety devices have been installed, calibrated, and tested.
  - c. Acceptable tests: Demonstrate the equipment/system performance meets the requirements stated in the Contract Documents.
    - 1) When the equipment/system fails to meet the specified requirements, perform additional, more detailed, testing to determine the cause, correct, repair, or replace the causative components and repeat the testing that revealed the deficiency.
- B. Procedures Development:
  - 1. The Design-Builder shall develop Standard Operating Procedures (SOPs), Standard Instructions, and Roundsheets for all new and modified unit processes constructed as part of this Project.
  - 2. Draft SOPs and Standard Instructions shall be submitted to the Owner for review and comment prior to finalization.
  - 3. Design-Builder's O&M experts for a given equipment type will be available for on-site meetings to discuss draft SOPs and standard instructions with the Owner.
  - 4. Submittals:
    - a. Draft SOPs and Standard Instructions shall be submitted to the Owner for review in accordance with Section OR-01300 Submittal Procedures.
    - b. Final SOPs and Standard Instructions shall be submitted as follows:
      - 1) Two hardcopies (Standard Instructions shall be laminated).
      - 2) One electronic copy of a compiled, bookmarked PDF.
      - 3) One electronic copy of each SOP and Standard Instruction document in .docx format.
      - 4) SOPs shall be identified and named by asset, in accordance with City standards.
  - 5. SOPs:
    - a. SOPs shall be developed first and shall be reviewed and approved by the Owner prior to development of draft Standard Instructions.
    - b. SOPs shall be drafted and reviewed by the Owner prior to the start of Process Training.
    - c. SOPs shall include usual and customary operating conditions as anticipated by the Design-Builder and as designed by the manufacturer and fault conditions.
    - d. SOPs shall consist the following sections, at a minimum:
      - 1) Startup.
      - 2) Shutdown.
      - 3) Usual Operations Mode.
      - 4) Alternative Operational Modes.
      - 5) Fault Conditions and Troubleshooting.
    - e. Each Section of the SOPs shall have the following subsections, as applicable at a minimum:
      - 1) Purpose.
      - 2) Safety (including lockout/tagout and warning notes).

- 3) Actions (Step number, action, and picture or location with a box around the manipulated item).
  - 4) Valve table.
  - 5) Unit or setting table (Panels, PLC, and SCADA).
  - 6) Weekly checklist.
  - 7) Recommended testing.
  - 8) Recommended performance indicators and anticipated operating ranges to track and optimize process performance.
- f. SOPs and associated roundsheet shall be revised and finalized based on Owner comments and on operator input following completion of Process Training.
6. Standard Instructions: Following finalization of SOPs, Design-Builder shall develop a one-page standard instruction sheet for each system or equipment for which an SOP was developed.
  7. Roundsheets: After the drafting of SOPs, Design-Builder's O&M expert and Owner will edit or develop new roundsheets. Roundsheets are used by first line operators to direct and document their work on their duty station throughout their shift.
- C. Owner Training:
1. General training requirements:
    - a. Design-Builder shall provide Equipment Training, Process Training, and PCIS Training as detailed in this Section and other technical specifications.
    - b. The Design-Builder shall digitally record all training sessions. Video materials must be produced by a qualified, professional video production company, unless Design-Builder demonstrates satisfactorily skill of other personnel as acceptable to Owner. The Owner shall approve producer of video materials prior to recording any training sessions.
    - c. Design-Builder shall submit final training documents, including fully indexed and cataloged recordings of training sessions, in accordance with Section OR-01770 Closeout Procedures.
    - d. All training shall be conducted by individuals knowledgeable in the equipment/system for which they are providing training and shall be experienced in conducting classes. Owner has the right to reject instructors determined to not be suitable for the material, topic, and/or audience and request a suitable instructor.
    - e. Training Material Submittals:
      - 1) Draft training materials shall be submitted to the Owner for review at least 45 calendar days prior to the scheduled training for that topic and shall, at a minimum include the following:
        - a) The subject of the training.
        - b) A lesson plan for each training.
        - c) All supporting materials such training manuals, handouts, audio-visual aids that will be used during training, and other reference materials.
        - d) Identity and qualifications of individual to be conducting the training.
        - e) Tentative date and time for each training session.
        - f) Training schedule including respective manufacturer, estimated dates for installation completion and estimated training dates.

- 2) Design-Builder shall provide one electronic copy and 3 hard copies of all final training materials for each course, organized in notebooks a minimum of 7 days prior to training.
  - f. Format and Content:
    - 1) Each training session shall be comprised of time spent both in the classroom and at the specific location of the subject equipment or system.
    - 2) Instructors shall apply adult education best practices, emphasizing learner participation and activity.
    - 3) Delivery time for each session should be between 2 and 4 hours. Longer or shorter times require Owner approval.
    - 4) Refreshment and meal breaks shall be provided to meet the class needs and Owner's work rules.
  2. Equipment Training:
    - a. Design-Builder shall coordinate and pay for equipment manufacturers to provide Equipment Training to the Owner as required in the Technical specifications.
    - b. Equipment Training sessions shall be conducted by qualified, experienced, factory-trained representatives of the various equipment manufacturers familiar with O&M manual information specified in Section OR-01770 Closeout Procedures.
  3. PCIS Training shall be conducted in accordance with the above and with the technical specifications.
- D. Installation Testing:
1. Perform subsystem testing according to approved Subsystem Testing Plans.
  2. Initiate the Manufacturer's Certificate of Installation and Functionality Compliance for all equipment.
    - a. Manufacturer's Certificate of Installation form is included as Supplement 1 to this Section.
    - b. Manufacturer's Certificate of Installation and Functionality Compliance certifies the equipment meets the following requirements:
      - 1) Has been properly installed, adjusted, aligned, and lubricated.
      - 2) Is free of any stresses imposed by connecting piping or anchor bolts.
      - 3) Is able to be operated as necessary for Mechanical Testing.
    - c. Form shall be submitted after completion of Mechanical Testing, as specified in this Section.
  3. Coordinate Installation Testing with restrictions and requirements as specified in Section OR-01140 Work Restrictions.
  4. Perform pressure and leakage testing as specified in the technical specifications.
  5. Perform mechanical equipment Installation Testing: As specified below and in individual equipment sections, as applicable and with technical specifications:
    - a. Remove rust preventatives and oils applied to protect equipment during construction.
    - b. Flush lubrication systems and dispose of flushing oils.
      - 1) Recharge lubrication system with lubricant recommended by manufacturer.
    - c. Flush fuel system and provide fuel for testing and start-up.
    - d. Install and adjust packing, mechanical seals, O-rings, and other seals. Replace defective seals.

- e. Remove temporary supports, bracing, or other foreign objects installed to prevent damage during shipment, storage, and erection.
  - f. Check rotating machinery for correct direction of rotation and for freedom of moving parts before connecting driver.
  - g. Perform cold alignment and hot alignment to manufacturer's tolerances.
  - h. Adjust V-belt tension and variable pitch sheaves.
  - i. Inspect hand and motorized valves for proper adjustment.
    - 1) Tighten packing glands to ensure no leakage but permit valve stems to rotate without galling.
    - 2) Verify valve seats are positioned for proper flow direction.
  - j. Tighten leaking flanges or replace flange gasket.
    - 1) Inspect screwed joints for leakage.
  - k. Install gratings, safety chains, handrails, shaft guards, and sidewalks prior to operational testing.
  - 6. Electrical devices and subsystems Installation Testing: As specified in the technical specifications.
  - 7. Instrumentation devices and subsystems Installation Testing: As specified in the technical specifications.
  - 8. Heating, ventilating, and air conditioning systems Installation Testing: As specified below, in in the technical specifications.
    - a. Perform testing of heating, ventilating, and air conditioning equipment, balancing of distribution systems, and adjusting of ductwork accessories.
    - b. Test hydronic systems, if required by technical sections.
- E. Mechanical Testing:
- 1. Perform Mechanical Testing according to approved Subsystem Testing Plan.
  - 2. Notify the Owner 5 days prior to when the Work is ready for Mechanical Testing.
    - a. Perform testing in the presence of the Owner.
  - 3. Determine Mechanical Testing durations with Owner's input.
    - a. Durations will vary depending on the availability of water, utilities, and other feeds for testing.
    - b. Target minimum Mechanical Test duration: 8 hours.
      - 1) Identify equipment/system that cannot be tested for a minimum of 8 hours as specified in technical sections.
  - 4. Perform Mechanical Testing as specified in technical sections.
    - a. Perform Mechanical Testing in addition to the other tests specified in the technical sections.
    - b. Perform Mechanical Testing to demonstrate that the component equipment functions as an entire system in accordance with the design requirements.
    - c. Perform Mechanical Testing to demonstrate that the unit process has operated in a manner necessary to demonstrate equipment/system functions manually in hand, local, manually in remote (or remote manual), and automatically in remote (in remote auto).
    - d. Perform testing with Owner-provided water.
    - e. Repair or replace parts that operate improperly and retest.
    - f. Submit testing results as specified in the technical sections to the Owner for approval of Mechanical Testing results.
  - 5. Provide completed Manufacturer's Certificate of Installation and Functionality Compliance forms for all equipment.



- a. Manufacturer's Certificate of Installation form is included as Supplement 1 to this Section.
  - b. Manufacturer's Certificate of Installation and Functionality Compliance certifies the equipment/system meets the following requirements:
    - 1) Is suitable for satisfactory full-time operation under full-load conditions.
    - 2) Operates within the allowable limits for vibration and noise.
    - 3) Electrical and instrumentation requirements:
      - a) Electrical equipment, instrumentation, and control panels are properly installed, calibrated, and functioning.
      - b) Electrical Installation Testing is complete, and test results have been approved by the Owner.
        - (1) Noted deficiencies have been corrected.
        - (2) Relays, circuit breakers, and other protective devices are set.
      - c) Control logic for start-up, shutdown, sequencing, interlocks, control, and emergency shutdown has been tested and is properly functioning.
      - d) Motor control is calibrated and tested.
- F. Process Control and Instrumentation System (PCIS) testing: In accordance with the requirements of this Section and in the technical specifications.
- G. Closeout documentation (Testing and Training Phase):
- 1. Provide records generated during Commissioning Phase of Project in accordance with Section OR-01770 Closeout Procedures and as specified within this Section.
  - 2. Required documents include but are not limited to:
    - a. Training documentation.
    - b. Manufacturer's Certificate of Installation and Functionality Compliance.
    - c. Daily logs of equipment/system testing identifying tests conducted and outcome.
    - d. Test Reports, forms and documentation for each type of testing conducted for each equipment, system or subsystem.
    - e. Logs of time spent by manufacturer's representatives performing services on the job site.
    - f. Equipment lubrication records.
    - g. Electrical phase, voltage, and amperage measurements.
    - h. Insulation resistance measurements.
    - i. Bearing temperature measurements.
  - 3. Data sheets of control loop testing including testing and calibration of instrumentation devices and setpoints.
  - 4. Submittals:
    - a. One electronic copy and 3 hard copies organized in notebooks.
  - 5. Due date for Closeout documentation associated with the Testing and Training Phase of Commissioning: Prior to Mechanical Completion or as indicated in this Section or in Section OR-01770 Closeout Documentation.

## **PART 2    PRODUCTS**

Not Used.

## **PART 3    EXECUTION**

Not Used.

**MANUFACTURER'S CERTIFICATE OF  
INSTALLATION AND FUNCTIONALITY COMPLIANCE**

OWNER \_\_\_\_\_ EQPT/SYSTEM \_\_\_\_\_  
PROJECT NAME \_\_\_\_\_ EQPT TAG NO. \_\_\_\_\_  
PROJECT NO. \_\_\_\_\_ EQPT SERIAL NO. \_\_\_\_\_  
SPECIFICATION NO. \_\_\_\_\_  
SPECIFICATION TITLE \_\_\_\_\_

I hereby certify that the above-referenced equipment/system has been: (Check Applicable)

- ☐ Installed in accordance with manufacturer's recommendations.
- ☐ Inspected, checked, and adjusted.
- ☐ Serviced with proper initial lubricants.
- ☐ Electrical/instrumentation and mechanical connections meet quality and safety standards.
- ☐ All applicable safety equipment has been properly installed.
- ☐ Functionally tested.
- ☐ System has been performance tested and meets or exceeds specified performance requirements.

**NOTES:**

Attach test results with collected data and test report.

Attach written certification report prepared by and signed by the electrical and/or instrumentation subcontractor.

Comments: \_\_\_\_\_

I, the undersigned manufacturer's representative, hereby certify that I am (i) a duly authorized representative of the manufacturer, (ii) empowered by the manufacturer to inspect, approve, and operate this equipment/system, and (iii) authorized to make recommendations required to ensure that the equipment/system furnished by the manufacturer is complete and operational, except as may be otherwise indicated herein. I further certify that all information contained herein is true and accurate.

Date: \_\_\_\_\_, 20 \_\_\_\_

Manufacturer: \_\_\_\_\_

Manufacturer's Authorized Representative Name (*print*): \_\_\_\_\_

By Manufacturer's Authorized Representative: \_\_\_\_\_  
(Authorized Signature)

## TRAINING EVALUATION FORM

EQUIPMENT/SYSTEM ITEM: \_\_\_\_\_

VENDOR/MANUFACTURER: \_\_\_\_\_

DATE: \_\_\_\_\_ NAME OF REPRESENTATIVE: \_\_\_\_\_

- |     |   |            |              |    |     |
|-----|---|------------|--------------|----|-----|
| 1.  | Was representative prepared?  | Acceptable | Unacceptable | or | N/A |
| 2.  | Was an overview description presented?  | Acceptable | Unacceptable | or | N/A |
| 3.  | Were specific details presented for system components?                              | Acceptable | Unacceptable | or | N/A |
| 4.  | Were alarm and shutdown conditions clearly presented?                               | Acceptable | Unacceptable | or | N/A |
| 5.  | Were step-by-step procedures for starting, stopping, and troubleshooting presented? | Acceptable | Unacceptable | or | N/A |
| 6.  | Were routine/preventative maintenance items clearly identified?                     | Acceptable | Unacceptable | or | N/A |
| 7.  | Was the lubrication schedule (if any) discussed?                                    | Acceptable | Unacceptable | or | N/A |
| 8.  | Was the representative able to answer all questions?                                | Acceptable | Unacceptable | or | N/A |
| 9.  | Did the representative agree to research and answer unanswered questions?           | Acceptable | Unacceptable | or | N/A |
| 10. | Comments: _____   |            |              |    |     |

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11. Overall Rating: Satisfactory Unsatisfactory

Note:

Sessions judged “Unsatisfactory” by a majority of attendees shall be revised and conducted again until a satisfactory rating is achieved.



**SECTION OR-01770**  
**CLOSEOUT PROCEDURES**

**PART 1    GENERAL**

**1.01    SUMMARY**

- A. This Section includes administrative and procedural requirements for contract closeout, including the following:
  - 1. List of incomplete items (Punch List).
  - 2. Training materials.
  - 3. Project Record Documents.
  - 4. Operation and Maintenance Data.
  - 5. BIM Requirements.
  - 6. Warranties and bonds.
  - 7. Final cleaning.

**1.02    LIST OF INCOMPLETE ITEMS (PUNCH LIST)**

- A. Preparation: Submit three copies of list prior to Substantial Completion and three copies of an updated list prior to Final Completion. Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Design-Builder that are outside the limits of construction.
  - 1. Organize list in collaboration with Owner.

**1.03    TRAINING MATERIALS**

- A. Submittal Requirements:
  - 1. Hardcopy format: Submit two copies of all training materials in a three-ring binder. Materials shall be developed in accordance with Section 01757 Commissioning and Training.

**1.04    WARRANTIES AND BONDS**

- A. Warranties and Bonds shall be obtained and delivered in accordance with the Agreement and with applicable equipment specifications and shall be compiled and submitted as described in this Section.
- B. Submittal Requirements: Submit warranty documents in accordance with the Submittal Requirements and as described below:
  - 1. Contents:
    - a. Include a table of contents organized by system and asset, per the City standards, and the name of the product or work item.
    - b. Include each required warranty and bond in proper form, with full information, are certified manufacturer as required, and are properly executed by Design-Builder, Subcontractor or manufacturer.

- c. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of installer.
  - d. Identify each binder on the front and spine with the typed or printed title "WARRANTIES AND BONDS," Project name, and name of Design-Builder.
- 2. Hardcopy format: Submit two copies.
  - 3. Electronic (PDF) format:
    - a. Submit one copy of each warranty as separate PDF files.
    - b. Submit 1 copy of a compiled PDF file that includes all required warranties and bonds. The compiled PDF shall be bookmarked by system and asset and the name of the product or work item.

## 1.05 O&M DATA

### A. O&M Manuals:

- 1. An O&M Manual shall be prepared for every piece of equipment provided as part of the Work and for each material or finish requiring regular maintenance.
- 2. O&M Manuals shall be prepared in accordance with this Section and shall include information as required by individual technical specifications.
- 3. The Design-Builder shall not request payment for more than 90 percent of the value of a specific piece of equipment, based on the schedule of values, until a draft O&M Manual for that equipment has been submitted.
- 4. All draft O&M Manuals shall be submitted and accepted by the Owner as a condition of Substantial Completion.
  - a. Electronic format:
    - 1) Electronic files shall be submitted in a text-searchable, bookmarked, and hyperlinked portable document format (PDF).
      - a) PDF files shall be created from the native format of the document (Microsoft Word, graphics programs, etc.). Scanned images are not acceptable, except as provided below:
        - (1) Materials not available in original digital format shall be scanned into digital format and cleaned to remove smudges, fingerprints, artifacts, and other erroneous marks as specified in this Section.
        - (2) Scanned documents shall be converted such that the text is optically identifiable and searchable.
- 5. O&M Manual Contents:
  - a. General:
    - 1) Any items in the documentation that is not applicable, or options not provided with the supplied equipment or materials, shall be deleted.
  - b. Content for Equipment Manuals:
    - 1) Introduction:
      - a) Description of the equipment covered by the O&M Manual.
      - b) Identification of all assets covered by the manual by name and equipment ID/asset.
    - 2) Product Data:
      - a) Include only those sheets that are pertinent to specific product.
      - b) Clearly annotate each sheet to:
        - (1) Identify specific product or part installed.

- (2) Identify data applicable to installation.
- (3) Delete references to inapplicable information.
- c) Function, normal operating characteristics, and limiting conditions.
- d) Performance curves, engineering data, nameplate data, and tests.
- e) Complete nomenclature and commercial number of replaceable parts.
- f) Original manufacturer's parts list, illustrations, detailed assembly drawings showing each part with part numbers and sequentially numbered parts list, and diagrams required for maintenance.
- g) Spare parts list, including recommended number of parts to be stored at the site, special storage precautions, and reordering instructions.
- h) Wire diagrams and other panel information as actually installed.
- i) Where applicable, identify installed spares and other provisions for future work (e.g., reserved panel space, unused components, wiring, terminals).
- 3) As installed, color coded piping diagrams.
- 4) Charts of valve tag numbers, with the location and function of each valve.
- 5) Drawings: Supplement product data with drawings as necessary to clearly illustrate relations of component parts of equipment and systems and control and flow diagrams.

## **1.06 PROJECT RECORD DOCUMENTS**

- A. Project Record Documents include Record Drawings as described in Section OR-01700 Execution Requirements.
- B. The Design-Builder shall deliver draft Project Record Documents in accordance with the following requirements to the Owner for review prior to Substantial Completion or as noted in this Section. Final Completion will not be granted until all final Project Record Documents have been submitted to and accepted by the Owner.
  - 1. Submittal Timeline:
    - a. Drafts of the Record Drawings and Record Product Data shall be submitted to the Owner a minimum of 60 calendar days prior to the scheduled date for Substantial Completion for review by the Owner.
    - b. Final versions of the Project Record Drawings shall be submitted to the Owner within 30 calendar days following Final Completion and prior to Final Acceptance.
  - 2. Submittal Requirements:
    - a. Record Drawings shall be prepared in accordance with Section OR-01700 Execution Requirements.
    - b. Record Drawings:
      - 1) Submit one complete electronic set (PDF) of marked-up Record Drawings, with all changes captured throughout construction shown as markups.
      - 2) Submit one electronic version of drawings with all modifications incorporated into the native format as described in Section OR-01320 Project Management and Progress Reporting.



- 3) Submit two electronic versions (PDF and TIFF) of Record Drawings with all modifications incorporated and sized for printing at 24" x 36".
3. Accompany each submittal with a transmittal letter containing:
  - a. Date.
  - b. Project title and number.
  - c. Design-Builder's name and address.
  - d. Title and number of each Project Record Document.
  - e. Signature of Design-Builder or its authorized representative.

## **1.07 AS-BUILT BUILDING INFORMATION MODEL**

- A. An as-built version of the BIM shall be prepared to reflect all modifications captured in the Record Drawings.
- B. Submittal Timeline:
  1. Draft as-built BIM shall be submitted as required for Substantial Completion and a model walkthrough shall be scheduled 30 days prior to the draft submission.
  2. The as-built BIM shall be submitted electronically within 30 calendar days of Owner acceptance of the final Record Drawings and must be received and accepted by the Owner prior to Final Completion of the Work.

## **PART 2 PRODUCTS**

Not Used.

## **PART 3 EXECUTION**

### **3.01 FINAL CLEANING**

- A. General: Provide final cleaning and conduct final cleaning operations to comply with Applicable Laws.
- B. Cleaning: Employ experienced skilled workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
- C. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.
- D. Complete the following cleaning operations before requesting inspection for Certification of Final Completion:
  1. Clean the Site and grounds, in areas disturbed by construction activities, of rubbish, waste material, litter, and other foreign substances.
  2. Carry out waste disposal in accordance with the requirements of Section OR-01700 Execution Requirements.

3. Broom clean paved surfaces and rake clean other surfaces of the grounds so as to leave the Site ready for occupancy by the Owner and restore those portions of the Site not designated for alteration by the Agreement to their condition as of beginning of Work.
  4. Remove petrochemical spills, stains, and other foreign deposits.
  5. Wash, wherever practicable, or broom sweep channels, pipe, basins, reservoirs, and tanks.
  6. Remove tools, construction equipment, machinery, and surplus material from the Site.
  7. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, and similar spaces.
  8. Sweep concrete floors broom clean in unoccupied spaces.
  9. Remove labels that are not permanent.
  10. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already shows evidence of repair or restoration.
  11. Restore any landscape feature scarred or damaged by Design-Builder's equipment or operations as nearly as possible to its original condition at Design-Builder's expense. Design-Builder shall be responsible for replacing any trees, grass, landscaping, or piping systems damaged by construction unless otherwise directed by the Owner.
  12. The Design-Builder shall obliterate all signs of temporary construction facilities such as haul roads, work areas, structures, foundations or temporary structures, stockpiles of excess or waste materials, or any vestiges of construction, as directed by the Owner. Disturbed areas shall be graded and filled as required by Owner. Restoration to original contours is not required.
- E. Do not paint over "UL" and similar labels, including mechanical and electrical nameplates.
1. Wipe surfaces of mechanical and electrical equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
  2. Clean ducts and blowers if units were operated without filters during construction.
  3. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency.
  4. Leave Site clean and ready for use.
- F. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from the Site and dispose of in accordance with Applicable Laws.

END OF SECTION

## **EXHIBIT 11.12**

### **Scope of Phase 2 Services – COMPREHENSIVE AGREEMENT**

**for the**

**Waterfront Implementation Project**

**City of Alexandria**

Exhibit 11.12, inclusive of the Division Owner Requirements (Division ORs), details the scope of services that the Design-Builder is responsible for completing during Phase 2 of the Project. The requirements in Exhibit 11.12 are intended to be complementary and in combination serve as the Scope of Phase 2 Services. If there are any conflicts between the requirements within Exhibit 11.12, the Design-Builder shall bring to the attention of Owner for resolution.

#### **ARTICLE 1 – PROJECT MANAGEMENT AND COORDINATION**

##### **1.1 Project Coordination and Management**

- A. The Design-Builder shall provide Project coordination and management for the activities performed during Phase 2. This includes management and monitoring of labor utilization (including compliance with federal funding requirements, if applicable), project schedule, and project budget on a regular basis. It shall be the ongoing responsibility of the Design-Builder to adequately manage and adhere to the task budgets and to submit deliverables to Owner on time and in accordance with the Agreement.
- B. Project Management Plan. Update the Project Management Plan developed during Phase 1 for purposes of Phase 2. The updated Project Management Plan shall summarize the objectives and approach to delivery of Work; organization requirements defining resources and staffing, roles and responsibilities, contact information, and communication protocols/procedures; Design-Builder's Quality Management Plan (QMP); Phase 2 budget, Project Schedule and work breakdown structure; financial tracking procedures; decision/action items logs; and scope change management process.
  - 1. Submit an electronic copy in PDF format of the draft Project Management Plan to Owner within thirty (30) calendar days following Notice to Proceed (Phase 2). Account for a period of ten (10) calendar days for the Owner's review of the draft Project Management Plan submittal.
  - 2. Update the draft Project Management Plan based on comments received from Owner and submit an electronic copy in PDF format of the final Project Management Plan to Owner within fourteen (14) calendar days after receipt of Owner's comments.
- C. Phase 2 Reporting. Design Builder shall prepare and submit Phase 2 reports in accordance with the Division ORs.
- D. Phase 2 Meetings. Design Builder shall prepare, facilitate, and document meetings in accordance with the Division ORs.
- E. Risk and Contingency Management. The Design-Builder shall incorporate risk and contingency management into the Project in accordance with the Agreement. Design-Builder provide updates to the Risk Register developed in Phase 1 in accordance with the following:

1. Maintain a Risk Register developed and updated during Phase 1.
2. The Risk Register, as developed as part of Phase 1, shall include the following information:
  - a. Risk identification;
  - b. Risk description including qualitative categorization of risk;
  - c. Estimated/calculated percent likelihood that risk may occur;
  - d. Phase of Project that risk could impact;
  - e. Potential schedule impact should risk occur;
  - f. Potential cost impact should risk occur;
  - g. Risk trigger;
  - h. Risk responsible party; and
  - i. Risk management strategy (transfer, mitigate, accept, exploit) and description of plan for risk response.
3. Update Risk Register and submit to Owner as part of monthly progress reports.

**F. Work Management System.**

1. Document Management. Design-Builder will maintain and coordinate all pertinent electronic design files and documents including all computer-aided design and drafting (CADD)-related files related to the Project. Electronic files submitted during Phase 2 shall use a naming convention approved by the Owner and described in the Project Management Plan.
2. Program Management Information System. The Owner will implement a web-based project management information system (PMIS) to facilitate collaboration and management of the Project. The Design-Builder will be required to use the Owner's PMIS and follow established procedures and workflows for documenting, sharing, and control of Project information.
3. If approved by Owner the Design-Builder may utilize a separate system for workflow management that is accessible to both Design-Builder and Owner (*to be determined during Phase 1 prior to the GMP Proposal*).

**1.2 Quality Management Requirements**

- A. Design Builder shall adhere to quality requirements as set forth in the Phase 2 Quality Management Plan (QMP) as described in the Division ORs and the Agreement.
- B. Construction Quality Control Requirements
  1. The Owner's rights to review, inspect, test, and monitor the Work are set forth in the Agreement.
  2. All Work performed by any Subcontractor or supplier shall be inspected by the Design-Builder. All nonconforming Work and any safety hazards in the Work area shall be noted and promptly corrected. The Phase 2 QMP shall require inspection during construction by inspectors who are not responsible, in whole or in part, for the scheduling or construction of the Works being inspected. Inspection records must be kept current, have sufficient detail to enable applicable Design Builder entities performing engineering services to identify inspections which have been performed, and the results of these inspections.

3. Design-Builder is responsible for all material sampling and testing and inspection of the Work to confirm compliance with the Contract Documents. Design-Builder is responsible for completing all special inspections and reporting required to comply with Governmental Approvals.

## **ARTICLE 2 - FINAL DESIGN**

### **2.1 Final Design**

- A. The Design-Builder shall complete the final design (i.e., progressing the design from 70% to 100%). The advancement of the design to the 100% level consists of finalizing the drawings and specifications to the level needed for construction and for obtaining permits and titled "Released for Construction Documents" (also referred to as Contract Drawings and Specifications). The completion of the 100% level of design shall adhere to the following requirements:
  1. Drawings and specifications shall be prepared in accordance with the requirements stipulated within this Exhibit. Building information model ("BIM") presenting a digital representation of physical and functional characteristics for stormwater pumping stations shall be prepared in accordance with the requirements stipulated within this Exhibit.
  2. Identify all changes from the 70% technical exhibits, on which the GMP Amendment is based and are included within the Agreement to make a record of the changes.
  3. At such time that Owner and Design-Builder believe the drawings and specifications are sufficiently complete, submit the drawings and specifications to the required Owner's Development Department and other permitting agencies for review, as necessary. Design-Builder shall respond to review comments and shall make revisions as necessary to obtain permits.
  4. Design-Builder shall submit to the Owner one (1) set of reproducible drawings and specifications that are ready for construction purposes (i.e., construction-ready drawings and construction-ready specifications). Issue block shall say "Released for Construction" and date.
  5. Design-Builder shall submit electronic files of construction-ready drawings in both CAD format and in PDF format.
  6. Design-Builder shall submit electronic files of construction-ready specifications in both Microsoft Word format and pdf format.

### **2.2 Development Review Requirements**

- A. The Design-Builder shall submit all necessary applications, submissions of design documents, and comment-response letters to obtain Development Review Process approvals as documented in the Governmental Approvals Plan.
- B. Work shall be prepared in accordance with the Final Project Development Review Conditions [to be included in Comprehensive Amendment] and include any supplemental exhibits, renderings or other work efforts as necessary to satisfy review requirements and achieve compliance.

## **ARTICLE 3 – ENGINEERING SERVICES DURING CONSTRUCTION**

### **2.1 Engineering Management**

#### **A. Design-Builder shall:**

1. Assign engineering staff to support the construction administration, perform engineering duties and responsibilities, and to confirm that construction is completed in conformance with the Construction Documents.
2. Supervise and coordinate engineering and technical services subconsultants, including geotechnical, environmental, and other subconsultants.
3. Perform document management responsibilities.
4. Coordinate efforts between field and office staff, construction, and permitting activities. Engineering management assigned to the project shall support the field staff, coordinate office engineering activities, attend on-site meetings (as necessary), and manage project administration activities.

### **2.2 Resident Engineering**

#### **A. Design Builder's resident engineers shall provide field engineering services at the Project site, including but not limited to:**

1. Monitor and inspect the Works to confirm conformance with the Construction Documents.
2. Interface with design team in the event of unusual or unexpected conditions or other field conditions encountered during construction that may warrant input from various disciplines within the design team.
3. Expedite the resolution of requests for information and coordinate interpretation of Construction Documents.
4. Coordinate observation and support of special inspections and material testing.
5. Review of proposed resolutions to non-conformance reports and corrective action plans.
6. Verify compliance with environmental/permitting requirements.
7. Coordinate production of Record Drawings with construction staff. Verify Record Drawings are kept current on-site and are prepared in compliance with requirements of Construction Documents and Agreement.
8. Attend construction meetings held on-site.

### **2.3 Site Observations and Special Inspections**

- #### **A. The Design-Builder shall coordinate visits to the Project site by the design team members to review progress and quality of the Works in accordance with the Construction Documents and Agreement, Phase 2 QMP, building codes, and/or permitting requirements. The visits shall observe the general quality of the work at the time of the visit and review any specific items of work that are brought to the attention of the design team members.**

- B. The responsibility for special inspections required by applicable building codes are in accordance to DIVISION ORs 01400 – QUALITY REQUIREMENTS.

## **2.4 Submittals and Shop Drawings**

A. Design-Builder shall:

1. Follow project procedures (provided by Owner and included as attachment to Design-Builder's PMP) for managing, tracking, and reviewing relevant documents utilizing the Owner's PMIS (or alternative workflow management system as defined during Phase 1B). Submittals will be reviewed in accordance with the Construction Documents and Agreement requirements.
2. Maintain hard-copy documentation of electronic submissions on-site, as well as samples. One (1) copy of hard-copy submittals will be maintained in Design-Builder's field office.
3. Review Shop Drawings, product data and samples, and submittals for conformance with the design concept and compliance with the Construction Documents and Agreement requirements.
4. Assign the Design-Builder's construction engineering staff the responsibility for receiving and reviewing submittals, consisting of Shop Drawings, diagrams, illustrations, catalog data, schedules and samples, the results of tests and inspections, and other data.
5. Submit to Owner Shop Drawings, product data, samples, and similar submittals as requested by Owner with reasonable promptness and in such sequence as to cause no delay in the Works or in the activities of Owner or of separate contractors.

## **2.5 Request for Information and Technical Changes**

- A. In accordance with the Agreement, Design-Builder will provide technical information, including revisions to drawings and specifications to support field orders, proposed changes, and change orders. Work will be done in accordance with project procedures for managing, tracking, and reviewing requests for information using the PMIS.
- B. Design-Builder shall review requests for information for providing interpretation of design documentation, and required or requested modifications. Design-Builder shall provide written documentation of resolution of technical issues.
- C. Design-Builder shall produce revised design documentation (drawings and specifications) to support field changes (construction or differing site conditions), design issues, or changes because of an approved request for information. Design-Builder shall update drawing information in accordance with the required design change for incorporation into project Record Drawings.
- D. Change Management. Design-Builder shall document scope and schedule changes associated with completion of Design-Builder's work in accordance to the Agreement.

## **2.6 Quality Control Support**

### **A. Design Builder shall:**

1. Provide technical review of nonconformance reports and approve proposed corrective action plans for conformance with the design concepts, Agreement requirements, and Released for Construction Documents.
2. Coordinate shop tests and inspections of work, materials, and equipment for the Project at off-site facilities.
3. Attend and witness field and factory performance tests, for selected equipment/suppliers.
4. Monitor the coordination of inspection and testing by regulatory and third-party agencies that have jurisdiction over the Project.
5. Coordinate the inspection of stormwater management features (silt fence, bales, etc.), as well as verification that the erosion control plans are current and available onsite.

## **ARTICLE 3 – CONSTRUCTION SERVICES**

### **3.1 Construction Responsibility**

#### **A. In performing Phase 2 services, the Design-Builder shall construct the Project in accordance with the Construction Documents, Division Owner Requirements (Division ORs), and Agreement and without limitation:**

1. Supervise subcontractors and Design-Builder personnel performing the work and manage self-performing and subcontracted work.
2. Construct the Work in accordance with the final approved design documents.
3. Apply for, obtain and maintain all agency and Governmental Approvals required for the Project, unless stipulated otherwise in the Agreement.
4. Perform all necessary Project Site preparation and excavation activities.
5. Demolish and remove existing improvements at the Project Site, as and to the extent required by the Construction Documents.
6. Comply with Owner's BMP certification process.
7. Modify, re-route, repair or replace utilities, as and to the extent required by the Construction Documents and Agreement.
8. Remove from the Project Site and dispose of any demolition or construction debris resulting from the Works and any unused soil excavated therefrom.
9. Procure and provide all necessary materials, labor, machinery, equipment, facilities, tools, consumables, supplies, services and structures.
10. Coordinate, supervise, administer and manage the performance of all Phase 2 services.



11. Update and maintain Historic and Cultural Resources Preservation Work Plan, as needed, in coordination with Alexandria Archaeology, and Provide Archaeological and Historic Preservation Services, Archaeological Field Work, Monitoring, and construction oversight in compliance with the approved Historic and Cultural Resources Preservation Work Plan(s). This may include provision of specialty equipment and/or Archaeological or Preservation Field Crews and/or qualified specialists such as, but not limited to, Underwater Archaeologists or Conservators, as needed, in response to encountering resources of potential historic and/or cultural significance.
12. Prepare and provide all plans, reports, manuals and other documents required by the Construction Documents and Agreement.
13. Construct the Project facilities.
14. Startup, commission, and perform Startup, Commissioning and Acceptance Testing of the Facilities.
15. Train designated Owner employees in the operations and maintenance of the Facilities.
16. Provide warranty coverage for constructed work.
17. Coordinate and cooperate with Owner representatives and keep the Owner's representative regularly informed as to the progress and quality of the Works.
18. Maintain a red-lined set of all Record Drawings and provide final Record Drawings upon completion.

## **ARTICLE 4 – OPERATIONS AND MAINTENANCE**

### **4.1 Operations and Maintenance Procedures**

- A. Design-Builder shall construct the Project in accordance with the Construction Documents, Division ORs, and the Agreement.
- B. Design-Builder shall refine the O&M cost estimate for 11 years of ongoing operations (post-commissioning period) based on final design.
- C. Design-Builder shall provide timely and complete submission of manufacturer's equipment O&M materials.
- D. Equipment vendors shall provide manufacturers' warranties which will be submitted with equipment vendor O&M manuals. Warranties shall be compliant with the Agreement's requirements.

## **ARTICLE 5 - PERMITTING SERVICES**

### **5.1 General Requirements**

- A. Design-Builder shall:
  1. Consult with Owner relative to applicable project permits.

2. Update the Project Governmental Approval Plan developed by Design-Builder during Phase 1. Design-Builder will hold many of the permits and shall develop permit applications and supporting documentation in accordance with applicable regulations.
3. Design progress schedule, prepared in accordance with the requirements of the Agreement, shall include permitting activities occurring within both Phase 1 and Phase 2, including a schedule for permit development, review of each permit, incorporating review comments, agency submittal, preparing responses to agency comments, review of responses, resubmittal to agency, and anticipated approval. The Governmental Approval Plan shall identify submittal requirements and address roles and responsibilities, internal and external communication strategies and protocol as well as permit tracking procedures (for compliance purposes).
4. Have primary responsibility for preparation, coordination, agency approval, compliance with permit requirements, renewals, transfers and/or closeout of permits.
5. Have responsibility for supporting Owner in compliance with permit requirements.
6. Pay all agency permitting fees for permits held by the Design-Builder, including application, review, inspections, renewals, bonding and insurance, transfers and closeout.
7. Design-Builder will also provide the City of Alexandria a draft and final Traffic Control Plan. Design-Builder will comply with city requirements and perform noise monitoring during construction.
8. Submit one (1) electronic copy of the draft updated Project Governmental Approval Plan to Owner within twenty-one (21) calendar days following authorization to proceed with Phase 2.
9. Schedule and facilitate a half-day review meeting with Owner to present the draft Governmental Approval Plan and discuss permitting coordination between Design-Builder, and Owner. Owner will provide comments on the draft updated Governmental Approval Plan prior to the meeting. Design-Builder will address comments at meeting and Owner will be requested to accept draft updated permitting plan with the adjudication of comments reviewed at the meeting.
10. Revise the draft updated Governmental Approval Plan based on comments received from Owner and submit one (1) electronic copy in Adobe Acrobat PDF format of final updated permitting plan to Owner within fourteen (14) calendar days after receipt of Owner's comments.
11. Schedule and facilitate monthly permitting coordination meeting with Owner to discuss permit acquisition, coordination, and compliance activities. Provide monthly status report to Owner.
12. Prepare for and attend up to six (6) agency coordination and/or public meetings for the project. Prepare and distribute meeting minutes.
13. Coordinate with Owner on an annual basis to determine if an update to permitting plan is required for the project duration. If deemed necessary, submit an electronic copy of each update to Owner within twenty-one (21) calendar days of the anniversary date of the initial submittal.

## **ARTICLE 6 – ASSET MANAGEMENT SYSTEM AND ELECTRICAL SYSTEM STUDY**

### **6.1 Asset Management System**

- A. Design-Builder will provide equipment asset information in spreadsheet format for Owner's inclusion in the Owner's (or Owner's delegate) computerized maintenance management system (CMMS).
- B. Design-Builder shall prepare asset management data in spreadsheet format for Owner's or Owner's delegate) CMMS using Owner-provided input format for all equipment installed in Project. Spreadsheet information to include at a minimum the following: asset name, asset ID, manufacturer, model and model number, serial number, name plate data (as applicable), and additional attributes per asset type – mechanical, electrical, structural, or other discipline-specific data (e.g., capacity, dimension, material) – as agreed upon by Owner.

END OF SCHEDULE

**EXHIBIT 11.13(a)**

**Form of Performance Bond –  
COMPREHENSIVE AGREEMENT**

**for the**

**Waterfront Implementation Project**

**City of Alexandria**

BOND NO. \_\_\_\_\_

BOND AMOUNT: \$ \_\_\_\_\_

KNOW ALL MEN BY THESE PRESENTS, THAT:

WHEREAS, THE CITY OF ALEXANDRIA, VIRGINIA (“City”) has awarded to \_\_\_\_\_, a \_\_\_\_\_ duly organized and existing under the laws of the State of \_\_\_\_\_ (“Design-Builder”), a Comprehensive Agreement dated \_\_\_\_\_ (“Comprehensive Agreement”); and

WHEREAS, one of the conditions of the Comprehensive Agreement is that Design-Builder shall provide this duly executed instrument (“Bond”).

NOW THEREFORE, We, the undersigned Design-Builder and \_\_\_\_\_, a corporation duly organized and existing under and by virtue of the laws of the State of \_\_\_\_\_ and authorized to transact business as a surety within the Commonwealth of Virginia (“Surety”), are held and firmly bound unto the City, as obligee, and its successors and assigns in the sum of \_\_\_\_\_ DOLLARS (\$ \_\_\_\_\_), lawful money of the United States of America, for the payment of which, well and truly be made to the City, Design-Builder and Surety bind themselves and each of their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH THAT:

1. The Comprehensive Agreement is hereby incorporated by reference herein as if said agreement were fully set forth herein. Initially capitalized terms not otherwise defined herein shall have the meanings set forth in the Comprehensive Agreement.

2. If Design-Builder shall at all times promptly, and faithfully perform the Comprehensive Agreement and any alteration in or addition to the obligations of Design-Builder arising thereunder in strict accordance with the terms and conditions of the Comprehensive Agreement, including the matter or infringement, if any, of patents or other proprietary rights, and all guarantees and warranties, including the guarantee and warranty periods, established by the Comprehensive Agreement, and comply with all of the covenants therein contained, in the manner and within the times provided in the Comprehensive Agreement, and, subject to the terms of the Comprehensive Agreement, shall fully indemnify and save harmless the City from all costs and damages which it may suffer by reason or failure so to do, and shall fully reimburse and repay the City all outlay and expenses which it may incur in making good any default, and reasonable counsel fees incurred in the prosecution of or defense of any action arising out of or in connection with any such default,

then Surety's obligations under this Bond shall be void; otherwise such obligations shall remain in full force and effect.

3. This Bond shall cover the cost to perform all the obligations of Design-Builder arising out of or required under the Comprehensive Agreement, and the obligations covered by this Bond specifically include Design-Builder's liability for liquidated damages as specified in the Comprehensive Agreement.

4. If the City gives Surety notice of Design-Builder's default, Surety shall promptly, but in no event later than thirty (30) days, take one of the following actions:

- (a) Arrange, with the consent of the City, for Design-Builder to complete the Comprehensive Agreement; or
- (b) Undertake completion of the Comprehensive Agreement itself;
- (c) Waive its right to complete the Comprehensive Agreement and reimburse to the City the amount of the City's costs in completing the Work, including all outlay and expenses incurred in responding to the default and reasonable counsel fees incurred in the prosecution of or defense of any action arising out of or in connection with any such default; or.
- (d) Deny liability in whole or in part and notify the City in writing, citing the reasons for denial.

5. Should Surety fail to take the actions set forth in Paragraph 4 within the time specified by Paragraph 4, Surety shall be deemed in default of this Bond and the City may, after having given seven (7) days written notice, pursue and enforce any and all remedies available to it under the Comprehensive Agreement, this Bond or common law, including, but not limited to, completing the Comprehensive Agreement and pursuing Surety for damages and any other relief to which it may be entitled against Surety.

6. No suit or action may be brought by the City under this Bond after the expiration of two (2) years following Final Completion.

7. Surety, for value received, hereby stipulates and agrees that no change, extension of time, alterations, additions, omissions or other modifications of the terms of the Comprehensive Agreement, or in the Work to be performed with respect to the Project, or in the specifications or plans, or any change or modification of any terms of payment or extension of time for any payment pertaining or relating to the Comprehensive Agreement, or any rescission or attempted rescission by Design-Builder of the Comprehensive Agreement, or this Bond, shall in any way affect its obligations on this Bond, and Surety does hereby waive notice of such changes, extension of time, alterations, additions, omissions or other modifications.

8. Any provision in this Bond which conflicts with applicable Legal Requirements shall be deemed modified to conform to applicable Legal Requirements.

9. *[Note: Use in case of multiple sureties ("Co-Sureties") or, otherwise, delete; If Co-Sureties are used, modify the preceding language accordingly to reflect this]* The Co-Sureties agree to empower and designate a single "Lead Surety" with authority to act on behalf of all of the Co-Sureties with respect to this Bond, so that the City will have no obligation to deal with multiple sureties hereunder. All correspondence from the City to the Co-Sureties and all claims under this Bond shall be sent to the Lead Surety and shall be deemed served upon all Co-sureties. The Lead Surety may be changed only by delivery of written notice (by personal delivery or by certified mail, return receipt requested) to the City designating a new Lead Surety, signed by all of the Co-Sureties. The initial Lead Surety shall be \_\_\_\_\_.

IN WITNESS WHEREOF, We have hereunto set our hands and seals on this \_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_.

Correspondence or claims relating to this Bond should be sent to the Lead Surety at the following address:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

*[Note: If Co-Sureties are used, then add appropriate number of lines to signature block.]*

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
(Design-Builder's name, title, and signature)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Surety

By: \_\_\_\_\_

Attorney-in-Fact (certified copy of authority attached)

NOTE: Surety on this Bond shall be one who is authorized by applicable Legal Requirements to do business in the Commonwealth of Virginia, and named in the current list of Companies Holding Certificates of Authority as Acceptable Sureties on Federal bonds and as Acceptable Reinsuring Companies, as published in Circular 570 (amended) by the Audit Staff Bureau of Accounts, U.S. Treasury Department. All bonds signed by an agent must be accompanied by a certified copy of the authority to act for Surety at the time of the signing of this Bond.

**EXHIBIT 11.13(b)**

**Form of Payment Bond –  
COMPREHENSIVE AGREEMENT**

**for the**

**Waterfront Implementation Project**

**City of Alexandria**

BOND NO. \_\_\_\_\_

BOND AMOUNT: \$ \_\_\_\_\_

KNOW ALL MEN BY THESE PRESENTS, THAT:

WHEREAS, THE CITY OF ALEXANDRIA, VIRGINIA (“City”) has awarded to \_\_\_\_\_, a \_\_\_\_\_ duly organized and existing under the laws of the State of \_\_\_\_\_ (“Design-Builder”), a Comprehensive Agreement dated \_\_\_\_\_ (“Comprehensive Agreement”); and

WHEREAS, one of the conditions of the Comprehensive Agreement is that Design-Builder shall provide this duly executed instrument (“Bond”).

NOW THEREFORE, We, the undersigned Design-Builder and \_\_\_\_\_, a corporation duly organized and existing under and by virtue of the laws of the State of \_\_\_\_\_ and authorized to transact business as a surety within the Commonwealth of Virginia (“Surety”), are held and firmly bound, jointly and severally, unto the City, as obligee, and its successors and assigns, in the sum of \_\_\_\_\_ DOLLARS (\$ \_\_\_\_\_), lawful money of the United States of America, for the payment of which, well and truly be made to the City and Claimants, Design-Builder and Surety bind themselves and each of their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH THAT:

1. The Comprehensive Agreement is hereby incorporated by reference herein as if said agreement were fully set forth herein. Initially capitalized terms not otherwise defined herein shall have the meanings set forth in the Comprehensive Agreement.

2. If Design-Builder shall: (a) make payments of all sums due to all persons and entities having a direct contract with Design-Builder, or a direct contract with a Subcontractor having a direct contract with Design-Builder, for supplying labor, material, and/or supplies used directly or indirectly by Design-Builder in the prosecution of the Work provided in the Comprehensive Agreement (such persons and entities hereinafter referred to collectively as “Claimants”); and (b) shall fully indemnify and save harmless the City from all costs and damages which the City may suffer by reason of Design-Builder’s failure to fulfill its obligations to Claimants under clause (a) above, including but not limited to, fully reimbursing and repaying the City reasonable counsel fees incurred as a result of any action arising out of or in connection with any such failure, then Surety’s obligations under this Bond shall be void; otherwise such obligations shall remain in full force and effect.

3. All Claimants shall have a direct right of action only against Surety and Design-Builder under this Bond; *provided, however*, that no claim, suit or action shall be brought by any Claimant after the expiration of one (1) year following the date on which Claimant last performed labor or last furnished or supplied materials to the Project. Any suit or action must be brought in a state or federal court of competent jurisdiction located in the Commonwealth of Virginia.

4. Any Claimant who does not have a direct contractual relationship with Design-Builder shall, as a condition precedent to bringing such claim, suit or action, provide written notice thereof to Design-Builder, Surety, and the City, no later than ninety (90) days from the date Claimant last supplied labor or materials, stating with substantial accuracy the amount claimed, the name of the person for whom the work was performed or to whom the material was furnished, and the dates on which such labor or materials were supplied.

5. Surety shall, after receipt of reasonable notice to Surety of any claim, demand, suit or action brought against the City by a Claimant, defend, with counsel approved by the City, such approval not to be unreasonably withheld, indemnify and hold harmless the City from any and all claims, demands, suits or actions brought by any Claimant. The City shall have a direct right of action against Surety and Design-Builder for any breach by Surety of its obligation to defend, indemnify and hold harmless the City.

6. Surety, for value received, hereby stipulates and agrees that no change, extension of time, alterations, additions, omissions or other modifications of the terms of the Comprehensive Agreement, or in the Work to be performed with respect to the Project, or in the specifications or plans, or any change or modification of any terms of payment or extension of time for any payment pertaining or relating to the Comprehensive Agreement, or any rescission or attempted rescission by Design-Builder of the Comprehensive Agreement, or this Bond, or any conditions precedent or subsequent in this Bond attempting to limit the right of recovery of Claimants otherwise entitled to recover under this Bond, shall in any way affect its obligations on this Bond, and Surety does hereby waive notice of such changes, extension of time, alterations, additions, omissions or other modifications.

7. Surety acknowledges that the amounts owed to Design-Builder under the Comprehensive Agreement shall first be available for the performance of the Comprehensive Agreement, including the City's superior right to use the funds due for the completion of the Work, and then may be available to satisfy claims arising under this Bond. The City shall not be liable for the payment of any costs or expenses or claims of any Claimant under this Bond and shall have no obligation to make payments to, or give notice on behalf of, any Claimant.

8. Any provision in this Bond which conflicts with applicable Legal Requirements shall be deemed modified to conform to applicable Legal Requirements.

9. Design-Builder or the City shall furnish a copy of this Bond or permit a copy to be made upon request by any person or entity who may be a Claimant as defined above.

10. *[Note: Use in case of multiple sureties ("Co-Sureties") or, otherwise, delete; If Co-Sureties are used, modify the preceding language accordingly to reflect this]* The Co-Sureties agree to empower and designate a single, "Lead Surety" with authority to act on behalf of all of the Co-Sureties with respect to this Bond, so that the City and Claimants will have no obligation to deal with multiple sureties hereunder. All correspondence from the City and Claimants to the Co-Sureties and all claims under this Bond shall be sent to such designated Lead Surety and service of such correspondence or notice upon the Lead Surety shall constitute service upon all co-sureties. The Lead Surety may be changed only by delivery of written notice (by personal



delivery or by certified mail, return receipt requested) to the City designating a single new Lead Surety, signed by all of the Co-Sureties. The initial Lead Surety shall be \_\_\_\_\_.

IN WITNESS WHEREOF, We have hereunto set our hands and seals on this \_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_.

Correspondence or claims relating to this Bond should be sent to the designated Lead Surety at the following address:  _____ _____ _____
--

*[Note: If Co-sureties are used, then add appropriate number of lines to signature block.]*

_____ _____ _____  (Design-Builder's name, title, and signature) _____ _____ _____  Surety  By: _____  Attorney-in-Fact (attach certified copy of authority)
---

NOTE: Surety on this Bond shall be one who is authorized by applicable Legal Requirements to do business in the Commonwealth of Virginia, and named in the current list of Companies Holding Certificates of Authority as Acceptable Sureties on Federal bonds and as Acceptable Reinsuring Companies, as published in Circular 570 (amended) by the Audit Staff Bureau of Accounts, U.S. Treasury Department. All bonds signed by an agent must be accompanied by a certified copy of the authority to act for Surety at the time of the signing of this Bond.

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**Exhibit 11.14**

**General Conditions of Contract –  
COMPREHENSIVE AGREEMENT**

**for the**

**Waterfront Implementation Project**

**City of Alexandria**

[ATTACHED]

## **General Conditions of Contract**

### **Article 1**

#### **General**

#### **1.1 Mutual Obligations**

**1.1.1** The City and Design-Builder commit at all times to cooperate fully with each other and proceed on the basis of trust and good faith, to permit each Party to realize the benefits afforded under the Contract Documents.

#### **1.2 Basic Definitions**

**1.2.1** For the purposes of the Contract Documents, the following words and terms shall have the meanings specified below (other words and abbreviations that have well-known technical, or trade meanings are used in the Contract Documents in accordance with such recognized meanings), provided, however, that capitalized terms defined in other Contract Documents, including but not limited to the Agreement, shall have the meanings specified in such document. For convenience, this Section 1.2.1 includes an index of capitalized terms used in the Agreement and these General Conditions of the Contract.

*Affiliate* means, (a) any person or entity which directly or indirectly through one or more intermediaries controls, or is controlled by, or is under common control with, Design-Builder or any of its members, partners or shareholders holding an interest in Design-Builder; and (b) any person or entity for which ten percent (10%) or more of the equity interest in such person or entity is held directly or indirectly, beneficially or of record by: (i) Design-Builder; (ii) any of Design-Builder's members, partners or shareholders that own ten percent (10%) or more of Design-Builder or Design-Builder's members, partners or shareholders; or (iii) any Affiliate of Design-Builder under clause (a) of this definition. For purposes of this definition the term "control" means the possession, directly or indirectly, of the power to cause the direction of the management of a person and/or entity, whether through voting securities, by contract, family relationship or otherwise.

*Agreement* refers to the document titled "Comprehensive Agreement," signed by both Parties and includes all Exhibits expressly identified in Section 2.1 of the Agreement.

*Agreement Date* means the date set forth on the first page of the Agreement.

*Alexandria Archaeology Commission* means the department of the City of Alexandria, Virginia designated as such.

*Allowance Payment Item* means an item or portion of the Work which has not been defined sufficiently, or for which the City has yet to make certain decisions necessary, to permit pricing by Design-Builder.

*Allowance Payment Value* means the estimated dollar amount included in the Schedule of Values or other budget document as a placeholder value for an Allowance Payment Item, pending acceptance by the City of pricing offered by Design-Builder and other applicable terms.

*Application for Payment* means a request for payment in form acceptable to the City that is submitted by Design-Builder to the City on a monthly basis, or other periodic basis acceptable to the City, and which includes, without limitation, all supporting documentation and information required by the City or the Contract Documents.

*Bankrupt Party* has the meaning set forth in Section 11.5.1 below.

*Baseline Schedule* means the schedule set forth in Exhibit 11.2.5 (Baseline Schedule) to the Agreement.

*Books and Records* means all documents (whether paper, electronic, or other media) and electronically stored information, including, but not limited to, any and all books, correspondence, receipts, vouchers, estimates, records, contracts, cost data, schedules, subcontracts, schedules, job cost reports, and other data, including computations and projections, of Design-Builder related to bidding, negotiating, pricing, or performing the Work.

*Builder's Risk Insurance* means the policy of insurance required under Exhibit 11.1 (Insurance Requirements) of the Comprehensive Agreement identified as the Builder's Risk policy, which policy is intended to provide property insurance for the Work in progress and other coverages.

*Certificate of Final Completion* means a certification issued by City to Design-Builder, stating that Design-Builder, to the best of City's actual knowledge and belief, has achieved Final Completion, and confirming that date upon which such event occurred.

*Certificate of Substantial Completion* means a certification issued by City to Design-Builder, stating that Design-Builder, to the best of City's actual knowledge and belief, has achieved Substantial Completion, and confirming that date upon which such event occurred.

*Change Order* has the meaning set forth in Section 9.1.3 below.

*City* means the City of Alexandria, Virginia.

*City-Furnished Information* means that information set forth in Exhibit 2.5.1 of the Interim Agreement.

*City Indemnitee* means and includes each of the City and Owner's Advisor, and, with respect to each of the foregoing, each of its respective representatives, officers, employees, members or other constituent entities, subconsultants, authorized agents, and other duly authorized representatives.

*City's Project Criteria* mean the City's programmatic requirements and objectives for the Project, and specific criteria and requirements, as set forth in Exhibit 11.2.2 (City's Project Criteria) to the Agreement.

*Claim* means Design-Builder's request to the City under Section 10.2 below for relief arising from any rejected Design-Builder PCO.

*Confidential Information* has the meaning set forth in Section 13.1 below.

*Construction Documents* means those final, complete design documents that: (a) are to be used for performing the construction and in correlation with all applicable Governmental Approvals, (b) have been signed and sealed by a properly licensed Design Consultant; and (c) have been approved by City in accordance with Section 2.4 below.

*Contingency* has the meaning set forth in Section 4.6.1 of the Agreement.

*Contract Documents* means those documents specifically referenced and listed in the Section 2.1 of the Agreement as Contract Documents.

*Contract Price* has the meaning set forth in Section 4.1.1 of the Agreement.

*Contract Times* has the meaning set forth in Section 3.3.3 of the Agreement.

*Cost of the Work* has the meaning set forth in Section 4.2 of the Agreement.

*Day or day* mean calendar days, unless specifically stated otherwise.

*DB-Related Entity* means Design-Builder, Design Consultants and Subcontractors of any tier, and anyone for whose acts any of them may be legally or contractually responsible.

*Delay Liquidated Damages* has the meaning set forth in Section 3.5 of the Agreement.

*Design-Builder* is \_\_\_\_\_.

*Design-Builder's Fee* has the meaning set forth in Section 4.5.1 of the Agreement.

*Design-Builder's General Conditions* has the meaning set forth in Section 4.3 of the Agreement.

*Design-Builder's Project Manager* means that person designated by Design-Builder under Section 2.1.1 below, who will be the principal representative of Design-Builder with respect to the performance of the Work.

*Design-Builder Proposed Change Order or Design-Builder PCO* means a proposed change order submitted to City from Design-Builder in accordance with Section 9.5 below.

*Design-Builder's Representative* means that person designated by Design-Builder under Section 2.1.1 below, who shall be the principal representative of Design-Builder with respect to contractual matters and shall have full authority to act on behalf of Design-Builder and make binding decisions on behalf of Design-Builder with respect to any matter arising out of or relating to the Contract Documents.

*Design-Builder's Safety Representative* means that person designated by Design-Builder under Section 2.8.1 below, whose principal duty shall be the prevention of accidents and the protection of all persons and property located on or adjacent to the Site. Design-Builder's Safety Representative shall take such action as appropriate to ensure

the proper implementation of, and compliance with, safety policies, precautions, procedures and plans.

*Designated City-Furnished Information* means that information set forth in Exhibit 11.2.3 of the Agreement.

*Design Consultant* is a qualified, licensed design professional, eligible to provide, among other things, professional engineering, architectural and/or land surveying services, who is not an employee of Design-Builder, but is retained by Design-Builder or another DB-Related Entity, to furnish design services required under the Contract Documents. For the avoidance of doubt, the Lead Designer is a Design Consultant.

*Differing Site Conditions* has the meaning set forth in Section 4.3.1 below.

*Directive Letter* has the meaning set forth in Section 9.6.1 below.

*Dispute* means any claim, disagreement or controversy between the Parties arising out of or relating to the Agreement, including but not limited to those arising out of or related to the breach, termination or invalidity of the Agreement.

*Division Owner Requirements* mean that information set forth in Exhibit 11.1.3 of the Agreement.

*Electronic Data* has the meaning set forth in Section 12.1.1 below.

*Equipment and Materials* shall mean all of the equipment, materials, machinery, apparatus, structures, supplies and other goods required by the terms of the Contract Documents to complete the Work and to be incorporated into the Project or provided to City. The term "Equipment and Materials" shall not be construed to include any construction equipment, supplies, materials, apparatus or tools owned by Design-Builder or any other DB-Related Entity that are used to complete the Work but are not contemplated under the Contract Documents to become incorporated into the Project or to be provided to City.

*Exhibits* have the meaning set forth in Section 2.1 of the Agreement.

*Excusable Delay* has the meaning set forth in Section 8.4.1 below.

*Final Application for Payment* means the Application for Payment submitted by Design-Builder to City after Design-Builder has achieved Final Completion, requesting payment of the unpaid balance of the Contract Price (less any amounts properly withheld by City) plus any share of Savings earned by Design-Builder.

*Final Completion* means all Work, including that identified on the Punch List, is complete in accordance with the Contract Documents, and Design-Builder has satisfied all conditions for Final Completion set forth in the Contract Documents, including, without limitation, Section 8.3 below. Obligations which by their nature accrue or continue past Final Completion, such as warranty obligations, are not required to be complete in order to achieve Final Completion.

*Final Completion Date* means the date that Final Completion occurs, as confirmed by the City and set forth in a Certificate of Final Completion.

*Force Majeure Events* are those events that are beyond the control of all DB-Related Entities and City, including the events of war, floods, labor disputes, earthquakes, epidemics, pandemics, unusually severe and abnormal weather conditions, and other acts of God.

*GMP Proposal* means that proposal submitted by Design-Builder to the City as part of the Interim Agreement.

*GMP Proposal Design Documents* means those design documents set forth in Exhibit 11.2.1 of the Agreement.

*General Conditions of Contract* refers to this document.

*Geotechnical Baseline Report (GBR)* is set forth in Exhibit 11.2.8 of the Agreement.

*Geotechnical Data Report (GDR)* is that document referenced as such in Exhibit 11.2.4 (GMP Clarifications and Assumptions) of the Agreement.

*Good Engineering and Construction Practices* mean those methods, techniques, standards, and practices which, at the time they are to be employed and in light of the circumstances known or reasonably believed to exist at such time, are generally recognized and accepted as good engineering, equipping, installation, construction, commissioning, and testing practices for the design, construction, and improvement of capital projects in the water treatment industry similar to the Project in scope and complexity using the design-build delivery method, as followed in the locality of the Project.

*Governmental Approval* means any authorization, consent, approval, license, lease, ruling, permit, certification, exemption, or registration by or with any Governmental Unit.

*Governmental Unit* means any national, state or local government, any political subdivision thereof, or any governmental, quasi-governmental, judicial, public or statutory instrumentality, administrative agency, authority, body or other person and/or entity having jurisdiction over the performance of the Work, the Project or the Parties.

*Guaranteed Maximum Price* (sometimes referred to as the “GMP”) means that monetary value designated as such in Section 4.1.2 of the Agreement.

*Hazardous Environmental Condition* means the presence of Hazardous Materials in such quantities or circumstances that may be reasonably considered to present an imminent or substantial safety or health hazard for City, any DB-Related Entity, their respective employees, agents or representatives, the general public or the surrounding environment.

*Hazardous Materials* means any materials, waste, substances and chemicals deemed to be hazardous under applicable Legal Requirements.



*Gross Negligence* means: (a) a marked and flagrant departure from the standard of conduct of a reasonable person acting in the circumstances at the time of the alleged misconduct; (b) intentional wrongdoing or such wanton or reckless conduct or omissions as constitutes a reckless disregard for harmful, foreseeable and avoidable risks or consequences; or (c) a lack of care that demonstrates reckless disregard for safety (whether human safety or the safety of property), *provided, however*, that Gross Negligence does not include any act or failure to act insofar as it: (x) constituted mere ordinary negligence; or (y) was done or omitted in accordance with the prior written approval of all Parties.

*Key Personnel* means those individuals designated as such in Exhibit 11.2.6 (Key Personnel and Organizational Chart) to the Agreement.

*Lead Designer* means \_\_\_\_\_.

*Legal Requirements* mean all applicable federal, state and local laws, codes, ordinances, rules, statutes, regulations, orders and decrees, and other requirements of any Governmental Unit, including, without limitation, any interpretation of such items by the applicable Governmental Unit.

*Marine Work Subcontractor* means \_\_\_\_\_.

*Minor Change* has the meaning set forth in Section 9.3.1 below.

*Non-Reimbursable Costs* has the meaning set forth in Section 4.4 of the Agreement.

*Notice of Design-Builder Proposed Change Order* has the meaning set forth in Section 9.5.1 below.

*Notice of Termination for Convenience* means a written notice from City to Design-Builder that terminates the right of Design-Builder to perform all or a portion of the Work, specifying the date upon which such notice shall be deemed effective and any other applicable terms.

*Notice to Proceed* or *NTP* has the meaning set forth in Section 3.1 of the Agreement.

*Open-Book Basis* means allowing the City to review all underlying assumptions, records, stand-alone Subcontractor quotes, and other data associated with each element of pricing, or any adjustment thereto, including assumptions as to Costs of the Work, schedule, composition of equipment, equipment rates, labor rates and burdens, production rates, estimating factors, contingency and indirect costs, risk pricing, inflation and deflation rates, profit, home office overhead rates, fees, charges, levies, incentives, and other items reasonably required by the City to satisfy itself as to the reasonableness and accuracy of the amounts proposed by Design-Builder.

*Owner's Advisor* means Carollo Engineers, Inc., and its subconsultants.

*Party or Parties* means, as applicable: (a) in the singular, the City or Design-Builder; or (b) in the plural, the City and Design-Builder.

*Pre-Existing Intellectual Property* has the meaning set forth in Section 7.4 of the Agreement.

*Project* means the Waterfront Implementation Project.

*Punch List* means that list of Work that has been identified as incomplete by the Parties as of the Substantial Completion Date and compiled as set forth under Section 8.2.1 below.

*Savings* has the meaning set forth in Section 4.8.1 of the Agreement.

*Scheduled Final Completion Date* means the date that is set forth in Section 3.2.2 of the Agreement.

*Schedule of Values* is set forth in Exhibit 5.1.1 of the Agreement, and means the tabulation or breakdown of the entire GMP, allocating such GMP to various portions of the Work and other line-items, prepared by Design-Builder in such form and detail, and supported by such data to substantiate its accuracy, as the City may require.

*Scheduled Substantial Completion Date* means the date that is set forth in Section 3.2.1 of the Agreement.

*Self-Perform Work* means Work performed by employees of Design-Builder, Marine Work Subcontractor, or any of their Affiliates.

*Site* is the parcels of land or premises on which the Project is located, as more specifically described in City's Project Criteria.

*Startup, Commissioning, and Testing Plan* means the testing protocols, procedures and processes, approved by City, for conducting commissioning, startup and testing activities in order to achieve Substantial Completion in accordance with the Contract Documents.

*State* means the Commonwealth of Virginia.

*Subcontract* means any contract entered into by Design-Builder and any other DB-Related Entity in connection with the carrying out a portion of the Work.

*Subcontractor* means any person or entity (other than Design Consultants) with whom Design-Builder has entered into any Subcontract for such person or entity to perform any portion of the Work, including Suppliers.

*Sub-Subcontractor* means any person or entity having a direct contract with a Subcontractor.

*Substantial Completion* means that (a) the Work is sufficiently complete in accordance with the Contract Documents so that City can beneficially use and occupy the Project for its intended purposes; and (b) Design-Builder has satisfied or fulfilled all other requirements set forth in Section 8.2.3 below. Unless otherwise expressly stated, any

reference to Substantial Completion applies to the entire Work as a whole, and not to only a portion of the Work.

*Substantial Completion Date* means the date on which Substantial Completion occurs, as confirmed by City and set forth in a Certificate of Substantial Completion.

*Supplier* means any person or entity retained by a DB-Related Entity to provide Equipment and Materials, or construction equipment, supplies or other goods to be used in the performance of the Work but not incorporated into the Work.

*TIA* has the meaning set forth in Section 8.5.2 below.

*Willful Misconduct* means the intentional or deliberate commission of an act, or omission to act, when the person taking such action or omitting to take such action: (a) knows the action or omission is wrongful; or (b) is recklessly or consciously indifferent as to whether the act or omission is wrongful or not.

*Work* means all work, services, activities and other obligations to be performed by Design-Builder under the Contract Documents, including without limitation, design, engineering, permitting, procurement of Equipment and Materials, project management, supervision, construction, commissioning, start-up, testing and all other services and deliverables reasonably inferable from the Contract Documents as required for the proper and safe operation of the Project with the operating characteristics set forth in the Contract Documents and to otherwise achieve Final Completion.

*Work Change Directive* means a written order prepared and signed by City, directing a change in the Work prior to agreement on an adjustment in any Contract Time, GMP, or other terms in the Contract Documents pertaining to the change in the Work.

*Work Product* means all drawings, specifications, calculations, data, models, images, materials, products, documents, and work developed or produced by or on behalf of Design-Builder in connection with the Project, including, without limitation all materials, products, and such items developed or produced by all Design Consultants and Subcontractors of any tier, in all forms, whether in hard-copy, digital or electronic data, or any other medium.

## **Article 2**

### **Design-Builder's Services and Responsibilities**

#### **2.1 General Services.**

**2.1.1** Design-Builder shall designate a member of its Key Personnel as its Project manager (the "Design-Builder's Project Manager"), who shall be reasonably available to the City and shall have the necessary expertise and experience required to supervise the Work. Design-Builder's Project Manager will be stationed at the Site and present at all appropriate times. Design-Builder will have a representative at the Site authorized to act on its behalf when Design-Builder's Project Manager is not present. Design-Builder shall also designate a qualified member of its Key Personnel as its Project representative (the "Design-Builder's Representative"), who shall communicate regularly with City and shall be vested with the authority to act on behalf of Design-Builder. Neither Design-Builder's Project Manager or Design-Builder's Representative may be replaced without prior written

approval of the City, with such approval not to be unreasonably withheld, and any replacement shall be acceptable to the City.

**2.1.2** Design-Builder shall perform the Work in accordance with the Baseline Schedule. Design-Builder shall provide the City with monthly updates, or more frequently as required by conditions and progress of the Work, comparing actual progress to the Baseline Schedule, but such updates shall not be deemed to modify the Baseline Schedule or Contract Times, nor relieve Design-Builder of its obligations to complete the Work within the Contract Times, as may be adjusted in accordance with the Contract Documents. The City's review and approval of the Baseline Schedule and monthly schedule updates shall not be construed as relieving Design-Builder of its complete and exclusive control over the means, methods, sequences and techniques for executing the Work.

**2.1.3** Design-Builder shall provide management, supervision and professional staff for the Work in accordance with Exhibit 11.2.6 (Key Personnel and Organizational Chart) to the Agreement. Design-Builder acknowledges the importance of its Key Personnel in successfully performing the Project. Absent separation of employment, none of the Key Personnel may be withdrawn from the Project without prior written approval of the City, with it being understood and agreed that Design-Builder will provide the City with at least thirty (30) days written notice of any request to withdraw any Key Personnel. Any replacement personnel shall have equivalent skill, experience and reputation. Design-Builder shall remove or replace, or have removed or replaced, any personnel performing the Work if the City has a reasonable objection to such individual.

**2.1.4** Design-Builder shall participate in monthly progress meetings with the City. During such meetings, progress during the prior month shall be reviewed. These meetings shall be attended by, among other: (a) Design-Builder's Project Manager and other required Design-Builder personnel, as well as key Subcontractors and Design Consultants responsible for Work completed during the specified duration and Work scheduled during the upcoming reporting duration; and (b) City representatives and others as designated by the City. The City may direct that personnel from Design-Builder and any other DB-Related Entities attend any or all meetings if the City believes, in its sole opinion, that such personnel are necessary to have at such meetings.

**2.1.5** Design-Builder acknowledges that the City's ability to successfully complete the Project may be significantly impacted if: (a) the City terminates Design-Builder for either cause or convenience; and (b) certain Design Consultants (including the Lead Designer) are not available to continue working on the Project. Consequently, Design-Builder hereby agrees that if the City exercises its rights to terminate under Article 11 below, the City shall have the right, but not the obligation, to contract directly with any and all Design Consultants for services related to this Project. Design-Builder shall take such steps as are reasonably necessary to enable the City to implement such relationships, including having a provision in its Subcontracts with Design Consultants that, in the event Design-Builder is terminated under this Agreement for any reason, the Design Consultant will in good faith negotiate with the City the contractual terms (e.g., scope of work, compensation and other requirements) associated with such Design Consultant continuing to work on the Project. For the avoidance of doubt, Design-Builder shall have no liability to the City for those acts or omissions of a Design Consultant that take place after the Design Consultant enters into a contract with the City.

**2.1.6** Design-Builder assumes responsibility to the City for the proper performance of the Work of all DB-Related Entities and any acts and omissions in connection with such performance.

**2.1.7** Design-Builder shall pay all royalties and license fees in connection with the Work.

## **2.2 Design Professional Services.**

**2.2.1** Design-Builder shall, consistent with applicable state licensing laws, provide or furnish through Design Consultants or qualified, licensed design professionals employed by Design-Builder, the necessary design services, including architectural, engineering and other design professional services, for the preparation of the required drawings, specifications and other design submittals to permit Design-Builder to complete the Work consistent with the Contract Documents. Nothing in the Contract Documents is intended or deemed to create any legal or contractual relationship between the City and any Design Consultant other than the rights afforded to the City under Section 2.1.5 above.

**2.2.2** Design-Builder shall: (a) incorporate all applicable obligations and understandings of the Contract Documents applicable to design services in its respective contracts with any Design Consultant and Subcontractors; and (b) require that such obligations be flowed down to lower-tiered Design Consultants, including but not limited to the obligations relative to ownership and use of the Work Product set forth in the Agreement.

## **2.3 Standard of Care.**

**2.3.1** Design-Builder shall perform the Work in accordance with: (a) the Contract Documents; (b) applicable Legal Requirements and Governmental Approvals; and (c) Good Engineering and Construction Practice. Notwithstanding the above, if any of (a), (b) or (c) in the preceding sentence conflict, Design-Builder shall be obligated to perform the Work in accordance with the more stringent standard.

## **2.4 Design Development Services.**

**2.4.1** Design-Builder and the City shall, consistent with any applicable provision of the Contract Documents, agree upon any interim design submissions that City may wish to review, which interim design submissions may include design criteria, drawings, diagrams and specifications setting forth the Project requirements. Interim design submissions shall be consistent with previously approved interim design submissions, as may have been revised in accordance with the design process set forth in this Section 2.4. On or about the time of the scheduled submissions, Design-Builder and the City shall meet and confer about the submissions, with Design-Builder identifying during such meetings, among other things, the evolution of the design and any changes that are inconsistent with any previously approved interim design submission, including, without limitation, the GMP Proposal Design Documents. Minutes of the meetings, including a full listing of all changes, will be maintained by Design-Builder and provided to all attendees for review. Changes to previously approved design submissions, including changes to the GMP Proposal Design Documents and Minor Changes, shall be processed in accordance with Article 9. Following the design review meetings, the City shall review and approve the interim design submissions and meeting minutes within twenty-one (21) days after receipt of the required submissions, with the understanding that the Parties may agree to a reduction in such 21-day period for time-sensitive critical path submittals. Design-Builder

shall promptly revise and modify all such submittals so as to fully reflect all comments and shall deliver to the City revised submittals for review and approval.

**2.4.2** Design-Builder shall submit to the City the Construction Documents, including drawings and specifications, which shall set forth and describe in detail the requirements for construction of the Work. The Construction Documents shall be consistent with the latest set of approved interim design submissions, as such submissions may have been modified in a design review meeting and recorded in the meetings minutes. The Parties shall have a design review meeting to discuss, and the City shall review and approve, the Construction Documents in accordance with the procedures set forth in Section 2.4.1 above. Design-Builder shall proceed with construction in accordance with the approved Construction Documents and shall submit one reproducible set of approved Construction Documents to the City prior to commencement of construction.

**2.4.3** Notwithstanding anything to the contrary in the Contract Documents: (a) Design-Builder assumes and shall have exclusive responsibility for the accuracy and efficacy of the Construction Documents; and (b) the City's review and/or approval of the GMP Proposal Design Documents, Construction Documents, or any interim design submissions or meeting minutes shall not be deemed to transfer any design liability from Design-Builder to the City or relieve Design-Builder of any of its obligations under the Contract Documents or liability for any design services that were performed under the Interim Agreement or are part of the Work. Accordingly, in no event shall Design-Builder be entitled to any price, schedule or performance relief associated with any error, omission or deficiency in the Construction Documents, and shall bear full responsibility for the consequences of such errors, omissions or deficiencies.

**2.4.4** To the extent not prohibited by the Contract Documents or Legal Requirements, Design-Builder may prepare interim design submissions and Construction Documents for a portion of the Work to permit construction to proceed on that portion of the Work prior to completion of the Construction Documents for the entire Work.

## **2.5 Legal Requirements.**

**2.5.1** Design-Builder shall perform the Work in accordance with all Legal Requirements and shall provide all notices applicable to the Work as required by the Legal Requirements.

**2.5.2** Design-Builder will be entitled to an adjustment in the GMP and/or Contract Times to the extent the Cost of the Work incurred by Design-Builder and/or time of performance are adversely impacted by any changes in the Legal Requirements enacted after the Agreement Date, provided Design-Builder satisfies the requirements of Articles 8 and 9 below. Such impacts may include, without limitation, revisions Design-Builder is required to make to the Construction Documents because of such changes in Legal Requirements. Notwithstanding the above, the relief afforded by this Section 2.5.2 shall not apply to changes in Legal Requirements relating to: (a) Design-Builder's or any other DB-Related Entity's corporate existence or the maintenance of its business; (b) changes in Legal Requirements affecting payroll taxes or other taxes associated with labor; or (c) changes in Legal Requirements affecting taxes imposed on an entity's gross revenue, income or profits.

## **2.6 Government Approvals.**

**2.6.1** Except for those Governmental Approvals specifically identified in Section 3.5 below as being the responsibility of the City, Design-Builder shall be responsible for obtaining and maintaining all Governmental Approvals that may be required for the proper prosecution and execution of the Work. If any such Governmental Approval is required to be formally issued in the name of the City, Design-Builder shall undertake all efforts to obtain such Governmental Approvals with the City's reasonable support and cooperation. Design-Builder shall develop all data and technical documents for Governmental Approval submittals, prepare and submit all applications, participate in meetings with Governmental Units and the City as required, and expedite all Governmental Approvals to meet Project schedule requirements. Governmental Approval applications and other documentation required in connection with a Governmental Approval shall be subject to approval by City. Design-Builder shall deliver to City, promptly after Design-Builder's receipt, a copy of each such Governmental Approval, with a listing of the status of all such Governmental Approvals included in the monthly reports required by the Contract Documents.

**2.6.2** Design-Builder shall provide all commercially reasonable assistance to the City to obtain those Governmental Approvals that are the responsibility of the City under Section 3.5 below. No construction activity will commence until: (a) all Governmental Approvals required for the relevant construction activity (including any activity that may disturb the Site) have been obtained; (b) the City has been notified that such Governmental Approvals have been obtained; and (c) the City has, after reviewing the validity and scope of the Governmental Approval, authorized Design-Builder to proceed.

**2.6.3** Design-Builder shall ensure that the Work conforms to the requirements and stipulations of all Governmental Approvals. Design-Builder shall not be entitled to an adjustment in the GMP and/or Contract Times for any events arising from or related to Design-Builder or any other DB-Related Entity violating or failing to comply with any Governmental Approval, including but not limited to suspensions arising therefrom. Such violations and failures to comply shall be at the sole risk of Design-Builder.

## **2.7 Design-Builder's Construction Phase Services.**

**2.7.1** Unless otherwise provided in the Contract Documents to be the responsibility of the City, Design-Builder shall provide through itself or Subcontractors the necessary supervision, labor, inspection, commissioning, start-up, testing, Equipment and Materials, construction equipment, supplies, temporary utilities and other temporary facilities and other related services to permit Design-Builder to achieve Substantial Completion and Final Completion of the Project consistent with the Contract Documents. Design-Builder retains all market risk, whether or not foreseeable, pertaining to cost and availability of labor, Equipment and Materials, and all other items required or used in connection with the performance of the Work.

**2.7.2** Design-Builder shall perform all construction activities efficiently and with the requisite expertise, skill and competence to satisfy the requirements of the Contract Documents. Design-Builder shall at all times exercise complete and exclusive control over the means, methods, sequences and techniques of construction.

**2.7.3** Design-Builder shall employ only Subcontractors who are duly licensed and qualified to perform the Work consistent with the Contract Documents.

**2.7.4** Design-Builder shall coordinate the activities of all Subcontractors. If any Separate Contractor performs work on, adjacent, or in proximity to the Project or the Site, or has

any element of work that interfaces or affects the Work, Design-Builder agrees to reasonably cooperate and coordinate its activities with those of such Separate Contractors so that the Project can be completed in an orderly and coordinated manner without unreasonable disruption. Design-Builder specifically agrees to attend and participate in any coordination meetings that are held by the City to manage and coordinate the work of Design-Builder and Separate Contractors.

**2.7.5** Design-Builder shall keep the Site reasonably free from debris, trash and construction wastes to permit Design-Builder to perform its construction services efficiently, safely and without interfering with the use of adjacent land areas. Upon Substantial Completion of the Work, Design-Builder shall remove all debris, trash, construction wastes, materials, equipment, machinery and tools arising from the Work.

**2.7.6** Design-Builder shall have care, custody, and control of the Project (including but not limited to having responsibility for the security of the Site and risk of loss), until the Substantial Completion Date.

**2.7.7** Design-Builder shall be responsible for performing and paying for all utility relocations necessary or convenient to its performance of the Work. For all such relocations, Design-Builder will meet all requirements, procedures and standards set forth in the Contract Documents and/or required by the applicable utility.

**2.7.8** Design-Builder shall be responsible for making arrangements to obtain, provide and pay for all temporary and permanent utilities, including but not limited to gas and electric, associated with the Work, except for those utilities specifically identified in the Contract Documents as being provided by the City and furnished without cost to Design-Builder.

**2.7.9** During any adverse weather (including but not limited to unusually severe and abnormal weather conditions as set referenced in Section 8.4.3 below), Design-Builder shall take necessary precautions so that the Work may progress properly and is satisfactory in all respects.

## **2.8 Design-Builder's Responsibility for Project Safety.**

**2.8.1** Design-Builder recognizes the importance of performing the Work in a safe manner so as to prevent damage, injury or loss to: (a) all individuals at the Site, whether working or visiting; (b) the Work, including Equipment and Materials incorporated into the Work or stored on-Site or off-Site; and (c) all other property at the Site or adjacent thereto. Design-Builder assumes responsibility for implementing and monitoring all safety precautions and programs related to the performance of the Work. Design-Builder shall, prior to commencing construction, designate a member of its Key Personnel with the necessary qualifications and experience to supervise the implementation and monitoring of all safety precautions and programs related to the Work ("Design-Builder's Safety Representative"). Unless otherwise required by the Contract Documents, Design-Builder's Safety Representative shall be an individual stationed at the Site who may have responsibilities on the Project in addition to safety. The Safety Representative shall make routine daily inspections of the Site and shall hold weekly safety meetings with Design-Builder's personnel, Subcontractors of any tier, and others as applicable.

**2.8.2** Design-Builder and Subcontractors shall comply with all Legal Requirements relating to safety, as well as any City-specific safety requirements set forth in the Contract



Documents, provided that such City-specific requirements do not violate any applicable Legal Requirement. Design-Builder will immediately report in writing any safety-related injury, loss, damage or accident arising from the Work to City's Representative and, to the extent mandated by Legal Requirements, to all Governmental Units having jurisdiction over safety-related matters involving the Project or the Work.

**2.8.3** Design-Builder's responsibility for safety under this Section 2.8 is not intended in any way to relieve Subcontractors of any tier of their own contractual and legal obligations and responsibility for: (a) complying with all Legal Requirements, including those related to health and safety matters; and (b) taking all necessary measures to implement and monitor all safety precautions and programs to guard against injuries, losses, damages or accidents resulting from their performance of the Work.

## **2.9 Design-Builder's Warranty.**

**2.9.1** Design-Builder warrants to the City that the construction, including all Equipment and Materials, shall be new unless otherwise specified in the Contract Documents, of good quality, in conformance with the Contract Documents and free of defects in materials and workmanship. Design-Builder's warranty obligation excludes defects caused by abuse, alterations, or failure to maintain the Work in a commercially reasonable manner. Nothing in this warranty is intended to limit any Supplier warranty which provides the City with greater warranty rights than set forth in this Section 2.9.1 or any Contract Document. Design-Builder will provide the City with all Supplier warranties upon Substantial Completion and will perform the Work so as to maintain and preserve such Supplier warranties.

## **2.10 Correction of Defective Work.**

**2.10.1** Design-Builder agrees to correct any Work that is found to not be in conformance with the Contract Documents, including that part of the Work subject to Section 2.9 above, within a period of one year from the Substantial Completion Date, or within such longer period to the extent required by any specific warranty included in the Contract Documents.

**2.10.2** Design-Builder shall, within seven (7) days of receipt of written notice from the City that the Work is not in conformance with the Contract Documents, take meaningful steps to commence correction of such nonconforming Work, including the correction, removal or replacement of the nonconforming Work and any damage caused to other parts of the Work affected by the nonconforming Work. If Design-Builder fails to commence the necessary steps within such seven (7) day period, the City, in addition to any other remedies provided under the Contract Documents, may provide Design-Builder with written notice that the City will commence correction of such nonconforming Work with its own forces. If the City does perform such corrective Work, Design-Builder shall be responsible for all reasonable costs incurred by the City in performing such correction. If the nonconforming Work creates an emergency requiring an immediate response, the seven (7) day period identified herein shall be deemed inapplicable. Design-Builder shall perform or cause to be performed all corrective work in a manner that will minimize interference with the ongoing operations of the Project.

**2.10.3** The City may, based on good cause, direct Design-Builder to perform a "root cause" analysis of any alleged defect in the Work. If Design-Builder fails to perform such analysis as directed by the City, or if the City concludes that the "root cause" analysis is

flawed, the City may elect to conduct an independent analysis of the alleged defect, whereupon Design-Builder shall cooperate with the City and provide such information relevant to the alleged defect as the City may request. If the “root cause” or independent analysis reveals a defect or defects in any part of the Work, Design-Builder shall be responsible for the costs and expenses of remedying such defects, including the costs of the “root cause” or independent analysis. If the “root cause” or independent analysis demonstrates that there is no defect, then the City shall bear the reasonable costs and expenses of such analyses. All remedial measures related to defects revealed by any “root cause” or independent analysis must be approved by the City prior to implementation by Design-Builder.

**2.10.4** The one-year period referenced in Section 2.10.1 above applies only to Design-Builder’s obligation to correct nonconforming Work and is not intended to constitute a period of limitations for any other rights or remedies the City may have regarding Design-Builder’s other obligations under the Contract Documents, at law, or in equity.

## **2.11 Uncovering Work**

**2.11.1** If any Work is covered contrary to the written request of the City, then Design-Builder shall, if requested by the City, uncover such Work for the City’s observation, and then replace the covering, all at Design-Builder’s expense.

**2.11.2** If the City considers it necessary or advisable that covered Work be observed by the City, or inspected or tested by others, then the City will so advise Design-Builder and Design-Builder shall uncover, expose, or otherwise make available for observation, inspection, or testing as the City may require, that portion of the Work in question. If it is found that the uncovered Work is defective, Design-Builder shall be responsible for the costs and expenses relating to such uncovering and correction of the defective Work. If it found that the uncovered Work is not defective, Design-Builder will be entitled to an adjustment in the GMP and/or Contract Times for the impact of such uncovering, provided Design-Builder satisfies the requirements of Articles 8 and 9 below.

## **2.12. Startup, Commissioning, and Testing.**

**2.12.1** Design-Builder shall prepare and submit to the City for its review and approval a detailed Startup, Commissioning, and Testing Plan in accordance with the Contract Documents. The City’s approval of the Startup, Commissioning, and Testing Plan is a condition precedent to commencement of performance testing required for the achievement of Substantial Completion. Design-Builder shall remain responsible for supervision of the Work, including for any operation and maintenance required of the Equipment and Materials, throughout startup, commissioning, and conducting all testing until the Substantial Completion Date.

**2.12.2** Design-Builder will participate in such meetings as are required to develop a coordinated plan for startup, commissioning, testing and confirming Substantial Completion.

## **2.13. Punch List Requirements.**

**2.13.1** Design-Builder shall submit a proposed Punch List in accordance with Section 8.2.1 below when it believes that it has achieved Substantial Completion. Design-Builder

shall promptly complete all items on the Punch List. The City shall have the option to correct or otherwise resolve any and all Punch List items not promptly completed by Design-Builder by using its own forces or by hiring others. The cost of such correction or resolution of remaining punch list items by the City or others shall be borne by Design-Builder.

### **Article 3**

#### **City's Services and Responsibilities**

#### **3.1 Duty to Cooperate.**

**3.1.1** The City shall, throughout the performance of the Work, cooperate with Design-Builder and perform its responsibilities, obligations and services in a timely manner to facilitate Design-Builder's timely and efficient performance of the Work and so as not to delay or interfere with Design-Builder's performance of its obligations under the Contract Documents.

**3.1.2** The City shall provide timely reviews and approvals (where required) of interim design submissions and the Construction Documents consistent with the turnaround times set forth in the Contract Documents and the Baseline Schedule, *provided, however*, that, unless stated otherwise in the Contract Documents, the City shall have twenty-one (21) days after receipt of such submissions to act upon such submissions, unless Design-Builder and the City mutually agree upon a shorter review period for a specific submission. Design-Builder may, for more complex or time-sensitive submittals, request joint review meetings with the City in the interest of expediting such reviews, and the City will, to the extent it is reasonably able to do so, attempt to satisfy such requests. City approval, or narrative indicating approval by the City or indication that the City is approving, means that the City is reviewing for conformance with the Contract Documents and indicating its belief at a specific time that submittals being reviewed are in conformance. In providing such approval, the City is not accepting any responsibility or liability for itself or relieving responsibility for performance of the Design-Builder under the Contract Documents, for which the Design-Builder remains wholly responsible.

**3.1.3** The City shall give Design-Builder timely notice of any Work that the City notices to be defective or not in compliance with the Contract Documents.

#### **3.2 Furnishing of Services and Information.**

**3.2.1** The City provided to Design-Builder, at its own cost and expense, the City-Furnished Information.

**3.2.2** The City is responsible for securing and executing all necessary agreements with adjacent land or property owners that are necessary to enable Design-Builder to perform the Work; *provided, however*, that: (a) Design-Builder provides the City with reasonable advance written notice of the need for such agreement; and (b) Design-Builder retains all responsibility to obtain any such agreement to the extent pertaining to construction means, methods, techniques, sequences and procedures. The City is further responsible for all costs, including attorneys' fees, incurred in securing those necessary agreements for which it is responsible under this Section 3.2.2.

#### **3.3 Financial Information.**

**3.3.1** At Design-Builder's request, the City shall promptly furnish reasonable evidence to Design-Builder that the City has adequate funds available and committed to fulfill all of City's contractual obligations under the Contract Documents. If the City fails to furnish such financial information in a timely manner, Design-Builder may stop Work under Section 11.3 below or exercise any other right permitted under the Contract Documents.

### **3.4 City's Representative.**

**3.4.1** The City shall designate a representative responsible for providing City-Furnished Information and approvals in a timely manner to permit Design-Builder to fulfill its obligations under the Contract Documents ("City's Representative"). City's Representative shall also provide Design-Builder with prompt notice if he/she observes any failure on the part of Design-Builder to fulfill its contractual obligations, including any errors, omissions or defects in the performance of the Work. City's Representative shall communicate regularly with Design-Builder and shall be vested with the authority to act on behalf of the City.

**3.4.2** City's Representative shall have full authority to act on behalf of the City with respect to matters requiring City's approval or authorization. City's Representative may delegate all or a portion of its authority to others by written notice to Design-Builder, which delegated authority may be revoked or modified at any time by written notice to Design-Builder.

### **3.5 Government Approvals.**

**3.5.1** The City shall obtain and pay for only the Governmental Approvals expressly set forth in Exhibit 11.2.7 (Responsibility Matrix for Governmental Approvals) of the Agreement as being the sole responsibility of City.

**3.5.2** The City shall provide reasonable assistance to Design-Builder in obtaining those Governmental Approvals that are Design-Builder's responsibility.

### **3.6 Separate Contractors.**

**3.6.1** The City is responsible for all work performed on the Project or at the Site by Separate Contractors with whom the City has contracted. The City shall contractually require its Separate Contractors to cooperate, and coordinate their activities so as not to interfere, with Design-Builder in order to enable Design-Builder to timely complete the Work consistent with the Contract Documents.

## **Article 4**

### **Hazardous Environmental Conditions and Differing Site Conditions**

#### **4.1 Hazardous Environmental Conditions.**

**4.1.1** Where the City has advised Design-Builder of known Hazardous Materials or Hazardous Environmental Conditions at the Site, or where Design-Builder has identified Hazardous Materials or Hazardous Environmental Conditions at the Site during its performance of the Interim Agreement, these Hazardous Materials and Hazardous Environmental Conditions are part of the Work and Design-Builder shall take such action as is necessary, in accordance with applicable Legal Requirements, to plan for and to remediate and render harmless all such Hazardous Materials and Hazardous

Environmental Conditions. Remediation plans for such known Hazardous Materials and Hazardous Environmental Conditions shall be provided to the City for approval prior to undertaking the remediation.

**4.1.2** If Design-Builder encounters any unknown Hazardous Environmental Conditions at the Site, it shall stop Work immediately in the affected part of the Work to the extent required to avoid any such safety or health hazard until it has taken such action as is necessary, in accordance with applicable Legal Requirements, to protect the interests of any affected party. Design-Builder shall, immediately upon encountering any Hazardous Environmental Conditions at the Site, notify the City and, if required by Legal Requirements, assist the City in providing notifications to all Governmental Units having jurisdiction over the Project or Site.

**4.1.3** Design-Builder, in consultation with the City, shall take all necessary measures required to ensure that Hazardous Environmental Conditions are remediated or rendered harmless in accordance with applicable Legal Requirements. Design-Builder shall, as may be directed by the City and prior to proceeding with any such work: (a) obtain all environmental site assessments of the affected property and submit copies of such assessments to the City for its approval; (b) develop remediation plans for the Hazardous Environmental Conditions, subject to the City's approval; and (c) obtain on the City's behalf all applicable Governmental Approvals to implement such plans. During the period of any investigation and remediation efforts, Design-Builder shall take all necessary measures to isolate and contain such Hazardous Environmental Conditions from the unaffected parts of the Work, and shall continue the Work to the maximum extent possible on unaffected parts of the Work.

**4.1.4** Except for those Hazardous Materials and Hazardous Environmental Conditions set forth in Section 4.1.6 below, Design-Builder will be entitled to an adjustment in the GMP and/or Contract Times to the extent Design-Builder's cost and/or time of performance have been adversely impacted by the presence of unknown Hazardous Environmental Conditions, provided Design-Builder satisfies the requirements of Articles 8 and 9 below.

**4.1.5** To the fullest extent permitted by Legal Requirements, the City shall indemnify and hold harmless Design-Builder from and against any and all claims, losses, damages, liabilities and expenses, including attorneys' fees and expenses, arising out of or resulting from unknown Hazardous Environmental Conditions. Nothing in this Section 4.1.5 shall obligate the City to indemnify or hold harmless Design-Builder from and against the consequences of the breach of contract, negligence, Gross Negligence, or Willful Misconduct of Design-Builder or any other DB-Related Entity.

**4.1.6** Notwithstanding anything to the contrary in this Section 4.1, Design-Builder shall bear full responsibility for the handling, treatment, storage, removal, remediation, avoidance, or other appropriate action (if any), with respect to: (a) any Hazardous Material or Hazardous Environmental Condition present at, on, in or under, or migrating and/or emanating to or from the Site, to the extent brought or caused to be brought on the Site by any act or omission of Design-Builder or any other DB-Related Entity; (b) Hazardous Materials or Hazardous Environmental Conditions that are part of the Work pursuant to Section 4.1.1 above; and (c) the creation or exacerbation of any known or unknown Hazardous Environmental Condition due to the breach of contract, negligence, Gross Negligence, or Willful Misconduct of Design-Builder or any other DB-Related Entity. To

the fullest extent permitted by Legal Requirements, Design-Builder shall indemnify, defend and hold harmless each City Indemnitee from and against all claims, losses, damages, liabilities and expenses, including attorneys' fees and expenses, arising out of or resulting from Items (a), (b) and/or (c) above.

**4.1.7** Nothing contained in this Section 4.1 is intended to identify Design-Builder as the generator of any pre-existing Hazardous Materials or Hazardous Environmental Condition, except as set forth in applicable Legal Requirements.

## **4.2 Inspection of Site Conditions.**

**4.2.1** Design-Builder represents and warrants that it has, as of the Agreement Date, ascertained the nature and location of the Work, the character and accessibility of the Site, the existence of obstacles to construction which are ascertainable or visible upon a thorough investigation of the Site, the availability of facilities and utilities, the location and character of existing or adjacent work or structures, the surface conditions, and other general and local conditions (including labor) which might affect its performance or cost of the Work.

**4.2.2** If Design-Builder undertakes any additional testing, inspections or investigations, all reports or analyses generated thereby shall be furnished to the City promptly after such reports or analyses are generated.

## **4.3 Differing Site Conditions.**

**4.3.1** Concealed or latent physical conditions or subsurface conditions at the Site that: (a) materially differ from the conditions indicated in the Contract Documents; or (b) are of an unusual nature, differing materially from the conditions ordinarily encountered and generally recognized as inherent in the Work, are collectively referred to herein as "Differing Site Conditions." If Design-Builder encounters a Differing Site Condition, Design-Builder will be entitled to an adjustment in the GMP and/or Contract Times to the extent the Cost of the Work incurred by Design-Builder and/or time of performance are adversely impacted by the Differing Site Condition, and provided Design-Builder satisfies the requirements of Articles 8 and 9 below. The term "Differing Site Conditions" excludes: (a) conditions of which Design-Builder had actual or constructive knowledge as of the Agreement Date; and (b) conditions that should have been discovered through a reasonable Site investigation undertaken during the Interim Agreement. For the avoidance of doubt, Hazardous Environmental Conditions are not deemed Differing Site Conditions, and shall be treated as set forth under Section 4.1 above.

**4.3.2** Upon encountering a Differing Site Condition, Design-Builder shall provide prompt written notice to the City of such condition, which notice shall not be later than fourteen (14) days after such condition has been encountered. Design-Builder shall, to the extent reasonably possible, provide such notice before the Differing Site Condition has been substantially disturbed or altered.

**4.3.3** The Geotechnical Baseline Report (GBR) sets forth and establishes the contractual geotechnical baseline for the assumed geotechnical conditions for certain areas of the Project. Whenever there is an inconsistency between conditions indicated in the GBR and: (a) conditions indicated in the Geotechnical Data Report (GDR); or (b) conditions indicated elsewhere in the Contract Documents, then the conditions indicated in the GBR shall take precedence, and shall be the conditions against which actual

conditions encountered are compared for the purpose of determining if a Differing Site Condition exists.

#### **4.4 Historical Artifacts.**

**4.4.1** If previously unidentified historic properties or unanticipated effects to historic properties are discovered during construction, including any buried structural remains (e.g., wall foundations, wells, privies, cisterns), Design-Builder shall immediately halt all activity within the immediate area of the discovery and in any adjacent areas where additional or related resources may reasonably be expected to be present, and notify the City of the discovery by telephone or in person, which notice shall be given within twenty-four (24) hours of Design-Builder making such discovery. Design-Builder shall take interim measures to protect the discovery from looting and vandalism. The City will coordinate directly with the U.S. National Park Service and/or Alexandria Archeology Commission, as appropriate, to determine eligibility of the resources, including the protocol for recovery and/or documentation, if necessary. Work in all areas not subject of the discovery may continue. All items discovered by Design-Builder belong to the property owner.

**4.4.2** If Design-Builder has been adversely impacted by the presence, removal or remediation of a discovery under Section 4.4.1 above, Design-Builder will be entitled to an adjustment in the GMP and/or Contract Times to the extent the Cost of the Work incurred by Design-Builder and/or time of performance are adversely impacted by such discovery and provided Design-Builder satisfies the requirements of Articles 8 and 9 below

### **Article 5** **Insurance and Bonds**

#### **5.1 Design-Builder's Insurance Requirements.**

**5.1.1** Design-Builder shall obtain and maintain, at its own cost and expense, the insurance coverages specified in Exhibit 11.1 (Insurance Requirements) of the Agreement, which insurance shall be in accordance with this Section 5.1.

**5.1.2** All insurance required by Exhibit 11.1 (Insurance Requirements) of the Agreement must be obtained and maintained from insurance companies that have at least an A.M. Best's Insurance Guide ("Best's Guide") Rating of A- and Financial Size Category of Class VII or better, according to the most current edition of the Best's Guide, and are authorized to do business in the Commonwealth of Virginia.

**5.1.3** Design-Builder shall deliver to the City, with copies to each additional insured, the following:

(a) Certificates of insurance and endorsements establishing that Design-Builder has obtained and is maintaining the policies and coverages required hereunder, with the understanding that updated, compliant certificates of insurance and endorsements shall be delivered annually, at least ten (10) days prior to the expiration of any policy, to evidence renewal of the required insurance coverages.

(b) Upon request by the City or any additional insured, evidence of such required insurance, including documentation of applicable self-insured retentions (if allowed) and deductibles, full disclosure of all relevant endorsements, exclusions, and evidence of insurance required to be purchased and maintained by Design-Builder,

Design Consultants, or Subcontractors. In any documentation furnished under this provision, Design-Builder, Design Consultants, and Subcontractors may block out (redact) any confidential premium or pricing information or other information not applicable to this Project or Agreement.

(c) Failure of the City or any additional insured to demand the documents required by this Section 5.1.3, or failure of the City identify a deficiency in compliance from the evidence provided, will not be construed as a waiver of the obligation of the relevant party (i.e., Design-Builder, Design Consultant, or Subcontractor) to obtain and maintain such insurance.

**5.1.4** Design-Builder shall require its first-tier Design Consultants and Subcontractors to purchase and maintain the insurance coverages specified under Exhibit 11.1 (Insurance Requirements) to the Agreement.

**5.1.5** The City does not represent that insurance coverage and limits established in Exhibit 11.1 (Insurance Requirements) of the Agreement will be adequate to protect the interests of Design-Builder, Design Consultants, or Subcontractors. Each such party is responsible for determining whether such coverage and limits are adequate to protect its interests, and for obtaining and maintaining any additional insurance that Design-Builder deems necessary.

**5.1.6** The insurance and insurance limits required under Exhibit 11.1 (Insurance Requirements) of the Agreement are minimums and shall not be deemed as a limitation on Design-Builder's liability, or that of any other DB-Related Entity, under the indemnities granted to the City, additional insureds and other individuals and entities in the Contract Documents or otherwise.

**5.1.7** If in any instance Design-Builder has not performed its obligations respecting obtaining and maintaining insurance coverage required hereunder, or is unable to enforce and collect any such insurance for failure to assert claims in accordance with the terms of the insurance policies, then for purposes of determining Design-Builder's liability and the limits thereon or determining reductions in compensation due from the City to Design-Builder on account of available insurance, Design-Builder shall be treated as if it has elected to self-insure up to the full amount of insurance coverage that would have been available had Design-Builder performed such obligations and not committed such failure.

**5.1.8** Except as set forth in Section 4.6.1 of the Agreement relative to the Contingency, Design-Builder and all other DB-Related Entities shall be solely responsible for any and all deductibles or self-insured retentions that shall apply under any required, or otherwise purchased, insurances and shall have no recourse against the City for any such costs.

**5.1.9** All policies of insurance that Design-Builder is required to purchase and maintain under the Agreement shall:

(a) Contain a provision requiring the insurer to give not less than thirty (30) days' prior notice to the City whenever the insurer gives Design-Builder a notice of cancellation or non-renewal with respect to the policy (except in the case of any non-premium payment, not less than ten (10) days' prior notice, which the insurer shall be obligated to give to the City simultaneously with providing such notice to Design-Builder). The provision required by the preceding sentence shall not be deemed to infer a right of cancellation that would otherwise not exist in the absence of such provision.



(b) Delete any specific design-build or similar exclusions that could compromise coverage because of Design-Builder's involvement in the design-build process.

(c) Contain coverage terms and conditions that reflect the industry standard for projects of a similar size, scope, and nature of this Project that the commercial market will provide and support as of the date of such insurance procurement and any subsequent renewals.

(d) Other than for professional liability insurance, workers compensation/employer's liability insurance and Builder's Risk Insurance, where additional insured coverage is required include cross-liability clauses allowing one insured to bring a claim against another insured party. With regard to pollution liability insurance, a cross-liability clause will be allowed as long as it does not impact the City's ability to sue another insured party and collect under the policy.

(e) Other than for professional liability insurance and workers compensation/employer's liability insurance, be endorsed so that the insurer agrees to waive, to the extent permitted by law, all rights of subrogation or action that it may have or acquire against the City, City Indemnitees, or any additional insured.

(f) Other than for professional liability insurance, workers compensation/employer's liability insurance, automobile liability insurance, and contractor pollution liability insurance, contain a provision under which the insurer agrees that the failure of one insured to observe and fulfill the terms of the policy will not prejudice the coverage of the other insureds.

(g) With regard to Builder's Risk Insurance and any other first-party property insurance, have each policy endorsed to contain a standard mortgagee clause to the effect that the City and other insureds will not be prejudiced by an unintended and/or inadvertent error, omission or mistaken description of the risk interest in property insured under the policies, incorrect declaration of values, failure to advise insurers of any change of risk interest or property insured, or failure to comply with a statutory requirement.

(h) For commercial general liability and umbrella/excess liability insurance, not include defense costs within the limits of coverage or permit erosion of coverage limits by defense costs.

(i) Design-Builder's commercial general liability, automobile liability, umbrella/excess, and pollution liability must:

(1) Include and list as additional insureds the City and the City Indemnitees, and include coverage for the respective officers, directors, members, partners, and employees of all such additional insureds;

(2) Afford primary coverage to these additional insureds for all claims covered thereby (including as applicable those arising from both ongoing and completed operations);

(3) Not seek contribution from insurance maintained by the additional insured; and

(4) As to commercial general liability insurance, apply to additional insureds with respect to liability caused in whole or in part by Design-Builder's acts or omissions, or the acts and omissions of DB-Related Entities, in the performance of Design-Builder's operations.

## **5.2 Performance and Payment Bonds.**

**5.2.1** Design-Builder shall, no later than ten (10) days after the Agreement Date, provide the City with: (a) a performance bond in the penal amount equal to one hundred percent (100%) of the GMP, which bond shall cover the faithful performance of all the Design-Builder's obligations under the Contract Documents ("Performance Bond"); and (b) a payment bond in the penal amount equal to one hundred percent (100%) of the GMP ("Payment Bond"). The forms of the Performance Bond and Payment Bond are those set forth in Exhibits 11.13(a) and 11.13(b) respectively to the Comprehensive Agreement. The Performance Bond shall remain valid for a period of two (2) years after Final Completion. If Design-Builder fails to provide such bonds, Design-Builder may be found in material default of the Agreement.

**5.2.2** The Performance and Payment Bonds shall be provided by a surety authorized by applicable Legal Requirements to do business in the Commonwealth of Virginia, with an A.M. Best Company Rating of not less than A VIII. The surety must also be listed in the U.S. Department of Treasury's Circular 570.

## **Article 6**

### **Payment**

#### **6.1 General.**

**6.1.1** The City shall pay Design-Builder for the Work in accordance with Article 5 of the Agreement and this Article 6.

**6.1.2** The City shall pay Design-Builder for the Work through monthly progress payments described in Section 6.2 below, with payments to be based upon the Schedule of Values set forth in Exhibit 5.1.1 (Schedule of Values) to the Agreement. In making such progress payments, the City shall retain the amounts set forth in Section 5.2 of the Agreement, as well as other amounts permitted under the Contract Documents or at law.

#### **6.2 Monthly Progress Payments.**

**6.2.1** On or before the date established in the Agreement, Design-Builder shall submit for the City's review and approval its Application for Payment requesting payment for all Work performed as of the date of the Application for Payment. The Application for Payment shall be accompanied by all supporting documentation required by the Contract Documents, including, without limitation, such documents, information and data as the City may require to: (a) waive or release lien rights for all Work performed (other than with respect to any retainage then withheld); and (b) evaluate or verify the right to receive payment of any amount requested for payment.

**6.2.2** The Application for Payment may request payment for Equipment and Materials not yet incorporated into the Project, provided that: (a) the City is satisfied that the Equipment and Materials are suitably stored at either the Site or another acceptable location; (b) the Equipment and Materials are protected by suitable insurance; and (c) upon the earlier of incorporation into the Project or payment, the City will receive the Equipment and Materials free and clear of all liens and encumbrances.

**6.2.3** The Application for Payment shall constitute Design-Builder's representation that the Work described therein has been performed consistent with the Contract Documents, has progressed to the point indicated in the Application for Payment, and that title to all Work will pass to the City free and clear of all claims, liens, encumbrances, and security interests upon the incorporation of the Work into the Project, or upon Design-Builder's receipt of payment, whichever occurs earlier. The passage of title shall not be construed as relieving Design-Builder from the sole responsibility for all Work upon which payments have been made (including but not limited to risk of loss or the restoration of any damaged Work), or as waiving the right of the City to require the fulfillment of all of the terms of the Contract Documents.

#### **6.3 Withholding of Payments.**

**6.3.1** On or before the date established in the Agreement, the City shall pay Design-Builder all amounts properly due. If the City determines that Design-Builder is not entitled to all or part of an Application for Payment as a result of Design-Builder's failure to meet its obligations hereunder, it will notify Design-Builder in writing at least twenty (20) days after receipt of the Application for Payment. The notice shall indicate the specific amounts the City intends to withhold, the reasons and contractual basis for the withholding, and the specific measures Design-Builder must take to rectify the City's concerns. Design-Builder

and the City will attempt to resolve the City's concerns prior to the date payment is due. If the Parties cannot resolve such concerns, Design-Builder may pursue its rights under the Contract Documents, including those under Article 10 below.

**6.3.2** Notwithstanding anything to the contrary in the Contract Documents, the City shall pay Design-Builder all undisputed amounts in an Application for Payment within the times required by the Agreement. Payments which the City disputes in good faith shall not be deemed due.

#### **6.4 Right to Stop Work and Interest.**

**6.4.1** If the City fails to pay timely Design-Builder any amount that becomes due and is not subject to a good faith dispute, then Design-Builder, in addition to all other remedies provided in the Contract Documents, may stop Work pursuant to Section 11.3 below. All payments due and unpaid, other than those subject to a good faith dispute, shall bear interest at the rate set forth in the Agreement.

#### **6.5 Design-Builder's Payment Obligations.**

**6.5.1** Design-Builder will pay its Design Consultants and Subcontractors, in accordance with its contractual obligations to such parties, all the amounts Design-Builder has received from the City on account of their work. Design-Builder will impose similar requirements on Design Consultants and Subcontractors to pay those parties with whom they have contracted. Design-Builder will indemnify and defend the City against any claims for payment and mechanic's liens as set forth in Section 7.3 below.

#### **6.6 Final Payment.**

**6.6.1** Upon achieving Final Completion in accordance with Section 8.3 below, Design-Builder shall provide the City with a Final Application for Payment. The Final Application for Payment shall be accompanied by all supporting documentation required by the Contract Documents, including, without limitation the following:

(a) An affidavit that there are no claims, obligations or liens outstanding or unsatisfied for labor, services, Equipment and Materials, construction equipment, supplies, taxes or other items performed, furnished or incurred for or in connection with the Work which will in any way affect the City's interests;

(b) A general release executed by Design-Builder waiving all claims, except for receipt of final payment by Design-Builder and those claims previously made in writing to the City and remaining unsettled at the time of final payment, which previously made claims shall be specifically listed in an attachment to the general release;

(c) Consent of Design-Builder's surety to final payment;

(d) All record information, operating manuals, warranties and other deliverables required by the Contract Documents, to the extent they have not been previously provided to the City;

(e) All documents, information and data as the City may require to: (a) unconditionally waive or release lien rights in connection with all Work performed (other than with respect to claims for Work not waived under the general release provided under

(b) above); and (b) evaluate or verify the right to receive payment of any amount requested for payment; and

(f) Certificates of insurance, or other evidence reasonably required by the City, confirming that required coverages will remain in effect consistent with the requirements of the Contract Documents.

**6.6.2** After receipt of a proper Final Application for Payment from Design-Builder, the City shall make final payment by the time required in the Agreement.

## **Article 7** **Indemnification**

### **7.1 Intellectual Property Infringement.**

**7.1.1** Design-Builder shall defend any action or proceeding brought against any City Indemnitee based on any claim that the Work, or any part thereof, or the operation or use of the Work or any part thereof, constitutes infringement or unauthorized use of any patent, trademark, copyright, or trade secret now or hereafter issued. The City shall give prompt written notice to Design-Builder of any such action or proceeding and will reasonably provide authority, information and assistance in the defense of same. Design-Builder shall indemnify and hold harmless the City Indemnitees from and against all damages and costs, including but not limited to attorneys' fees and expenses awarded against City Indemnitees or Design-Builder in any such action or proceeding. Design-Builder agrees to keep all City Indemnitees regularly informed of all developments in the defense of such actions.

**7.1.2** If any City Indemnitee is enjoined from the operation or use of the Work, or any part thereof, as the result of any patent, trademark, copyright or trade secret suit, claim, or proceeding, Design-Builder shall at its sole expense take reasonable steps to procure the right to operate or use the Work. If Design-Builder cannot so procure such right within a reasonable time, Design-Builder shall promptly, at Design-Builder's option and at Design-Builder's expense: (a) modify the Work so as to avoid infringement of any such patent, trademark copyright, or trade secret; or (b) replace said Work with Work that does not infringe or violate any such patent, trademark, copyright or trade secret; *provided, however,* that any such modification or replacement shall not adversely affect the performance, use, operation, or any material characteristic of the Project, and shall be subject to the approval of the City Indemnitees.

**7.1.3** Sections 7.1.1 and 7.1.2 above shall not be applicable to any suit, claim or proceeding based on infringement or violation of a patent, trademark, copyright or trade secret: (a) relating solely to a particular process or product of a particular manufacturer specified by the City and not offered or recommended by Design-Builder to the City; or (b) arising from modifications to the Work by the City or its agents after the Substantial Completion Date. If the suit, claim or proceeding is based upon events set forth in the preceding sentence, the City shall, to the fullest extent permitted by Legal Requirements, defend, indemnify and hold harmless Design-Builder to the same extent Design-Builder is obligated to defend, indemnify and hold harmless the City in Section 7.1.1 above.

### **7.2 Tax Claim Indemnification.**

**7.2.1** If, in accordance with the City's direction, an exemption for all or part of the Work is claimed for taxes, the City, to the fullest extent permitted by Legal Requirements, shall indemnify, defend and hold harmless Design-Builder from and against any liability, penalty, interest, fine, or tax assessment imposed by the applicable Governmental Unit, and reasonable attorneys' fees or other expenses or costs incurred by Design-Builder as a result of defending a claim caused by any action taken by Design-Builder in accordance with the City's directive with respect to such claimed tax exemption. The City shall furnish Design-Builder with any applicable tax exemption certificates necessary to obtain such exemption, upon which Design-Builder may rely.

### **7.3 Payment Claim Indemnification.**

**7.3.1** Provided that the City is not in breach of its contractual obligation to make payments to Design-Builder for the Work, Design-Builder shall indemnify, defend and hold harmless the City Indemnitees from any claims or mechanic's liens brought against any City Indemnitee or against the Project as a result of the failure of Design-Builder or any other DB-Related Entity to pay for any services, Equipment and Materials, materials, labor, equipment, taxes or other items or obligations furnished or incurred for or in connection with the Work. Within three (3) days of receiving written notice from any City Indemnitee that such a claim has been asserted or mechanic's lien has been filed, Design-Builder shall commence to take the steps necessary to discharge said claim or lien, including, if necessary, the furnishing of a mechanic's lien bond that will remove such claim or lien from title. If Design-Builder fails to do so, the City Indemnitees will have the right to discharge the claim or lien and hold Design-Builder liable for costs and expenses incurred, including attorneys' fees.

### **7.4 Design-Builder's General Indemnification.**

**7.4.1** Design-Builder, to the fullest extent permitted by law, shall indemnify, hold harmless and defend the City Indemnitees from and against claims, losses, damages, liabilities, including attorneys' fees and expenses, for bodily injury, sickness or death, and property damage or destruction (other than to the Work itself) to the extent resulting from the Gross Negligence, Willful Misconduct or negligent acts or omissions of Design-Builder or any other DB-Related Entity. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity that would otherwise exist as to a party or person described in this Section 7.4.

**7.4.2** If an employee of any Design-Builder or any other DB-Related Entity has a claim against any City Indemnitee, Design-Builder's indemnity obligation set forth in Section 7.4.1 above shall not be limited by any limitation on the amount of damages, compensation or benefits payable by or for Design-Builder or any other DB-Related Entity under any employee benefit acts, including workers' compensation or disability acts.

### **7.5 Defense and Indemnification Procedures.**

**7.5.1** If any City Indemnitee receives notice of or otherwise has actual knowledge of a claim which it believes is within the scope of Design-Builder's indemnification under the Contract Documents, it shall by writing as soon as practicable: (a) inform Design-Builder of such claim; (b) send to Design-Builder a copy of all written materials the City Indemnitee has received asserting such claim; and (c) notify Design-Builder that either: (i) the defense of such claim is being tendered to Design-Builder; or (ii) the City Indemnitee has elected to conduct its own defense for a reason set forth below.

**7.5.2** If the insurer under any applicable insurance policy accepts tender of defense, Design-Builder and the City Indemnitee shall cooperate in the defense as required by the insurance policy. If no defense is provided by insurers under potentially applicable insurance policies, then the following provisions shall apply.

**7.5.3** If the defense is tendered to Design-Builder, it shall within forty-five (45) days of said tender deliver to the City Indemnitee a written notice stating that Design-Builder: (a) accepts the tender of defense and confirms that the claim is subject to full indemnification hereunder without any "reservation of rights" to deny or disclaim full indemnification thereafter; (b) accepts the tender of defense but with a "reservation of rights" in whole or in part; or (c) rejects the tender of defense if it reasonably determines it is not required to indemnify against the claim under the Contract Documents. If such notice is not delivered within such forty-five (45) days, the tender of defense shall be deemed rejected.

**7.5.4** If Design-Builder accepts the tender of defense, Design-Builder shall have the right to select legal counsel for the City Indemnitee, subject to reasonable approval of the City Indemnitee, and Design-Builder shall otherwise control the defense of such claim, including settlement, and bear the fees and costs of defending and settling such claim. During such defense: (a) Design-Builder shall, at Design-Builder's expense, fully and regularly inform the City Indemnitee of the progress of the defense and of any settlement discussions; and (b) the City Indemnitee shall, at Design-Builder's expense for all of the City Indemnitee's reasonable out-of-pocket third party expenses, fully cooperate in said defense, provide to Design-Builder all materials and access to personnel it requests as necessary for defense, preparation and trial and which or who are under the control of or reasonably available to the City Indemnitee and maintain the confidentiality of all communications between it and Design-Builder concerning such defense to the extent allowed by law.

**7.5.5** The City Indemnitee shall be entitled to select its own legal counsel and otherwise control the defense of such claim if: (a) the defense is tendered to Design-Builder and it refuses the tender of defense, or fails to accept such tender within forty-five (45) days, or reserves any right to deny or disclaim such full indemnification thereafter; or (b) the City Indemnitee, at the time it gives notice of the claim or at any time thereafter, reasonably determines that: (i) a conflict exists between it and Design-Builder which prevents or potentially prevents Design-Builder from presenting a full and effective defense; or (ii) Design-Builder is otherwise not providing an effective defense in connection with the claim and Design-Builder lacks the financial capability to satisfy potential liability or to provide an effective defense. The City Indemnitee may assume its own defense pursuant to the above by delivering to Design-Builder written notice of such election and the reasons thereof.

**7.5.6** If the City Indemnitee is entitled and elects to conduct its own defense pursuant hereto, all reasonable costs and expenses it incurs in investigating and defending and claim for which it is entitled to indemnification hereunder (and any settlements or judgments resulting there from) shall be reimbursed by Design-Builder after completion of the proceeding.

**7.5.7** If the City Indemnitee is entitled to and elects to conduct its own defense, then it shall have the right to settle or compromise the claim with Design-Builder's prior written consent, which shall not be unreasonably withheld or delayed, or with approval of the court, and with the full benefit of Design-Builder's indemnity. Notwithstanding the

foregoing, if the City Indemnatee elects to conduct its own defense and it is later determined that no indemnification obligation existed as to the particular claim, the City Indemnatee shall pay its own costs and expenses relating thereto. In addition, if the City Indemnatee elects to conduct its own defense because it perceives a conflict of interest, the City Indemnatee shall pay its own costs and expenses relating thereto.

## **7.6 Survival.**

**7.6.1** All of Design-Builder's obligations under this Article 7 shall survive any termination of the Agreement, whether for cause or convenience.

## **Article 8** **Time**

## **8.1 General.**

**8.1.1** Design-Builder agrees that it will commence performance of the Work and achieve completion of the Work within the Contract Times in accordance with Article 3 of the Agreement.

**8.1.2** Design-Builder shall perform the Work in accordance with the Baseline Schedule. Design-Builder shall provide the City with monthly updates, or more frequently as required by conditions and progress of the Work, comparing actual progress to the Baseline Schedule, but such updates shall not be deemed to modify the Baseline Schedule or Contract Times, nor relieve Design-Builder of its obligations to complete the Work within the Contract Times, as may be adjusted in accordance with this Article 8.

## **8.2 Substantial Completion.**

**8.2.1** Design-Builder shall notify the City when it believes the Work has achieved Substantial Completion and is ready for the City to prepare and execute a Certificate of Substantial Completion. As a condition to such notice, Design-Builder shall have prepared and submitted to the City a proposed Punch List, including planned dates for completion for each Punch List item. In no event shall the Punch List contain any incomplete items that would impact the ability of the City to operate and maintain the Project as intended, safely, and in compliance with Legal Requirements. By submitting the Punch List to the City, Design-Builder represents that work on the Punch List will be completed by the Scheduled Final Completion Date. The City shall have the right to approve the Punch List in its reasonable discretion. The failure to include any items on such list does not alter the responsibility of Design-Builder to complete all Work in accordance with the Contract Documents.

**8.2.2** Within five (5) days of the City's receipt of Design-Builder's notice, the City and Design-Builder will jointly inspect the Work to assess the Punch List and verify that the Work has achieved progress required for Substantial Completion in accordance with the requirements of the Contract Documents.

**8.2.3** Substantial Completion shall be deemed to have occurred only when all of the following conditions have been satisfied:

(a) Design-Builder has submitted, and the City has approved in writing (such approval not to be unreasonably withheld or delayed) a certification by Design-Builder to



the City that the Work, excepting only items on the approved Punch List, is complete in accordance with the Contract Documents;

(b) Design-Builder and the City have agreed in writing upon the Punch List;

(c) Design-Builder has delivered to the City copies of the warranties of all Equipment and Materials, together with copies of all related operating manuals supplied by, or required from, Suppliers;

(d) Design-Builder has successfully completed all performance tests required under the Contract Documents and provided the City with copies of all test results and any required certification;

(e) All Governmental Approvals required for the occupancy and continued operations and maintenance of the Project by the City or others have been obtained and are in full force and effect; and

(f) All Delay Liquidated Damages due the City, if any, have been paid in full by Design-Builder or otherwise satisfied.

**8.2.4** The City will inspect the Work following notice from Design-Builder, evaluate Design-Builder's submissions under Section 8.2.3 above, and determine whether Substantial Completion has been achieved. If the City determines that Substantial Completion has not yet been achieved, it shall so notify Design-Builder in writing of the reasons for such determination. Design-Builder shall expeditiously remedy the issues and, when completed, re-request in writing that the City perform a Substantial Completion inspection.

**8.2.5** When the City agrees that Design-Builder has satisfied all other requirements for Substantial Completion, the City will prepare a Certificate of Substantial Completion that will set forth: (a) the Substantial Completion Date; (b) the approved Punch List; (c) provisions (to the extent not already provided in the Contract Documents or requiring modification) establishing the City's and Design-Builder's responsibility for the Project's security, maintenance, utilities, insurance, and damage to Work; and (d) an acknowledgment that warranties commence to run on Substantial Completion Date, except as may otherwise be noted in the Certificate of Substantial Completion.

**8.2.6** The Substantial Completion Date shall be the day on which the City has executed the Certificate of Substantial Completion. However, for the sole purpose of determining Design-Builder's liability to the City for Delay Liquidated Damages for failure to achieve Substantial Completion on or before the Scheduled Substantial Completion Date, Substantial Completion shall be deemed effective as of the date Design-Builder has executed the Certificate of Substantial Completion.

### **8.3 Final Completion.**

**8.3.1** Final Completion shall be deemed to have occurred when all of the following conditions have been satisfied:

(a) Design-Builder has achieved Substantial Completion in accordance with Section 8.2 above;

(b) All Work, including all clean-up and removal of construction materials, demolition debris and temporary facilities, is complete, and in all respects is in compliance with the Contract Document;

(c) Design-Builder shall have delivered to the City all closeout documents and other deliverables required by the Contract Documents;

(d) Design-Builder's surety has consented to the release of final payment to Design-Builder; and

(e) Design-Builder has certified to the City that all of its claims against the City have been resolved, except for those set forth in the attachment to the general release described in Section 6.6.1(b) above;

(f) All Delay Liquidated Damages due under the Agreement have been paid or otherwise satisfied; and

(g) Design-Builder and the City have executed a Certification of Final Completion that all of the foregoing conditions have been satisfied.

**8.3.2** Design-Builder shall notify the City when it believes the Work has achieved Final Completion and is ready for the City to prepare and execute a Certificate of Final Completion. The City shall determine, within twenty-one (21) days following its receipt of such notice, whether it concurs that Final Completion has been achieved. If the City disagrees, it shall promptly send written notice to Design-Builder of the basis for its disagreement. Design-Builder shall expeditiously correct the conditions raised by the City in order to achieve Final Completion. The preceding process will continue until the City determines that Final Completion has been achieved.

**8.3.3** The Final Completion Date shall be the day on which the City has executed the Certificate of Final Completion. However, for the sole purpose of determining Design-Builder's liability to the City for Delay Liquidated Damages for failure to achieve Final Completion on or before the Scheduled Final Completion Date, Final Completion shall be deemed effective as of the date Design-Builder has executed the Certificate of Final Completion.

### **8.4 Excusable Delays.**

**8.4.1** The term "Excusable Delay" shall refer to delays in the performance of the Work to the extent caused directly by acts, omissions, conditions, events, or circumstances beyond the reasonable control of Design-Builder and all other DB-Related Entities, including, by way of example, acts or omissions of the City or anyone under the City's control (including the City's Separate Contractors), changes in the Work, Differing Site Conditions, unknown Hazardous Environmental Conditions, and Force Majeure Events.

**8.4.2** Notwithstanding Section 8.4.1 above and anything to the contrary in the Contract Documents, all cost, time, and other risks arising from the following events or circumstances shall be borne exclusively by Design-Builder, shall not be deemed Excusable Delays, and shall not be the basis for any relief, monetary, schedule, or otherwise, to Design-Builder:

(a) general market and economic conditions affecting the availability, supply or cost of labor, Equipment and Materials, construction equipment, supplies, or commodities;

(b) strikes, labor disputes, work slowdowns, work stoppages, boycotts or other similar labor disruptions, unless such strikes, disputes, slowdowns, stoppages, boycotts or disruption affect a specific trade on a national or regional level and were not caused by the improper acts or omissions of Design-Builder or any other DB-Related Entity;

(c) delays in obtaining or delivery of Equipment and Materials, or any other goods or services, from any DB-Related Entity, unless the DB-Related Entity's reason for delay arises from an event that would otherwise be excusable to Design-Builder under these General Conditions of Contract;

(d) delays of common carriers, unless the common carrier's reason for the delay arises from an event that would otherwise be excusable to Design-Builder under these General Conditions of Contract;

(e) bankruptcy or insolvency of any DB-Related Entity;

(f) the inability of any DB-Related Entity to perform, unless such inability would be otherwise excusable to Design-Builder under these General Conditions of Contract;

(g) any acts, omissions, conditions, events, or circumstances that were caused by or arose from the negligent acts, omissions, fault, Gross Negligence, Willful Misconduct, breach of contract, or violation of law by Design-Builder or any other DB-Related Entity; and

(h) the exercise of any right or any act by the City permitted under the Contract Documents, except to the extent the Contract Documents expressly require an adjustment in the GMP and/or Contract Times as a result of such exercise or act (e.g., a change in the Work that will delay performance).

**8.4.3** If Design-Builder intends to seek Excusable Delay classification for any weather condition, it shall demonstrate, as a condition to qualifying for an Excusable Delay, that the actual weather encountered was unusually severe and abnormal compared with the five-year average weather statistics compiled by the United States National Oceanic and Atmospheric Administration for the time of year and locality of the Site.

**8.4.4** If Design-Builder intends to seek Excusable Delay classification for a delay in the issuance of a Governmental Approval, it shall demonstrate that: (a) Design-Builder and all other applicable DB-Related Entities have submitted all applications, data, studies, reports, responses and other information required under Legal Requirements in order to obtain the Governmental Approval; (b) Design-Builder and all other applicable DB-Related Entities have in all respects used commercially reasonable efforts to obtain the Governmental Approval; and (c) Design-Builder and all other applicable DB-Related

Entities have consistently maintained a fully responsive, engaged and respectful professional relationship with the staff and management of the Governmental Unit in a manner that, while not expressly required under Legal Requirements, is generally recognized among regular practitioners in the permitting field as necessary on a practical level to secure similar Governmental Approvals in a timely manner in light of the discretion afforded to Governmental Units under Legal Requirements.

## **8.5 Adjustment of Contract Times.**

**8.5.1** Design-Builder shall be entitled to a Change Order adjusting the Contract Times to reflect not more than the amount of time Design-Builder is actually delayed by an Excusable Delay, expressly conditioned upon Design-Builder demonstrating that: (a) the delay event qualifies as an Excusable Delay; (b) Design-Builder has complied with the requirements of Section 9.5 below; (c) the delay impacts the critical path of the Work as demonstrated by Section 8.5.2 below; (d) the delay was not foreseeable as of the Agreement Date by Design-Builder, and would not have been foreseen as of Agreement Date by a reasonably experienced design-builder; (e) Design-Builder, in view of all the circumstances, has exercised reasonable efforts to avoid and mitigate the delay and did not, through itself or any other DB-Related Entity, cause the delay; and (f) Design-Builder has satisfied the requirements of Section 9.5 below.

**8.5.2** Design-Builder shall demonstrate the critical path impact of an Excusable Delay and the impact on the Contract Times through a written time impact analysis ("TIA") establishing the influence of the event on the most current monthly updated Baseline Schedule. Each TIA shall include a fragmentary network, and for events that have yet to occur (such as a City proposed change), the fragmentary network shall demonstrate how Design-Builder proposes to incorporate such event into the most current monthly updated Baseline Schedule. The TIA shall demonstrate: (a) the time impact based on the date the event occurred, or, in the instance of a City-proposed change, the date such proposed change was given to Design-Builder; (b) the status of the Work at such point in time; and (c) the time computation of all affected activities.

## **8.6 Compensation for Delays**

**8.6.1** Design-Builder shall be entitled to an adjustment of the GMP pursuant to the provisions of Article 9 for all Excusable Delays for which Design-Builder is entitled to a time extension pursuant to Section 8.5 above; *provided, however*, that such adjustment shall be no more than the increase in the Cost of the Work incurred by Design-Builder, plus the applicable Design-Builder's Fee, resulting directly from the time extension allowed under Section 8.5 above. Notwithstanding anything to the contrary, Design-Builder shall not be entitled to an adjustment of the GMP for Excusable Delays where Design-Builder's performance was or would have been concurrently delayed or interrupted by any event that does not otherwise qualify as an Excusable Delay, with the understanding that Design-Builder's sole remedy for such concurrent delays is an extension of the Contract Times, provided that Design-Builder has complied with the requirements of Section 8.5 above.

## **8.7 Recovery Schedules**

**8.7.1** Notwithstanding the right of Design-Builder to a time extension for an Excusable Delay pursuant to this Article 8, Design-Builder agrees that it will, if directed by the City, develop and implement a recovery schedule and plan to improve progress and take such

measures to overcome such delay. Should the City have a reasonable belief that the Contract Times will not be met, then the City has the right, but not the obligation, to so notify Design-Builder and direct Design-Builder to overcome such delay by working additional overtime, engaging additional personnel and taking such other measures as necessary to complete the Work within the Contract Times. If such delay is not an Excusable Delay, Design-Builder shall bear all costs related to such overtime, additional personnel and other measures. If such delay is an Excusable Delay, and Design-Builder has met the requirements of this Article 8 for an adjustment to the Contract Times for such delay, then Design-Builder may request an adjustment to the GMP in accordance with the requirements of Article 9 for the increase in the Cost of the Work incurred by Design-Builder directly related to such overtime, additional personnel and other measures.

## **Article 9**

### **Changes to the GMP and Contract Times**

#### **9.1 Right of City to Make Changes.**

**9.1.1** Without invalidating the Agreement, the City may by written order, at any time and from time-to-time, authorize and/or request changes in, additions to, or deletions in the Work, including but not limited to those involving: (a) changes in, additions to, or deletions in the Contract Documents; (b) changes in the method, manner, sequence and time of performance of the Work (provided that Design-Builder retains and accepts full responsibility for all associated construction means, methods, techniques, sequences, and procedures); (c) changes in City-furnished services or deliverables, or (d) a direction to accelerate performance of the Work. If the City proposes making a change in the Work, the City shall advise Design-Builder and Design-Builder shall follow the processes set forth in Section 9.2 below.

**9.1.2** No oral instruction, order or statement by the City or City's Representative shall constitute a change under this Article 9. If Design-Builder believes that any oral instruction, order or statement by the City may result in a change in the Work or require an adjustment to the GMP or the Contract Times, Design-Builder shall request that the oral instruction, order or statement be given in writing and shall thereafter comply with the provisions of this Article 9.

**9.1.3** A "Change Order" is a written instrument issued after execution of the Agreement signed by the City and Design-Builder, stating their agreement upon the scope of a change in the Work, and the agreed adjustment, if any, to the GMP, Contract Times, or any other requirement of the Contract Documents. Unless specifically stated to the contrary in the Change Order, an executed Change Order shall constitute the final and complete compensation and satisfaction for all costs and schedule impacts related to: (a) the implementation of the changes that are the subject of the Change Order; and (b) the cumulative impact of effects resulting from such changes on all prior Work and changes in the Work to be performed as scheduled.

**9.1.4** All changes in the Work authorized by applicable Change Order shall be performed under the applicable conditions of the Contract Documents. The City and Design-Builder shall negotiate in good faith and as expeditiously as possible the appropriate adjustments for such changes.

## **9.2 Work Change Directives.**

**9.2.1** A “Work Change Directive” is a written order prepared and signed by the City directing a change in the Work prior to agreement on an adjustment in the GMP and/or the Contract Times.

**9.2.2** Upon receipt of a Work Change Directive, Design-Builder shall promptly proceed with the change in the Work involved, unless the City directs otherwise. The City and Design-Builder shall negotiate in good faith and as expeditiously as possible the appropriate adjustments for the Work Change Directive. Upon reaching an agreement, the Parties shall prepare and execute an appropriate Change Order reflecting the terms of the agreement.

**9.2.3** If the Parties are not able to agree on the method for adjusting the GMP for a Work Change Directive within a reasonable time, then the City shall pay Design-Builder for such Work on a cost reimbursable basis as set forth in Section 9.7.1(c) below.

## **9.3 Minor Changes in the Work.**

**9.3.1** A “Minor Change” is a change in the Work that does not involve an adjustment in the GMP and/or Contract Times and does not materially and adversely affect the Work, including the design, quality, performance and workmanship required by the Contract Documents.

**9.3.2** The City may request Minor Changes. If Design-Builder disputes that such order is a Minor Change, Design-Builder shall notify the City in accordance with Section 9.4 below.

**9.3.3** Design-Builder may make Minor Changes consistent with the intent of the Contract Documents, *provided, however*, that Design-Builder shall promptly inform the City, in writing, of any such changes and record such changes on the documents maintained by Design-Builder. If the City disputes that such a change is a Minor Change, the City shall promptly notify Design-Builder of its position. If Design-Builder nevertheless desires to make such change, it shall notify the City in accordance with Section 9.4 below.

## **9.4 Procedures Following City’s Notice of Proposed Change.**

**9.4.1** Design-Builder shall, within twenty-one (21) days after receipt of notice of a City-proposed change, prepare and submit to the City in writing the information set forth in Section 9.5.2 below as if such change were the subject of a Design-Builder Proposed Change Order, and such other information and data as the City may reasonably request. The City shall endeavor to review Design-Builder’s submittal with Design-Builder within twenty-one (21) days of its receipt of such submittal. If the Parties reach agreement on the terms of the City’s proposed change and the City elects to proceed with such change, a Change Order shall be executed by the Parties. If the Parties are unable to reach agreement on the terms of the proposed change, the City shall have the right, in its sole discretion, to direct Design-Builder to proceed with the change by issuing a Work Change Directive to Design-Builder.

**9.4.2** The City shall have the right, at any time and at its sole discretion, not to undertake any proposed change. If the City elects not to undertake a proposed change for which Design-Builder performed design services in developing its submittal under Section 9.4.1

above, Design-Builder shall be paid its reasonable design costs incurred for such submittal.

## **9.5 Design-Builder Proposed Change Orders.**

**9.5.1** If Design-Builder believes that it is entitled under the Contract Documents to an adjustment to the GMP, Contract Times, or other relief due to any event or situation arising out of or related to the Work (including but not limited to alleged Excusable Delays, disputes over the City's instructions or interpretation of the Contract Documents), Design-Builder shall, within ten (10) days after Design-Builder knows, or should have reasonably known, of such event or situation giving rise to the requested relief, submit to City a written notice labeled "Notice of Design-Builder Proposed Change Order." The Notice of Design-Builder PCO shall describe the general nature of the event or situation and, if such Notice involves an Excusable Delay, the probable duration thereof.

**9.5.2** Design-Builder shall, within fourteen (14) days after providing the City with a Notice of Design-Builder PCO, submit to the City in writing: (a) a description of the facts, circumstances and contractual basis for the relief sought, with sufficient specificity for the City to assess the matter; (b) the cost data supporting any proposed adjustments to the GMP; and (c) the scheduling information and analysis required under Section 8.5.2 above to support any request for adjustment to the Contract Times.

**9.5.3** The City shall endeavor to review Design-Builder's submittal under Section 9.5.2 above within fourteen (14) days of its receipt of such submittal. If the City believes that Design-Builder's request is justified, in whole or in part, the City shall advise Design-Builder and an appropriate Change Order shall be executed. If the City disputes Design-Builder's request, and the Parties are unable to resolve the dispute, such dispute shall be resolved in accordance with Article 10 below. The City may request clarifications and/or additional information to assist with its decision on such Design-Builder PCO.

**9.5.4** Design-Builder's failure to provide the written statements in the manner and time required by this Section 9.5 shall constitute a conclusive presumption that no price or time adjustment, or other relief, is claimed or warranted for the event or situation giving rise to the relief, and Design-Builder waives its rights to seek relief for any such event or situation.

## **9.6 City Directive Letters.**

**9.6.1** If the Parties are unable to reach agreement on the terms of a Design-Builder PCO under the processes set forth in Section 9.5 above, then the City may, in its sole discretion, issue to Design-Builder a written notice ("Directive Letter") that directs Design-Builder to proceed in accordance with the terms of such notice notwithstanding the inability of the Parties to reach agreement on the terms of the Design-Builder PCO. Design-Builder shall fully comply with all Directive Letters and shall have the right to pursue its remedies under Article 10 below.

## **9.7 GMP Adjustments.**

**9.7.1** The increase or decrease in GMP resulting from a change in the Work shall be determined by one or more of the following methods:

(a) Unit prices set forth in the Agreement or as subsequently agreed to between the Parties;

(b) A mutually accepted lump sum, properly itemized and supported by sufficient substantiating data to permit evaluation by the City; or

(c) If the Parties have not reached agreement on the basis of (a) or (b) above, the GMP shall be adjusted based upon the Cost of the Work and Design-Builder's Fee as set forth in Section 4.5.2 of the Agreement, *provided, however*, that such Cost of the Work is: (i) reasonably and properly incurred by Design-Builder; (ii) reasonably documented; and (iii) comprised of those costs that would not have been incurred but for the change in the Work.

## **9.8 Emergencies.**

**9.8.1** In any emergency affecting the safety of persons and/or property, Design-Builder shall act, at its discretion, to prevent threatened damage, injury or loss. If the cause of the emergency would justify a change in the GMP and/or Contract Times under these General Conditions of Contract, Design-Builder shall submit a Design-Builder Proposed Change in accordance with Section 9.5 above.

## **9.9 Duty to Proceed.**

**9.9.1** No dispute between Design-Builder and the City, including but not limited to those relating to the entitlement, cost or time associated with a notice of City-proposed change or Design-Builder Notice of Proposed Change Order, shall interfere with the progress of the Work. Design-Builder shall have the duty to diligently proceed with the Work in accordance with the City's instructions despite any dispute, including but not limited to those events where the Parties are in disagreement as to whether instructions from the City constitute a change to the Work and justify adjustments to the GMP and/or Contract Times. Design-Builder's sole recourse in the event of such a dispute will be to pursue its rights under Article 10 below.

## **9.10 Burden of Proof.**

**9.10.1** Design-Builder shall bear the burden of proof in establishing its entitlement to relief under this Article 9, including but not limited to adjustments in the GMP and Contract Times.

## **9.11 Claims.**

**9.11.1** All Claims shall be made in accordance with Section 10.2 below.

# **Article 10** **Contract Adjustments and Disputes**

## **10.1 Dispute Avoidance and Resolution.**

**10.1.1** The Parties are fully committed to working with each other throughout the Project and agree to communicate regularly with each other at all times so as to avoid or minimize and resolve any disputes. If any disputes do arise, Design-Builder and City each commit to resolving such disputes in an amicable, professional and expeditious manner.

**10.1.2** The City and Design-Builder shall first attempt to resolve disputes at the field level through discussions between Design-Builder's Representative and City's Representative.



If, after the passage of a reasonable period of time, the dispute is not resolved at the field level, then, upon the written request of either Party, the dispute shall be elevated to senior representatives of the Parties. The senior representatives shall meet as soon as conveniently possible to attempt to resolve such dispute. If the dispute is not resolved at the senior representative level, then Design-Builder shall have the right to make a Claim under Section 10.2 below, *provided, however*, that before doing so Design-Builder shall have satisfied its obligations under the process set forth in Section 9.5 above to file a Notice of Proposed Change Order.

## **10.2 Claims Process.**

**10.2.1** If, after failing to resolve a dispute under Section 10.1 above, Design-Builder believes that it is entitled to relief against the City for any Design-Builder PCO that the City has rejected under Section 9.5.3 above, then Design-Builder may make a Claim on such issue. Design-Builder shall initiate the Claim process by submitting to the City a written notice labeled "Notice of Intent to File a Claim" no later than ten (10) days after the City's written notice of rejection of such PCO.

**10.2.2** If Design-Builder decides to pursue its Claim, it shall submit to the City a written notice labeled "Notice of Claim." In no event shall the Notice of Claim be submitted to the City more than sixty (60) days after Final Payment. The Notice of Claim shall include a statement of Design-Builder's position, specification of the remedy sought, and supporting documentation, which supporting documentation shall include, as applicable, information submitted by Design-Builder pursuant to Section 9.5.2 above. Design-Builder shall also include with its Notice of Claim a statement certifying that the Claim is made in good faith, that supporting documentation is accurate and complete, and that to the best of Design-Builder's knowledge and belief, the relief requested accurately reflects the full relief to which Design-Builder is entitled.

**10.2.3** Responsibility to substantiate a Claim shall rest solely and exclusively with Design-Builder and compliance with all notice, submittal and documentation requirements in the Contract Documents, including those under Section 9.5 above and this Section 10.2, shall be a condition precedent to the assertion of any Claim. Any Claim failing to comply with the preceding sentence shall be barred.

## **10.3 City Decision on Claim.**

**10.3.1** The City shall render a final written decision on a Claim within ninety (90) days after the delivery of the Notice of Claim. If, within such 90-day period, the Parties have agreed to mediation in accordance with Section 10.4 below, and the Claim has not been resolved in the mediation, then the City's written decision on the Claim shall be rendered within forty-five (45) days after the mediator declares the Parties to be at an impasse. If the City does not take action on the Claim within the times required above, the Claim will be deemed to be denied by the City.

**10.3.2** The City's denial of the Claim will be final and binding on the Parties unless Design-Builder delivers written notice to the City of its intent to pursue litigation within thirty (30) days following the written decision or deemed denial of the Claim, and files appropriate pleadings to initiate litigation within six (6) months following the written decision or deemed denial of the Claim.

**10.3.3** Design-Builder shall have no right to initiate litigation prior to its receipt of the City's final determination on the claim, or, if the City has not made a final determination, the date the claim is deemed denied pursuant to Section 10.3.1 above.

**10.3.4** Nothing in the Contract Documents shall be construed to prevent the City from instituting legal action against Design-Builder at any time.

#### **10.4 Mediation.**

**10.4.1** If, after the meeting set forth in Section 10.2.3 above, the senior representatives determine that the dispute cannot be resolved on terms satisfactory to both Parties, or in the event of any other unresolved dispute between the Parties, the Parties may mutually agree to mediate the dispute. For the avoidance of doubt, mediation is voluntary and will not be a condition precedent to the initiation of litigation. Any mediation will be based upon a process mutually agreed upon by the Parties.

#### **10.5 Litigation.**

**10.5.1** Any and all legal proceedings between the Parties shall be solely and exclusively initiated and maintained in either the Circuit Court of the City of Alexandria, Virginia or the United States District Court for the Eastern District of Virginia. These two courts shall have exclusive and binding jurisdiction and venue over any and all disputes arising under the Contract, and City and Design-Builder each irrevocably consents to the jurisdiction of such courts in any such proceeding and waives any objection it may have to the jurisdiction of any such proceeding. Any legal proceedings shall consist of a bench trial and not a trial by jury, and each Party hereby waives its right to a jury trial in connection with any legal proceedings.

**10.5.2** Notwithstanding Section 10.5.1 above, any prevailing Party may seek enforcement of any judgment rendered in a court in any jurisdiction where the non-prevailing Party or its property may be located.

#### **10.6 Duty to Continue Performance.**

**10.6.1** Unless provided to the contrary in the Contract Documents, Design-Builder shall continue to perform the Work and City shall continue to satisfy its payment obligations to Design-Builder, pending the final resolution of any Dispute between Design-Builder and City.

### **Article 11** **Stop Work and Termination Rights**

#### **11.1 City's Right to Stop Work.**

**11.1.1** The City may, at any time, without cause and for its convenience, order Design-Builder in writing to stop and suspend the Work. Such suspension shall not exceed either sixty (60) consecutive days or in the aggregate more than one hundred twenty (120) days. Design-Builder is entitled to an adjustment of the GMP and/or Contract Times if the Cost of the Work it incurs or time to perform the Work has been adversely impacted by any suspension of the Work by the City and provided Design-Builder satisfies the requirements of Articles 8 and 9 above.

## **11.2 City's Right to Perform and Terminate for Cause.**

**11.2.1** If Design-Builder, at any time, fails to: (a) provide a sufficient number of skilled workers to meet the Contract Times and Baseline Schedule; (b) supply the Equipment and Materials required by the Contract Documents; (c) comply with applicable Legal Requirements; (d) timely pay, without cause, Design Consultants or Subcontractors; (e) prosecute the Work with promptness and diligence to ensure that the Work is completed by the Contract Times, as such times may be adjusted pursuant to Article 8 above; or (f) perform material obligations under the Contract Documents, then the City, in addition to any other rights and remedies provided in the Contract Documents, by Legal Requirements, or at law or in equity, shall have the rights set forth in Sections 11.2.2 and 11.2.3 below, and as provided at law.

**11.2.2** Upon the occurrence of an event set forth in Section 11.2.1 above, the City may provide written notice to Design-Builder that it intends to terminate the Agreement unless the problem cited is cured, or commenced to be promptly cured, within seven (7) days of Design-Builder's receipt of such notice. If Design-Builder fails to cure, or reasonably commence and diligently continue to cure, such problem, then the City may give a second written notice to Design-Builder of its intent to terminate within an additional seven (7) day period. If Design-Builder, within such second seven (7) day period, fails to cure, or reasonably commence and diligently continue to cure, such problem, then the City may declare the Agreement terminated for default by providing written notice to Design-Builder of such declaration. Notwithstanding anything to the contrary, if the City has provided Design-Builder with three (3) initial notices of City's intent to terminate the Agreement for any of the reasons set forth in Section 11.2.1 above, then the City shall have no further obligation to provide Design-Builder with an opportunity to cure, and may terminate the Agreement for cause as set forth in a written notice from the City.

**11.2.3** Upon declaring the Agreement terminated pursuant to Section 11.2.2 above, the City may enter upon the Site and take possession, for the purpose of completing the Work, of all Work Product, Equipment and Materials, construction equipment, supplies, scaffolds, tools, appliances and other items thereon, which have been purchased or provided for the performance of the Work, all of which Design-Builder hereby transfers, assigns and sets over to the City for such purpose, and to employ any person or persons to complete the Work and provide all of the required labor, services, Equipment and Materials, construction equipment, supplies, and other items; *provided, however*, that the City shall not take possession of any construction equipment, supplies, scaffolds, tools, appliances and other similar items owned or rented by Design-Builder or its Subcontractors.

**11.2.4** In the event of such termination, Design-Builder shall not be entitled to receive any further payments under the Contract Documents until the Work shall be finally completed in accordance with the Contract Documents. If the unpaid balance of the GMP exceeds the costs of finishing the Work, including Delay Liquidated Damages and other amounts due under the Agreement, Design-Builder will only be entitled to be paid for Work performed prior to its default, and the balance will be for the account of and retained by the City. If the costs of finishing the Work exceed the unpaid balance, Design-Builder shall, within thirty (30) days of receipt of written notice setting out the amount of the excess costs, pay the difference to the City. Such costs and expense shall include not only the cost of completing the Work (including costs to accelerate the Work as necessary to achieve Substantial Completion as near as possible to the Scheduled Substantial Completion Date), but also losses, damages, costs and expense, including attorneys' fees

and expenses, incurred by the City in connection with the re-procurement and defense of claims arising from Design-Builder's default, subject to the liability limitations set forth in Article 10 of the Agreement.

**11.2.5** If the City improperly terminates the Agreement for cause, the termination for cause will be converted automatically to and treated as a termination for convenience under the provisions of Section 11.6 below.

### **11.3 Design-Builder's Right to Stop Work.**

**11.3.1** Design-Builder may, in addition to any other rights afforded under the Contract Documents or at law, stop the Work for the following reasons:

(a) The City's failure to provide financial assurances as required under Section 3.3 above; or

(b) The City's failure to make any undisputed payment due Design-Builder within forty-five (45) days after receipt of an acceptable Application for Payment, *provided, however*, that amounts subject to a good faith dispute shall not be deemed properly due.

**11.3.2** Should any of the events set forth in Section 11.3.1 above occur, Design-Builder has the right to provide the City with written notice that Design-Builder will stop the Work unless said event is cured within seven (7) days from the City's receipt of Design-Builder's notice. If the City does not cure the problem within such seven (7) day period, Design-Builder may stop the Work. In such case, Design-Builder, provided it satisfies the requirements of Articles 8 and 9 above, shall be entitled to an adjustment to the GMP and/or Contract Times to the extent it incurs additional Costs of the Work, or the progress of the Work has been adversely impacted by such stoppage.

### **11.4 Design-Builder's Right to Terminate for Cause.**

**11.4.1** Design-Builder, in addition to any other rights and remedies provided in the Contract Documents, may terminate the Agreement for cause for the following reasons:

(a) The Work has been stopped for sixty (60) consecutive days, or more than one hundred twenty (120) days in the aggregate, because of court order, any Governmental Unit, failure of the City to obtain Governmental Approvals that are the City's responsibility under the Contract Documents, or orders by the City under Section 11.1.1 above, provided that such stoppages are not due to the acts or omissions of Design-Builder or any other DB-Related Entity.

(b) The City's failure to provide Design-Builder with any information that is the City's responsibility under the Contract Documents which results in the Work being stopped for sixty (60) consecutive days, or more than ninety (90) days in the aggregate during the duration of the Project, even though the City has not ordered Design-Builder in writing to stop and suspend the Work pursuant to Section 11.1.1 above.

(c) The City's failure to cure the problems set forth in Section 11.3.1 above after Design-Builder has stopped the Work.

**11.4.2** Upon the occurrence of an event set forth in Section 11.4.1 above, Design-Builder may provide written notice to the City that it intends to terminate the Agreement unless the

problem cited is cured, or commenced to be cured, within seven (7) days of the City's receipt of such notice. If the City fails to cure, or reasonably commence to cure, such problem, then Design-Builder may give a second written notice to the City of its intent to terminate within an additional seven (7) day period. If the City, within such second seven (7) day period, fails to cure, or reasonably commence to cure, such problem, then Design-Builder may declare the Agreement terminated for default by providing written notice to the City of such declaration. In such case, Design-Builder shall be entitled to recover in the same manner as if the City had terminated the Agreement for its convenience under Section 11.6 below.

## **11.5 Bankruptcy of City or Design-Builder.**

**11.5.1** If either the City or Design-Builder institutes or has instituted against it a case under the United States Bankruptcy Code (such Party being referred to as the "Bankrupt Party"), such event may impair or frustrate the Bankrupt Party's ability to perform its obligations under the Contract Documents. Accordingly, should such event occur:

(a) The Bankrupt Party, its trustee or other successor, shall furnish, upon request of the non-Bankrupt Party, adequate assurance of the ability of the Bankrupt Party to perform all future material obligations under the Contract Documents, which assurances shall be provided within ten (10) days after receiving notice of the request; and

(b) The Bankrupt Party shall file an appropriate action within the bankruptcy court to seek assumption or rejection of the Agreement within sixty (60) days of the institution of the bankruptcy filing and shall diligently prosecute such action.

If the Bankrupt Party fails to comply with its foregoing obligations, the non-Bankrupt Party shall be entitled to request the bankruptcy court to reject the Agreement, declare the Agreement terminated and pursue any other recourse available to the non-Bankrupt Party under this Article 11.

**11.5.2** The rights and remedies under Section 11.5.1 above shall not be deemed to limit the ability of the non-Bankrupt Party to seek any other rights and remedies provided by the Contract Documents or by law, including its ability to seek relief from any automatic stays under the United States Bankruptcy Code or the right of Design-Builder to stop Work under any applicable provision of these General Conditions of Contract.

## **11.6 City's Right to Terminate for Convenience.**

**11.6.1** Design-Builder's performance of Work under the Agreement may be terminated by the City in accordance with this Section 11.6 in whole or in part, without cause or whenever the City shall determine that such termination is in the best interest of the City. Any such termination shall be effected by delivery to Design-Builder of a Notice of Termination for Convenience, specifying the extent to which performance of Work under the Agreement is terminated, and the date upon which such termination becomes effective.

**11.6.2** Design-Builder shall comply with instructions in the Notice of Termination for Convenience and, unless such notice directs otherwise:

(a) Immediately discontinue the Work on the date specified in such notice and to the extent specified in such notice;

(b) Place no further orders or Subcontracts except as may be necessary for completion or such portion of the Work as is not discontinued;

(c) Assign to the City any Subcontract relating to the performance of Work that is discontinued that City elects in writing, at its sole election and without obligation, to have assigned to it, with the City assuming, and Design-Builder being relieved of, all obligations under the Subcontract accruing from the date of the assignment;

(d) Promptly cancel or terminate, on terms reasonably and commercially appropriate, all Subcontracts that the City does not elect to have assigned to the City to the extent that such Subcontracts relate to the performance of Work that is discontinued;

(e) Complete performance of such part of the Work as shall not have been terminated by the Notice of Termination for Convenience;

(f) Take such action as may be necessary, or as the City may reasonably direct, for the protection and preservation of the property related to the Agreement which is in the possession of Design-Builder and in which the City has or may acquire an interest; and

(g) Deliver to the City all Work Product produced during the period commencing on the Agreement Date to the date of the termination, which Work Product shall, for the avoidance of doubt, become the property of the City, to the extent that it may not have been the property of the City before the date of termination.

Design-Builder shall proceed immediately with the performance of the above obligations notwithstanding any delay in determining or adjusting the cost, or any item of reimbursable cost, under this Section 11.6.

**11.6.3** In the event of a termination for convenience, Design-Builder shall be entitled to receive only the following with respect to the terminated portion of the Project (to the extent not previously paid or subject to a good faith dispute) as its sole and exclusive remedy for such termination: (a) Cost of Work and Design-Builder's General Conditions performed through the date of termination in accordance with the schedule of values; (b) the reasonable costs incurred by Design-Builder in the performance of its obligations under Section 11.6.2 above directly resulting directly from such termination, including all actual and reasonable demobilization costs and amounts due in settlement of terminated Subcontracts; and (c) a fair and reasonable portion of Design-Builder's Fee attributable to the Work performed on the terminated portion of the Work up to the time of termination. Design-Builder shall not be entitled to recover Design-Builder's Fee, Design-Builder's General Conditions, or any other overhead or profit on unperformed portions of the Work. In no case shall Design-Builder or any other DB-Related Entity be entitled to anticipatory or unearned profits, unabsorbed overhead, opportunity costs, or consequential or other damages as a result of a termination for convenience under this Section 11.6.

**11.6.4** The obligation of the City to pay amounts due in settlement of Subcontracts under Section 11.6.3 above shall be limited to the reasonable costs incurred by Design-Builder in settling and closing out Subcontracts that the City does not elect to have assigned to it under Section 11.6.3 above and shall be subject to cost substantiation. Any convenience termination settlement payment under any Subcontract shall be calculated in the same

manner as provided in Section 11.6.3 above with respect to the convenience termination settlement payment to Design-Builder.

**11.6.5** The total sum to be paid to Design-Builder under Section 11.6.3 above shall not exceed the total GMP as reduced by the amount of payments otherwise made and as further reduced by the price of Work not terminated.

## **11.7 Right to Contract with Design Consultants.**

**11.7.1** In addition to any other rights available to the City under this Agreement, the City shall have the right to contract with Design Consultants in accordance with Section 2.1.5 above if it terminates Design-Builder under either Sections 11.2 or 11.6 above.

## **Article 12** **Electronic Data**

### **12.1 Electronic Data.**

**12.1.1** The Parties recognize that Contract Documents, including drawings, specifications and three-dimensional modeling (such as Building Information Models) and other Work Product may be transmitted among the City, Design-Builder and others in electronic media as an alternative to paper hard copies (collectively "Electronic Data").

### **12.2 Transmission of Electronic Data.**

**12.2.1** The City and Design-Builder shall agree upon the software and the format for the transmission of Electronic Data. Each Party shall be responsible for securing the legal rights to access the agreed-upon format, including, if necessary, obtaining appropriately licensed copies of the applicable software or electronic program to display, interpret and/or generate the Electronic Data.

**12.2.2** Neither Party makes any representations or warranties to the other with respect to the functionality of the software or computer program associated with the electronic transmission of Work Product. Unless specifically set forth in the Agreement, ownership of the Electronic Data does not include ownership of the software or computer program with which it is associated, transmitted, generated or interpreted.

**12.2.3** By transmitting Work Product in electronic form, the transmitting Party does not transfer or assign its rights in the Work Product. The rights in the Electronic Data shall be as set forth in Article 7 of the Agreement. Under no circumstances shall the transfer of ownership of Electronic Data be deemed to be a sale by the transmitting Party of tangible goods.

### **12.3 Electronic Data Protocol.**

**12.3.1** The Parties acknowledge that Electronic Data may be altered or corrupted, intentionally or otherwise, due to occurrences beyond their reasonable control or knowledge, including but not limited to compatibility issues with user software, manipulation by the recipient, errors in transcription or transmission, machine error, environmental factors, and operator error. Consequently, the Parties understand that there is some level of increased risk in the use of Electronic Data for the communication

of design and construction information and, in consideration of this, agree, and shall require their independent contractors, Subcontractors and Design Consultants to agree, to the following protocols, terms and conditions set forth in this Section 12.3.

**12.3.2** Electronic Data will be transmitted in the format agreed upon in Section 12.2.1 above, including file conventions and document properties, unless prior arrangements are made in advance in writing.

**12.3.3** The Electronic Data represents the information at a particular point in time and is subject to change. Therefore, the Parties shall agree upon protocols for notification by the author to the recipient of any changes which may thereafter be made to the Electronic Data, which protocol shall also address the duty, if any, to update such information, data or other information contained in the electronic media if such information changes prior to Final Completion of the Project.

**12.3.4** The transmitting Party specifically disclaims all warranties, expressed or implied, including, but not limited to, implied warranties of merchantability and fitness for a particular purpose, with respect to the media transmitting the Electronic Data. However, transmission of the Electronic Data via electronic means shall not invalidate or negate any duties pursuant to the applicable standard of care with respect to the creation of the Electronic Data, unless such data is materially changed or altered after it is transmitted to the receiving Party, and the transmitting Party did not participate in such change or alteration.

### **Article 13** **Miscellaneous**

#### **13.1 Confidential Information.**

**13.1.1** Confidential Information is defined as information which is determined by the transmitting Party to be of a confidential or proprietary nature and: (a) the transmitting Party identifies as either confidential or proprietary; (b) the transmitting Party takes steps to maintain the confidential or proprietary nature of the information; and (c) the document is not otherwise available in or considered to be in the public domain. The receiving Party agrees to maintain the confidentiality of the Confidential Information and agrees to use the Confidential Information solely in connection with the Project.

**13.1.2** Design-Builder may share Confidential Information with the other DB-Related Entities as appropriate for the procurement and execution of the Work.

**13.1.3** The confidentiality obligations herein shall expire within three (3) years of the Final Completion Date.

#### **13.2 Assignment.**

**13.2.1** Neither the Agreement nor any right, privilege, delegation, or interest thereunder may be assigned or transferred in whole or in part by the City or Design-Builder without the prior written consent of the other Party, and any attempted assignment or transfer without such written consent shall be void, except as set forth in Section 13.2.2 below.



**13.2.2** Notwithstanding the above, Design-Builder's consent of the City's assignment or transference shall not be required for assignments relating in any way to the financing of the Agreement, Work or Project. Design-Builder shall execute such assignments, consents, and other documents as may be reasonably requested to give effect to or implement any assignment or conveyance of the Agreement or any right, privilege, delegation, or interest thereunder.

**13.3 Successorship.**

**13.3.1** Design-Builder and the City intend that the provisions of the Contract Documents are binding upon the Parties, their employees, agents, heirs, successors and permitted assigns.

**13.4 Governing Law.**

**13.4.1** The Agreement and all Contract Documents shall be governed by the laws of the State, without giving effect to its conflict of law principles.

**13.5 Severability.**

**13.5.1** If any provision or any part of a provision of the Contract Documents shall be finally determined to be superseded, invalid, illegal, or otherwise unenforceable pursuant to any applicable Legal Requirements, such determination shall not impair or otherwise affect the validity, legality, or enforceability of the remaining provision or parts of the provision of the Contract Documents, which shall remain in full force and effect as if the unenforceable provision or part were deleted.

**13.6 No Waiver.**

**13.6.1** The failure of either Design-Builder or the City to insist, in any one or more instances, on the performance of any of the obligations required by the other under the Contract Documents shall not be construed as a waiver or relinquishment of such obligation or right with respect to future performance.

**13.7 Sovereign Immunity.**

**13.7.1** Notwithstanding any other provision of the Contract Documents to the contrary, nothing in the Contract Documents nor any action taken by the City pursuant to the Contract Documents nor any document which arises out of the Contract Documents shall constitute or be construed as a waiver of the sovereign immunity of the City, or of its elected and appointed officials, officers and employees.

**13.8 No Third-Party Beneficiaries.**

**13.8.1** Nothing under this Interim Agreement shall be construed to give any rights or benefits in the Agreement to anyone other than the City and Design-Builder, and all duties and responsibilities undertaken pursuant to the Contract Documents will be for the sole and exclusive benefit of the City and Design-Builder and not for the benefit of any other party.

**13.8.2** For the avoidance of doubt, Section 13.8.1 above shall not be construed as affecting the rights of: (a) any DB-Related Entity to seek recovery under Builder's Risk

Insurance as set forth in Exhibit 11.1 (Insurance Requirements) to the Agreement; or (b) the City's rights under Section 2.1.5 above.

**13.9 Headings.**

**13.9.1** The headings used in these General Conditions of Contract, or any other Contract Document, are for ease of reference only and shall not in any way be construed to limit or alter the meaning of any provision.

**13.10 Amendments.**

**13.10.1** The Contract Documents may not be changed, altered, or amended in any way except in writing signed by a duly authorized representative of each Party.

**END OF GENERAL CONDITIONS OF CONTRACT**

**EXHIBIT 2.1.1**

**Phase 1 Services –  
INTERIM AGREEMENT**

**for the**

**Waterfront Implementation Project**

**City of Alexandria**

[ATTACHED]



## **CITY OF ALEXANDRIA, VA**

PHASE 1 SERVICES FOR

### **Waterfront Implementation Project**

**CLIENT PROJECT NO. 1047**

**EXHIBIT 2.1.1**

**AUGUST 2023 – EXECUTION OF INTERIM AGREEMENT**

**CITY OF ALEXANDRIA, VA**  
**WATERFRONT IMPLEMENTATION PROJECT**  
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**EXHIBIT 2.1.1(a)**  
**Scope of Phase 1A Services**  
**for the**  
**Waterfront Implementation Project**  
**City of Alexandria**

**ARTICLE 1 – INITIATION AND PROJECT MANAGEMENT**

**1.1 Design Initiation**

A. The Design-Builder shall:

1. Prepare agenda and presentation materials and facilitate (in-person) a project kickoff meeting with Owner at City Hall (Alexandria, VA) to review the topics that will be developed as part of the proposed Project Management Plan including but not limited to Design-Builder's Phase 1 scope of work, Project schedule (including Initial 90-Day Schedule), risk management, staff organization and roles/responsibilities, communication protocols, and near-term activities and deliverables. The Owner will discuss Project goals, objectives, and critical success factors. Design-Builder shall prepare and distribute meeting minutes in both MS Word and PDF format.
2. Prepare a draft Project Management Plan for Phase 1 that summarizes the objectives and approach to delivery of Work; organization requirements defining resources and staffing, roles and responsibilities, contact information, and communication protocols/procedures; Design-Builder's Quality Assurance/Quality Control Plan (QA/QC Plan); Phase 1 budget, planned value for each Phase 1 subtask, Project Schedule and work breakdown structure; financial tracking procedures (full and timely tracking of Earned Value); decision/action items logs; and scope change management process.
3. Submit an electronic copy in both MS Word and PDF format of the draft Project Management Plan to Owner within thirty (30) calendar days following Notice to Proceed (Phase 1). Account for a period of ten (10) calendar days for the Owner's review of the draft Project Management Plan submittal.
4. Update the draft Project Management Plan based on comments received from Owner and submit an electronic copy in MS Word (with tracked changes on) and a PDF format (clean) of the final Project Management Plan to Owner within fourteen (14) calendar days after receipt of Owner's comments.

**1.2 Project Coordination and Management**

- A. Project Coordination and Management. Design-Builder shall provide Project coordination and management for the Phase 1 Work. This includes management and monitoring of labor utilization, project schedule, and project budget on a monthly basis, or more frequently as required. It shall be the ongoing responsibility of the Design-Builder to adequately manage and adhere to the task budgets and to submit deliverables to Owner on time and in accordance with the Agreement requirements.

B. Monthly Progress Reports. Design-Builder shall prepare and submit monthly progress reports with an Application for Payment for Work completed during the prior pay period and compare earned value to actual expenditures for the month and project duration. Invoices shall be in accordance with the Agreement and the progress reports shall:

1. Include work completed to date and work planned for the following month.
2. Update physical percent complete and compare to the planned value for each Phase 1A task and subtask. Report a total percent complete for total Phase 1A services. Calculate the schedule performance index and schedule performance index for total Phase 1A services.
3. Provide current Project actual cost for each Phase 1A subtask and a total actual cost for all Phase 1A services.
4. Provide any outstanding decision items or key issues that may impact the project.
5. Include a tracking list with a comparison of Phase 1A Services Schedule due dates vs. actual delivery dates for all deliverables submitted within the reporting period.
6. Identify or forecast proposed modifications to the Phase 1A scope, schedule, or budget.
7. A one (1) hour monthly progress meeting with Design-Builder's project manager, Owner, and Owner Representative shall be conducted in-person or virtual to review the progress report. The following can be used as agenda for the meeting:
  - a. Work completed during the reporting period.
  - b. Percent complete by category or major deliverable.
  - c. Comparison of baseline due dates vs actual delivery dates for relevant deliverables.
  - d. Forecast of work for next period.
  - e. Suggested improvements.
  - f. Input needed from the Owner.
  - g. Upcoming milestones.
  - h. Potential risks.
8. The invoice shall follow the WBS structure. The invoice shall include supporting information for hours per staff member, job classification, and billing rate. An invoice template will be provided by the Owner.

C. Phase 1A Coordination Meetings.

1. Design-Builder shall prepare, facilitate, and document two (2) hour bi-weekly (two meetings per month) coordination meetings. Design-Builder shall prepare minutes for each meeting and distribute to Owner in MS Word and PDF format. Design-Builder shall maintain decision and action logs. Phase 1A coordination meetings will be for the purpose of discussing current

- project activities, design and cost development, and for the Design-Builder to share and discuss additional information as agreed to by Owner and Design-Builder.
2. The Design-Builder shall maintain a trend log that documents costs associated with design decisions and design development. A rough order of magnitude cost estimate shall be determined for each major design decision and design development activity and documented within the trend log. The trend log shall be reviewed by Design-Builder and Owner at the Phase 1A coordination meetings.
    - a. In addition to the bi-weekly coordination meetings, Design-Builder shall participate in miscellaneous coordination meetings with Owner and other team members up to sixteen (16) hours of meeting time per month. Design-Builder shall prepare minutes for each meeting and distribute to Owner in PDF format.
    - b. Coordination meetings shall typically be attended virtually.
  - D. Partnering Meetings. The Design-Builder shall attend one (1) 4-hour partnering meeting at the beginning of Phase 1A. The Owner will facilitate the partnering meeting and provide agenda prior to meeting for review and comment by Design-Builder. An online survey will be distributed prior to partnering meeting to be completed by Design-Builder and Owner.
  - E. Monthly Executive Meeting. The Design-Builder senior staff shall participate in a monthly meeting with senior staff of the Owner to discuss the progress of the Project, identify areas that the project team can be more efficient, and to resolve issues as required.
  - F. Change Management. Design-Builder shall document scope and schedule changes associated with completion of Design-Builder's Phase 1A Work by using a change management log, which describes the major issues that arise, and shall provide a status of each item for Owner review during monthly progress meetings.
  - G. Quality Management. Design-Builder shall perform in-progress quality management reviews of its work activities and deliverables. Design-Builder shall refer and incorporate into its QA/QC Plan and QA/QC activities the procedures and requirements documented in Minimum Requirements for Quality Assurance and Quality Control on Design Build and Public-Private Transportation Act Projects (Virginia Department of Transportation; August 2018) that are applicable to the Project. The Owner will refer to these requirements and documentation in its review and comment on the Design-Builder's QA/QC Plan. At a minimum, the Design-Builder shall perform the following:
    1. Designate a quality assurance/quality control (QA/QC) officer to Phase 1A that is responsible for implementation of the Design-Builder's QA/QC Plan, and for documentation of QA/QC activities. The Design-Builder shall appoint an engineer or equally qualified specialist as the QA/QC Manager who has at least fifteen (15) years of total professional experience, or experience on at least five (5) separate projects of similar magnitude and complexity as the Project. The QA/QC Manager proposed by the Design-Builder is subject to Owner approval and is considered a Key Personnel.
    2. The QA/QC Plan shall include checklists and quality management guidance documents for performance of the Phase 1A Work.
    3. Require all Project personnel to read the approved QA/QC Plan and be familiar with the Project procedures and requirements.



4. Perform internal review of all calculations and deliverables by designated quality management personnel prior to each submission.
  5. Record and submit all internal review and comment information on forms to the Owner. Forms shall be submitted with draft deliverables with certification by the Design-Builder's Project Manager that submitted information has been reviewed and checked in accordance with the procedures documented within the QA/QC Plan.
  6. Review and discuss review comments provided by the Owner and Owner Representative on all deliverables. Record responses to comments on approved forms.
  7. Design-Builder shall identify and utilize an individual or individuals on its staff to perform an independent quality control check of the drawings and specifications to assure the Phase 1 Design Documentation are clear and complete and to assure functional coordination of the varied systems and components. The quality control check shall be comprehensive and shall include at a minimum checking dimensions, sizes, detail, section, and elevation references, coordination between the architectural and engineering disciplines' drawings and specifications, reviewing designs for compatibility of materials and equipment, coordinating references within technical specifications to other sections and to the drawings, constructability, and future maintenance access.
  8. Owner may engage independent consultants to perform a separate peer review of Design-Builder's deliverables. Design-Builder shall supply all necessary calculations, analyses, and other documents and cooperate fully with any such independent peer review. Owner may also engage an independent commissioning agent and/or operations and maintenance (O&M) representative to review mechanical, electrical, plumbing, or other special system designs and to monitor the construction and testing of such systems. Design-Builder shall cooperate fully with Owner's commissioning agent and/or O&M representative.
- H. Work Breakdown Structure (WBS). Develop a WBS to detail the tasks and subtasks needed to complete all activities and deliverables. The WBS shall be used for fee development, project execution, cost management, invoicing, and schedule management.
- I. Schedule Management. Design-Builder shall prepare and provide updates to the Project schedule and other schedule documentation according to the following:
1. During Phase 1, the Design-Builder is responsible for development of a schedule for delivery of the Project from the date of Phase 1 Notice to Proceed through the Final Acceptance that includes a detailed Phase 1A Services Schedule, an estimated Phase 1B Services Schedule and an estimated Baseline Schedule. The Project schedule shall be developed and submitted for Owner review and approval in accordance with the requirements of SECTION OR-01320–PROJECT MANAGEMENT AND PROGRESS REPORTING of the Division Owner Requirements (Division ORs).
  2. The schedule shall be organized according to the WBS.
  3. Following the kickoff meeting, the Design-Builder shall revise the Project schedule, as necessary. Once accepted by the Owner, it will serve as the schedule for establishing milestones and project deliverables.

4. The Project schedule shall be maintained throughout the project and presented and reviewed at biweekly progress meetings and other project meetings as needed. Any requested changes to the milestones and project deliverables dates shall be submitted to the Owner with justification for the change. Only schedule changes approved by the Owner may be made to the Project schedule.
  - a. Regarding Governmental Approvals, the Design-Builder cannot guarantee that the responsible agencies will issue permits in the timeframe proposed within the project schedule. Design-Builder will make every effort to secure the issuance of the permits expeditiously and as consistent with the Standard of Care.
- J. Risk Management. The Design-Builder shall incorporate risk management into the Project in accordance with the requirements of the Agreement. Design-Builder shall prepare and provide updates to a risk register according to the following:
  1. Develop and maintain a risk register using a risk register template approved by the Owner. Design-Builder shall refer to and incorporate the Construction Management Association of America (CMAA) Risk Breakdown Structure to develop the risk register template as applicable to the Project. The Owner will refer to this documentation in its review and comment on the Design-Builder's risk register.
  2. The risk register shall include the following information:
    - a. Risk identification;
    - b. Risk description including qualitative categorization of risk;
    - c. Estimated/calculated percent likelihood that risk may occur;
    - d. Phase of Project that risk could impact;
    - e. Potential schedule impact should risk occur;
    - f. Potential cost impact should risk occur;
    - g. Risk trigger;
    - h. Risk responsible party; and
    - i. Risk management strategy (transfer, mitigate, accept, exploit) and description of plan for risk response.
  3. Update risk register and submit to Owner quarterly. Design-Builder shall conduct a quarterly risk management meeting with Owner to review risk register and status of risk mitigation measures.
- K. Work Management System.
  1. Document Management. Design-Builder will maintain and coordinate all pertinent electronic design files and documents including all computer-aided design and drafting (CADD)-related files related to the Project. Electronic files submitted during the design phase shall use a naming convention approved by the Owner and described in the Project Management Plan.

2. Project Management Information System. The Owner will implement a web-based common data environment (e.g., SharePoint) to facilitate collaboration and management of the Project. The Design-Builder will be required to use the Owner's designated data environment and follow established procedures and workflows for documenting, sharing, and control of Project information. At a minimum, it will be used for the following:
  - a. Overall Project tracking and monitoring of key performance indicators;
  - b. Meeting and workshops agendas, presentations, and notes;
  - c. Action items, decision logs, and tracking;
  - d. Budget and schedule tracking;
  - e. Risk tracking and mitigation;
  - f. Document submittals and transmittals including drawings (PDF format);
  - g. Quality management documentation including comments, responses, and confirmations;
  - h. Value engineering submission;
  - i. Invoices and monthly reports;
  - j. Templates and tools;
  - k. Project related communication; and
  - l. Dashboards of Project progress prepared by the Owner.
3. The Owner will secure the required number of user licenses for Design-Builder for the scheduled durations of Phase 1A.
4. The Design-Builder and Owner will collaborate during Phase 1B to determine the document and workflow management system to be utilized during Phase 2 and make such determination prior to the GMP Proposal.
- L. Health and Safety. Design-Builder is responsible for developing during Phase 1A and implementing health and safety practices during Phase 1A, Phase 1B and Phase 2.
  1. Design-Builder shall develop Health and Safety Plan in accordance with the requirements of SECTION OR-01329 – HEALTH AND SAFETY PLAN of the Division Owner Requirements (Division ORs) that documents the Design-Builder's health and safety policies and procedures to be utilized in conducting the Work during Phase 1A, Phase 1B and Phase 2 (Phase 2 policies and procedures may be updated during Phase 1B prior to the GMP Proposal). Design-Builder shall submit to Owner within sixty (60) calendar days from Phase 1A Notice to Proceed a draft of the Health and Safety Plan for Owner's review and concurrence.

M. Project Funding.

1. Design-Builder shall provide input and documentation to support the development of funding applications for potential future awards.
2. Design-Builder shall provide input and documentation to fulfill compliance requirements for currently executed grant agreements as requested by the Owner.

N. Community Meetings.

1. Design-Builder shall develop Communications and Outreach Plan (draft and final) and submit for Owner's review ninety (90) calendar days from Phase 1A Notice to Proceed. Plan shall be updated as needed prior to GMP Proposal for use during Phase 2.
2. Design-Builder shall plan for and lead (or co-lead) regular community meetings to communicate Project design updates, such as additional alternatives development, cost-benefit evaluation findings, temporary construction impacts, work sequencing plans, material selection and aesthetics, public amenities, and other questions from the public. Assist Owner in written communication responses to public questions or comments received via email. The Design-Builder shall plan for and lead (or co-lead) up to six (6) meetings.
3. In preparation, Design-Builder shall prepare graphics and other communication tools/materials as well as provide written communication and responses to project inquiries for civic engagement and industry/community outreach.
4. The total level of effort for the Community Meetings is assumed to be up to, but not exceeding, 663 hours. These hours are inclusive for the Design-Builder between the Lead Contractor, Lead Designer, and incorporates up to 150 hours for their respective Subcontractor(s) support (Undeland Management).

O. General Requirements.

1. The Design-Builder's Lead Contractor and Lead Designer shall sign all Phase 1A deliverables and provide written confirmation of their involvement and Agreement in reaching key milestones.

## **ARTICLE 2 – BASIS OF DESIGN**

### **2.1 Project Requirements and Existing Documentation Review**

A. The Design-Builder shall:

1. Review City's Project Criteria and the Conceptual Design Report.
2. Review City-Furnished Information and Designated City-Furnished Information including all documents relating to investigations and analyses from previous work efforts performed by others for the Owner or otherwise, such as surveys, topographic surveys, environmental studies, geotechnical and/or geo-archaeological investigations and design plans.
3. Identify, consult with, and analyze requirements of governmental agencies and authorities having jurisdiction to approve aspects of the Project.

4. Evaluate the City's Project Criteria and Conceptual Design Report, and, after consultation with Owner, recommend to Owner any modifications to such documents that in Design-Builder's judgment would benefit the Project. Any modifications to the City's Project Criteria are required to be justified by the Design-Builder via a cost-benefit analysis and must be approved by the Owner.
5. Consult with Owner to define site constraints, project requirements, and project and site preferences. Design-Builder, and Subconsultants shall meet at the Project site and review the existing field conditions. Owner's staff and other designated representatives may be present during this review.
6. Provide an initial opinion on Phase 2 costs associated with the Project scope. The Design-Builder's initial opinion on Phase 2 costs will assist Owner and Design-Builder to assess potential alternatives for evaluation and any adjustments to baseline Project scope to comply with Owner's budget requirements.
7. The Design-Builder shall collaborate with an Artist contracted by the Owner to integrate public art as part of the Project during Phase 1 and/or Phase 2, as needed and directed by the City. The Design-Builder shall coordinate with the artist on location(s) and site requirements. At a minimum, the Design-Builder shall coordinate with the Office of the Arts to refine Phase 1B and/or Phase 2 efforts in preparation of the Phase 1B Proposal.

## **2.2 Site Investigations**

- A. Geotechnical Investigations. Design-Builder shall perform geotechnical investigations of the Project Site as the Design-Builder determines necessary to further define the subsurface conditions and for the Design-Builder's use in developing its design and performing the Work. Design-Builder shall:
  1. Review the Geotechnical Data Report (MRCE; August 21, 2022) and Geotechnical Design Memorandum (MRCE; September 16, 2022) to prepare a Geotechnical Baseline Report (GBR) for the Project Site. The GBR shall follow the applicable guidelines of the ASCE reference document "Geotechnical Baseline Reports for Construction." If there is a discrepancy between the Geotechnical Data Report and Geotechnical Design Memorandum, the Geotechnical Design Memorandum takes precedence.
  2. The GBR shall be prepared to establish the geotechnical conditions of the site for the purposes of design, development of costs, and construction of the Project facilities. The GBR shall also address underground utilities and structures. The Design-Builder is responsible for determining if any additional borings are required, location of borings, and depth of borings required for development of the GBR; any supplemental geotechnical field work will be performed in Phase 1B. The GBR shall be based on Geotechnical Data Report (as confirmed by Design-Builder), Geotechnical Design Memorandum, and any additional geotechnical investigation determined as necessary by the Design-Builder. Design-Builder shall make recommendations on the design of the applicable elements including, but not limited to, pavement design, structure foundations, expansive soil detailing, retaining structures, pipe bedding, backfill, grading, compaction, dewatering requirements, and waterproofing if applicable.

3. Submit to Owner an electronic copy in MS Word and PDF format of the draft GBR for review by the Owner. Account for a period of fourteen (14) calendar days for Owner review of the draft GBR submittal. An electronic copy in MS Word (with tracked changes and responses to comments) plus a PDF format (clean, changes accepted, comments removed) of the final GBR shall be submitted to the Owner based upon comments received from the Owner.
- B. Supplemental Site Survey. The Design-Builder shall perform a site survey for the Project Site, performed by a Professional Land Surveyor licensed in the Commonwealth of Virginia, as the Design-Builder determines necessary to supplement existing survey data provided by Owner and for the Design-Builder's use in developing its design and performing the Work. At a minimum, the Design-Builder shall:
1. Review existing survey data provided by Owner.
  2. Submit to the Owner a draft of the proposed site survey scope of services (if supplemental survey is required) for the Owner's review and comment, prior to proceeding with the surveying tasks. The draft scope of services shall include information on proposed utility services, benchmarks, integration of Owner information, and procedures for identifying underground utilities (including plan and approach for any proposed potholing). Account for a period of fourteen (14) calendar days for Owner review of the draft site survey scope of services submittal.
    - a. It is assumed the following site survey services will be performed by the Design-Builder:
      - i. Re-establish survey control and supplemental design survey.
        1. Up to ten (10) days of field crew topographic surveys and processing of survey data.
        2. Survey documentation of Site Investigations' test pits and borings.
      - ii. Utility Test Pits and Designation.
        1. Up to twenty (20) utility test holes.
    - b. If additional survey services are required, the Design-Builder shall advise the Owner and provide a written request for authorization and document in accordance with the Change Management procedures described herein.
  3. Prepare Maintenance of Traffic Plan and obtain permit(s), as applicable.
  4. Upon review of the scope of services by the Owner, commence with the site survey. The Design-Builder shall incorporate survey information of the boundary survey information for the Project Site as provided by the Owner.

5. The Design-Builder shall perform topographic survey with the accuracy necessary to update the hydraulic model for Preferred Project Alternative (included under Exhibit 2.5.1 in the Interim Agreement), delineate flood extents, and support the preparation of engineering drawings. The Design-Builder shall propose the accuracy standards to be used; however, per general industry standard, the deviation (2D and 3D) of any one point to another (including associated Civil 3D surface) is expected to be less than 0.07 ft. Certain individual points (such as survey control points, benchmarks, and critical features to design) will need to be of a higher precision and accuracy than the general condition stated above. Horizontal and vertical datums will be NAD 83 and NAVD 88, respectively. The Design-Builder shall recommend the survey limit and accuracy standards, both of which shall be presented to the Owner during a survey scope review meeting to ensure the work will fully support the project goals. Surveys shall be prepared and signed by a land surveyor licensed in the Commonwealth of Virginia and the level of accuracy shall be in line with both current industry standards for survey data associated with design and the minimum state standards (18VAC10-20-380) for accuracy with respect to closure (engineering construction) and elevation (construction layout).
6. The Design-Builder shall conduct the survey in a low impact manner without disturbing anything on private property. If entry onto private property is required during course of the work, survey notification letters shall be sent by the Design-Builder to all affected owners at least two weeks prior to entry. The Design-Builder shall provide to the Owner delivery confirmation of each letter.
7. The survey shall provide all data that may be required for the preparation of the final plans, construction contract drawings, and record plats. The survey shall include but not be limited to the following information:
  - a. A field referenced traverse with stations referenced and identified (note object used as a traverse station; iron pipe, rebar and cap, P.K., spike, etc.), including computations and coordinate tables, with a maximum error of closure of 1 part in 35,000. For surveys conducted using global positioning systems, the maximum permissible positional uncertainty based on the 95% confidence level of any independent property monument shall not exceed the positional tolerance of 0.07 feet. The Virginia State Plane Coordinate System, North Zone, (NAD 83 and NAVD 88) shall be utilized. The traverse symbols and the coordinate table shall be shown on the deliverable.
  - b. Scale of survey drawings should not exceed 1" =40', and a larger map scale is preferred, depending on the size of the project area.
  - c. Sufficient property corner ties shall be made to permit:
    - i. Accurate computation and depiction on the survey of all property lines on, adjacent to, and departing from the entire area of the survey;
    - ii. The preparation of all plats of easement, right-of-way or acquisition as required;
    - iii. An accurate (re)establishment of these lines in the field.

- d. Copy of all deed research, including instruments and plats, of the recorded land records used to determine the limits of property, existing easements and rights-of-way.
- e. A series of referenced elevation benchmarks in line with VA State Code requirements and generally expected to be minimum of 2 benchmarks per 24x36 plan sheet.
- f. Strip topography to be run for the entire length of the project area as follows:
  - i. Minimum width of 150 ft or twice the proposed right-of-way width, whichever is greater, or generally from face of house to face of house for road or community improvement projects.
  - ii. Minimum width of 100 ft on sanitary sewer, storm sewer, and storm sewer outfalls.
  - iii. Additional topography as required to complete the project.
  - iv. If traffic signals are involved, the entire intersection shall be included.
  - v. Minimum width of 50 ft for sidewalk and trail projects. At locations along an existing road, this width shall extend from existing edge of pavement, except at intersections where the entire intersection shall be included to a distance at least 25 ft beyond curb returns.
- g. The following is to be included:
  - i. Certified survey sheet set (PDF form).
  - ii. AutoCAD deliverable representing certified survey in Civil 3D format. This comprehensive CAD drawing shall include a Civil 3D surface that represents the certified survey elevations. CAD drawing shall also include all information/data/objects associated with the topographic survey per industry standard, including but not limited to: all horizontal locations of physical improvements (including utilities), all survey points, 2D lines and 3D lines used in the survey, contour lines and any necessary elevation labels, all property lines and associated labels, all control points used in survey, text labels for survey, etc.
  - iii. Standard text labels/information for all parcels directly adjoining the project area and/or corridor, including (at a minimum) address, property owner name, and tax map number. Note: the record plats (if any) prepared with this project shall include additional data and labels.
  - iv. The RAW data in .FBK or .RW5 format for all field survey.



- v. As-builts of gravity utilities (storm and sanitary) shall include complete information for all structures within the survey area and one structure beyond in each direction. Inspection shall be made for any gravity utilities, which may cross the survey area without a structure within the area. For this case, include as-built for one structure outside the survey area in both directions. As-built table shall include all invert elevations and associated pipe size, pipe directions and/or pipe ID, all rim elevations, and any notes pertinent to the structures.
- vi. The horizontal and vertical location of underground sanitary sewer, sanitary systems, drain fields, storm drainage, etc., shall be located by the field survey and depicted on the survey sheets. All storm and sanitary pipes shall include graphic labels of pipe size and material, and arrows for flow direction.
- vii. All surface evidence of utilities and rights and interests of others on or through the subject property and within 10' of the limit of the survey area including but not limited to: poles, cables, down guys, switches, transformers, relays pedestals, gas and water valves, hydrants, etc.
- viii. Where an area is totally wooded, or there are large groups of trees forming a continuous canopy, the tree trunk line and drip line need to be clearly shown and labeled. Individual trees within a totally wooded area or within a large group of trees are not required to be individually shown on the improvement plan unless a particular tree is of significant size or possesses some other outstanding feature.
- ix. If there are individual trees standing apart from the wooded area, or from any large group of trees, then any such freestanding individual trees and any caliper planted landscape trees will be shown on the improvement plan. All trees identified are to be accurately located on the plans and shall be labeled as to size, type, and diameter of drip line. Any standing trees 4" diameter-at-breast-height or larger shall be located and identified on the survey.
- x. Individual shrubbery shall be shown with size and type in developed areas. Shrubby lines shall be shown, and type indicated inside the outline area.
- xi. All improvements to the real property inside the scope of the survey shall be located and identified, including but not limited to signs, fences, mailboxes, other structures and roof drains appurtenant to the structures and landscaped areas within the limits of topography should be shown and identified.
- xii. Wetland delineations may be required to be located as a part of the scope of survey. In cases when this is required the City will advise that such service is required and a scope and fee modification will be issued.
- xiii. Pavement markings to include lane markings, stop bars, and cross walks and parking stripes. Individual width of stripes is not required, only the centerline of the stripes. Locations of turn arrows or text messages in the pavement are also required.

- xiv. First floor and basement elevations for all potentially impacted residences.
  - xv. Visible evidence of sprinkler (irrigation) systems shall be located and identified during the survey.
  - xvi. Underground utilities consisting of, but not limited to, conduits, water, telephone, electric, gas, oil, cable TV, fiber optics, etc. All utility pole identification numbers shall be recorded and indicated adjacent to the located pole. The vertical location of underground utilities, including underground conduits, sanitary sewer, sanitary systems, drain fields, storm drainage, etc., will be determined by any method other than boring and mechanical excavation. Horizontal location of utilities from available records and plans shall only be used to verify field locations.
- h. Survey shall include delineation of Resource Protection Area (RPA), wetland, and 100-yr floodplain elevation.
  - i. All office work required to plot the above information and prepare the base maps needed for the design drawings. Prepare electronic plan base sheets showing the topography, property lines, utilities, right-of-way, easements, and horizontal and vertical control information. The horizontal and vertical control shall include, but not be limited to, the following:
    - i. Horizontal Control
      - 1. Plot the traverse (including at a minimum traverse point number and traverse symbol) on the base sheet, and survey data sheet.
      - 2. Show coordinates and elevations of traverse stations in tabulated form on the survey sheets.
      - 3. Reference traverse stations on base sheet, i.e., designation of object used as a traverse station; iron pipe, P.K., rebar, spike, etc.
    - ii. Vertical Control
      - 1. Plot at least two B.M. on each base sheet at proper locations, ensure that the location of each B.M. is clearly identifiable and retraceable, and label the material of the BM (i.e., PK nail, Iron Rod, Chiseled X in concrete base, etc.).
  - j. The survey crew shall avoid setting traverse and control points within the proposed construction area, or any other area that will be disturbed or inaccessible during construction. All efforts shall be made to locate benchmarks and traverse stations in the right-of-way to minimize property disturbance.

- k. Per 18VAC10-20-382.B.11, a statement, in the following form, shall be shown on or contained in plats, maps, or digital geospatial data including metadata: This [description of the project] was completed under the direct and responsible charge of [name of surveyor or surveyor photogrammetrist] from an actual ground [check as applicable] and/or airborne [check as applicable] survey made under my supervision; that the imagery and/or original data was obtained on [date]; and that this plat, map, or digital geospatial data including metadata meets minimum accuracy standards unless otherwise noted.
- C. Bulkhead Condition Assessment. The Design-Builder shall perform a comprehensive condition assessment of any bulkhead segment(s) intended to be reused/rehabilitated as part of the Work to confirm and approve viability of the proposed design. At a minimum, the Design-Builder shall:
1. Review existing bulkhead condition assessment data and survey, including topographic and bathymetric data, provided by the Owner.
  2. Submit to the Owner a draft of the proposed bulkhead condition assessment prior to proceeding with the assessment tasks. The draft shall include the following documentation:
    - a. Field Work Plan. The draft field work plan shall identify the need for local repairs and confirm reuse/rehabilitate option viability based on visual operations. The visual observations are above and underwater assessments, i.e., a detailed water-side bulkhead inspection and diver survey.
      - i. The underwater inspection will encompass the Project boundary, excluding any overtop piers or wharfs constructed above piles. The underwater fieldwork will be up to four (4) days.
      - ii. Account for a period of fourteen (14) calendar days for Owner review of the draft bulkhead condition assessment scope of services submittal.
      - iii. The following tasks, as associated with providing a quantitative estimate of remaining service life and/or lifecycle analysis, are excluded:
        1. Structural modeling of the existing bulkheads, piers, piles, or structures;
        2. Non-destructive testing (NDT) or corrosion testing;
        3. Material sampling or testing;
        4. Load testing; and
        5. Maintenance recommendations.
      - iv. A condition assessment of existing piers as well as design of existing pier modifications is excluded.
    - b. Health and Safety Job Hazard Analysis. The JHA shall identify potential hazards and describe specific controls and procedures that the Design-Builder, and its Subconsultants, will follow to protect against those hazards.

- c. Prepare Maintenance of Traffic Plan and obtain permit(s), as applicable.
  3. Upon review of the scope of services by the Owner, commence with the bulkhead condition assessment.
  4. Design-Builder shall obtain bulkhead condition assessment information and incorporate into the GBR, as appropriate. At a minimum, the Design-Builder shall prepare the following and incorporate as an Appendix to the GBR:
    - a. An Underwater Inspection Report to document the findings and describe the conditions observed in the field of the bulkhead and shoreline. The report will be signed by the Inspection Team Leader and signed/sealed by the Responsible Professional Engineer (Labor Category: Project Engineer/Manager). Inspection photographs will be catalogued as a report appendix.
    - b. A Structural Assessment Report to append structural analysis of Designated City-Furnished Information and City-Furnished Information utilizing field data and information taken during the Structural Inspections, Underwater Inspections, existing geotechnical documentation (as referenced under Section 2.2-A), and existing site surveys (as referenced under Section 2.2-B). Geotechnical investigations, and Surveys. The Assessment Report will document the condition of the areas within the project boundary that have structural stability concerns and/or show signs of structural damage, and therefore, need repair, strengthening, and/or where additional members need to be added to provide for the structural stability to satisfy the City's Project Criteria. This report will include descriptions, photos, plans and section sketches that portray the state of the structural systems, i.e., piles, pile caps, decking, and bulkhead members and system, within the project boundary.
  5. Design-Builder shall coordinate with the Owner for access to the Marina and notification to the Recreation, Parks & Cultural Activities Department of the City of general waterfront activities.
- D. Environmental Site Investigations. The Design-Builder shall:
1. Review existing environmental data, Environmental Site Assessment (ESA) Phase I and Phase II, provided by the Owner and otherwise available and perform a supplemental Phase II environmental investigation of the Project Site as the Design-Builder determines necessary to define the subsurface conditions and for the Design-Builder's use in developing its design and performing the Work.
  2. Submit to the Owner a draft of the proposed environmental investigation for both the supplemental Phase II ESA as well as in support of the NEPA/Environmental Approvals process and the USACE Joint Permit Application and other regulatory permits prior to proceeding with the assessment tasks.
  3. Perform supplemental Phase II work. Work shall include completing a Proper Waste Disposal Characterization in accordance with Virginia Administrative Code (9VAC20-81 –Solid Waste Management Regulations, and 9VAC20-60 –Virginia Hazardous Waste Regulations) and as dictated by the Design Builder selected waste disposal facility. Analyze at least one five-

point composite sample from each excavation area for prescribed analysis. Site investigations shall include the following:

- a. Subsurface assessment for hazardous substances.
  - i. Up to 32 boring locations.
    - 1. Up to 19 pavement borings (to a maximum depth of 5.5' bgs).
    - 2. Up to 11 full depth (0-11' bgs) samples.
- b. Sampling and analysis of groundwater or soils.
  - i. Up to 45 discrete samples to be collected and analyzed.
  - ii. Up to two (2) composite samples to be analyzed.
  - iii. Up to two (2) groundwater wells and no more than one (1) water sample from each to be analyzed.
- c. Recommendations for hazardous substance(s) remediation.
- d. The Design-Builder has made the following assumptions with respect to the Phase II environmental field activities:
  - i. All boring locations will be accessible with track-mounted equipment.
  - ii. Cold patching bore holes in pavement is acceptable.
  - iii. All boring locations will be on public property and all locations will be cleared by Miss Utility or by third-party utility markings. Utility clearing services on private property is excluded.
  - iv. Temporary single lane closures will be permitted within the project limits for drilling work.
  - v. All field work to be performed during normal work hours (8:00 am to 5:00 pm).
  - vi. The number and location of existing sediment samples are sufficient to evaluate potential concerns regarding dredged material management and disposal. Any supplemental sediment sampling or analysis during design is excluded.
  - vii. Hazardous materials management monitoring is excluded.
  - viii. Well and on-site sewage system abandonment permits, or documentation are excluded.

- e. If additional Phase II field services, such as modification to the number, depth or location of proposed borings and sampling, are required the Design-Builder shall advise the Owner and provide a written request for authorization and document in accordance with the Change Management procedures described herein.
  - f. Nothing contained in this Agreement is intended to identify the Design-Builder as the generator of any Hazardous Materials or Hazardous Environmental Condition, except as set forth in applicable Legal Requirements. Any hazardous waste encountered will require that the Design-Builder obtain a Waste Generator Identification Number from the City of Alexandria and perform the necessary sample testing and characterization as required by the selected waste disposal facility for disposal of that material. The Design-Builder shall be responsible for leaving the investigative site(s) in a finished condition either by replacing the spoils in the boreholes or otherwise capping the site(s) and disposing of the material.
  - g. All desktop and field work, including Supplemental ESA Phase II results, shall be documented in a Hazardous Materials Report and will be signed/sealed by the Responsible Professional Engineer (Labor Category: Project Engineer/Manager). Laboratory analysis results will be catalogued as a report appendix. The Hazardous Materials Report will be appended to the appropriate Phase 1A Plans/Reports, including the Geotechnical Baseline Report and Basis of Design Report, as well as other appropriate project deliverables, and factor into the Basis of Design cost estimate.
4. Perform environmental site investigation in support of the NEPA/Environmental Approvals process. Design-Builder shall obtain any permits prior to commence work of field work as required by the AHJ(s), such as a Special Use Permit from the National Park Service. Site investigations shall include the following:
- a. Submerged Aquatic Vegetation study/survey.
  - b. Biological Assessment to assess impacts to the federally endangered shortnose and Atlantic sturgeon as well as designated critical habitat for the Atlantic sturgeon. A Biological Assessment will include the following activities:
    - i. Design-Builder shall coordinate with NOAA Fisheries Protected Resources Division's Chesapeake Bay Field Office.
    - ii. It is assumed the NOAA Fisheries will issue a Letter of Concurrence (LOC) within 135 days of initiation of formal consultation to the Design-Builder and Owner. In response to the LOC, if there is a determination that an adverse effect will occur for either species or the designated critical habitat, it is assumed that the NOAA Fisheries will provide a Biological Opinion within 45 days.
    - iii. The Design-Builder is responsible for compliance with the NOAA Fisheries determination(s). Coordination results, such as reasonable and prudent measures to minimize harm to resources as well as time of year restrictions for Construction, will be incorporated into the applicable Phase 1B Project Plans/Reports.

c. Tree Survey.

- i. Survey to be performed in accordance with the City of Alexandria's Landscape Guidelines.

d. Threatened and Endangered Species to assess impacts to state and federally endangered species. A Threatened and Endangered Species Assessment will include the following activities:

- i. Design-Builder shall coordinate with USFWS and the Virginia Department of Agriculture and Consumer Services, Virginia Department of Wildlife Resources and the Virginia Department of Conservation regarding the northern long-eared bat, the tri-colored bat and monarch butterfly, as well as any other species that is uplisted or projected to be listed within Phase 1A.
- ii. Design-Builder is responsible for compliance with the determination(s) made by the agencies listed above. Coordination results, such as best management practices as well as time of year restrictions for Construction, will be incorporated into the applicable Phase 1B Project Plans/Reports.

e. Migratory Bird Treaty Act studies/surveys or monitoring are excluded.

5. Design-Builder shall delineate and locate wetlands and Waters of the United States using GPS coordinates. Design-Builder will flag wetlands in the field that are outside but within 50 feet of the limits of construction. The Design-Builder will be responsible for installation of construction exclusion fencing along the wetland boundary.

6. Design-Builder shall assess and document the impacts of environmental survey/investigations and results on the project cost, constructability, estimated duration and design direction, as applicable to the Project.

E. Archaeological. The Design-Builder shall:

- 1. Review existing archaeological data provided by the Owner and otherwise available.
- 2. In consultation with Alexandria Archaeology, the Design-Builder shall perform an archaeological investigation of the Project Site as the Design-Builder determines necessary to define the subsurface conditions and for the Design-Builder's use in developing the Historic and Cultural Resources Preservation Work Plan and performing the Work. Design-Builder shall consider the value of advanced archaeological work to assess stratigraphy to depths allowable by safety regulations and to assess the depth of modern fill levels that would require mechanical excavation prior to the assessment of potential archaeological despoits. At a minimum, the Design-Builder shall:

- a. Determine the presence, nature, and significance of archaeological resources within the Project Area.

- i. Archaeology survey and field investigations include the following activities:

1. Up to 150 Shovel test pits.
  2. Up to 15 borings on selected test pits.
    - a. The locations will be selected during the excavation process based on soil composition, placement of Shovel Test Pit, and at the recommendation of the geoarchaeologist and approved by Alexandria Archaeology.
  3. Coordinate with the City to minimize impacts.
  4. Assumes unhibited access to the Project Site.
  - b. Test pitting and geoarchaeological results will be utilized to inform the need for trenching within the Project Area.
  3. If additional archaeology and/or geo-archaeology services, such as number, depth or location and/or extent of supplementary testing as well as trenching is/are required the Design-Builder shall advise the Owner and provide a written request for authorization and document in accordance with the Change Management procedures described herein. Provide the National Register of Historic Places and Alexandria Archaeological Protection Code evaluation of archaeological resources located.
  4. Assess and document the impacts of archaeology survey/investigations and results on the project cost.
- F. Outfall Structures. The Design-Builder shall perform a condition assessment on any outfall structure(s) and associated piping, manholes, and inlet structures intended to be reused/rehabilitated as part of the Work. At a minimum, the Design-Builder shall:
1. Review outfall structure condition assessment data provided by the Owner.
  2. Submit to the Owner a draft of the proposed outfall structure assessment prior to proceeding with the assessment tasks. The draft shall include the following documentation:
    - a. Clean two (2) outfalls and associated piping, manholes, and inlet structures so it is of sufficient quality to conduct a video inspection. (approximately 450-490 feet long) (approximately 90 feet long) along with associated structures.
    - b. Health and Safety Job Hazard Analysis. The JHA shall identify potential hazards and describe specific controls and procedures that the Design-Builder, and its Subconsultants, will follow to protect against those hazards.
    - c. Prepare Maintenance of Traffic Plan and obtain permit(s), as applicable.
  3. Outfall structure assessment results shall be documented in the appropriate Phase 1A Plans/Reports, including the Geotechnical Baseline Report and Basis of Design Report, as well as other appropriate project deliverables, and factor into the Basis of Design cost estimate.



- G. Traffic Signal Design: Review of, and/or modifications to, any traffic signal timings and phasing including any related traffic studies/analyses or modeling, is not included.

## **2.3 Alternative Evaluations**

- A. The Design-Builder shall perform cost-benefit evaluation of project alternatives to refine the Project scope (i.e., the Preferred Project Alternative) described in the Conceptual Design Report using qualitative and quantitative metrics inclusive of capital and lifecycle costs and benefits. As a minimum requirement, capital costs for project alternatives shall be prepared at a Class 5 per the AACE International Recommended Practice 18R-97. The Contractor shall develop a scoring methodology that includes engineering, economic, environmental, and social factors to allow ranking and selection of the alternatives. The assessment criteria and scoring process shall be accomplished through community and stakeholder discussions and shall be documented in the Basis of Design Report. At a minimum, the Design-Builder shall evaluate alternatives for the following project elements:
1. Stormwater detention chambers in Waterfront Park and Founders Park. Design-Builder to consider the water quality benefits and alternative approaches to stormwater quality requirements; reduction of peak flow pumping and peak energy demand; reduction of pump station footprint; and constructability risks/challenges, among others.
  2. Riverine protection strategies along the Waterfront. Design-Builder to consider the bulkhead condition assessment data as provided by the Owner along with any investigations performed by the Design-Builder; the ability to provide a hybrid shoreline, as required by the awarded Virginia Department of Conservation and Recreation's Community Flood Preparedness Fund Grant; and to satisfy the current Project budget, among others.
  3. Pump station generator location and power source. Design-Builder to consider an offsite generator location as well as internal generator location(s), as opposed to the elevated generator (outside and on the second floor of the pump station) described in the Conceptual Design Report, for each of the two stormwater pumping stations. Design-Builder to consider siting requirements in accordance with maintenance/emergency activities, construction impacts, safety, among other considerations. Design-Builder to consider and evaluate diesel versus natural gas-powered generator for each of the two stormwater pumping stations. Design-Builder to consider fuel availability and cost by utility or other third-party, construction impacts, among other considerations. Design-Builder to consider and evaluate use and location of a single generator to service both stormwater pumping stations.
  4. Pretreatment. Design-Builder to consider and evaluate centralized and/or de-centralized pretreatment options for the project. Design-Builder to consider the water quality benefits and to coordinate with the Owner and incorporate Owner preferences, staffing capabilities, and equipment resources, among other other considerations.
  5. Northern Pump Station (PS2) siting. Design-Builder to consider and evaluate PS2 siting options for the project, including (i) adjacent to 211 N. Union Street Building/Parking Lot and Queen Street Street-End described in the Conceptual Design Report; (ii) Thompsons Alley shown in the 2018 Master Storm Water Management Plan *Alternative 3B* (Stantec); and (iii) up to one (1) other location the Design-Builder determines is warranted for consideration and evaluation. Design-Builder to consider physical site constraints, site investigations work described in Section 2.2, and project stakeholder impact and feedback. Design-Builder to

coordinate with the Owner to identify all impacted project stakeholders and to document in the Communications and Outreach Plan.

- B. To support the cost-benefit evaluation, the Design-Builder shall utilize the XPSWMM File for the Preferred Project Alternative or other hydraulic and hydrologic (H&H) modeling software, as appropriate, to evaluate alternatives and confirm compliance with level of service performance requirements per the City's Project Criteria. Specific project elements that may warrant evaluation by the H&H model include stormwater detention chambers and Northern Pump Station (PS2) siting.
  - 1. The Design-Builder assumes that the Owner will provide the XPSWMM File for Preferred Project Alternative (included under Exhibit 2.5.1 in the Interim Agreement) or PCSWMM model that can be utilized/modified. Rebuilding a new model is not included.
  - 2. The Design-Builder is responsible for confirming inlet placement, inlet sizing, and pipe sizing and elevation profile of the storm sewer system in the XPSWMM File or other H&H modeling software, as approved by the Owner, for the Preferred Project Alternative.
- C. The Design-Builder shall summarize alternative evaluations within technical memoranda that include the Design-Builder recommendations. The Project scope resulting from the selected alternatives shall be demonstrated by Design-Builder to comply with the Project budget.
- D. The Design-Builder shall prepare and submit a Study of the Floodplain (Study), in accordance with 6-305(E) of the Floodplain District Zoning Ordinance, for the Project scope resulting from the selected alternative. The Study will determine if the proposed conditions (resulting from the selected alternative) modify the effective floodplain by area or water surface elevation as compared to existing conditions. The Study includes the following:
  - 1. Development of a HEC-RAS model assessment with the following scenarios:
    - a. Base Conditions Model: Utilize City provided HEC-RAS model to simulate the 2011 FEMA effective water surface elevations along the Potomac River within the project limits;
    - b. Existing Conditions: Update base conditions model to incorporate existing conditions survey of the project area. Existing cross sections shall be revised/resampled to match existing condition topographic survey at the Project Site (as referenced under Section 2.2-B);
    - c. Proposed Conditions: Updated existing conditions model to reflect proposed topography, including fill, proposed structure(s), and other floodplain obstructions.
      - i. The Proposed Conditions scenario must show that the project will not increase the 1% annual chance water surface elevation (WSEL) above effective levels or will cause no rise.
      - ii. The proposed 1% annual chance WSEL increase is computed by comparing the proposed condition model results to the existing condition model results at each cross section.
    - d. The following are required of the model:

- i. Vertical datum shall be NAVD88;
  - ii. The 100-yr profile currently in the model shall be run;
  - iii. Development of a 1% annual chance (100-yr) WSEL comparison table (to be included in a technical memorandum) that includes at least five cross sections upstream of the proposed development, to a point downstream where there are at least two consecutive cross sections that exhibit no change in the 1% annual chance WSELs.
  - iv. Flows shall be modified to best simulate the conditions of the ADCIRC model (Base Flood Conditions).
- e. Design-Builder may refer to the following for information and use under Exhibit 2.5.1 in the Interim Agreement:
  - i. Unified Storm Surge Profile Methodology for the Tidal Portions of the Potomac River, Version 1.1, dated August 6, 2008 (i.e, the final report for the ADCIRC model).
  - ii. FEMA's Flood Insurance Study for the City of Alexandria, Virginia, dated August 16, 2011 (FIS Number 515519V000A).
- 2. Preparation of a technical memorandum, signed/sealed by the Responsible Professional Engineer (Labor Category: Project Engineer/Manager) who holds a license in the Commonwealth of Virginia, and shall include the following:
  - a. An introduction and summary of existing conditions and a demonstrated understanding of the basis for the effective floodplains;
  - b. An analysis of the existing model and its limitations, if any, in demonstrating the effects of the project on the modeling results;
    - i. This should describe the Design-Builder's understanding of FEMA's process to build the model including how they delineated the floodplain on the Potomac and confirm that whether or not the model was manipulated in any way during the Design-Builder's model assessment.
  - c. An estimated impact of the proposed project on the effective floodplain summarizing methodology employed and explanation of any engineering judgment to justify the estimated impact of the proposed project;
  - d. If the Project scope resulting from the selected alternative intends to adjust or move the existing floodplain boundary by floodproofing, fill, or other means, a schedule for acquiring FEMA CLOMR/LOMR.
- 3. The Design-Builder shall submit the Study of the Floodplain, inclusive of the technical memorandum and hydraulic models, via APEX permitting system for Owner review and acceptance. The Design-Builder assumes the technical memorandum will demonstrate a no

rise condition, and therefore, upon acceptance of the Study by the Owner, the “No Rise Certification” is classified as obtained.

4. The Design-Builder assumes that the Owner will provide an approved existing conditions HEC-RAS model that can be used for modeling proposed conditions in support of the No Rise Certification.
- E. Design-Builder shall prepare presentation materials and facilitate up to twelve (12), 4-hour workshops (in-person) to discuss alternatives and associate evaluations, and to participate in community outreach.
- F. Design-Builder shall prepare design alternatives for the following project concepts. In addition, the Design-Builder shall develop capital costs for each design alternative at a Class 5 per the AACE International Recommended Practice 18R-97.

1. King Street Pedestrian-Only Zone at the 100-block of King Street

- a. Design-Builder shall design up to three (3) concept alternatives for streetscape and street cross-sections which include various stormwater management approaches at various locations. This may include but is not limited to the following:
  - i. Pervious/permeable pavement and other VDEQ-approved best management practices (BMPs);
  - ii. Tree locations;
  - iii. Emergency access lane;
  - iv. Roll curbs or raising street/intersection or lowering sidewalk to have flush pedestrian experience; and
  - v. Design and coordination of restaurant outdoor spaces with restaurant owners.
- b. Design-Builder shall develop and submit an electronic copy of three (3) plan and section graphics and up to two (2) perspective renderings for each design alternative.
- c. Design-Builder shall develop and submit an electronic copy in MS PowerPoint format of a slide deck for each community engagement meeting. Design-Builder shall revise each slide deck in response to Owner comments and furnish an electronic copy in MS PowerPoint format and PDF format in preparation for each meeting. Assumes up to three (3) community outreach meetings with working group, Old Town Businesses and Business owners, as well as other affected stakeholders.
- d. Assumes up to two (2) iterations of each design concept in response to Owner and/or community outreach meetings.
- e. If additional community outreach meetings are required because all restaurant owners are not present at each scheduled community outreach meeting, the Design-Builder shall advise the Owner and provide a written request for authorization and document in accordance with the Change Management procedures described herein.

## 2. Rosenbaum Bequest for Garden Area

- a. Design-Builder shall design up to four (4) concept alternatives for Rosenbaum Garden (as identified in the Designated City-Furnished Information).
- b. Design-Builder shall develop and submit an electronic copy in MS PowerPoint format of a slide deck for each community outreach and/or stakeholder engagement meeting. Design-Builder shall revise each slide deck in response to Owner comments and furnish an electronic copy in MS PowerPoint format and PDF format in preparation for each meeting. Assumes up to two (2) 1-hour stakeholder outreach meetings with Owner and donor (and/or their designee). Assumes one (1) 1-hour community outreach meeting.
- c. Assumes up to two (2) iterations of each design concept in response to Owner, donor (and/or their designee) and/or community outreach meetings.

### 2.4 Basis of Design Report

#### A. The Design-Builder shall:

1. Prepare and deliver to the Owner a draft Preliminary Basis of Design Report (BODR) and a Draft Final BODR under Phase 1A services that will contain history of the project; site investigation results; alternative evaluations and recommendations; design criteria development and design assumptions; project feature design development; engineering analyses to support designs, including monitoring and SCADA designs; identification of regulatory requirements; and quality management reviews. The BODR shall include descriptions of any proposed deviations from the City's Project Criteria, and include justification, acceptable to the Owner and Owner Representative, of any deviations from the City's Project Criteria – such justifications of proposed deviations must be approved in writing by Owner and Owner Representative. At a minimum, the BODR shall include the following sections or areas of information:
  - a. Project summary, goals/objectives, and requirements;
  - b. Compliance with City's Project Criteria, including any proposed refinements to be approved by the Owner, that serve as the basis for design and performance validation;
  - c. Existing conditions including geotechnical, archaeological, and environmental conditions (including site investigation results);
  - d. Alternatives evaluation, results, and justification for proposed alternatives selection;
  - e. Overall flood mitigation design including pump station design, riverine protection, and marine improvements;
  - f. Site layout and plan;
  - g. Stormwater collection and drainage plan;
  - h. Hardscape elements, site furnishings, landscaping, and public amenities;

- i. Architectural, landscaping, and structural criteria;
- j. Electrical, lighting and power supply;
- k. Instrumentation and controls, communications, and SCADA;
- l. Security and access control;
- m. Wet and dry utilities;
- n. Sustainability and water quality compliance; and
- o. Capital and operational cost estimates.

B. More specifically, the BODR shall include the following:

1. Sufficient number of two-dimension (2D) and three-dimensional (3D) drawings to adequately depict the preliminary design of the Facilities. Drawings prepared for BODR should be in compliance with the associated requirements described in this Exhibit. Drawings shall be prepared in accordance with standards approved by the Owner, including Owner's requirements for a Concept Plan Submission under the Development Special Use Permit Application process and to sufficient detail illustrating finished material selections and aesthetics for the Old & Historic Alexandria District Board of Architectural Review and Approval.
2. Drawings shall include a concept plan overlaying the base map indicating (at a minimum):
  - a. The potential storm sewer layout, pipe dimensions, and outfall structures;
  - b. The location and volume of any proposed below-grade storage elements;
  - c. Green infrastructure components of the solution;
  - d. Riverine protection solution (e.g., new bulkhead construction, landscape-based solutions, among other strategies);
  - e. Utility conflicts;
  - f. Property conflicts;
  - g. Significant demolition efforts including areas of soil and/or ground contamination;
  - h. Landscaping and landscape architecture for open/public space;
  - i. Public amenities and site furnishings; and
  - j. New stormwater pumping stations building plan and section view, including architectural, site security/access, and site/civil features, among others.
3. Design analysis documents significant design choices such that:
  - a. Comprehensive description and evaluation of alternatives proposed as feasible to achieve Project objectives, including qualitative and quantitative evaluation factors

and evaluation process that justifies the preferred solution to a degree acceptable to the Owner. This may consist of a summary of the alternative evaluation and supporting documentation prepared for Section 2.3. The design analysis will document significant design choices.

- b. Justification of each major selection and design decision must be stated clearly. The analysis will also describe the design provisions made to enhance and to reduce the costs of operation and maintenance of the facility.
- c. Copies of XPSWMM, or other H&H model utilized, output(s) prepared for Section 2.3 that informed significant design choices.
  - i. The output(s) shall be GIS-based and show how the evaluated Project elements compared to the level of service requirements per the City's Project Criteria.
  - ii. The output may be a raster image of the maximum water depth in the 2D model area as subjected to various storm conditions, including the Design Storm defined in the City's Project Criteria.
- 4. The Design-Builder shall update the XPSWMM, or other H&H model utilized, in accordance with the Basis of Design scope. This includes incorporating the following elements:
  - a. New data as acquired through field investigations in accordance with Section 2.2.
  - b. Overall flood mitigation strategy, site layout and plan, stormwater collection and drainage plan, green infrastructure, or other project elements to achieve sustainability and water quality compliance requirements, as described in the BODR.
  - c. Project elements as recommended in Section 2.3 and carried forward into the BODR;
  - d. Operational modifications of the flood mitigation system.
- 5. Copies of all reports prepared as part of site investigations, including the GBR, supplemental site survey (including preliminary land survey drawings), bulkhead condition assessment, environmental assessments, archaeological assessments, and outfall structure(s) assessment. Discuss and summarize results and recommendations from studies for each alternative being investigated.
- 6. Copies of all reference sources included in the BODR including but not limited to letters, codes, conference minutes, and pertinent research.
- 7. Recommendation on or results of any additional environmental studies required or performed for the Project.
- 8. Summary of all national and local codes and standards applicable to the Work, including a summary of State regulations that are applicable to the Work.
- 9. A cost estimate for the Project, serving as the initial cost estimate for Phase 2 Work. The cost estimate shall be prepared in accordance with Exhibit 2.1.1(c) (Cost Estimate Submittal Requirements). Operational and maintenance (O&M) cost estimate for 11 years of ongoing operations (post-commissioning period).

10. An updated Project schedule in accordance with the requirements of this Exhibit.
  11. Construction sequencing and scheduling. This information will need to thoroughly detail the Design-Builder's approach to construction sequencing for the project. The construction scheduling portion of this attachment shall include no less than 500 activities. Identify impacts to residents and business during construction and means to minimum such impacts. Design-Builder shall document a summary of a review of the constructability of the Project with identification of any specific constructability concerns or risks that require further consideration and potential mitigation.
  12. Acceptance of the Study of the Floodplain by the Owner's Department of Transportation and Environmental Services..
  13. A section on Sustainability and Water Quality Compliance that summarizes how the design will comply with water quality management requirements and comply with local laws/standards as further described in Section 3.3.
  14. A draft Drainage Report. This shall identify tributary drainage areas as well as storm sewer and BMP alignment (i.e., Green Infrastructure components as included in the concept plan) and include sizing plans with supporting calculations. The Report will be updated at each design milestone; a final Drainage Report to be submitted under the 70% Submittal in Phase 1B.
  15. Assumptions regarding the SCADA/programmable controls internal to the stormwater pumping station, and external communication and connection to a centralized server that is currently or will be owned and implemented by the pump station operating entity.
- C. Furnish an electronic copy in MS Word and PDF format of the draft BODR (and any other deliverables) to the Owner. Account for a period of twenty-one (21) calendar days for Owner review of the draft BODR submittal.
  - D. Schedule and facilitate up to two (2), 8-hour review meetings (in-person) with Owner and Owner Representative to present and summarize BODR, present overview of initial cost estimate, present overview of Project Schedule, and address comments received from Owner. Design-Builder, and Subconsultants shall attend review meeting with Owner.
  - E. Revise the BODR (and any other deliverables) in response to Owner's comments as well as the Final Scoping Summary Report (in support of the Phase 1A NEPA/Environmental Approvals process) and the Development Review Process' Concept Plan Submission, as appropriate, and furnish an electronic copy in MS Word and PDF format of the revised (Draft Final) BODR (and any other deliverables) to the Owner within twenty-one (21) calendar days of receipt of all (i.e., Owner, public, local/federal agency, et al.) comments.
  - F. Owner will notify the Design-Builder of its acceptance of the revised (Draft Final) BODR prior to Design-Builder proceeding with development of the technical exhibits. The revised (Draft Final) BODR will serve as the basis for subsequent Phase 1 submittals.

## **2.5 Building Information Modeling (BIM)**

- A. The Design-Builder shall develop a building information model ("BIM") presenting a digital representation of physical and functional characteristics for the Project, including but not limited to the stormwater pump stations, public spaces, and amenities, using application platforms and software systems including but not limited to those listed below. For avoidance of doubt, the BIM model shall include the Project Area as well as the *King Street Pedestrian-Only Zone at the 100-block of King Street* and *Rosenbaum Bequest for Garden Area* as included under Section 2.3.



B. The objectives of BIM model development and use include the following:

1. Perform a site survey, using LiDAR or other means, to develop a BIM mesh;
  - a. The BIM mesh will be developed by combining terrestrial scanning at ground level, to obtain a dense file combined with a broader overall point cloud file generated from a drone. The mesh will be used to develop photo-realistic renderings / animations for community engagement and can also be used for design development.
2. Acquire the 3-dimensions (3D) model software and secure the necessary licenses to perform the Work;
  - a. Software is anticipated to include, but is not limited to, the following:
    - i. Revit 2024 to model the facilities and systems, structural site work, existing hard scape and streets;
    - ii. Civil3D 2022 to model the site design and utilities;
    - iii. SketchUp and Rhino as the design development software.
      1. Rhino will be used to develop different topography concepts and SketchUp will incorporate those designs, site features, and the models from Revit, for use in design development and stakeholder/ community communications for each concept evaluated by the Design-Builder during Phase 1A.
  - b. Existing Conditions are anticipated to occur via Point Cloud and ReCap. Point Cloud, 360 Photo Online Hosting, and Virtual Tour Platform will be through a weblink provided through a NavVis IVION platform.
  - c. The Mesh Model is anticipated to be created in Leica Cyclone 3DR. The final format will be a textured OBJ file compatible with many of the design software packages.
  - d. Visualization / Renderings: Hosting the existing models mentioned above and proposed models in Twinmotion Cloud where there will be compatibility with Rhino, Point Clouds, Meshes, Civil3D, Revit, and GIS.
    - i. Assumes the Design-Builder will provide website access to the following models as a separate link or website:
      1. An existing condition model;
      2. A proposed model at the Draft Final Basis of Design Report deliverable;
      3. A proposed model at the 70% Design Deliverable (to be completed under Phase 1B services);
      4. A proposed model at the 100% Design Deliverable (to be completed under Phase 2 services).
3. Provide a 3D depiction of Project under design to facilitate review by design team members as well as others, including the Owner, Owner Representative, and project stakeholders at

the Basis of Design milestone. In this manner, the Site work, as completed in Civil3D or other compatible platforms, is combined with BIM such that Project is fully represented in 3D model;

4. Manage space allocation within the stormwater pump stations being designed to avoid conflicts and resulting schedule disruption;
5. If applicable, and as appropriate, Design-Builder shall incorporate renderings (in 3D, perspective, and plan view) into stakeholder engagement and community outreach materials.

## **2.6 Historic and Cultural Resources Preservation Work Plan**

A. The Design-Builder shall develop and submit an electronic copy in MS Word and PDF format of a Historic and Cultural Resources Preservation and Work Plan in Phase 1A. Design-Builder shall submit a draft Historic and Cultural Resources Work Plan following completion of Site Investigations, and subsequently revise the draft Historic and Cultural Resources Preservation and Work Plan in response to Owner comments, as appropriate, and furnish an electronic copy in MS Word and PDF format of the Historic and Cultural Resources Preservation and Work Plan with the Basis of Design Report. The Historic and Cultural Resources Preservation and Work Plan shall conform to the Alexandria Archaeological Protection Code, the City of Alexandria Archaeological Standards, the Virginia Department of Historic Resource's (2017) Guidelines for Conducting Historic Resources Survey in Virginia, the standards and guidelines set forth in the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation (Federal Register 1983), and other requirements as dictated by the Owner (e.g., Old & Historic Alexandria District Board of Architectural Review requirements and processes, as applicable) and its implementing regulations. The Historic and Cultural Resources Preservation and Work Plan shall, at a minimum:

1. Identify the presence, nature, and significance of archaeological resources within the Project Area as included in Designed City-Furnished Information and Site Investigations performed under Phase 1A;
2. Identify Phase 2 Construction requirements for mitigation, monitoring, and/or active archaeological-directed mechanical trenching;
3. Draft Resource Management, which may be executed during Phase 2 based on Construction findings from mechanical-trenching activities;
4. Incorporate findings and/or recommendations from the Waterfront Interpretative Plan, as prepared and furnished by the Owner Waterfront Historian, as applicable.
5. Identify the roles and proposed key staff responsible for the development of Work Plans, archaeological monitoring, field work, and other specialty consultants such as underwater archaeologists and conservators.

B. The Design-Builder shall develop and submit an electronic copy in MS Word and PDF format of a Detailed Historic and Cultural Resources Scope of Work with the Basis of Design Deliverable. A separate scope of work shall be developed for each project element, e.g., pump station, storm sewer improvements on a per street basis, new bulkhead, etc., once final impacts are known. The draft Detailed Historic and Cultural Resources Scope of Work shall be written by the Archaeological Subcontractor in coordination with Alexandria Archaeology and the standards and requirements set forth above and shall include the following elements:

1. Research questions;
2. Safety and environmental procedures;
3. Excavation methodologies;

4. Dewatering plans;
  5. Deep testing strategies;
  6. Laboratory and curation methodologies and special studies;
  7. Archaeological Reporting Requirements and Resource Management Plans; and
  8. Public Interpretation Plans.
- C. Design-Builder shall revise the draft Detailed Historic and Cultural Resources Scope of Work to Owner comments, as appropriate, and furnish an electronic copy in MS Word and PDF format of the final Detailed Historic and Cultural Resources Scope of Work. The Detailed Historic and Cultural Resources Scope of Work will be updated in Phase 1B and is designated as a GMP Proposal Design Document as defined in the Agreement.

### **ARTICLE 3 – GOVERNMENTAL APPROVALS**

#### **3.1 Governmental Approval Assistance**

A. The Design-Builder shall:

1. Determine all governmental approval requirements and initiate application for permits, excluding the Owner-Provided Approvals. For avoidance of doubt, Owner-Provided Approvals are only those active permits in which the Owner is the permit holder. Design-Builder shall participate in meetings with Owner's Building Department to obtain preliminary information of building code requirements. Governmental approval responsibilities shall be in accordance with Exhibit 2.1.1(d) (Governmental Approval Responsibilities).
2. Develop a Project Governmental Approval Plan. The Design-Builder will hold many of the governmental approvals and shall develop permit applications and supporting documentation, such as studies, environmental surveys, or other materials, in accordance with the applicable regulations. The governmental approval plan shall provide a list of necessary governmental approvals and Owner and Design-Builder responsibilities in obtaining such approvals. Governmental approvals that are influential to critical path elements for the delivery of the design or construction should be identified.
  - a. Assumes the Project will qualify for a Nationwide Permit(s), an Individual Section 404 Permit, and Individual Water Protection Permit; one (1) permit modification over the life of the project is included.
  - b. The Project Governmental Approval Plan shall cover activities and governmental approval schedule(s) for both Phase 1A, Phase 1B and Phase 2, including a schedule for permit development, review of each permit, incorporating review comments, agency submittal, preparing responses to agency comments, review of responses, resubmittal to agency, and anticipated approval.
  - c. The governmental approval plan shall identify submittal requirements and address roles and responsibilities, internal and external communication strategies, and protocol as well as permit tracking procedures which are otherwise consistent with the Contract requirements.
3. Submit an electronic copy in MS Word and PDF format of draft Governmental Approval Plan to Owner within sixty (60) calendar days following Notice to Proceed (Phase 1A). Account for a period of fourteen (14) calendar days for Owner review of draft submittal.

4. Schedule and facilitate one (1) 4-hour meeting with the Owner to present and summarize the draft Project Governmental Approval Plan to discuss permitting coordination between the Design-Builder and Owner.
5. Update the draft Project Governmental Approval Plan based on comments received from Owner and submit an electronic copy in MS Word and PDF format of final Project Governmental Approval Plan to Owner within fourteen (14) calendar days after receipt of Owner's comments.
6. Have primary responsibility for the preparation, coordination, agency approval, compliance with permit requirements, renewals, transfers, and/or closeout of permits held by the Design-Builder as documented in Exhibit 2.1.1(d) (Governmental Approval Responsibilities).
7. Pay permitting fees for all permits (excluding the Owner-Provided Approvals).
8. Design-Builder shall develop a plan and register that documents the requirements and responsibilities for environmental and wetland mitigation.
9. Design-Builder shall lead the NEPA application document development and outreach activities with AHJ(s) (e.g., National Park Service et. al) to identify and confirm the required environmental clearances/approvals for the Project. Activities include the following:
  - a. Develop and submit the Draft Purpose and Need document to Owner.
  - b. Prepare agenda and presentation materials and facilitate (virtually) a Kick-Off Meeting with the National Park Service (NPS) and Owner. Design-Builder shall prepare and distribute meeting minutes in both MS Word and PDF format. Assumes that NPS is the Lead Agency.
  - c. Initiate coordination with affected federal agencies based on the Draft Purpose and Need document to establish an Inter-Agency Review Committee. This includes but is not limited to initial agency coordination efforts with respect to the Essential Fish Habitat Assessment and Biological Assessment for the Atlantic and shortnose sturgeon. Design-Builder to record the names and contact information of each Inter-Agency Review Committee member in the Governmental Approvals Plan.
  - d. Identify project preliminary impacts based on Existing Documentation Review and in development of Project Alternatives. Design-Builder shall prepare a table identifying impacts with respect to each alternative.
  - e. Initiate permitting efforts, including completion of environmental site investigation in support of the NEPA/Environmental Approvals process in accordance with Section 2.2. Assumes the development of the following environmental permits, as to be included in the Governmental Approval Plan, will begin in Phase 1A, however, continued permit application development and coordination will occur in Phase 1B:
    - i. Permit/Regulator Authority: Virginia Marine Resources Commission
      1. Subaqueous or Bottomland Permit
      2. Tidal Wetland/SAV Permit
      3. Coastal Primary Sand Dunes Permit

ii. Permit/Regulator Authority: Virginia Department of Environmental Quality

1. Virginia Pollution Abatement Permit
  2. Surface and Groundwater Withdrawal Permit
  3. Virginia Water Protection Permit
- f. Develop scoping package and meeting materials and submit an electronic copy in MS Word and PDF format for NPS and Owner review and comment. Update the scoping package and meeting materials based on comments received from NPS and Owner within seven (7) calendar days after receipt of all comments. Upon revision and finalization of documentation, Design-Builder shall publish documentation and post a notice in newspaper announcing the 30-day “Scoping Review Period” for public and agency feedback. The Design-Builder will develop a complete list of intended recipients (agencies, public entities, other stakeholders, etc.) prior to publication for Owner review and comment.
- g. During the “Scoping Review Period,” Design-Builder shall facilitate one (1) 2-hour Inter-Agency Review scoping meeting and one (1) 2-hour public scoping meeting.
- h. Design-Builder shall prepare a Draft Scoping Summary Report in response to the “Scoping Review Period” comments received (either written or verbally at scoping meetings) submit an electronic copy in MS Word and PDF format for NPS and Owner review and comment. Update the Scoping Summary Report and submit a Final Scoping Summary Report within fourteen (14) calendar days after receipt of all comments. The Final Scoping Summary Report will be appended to the NEPA documentation (e.g., Environmental Assessment) in Phase 1B.

### **3.2 Development Review Requirements**

- A. The Design-Builder shall submit to Owner’s Planning and Zoning Department a Concept Plan under the Development Review Process. Assumes one (1) combined Concept 1 & 2 Plan Submission will be prepared and submitted for Owner review and comment.
- B. The Design-Builder shall submit the necessary application, submission of design documents, and comment-response letter(s), as applicable, for the Concept (Combined 1& 2) Plan Submission. For convenience, a Preliminary List of Conditions and Development Review Checklist Documents are included in Exhibit 2.5.1, however, it is the Design-Builder’s responsibility to provide all documentation to satisfy review requirements.
- C. The Design-Builder shall incorporate Owner comments, as appropriate, into the Draft Final Basis of Design Report.
- D. A Concept Plan Submission and resolution of Owner comments is required prior to acceptance of the Phase 1B Proposal.

### **3.3 Water Quality Compliance**

- A. In accordance with the Governmental Approval Plan, the Design-Builder shall coordinate with the Owner’s Transportation and Environmental Services Department for identification of water quality compliance requirements for the Project scope resulting from the selected alternative and included in the BODR. At a minimum, the Design-Builder shall consider and document applicable

water quality compliance requirements based on Article XIII *Environmental Management* of THE ZONING ORDINANCE OF THE CITY OF ALEXANDRIA, VIRGINIA (2022) and the City's Municipal Separate Storm Sewer Systems (MS4) Program Plan.

- B. The Design-Builder shall summarize water quality compliance requirements in the BODR which may include not limited to:
  - 1. Documentation required for a major water quality impact assessment.
  - 2. Allowable options, as provided by the Owner, to satisfy water quality regulatory requirements.
- C. The Design-Builder shall perform and include the necessary calculations to quantify the regulatory requirement for total phosphorus removal using the Virginia Runoff Reduction Method or other Owner approved methods/templates.

## **ARTICLE 4 – SUBCONTRACTOR PROCUREMENT**

### **4.1 DBE/SWAM Participation Plan**

- A. Design-Builder shall develop a DBE/SWAM Participation Plan within sixty (60) calendar days of Phase 1A NTP and administer the plan.
- B. Submit an electronic copy in MSWord and PDF format of the DBE/SWAM Participation Plan. Account for a period of fourteen (14) calendar days for Owner review of draft submittal.
- C. Update the DBE/SWAM Participation Plan based on comments received from Owner and submit an electronic copy in MS Word and PDF format of final DBE/SWAM Participation Plan to Owner within fourteen (14) calendar days after receipt of Owner's comments.
- D. The DBE/SWAM Participation Plan shall require Design-Builder's good faith efforts to ensure DBE/SWAM Subcontractors have the opportunity to compete for Subcontracts, including efforts to:
  - 1. Ensure DBE/SWAMs are made aware of contracting opportunities to the fullest extent practicable through outreach and recruitment activities, including placing DBE/SWAMs on solicitation lists and soliciting them whenever they are potential sources;
  - 2. Make information on forthcoming opportunities available to DBE/SWAMs and arrange timeframes for contracts and establish delivery schedules, where the requirements permit, in a way that encourages and facilitates participation by DBE/SWAMs in the competitive process, including posting solicitations for bids or proposals for a minimum of 30 calendar days in a local newspaper;
    - a. Consider in the contracting process whether firms competing for large contracts could subcontract with DBE/SWAMs, including dividing the total requirements when economically feasible into smaller tasks or quantities to permit maximum participation by DBE/SWAMs in the competitive process;
    - b. Encourage contracting with a consortium of DBE/SWAMs when a contract is too large for one of these firms to handle individually; and
    - c. Use the services and assistance of the SBA and the Minority Business Development Agency of the Department of Commerce.

- E. The Design-Builder shall facilitate at least one (1) but no more than two (2) outreach events to solicit interest from the DBE/SWAM community. These may be in-person or held virtually.

#### **ARTICLE 5 – PHASE 1B PROPOSAL AND PHASE 1B AMENDMENT TO AGREEMENT**

The Design-Builder shall conduct all Work necessary to develop, revise, and negotiate its Phase 1B Proposal and proposed Phase 1B Amendment in accordance with the Interim Agreement. The Design-Builder shall develop the Phase 1B Proposal on an open-book basis, providing the Owner with full access to all details that make up the Phase 1B Proposal. These efforts are designed to prepare the documents and estimates as accurately as possible and to keep the Owner fully informed and involved with the design and cost throughout the development of the Phase 1B Proposal.

**EXHIBIT 2.1.1(b)**  
**Scope of Phase 1B Services**  
**for the**  
**Waterfront Implementation Project**  
**City of Alexandria**

***[Note: The following is a draft of activities anticipated to be included within the Scope of Phase 1B Services. The detailed Scope of Phase 1B Services shall be developed during Phase 1A in accordance with the Agreement and will be included based on the Phase 1B Proposal negotiated with and approved by Owner, in its sole discretion, in accordance with the Agreement.]***



## **ARTICLE 1 – INITIATION AND PROJECT MANAGEMENT**

### **1.1 Phase 1B Initiation**

#### **A. The Design-Builder shall:**

1. Update Project Management Plan for Phase 1 that updates as necessary the objectives and approach to delivery of Work; organization requirements defining resources and staffing, roles and responsibilities, contact information, and communication protocols/procedures; Design-Builder's Quality Assurance/Quality Control Plan (QA/QC Plan); Phase 1 budget, planned value for each Phase 1 subtask, Project schedule and work breakdown structure; financial tracking procedures (full and timely tracking of Earned Value); decision/action items logs; and scope change management process.
2. Submit an electronic copy in both MS Word and PDF format of the draft updated Project Management Plan to Owner within thirty (30) calendar days following Notice to Proceed (Phase 1B). Account for a period of ten (10) calendar days for the Owner's review of the draft updated Project Management Plan submittal.
3. Revise the draft Project Management Plan based on comments received from Owner and submit an electronic copy in MS Word (with tracked changes on) and a PDF format (clean) of the final Project Management Plan to Owner within fourteen (14) calendar days after receipt of Owner's comments.

### **1.2 Project Coordination and Management**

- A. Project Coordination and Management. Design-Builder shall provide Project coordination and management for the Phase 1B Work. This includes management and monitoring of labor utilization, project schedule, and project budget on a monthly basis, or more frequent as required. It shall be the ongoing responsibility of the Design-Builder to adequately manage and adhere to the task budgets and to submit deliverables to Owner on time and in accordance with the Agreement requirements.
- B. Monthly Progress Reports. Design-Builder shall prepare and submit monthly progress reports with an Application for Payment for Work completed during the prior pay period and compare earned value to actual expenditures for the month and project duration. Invoices shall be in accordance with the Agreement and the progress reports shall:
1. Include work completed to date and work planned for the following month.
  2. Update physical percent complete and compare to the planned value for each Phase 1B task and subtask. Report a total percent complete for total Phase 1A services. Calculate the schedule performance index and schedule performance index for total Phase 1B services.
  3. Provide current Project actual cost for each Phase 1B subtask and a total actual cost for all Phase 1B services.
  4. Provide any outstanding decision items or key issues that may impact the project.
  5. Include a tracking list with a comparison of Phase 1B Services Schedule due dates vs. actual delivery dates for all deliverables submitted within the reporting period.
  6. Identify or forecast proposed modifications to the Phase 1B scope, schedule, or budget.
  7. A one (1) hour monthly progress meeting with Design-Builder's project manager, Owner, and Owner Representative shall be conducted in-person or virtual to review the progress report. The following can be used as agenda for the meeting:

- a. Work completed during the reporting period.
  - b. Percent complete by category or major deliverable
  - c. Comparison of baseline due dates vs actual delivery dates for relevant deliverables
  - d. Forecast of work for next period
  - e. Suggested improvements
  - f. Input needed from the Owner
  - g. Upcoming milestones
  - h. Potential risks
8. The invoice shall follow the WBS structure. The invoice shall include supporting information for hours per staff member, job classification, and billing rate. An invoice template will be provided by the Owner.
- C. Phase 1B Coordination Meetings.
- 1. Design-Builder shall prepare, facilitate, and document two (2) hour bi-weekly (two meetings per month) coordination meetings. Design-Builder shall prepare minutes for each meeting and distribute to Owner in MS Word and PDF format. Design-Builder shall maintain decision and action logs. Phase 1B coordination meetings will be for the purpose of discussing current project activities, design and cost development, and for the Design-Builder to share and discuss additional information as agreed to by Owner and Design-Builder.
  - 2. The Design-Builder shall maintain a trend log that documents costs associated with design decisions and design development. A rough order of magnitude cost estimate shall be determined for each major design decision and design development activity and documented within the trend log. The trend log shall be reviewed by Design-Builder and Owner at the Phase 1B coordination meetings.
    - a. In addition to the bi-weekly coordination meetings, Design-Builder shall participate in miscellaneous coordination meetings with Owner and other team members up to sixteen (16) hours of meeting time per month. Design-Builder shall prepare minutes for each meeting and distribute to Owner in PDF format.
    - b. Coordination meetings shall typically be attended virtually.
- D. Monthly Executive Meeting. The Design-Builder senior staff shall participate in a monthly meeting with senior staff of the Owner to discuss the progress of the Project, identify areas that the project team can be more efficient, and to resolve issues as required.
- E. Change Management. Design-Builder shall document scope and schedule changes associated with completion of Design-Builder's Phase 1B Work by using a change management log, which describes the major issues that arise, and shall provide a status of each item for Owner review during monthly progress meetings.
- F. Quality Management. Design-Builder shall perform in-progress quality management reviews of its work activities and deliverables. Design-Builder shall refer and incorporate into its QA/QC Plan and QA/QC activities the procedures and requirements documented in Minimum Requirements for Quality Assurance and Quality Control on Design Build and Public-Private Transportation Act Projects (Virginia Department of Transportation; August 2018) that are applicable to the Project. The Owner will refer to these requirements and documentation in its review and comment on the Design-Builder's QA/QC Plan. At a minimum, the Design-Builder shall perform the following:

1. Designate a quality assurance/quality control (QA/QC) officer to Phase 1B that is responsible for implementation of the Design-Builder's QA/QC Plan, and for documentation of QA/QC activities. The Design-Builder shall appoint an engineer or equally qualified specialist as the QA/QC Manager who has at least fifteen (15) years of total professional experience, or experience on at least five (5) separate projects of similar magnitude and complexity as the Project. The QA/QC Manager proposed by the Design-Builder is subject to Owner approval and is considered a Key Personnel.
  2. The QA/QC Plan shall include checklists and quality management guidance documents for performance of the Phase 1B Work.
  3. Require all Project personnel to read the approved QA/QC Plan and be familiar with the Project procedures and requirements.
  4. Perform internal review of all calculations and deliverables by designated quality management personnel prior to each submission.
  5. Record and submit all internal review and comment information on forms to the Owner. Forms shall be submitted with draft deliverables with certification by the Design-Builder's Project Manager that submitted information has been reviewed and checked in accordance with the procedures documented within the QA/QC Plan.
  6. Review and discuss review comments provided by the Owner and Owner Representative on all deliverables. Record responses to comments on approved forms.
  7. Design-Builder shall identify and utilize an individual or individuals on its staff to perform an independent quality control check of the drawings and specifications to assure the Phase 1 Design Documentation are clear and complete and to assure functional coordination of the varied systems and components. The quality control check shall be comprehensive and shall include at a minimum checking dimensions, sizes, detail, section, and elevation references, coordination between the architectural and engineering disciplines' drawings and specifications, reviewing designs for compatibility of materials and equipment, coordinating references within technical specifications to other sections and to the drawings, constructability, and future maintenance access.
  8. Owner may engage independent consultants to perform a separate peer review of Design-Builder's deliverables. Design-Builder shall supply all necessary calculations, analyses, and other documents and cooperate fully with any such independent peer review. Owner may also engage an independent commissioning agent and/or operations and maintenance (O&M) representative to review mechanical, electrical, plumbing or other special system designs and to monitor the construction and testing of such systems. Design-Builder shall cooperate fully with Owner's commissioning agent and/or O&M representative.
- G. Work Breakdown Structure (WBS). Develop a WBS to detail the tasks and subtasks needed to complete all activities and deliverables. The WBS shall be used for fee development, project execution, cost management, invoicing, and schedule management.
- H. Schedule Management. Design-Builder shall prepare and provide updates to the Phase 1B Services Schedule, overall Project schedule (prepared during Phase 1A) and other schedule documentation. The Phase 1B Services Schedule will have specifics regarding key decision processes and dates for the Phase 1B Work, including the Phase 1B design milestones and their milestone deadlines. The Phase 1B Services Schedule and overall Project schedule shall be prepared and updated according to the following:

1. During Phase 1B, the Design-Builder is responsible for maintenance of a Project schedule (prepared during Phase 1A) for delivery of the Project from the date of Phase 1A Notice to Proceed through the Final Acceptance that includes a detailed Phase 1A Services Schedule, a detailed Phase 1B Services Schedule and an estimated Baseline Schedule. The detailed project schedule shall serve as the basis for the Baseline Schedule. The schedule shall be developed and submitted for Owner review and approval in accordance with the requirements of SECTION OR-01320– PROJECT MANAGEMENT AND PROGRESS REPORTING of the Division Owner Requirements (Division ORs).
  2. All Project Schedules shall be:
    - a. Organized according to the WBS.
    - b. Maintained throughout the project and presented and reviewed at biweekly progress meetings and other project meetings as needed. Any requested changes to the baseline Project Schedule shall be submitted to the Owner with justification for the change. Only schedule changes approved by the Owner may be made to the baseline schedule.
- I. Risk Management. The Design-Builder shall incorporate risk management into the Project in accordance with the requirements of the Agreement. Design-Builder shall prepare and provide updates to a risk register according to the following:
1. Update and maintain a risk register using a risk register template approved by the Owner. Design-Builder shall refer to and incorporate the CMAA Risk Breakdown Structure to develop the risk register template as applicable to the Project. The Owner will refer to this documentation in its review and comment on the Design-Builder's risk register.
  2. The risk register shall include the following information:
    - a. Risk identification;
    - b. Risk description including qualitative categorization of risk;
    - c. Estimated/calculated percent likelihood that risk may occur;
    - d. Phase of Project that risk could impact;
    - e. Potential schedule impact should risk occur;
    - f. Potential cost impact should risk occur;
    - g. Risk trigger;
    - h. Risk responsible party; and
    - i. Risk management strategy (transfer, mitigate, accept, exploit) and description of plan for risk response.
  3. Update risk register and submit to Owner quarterly. Design-Builder shall conduct a quarterly risk management meeting with Owner to review risk register and status of risk mitigation measures.
- J. Work Management System.
1. Document Management. Design-Builder will maintain and coordinate all pertinent electronic design files and documents including all computer-aided design and drafting (CADD)-related files related to the Project. Electronic files submitted during the design phase shall use a naming convention approved by the Owner and described in the Project Management Plan.

2. Project Management Information System. The Owner will implement a web-based common data environment (e.g., SharePoint) to facilitate collaboration and management of the Project. The Design-BUILDER will be required to use the Owner's designated data environment and follow established procedures and workflows for documenting, sharing, and control of Project information. At a minimum, it will be used for the following:
    - a. Overall Project tracking and monitoring of key performance indicators;
    - b. Meeting and workshops agendas, presentations, and notes;
    - c. Action items, decision logs, and tracking;
    - d. Budget and schedule tracking;
    - e. Risk tracking and mitigation;
    - f. Document submittals and transmittals including drawings (PDF format);
    - g. Quality management documentation including comments, responses, and confirmations;
    - h. Value engineering submission;
    - i. Invoices and monthly reports;
    - j. Templates and tools;
    - k. Project related communication; and
    - l. Dashboards of Project progress prepared by the Owner.
  3. The Owner will secure the required number of user licenses for Design-BUILDER for the scheduled durations of Phase 1B.
  4. The Design-BUILDER and Owner will collaborate during Phase 1B to determine the document and workflow management system to be utilized during Phase 2 and make such determination prior to the GMP Proposal.
- K. Health and Safety. Design-BUILDER is responsible for developing and implementing health and safety practices during Phase 1B and Phase 2.
1. Design-BUILDER shall update Health and Safety Plan developed during Phase 1A in accordance with the requirements of SECTION OR-01329 – HEALTH AND SAFETY PLAN of the Division Owner Requirements (Division ORs) that documents the Design-BUILDER's health and safety policies and procedures to be utilized in conducting the Work during Phase 1B and Phase 2 (Phase 2 policies and procedures may be updated during Phase 1B prior to the GMP Proposal). Design-BUILDER shall submit to Owner within sixty (60) calendar days from Phase 1B Notice to Proceed an updated Health and Safety Plan for Owner's review and concurrence.
- L. Project Funding.
1. Design-BUILDER shall provide input and documentation to support the development of funding applications for potential future awards.
  2. Design-BUILDER shall provide input and documentation to fulfill compliance requirements for currently executed grant agreements as requested by the Owner.

#### M. Community Meetings.

1. Design-Builder shall update Communications and Outreach Plan developed during Phase 1A and submit for Owner's review and concurrence sixty (60) calendar days from Phase 1B Notice to Proceed. Plan shall be updated as needed prior to GMP Proposal for use during Phase 2.
2. Design-Builder shall plan for and lead (or co-lead) regular community meetings to communicate Project design updates, such as additional alternatives development, cost-benefit evaluation findings, temporary construction impacts, work sequencing plans, material selection and aesthetics, public amenities, and other questions from the public. Assist Owner in written communication responses to public questions or comments received via email.
3. Design-Builder shall prepare graphics and other communication tools for civic engagement and industry/community outreach.

#### N. General Requirements.

1. The Design-Builder's Lead Contractor and Lead Design-Builder shall sign all Phase 1B deliverables and provide written confirmation of their involvement and Agreement in reaching key milestones.

### ARTICLE 2 – SITE INVESTIGATIONS

#### 2.1 Site Investigations

- A. Geotechnical Site Investigations. The Design-Builder shall perform a supplemental geotechnical investigation of Project Site based upon the Phase 1A Basis of Design Report scoping elements. The Design-Builder may recommend supplemental investigations to further define the subsurface conditions and for the Design-Builder's use in developing its design and performing the Work. At a minimum, the Design-Builder shall:
1. Submit to the Owner a draft of any proposed geotechnical investigation and analysis scope of services for the Owner's review and comment. The draft scope shall identify any proposed boring locations and depths, testing, analyses, and recommendations that will be developed. Account for a period of fourteen (14) calendar days for Owner review of the draft geotechnical investigation scope of services submittal.
  2. Upon review of the scope of services by the Owner, commence with geotechnical investigations (if required).
  3. Design-Builder is responsible for permits and permit fees required to perform any field investigations.
  4. The Design-Builder shall amend the GBR and submit to Owner an electronic copy in MS Word and PDF format of the draft-amended GBR for review by the Owner. Account for a period of fourteen (14) calendar days for Owner review of the draft-amended GBR submittal. An electronic copy in MS Word (with tracked changes and responses to comments) plus a PDF format (clean, changes accepted, comments removed) of the final-amended GBR shall be submitted to the Owner based upon comments received from the Owner.

5. Provide a copy of all completed documentation that Design-Builder develops in performing geotechnical investigations.
- B. Multidiscipline Site Investigations. The Design-Builder shall perform multidiscipline investigations of the Project Site as the Design-Builder determines necessary to define the existing conditions and for the Design-Builder's use in developing its design and performing the Work. At a minimum, the Design-Builder shall:
1. Review information performed and documented under Phase 1A.

## **2.2 Building Information Modeling (BIM)**

- A. The Design-Builder shall update the building information model ("BIM"), as prepared under Phase 1A, at each design deliverable (30% and 70%). The BIM shall be prepared in format approved by Owner presenting a digital representation of physical and functional characteristics for the Project, including but not limited to the stormwater pump stations, public spaces, and amenities, using application platforms and software systems acceptable to the Owner and as specified in the Agreement. The objectives of BIM model development and use include the following:
1. Provide a 3-dimensional (3D) depiction of Project under design to facilitate review by design team members as well as others, including the Owner, Owner Representative, and project stakeholders. In this manner, the Site work, as completed in Civil3D or other compatible and Owner approved platform, is combined with BIM such that Project is fully represented in 3D model;
  2. Manage space allocation within the stormwater pump stations being designed to avoid conflicts and resulting schedule disruption;
  3. If applicable, Design-Builder shall coordinate BIM development with preparation of Design Documents and Construction Documents; and
  4. If applicable, and as appropriate, Design-Builder shall incorporate renderings (in 3D, perspective, and plan view) into stakeholder engagement and community outreach materials.

## **2.3 Value-Engineering**

- A. The Design-Builder shall perform value-engineering of the Project design based on the 30% Design Deliverable and Phase 2 cost estimate to determine optimization of the Project scope and to reduce Phase 2 costs to comply with the Owner's budget (as necessary). The Design-Builder shall use a variety of value-engineering creativity techniques to generate ideas. The Design-Builder shall select the alternative with the greatest potential for development into fully supported recommendations.
- B. The Design-Builder will conduct a value-engineering workshop including the design team and Owner staff to review the potential options, cost estimates, implementation schedules, and impacts, aiming to implement the best value for the money. In preparation for the workshop, the Contractor shall document the following at a minimum:
1. A description of the proposed design modifications, advantages and disadvantages, and the effect of the change on performance.
  2. Analysis of changes to the design criteria or specifications.
  3. Impact on design cost and life-cycle project cost.

4. The effect on design and construction schedules.
- C. A value-engineering analysis summary shall be developed and signed and sealed by a Professional Engineer registered in the Commonwealth of Virginia and be delivered to the Owner within two weeks of the completion of the study.

### **ARTICLE 3 – DESIGN DEVELOPMENT**

#### **3.1 Technical Exhibits**

- A. If and as prompted by Preliminary Plan Submission and Approval under the Development Special Use Permit Application process, the Design-Builder shall revise and finalize the Basis of Design Report developed in Phase 1A.
1. It is assumed that the Owner's Planning and Zoning Department, Old & Historic Alexandria District Board of Architectural, and other Owner departments may require scope modifications prior to City Council approval and/or City Council may approve the Preliminary Plan with conditions.
  2. The Design-Builder shall furnish an electronic copy in MS Word and PDF format of the revised (Final) BODR (and any other deliverables) to the Owner within twenty-one (21) calendar days of receipt of all Preliminary Plan Submission and Approval comments. The Design-Builder shall include a copy of all comments received and the most updated List of Conditions for City Council Approval in the revised (Final) BODR. For convenience, a Preliminary List of Conditions is included in Exhibit 2.5.1, however, it is the Design-Builder's responsibility to provide all documentation to satisfy review requirements.
- B. In accordance with the Basis of Design Report (BODR) developed during Phase 1A, and if/as amended in Phase 1B in response to the Preliminary Plan Submission and Approval under the Development Special Use Permit Application process, prepare the following technical exhibits to form the basis of the Scope of Work (Phase 2) once accepted by the Owner:
1. Drawings in accordance with the drawing list included within Exhibit 2B (Drawing List).
  2. Specifications.
  3. Procurement and Contract documents.
  4. Supplemental reports, such as geotechnical, required for execution of the Project.
- C. The technical exhibits shall show or describe the character, scope, and intent of, or relate to, the Work to be performed or furnished by or for Design-Builder and shall be consistent with the BODR. Design-Builder shall provide in writing to the Owner descriptions of any deviations in the technical exhibits from the BODR.
- D. The technical exhibits will first be taken to a point of 30% completion of the final design. The 30% design will, as appropriate, contain supplemental site investigations; determination of the number and sequencing of construction packages; phasing plans; staging area plan and site restriction plan; project layout and features; preliminary design of project features and facilities; design calculations; preparation of documents to support permitting; preparation of preliminary plans and specifications; and quality management reviews. The 30% design shall include descriptions of any deviations from the BODR. The 30% design drawings shall be developed to the following approximate levels of completion:



1. A title sheet or sheets with Owner's approval signature block, a location map, the Project name and number, issue block with dates and revision number, summary of applicable codes and standards, drawing index, sheet number block, space for professional stamp, name, street address, phone, fax, and email address of Design-Builder, and all Subconsultants (100% complete). Drawings and CAD files shall be organized in accordance with National CAD Standards and any CAD standards established specifically for the Project.
2. General:
  - a. List of drawings (90% complete);
  - b. Site plan (90% complete);
  - c. Drawing symbols, numbering & tagging conventions, symbols, and abbreviations (90% complete);
  - d. Design criteria (90% complete);
  - e. Process flow diagrams (90% complete);
  - f. Pipe material schedule (90% complete);
  - g. Equipment schedule (90% complete);
  - h. Valve and gate schedules (60% complete); and
  - i. Survey/Mapping
    - i. Survey drawings (100% complete).
    - j. Geotechnical
      - i. Geotechnical drawings (100% complete).
3. Civil:
  - a. Yard piping, paving, grading, and stormwater drawings (30% complete);
  - b. Yard piping/utility profiles (30% complete);
  - c. Stormwater collection, conveyance and stormwater detention facilities (if recommended in Design-Builder Basis of Design Report) (30% complete);
  - d. Bulkhead drawings (30% complete); and
4. Landscape
  - a. Landscaping drawings (30% complete).
5. Structural:
  - a. General notes and design criteria (90% complete); and
  - b. Plans and sections (30% complete).
6. Architectural
  - a. Floor plans (90% complete);
  - b. Elevations (30% complete); and
  - c. Schedules (30% complete).
7. Equipment:
  - a. Plans, sections, and details (30% complete).

8. Fire Protection, Plumbing, and Mechanical:
  - a. Schedules (60% complete).
9. Electrical:
  - a. Symbols, abbreviations (60% complete);
  - b. Main switchgear single line diagram (60% complete);
  - c. Load schedules (30% complete);
  - d. Single line diagrams (90% complete);
  - e. Electrical distribution site plan (30% complete);
  - f. Project facility electrical plans (30% complete); and
  - g. Lighting and receptacle plans (30% complete);
10. Instrumentation:
  - a. Legends and symbols (90% complete);
  - b. Control system block diagrams/network architecture (90% complete); and
  - c. Process and instrumentation diagrams (P&IDs) (90% complete).
11. Security:
  - a. Project Site plan (30% complete); and
  - b. Equipment schedules (30% complete).
- E. The drawings shall schematically show, at a minimum, all existing and proposed features both above and below the ground including, but not limited to, roads, sidewalks, trails, fences, gates, utilities, signs, fixtures, landscaping, plantings, structures, mechanical, electrical, plumbing and other building systems. Drawings for stormwater pump stations shall be prepared utilizing BIM software tools capable of detecting interference, constructability problems, and future maintenance access problems between components. All component conflicts shall be resolved by Design-Builder.
- F. The 30% design specifications shall be developed according to the following:
  1. Complete list of specifications.
  2. Identifications of Owner standard specifications and Design-Builder specifications intended use.
  3. Major equipment specifications (90% complete).
  4. Preliminary technical specifications shall describe the elements of Work proposed and shall be as detailed as possible at this phase of the design. For information only, provide manufacturers' cut sheets of proposed major equipment.
- G. The Design-Builder shall furnish to the Owner the draft 30% technical exhibits submittal and an updated cost estimate as an electronic copy in PDF format within the time specified in the Agreement (Phase 1 Milestone Dates). Owner will require a minimum of twenty-one (21) days to review the information. Design-Builder and Subconsultants shall attend a review meeting (in-person) and record comments of all interested parties. Design-Builder shall be responsible for documenting all decisions reached during the meeting and preparing and submitting the meeting minutes to all attendees.

- H. Based upon comments received at the review meeting as well as any scoping modifications resulting from the Preliminary Plan Submission and Approval under the Development Special Use Permit Application process, Design-BUILDER shall prepare the technical exhibits for the selected options to a point of 70% completion. Technical exhibits at the 70% level will, as appropriate, contain final site investigations; final project layout and features; detailed design of project features; detailed drawings and specifications; design calculations (civil, electrical, mechanical, structural); and quality management reviews. The 70% design drawings shall be developed to the following approximate levels of completion:
1. A title sheet or sheets with Owner's approval signature block, a location map, the Project name and number, issue block with dates and revision number, summary of applicable codes and standards, drawing index, sheet number block, space for professional stamp, name, street address, phone, fax, and email address of Design-BUILDER, and all Subconsultants (100% complete). Drawings shall be organized in accordance with National CAD Standards.
  2. General:
    - a. List of drawings (100% complete);
    - b. Site plan (100% complete);
    - c. Drawing symbols, numbering & tagging conventions, symbols, and abbreviations (100% complete);
    - d. Hydraulic profiles (100% complete);
    - e. Design criteria (100% complete);
    - f. Process flow diagrams (100% complete);
    - g. Pipe material schedule (100% complete);
    - h. Equipment schedule (100% complete);
    - i. Valve and gate schedules (90% complete); and
    - i. Survey/Mapping
    - j. Survey drawings (100% complete).
    - k. Geotechnical
      - i. Geotechnical drawings (100% complete).
  3. Civil:
    - a. General notes (70% complete);
    - b. Details (70% complete);
    - c. Yard piping, paving, grading, and stormwater drawings (70% complete);
    - d. Yard piping/utility profiles (70% complete); and
    - e. Bulkhead drawings (90%).
    - f. Landscape:
      - i. Landscaping drawings (60%).
  4. Structural:
    - a. General notes (100% complete); and
    - b. Plans and sections (70% complete).

5. Architectural:
  - a. General notes (70% complete);
  - b. Schedules (70% complete);
  - c. Code review drawings (90% complete);
  - d. Floor plans (100% complete);
  - e. Roof plans (70% complete);
  - f. Elevations (70% complete);
  - g. Reflected ceiling plans (70% complete);
  - h. Sections (70% complete); and
  - i. Details (70% complete).
6. Equipment:
  - a. Plans, sections, and details (70% complete).
7. Fire Protection, Plumbing, and Mechanical:
  - a. Schedules (90% complete);
  - b. Plumbing isometric drawings (70% complete); and
  - c. Plans & details (70% complete).
8. Electrical:
  - a. General notes, symbols, abbreviations (90% complete);
  - b. Main switchgear single line diagram (90% complete);
  - c. Load schedules (90% complete);
  - d. Panel schedules (90% complete);
  - e. Single line diagrams (100% complete);
  - f. Electrical distribution site plan (70% complete);
  - g. Conduit plans (30% complete);
  - h. Grounding plans (70% complete); and
  - i. Lighting and receptacle plans (70% complete);
9. Instrumentation:
  - a. Legends and symbols (90% complete);
  - b. Control system block diagrams/network architecture (90% complete); and
  - c. Process and instrumentation diagrams (P&IDs) (100% complete).
10. Security:
  - a. Project Site plan (70% complete); and
  - b. Equipment schedules (70% complete).

- I. The 70% design specifications shall be developed to the following approximate levels of completion:
  1. Table of contents (100%).
  2. Identification of Owner standard specifications and Design-Builder specifications intended use.
  3. Major equipment specifications (100% complete).
  4. Concrete specifications (90% complete).
  5. Piping and valve specifications (90% complete).
  6. Control narratives (90% complete).
  7. Balance of specifications (90% complete). Note that if not included in Division Owner Requirements, specifications from Owner will be included at this stage which includes owner additional requirements.
- J. The Design-Builder shall furnish to the Owner an electronic copy in both original file formats (i.e., MSWord; AutoCAD; MicroStation, etc.) and Adobe Acrobat PDF format of the 70% technical exhibits and updated cost estimate (Pre-Final Documents). Design-Builder, Subconsultants and key Subcontractors shall attend a review meeting (in-person) with the Owner to receive comments on the 70% technical exhibits from all interested parties. Design-Builder shall be responsible for documenting all comments and decisions reached during the meeting and preparing and submitting the minutes of the meeting. Design-Builder shall make document revisions noted and agreed upon. If, in Owner's sole opinion, the revised 70% technical exhibits submitted by Design-Builder do not adequately respond to the comments, Design-Builder shall revise and reissue the 70% technical exhibits at no additional cost to Owner until all comments are resolved to Owner's satisfaction. Design-Builder shall prepare its GMP Proposal for submission to the Owner based on the 70% technical exhibits (as modified based on comments received from Owner and the Final Plan Submission(s) and Approval(s) under the Development Special Use Permit Application process.
- K. Technical Exhibits General Requirements:
  1. Technical exhibit documents will be developed by Design-Builder in 3D and associated 2D format. The 3D model(s) and associated 2D drawings will be prepared in accordance with National CAD Standards and as compatible with the Owner's standards. A complete set of 2D drawings will be developed from the 3D model(s). The 2D drawings will contain, as a minimum, the following information:
    - a. Building architectural and structural plans, elevations, cross-sections and other related sections and details, as appropriate to adequately describe the work.
    - b. Plan views, cross-sections and other related sections, and details of mechanical equipment.
    - c. Mechanical, electrical, and I&C drawings that accurately depict required building systems.
    - d. Wiring diagrams and logic descriptions related to programmable logic controllers (PLCs) and any remote input/output (RIO) racks proposed to be installed.
    - e. Drawings shall be 22" x 34" or 24" x 36" in size as approved by Owner.
    - f. Plan scales shall be as appropriate to clearly depict the information and as acceptable to Owner.

- g. All drawing graphics shall fit on 11" x 17" paper when reduced to half size. All graphics, including text and dimensions, shall be legible when reduced to half size. Drawing graphics or notes shall not be obscured under the binding.
2. Project specifications will be prepared using Design-Builder's standard technical specifications. Specifications shall be prepared in Microsoft Word compatible with Owner's current version. Specification documents shall be double-sided with page breaks between sections. Margins shall be set at 1" on all sides. Font shall be 12 pt. Arial. Performance specifications in lieu of prescriptive specifications shall only be used with the prior written approval of Owner.
  3. Constructability Reviews. Design-Builder shall conduct constructability reviews at each design deliverable (30% and 70%). Findings from the reviews will each be documented in a technical memorandum provided to the Owner for review and comment. The Owner may also independently conduct constructability reviews at each design deliverable and may share results of such reviews with the Design-Builder.
  4. Value-Engineering Review. Design-Builder shall conduct value-engineering review at the 30% design deliverable. Findings from the review will be documented in a technical memorandum provided to the Owner for review and comment. The Owner may also independently conduct value-engineering review(s) at design deliverable(s) and may share results of such review(s) with the Design-Builder.
  5. The Design-Builder shall provide necessary field surveys and topographic and utility mapping for the purpose of preparing technical exhibits. Utility mapping will be based upon information obtained by the Design-Builder from utility providers. The Design-Builder shall provide necessary geotechnical analysis and reporting for the purpose of preparing technical exhibits.
  6. Design-Builder shall perform a thorough coordination review of all drawings and specifications. All discrepancies shall be corrected.
  7. Design-Builder shall expand on survey information provided in the BODR to provide information necessary for the design and construction of the Project. This information shall be shown on the drawings and shall include, but not be limited to, the following: fully described benchmark utilized for vertical control, including the specific datum or origin of the bench-mark. Provide the specific datum of any USGS information (i.e. NAVD 88, NGVD 29 etc.). More than one (1) control point must be used to develop the horizontal control for the Project. The control points utilized for horizontal control must be completely described to allow the points to be found by an individual who is unfamiliar with the area.
  8. Design-Builder shall prepare power calculations for anticipated electrical loads for typical and peak stormwater pumping station performance. Design-Builder shall coordinate with the Owner and Dominion Virginia Power for preparation and submittal of "load letters", at each design milestone or as requested by the Owner.
  9. Hydraulic and Hydrologic (H&H) Modeling. The Design-Builder shall update the H&H model prior to each design milestone (30% and 70%) as well as for Value-Engineering efforts to confirm and optimize, respectively, design meets the required level of service per the City's Project Criteria.
    - a. For each Technical Exhibit and the Value-Engineering technical memorandum, the Design-Builder shall prepare output(s) of the H&H model performance using real storm events, long-term simulations, and the Design Storm.
    - b. The output(s) shall be GIS-based and show how the evaluated Project elements compared to the level of service requirements per the City's Project Criteria.

- c. The output may be a raster image of the maximum water depth in the 2D model area as subjected to various storm conditions, including the Design Storm defined in the City's Project Criteria.
- d. The Design-Builder may consider utilizing the H&H model to optimize the stormwater pumping stations' operations throughout design development.

### **3.2 Governmental Approval Assistance**

#### **A. The Design-Builder shall:**

1. Determine all governmental approval requirements and initiate application for permits, excluding the Owner-Provided Approvals. For avoidance of doubt, Owner-Provided Approvals are only those active permits in which the Owner is the permit holder. Design-Builder shall participate in meetings with Owner's Building Department to obtain preliminary information of building code requirements. Governmental approval responsibilities shall be in accordance with Exhibit 2C (Governmental Approval Responsibilities).
2. Update the Phase 1A Governmental Approval Plan to develop a draft Phase 1B Governmental Approval Plan. The Design-Builder will hold many of the governmental approvals and shall develop permit applications and supporting documentation, such as studies, environmental surveys, or other materials, in accordance with the applicable regulations. The governmental approval plan shall provide a list of necessary governmental approvals and Owner and Design-Builder responsibilities in obtaining such approvals. Governmental approvals that are influential to critical path elements for the delivery of the design or construction should be identified. The Project governmental approval plan shall cover activities and governmental approval schedule(s) for both Phase 1 and Phase 2, including a schedule for permit development, review of each permit, incorporating review comments, agency submittal, preparing responses to agency comments, review of responses, resubmittal to agency, and anticipated approval. Specific to the Development Review Process approvals, the Design-Builder to develop a permit strategy in consideration of up to two (2) Final Site Plan Submissions (one in Phase 1B and one in Phase 2) to obtain partial approval prior to commencement of Phase 2 Services. The permit strategy may consider the contents, timing, and sequencing of the Final Site Plan Submissions(s) with respect to other governmental approvals. The governmental approval plan shall identify submittal requirements and address roles and responsibilities, internal and external communication strategies and protocol as well as permit tracking procedures which are otherwise consistent with the Contract requirements.
3. Submit an electronic copy in PDF format of draft (updated) Phase 1B Governmental Approval Plan to Owner along with the 30% Design Deliverable. Account for a period of fourteen (14) calendar days for Owner review of draft submittal.
4. Schedule and facilitate one (1) 4-hour meeting with the Owner to present and summarize the draft (updated) Phase 1B Project Governmental Approval Plan to discuss permitting coordination between the Design-Builder and Owner.
5. Update the draft Phase 1B Project Governmental Approval Plan based on comments received from Owner and submit an electronic copy in PDF format of final Phase 1B Project Governmental Approval Plan to Owner within fourteen (14) calendar days after receipt of Owner's comments.

6. Have primary responsibility for the preparation, coordination, agency approval, compliance with permit requirements, renewals, transfers, and/or closeout of permits held by the Design-Builder as documented in Exhibit 2.1.1(d) (Governmental Approval Responsibilities).
7. Pay permitting fees for all permits (excluding the Owner-Provided Approvals).
8. Design-Builder shall develop a plan and register that documents the requirements and responsibilities for environmental and wetland mitigation.
9. Design-Builder shall continue to lead the NEPA application document development and outreach activities with AHJ(s) (e.g., National Park Service et. al) to identify and confirm the required environmental clearances/approvals for the Project. Activities include the following:
10. Hold Agency and Public Scoping Meetings. The scoping meetings will be held separately on the same day. Announcements of these meetings will be published in local newspapers no later than fourteen (14) days prior to the meeting date. The Design-Builder will prepare meeting materials for review by the Owner and National Park Service (NPS). NPS will publish information on their Planning, Environment and Public Comment (PEPC) site.
11. Develop the Draft Environmental Assessment (EA) application and submit an electronic copy in MS Word and PDF format for National Park Service (NPS) and Owner for review and comment. The Draft EA shall append a copy of the Final Scoping Summary Report (as developed in Phase 1A).
  - a. It is assumed that NPS will review and coordinate with other AHJ(s) part of the Inter-Agency Review Committee, however, the Design-Builder may help facilitate upon request from NPS and/or the Owner.
  - b. The Design-Builder shall update the Draft EA based on comments received from NPS and the Owner within twenty-eight (28) calendar days after receipt of all comments.
12. Finalize the EA and submit an electronic copy in MS Word and PDF format for NPS and Owner for review and comment. The Final EA shall be prepared in accordance with the 70% technical exhibits (as modified based on comments received from Owner); it is assumed that comments received from the Final Plan Submission(s) and Approval(s) under the Development Special Use Permit Application process will not affect the Final EA. The Design-Builder shall update the Final EA based on comments received from NPS and the Owner within twenty-eight (28) calendar days after receipt of all comments. It is assumed that NPS will approve the Final EA based upon one (1) round of comments and revision. Upon NPS approval of the Final EA, Design Builder shall:
  - a. Draft the Notice of Availability (NOA) for a Finding of No Significant Impact (FONSI) for the EA. It is assumed that the NOA for FONSI will be reviewed and published by NPS.
  - b. Publish documentation and post a notice in newspaper during the 30-day "Public Comment Period" for public feedback. The Design-Builder will develop a complete list of intended recipients (public entities, other stakeholders, etc.) prior to publication for Owner review and comment.
  - c. Publish an Errata of Public Comments within seven (7) calendars days after the "Public Comment Period" concludes.
13. It is assumed the Design-Builder will receive the NEPA Decision Document within seven (7) days after the publication of the Errata of Public Comments.



- a. The NEPA Decision Document shall be included and attached to the GMP Proposal.
- b. Receipt of the NEPA Decision Document is a required condition to complete Phase 1B Services.

### **3.3 Development Review Requirements**

- A. The Design-Builder shall submit all necessary applications, submissions of design documents, and comment-response letters to obtain Development Review Process approvals as documented in the Governmental Approvals Plan. It is assumed that the Project requires a Development Special Use Permit (DSUP).
- B. The Design-Builder shall coordinate with the Owner and the Owner's Planning and Zoning Department to update and finalize a List of Conditions for Development Special Use Permit Application process and approval prior to the Preliminary Plan Submission. The List of Conditions may be finalized based upon Concept Plan Submission comments as well as other feedback from the Owner's departments. Assumes up to three (3) 4-hour meetings to review, resolve, and publish a list.
- C. Work shall be prepared in accordance with the final List of Conditions and include any supplemental exhibits, renderings or other work efforts as necessary to satisfy review requirements and achieve compliance for the Preliminary Plan and Final Plan Approvals.
  1. The Design-Builder assumes Plans/Reports will be prepared and submitted for the Preliminary and Final Plan Approvals in accordance with the Development Preliminary Plan Checklist and Development Final Site Plan Checklist, respectively, included under Exhibit 2.5.1 in the Interim Agreement. For each draft Plan/Report, the Design-Builder shall submit an electronic copy in MS Word and PDF format for Owner review. Design-Builder shall revise the draft Plan/Report in response to Owner comments, as appropriate, and furnish an electronic copy in MS Word and PDF format of the final Plan/Report in accordance with the submittal process described below.
- D. A Preliminary Plan Approval is a required intermediate step between the Concept Plan Submission (in Phase 1A) and Final Site Plan Approval. Design-Builder shall prepare a Preliminary Plan Submission following a value-engineering activity as described in Section 2.3.
  1. The Design-Builder assumes one (1) concurrent submission to the Old & Historic Alexandria Boards of Architectural Review inclusive of a preliminary concept submission followed by a final concept submission.
  2. The Design-Builder shall participate in up to two (2) community and commission meetings for the Project as required by the Preliminary Plan Approval process in addition to one (1) Board of Architectural Review hearing.
  3. The Design-Builder assumes that all comments from Owner staff will be received within twenty-one (21) calendar days following the last community and commission meetings and will participate in at least one (1) but no more than three (3) meetings with Owner staff to review comments.
  4. The Design-Builder shall address Owner staff comments with a "Verification Submission" and Owner staff shall perform a "Verification of Completeness" and prepare a "Staff Report" in advance of the Public Hearing.
  5. The Design-Builder shall attend the scheduled Public Hearing; the Public Hearing is required by the DSUP approvals process. It is assumed that City Council will take final action at the Public Hearing for the Preliminary Plan Submission.

- E. A Final Plan Submission is required prior to submitting a GMP Proposal. It is assumed that the Design-Builder will have two (2) Final Site Plan submissions, such that a Final Site Plan 1 and issuance of Building Permit 1 will occur in Phase 1B and Final Site Plan 2 and issuance of Building Permit 2 will occur in Phase 2.
  - 1. The Design-Builder shall participate in one (1) public meeting for the Project as required by the Final Site Plan Approval process.
- F. The Preliminary Plan for surveying and civil engineering services will be prepared for Public Hearing and the Final Site Plan will be submitted under the expedited plans review program for the City of Alexandria that is managed by the Engineers & Surveyors Institute (ESI). The Design-Builder is a member firm of this organization and the plans will be prepared under the direction of a certified Designated Plans Examiners (DPE). This will streamline the site plan approval process through the City of Alexandria.
- G. The Design-Builder assumes that one (1) Study of the Floodplain is required for the Project as completed under Phase 1A Services, and that the site plan, through the development of Phase 1B Technical Exhibits, has not charged to warrant a subsequent and revised submittal as part of the Phase 1B Services.

### **3.4 Cost Estimates**

- A. Design-Builder shall develop and submit cost estimates in accordance to this Exhibit and Exhibit 2.1.1 (c) (Cost Estimate Submittal Requirements).
- B. The Design-Builder shall conduct any procurement of Subcontractors and suppliers on an “open book” basis and shall allow the Owner to participate in the receipt and analysis of all proposals and bids. The Design-Builder shall conduct procurement processes so as to obtain competitive pricing for cost components of the Work. The Design-Builder procurement processes shall be in conformance with the requirements of the Contract.

### **3.5 Utility Relocation Plan**

- A. The Design-Builder shall submit an electronic copy in MS Word and PDF format of draft Utility Relocation Plan, along with its 30% Design Deliverable for Owner review. Design-Builder shall revise the draft Utility Relocation Plan in response to Owner comments, as appropriate, and furnish an electronic copy in MS Word and PDF format of the final Utility Relocation Plan with the 70% Design Deliverable. The Utility Relocation shall be included in the Phase 2 GMP Proposal. The Utility Relocation Plan shall, at a minimum, and utilizing, where applicable the Supplemental Site Survey done during Phase 1A:
  - 1. Identify utilities requiring utility work or relocation prior to Project construction.
  - 2. Identify any potential property, right-of-way and/or easement acquisitions required for the proposed relocation.
  - 3. Identify any necessary permits for construction of utility work and coordinate with the respective AHJ(s). The Design-Builder assumes the following utility work will require a permit:
    - a. Water main lines throughout Point Lumley and Waterfront Park to create a continuous loop.
    - b. Sanitary sewer line for future restrooms at each of the stormwater pumping stations.
  - 4. Coordinate relocation requirements with the City of Alexandria and the requirements as defined by its franchise agreement(s) with Utility Owners.

5. Discuss approach to assuring that each relocation occurs at a time and in a manner that does interfere with Project construction.
  6. Evaluate whether utility work should be conducted by the affected Utility Owner or by the Design-Builder.
  7. Describe coordination efforts (previous and planned) with the affected Utility Owners.
  8. Recommend who should be responsible for any utility work, including how much utility work would be funded (e.g., through the GMP (Phase 2)).
  9. Include a detailed schedule for planning and implementation of any utility work.
- B. The Design-Builder shall be responsible to coordinate utility requirements with the Owner and the service provider for both dry and wet utilities. Utilities include but are not limited to:
1. Dominion Virginia Power (DVP);
  2. Washington Gas;
  3. City of Alexandria;
  4. Alexandria Renew Enterprises;
  5. Virginia American Water;
  6. Verizon;
  7. Ting; and
  8. Comcast;
- C. The Design-Builder shall be responsible for preparing power calculations based upon pump station sizing and coordinating with the Owner and DVP to update load letters and obtain the necessary approvals.

### **3.6 Soils and Groundwater Management Plan**

- A. The Design-Builder shall develop and submit an electronic copy in MS Word and PDF format of a draft Soils and Groundwater Management Plan, along with the 30% Design Deliverable, for Owner review. Design-Builder shall revise the draft Soils and Groundwater Management Plan in response to Owner comments, as appropriate, and furnish an electronic copy in MS Word and PDF format of the final Soils and Groundwater Management Plan with the 70% Design Deliverable. The Soils and Groundwater Management Plan shall conform to City and State oversight program requirements. The Soils and Groundwater Management Plan shall, at a minimum:
1. Detail the results of any supplemental environmental testing and analysis performed during Phase 1B. Design-Builder shall identify any contaminants of concern and confirmed hazardous materials based on its site investigation.
  2. Detail the proposed contamination management strategy, including groundwater and soil disposal options, as well as potential on-site treatment options to allow for Project reuse such as fill soil or construction water needs, and establish offsite disposal means and methods, if required.
  3. Identify appropriate soil remediation measures, if required.
  4. Identify appropriate control measures to minimize potential environmental and human health risks from soil and groundwater contamination.

### **3.7 Site Management and Work Sequencing Plan**

- A. The Design-Builder shall develop and submit an electronic copy in MS Word and PDF format of a draft Site Management and Work Sequencing Plan, within sixty (60) calendar days following Phase 1B NTP for Owner review. Design-Builder shall revise the draft Site Management and Work Sequencing Plan in response to Owner comments, as appropriate, and furnish an electronic copy in MS Word and PDF format of the final Site Management and Work Sequencing Plan. The Site Management and Work Sequencing Plan is designated as a GMP Proposal Design Document as defined in the Agreement. The Site Management and Work Sequencing Plan shall include:
1. Details of the proposed strategy for the Phase 2 Work as it relates to site organization and construction controls;
  2. Staging, stockpiling and haul routes;
  3. Site constraints and risks;
  4. Access and use of the Waterfront Park, City Marina, Founders Park, and other commercial or residential properties (as required);
  5. Site safety and security;
  6. Coordination with other active construction projects within and/or adjacent to the Project Area;
  7. Sequencing of the Work;
  8. Compliance with the Development Review Process requirements and approvals; and
  9. Coordinating the Work with, and obtaining any requirement Governmental Approvals, documented in the Governmental Approvals Plan.

### **3.8 Short-Term Operations and Maintenance Workplan**

- A. At the request of the City, the Design-Builder shall assist the City in the procurement of a third-party operations and maintenance (O&M) service provider. Design-Builder shall identify and assess various contracting options for short-term (less than two years) operations or equipment maintenance service agreements.
- B. A Short-Term O&M Workplan shall be developed and signed and sealed by a Professional Engineer registered in the Commonwealth of Virginia and be delivered to the Owner within two weeks of the completion of the study.

### **3.9 Parks Maintenance Plan**

- A. The Design-Builder shall develop and submit an electronic copy in MS Word and PDF format of an Establishment Maintenance Plan, along with the 30% Design Deliverable, for Owner review and to the satisfaction of the Director of Recreation, Parks & Cultural Activities (RP&CA). The Establishment Maintenance Plan shall detail execution of work, labor, and materials for under Phase 2. Design-Builder is responsible for maintenance of the park in accordance with the Establishment Maintenance Plan until final Performance Bond release.

- B. Design-Builder shall revise the Establishment Maintenance Plan in response to Owner comments, as appropriate, and furnish an electronic copy in MS Word and PDF format of the Final Project Maintenance Plan with the 70% Design Deliverable. Design-Builder shall collaborate with the RP&CA Staff to prepare the Final Project Maintenance Plan. The Final Project Maintenance Plan shall guide execution of work, labor, and materials for maintenance of new and established plantings in a vigorous, flourishing growth, and attractive appearance. The Design-Builder is responsible for execution of the Final Project Maintenance Plan in Phase 2 until final Performance Bond release. The Final Maintenance Plan include scheduling and provision of all labor and materials for:
1. Daily, weekly, and seasonal facilities maintenance for all applicable project components including irrigation system, lighting, and active recreation and fitness features.
  2. Daily, weekly, and seasonal grounds maintenance including litter, debris, solid waste, and recycling removal and general policing of grounds.

## **ARTICLE 4 – SUBCONTRACTOR PROCUREMENT**

### **4.1 Subcontractor Procurement Plan**

- A. Design-Builder shall prepare equipment and Subcontractor procurement plan and develop procurement documents for solicitation of competitive prices from suppliers and subcontractors. The equipment and Subcontractor procurement plan shall be submitted to Owner for review and comment. The Design-Builder shall conduct one (1) 4-hour meeting (in-person) with Owner to discuss equipment and Subcontractor procurement plan.

### **4.2 Subcontractor Procurement**

- A. All subcontracted Work (Subcontractors and suppliers), except for the Marine Work Subcontractor, shall be procured in accordance with an “open-book” process established between the Owner and Design-Builder.
- B. The Design-Builder shall obtain proposals and bids from a minimum of three (3) Subcontractors or Suppliers for each subcontracted package.
- C. For all major Subcontractors and suppliers (>1% of Contract Price (Phase 2)) and equipment suppliers shall be pre-qualified by Design-Builder and selected on a best-value basis, unless agreed to otherwise by Owner and Design-Builder. If Design-Builder determines that a Subcontractor or supplier that proposes best-value but did not propose the lowest cost, the Design-Builder shall provide written justification for the selection of the Subcontractor/supplier.
- D. The Design-Builder shall obtain prior, written approval from Owner to self-perform construction Work.
- E. The Design-Builder conduct supplier procurement processes so as to obtain competitive pricing for cost components of the Project construction including equipment and materials to be incorporated into the construction, and equipment and temporary facilities used in performing the construction.
- F. Submit draft procurement documents including procurement contract language, technical specifications, and drawings as required to solicit procurement proposals for Owner’s review and comment. Owner’s comments will be discussed and incorporated into documents as agreed by the parties. Distribute request for proposals (RFP) for the equipment to be procured to respective Subcontractors/Suppliers, respond to questions, and prepare addendums as necessary. Copies of all RFPs, addendums, and other relevant correspondence shall be provided to the Owner.

- G. Design-Builder shall furnish copies of quotations to the Owner for review prior to award. Design-Builder, upon reaching agreement with the Owner, shall have the right to select on the basis of best value, after considering price and other factors.
- H. The Design-Builder may select certain Subcontractors without going through the proposal process as required above if it first obtains the Owner's written consent, which may be withheld at the Owner's discretion.

#### **4.3 Updated DBE/SWAM Participation Plan**

- A. Design-Builder shall update the DBE/SWAM Participation Plan within thirty (30) calendar days of Phase 1B NTP and administer the updated plan.
- B. Submit an electronic copy in PDF format of the updated DBE/SWAM Participation Plan. Account for a period of fourteen (14) calendar days for Owner review of draft submittal.
- C. Update the DBE/SWAM Participation Plan based on comments received from Owner and submit an electronic copy in PDF format of final DBE/SWAM Participation Plan to Owner within fourteen (14) calendar days after receipt of Owner's comments.
- D. The updated DBE/SWAM Participation Plan shall require Design-Builder's good faith efforts to ensure DBE/SWAM subcontractors have the opportunity to compete for Subcontracts, including efforts to:
  - 1. Ensure DBE/SWAMs are made aware of contracting opportunities to the fullest extent practicable through outreach and recruitment activities, including placing DBE/SWAMs on solicitation lists and soliciting them whenever they are potential sources;
  - 2. Make information on forthcoming opportunities available to DBE/SWAMs and arrange timeframes for contracts and establish delivery schedules, where the requirements permit, in a way that encourages and facilitates participation by DBE/SWAMs in the competitive process, including posting solicitations for bids or proposals for a minimum of 30 calendar days in a local newspaper;
  - 3. Consider in the contracting process whether firms competing for large contracts could subcontract with DBE/SWAMs, including dividing the total requirements when economically feasible into smaller tasks or quantities to permit maximum participation by DBE/SWAMs in the competitive process;
  - 4. Encourage contracting with a consortium of DBE/SWAMs when a contract is too large for one of these firms to handle individually; and
  - 5. Use the services and assistance of the SBA and the Minority Business Development Agency of the Department of Commerce.

### **ARTICLE 5 – PHASE 2 GMP PROPOSAL AND PHASE 2 AMENDMENT TO AGREEMENT**

The Design-Builder shall conduct all Work necessary to develop, revise, and negotiate its Phase 2 GMP Proposal and proposed Phase 2 Amendment in accordance with the Agreement. The Design-Builder shall develop the Phase 2 GMP Proposal on an open-book basis, providing the Owner with full access to all details that make up the Phase 2 GMP Proposal. These efforts are designed to prepare the documents and estimates as accurately as possible and to keep the Owner fully informed and involved with the design and cost throughout the development of the Phase 2 GMP Proposal.

Unless the Owner agrees to an early work package, all other Phase 1 Work shall be completed to the Owner's satisfaction as a precondition to the Design-Builder submitting the Phase 2 GMP Proposal.

The Phase 2 GMP Proposal shall include:

1. Revised 70% Design Documents addressing Owner comments and any other drawings or specifications necessary to define the baseline design for Phase 2 Approval (unless a GMP for Phase 2 is accepted by the Owner prior to 70% Design Documents completion).
2. Proof of valid existence of all Governmental Approvals (as applicable) that the Design-Builder was responsible for obtaining during Phase 1.
3. Identification of construction permits and approvals to be obtained by the Design-Builder during Phase 2.
4. Health and Safety Plan for Phase 2 developed in accordance with DIV ORs.
5. Quality Management Plan for Phase 2 developed in accordance with DIV ORs.
6. Proposed baseline Project Schedule for Phase 2 developed in accordance with the DIV ORs, including an accompanying narrative describing key assumptions in the proposed baseline Project Schedule upon which the Phase 2 GMP Proposal is based.
7. Descriptive information on engineering, procurement, materials, construction labor and equipment, design gap narratives, and other services necessary to perform the Phase 2 Work as required under the Agreement.
8. Description of risks that Design-Builder is considered in development of its Phase 2 GMP Proposal.
9. An itemized accounting of the Contract Price (Phase 2) including:
  - a. The Cost of the Work (Phase 2) (showing separately Contingency and Allowance Values);
  - b. Design-Builder's Fee for Phase 2; and
  - c. Premiums for bonds and insurance associated with Phase 2.
10. Any other information necessary (as determined by the Owner in its sole discretion) to establish a mutually agreed-upon Contract Price (Phase 2). This proposal shall include all services required to complete the Phase 2 Work, using the Design-Builder-developed and Owner-approved cost model.
11. Backup for the Phase 2 GMP Proposal in the form of a cost analysis for each part of the Work, including:
  - a. Separate detailed itemized accounting of the Cost of the Work (Phase 2);
  - b. A budget and a detailed itemized accounting, by reference to each separate construction package, for any subcontracted portion of the Work to be payable during Phase 2; and
  - c. Any other matters that the Owner may require in writing.

After delivery of the initial draft Phase 2 GMP Proposal, the Design-Builder will meet with the Owner during an 8-hour workshop (in-person) to present, review, and answer questions about the content of the Phase 2 GMP Proposal. The Design-Builder will continue to revise the Phase 2

GMP Proposal as needed and conduct additional workshops and meetings as needed to obtain Owner approval.

The technical information furnished by the Design-Builder shall be sufficient to substantiate its Phase 2 GMP Proposal and furnish adequate technical information.



**EXHIBIT 2.1.1(c)**  
**Scope of Phase 1 Services –**  
**COST ESTIMATE SUBMITTAL REQUIREMENTS**  
**for the**  
**Waterfront Implementation Project**  
**City of Alexandria**

**1.1 General**

- A. As a condition precedent to GMP Amendment (Phase 2), the Design-Builder shall prepare, at each design milestone, a cost estimate submittal for the Project. Described herein are the requirements that the Design-Builder shall follow to prepare its cost estimate submittal. Each cost estimate submittal shall represent an “open-book” cost estimate detailing both the direct and indirect cost components.
- B. The cost estimate submittal at each milestone will be submitted to the Owner for review and comment. The Owner shall either:
  - 1. Accept the cost estimate submittal;
  - 2. Accept the cost estimate submittal with exceptions that the Design-Builder will need to incorporate in subsequent cost estimate submittal (i.e., the cost estimate with the next design submittal); or
  - 3. Reject the cost estimate submittal for additional refinement or development to meet the Owner's requirements.
- C. Design-Builder will be required provide a cost estimate submittal with the following milestones (approximate cost classifications per the AACE International Recommended Practice 18R-97 that are expected at each milestone are listed):
  - 1. Basis of Design Report (Class 3 Estimate);
  - 2. 30 Percent Design Submittal (Class 2 Estimate); and
  - 3. 70 Percent Design Submittal (Class 1 Estimate).
  - 4. Upon acceptance by the Owner of the cost estimate submittal provided at the 70 Percent Design milestone, the Design-Builder will be directed to prepare a GMP Proposal (Class 1 Estimate).
  - 5. Each estimate above shall adhere to the requirements listed below.
  - 6. Design-Builder shall track cost migration between design/cost estimate milestones and shall maintain a cost trend log to document scope items that have changed and the associated costs for each adjusted scope item.

## **1.2 Organization of the Cost Estimate Submittal**

- A. Unless noted otherwise herein, Design-Builder shall prepare each cost estimate submittal containing the following components in the following order:
  - 1. Cost Estimate Summary Memorandum.
  - 2. Attachment 1 – Cost Model.
  - 3. Attachment 2 – Assumptions and Exclusions.
  - 4. Attachment 3 – Subcontractor and Supplier Estimates and/or Bids.
  - 5. Attachment 4 – Professional Services During Phase 2 Information.
  - 6. Attachment 5 – Allowance Items.
  - 7. Attachment 6 – Design-Builder Contingency Costs Support Information.
  - 8. Attachment 7 – General Conditions Costs Support Information.
  - 9. Attachment 8 – Start-up, Commissioning, and Acceptance Testing Costs Support Information.
  - 10. Attachment 9 – Updated Letter from Surety.
  - 11. Attachment 10 – Updated Project Schedule.
- B. Design-Builder shall provide an electronic copy in PDF format.
- C. A cost estimate submittal review memorandum will be provided from the Owner to Design-Builder that will include the Owner's comments regarding the cost estimate submittal, and whether the Owner accepts, accepts with exceptions, or rejects the cost estimate submittal.
- D. An in-person meeting (8-hour each meeting) will be held to discuss the Owner's review comments, as well as how the Design-Builder intends to address such comments and incorporate those comments into either a revised cost estimate submittal or the subsequent cost estimate submittal (i.e., the cost estimate with the next design submittal).

## **1.3 Cost Estimate Summary Memorandum**

- A. Unless noted otherwise herein, the cost estimate summary memorandum shall consist of a narrative summary of the cost estimate that includes, at a minimum, the following:
  - 1. Summary of costing activities since the previous cost estimate submittal.
  - 2. Changes subsequent to the previous cost estimate and reasons for the changes. Changes should be clearly denoted between the current cost estimate and the prior cost estimate.
  - 3. Response to Owner's comments on prior cost estimate submittal.

4. List of proposed major equipment or materials with the procurement status for each. The procurement status should include Supplier pre-qualification activities and Suppliers pre-qualified to-date.
5. List of proposed construction package Subcontracts with the procurement status for each. The procurement updates should include Subcontractor pre-qualification activities and Subcontractors pre-qualified to-date.
6. Current contingency value and the approach to determining the value.
7. A cost summary table similar to Table 1. The total Project cost summary is the cost that Design-Builder estimates to complete the Phase 2 Services in addition to costs for completing the Phase 1 Services.

<b>Table 1 – Design-Builder Cost Summary ALEXANDRIA WATERFRONT IMPLEMENTATION PROJECT</b>			
<b>Cost Element</b>	<b>BODR</b>	<b>30% Design</b>	<b>70% Design</b>
<u>Construction Cost of Work</u>			
General Conditions			
Construction Work (Self-Performed)			
Construction Work (Subcontracted)			
Start-up, Commissioning and Acceptance Testing			
Allowances			
<i>Subtotal Construction Cost of Work (A)</i>			
<u>Professional Services</u>			
Engineering Services During Construction			
Design-Builder's Materials Testing During Construction Services			
<i>Subtotal Professional Services Cost of Work (B)</i>			
<u>Bonds and Insurance Premiums</u>			
Insurance Costs			
Bond Costs			
<i>Subtotal Indirect Costs (C)</i>			
<u>Design-Builder's Fee (D)</u>			
<u>Design-Builder Contingency</u>			
Escalation			
Design-Builder Risks			
Scope Gap/Exclusions			
<i>Subtotal Design-Builder Contingency Costs (E)</i>			
<b><i>Total Phase 2 Cost (A+B+C+D+E)</i></b>			
<b><i>Total Phase 1 Cost (F)</i></b>			
<b><i>Total Design-Builder Cost (A+B+C+D+E+F)</i></b>			

#### **1.4 Attachments**

- A. The Design-Builder shall update the attachments described below at each milestone to reflect design progression and refinement of project costs during design phase. Such attachments shall be included in the GMP Proposal.
- B. Attachment 1 – Cost Model
  1. Attachment 1 shall include a line-item cost breakdown of all Construction Work costs, including all labor, materials, Subcontractor, and Supplier cost elements consistent with AACE International Recommended Practice 18R-97 practices. The organization of the Design-Builder's cost model should follow the organization of Table 1 such that all direct costs, professional services costs during construction phase, other indirect costs, etc. are accurately accounted for. Construction Work costs shall utilize locally sourced bid items where possible, current market unit pricing, and feature contingencies for each item with supporting justification based on industry best practices for cost engineering (AACEI).

2. The direct costs shall be organized by each designated facility/area. The facility/area designations will be agreed upon by both the Owner and Design-Builder.
3. For work performed by the Design-Builder (i.e., self-performance), direct costs should be distinguished as such and should be presented in conformance with the organization of the technical specifications.
4. An example cost model format is provided in Table 2 below. The cost model format by Design-Builder does not need to match the example exactly but rather the level of detail and intent reflected in the example.
5. General Conditions costs (typically considered Division 1) shall be those costs according to a breakdown approved by Owner. A separate line item shall be included for costs associated with each of the Design-Builder supervisory and administrative personnel.
6. For work not performed by the Design-Builder (e.g., competitively bid, subcontracted or vendor supplied), corresponding direct costs should be delineated as such. If a quote or bid is received for a particular cost element (e.g., major equipment, subcontracted work package), the cost model line item shall correspond to the quotes and bids provided in Attachment 3 of the cost estimate submittal (ex., line-item cost for concrete material shall correspond to the bid price provided by selected concrete Supplier). Line-item costs shall include all applicable taxes and fees.
7. The total cost reflected in the cost model shall equal the total Design-Builder cost provided in the cost estimate summary memorandum.
8. The cost model should include listing of vehicles, material/hoisting equipment and other construction-related equipment required to complete the scope of the Project.

Table 2 – Example of Cost Model Format ALEXANDRIA WATERFRONT IMPLEMENTATION PROJECT										
Item Number	Work Element Description	Takeoff Quantity	Labor Cost/Unit	Labor Quantity	Labor Price	Material Cost/Unit	Material Quantity	Material Price	Subcontractor Cost	TOTAL COST
<b><u>Waterfront Park Pump Station</u></b>										
<b>Division 3</b>										
<b>03-100</b>	<b>Concrete</b>									
03-101	Concrete Material									
03-102	Reinforcing Steel									
03-103	Formwork									
03-104	Cranes									
03-105	Concrete Pumping									
<b>Subtotal 03-100</b>										
<b>Subtotal Division 3</b>										

C. Attachment 2 – Assumptions and Exclusions

1. Attachment 2 shall include a list of all assumptions, clarifications, and exclusions that Design-Builder used to determine the project costs.
2. Assumptions, clarifications and exclusions which are contrary to an express contract term shall not be used in interpreting the rights and obligations of the parties under the Agreement.

D. Attachment 3 – Subcontractor and Supplier Estimates and/or Bids

1. Attachment 3 shall include a copy of all Subcontractor and Supplier quotes or bids received by Design-Builder. The quotes and bids shall be organized by facility/area and/or bid package. A summary sheet shall be provided for each bid package listing the Supplier/Subcontractor that provided quotes/bids, the price from each quote/bid, the Supplier/Subcontractor selected or recommended, the reason for selection (i.e., low bid, best-value, etc.), and any scope deficiencies (scope gap/exclusions) and corresponding cost estimate for the deficiencies (as estimated by the Design-Builder).
2. One summary sheet can be used for each bid package. Quotes and bids from respective Subcontractors and Suppliers shall explicitly describe the scope of services associated with the quote or bid (including assumptions, exclusions, and clarifications), and shall include a quantity and unit price breakdown of primary work elements.
3. It is expected that as the design progresses most Supplier and Subcontractor bids will be obtained by Design-Builder, rather than estimates/quotes, and will be used as the basis for the cost estimate submittal. Quotes and bids are not required at the preliminary design report milestone. Subcontractor bid documentation shall, at a minimum, include a price breakdown of major supply and work performed by Subcontractor, and a clear definition of Subcontractor scope of work.

E. Attachment 4 – Professional Services During Phase 2 Information

1. Attachment 4 shall include the proposed professional services scope and fee for all remaining professional services to be performed during Phase 2. This may include: permitting assistance; engineering services during construction; and materials testing during construction.
2. Percentage estimates for various professional services tasks may be used for the cost estimate submittal for the preliminary design report.

F. Attachment 5 – Allowances

1. Attachment 5 shall include a detailed description of each allowance item proposed by Design-Builder along with a proposed cost for each allowance item. Each allowance item description shall consist of a summary description of the allowance item, an itemized list of scope items included within allowance item, and any specific and applicable exclusions to allowance item.

G. Attachment 6 – Design-Builder Contingency Costs Support Information

1. Attachment 6 shall include a breakdown of Design-Builder contingencies consisting of:
  - a. Escalation of materials and goods;

- b. Design-Builder risks; and
  - c. Scope gap/exclusions not included as part of the construction costs (i.e., direct costs for self-performance, subcontracted, or Supplier work).
- 2. Attachment 6 shall contain all financial and probability-of-occurrence analysis and other support information that was used by Design-Builder to determine the value of the contingencies.
- 3. For escalation contingencies, Design-Builder shall detail the escalation approach and methodology used for determining materials and goods escalation over the project duration. Escalation for equipment, supply contracts, and subcontracts should not be included within the escalation contingency if such costs were included within the subcontract and equipment packages (e.g., proposers were required to include escalation in its pricing).
- 4. For Design-Builder risk contingencies, a risk register in accordance with Exhibits 2.1.1(a) and 2.1.1(b) and/or risk model of all project risks assumed by Design-Builder shall be included with a corresponding monetary value associated with each risk. The risk register and/or model shall include risk description, risk likelihood/probability, consequence of occurrence (monetary value/cost), mitigation approach, and risk assignment. A copy of the risk model will be provided to the Owner.
- 5. For scope gap/exclusions contingencies, Design-Builder shall detail omissions not included within equipment or subcontracted packages. Scope gap/exclusions may include known deficiencies or issues with a package that do not conform to Design-Builder or Owner specifications/requirements. Scope gap/exclusions should be delineated by facility/area and/or bid package.
- 6. The monetary value of the contingencies shall equal the Design-Builder contingency amount provided in the cost estimate summary memorandum.

#### H. Attachment 7 – General Conditions Costs Support Information

- 1. This attachment shall include information to support the general conditions costs provided in the cost model.
- 2. The Design-Builder shall provide an organizational chart of its final design and construction staff and a person-hour analysis including costs of base wages or salaries of supervisory and administrative personnel of the Design-Builder. Supervisory and administrative personnel include the Project Manager, Project Superintendent, Project Engineer, Scheduler, and Field Engineer. A multiplier (per Agreement) applied to such base wages or salaries of such Design-Builder supervisory and administrative personnel as compensation for costs incurred by the Design-Builder for employee benefits, project-related bonuses, premiums, taxes, insurance, contributions and assessments required by law and collective bargaining agreements.
- 3. The Design-Builder shall include the following cost information, at a minimum, for developing the field office and construction supply costs for Design-Builder staff:
  - a. Design-Builder field office mobilization and demobilization.
  - b. Office trailer rental.
  - c. Office furniture and equipment.



- d. Office janitorial.
  - e. Document reproduction services (off-site or custom).
  - f. Printers and paper shredders.
  - g. Office computers, software, and maintenance.
  - h. Internet service.
  - i. Accounting and data processing costs.
  - j. Jobsite radios/cellular phones.
  - k. Postage, courier, and express delivery.
  - l. Scheduling expenses and job meeting expenses.
  - m. Job travel, including fuel and vehicle.
  - n. Temporary parking and laydown areas.
  - o. Storage facilities, both on and off site, as appropriate.
  - p. Tools and toolshed.
  - q. Surveying equipment and supplies.
  - r. Office supplies.
  - s. Project specific signage.
  - t. Reference manuals.
  - u. Employee identification system.
  - v. Business licenses and fees.
  - w. Bottled drinking water for employee use while onsite.
4. The Design-Builder shall include the following cost information, at a minimum, for developing the temporary amenities for Design-Builder Project Site activities:
- a. Facilities for sanitation to support field offices. Facilities for non-potable water supply (drinking water not available).
  - b. Provide fire protection, site security, power generation, communications, and appropriate lighting for temporary facilities.
  - c. Traffic control equipment rental.
  - d. Temporary weather protection facilities.
  - e. Fencing, barricades, partitions, and protected walkways.
  - f. Site erosion control.
5. The Design-Builder shall include cost information for maintaining a clean Project site through the project duration, which includes; daily site cleanup and dumpsters, cleanup prior to final inspection, and cleanup at Final Acceptance.
6. The Design-Builder shall include cost information to fulfill obligations detailed in the Final Project Maintenance Plan, i.e., for maintaining the Project site detail execution of work, labor, and materials for maintenance of the park until final Performance Bond release.
7. The Design-Builder shall include cost information to visually document project progress using photographs and videos
8. Detailed breakdown of General Conditions costs is not required at the preliminary design report milestone.
- I. Attachment 8 – Start-up, Commissioning and Acceptance Testing Costs Support Information
- 1. Attachment 8 shall include information to support the start-up, commissioning, and acceptance testing costs provided in the cost estimate.

2. The Design-Builder shall provide an organizational chart of its start-up, commissioning and acceptance testing staffs; a conceptual plan for performing these activities; and person-hour and cost analysis for the associated activities. Include costs information for development of the operations and maintenance manuals by the Design-Builder.
3. Provide cost breakdown for utilities and other consumables that are the responsibility of the Design-Builder during start-up commissioning and acceptance testing. Include costs for SCADA/monitoring/security and control services required during start-up commissioning and acceptance testing.
4. Detailed information for start-up, commissioning and acceptance testing is not required at the preliminary design report milestone.

J. Attachment 9 – Updated Letter from Surety

1. This attachment shall include an updated letter from the surety (or sureties) verifying that Design-Builder has sufficient bonding capacity available for the Project based on the current cost estimate.
2. An updated letter from the surety is not required for the cost estimate submittal with the preliminary design report.

K. Attachment 10 – Updated Project Schedule

1. Attachment 10 shall include an updated summary-level (i.e., roll-up) schedule for the Phase 2 Work that should be consistent with the completion durations included in the cost model all direct costs (by facility/area) and indirect costs (i.e., General Conditions).

END OF SCHEDULE

**EXHIBIT 2.1.1(d)**

**Scope of Phase 1 Services  
DRAWING LIST**

**for the**

**Waterfront Implementation Project**

**City of Alexandria**

**ARTICLE 1 – DRAWING LIST**

The proposed drawing list is included as an attachment to this Exhibit. The drawings shall be organized based on the National CAD Standard.

*[Insert drawing list from Design-Builder's Phase 1B Proposal].*

**EXHIBIT 2.1.1(e)**  
**Scope of Phase 1 Services –**  
**GOVERNMENTAL APPROVAL RESPONSIBILITIES**  
**for the**  
**Waterfront Implementation Project**  
**City of Alexandria**

**ARTICLE 1 – GOVERNMENTAL APPROVAL RESPONSIBILITIES**

**1.1 Introduction**

- A. Design-Builder shall provide a minimum of fourteen (14) calendar days' notice to Owner and plan on Owner representative to attend any meetings with regulatory agencies regarding Governmental Approvals.
- B. Design-Builder shall develop a Project Governmental Approvals Plan and perform permitting assistance in accordance with Exhibits 2.1.1(a) and 2.1.1(b) of the Interim Agreement and as described herein. Schedule for Governmental Approvals shall be incorporated into the Phase 1A Services Schedule, Phase 1B Service Schedule and Baseline Schedule.

**1.2 Governmental Approval Responsibilities**

- A. The responsibilities for Governmental Approvals are allocated between the Design-Builder and Owner as set out in the Conceptual Design Report included under 2.5.1 of the Interim Agreement. The Owner is responsible for obtaining the Owner-Provided Approvals. The Design-Builder is otherwise responsible for obtaining all Governmental Approvals associated with the Work. Both Design-Builder and Owner obtained permits are supported by the Design-Builder through coordination with the regulatory agencies and preparation of application documents (including design drawings and specifications).
- B. Design-Builder is responsible for compliance with all Governmental Approvals through completion of the Project, including Owner-Provided Approvals.
- C. Refer to the Permit Identification Matrices in the Conceptual Design Report (CDR) for a preliminary summary of anticipated Governmental Approvals necessary for the Project, along with the designated permit-holder and document lead; a separate Permit Identification Matrix is provided for Federal, State, and Local Jurisdictions. The Permit Identification Matrix may not be comprehensive in terms of permits and regulatory approvals required. The Permit Identification Matrix and responsibilities shall be updated upon Design-Builder's preparation of the Project Governmental Approvals Plan but shall not otherwise change the obligation on the Design-Builder to obtain all Governmental Approvals (excluding Owner-Provided Approvals).
- D. The Design-Builder is responsible for all permit application fees (excluding fees associated with Owner-Provided Approvals).

**EXHIBIT 2.4.1**

**List of Key Personnel and Project Organizational Chart –  
INTERIM AGREEMENT**

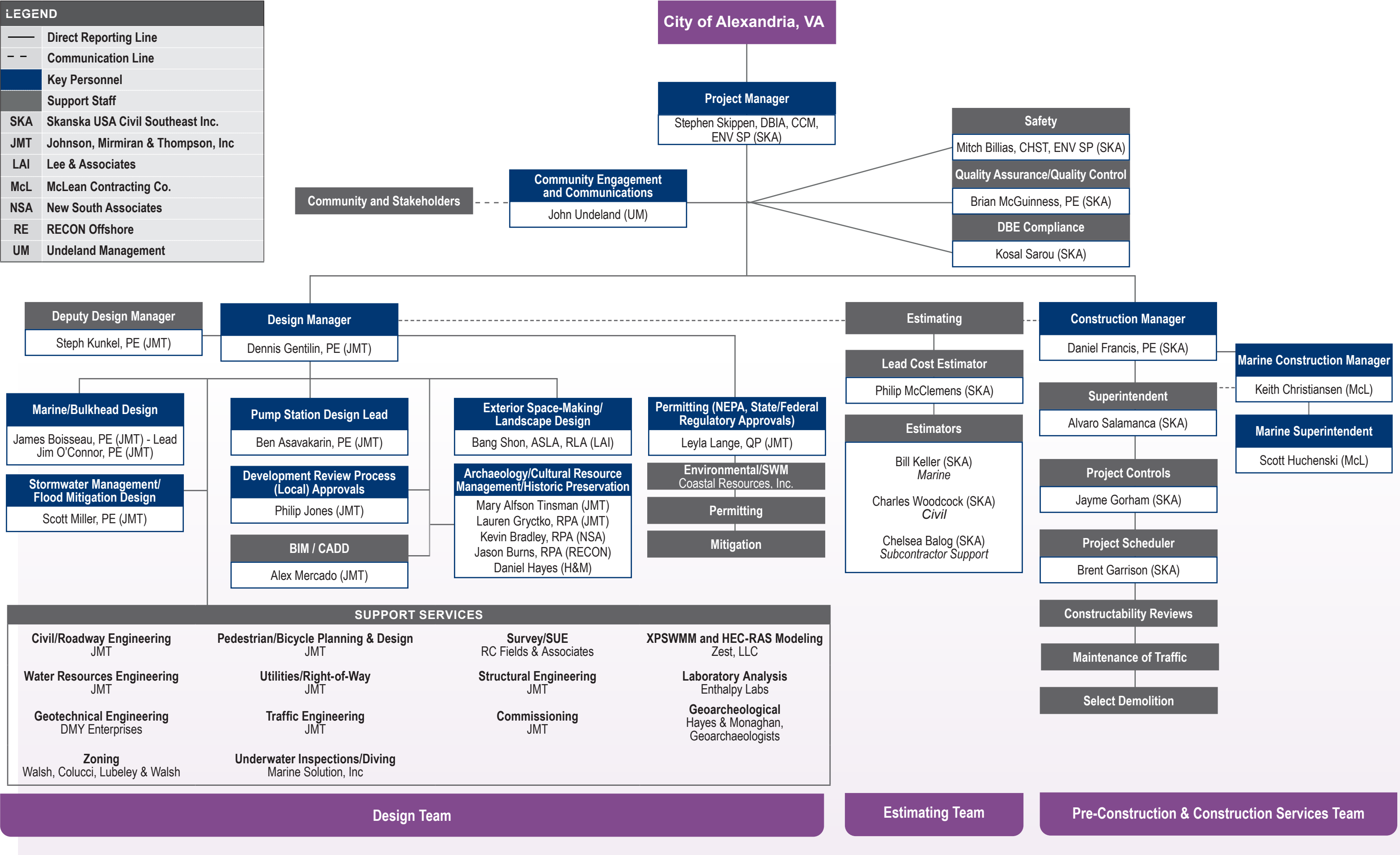
**for the**

**Waterfront Implementation Project**

**City of Alexandria**

[ATTACHED]

LEGEND	
——	Direct Reporting Line
--	Communication Line
	Key Personnel
	Support Staff
SKA	Skanska USA Civil Southeast Inc.
JMT	Johnson, Mirmiran & Thompson, Inc
LAI	Lee & Associates
McL	McLean Contracting Co.
NSA	New South Associates
RE	RECON Offshore
UM	Undeland Management



**EXHIBIT 2.5.1**

**City Furnished Information –  
INTERIM AGREEMENT**

**for the**

**Waterfront Implementation Project**

**City of Alexandria**

[ATTACHED]

**EXHIBIT 2.5.1(a)**

**Conceptual Design Report –  
INTERIM AGREEMENT**

**for the**

**Waterfront Implementation Project**

**City of Alexandria**

[INCLUDED UNDER SEPARATE COVER]



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**CONCEPTUAL DESIGN REPORT**

<b>SECTION NO.</b>	<b>TITLE</b>
1	INTRODUCTION
2	PROJECT SITE AND EXISTING CONDITIONS
3	CODES AND STANDARDS
4	DESIGN CRITERIA
5	PERMITTING REQUIREMENTS AND REGULATORY APPROVALS
6	STAKEHOLDER ENGAGEMENT REQUIREMENTS
<b>APPENDIX</b>	<b>TITLES</b>
A	PROJECT TECHNICAL MEMORANDUM
B	OTHER CITY-FURNISHED INFORMATION
C	GEOTECHNICAL REPORTS
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E	STAKEHOLDER COMMUNICATION
F	XPSWMM FILE FOR PREFERRED PROJECT ALT
G	PROJECT SCHEMATICS AND RENDERINGS
H	FEMA FY22 BRIC GRANT APPLICATION

## Appendix A

# PROJECT TECHNICAL MEMORANDUM

Project Technical Memorandums are City-Furnished Information. The following Technical Memorandums have been prepared by the Owner's Advisor and are included in the Conceptual Design Report:

- TM1 *Design Storm Selection for Hydrologic and Hydraulic Modeling.*
- TM2 *Potomac River Flood Frequency Analysis.*
- TM3 *Storm Sewer Collection System Upgrades.*
- TM4 *Parkspace and Streetscape Stormwater Attenuation Solutions.*
- TM6 *Pump Station Capacity and Sizing.*
- TM7 *Existing Bulkhead Condition Assessment.*

## Appendix B

### OTHER CITY-FURNISHED INFORMATION

The following have been prepared by other City-hired consultants for this Project. Documents are classified as City-Furnished Information. Documents noted as “Other Reports and Studies” are included in the Conceptual Design Report whereas all other documents are already publicly available on the Project website (<https://www.alexandriava.gov/Waterfront>).

1. Archaeological:
  - a. Phase 1A Report, “Initial Archaeological Assessment of the Proposed Waterfront Flood Management Project, Alexandria, Virginia” (Stantec 2018).
  - b. Archaeological Research Plan (Stantec 2020).
  - c. Preliminary Archaeology Assessment (PAA) for Founders Park (Alexandria Archaeology 2022).
  - d. Phase 1A Report Addendum, “Initial Archaeological Assessment of the Proposed Waterfront Flood Management Project, Alexandria, Virginia” (Alexandria Archaeology 2023).
2. Surveys:
  - a. Topo and Bathymetry Survey (Stantec 2016).
3. Geotechnical Investigations:
  - a. Soil Boring Locations Exhibit (Stantec 2016).
  - b. Geotechnical Data Report (Schnabel 2016).
  - c. Phase 1 Geotechnical Report (Schnabel 2017).
4. Environmental Assessments:
  - a. Threatened and Endangered Species Report (Stantec 2016).
5. Master Planning:
  - a. Stormwater Management Plan (Stantec 2018).
  - b. Master Utility Plan (Stantec 2018).
  - c. Waterfront Flood Mitigation Project 15% Concept Design Submission (URS 2014).
6. Other Reports and Studies:
  - a. Waterfront Property Ownership Maps (Stantec 2019).
  - b. StormTech MC-7200 Stormwater Chamber Siting and Sizing Calculations (ADS 2022).
  - c. Core Area Grading (Olin 2018).

## Appendix C

# GEOTECHNICAL REPORTS

The Geotechnical Reports are Designated City-Furnished Information. The following Reports have been prepared by the Owner's Advisor and are included in the Conceptual Design Report:

1. Geotechnical Data, "Geotechnical Data Report" (MRCE 2022).
  - a. Appendix to the GDR: Environmental Site Assessment Phase I Report, "Environmental Site Review (Phase I Study) within the Alexandria Waterfront Flood Mitigation Project Area" (Roux 2022).
  - b. Appendix to the GDR: Environmental Site Assessment Phase 2 Report," Phase II ESA Memorandum" (Roux 2022).
  - c. Appendix to the GDR: Geoarchaeological Report, "Geoarchaeological desktop and field assessments regarding pre-and post-settlement landscape evolution and stratigraphy of the City of Alexandria Waterfront Area, in support of the City of Alexandria Waterfront Implementation Project" (Hayes 2023).
2. Geotechnical Design Memorandum, "Geotechnical Design Memorandum" (MRCE 2022).

## Appendix D

### SURVEY DATA

The 2022 Gordon Survey is Designated City-Furnished Information and is included in the Conceptual Design report in PDF format. The Survey will be provided to the Design Builder in CAD format upon Notice to Proceed of Phase 1A.

## Appendix E

# STAKEHOLDER COMMUNICATION

The Stakeholder Communication Documents are City-Furnished Information. The following Reports have been shared with the Owner's Advisor and are included in the Conceptual Design Report.

1. Stakeholder Endorsement Letters:
  - a. "FY 2023 – FY 2032 Budget and Capital Improvement Planning" (Alexandria Waterfront Commission dated October 26, 2021).
  - b. "Progressive Design-Build Procurement for the Implementation of Flood Mitigation and Park Features of the Waterfront Small Area Plan" (Alexandria Waterfront Commission dated May 16, 2022).
  - c. "Waterfront Flood Mitigation" (Parks & Recreation Commission dated June 16, 2022).

## Appendix F

# XPSWMM FILE FOR PREFERRED PROJECT ALTERNATIVE

The XPSWMM File is City-Furnished Information and will be provided to the Design Builder upon Notice to Proceed of Phase 1A.

## Appendix G

# PROJECT SCHEMATICS AND RENDERINGS

The following have been prepared by OLIN for this Project and are City-Furnished Information. Documents noted as “Other Reports and Studies” are included in the Conceptual Design Report whereas all other documents are already publicly available on the Project website (<https://www.alexandriava.gov/Waterfront>).

1. Baseline Schematic Landscape and Flood Mitigation Design:
  - a. Schematic Landscape Plan, “Schematic Landscape Plan” (OLIN 2014).
  - b. June 14, 2014: City Council Public Hearing:
    - i. <https://media.alexandriava.gov/docs-archives/special/waterfrontplan/14-2632-wf-presentation-to-city-council-=2=.pdf>.
  - c. June 3, 2014: Planning Commission Public Hearing:
    - i. <https://media.alexandriava.gov/docs-archives/special/waterfrontplan/2014=0603=alexandria=pc=draft4.pdf>
2. Baseline Plan Development Process:
  - a. January 27, 2015: City Council Presentation:
    - i. <https://media.alexandriava.gov/docs-archives/special/waterfrontplan/2015-01-27=city-council=phasing-and-funding=ver7.pdf>.
  - b. January 15, 2015: Parks and Recreation Commission:
    - i. <https://media.alexandriava.gov/docs-archives/special/waterfrontplan/2015-01-15=parks-and-rec-commission=phasing-and-funding=ver1=final.pdf>.
  - c. January 6, 2015: Planning Commission Presentation:
    - i. <https://media.alexandriava.gov/docs-archives/special/waterfrontplan/2015-01-06=planning-commission=phasing-and-funding=ver1=final.pdf>.
  - d. December 16, 2014: Waterfront Commission:
    - i. <https://media.alexandriava.gov/docs-archives/special/waterfrontplan/2014-12-16=waterfront-commission=phasing-and-funding=ver2=final.pdf>.
  - e. December 11, 2014: Joint Meeting of the Waterfront Commission and Park Commission:
    - i. Phasing Option A: <https://media.alexandriava.gov/docs-archives/special/waterfrontplan/optiona.pdf>.
3. Common Design Elements Development:
  - a. September 7, 2016: Old and Historic District Board of Architectural Review:
    - i. <https://media.alexandriava.gov/docs-archives/special/waterfrontplan/info/commonelements=designguidelinesbook=final.pdf>.
4. Other Reports and Studies:
  - a. The 2021 Olin *Creative Landscape Solutions for Flood Protection*.
  - b. The 2019 Olin *Pump House/ Pavilion Development for Alexandria Waterfront*.



## Appendix H

# FEMA FY22 BRIC GRANT APPLICATION

The FEMA FY22 BRIC Grant Application is City-Furnished Information and is included with the Conceptual Design Report.

**EXHIBIT 2.5.1(b)**

**Development Review Process–  
INTERIM AGREEMENT**

**for the**

**Waterfront Implementation Project**

**City of Alexandria**

[INCLUDED]

**CITY OF ALEXANDRIA, VA**  
**WATERFRONT IMPLEMENTATION PROJECT**  
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**TITLE**

EXHIBIT 2.5.1(b)(1) Development Concept Plan Checklist  
EXHIBIT 2.5.1(b)(2) Development Preliminary Plan Checklist  
EXHIBIT 2.5.1(b)(3) Development Final Plan Checklist  
EXHIBIT 2.5.1(b)(4) 2018 Development Review Process Brochure  
EXHIBIT 2.5.1(b)(5) Development Special Use Permit Application  
EXHIBIT 2.5.1(b)(6) Draft Development Review Process Conditions



# DEVELOPMENT CONCEPT PLAN CHECKLIST

Department of Planning and Zoning  
Development Division, City Hall  
301 King Street, Room 2100  
Alexandria, Virginia 22314  
Phone: (703) 746-4666

CDSP# \_\_\_\_\_

Project Name: \_\_\_\_\_

Project Location (Address): \_\_\_\_\_

Tax Map References: \_\_\_\_\_

Applicant's Name: \_\_\_\_\_

Applicant's Address: \_\_\_\_\_

Applicant's E-mail Address: \_\_\_\_\_

Applicant's Phone: \_\_\_\_\_

**Submission Deadline:** The deadline for concept submissions is every Friday by noon. Plans will be routed to staff for review the following week and comments will be forwarded to the applicant within 14 working days after the submission.

The following materials are required to be uploaded to APEX for a complete development preliminary plan submission:

\_\_\_\_\_ **PDF Site Plans.** For each submission, provide a copy of the drawings and other submitted documents in .pdf format. Please submit as few PDF files as possible named with the corresponding sheet/or information titles. (i.e. Sheet C1-Sheet C10, Traffic study, etc)

\_\_\_\_\_ **Completed Stage I Concept Submission Checklist**

\_\_\_\_\_ **Comment Response Letter.** (for Stage II Concept)

\_\_\_\_\_ **Signature of professional certifying that the submission meets all requirements:**

I, \_\_\_\_\_ (print name), hereby certify that the drawings and other materials that accompany this checklist have met the requirements of the checklist.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**Prior to submission of a Preliminary Site Plan, a Concept Plan that meets all the criteria in Stage I and II of this checklist shall be submitted.**

The following sheets and information are required for every submission. Additional sheets and information should be provided where necessary to demonstrate compliance with City requirements or conditions of approval. Further, provide the appropriate page/sheet number(s) for each of the checklist items listed below.

**Stage I Concept Submission – Overall General Concept Design:**

- \_\_\_\_\_ A brief narrative explaining existing site conditions, zoning of the property, and the proposed development
- \_\_\_\_\_ Existing and Proposed Trip Generation (ADT) using ITE Trip Generation Method

***Formatting Requirements:***

- \_\_\_\_\_ PDF Print Size.
- \_\_\_\_\_ Concept Plan at a scale of 1"= 20' or 1"= 30'
- \_\_\_\_\_ North arrow with reference to source of meridian

***Existing Conditions:***

- \_\_\_\_\_ Existing property lines (with course and distance)
- \_\_\_\_\_ Public streets, private streets, and alleys appropriately labeled
- \_\_\_\_\_ Existing easements, major public utility lines, and any other encumbrances that may impact development
- \_\_\_\_\_ Delineation of all floodplains, resource protection areas, associated buffers, and existing stormwater facilities
- \_\_\_\_\_ Information on soils, environmental issues, and contamination known to applicant
- \_\_\_\_\_ Significant site features (existing retaining walls, steep slopes, etc.)
- \_\_\_\_\_ Local Historic District Boundaries and designated 100-Year Old Buildings

***Proposed:***

- \_\_\_\_\_ Proposed property lines (with course and distance)
- \_\_\_\_\_ Building footprints and entrances
- \_\_\_\_\_ Proposed uses and location of uses in buildings
- \_\_\_\_\_ Tabulations of lot area(s)
- \_\_\_\_\_ Approximate tabulations of density, gross square feet of buildings, building height, number of units, total open space, area of disturbance during construction, and proposed parking compared to zone requirements and/or limitations
- \_\_\_\_\_ Public and private streets appropriately labeled
- \_\_\_\_\_ Driveways, parking areas, access aisles, and site entrances
- \_\_\_\_\_ Location and area measurements for each open space in project
- \_\_\_\_\_ Significant proposed site features (such as retaining walls, steep slopes, etc.)
- \_\_\_\_\_ Concept I landscape plan submission requirements (see Chapter 5 of [City of Alexandria 2019 Landscape Guidelines](#))

***Green Building:***

- \_\_\_\_\_ The applicant will provide a statement indicating their intent to meet the requirements of the [City of Alexandria 2019 Green Building Policy](#)

**Stage II Concept Submission and Subsequent Submissions:**

ONCE CONSENSUS HAS BEEN REACHED ON THE GENERAL BUILDING LOCATION AND SITE LAYOUT, A STAGE II CONCEPT SUBMISSION SHOULD BE FILED. THE STAGE II SUBMISSION SHOULD INCLUDE ALL INFORMATION REQUIRED IN THE STAGE I SUBMISSION AS WELL AS THE INFORMATION IDENTIFIED BELOW.

**Narrative Requirements:**

- \_\_\_\_\_ A response narrative addressing City comments to previous submissions
- \_\_\_\_\_ Clearly identify the revised location/configuration of the building and changes to the site design as a result of the Stage I review
- \_\_\_\_\_ Statement as to whether the project is a federal undertaking (i.e., does the project involve federal funds, reviews or permits) and identify how the project will comply with Section 106 of the National Historic Preservation Act of 1966

**Format Requirements:**

- \_\_\_\_\_ Scale of 1"= 20' or 1"= 30'
- \_\_\_\_\_ North point with reference to source of meridian
- \_\_\_\_\_ Required architectural elevation sheets shall be submitted in color
- \_\_\_\_\_ Name, address, signature and registration number of professionals preparing the plan, certifying that the submission meets all requirements
- \_\_\_\_\_ Include all of the Development Concept Plan Checklist requirements
- \_\_\_\_\_ Submit an electronic copy of all submission materials in .pdf format

**Cover Sheet:**

- \_\_\_\_\_ Name and address of the developer, property owner, engineers, attorney and others on the development team
- \_\_\_\_\_ A narrative description of the project
- \_\_\_\_\_ Location Map
- \_\_\_\_\_ A list of all special use permits, site plan and modifications being requested
- \_\_\_\_\_ Sheet Index

**Zoning Tabulations:**

- \_\_\_\_\_ Zoning of the site
- \_\_\_\_\_ Existing uses on the site
- \_\_\_\_\_ Proposed uses on the site
- \_\_\_\_\_ Lot area (required and provided)
- \_\_\_\_\_ Refined tabulations of lot area(s), density, FAR, building height, parking layout, open space, and proposed parking compared to zone requirements and/or limitations
- \_\_\_\_\_ Number of dwelling units and unit types
- \_\_\_\_\_ Units/Acre for residential uses
- \_\_\_\_\_ Gross floor area and net floor area of all structures.
- \_\_\_\_\_ Open space (at grade, above grade and total; public, private, private with public access easement and total) with square foot total and percentage
- \_\_\_\_\_ Average finished grade and height for each building
- \_\_\_\_\_ Building setbacks (required and proposed) for each building
- \_\_\_\_\_ Lot frontage (required and provided)
- \_\_\_\_\_ Parking Spaces (compact, standard, handicap and total)

- \_\_\_\_\_ Loading spaces (required and provided)
- \_\_\_\_\_ Existing and Proposed Trip Generation (AM and PM Peak Hour) using ITE Trip Generation method

**Existing Site Conditions:**

- \_\_\_\_\_ Existing conditions plan that includes existing property lines (with course and distance)
- \_\_\_\_\_ Information on topography (contour lines at two-foot intervals across site and immediately adjacent areas)
- \_\_\_\_\_ A statement whether or not the site has areas of marine clay
- \_\_\_\_\_ A statement describing any known or expected contamination or brief narrative of due diligence completed (site history) if none is expected
- \_\_\_\_\_ Existing tree survey (see requirements of the [City of Alexandria 2019 Landscape Guidelines](#))

**Concept Site Plan:**

- \_\_\_\_\_ Public Utilities (full description labeled with flow direction, where applicable)
- \_\_\_\_\_ Significant proposed site features (such as retaining walls, steep slopes)
- \_\_\_\_\_ Site sections
- \_\_\_\_\_ Contextual Site Plan showing the proposed project site(s) and adjacent areas affected by the project
  - \_\_\_\_\_ Proposed project site appropriately labeled
  - \_\_\_\_\_ Display a minimum of a quarter (1/4) mile in radius of proposed project
  - \_\_\_\_\_ Existing property lines, buildings, streets, metro, transit stops and routes, and major thoroughfares, if any, appropriately labeled
- \_\_\_\_\_ Dimensions for circulation patterns and lane widths
- \_\_\_\_\_ Public streets, private streets, and alleys appropriately labeled
- \_\_\_\_\_ Roadway and Parking Dimensions
- \_\_\_\_\_ Alignment and major features of existing and public proposed utilities
- \_\_\_\_\_ Emergency vehicle access to the site and buildings
- \_\_\_\_\_ Show any transition zone setback, if applicable
- \_\_\_\_\_ Conceptual plans for open space and graphic depiction of included areas used for the calculations
- \_\_\_\_\_ Indicate whether project is located in the Combined Sewer Area
- \_\_\_\_\_ If additional sanitary flows exceed 10,000 GPD, provide statement on adequate outfall per Memo to Industry 2006-0014 (Effective July 1, 2014)
- \_\_\_\_\_ If post-development stormwater runoff exceeds pre-development, provide statement addressing planned mitigation
- \_\_\_\_\_ Identify stormwater outfall to receiving storm trunk sewer on plan
- \_\_\_\_\_ Obtain scope of work from Alexandria Archaeology to satisfy archaeological requirements
- \_\_\_\_\_ Preliminary subdivision plat which shall contain all information required in Section 11-1706 of the Zoning Ordinance

**Environment:**

- \_\_\_\_\_ Resource Protection Areas (RPA) as defined in [Article XIII](#) of the Zoning Ordinance
- \_\_\_\_\_ Identify constituents and approximate area of soil and/or groundwater contamination
- \_\_\_\_\_ Narrative describing how the project will comply with the stormwater quality requirements of [Article XIII](#) of the Zoning Ordinance
- \_\_\_\_\_ Concept II Landscape Plan submission requirements (see Chapter 5 of [City of Alexandria 2019 Landscape Guidelines](#))

**Building:**

- \_\_\_\_\_ Proposed building elevations to scale, including:
  - \_\_\_\_\_ Proposed building height (as defined in Zoning Ordinance) dimensioned and labeled
  - \_\_\_\_\_ Proposed average finished grade and actual finished grade
  - \_\_\_\_\_ Other dimensions where appropriate
  - \_\_\_\_\_ All building façade materials
- \_\_\_\_\_ Building sections to scale, with dimensions, showing setbacks, stepbacks, and building height and referenced to building plans
- \_\_\_\_\_ Building sections demonstrating compliance with [Section 6-403](#) (height to setback requirement)
- \_\_\_\_\_ Schematic building massing illustration, to show proposed height and scale of buildings
- \_\_\_\_\_ A brief narrative describing the environmentally sensitive site design, green building and/or low impact development techniques to be considered in this proposal

**Transportation:**

- \_\_\_\_\_ Truck turning templates, to include loading and trash pickup. (Per AASHTO Guidelines)
- \_\_\_\_\_ Show full right-of-way on both sides of the street
- \_\_\_\_\_ Transportation Scoping form as required

### ***Green Building:***

## General Approach

- \_\_\_\_\_ Provide initial list of certifications project is considering

*Energy*

- \_\_\_\_\_ Narratives on the following:
- How building orientation and massing will reduce project energy use (including details of any box modeling completed and any passive design strategies being considered such as external shading, daylighting, natural ventilation or others)
  - Technologies and locations considered for renewable energy production
  - Any district energy systems being considered (for campuses and large developments)

*Water*

- \_\_\_\_\_ Narratives on the following:
- Strategies for reducing irrigation demands including use of rainwater harvesting, native plants, etc.
  - List of indoor water efficiency strategies being considered

## Indoor Environmental Quality

- \_\_\_\_\_ Preliminary narrative of daylighting strategies and overall approach to indoor air quality and occupant comfort

***Design Guidelines – Identify and Acknowledge Applicable Design Guidelines and/or Standards***

--

*Revised:*

5/11/2020 - AEF





# DEVELOPMENT PRELIMINARY PLAN CHECKLIST

Department of Planning and Zoning  
Development Division, City Hall  
301 King Street, Room 2100  
Alexandria, Virginia 22314  
Phone: (703) 746-4666

CDSP# \_\_\_\_\_ DSP/DSUP# \_\_\_\_\_

Project Name: \_\_\_\_\_

Project Location (Address): \_\_\_\_\_

Tax Map References: \_\_\_\_\_

Applicant's Name: \_\_\_\_\_

Applicant's Address: \_\_\_\_\_

Applicant's E-mail Address: \_\_\_\_\_

Applicant's Phone: \_\_\_\_\_

**Submission Deadline:** Plan submissions received before 3:00 pm will be processed and routed to reviewers the same day. Plan submissions received after 3:00 pm will be processed and routed the next business day. **Notify Planning and Zoning staff of submissions to avoid processing delays.**

The following materials are required to be uploaded to APEX for a complete development preliminary plan submission:

\_\_\_\_\_ Completed and Signed Development Special Use Permit or Development Site Plan Application

\_\_\_\_\_ Completed and Signed Preliminary Plan Checklist (this form)

\_\_\_\_\_ Filing Fee (DSUP and DSP). Please see the fee schedule [here](#).

\_\_\_\_\_ Site Plans for Completeness Review of Preliminary Plan (First Submission)

\_\_\_\_\_ Site Plans After Completeness Review of Preliminary Plan (Second Submission)

\_\_\_\_\_ Signature of professional certifying that the submission meets all requirements:

I, \_\_\_\_\_ (print name), hereby certify that the drawings and other materials that accompany this checklist have met the requirements of the checklist.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

General Process Information:

Preliminary site plans will be reviewed for completeness by City staff. Completeness review comments will be returned to the applicant in approximately 3 weeks from submission listing additional information required for the application to be deemed complete.

The applicant must revise the site plan to address all comments of the completeness review and resubmit to Planning and Zoning. This submission must include a letter responding to each of the completeness comments and the specific location of the additions or corrections made to the plan. These plans are routed and reviewed to verify completeness. **If the plans are still not complete, the review of them will be suspended and the applicant will be notified of the information that is required.**

When the plan/application is deemed complete, a confirmation letter or e-mail will be sent to the applicant. Within 5 working days of receipt of the confirmation the applicant shall install a notice of the proposed development at the site. When an application is complete, it will receive technical review by City agencies. Three (3) weeks prior to the scheduled hearing date the applicant shall submit a sample materials board and/or color rendering.

The following sheets and information are required for every submission. Additional sheets and information should be provided where necessary to demonstrate compliance with City requirements or conditions of approval. Further, provide the appropriate page/sheet number(s) for each of the checklist items listed below.

### **Preliminary Site Plan Checklist**

#### ***Formatting Requirements for Each Sheet:***

- \_\_\_\_\_ PDF Print Size of 24" x 36"
- \_\_\_\_\_ Scale of no less than 1" : 40' with scale identified on each sheet – 1" : 20' or 1" : 30' preferred  
Note: 1" : 25' is not an acceptable scale
- \_\_\_\_\_ City approval signature block in same place (lower right corner) on each sheet (see attachment for configuration and size of block)
- \_\_\_\_\_ North point shown consistently in the same direction on all plan sheets with reference to source of meridian
- \_\_\_\_\_ Property lines with course and distance for each
- \_\_\_\_\_ Name, address, signature and registration number of professional(s) preparing the plan on each sheet – all plans to be sealed by the appropriate professional
- \_\_\_\_\_ Legend of symbols, patterns, and abbreviations used
- \_\_\_\_\_ Date the plan was prepared and each revision

#### ***Cover Sheet:***

- \_\_\_\_\_ Name, address, telephone and email address of the developer(s) and of the owner(s) of record
- \_\_\_\_\_ A narrative description of the project
- \_\_\_\_\_ A list of all special use permits, site plan approvals and zoning modifications or waivers being requested
- \_\_\_\_\_ A list of all existing special use permits, site plans and proffers that apply to all or part of the site
- \_\_\_\_\_ Total area included in the site plan, total area of tax parcel, total existing and proposed impervious area on the tax parcel, and total area that will be disturbed during construction (all expressed in square feet and acres)
- \_\_\_\_\_ Location map with the site shown in relation to the nearest intersection of two or more streets, and Parcel Number (includes tax reference number)
- \_\_\_\_\_ Sheet Index
- \_\_\_\_\_ Key to plan sheets if more than one sheet is needed to show the whole site
- \_\_\_\_\_ Building Code analysis

#### ***Zoning Tabulations (may be included on cover where sufficient space exists)\*:***

For each element, list zoning ordinance requirement and number proposed on preliminary plan:

- \_\_\_\_\_ Zoning of the site (zoning proffers, if applicable)
- \_\_\_\_\_ Existing uses on the site
- \_\_\_\_\_ Proposed uses on the site
- \_\_\_\_\_ Lot area (minimum required by zone and proposed)
- \_\_\_\_\_ Number of dwelling units (list by number of bedrooms for multifamily)
- \_\_\_\_\_ Units per acre for residential
- \_\_\_\_\_ Gross square feet (GSF) of building area\*, total and listed by use, (with area devoted to parking included and listed separately)
- \_\_\_\_\_ Net square feet (NSF) or Floor Area, total and listed by use

Development Preliminary Site Plan Checklist

CDSP# \_\_\_\_\_ DSUP/DSP # \_\_\_\_\_

- \_\_\_\_\_ Floor-area-ratios existing and proposed at-grade and above grade
- \_\_\_\_\_ Open space (required and proposed)
- \_\_\_\_\_ Open space total proposed and broken down by public, private, and private with public access ground level space and usable space proposed
- \_\_\_\_\_ Average finish grade for each building
- \_\_\_\_\_ Height of each building above average finish grade
- \_\_\_\_\_ Building setbacks (required and proposed) for each building
- \_\_\_\_\_ Frontage with required and proposed listed separately
- \_\_\_\_\_ Parking spaces (listed by compact, standard, handicapped size and total) required and proposed
- \_\_\_\_\_ Parking spaces (listed by location of parking i.e. above grade and/or below grade) Loading spaces (required and proposed)
- \_\_\_\_\_ Existing and proposed trip generation (AM and PM Peak Hour)

*\*Note: If the proposed development includes multiple lots, the zoning tabulation information must be provided for each individual lot unless all the lots will be consolidated in conjunction with the proposal. For gross square footage and net square footage regulations, please reference [Section 2-145](#) of the City's Zoning Ordinance.*

**Contextual Plan:**

- \_\_\_\_\_ Show the proposed project site(s) and adjacent areas affected by the project
- \_\_\_\_\_ Proposed project site appropriately labeled
- \_\_\_\_\_ Display a minimum of a quarter (1/4) mile in radius of proposed project
- \_\_\_\_\_ Existing property lines, buildings, streets, metro, transit stops and routes

**Map of Existing Site Conditions:**

Show location, dimensions, size, height, and elevations of:

- \_\_\_\_\_ Sidewalks, streets and their names (show full width, curblines and centerlines), alleys, existing easements (include emergency vehicle easements), covenants and reservations
- \_\_\_\_\_ Show the full right-of-way width of all adjoining streets and alleys and include all information for both sides
- \_\_\_\_\_ Roadway and lane widths and uses (right turn, left turn, etc.)
- \_\_\_\_\_ Traffic and pedestrian controls including signs, markings and signals
- \_\_\_\_\_ Existing transit/bus stops with route number identification adjacent to the property
- \_\_\_\_\_ On-street parking locations and individual spaces when designated
- \_\_\_\_\_ Driveways, entrances, exits, parking areas; show vehicle parking spaces by type (standard, compact and accessible) and indicate the number in each bay and total count. Dimensions shall exclude any obstructions such as columns or light poles
- \_\_\_\_\_ Building setbacks, highway setback lines and zone transition lines
- \_\_\_\_\_ Existing buildings and structures; show footprint and indicate height
- \_\_\_\_\_ Property lines, including adjoining property lines; show course and distance of each site boundary line
- \_\_\_\_\_ For adjoining properties, show current zoning and names and addresses of owners (show zoning district boundary lines if multiple districts exist on the site or adjacent parcels)
- \_\_\_\_\_ Transformers, valves, and other surface features of utility systems
- \_\_\_\_\_ Storm and sanitary sewer systems, water mains, and other buried utilities; indicate size of lines and direction of flow for storm and sanitary lines; identify owner of each system
- \_\_\_\_\_ Fire hydrants and fire department connections
- \_\_\_\_\_ Major trees (6" or more in caliper) and shrubs (3' or more in height), located and identified by species, including street trees on public right-of-ways along property frontage. Also, locate and

- \_\_\_\_\_ identify trees on adjacent properties with canopies that extend over the site. Identify species, size and locations of trees on opposite sides of fronting streets
- \_\_\_\_\_ Recreation areas, swimming pools and bike and walking trails on abutting streets or public access easements
- \_\_\_\_\_ Watercourses, bodies of water, wetlands and limits of flood plains
- \_\_\_\_\_ Resource Protection Areas (RPAs) as defined in [Article XIII](#) of the Zoning Ordinance
- \_\_\_\_\_ Lighting on public rights-of-way adjacent to the site
- \_\_\_\_\_ Significant site features
- \_\_\_\_\_ Topography shown with 2' contours on the subject property and on adjacent parcels for sufficient distance to indicate the relationship of the site to off-site terrain
- \_\_\_\_\_ Slopes, terraces and retaining walls, including elevations of level areas and tops and bottoms of walls and exterior stairways and ramps
- \_\_\_\_\_ Indicate the following on the plan- underground storage tanks; areas located within 1,000 feet of a former sanitary landfill, dump or disposal area; areas with the potential of generating combustible gases
- \_\_\_\_\_ Location of buildings listed on the Alexandria List of 100-Year Old Buildings that occur on the site or on adjacent parcels
- \_\_\_\_\_ Local Historic District Boundaries
- \_\_\_\_\_ A statement indicating whether or not the Site has areas of Marine Clay
- \_\_\_\_\_ Indicate areas on plan and provide a statement describing any known or expected contamination or brief narrative of due diligence completed (site history) if none is expected

***Preliminary Site Plan:***

Include existing features to be retained and show location, dimension, size, height and elevation of proposed:

- \_\_\_\_\_ Boundaries of zoning districts on the site and adjoining sites
- \_\_\_\_\_ Sidewalks, streets, alleys with widths labeled, and elevations
- \_\_\_\_\_ Show the full width and centerlines of all adjoining streets and alleys
- \_\_\_\_\_ Existing and modified lane widths and uses (right turn, left turn, etc.)
- \_\_\_\_\_ Existing and proposed traffic controls including signs, markings and signals
- \_\_\_\_\_ Sidewalks, bike and walking trails on sites and on abutting streets or public property/easements, with widths of each
- \_\_\_\_\_ Bicycle parking spaces provided per City Standards
- \_\_\_\_\_ Bicycle and pedestrian paths per the Transportation Master Plan and 1998 Bicycle Transportation and Multi-Use Trail Master Plan, including existing and proposed routes
- \_\_\_\_\_ Direction of traffic and volumes at all site entrances, exits and intersections
- \_\_\_\_\_ Sight distance per AASHTO at all driveways and street intersections
- \_\_\_\_\_ Curb radii at intersections and driveway entrances for public and private streets and alleys, and within parking lots; note AASHTO turning radii
- \_\_\_\_\_ Existing and proposed on-street parking locations and individual spaces when required
- \_\_\_\_\_ Driveways, entrances, exits, parking areas; show parking spaces by type (standard, compact and handicap) and indicate the number in each bay and the total count
- \_\_\_\_\_ Locations of underground parking and indicate the footprint of related subsurface structures
- \_\_\_\_\_ Garage layouts with columns shown and drive aisle and parking spaces dimensioned. Parking space widths and lengths do not include the column width. The use of "typical" may be used provided it dimensions all types of spaces/aisles and is used in enough places that the review can be performed accurately
- \_\_\_\_\_ Vehicle turning movements for any parking lot or garage, entrances and drive aisles, accessible spaces with AASHTO standard vehicle
- \_\_\_\_\_ Vehicle turning movements for loading zones with the largest vehicle that will access the site

- \_\_\_\_\_ Slope of entrance ramp
- \_\_\_\_\_ Annotate length and slope of ramp transitions
- \_\_\_\_\_ Locations of building entrances and exits
- \_\_\_\_\_ Depict and annotate any parking control equipment or device in garage entrance
- \_\_\_\_\_ Building setbacks, highway setback lines, zone transition lines and vision clearances
- \_\_\_\_\_ Provide sections demonstrating compliance with [Section 6-403](#) of the Zoning Ordinance
- \_\_\_\_\_ Show any transition zone setback, if applicable
- \_\_\_\_\_ Easements, covenants and reservations including emergency vehicle easements (EVE) (existing and proposed)
- \_\_\_\_\_ Property lines; show course and distance of each site boundary line
- \_\_\_\_\_ Yard dimensions for setback requirements
- \_\_\_\_\_ Buildings and structures, including optional decks and other projections such as canopies, bay projections, roof overhangs; or maximum building envelope (where approved as envelope) showing outside dimensions, including height, and first floor elevations
- \_\_\_\_\_ Stoops, steps and staircases (with elevations)
- \_\_\_\_\_ Distances between buildings and adjoining property lines
- \_\_\_\_\_ Storage space for solid waste and recyclable material containers with trash truck turning movements and pick up locations
- \_\_\_\_\_ Storm and sanitary sewer systems, including lateral lines, water mains and service lines, with size, direction of flow and owners indicated in plan view for both existing and proposed
- \_\_\_\_\_ Gas mains and service lines; with size of line and owner of line indicated
- \_\_\_\_\_ Fire hydrants, water mains and service lines; with size of line and owner of line indicated
- \_\_\_\_\_ Electric, telephone, cable and all other utilities on the property; identify owners Transformers, ground level mechanical units, switchboxes, cable boxes, poles, telephone pedestals, and other surface features of utility systems and elevations
- \_\_\_\_\_ Existing and proposed light poles and fixtures on-site and on adjoining rights-of-way
- \_\_\_\_\_ Existing and proposed bus stop(s) and bus stop amenities
- \_\_\_\_\_ Recreation areas, swimming pools. (Discharge from swimming pools shall be shown connected to the sanitary sewer in plan view)
- \_\_\_\_\_ Watercourses, bodies of water, wetlands and limits of flood plains
- \_\_\_\_\_ Resource Protection Areas (RPAs) as defined in [Article XIII](#) of the Zoning Ordinance and developable area
- \_\_\_\_\_ Significant site features
- \_\_\_\_\_ Limits of Disturbance
- \_\_\_\_\_ Proposed grading shown with 2' contours on the subject property and on adjacent parcels for sufficient distance to indicate the relationship of the site to off-site terrain Slopes, terraces and retaining walls, including elevations of level areas and tops and bottoms of walls and exterior stairways and ramps
- \_\_\_\_\_ Identify all potential future deck locations

### ***Landscape Plan:***

Proposed landscape must comply with the [2019 City of Alexandria Landscape Guidelines](#) (refer to Chapter 5) published by the Department of Recreation, Parks and Cultural Activities, City of Alexandria

- \_\_\_\_\_ Buildings, and other structures and all building entrances
- \_\_\_\_\_ Streets, alleys, driveways, sidewalks, trails, intersections and all paved areas Utilities and utility easements, existing and proposed
- \_\_\_\_\_ Locations of off-site and on-site lighting, including street lighting
- \_\_\_\_\_ Existing vegetation to be removed; include locations, size and species of all trees 6" or greater in caliper

- \_\_\_\_\_ Street trees and natural vegetation to be retained; include locations, approximate driplines, size and species of all trees 6" or greater in caliper
- \_\_\_\_\_ Details of protection structures to be used for existing trees to be preserved
- \_\_\_\_\_ Proposed street tree species, locations, and planting details
- \_\_\_\_\_ Indicate the distances between street trees
- \_\_\_\_\_ Location and dimensions of areas to be landscaped (including within public right-of-ways), specifying the location, names, caliper, and size of proposed individual trees, shrubs, and ground cover plants (indicate initial and final height for trees and shrubs, initial width for shrubs, and initial spread for groundcover plants)
- \_\_\_\_\_ Tabulation of required, existing and proposed crown coverage (**Do not include street trees**)
- \_\_\_\_\_ Show existing and proposed trails, roadways and sidewalks
- \_\_\_\_\_ Plans shall be sealed by a Certified/Registered Landscape Architect

**Open Space Plan:**

Refer to page 48-49 of the [2019 City of Alexandria Landscape Guidelines](#), Chapter 5:

- \_\_\_\_\_ Open space areas graphically showing the square footage and type (ground level or rooftop; public, private and private with public access easement)

**Lighting Plan/Signage Plan:**

- \_\_\_\_\_ Building and structures
- \_\_\_\_\_ Location of all existing and proposed lights, including street lights and building lights
- \_\_\_\_\_ Type of fixture
- \_\_\_\_\_ Show the locations and height of proposed signs and provide information needed to assess compliance with the sign ordinance and applicable special guidelines

**GIS Dimension Plan\*:**

Include existing features to be retained and show location, dimension, size, height and elevation of:

- \_\_\_\_\_ Sidewalks, streets, alleys, driveways and parking lots; (edge of pavement or top of curb)
- \_\_\_\_\_ Show the full right-of-way width and centerlines of all adjoining streets and alleys
- \_\_\_\_\_ Buildings and structures, showing outside dimensions, including height
- \_\_\_\_\_ Property lines
- \_\_\_\_\_ Stoops, steps and staircases
- \_\_\_\_\_ Locations of building entrances; identification of primary building entrance, secondary entrances and any mock entrances if applicable
- \_\_\_\_\_ 3 x y coordinate pairs in state plane coordinates (NAD 83) conforming to 50 scale (1:600/1"=50') National Map Accuracy Standards

*\*Note: The Dimension Plan is used to update the City of Alexandria's Geographic Information System and therefore should contain only the information specified above. Additionally, Alexandria GIS does not meet the threshold for accuracy, as listed for the coordinate data above and is therefore not suitable as source for obtaining this coordinate information.*

**Building Elevations and Sections:**

- \_\_\_\_\_ Scaled architectural elevations of each building face, with materials labeled
- \_\_\_\_\_ Scaled elevations showing landscaping plan or screening treatment along public rights-of-way
- \_\_\_\_\_ Scaled sections showing average finished grade line, actual finished grade line, building heights as defined by the Zoning Ordinance, and penthouses – all labeled and dimensioned
- \_\_\_\_\_ Scaled sections through buildings

- \_\_\_\_\_ Scaled sections showing grade changes in relationship to buildings and/or retaining walls
- \_\_\_\_\_ Scaled sections showing average finished grade line, actual finished grade line, and scaled heights, including penthouses, labeled and dimensioned
- \_\_\_\_\_ A detailed graphic showing floor area analysis indicating areas that have been deducted for purposes of the FAR calculation. If the FAR deductions exceed 20% of the overall building's square footage, written justification shall be submitted
- \_\_\_\_\_ Scaled floor plans
- \_\_\_\_\_ Roof plan, showing all parapets, rooftop appurtenances including elevator over-runs and mechanical equipment
- \_\_\_\_\_ Color elevations for all building faces

**Green Building:***General Approach*

- \_\_\_\_\_ Indicate certification the project will pursue and provide draft scorecard

*Energy*

- \_\_\_\_\_ Narratives addressing load reduction strategies proposed for the following:
  - Massing and Orientation
  - Basic Envelope Attributes
  - Lighting
  - Plug and process loads
- \_\_\_\_\_ Preliminary energy savings estimates
- \_\_\_\_\_ Renewable energy production narrative with output estimates
- \_\_\_\_\_ For Net Zero:
  - Preliminary energy analysis report that demonstrates renewable energy production strategy that offsets projected building energy use
  - Evidence that project has been registered for an approved Net Zero Energy Certification
- \_\_\_\_\_ Commissioning
  - Confirmation that a Commissioning Agent is contracted for the project
- \_\_\_\_\_ Metering Strategy Narrative

*Water*

- \_\_\_\_\_ Proposed outdoor water reduction strategies and percentage of water reduced
- \_\_\_\_\_ Percent of indoor water use savings and list of proposed strategies

*Indoor Environmental Quality*

- \_\_\_\_\_ Narrative explaining project approach to:
  - Daylighting plan and overall percentage of daylit spaces for the project
  - Interior Air Quality (IAQ) including reducing Volatile Organic Compounds (VOCs) in interior spaces
  - Construction IAQ
  - Occupant Thermal Comfort

**Environmental Quality and Quantity Plan:**

Plans for collecting and depositing stormwater, including approximate pipe sizes, structures and stormwater quality facility best management practices (BMPs):

- \_\_\_\_\_ Pre- and post-development, 1, 2, and 10-year stormwater computations as appropriate
- \_\_\_\_\_ Drainage area map delineating area contributing stormwater onto the project

- \_\_\_\_\_ Narrative describing how the project will comply with the stormwater quantity and quality requirements in Article XIII of the Zoning Ordinance, to include the Alexandria Water Quality Volume Default
- \_\_\_\_\_ Soil types (Hydrologic Soil Group A, B, C or D as defined by NRCS) and location thereof. Group D soils must be used for stormwater worksheets and computations unless a geotechnical investigation is provided that documents otherwise
- \_\_\_\_\_ Virginia Runoff Reduction Method (VRRM) worksheets must be completed to document compliance with water quality requirements in [Sec. 13-109\(E\)](#) (4) and (5)
- \_\_\_\_\_ Layout of stormwater facility BMPs providing the location and type of facility(ies) being propose
- \_\_\_\_\_ Use the VRRM in computing Channel Protection and Flood Protection Requirements
- \_\_\_\_\_ Drainage area map with scale and north arrow indicating the area draining to the selected water quality BMPs
- \_\_\_\_\_ City standard Alexandria water quality volume default BMP data blocks (2)
- \_\_\_\_\_ Geographic coordinates of the BMP(s) (NAD88)
- \_\_\_\_\_ If an operator intends to address the water quality phosphorus requirements established in 9VAC25-870-63 and found in [Sec. 13-109\(E\)](#) (4) or (5) through purchasing offsite credits, where applicable, then a letter of availability from the offsite credit provider shall be included that documents the phosphorus and associated nitrogen credits are in place and achieving the required reduction
- \_\_\_\_\_ Preliminary calculations of sanitary flow generated from the site
- \_\_\_\_\_ Narrative describing how the project will comply with the requirements of Memo to Industry 06-14 titled New Sanitary Sewer Connection and Adequate Outfall Analysis
- \_\_\_\_\_ If the project is located in the combined Sewer System (CSS) area, provide a narrative describing how the project will comply with the requirements of Memo to Industry 07-14, titled "Development Requirements For The Combined Sewer Service Area"
- \_\_\_\_\_ Environmental Site Assessment Notes per [Sec. 13-112](#) Environmental Management Ordinance

***Preliminary Subdivision Plat:***

When subdivision of land is involved, include a Preliminary Subdivision Plat. Refer to [Section 11-1706](#) of the Alexandria Zoning Ordinance for additional requirements.

- \_\_\_\_\_ Plat size shall not exceed 24" x 36"
- \_\_\_\_\_ Scale no less than 100' to 1"
- \_\_\_\_\_ Subdivision name
- \_\_\_\_\_ Name, address of owner of record and the applicant
- \_\_\_\_\_ Name, address, certificate number and seal of the surveyor or engineer
- \_\_\_\_\_ Gross area in acres and total number of buildings, lots or sites involved
- \_\_\_\_\_ Date, scale and north point with reference to source of meridian
- \_\_\_\_\_ Zoning of the property
- \_\_\_\_\_ A form or space, not less than two and one-quarter by three and one-half inches, on which approval by the commission may be shown
- \_\_\_\_\_ Lot lines with the dimensions of the length and width of the lots
- \_\_\_\_\_ In the case of resubdivisions, all lot lines or lot numbers that are proposed to go out of existence by reason of the resubdivision shall be shown by dotted lines and numbers
- \_\_\_\_\_ Location of the property immediately adjoining the proposed subdivision and the names and addresses of all its owners
- \_\_\_\_\_ Location and width of all proposed streets, alleys and public areas and their dimensions
- \_\_\_\_\_ Points of connection with the city sewer system
- \_\_\_\_\_ Location of all easements, reservations, and highway setbacks, as established by [Section 7-1006](#) of the zoning ordinance



\_\_\_\_\_ The width and name of adjacent existing streets, alleys, easements, public utilities, and railroads shown graphically

\_\_\_\_\_ Limits of floodplains and resource protection areas (RPAs)

\_\_\_\_\_ The location of metal monuments not less than one inch in diameter and 24 inches in length shown thus: O, and located in the ground at each intersection of streets and alleys with plat boundary lines, and at all points on street, alley, and boundary lines where there is a corner, change in direction, or curvature

\_\_\_\_\_ Any deed restrictions shall be recorded with this plat, if applicable

\_\_\_\_\_ A surveyor's or engineer's seal and certificate of survey in the following form, which may be modified to accommodate title information:

"I hereby certify that I have carefully surveyed the property delineated by this plat, and that it is correct to the best of my knowledge and belief; that this is a subdivision of part (or all) of the land conveyed by \_\_\_\_\_ to \_\_\_\_\_ by deed dated \_\_\_\_\_ and recorded among the land records of \_\_\_\_\_ in Deed Book \_\_\_\_\_ at page \_\_\_\_\_ and is within those boundaries; and that all required monuments have been installed where indicated; except those that will be installed at a later date but before completion of the project.

"Certified Surveyor or Engineer"

\_\_\_\_\_ A curve table shall be placed on the final plat containing the following for all curvilinear boundaries and street centerlines; delta, radius, arc, tangent, chord and chord bearing. All distances shall be shown to the nearest one-hundredth of a foot; angles or bearings to the nearest ten seconds

### **ADDITIONAL STUDIES – IF REQUIRED**

#### ***Water Quality Assessment (in case of RPA encroachment):***

\_\_\_\_\_ See Article XIII of the Zoning Ordinance for specific requirements

#### ***Archaeological Assessment:***

\_\_\_\_\_ Documentary Study and initial Archaeological Evaluation completed and submitted by Alexandria Archaeology

\_\_\_\_\_ Appropriate archaeology comments on all site plan sheets involving ground disturbance

\_\_\_\_\_ Locations and themes for historical interpretive elements and markers on plan, if applicable

#### ***Building Massing Study:***

\_\_\_\_\_ A physical model showing the mass and scale of the proposed buildings relative to surrounding buildings. This should be a scaled three-dimensional representation of the proposed building mass (including building articulation) in the context of surrounding buildings. Digital models and/or photomontage may be substituted for physical models if deemed acceptable by the Director of Planning & Zoning

#### ***Transportation Studies:***

\_\_\_\_\_ Multimodal Transportation Study and TMP or Memo

\_\_\_\_\_ Parking Study

\_\_\_\_\_ Other studies as required (queuing study, signal warrant analysis, etc.)

**Affordable Housing Plan:**

- \_\_\_\_\_ A statement of intended voluntary contribution to the City's Housing Trust Fund or, in the case of a residential project, a voluntary Affordable Housing plan that specifies the number of affordable on-site units, by unit type, or a statement explaining why the developer is unable to include the on-site units, along with the developer's proposed voluntary contribution to the Housing Trust Fund
- \_\_\_\_\_ It is the City's policy that a voluntary contribution for affordable housing be made on all new development. The payment should be paid to the City prior to issuance of certificate of occupancy in the case of commercial development or rental housing, and paid at sale to end user in the case of for-sale housing. In lieu of this contribution, a developer may submit an Affordable Housing Plan to the Office of Housing proposing another means of meeting the affordable housing requirement
- <http://alexandriava.gov/housing/info/default.aspx?id=6628>
- \_\_\_\_\_ Tenant Relocation Plan (if applicable)

**Design Guidelines:**

Guidelines Link – The design guidelines below can be found on the City's website at:

<http://alexandriava.gov/planning/info/default.aspx?id=14676>

If the project is located in the following areas, provide information necessary to assess compliance with the appropriate design and/or streetscape guidelines.

- \_\_\_\_\_ Identify and acknowledge applicable design guidelines and/or other standards. All projects Transportation and Environmental Services – Memos to the Industry -
- <http://alexandriava.gov/tes/info/default.aspx?id=3522>

**ADDITIONAL APPLICATIONS WHICH MAY BE REQUIRED FOR CERTAIN DEVELOPMENT PROPOSALS**

Generally, all applications related to the same development proposal are required to be processed concurrently. There is a separate fee for each of these applications. See current fee schedule. Check those which are submitted with this application.

- \_\_\_\_\_ **Master Plan and/or Rezoning.** Required when the proposal requires different zoning or a change to the City's Master Plan. See Sections [11-800](#) and [11-900](#) of the Zoning Ordinance.
- \_\_\_\_\_ **Transportation Management Plan Special Use Permit.** Required for any project containing 50,000 sq.ft. or more of commercial space, 40,000 sq.ft. or more of retail space, 150,000 sq.ft. or more of industrial space or 250 or more residential units. See [Section 11-700](#) of the Zoning Ordinance.
- \_\_\_\_\_ **Vacation.** Required when a portion of the public right-of-way is proposed to be acquired and utilized in the development.
- \_\_\_\_\_ **Encroachment.** Required when portions of the building (including stoops, steps, awnings, etc.) or planters, etc. project into the public right-of-way.
- \_\_\_\_\_ **Coordinated Development District (CDD) Concept Plan.** Required on tracts zoned CDD, in order to proceed with development under the CDD zoning. See [Section 5-600](#) of the Zoning Ordinance.
- \_\_\_\_\_ **SUP for parking reductions and signs**

\_\_\_\_\_ **SUP for specific uses**

\_\_\_\_\_ **Board of Architectural Review Approvals.** Required when the project is within one of the City's two historic districts. See [Article 10](#) of the Zoning Ordinance. *\*Note this is a separate review process.*

*Revised:*  
*5/11/2020 - AEF*

# APPROVED

SPECIAL USE PERMIT NO. \_\_\_\_\_

DEPARTMENT OF PLANNING & ZONING

DIRECTOR

DATE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES  
SITE PLAN NO. \_\_\_\_\_

DIRECTOR

DATE

CHAIRMAN, PLANNING COMMISSION

DATE

DATE RECORDED \_\_\_\_\_

INSTRUMENT NO. \_\_\_\_\_

DEED BOOK NO. \_\_\_\_\_

PAGE NO. \_\_\_\_\_



# DEVELOPMENT FINAL SITE PLAN CHECKLIST

Department of Planning and Zoning  
Development Division, City Hall  
301 King Street, Room 2100  
Alexandria, Virginia 22314  
Phone: (703) 746-4666

DSUP/DSP# \_\_\_\_\_

Project Name: \_\_\_\_\_

Project Location (Address): \_\_\_\_\_

Tax Map References: \_\_\_\_\_

Applicant's Name: \_\_\_\_\_

Applicant's Address: \_\_\_\_\_

Applicant's E-mail Address: \_\_\_\_\_

Applicant's Phone: \_\_\_\_\_

The following materials are required to be uploaded to APEX for a complete Final Site Plan (DSUP/DSP) submission:

\_\_\_\_\_ Filing Fee. Please see the fee schedule [here](#).

\_\_\_\_\_ Completed and signed ESI checklist.

\_\_\_\_\_ Email from ESI acknowledging successful review – **This is a separate review and must be completed prior to submittal of final site plan.**

\_\_\_\_\_ **Response Letter.** A response letter must be provided with the initial final site plan submission which provides a response to **EACH** recommendation, code requirement, and finding contained in the Preliminary DSP or DSUP staff report, and for subsequent final submissions, which responds to **EACH** staff comment on the prior final review. Responses must include a reference to the plan sheet where change has been made. The Response Letter must also include a detailed description of and justification for any changes made to the plan which are not a result of a specific approval condition or staff comment.

\_\_\_\_\_ **PDF Plans.** For **each submission**, upload PDF files of the entire site plan. Please submit PDF files with clearly defined file names. (ex. Sheet C1 – C10 or Sheet C1 Title Sheet, Sheet C2 Notes, etc.). **NOTE: When second and subsequent final site plans are submitted all sets shall be marked in red where the changes to the plans have been made in response to review comments.**

**All Final Site Plans and application materials shall be submitted to the Department of Planning and Zoning electronically. Plans will not be distributed for review to other departments until a complete submission, with all items, is filed. Submission of any materials to departments other than Planning & Zoning may result in a processing delay, as review dates are determined by routing from Planning and Zoning.**

I certify that I am responsible for the preparation of the final site plans being submitted and that the plans are consistent with all prior approvals granted by the City except as may be called out in the Response Letter accompanying this final site plan submission. I further certify that I have filled out the attached check list and confirmed that all required information has been provided.

\_\_\_\_\_  
Signature of Engineer/Architect/Surveyor

\_\_\_\_\_  
Date of Submission

The following sheets and information are required for every submission. Additional sheets and information should be provided where necessary to demonstrate compliance with City requirements or conditions of approval. Further, provide the appropriate page/sheet number(s) for each of the checklist items listed below.

**Final Site Plan Drawings Submission Format/Requirements:**

**Requirements for Each Sheet:**

- \_\_\_\_\_ PDF print size shall not exceed 24" x 36" and all sheets shall be the same size
- \_\_\_\_\_ Scale no less than 40' to 1" (20' or 30' to 1" preferred), with scale identified on each sheet
- \_\_\_\_\_ City approval signature block in same place (lower right corner) on each sheet (see attachment for configuration and size of block)
- \_\_\_\_\_ Date, scale and north point with reference to source of meridian
- \_\_\_\_\_ Name, address, signature and registration number of professionals preparing the plan on each sheet
- \_\_\_\_\_ Date the plan was prepared on each sheet

**Cover Sheet:**

- \_\_\_\_\_ Name and address of the developer and of the owner(s) of record
- \_\_\_\_\_ A narrative description of the proposed development
- \_\_\_\_\_ Location map with the site shown in relation to the nearest intersection of two or more streets
- \_\_\_\_\_ Index to plan sheets
- \_\_\_\_\_ Key to plan sheets if more than one sheet is needed to show the whole site
- \_\_\_\_\_ Total area included in the site plan, total area of tax parcel, total existing and proposed impervious area on the tax parcel, and total area that will be disturbed during construction (all expressed in square feet and acres)
- \_\_\_\_\_ A list of all special use permits and zoning modifications or waivers **approved** with the preliminary plan
- \_\_\_\_\_ Notes
  - \_\_\_\_\_ Noise
  - \_\_\_\_\_ ESA Statement (amend accordingly) Wells
  - \_\_\_\_\_ Contaminated Lands
  - \_\_\_\_\_ E&S
- \_\_\_\_\_ Table of all symbols and abbreviations utilized in the plan set

**Zoning Tabulations (may be included on cover where sufficient space exists)\*:**

For each element, list zoning ordinance requirement, number approved on preliminary plan and number proposed on final plan, if different.

- \_\_\_\_\_ Zoning of the site
- \_\_\_\_\_ Existing uses on the site
- \_\_\_\_\_ Proposed uses for the site
- \_\_\_\_\_ Lot area (and minimum lot area under zoning, if applicable)
- \_\_\_\_\_ Number of dwelling units (list by number of bedrooms for multifamily)
- \_\_\_\_\_ Units per acre for residential
- \_\_\_\_\_ Gross square feet (GSF) of building area\*, total and listed by use (with parking listed separately)
- \_\_\_\_\_ Net square feet (NSF) of floor area, total and listed by use
- \_\_\_\_\_ Floor-area-ratio (existing if applicable, and proposed listed separately and combined)

- \_\_\_\_\_ Open space, with ground level open space listed separately from other open space
- \_\_\_\_\_ Average finished grade of each building
- \_\_\_\_\_ Height of each building
- \_\_\_\_\_ Yards; required and proposed listed separately
- \_\_\_\_\_ Frontage; required and proposed listed separately
- \_\_\_\_\_ Parking spaces (listed by compact, standard, and handicapped sizes and total)
- \_\_\_\_\_ Parking spaces (listed by location i.e. above ground and/or below ground)
- \_\_\_\_\_ Loading spaces
- \_\_\_\_\_ Existing and proposed trip generation

*\*Note: If the proposed development includes multiple lots, the zoning tabulation information must be provided for each individual lot unless all the lots will be consolidated in conjunction with the proposal. For gross square footage and net square footage regulations, please reference [Section 2-145](#) of the City's Zoning Ordinance.*

**DSP/DSUP Conditions with Planning Commission & City Council Actions:**

(Place this information on a separate sheet of the submission following the cover sheet)

- \_\_\_\_\_ Copy of the approved DSUP/DSP conditions, with action, from the staff report for the project
- \_\_\_\_\_ Copy of the City Department Comments containing Code Requirements from the staff report

**Existing Conditions Plan:**

- \_\_\_\_\_ Same sheet as required in preliminary site plan (with corrections, if any required by approval)

**Final Site Plan:**

Include existing features to be retained and show location, dimension, size, height and elevation of:

- \_\_\_\_\_ Boundaries of zoning districts on the site
- \_\_\_\_\_ Sidewalks, streets, alleys with widths labeled, and elevations
- \_\_\_\_\_ Show the full right-of-way width and centerlines of all adjoining streets
- \_\_\_\_\_ Existing and modified lane widths and uses (right turn, left turn, etc.)
- \_\_\_\_\_ Traffic controls including signs, markings and signals on a separate sheet if necessary (see Traffic Signal Plan, below)
- \_\_\_\_\_ Existing and proposed on-street parking locations and individual spaces when required
- \_\_\_\_\_ Direction of traffic and volumes at all site entrances, exits and intersections
- \_\_\_\_\_ Sight distance per AASHTO at all driveways and street intersections; horizontal and vertical
- \_\_\_\_\_ Easements, covenants and reservations including emergency vehicle easements (EVE)
- \_\_\_\_\_ Building restriction lines, highway setback lines, zone transition lines, vision clearances
- \_\_\_\_\_ Property lines; show course and distance of each site boundary line
- \_\_\_\_\_ Dimensions of front, side and rear yards
- \_\_\_\_\_ Buildings and structures, including optional decks and other projections such as canopies, roof overhangs; or maximum building envelope (where approved as envelope) showing outside dimensions, including height, and first floor elevations
- \_\_\_\_\_ Stoops, steps and staircases
- \_\_\_\_\_ Locations of building entrances and exits
- \_\_\_\_\_ Sump pump and roof drain outfalls
- \_\_\_\_\_ Locations of underground parking and the extent of related subsurface structures
- \_\_\_\_\_ Dimensions of all on-site parking spaces indicating type (standard, compact or handicapped)

- \_\_\_\_\_ Storm and sanitary sewer systems, including lateral lines, water mains and service lines, with size and owner of line indicated; indicate direction of flow; profiles; calculations for storm and sanitary including hydraulic grade line and capacity
- \_\_\_\_\_ Gas mains and service lines; with size of line and owner of line indicated
- \_\_\_\_\_ Fire hydrants, water mains and service lines; with size of line and owner of line indicated
- \_\_\_\_\_ Electric, telephone, cable and all other utilities on the property; identify owners Transformers, switchboxes, cable boxes, telephone pedestals, and other surface features of utility systems
- \_\_\_\_\_ Light poles and fixtures on-site and on adjoining rights-of-way
- \_\_\_\_\_ Driveways, entrances, exits, parking areas; show parking spaces by type (standard, compact and handicap) and indicate the number in each bay and the total count
- \_\_\_\_\_ Curb radii at intersections and driveway entrances for public and private streets and alleys, and within parking lots
- \_\_\_\_\_ Sidewalks, bike and walking trails on sites and on abutting streets or public property/easements
- \_\_\_\_\_ Recreation areas, swimming pools
- \_\_\_\_\_ Watercourses, bodies of water, wetlands and limits of flood plains
- \_\_\_\_\_ Resource Protection Areas as defined in [Article XIII](#) of the Zoning Ordinance
- \_\_\_\_\_ Soil boring data and test reports for sites containing marine clay or fill, and when the Director of Transportation and Environmental Services requires
- \_\_\_\_\_ Significant geological features
- \_\_\_\_\_ Proposed grading shown with 2' contours on the subject property and on adjacent parcels for sufficient distance to indicate the relationship of the site to off-site terrain
- \_\_\_\_\_ Slopes, terraces and retaining walls, including elevations of level areas and tops and bottoms of walls and exterior stairways and ramps
- \_\_\_\_\_ Indicate elevations at the base of all utility structures other than individual poles, such as fire hydrants and transformers
- \_\_\_\_\_ Provide rim elevation and invert elevations of all piping at manholes
- \_\_\_\_\_ Elevations of streets and alleys
- \_\_\_\_\_ Total area that will be disturbed during construction (expressed in square feet, acres, and delineated accordingly)
- \_\_\_\_\_ Roadway alignment data

#### ***Final Subdivision Plat***

- \_\_\_\_\_ Final subdivision plat should be provided for reference within the plan set and which shall contain all information required in Section 11-1709 of the Zoning Ordinance
- \_\_\_\_\_ One PDF copy of the final subdivision plat, consistent with Section 11-1709 of the Zoning Ordinance, is also required at the same time as final site plan submission

#### ***Landscape Plan:***

(See the [City of Alexandria 2019 Landscape Guidelines](#) (Chapter 5, pgs 51-52) published by the Department of Planning and Zoning, City of Alexandria)

- \_\_\_\_\_ Buildings, streets, driveways, paved areas and other structures
- \_\_\_\_\_ Utilities and Utility easements
- \_\_\_\_\_ Locations of off- and on-site lighting including street lighting
- \_\_\_\_\_ Street trees and natural vegetation to be retained; include locations, size and species.
- \_\_\_\_\_ Proposed tree protection locations and details
- \_\_\_\_\_ Proposed trees and landscaping, including within public right-of-ways
- \_\_\_\_\_ Location and dimensions of areas to be landscaped (including within public right-of-ways), specifying the location, names, species, caliper, and size of proposed individual trees, shrubs,



and ground cover plants (indicate initial height for trees and shrubs, initial width for shrubs, and initial spread for groundcover plants)

- \_\_\_\_\_ Tabulation of required, existing and proposed crown coverage
- \_\_\_\_\_ Tree and shrub planting details
- \_\_\_\_\_ Landscape planters on underground parking
- \_\_\_\_\_ Total area that will be disturbed during construction (expressed in square feet, acres, and delineated accordingly)
- \_\_\_\_\_ The following notes:
  - \_\_\_\_\_ All materials' specifications shall be in accordance with the industry standard for grading plant material-The American Standard for Nursery Stock (ANSI Z60.1).
  - \_\_\_\_\_ Maintenance of all trees and landscape materials shall conform to accepted industry standards set forth by the Landscape Contractors Association, American Society of Landscape Architects, the International Society of Arboriculture, and the American National Standards Institute

***Lighting Plan:***

- \_\_\_\_\_ Buildings and structures
- \_\_\_\_\_ Location of all existing and proposed lights, including street lights and building lights. Type of fixture
- \_\_\_\_\_ Mounting height
- \_\_\_\_\_ Strength of fixture in lumens or watts
- \_\_\_\_\_ Manufacturers' specifications for fixtures
- \_\_\_\_\_ Photometric calculations (point lighting plan) accounting for proposed street trees

***Green Building:***

*General Approach*

- \_\_\_\_\_ Provide updated copy of certification scorecard

*Energy*

- \_\_\_\_\_ Final energy savings report demonstrating compliance with appropriate green building certification requirements
- \_\_\_\_\_ Final renewable energy production report demonstrating compliance with appropriate green building certification requirements
- \_\_\_\_\_ For Net Zero:
  - Final energy analysis report that demonstrates renewable energy production strategy that offsets projected building energy use.
- \_\_\_\_\_ Electrical single lines showing submeter locations and a narrative describing the metering strategy

*Water*

- \_\_\_\_\_ Final documentation that demonstrate indoor and outdoor water efficiency will meet requirements for appropriate certification threshold

*Indoor Environmental Quality*

- \_\_\_\_\_ Project construction IAQ plan
- \_\_\_\_\_ Documentation that demonstrates compliant low-emitting materials have been incorporated in the design per appropriate certification requirements
- \_\_\_\_\_ Daylight analysis report demonstrating design will meet requirements for appropriate certification threshold

\_\_\_\_\_ Clarification on Indoor Air Quality Assessment strategy (flush out vs. air testing) and confirmation that the selected strategy is incorporated into the construction schedule as needed

***Erosion and Sediment Control Plans:***

Erosion and Sediment (E&S) Control Plan Sheets showing:

- \_\_\_\_\_ Two-phase plan for sediment and erosion control
- \_\_\_\_\_ Narrative phasing plan including demolition and sequence of construction activities
- \_\_\_\_\_ All appropriate details of erosion and sediment control measures (must meet Virginia Erosion and Sedimentation Control Handbook (VESCH) standards)
- \_\_\_\_\_ Sources of water for construction entrance washdown
- \_\_\_\_\_ Grading for drains and traps for construction entrance runoff
- \_\_\_\_\_ Phase 1 drainage area map indicating existing conditions drainage area, runoff coefficients and peak discharges for 2- and 10-year storms
- \_\_\_\_\_ Phase 2 drainage area map indicating drainage areas to selected BMPs, runoff coefficients and peak discharges for 2- and 10-year storms
- \_\_\_\_\_ Show and list appropriate control measures defined for each drainage area
- \_\_\_\_\_ Total area that will be disturbed during construction (expressed in square feet, acres, and delineated accordingly)
- \_\_\_\_\_ Identify areas having different ground covering materials (i.e. concrete, asphalt, gravel, turf, crushed stone, etc.)
- \_\_\_\_\_ Delineate any wetlands or Resource Protection Areas (RPA)
- \_\_\_\_\_ Legend for line types (must be in accordance with VESCH)
- \_\_\_\_\_ Grading for sediment traps and basins
- \_\_\_\_\_ Tabulate drainage area, wet volume, dry volume, and clean-out volume for traps and basins with respective elevations
- \_\_\_\_\_ Temporary and permanent seeding mixtures
- \_\_\_\_\_ Erosion and Sediment Control Narrative to include:
  - \_\_\_\_\_ Adjacent properties
  - \_\_\_\_\_ Critical areas
  - \_\_\_\_\_ Soils description
  - \_\_\_\_\_ BMP strategies
  - \_\_\_\_\_ Maintenance practices to be employed
  - \_\_\_\_\_ Phasing
  - \_\_\_\_\_ Standard notes
  - \_\_\_\_\_ Stockpiling procedures
  - \_\_\_\_\_ Contaminated soils
  - \_\_\_\_\_ Calculations for:
    - \_\_\_\_\_ Traps
    - \_\_\_\_\_ Basins
    - \_\_\_\_\_ Dewatering structures
    - \_\_\_\_\_ Culvert protection
    - \_\_\_\_\_ Culvert sizing
- \_\_\_\_\_ Block for Certified Responsible Land Disturber
- \_\_\_\_\_ References to any needed VPDES permit and indication that a copy will be filed with the City
- \_\_\_\_\_ References to any needed POTW permit and indication that a copy will be filed with the City
- \_\_\_\_\_ Geotechnical information

**Stormwater Management/BMP Sheets:**

(See Article XIII of the Zoning Ordinance for guidance on water quality calculations)

- \_\_\_\_\_ Water Quality Impact Assessment
  - \_\_\_\_\_ Location and description of RPA components
  - \_\_\_\_\_ Location and nature of RPA encroachment
  - \_\_\_\_\_ Type and location of proposed BMP, with supporting calculations
- In addition, where a MAJOR assessment is required:
  - \_\_\_\_\_ Hydrogeological element
  - \_\_\_\_\_ Landscape plan supplement
  - \_\_\_\_\_ Ecological impact analysis
- \_\_\_\_\_ Stormwater Management Sheets
  - \_\_\_\_\_ Outfalls located and determined to be adequate for proposed discharge
  - \_\_\_\_\_ Pre and post development calculations
  - \_\_\_\_\_ Drainage divides off-site identified and delineated
  - \_\_\_\_\_ Drainage divides on-site identified and delineated
  - \_\_\_\_\_ Show flow routing to detention
  - \_\_\_\_\_ Calculate HGL and depict on profiles showing 2 feet of freeboard
  - \_\_\_\_\_ Computation and display of inlet flow
  - \_\_\_\_\_ Show full flow calculations
  - \_\_\_\_\_ Demonstrate that velocities are no less than 2 FPS and no more than 20 FPS
  - \_\_\_\_\_ Use N-values  $>36"=0.015$  &  $\leq 36" 0.013$
  - \_\_\_\_\_ Show non-erosive velocity at outfalls
  - \_\_\_\_\_ BMP Sheets
  - \_\_\_\_\_ Water Quality Volume (WQV) computation (in cubic feet and acre-feet)
  - \_\_\_\_\_ Drainage area map with scale and north arrow indicating the area draining to the selected water quality BMPs
  - \_\_\_\_\_ Water Quality Worksheets A or B and C
  - \_\_\_\_\_ City standard water quality BMP data blocks (2)
  - \_\_\_\_\_ BMP detail including WQV default elevation
  - \_\_\_\_\_ Surface appurtenance casting detail
  - \_\_\_\_\_ Signage detail for surface BMP
  - \_\_\_\_\_ Standard BMP notes
  - \_\_\_\_\_ Waiver approval letters

**Signage and Marking Plans:**

- \_\_\_\_\_ Street layout, including curb lines or edge of pavement, sidewalks, handicap ramp locations
- \_\_\_\_\_ Existing pavement markings, noting markings to be eradicated
- \_\_\_\_\_ Proposed new pavement markings, including pattern, width and color
- \_\_\_\_\_ Dimensions of proposed lane widths, and parking lanes and spaces
- \_\_\_\_\_ Pavement marking materials specifications, including type and thickness
- \_\_\_\_\_ Existing signs to be retained, removed or relocated
- \_\_\_\_\_ Proposed new traffic signs, including locations, MUTCD sign codes where applicable, and special legends
- \_\_\_\_\_ Sign schedule including sign code, size, legend, sheeting and sign blank specifications, special installation requirements

**Traffic Signal Plan:**

- \_\_\_\_\_ Intersection layout showing poles, mast arms, signal head, detector and controller locations and specifications
- \_\_\_\_\_ Intersection lane use and markings
- \_\_\_\_\_ Vehicular and pedestrian signal head configurations
- \_\_\_\_\_ Signal phasing and sequence charts and initial timing plans
- \_\_\_\_\_ Location of power connection
- \_\_\_\_\_ Cable and conduit layout, sizes and specifications
- \_\_\_\_\_ Wiring size and specifications
- \_\_\_\_\_ Interconnect details
- \_\_\_\_\_ Specifications for poles, mast arms and pole foundations; pole foundation designs sealed by registered engineer

**Fire Safety Plan:**

(See 'Water and Fire Requirements For Site Plans and New Construction' prepared and published by the City of Alexandria Fire/EMS Department.):

- \_\_\_\_\_ Building footprints, driveways, parking areas
- \_\_\_\_\_ Building entrances and exits
- \_\_\_\_\_ Use group classification and type of construction (defined by USBC)
- \_\_\_\_\_ Existing and proposed water main location and size
- \_\_\_\_\_ Existing and proposed fire hydrant locations
- \_\_\_\_\_ Available water pressure and flow capability, static pressure, residual pressure, flow in GPM
- \_\_\_\_\_ Fire flow calculations in accordance with city standards that are prepared by a licensed engineer that determine the required fire flow for the project. Verification that the existing and/or proposed infrastructure is capable of providing the required fire flow shall be provided
- \_\_\_\_\_ Type of fire suppression or detection system to be provided (e.g. sprinklers, standpipes, smoke or heat detectors)
- \_\_\_\_\_ Location and size of underground fire lines
- \_\_\_\_\_ Location of fire department siamese connection (typically, street front of building)
- \_\_\_\_\_ Height of building in feet and stories
- \_\_\_\_\_ Identification of fire walls, tenant separations, etc.
- \_\_\_\_\_ Topographical map relating grade and elevation to fire department connections
- \_\_\_\_\_ Location of all Emergency Vehicle Easements and of EVE signs outlining the EVE
- \_\_\_\_\_ Emergency vehicle turnaround space for drive aisles in excess of 100 feet
- \_\_\_\_\_ Fire ladder truck access to the front and rear of all buildings in excess of 50 feet in height

**Dimension Plan\*:**

The Dimension Plan is to be submitted with the first and second submission as a separate sheet. Include existing features to be retained and show location, dimension, size, height and elevation of:

- \_\_\_\_\_ Sidewalks, streets, alleys, driveways and parking lots; (edge of pavement or top of curb)
- \_\_\_\_\_ Show the full right-of-way width and centerlines of all adjoining streets
- \_\_\_\_\_ Buildings and structures, showing outside dimensions, including height
- \_\_\_\_\_ Property lines
- \_\_\_\_\_ Stoops, steps and staircases
- \_\_\_\_\_ Locations of building entrances; identification of primary building entrance if applicable

- \_\_\_\_\_ 3 x,y coordinate pairs in state plane coordinates (NAD 83) conforming to 50 scale (1:600/1"=50')
- \_\_\_\_\_ National Map Accuracy Standards
- \_\_\_\_\_ Fire Hydrants

*\*Note: The Dimension Plan is used to update the City of Alexandria's Geographic Information System and therefore should contain only the information specified above. Additionally, Alexandria GIS does not meet the threshold for accuracy, as listed for the coordinate data above and is therefore not suitable as source for obtaining this coordinate information.*

**Site Details:**

(Site details may be incorporated into relevant sheets, as opposed to separate sheets, if sufficient space is available)

- \_\_\_\_\_ Fences and walls, retaining walls
- \_\_\_\_\_ Street typical sections
- \_\_\_\_\_ Pavement sections
- \_\_\_\_\_ Curbs
- \_\_\_\_\_ Driveway aprons
- \_\_\_\_\_ Handicap ramps
- \_\_\_\_\_ Location and dimension of all handicapped parking spaces
- \_\_\_\_\_ Sidewalks and plaza sections/details
- \_\_\_\_\_ Signs
- \_\_\_\_\_ Trash receptacles
- \_\_\_\_\_ Two benchmarks

**Open Space Exhibit:**

(The purpose of this sheet is to demonstrate to staff which areas were counted toward open space)

- \_\_\_\_\_ Parcels
- \_\_\_\_\_ Streets, alleys, driveways, all other areas of paving
- \_\_\_\_\_ Buildings and entrances
- \_\_\_\_\_ Areas counted as open space, shaded and dimensioned with areas counted as usable open space identified
- \_\_\_\_\_ Tabulations of areas counted as open space and usable open space
- \_\_\_\_\_ Tabulations of at-grade and above grade open space
- \_\_\_\_\_ Tabulations of public, private and private with public access easement open space

**Architectural /Building:**

- \_\_\_\_\_ Proposed building elevations in color, to scale and with dimensions, including:
  - \_\_\_\_\_ Proposed building height (as defined in Zoning Ordinance) dimensioned and labeled
  - \_\_\_\_\_ Proposed average finished grade and actual finished grade, dimensioned and labeled
  - \_\_\_\_\_ Other dimensions where appropriate
  - \_\_\_\_\_ All building facades
  - \_\_\_\_\_ All building materials
  - \_\_\_\_\_ All rooftop appurtenances (penthouses, mechanical items, elevator/stair over-runs)
- \_\_\_\_\_ Building sections to scale, with dimensions, showing setbacks, stepbacks, and building height and referenced to building plans
- \_\_\_\_\_ Building sections demonstrating compliance with [Section 6-403](#) (height to setback requirement)
- \_\_\_\_\_ Schematic building massing illustration, to show proposed height and scale of buildings

- \_\_\_\_\_ Floor plans for each floor, including basements and parking garages (if any), to-scale
- \_\_\_\_\_ Roof plan, showing all parapets, rooftop appurtenances including elevator over-runs and mechanical equipment
- \_\_\_\_\_ A detailed graphic showing floor area analysis indicating areas that have been deducted for purposes of the FAR calculation. If the FAR deductions exceed 20% of the overall building's square footage, written justification shall be submitted
- \_\_\_\_\_ Line drawings

**The following sheets are not required to be provided in every set. Instead, a PDF of each sheet may be provided separately.**

- \_\_\_\_\_ **Construction Management Plan**
- \_\_\_\_\_ **Parking Management Plan Per Memo to Industry No. 01-19 (If Conditioned)**

*Revised:*

*5/11/2020 - AEF*



# BACKGROUND + BASICS

All major development projects in the City of Alexandria go through a rigorous review process. The Planning and Zoning (P&Z) Department works to retain and enhance Alexandria’s unique character and livability by ensuring that development proposals:

- Are consistent with the Master Plan and Zoning Ordinance
- Consist of the highest quality building design, urban design and site planning
- Provide an overall public benefit, and are responsive to community input and engagement

## GUIDING DOCUMENTS

The development review and approval process is reflective of the principles outlined in Alexandria’s Master Plan chapters and Small Area Plans, Zoning Ordinance, and design guidelines that offer additional direction in designated areas.

### Master Plan and Small Area Plans

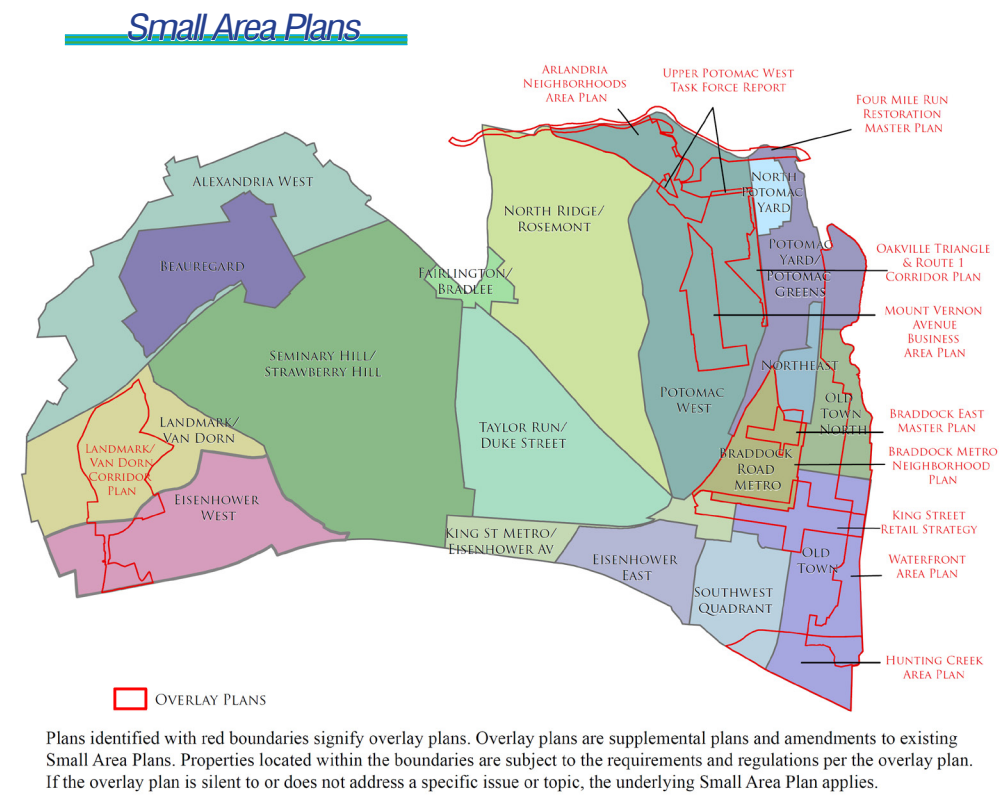
The Citywide Master Plan (1992) offers broad guidance for development and policy decisions, and is recurrently amended to reflect changes in Alexandria’s development. Additional Citywide recommendations come from “element” master plans such as Housing (2013), Transportation (2008) and Open Space (2002). Small Area Plans (SAPs) outline the vision, goals, and policies for each area of the City, including how land should be used and neighborhoods, parks and buildings should be designed. Please see <http://alexandriava.gov/44614> for more info.

### Zoning Ordinance

The City’s Zoning Ordinance directly regulates the size, placement and allowed uses of a specific property. The Ordinance also sets parameters for “Development Approvals and Procedures,” (Article XI) which regulates applications for development.

### Design Guidelines and Additional Standards

Complementary to the City Zoning Ordinance are design guidelines that cover specific neighborhoods, commercial corridors and historic neighborhoods, in addition to general landscape and other topic-oriented guidelines. Please see <http://alexandriava.gov/14676> for more info.



## COMMUNITY ENGAGEMENT & OUTREACH

The development review process incorporates extensive public outreach, with active participation from residents and civic groups.

### Development Project Meetings

Applicants are prompted to schedule public meetings with civic and neighborhood groups early in the development process. Staff works closely with the applicant team and stakeholders to provide opportunity for input before the project is presented to the Planning Commission and City Council.

### Design Review Boards

A project located in one of the City’s two historic districts (Old & Historic Alexandria or Parker Gray) is reviewed by one of the corresponding Boards of Architectural Review (BAR). Each BAR provides a Certificate of Appropriateness (COA) to qualifying projects, stating BAR approval of the building’s mass, scaling and architectural features. The BAR process proceeds concurrently with the City development review, and a COA must be approved prior to the release of the Final Site Plan.

Many development projects are also reviewed by design committees with jurisdiction over portions of the City. Applicants are asked to present their proposals to these committees and seek a potential endorsement that is sent to the Planning Commission. More information of these design committees for Beauregard, Carlyle / Eisenhower East, Old Town North and Potomac Yard can be found at <http://alexandriava.gov/14676>.

## SUBMISSIONS

The most common development applications submitted to the City are a Development Site Plan (DSP) and a Development Special Use Permit with Site Plan (DSUP). Urban Planners in the P&Z Development Division serve as project managers for DSPs and DSUPs, and coordinate review among other City departments. The planner is the main contact for questions or concerns.

A **Development Site Plan (DSP)** is required for any development that:

- Contains three or more dwelling units
- Is a new building or addition that is 3,000 square feet or larger
- Provides a parking lot with five or more parking spaces
- Is an addition that is 1/3 or more of the existing gross square feet of the building
- Falls under other criteria listed in Section 11-400 of the Zoning Ordinance

DSPs provide information on building location and elevations, landscaping, lighting, open space, and other site amenities. Planning Commission holds a public hearing and takes final action. DSPs do not require review by the City Council.

A **Development Special Use Permit with Site Plan (DSUP)** is required for any development requiring a site plan and requesting approval of a Special Use Permit for:

- A modification of the parking ratios
- A modification to the yard, landscape or open space requirements
- Increased building height or floor area ratio (FAR)
- Affordable housing bonus density
- Special requirements listed in the applicable zone in the Zoning Ordinance

DSUPs contain similar information to a DSP, but in greater detail and more discretion with standards for review. The Planning Commission hears requests for DSUPs at a public hearing and forwards a recommendation to the City Council. The City Council holds a public hearing and takes final action.

## CONTACT

- For information about proposed development projects, visit [www.alexandriava.gov/development](http://www.alexandriava.gov/development).
- For questions concerning a specific case, call the Department of P&Z at **703.746.4666**.
- For general questions about zoning, call the Zoning Division at **703.746.4333** or the Permit Center desk at **703.746.3856**.



# DEVELOPMENT REVIEW PROCESS

Department of  
Planning & Zoning  
Development Division





# DEVELOPMENT REVIEW TIMELINE

## PHASE 1: CONCEPT PLAN REVIEW

The Concept Plan review is an informal process designed to identify major issues before investment in detailed engineering. There is no fee for the Concept Plan process.

### Concept Stage 1 and Introductory Meetings

Initially, a property owner provides staff a rough outline and sketches of the proposal. Staff provides input relating to the project’s consistency with City plans, the application types necessary for approval, and what issues need to be addressed in order to move the project through review.

The applicant provides basic information on the proposed project—the site plan, development program, building footprint, parking, etc. An assigned project planner schedules the Concept Plan for an interdepartmental review (IDR) consisting of City staff and other public agencies. Initial comments are sent to the applicant.



### Concept Stage 2

The Concept 1 process is repeated in Stage 2, though with more detailed information on issues such as traffic, stormwater management, and architectural design. The project is most often introduced to the community and the City’s design committees at Concept 2. The applicant is expected to schedule meetings with nearby civic associations and groups. The project planner also engages the community relating to issues of the proposed project.

## PHASE 2: PRELIMINARY PLAN

## REVIEW

A preliminary DSP or DSUP application is generally filed once the proposal has been refined through the Concept plan review process.

### Completeness and Preliminary Plan Review

The DSP/DSUP application is reviewed by all City departments to ensure that it is “complete,” and contains the necessary information outlined in the Preliminary checklist. The process typically includes a “Completeness” submission, and a subsequent “Preliminary” submission. Once the application is verified as complete, it is scheduled for a public hearing. The applicant is required to post project and contact information on their property.

### Staff Report and Public Hearing

The project planner drafts a staff report and develops conditions for City approval. The applicant can negotiate conditions with staff through the IDR process. Staff reports are posted online and available at City Hall in the Planning and Zoning office approximately two weeks prior to public hearing.

The Planning Commission hears cases at its meetings and—in the case of DSUPs—City Council hears cases at its monthly public hearings. Planning Commission and City Council hearings are generally scheduled for the same month.



## PHASE 3: FINAL SITE PLAN

If the proposed development is approved with conditions, final engineered drawings are submitted and reviewed. The Final Site Plan must be approved prior to release of building permits and the beginning of construction.

### Final Site Plan Review

With the Final Site Plan submission, City staff review more detailed engineered drawings based on the preliminary plan and a third-party reviewer, the Engineers & Surveyors Institute, is contracted to review the plan set for compliance with engineering standards. The plans are reviewed and resubmitted (typically two to three times) until site planning and building design issues have been addressed.

### Mylars & Site Plan Release

Applicants must provide estimates and post performance and maintenance bonds prior to the issuance of any permits. Mylars of the plan are submitted for final signature once all conditions of approval are satisfied.

## PHASE 4: BUILDING PERMITS & CONSTRUCTION

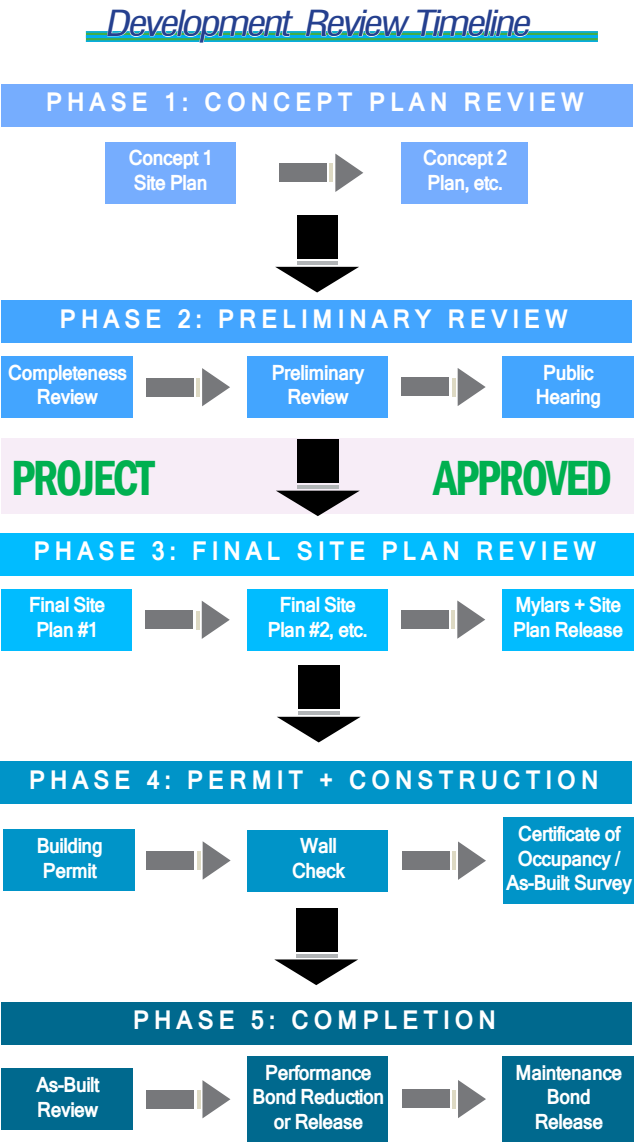
### Building Permits

Building permit plan sets are submitted to the Permit Center following the Final Site Plan release, and routed to City departments for review. Once comments are addressed and any necessary revised sheets provided to the City, building permits are issued and construction may commence.

### Construction & Inspections

A pre-construction meeting with the community and a construction management plan are required for approved DSPs and DSUPs per conditions of approval. Inspections are conducted by various City Departments throughout the duration of construction, and after construction is completed. These inspections ensure compliance with the approved Final Site Plan and Building Permit.

A survey of the building foundation is required prior to any vertical construction. A wall check reviews the exact location of the building footprint and verifies compliance with the approved site plan and building permits. If an inconsistency is found, the foundation may need to be corrected. Once the wall check is approved, building framing can begin.



## Certificate of Occupancy (CO)

A CO Permit permits building occupation, and inspections are conducted during a request for the permit. Any inconsistencies found during the inspection must be resolved before a CO is issued.

## PHASE 5: PROJECT CLOSEOUT

### As-Built Review

When construction is completed, applicants submit as-built plans and request a bond reduction or release. As-built plans overlay the construction survey on the released site plan. The City reviews the survey and inspects the project site to verify consistency with the approved plan. If a project is not constructed as specified, the City can pull the bond and use the funds to complete the project. The City reduces or releases the performance bond for projects constructed satisfactorily.



### Bond Reduction/Release

About two years after project completion, the applicant can request reduction or release of the maintenance bond. The maintenance bond is posted to ensure the landscaping materials remain healthy and mature appropriately. The bond is reduced or released after the City has inspected the landscaping, and the property owner has addressed staff comments. The project is officially closed when all bonds are released.



# ADDITIONAL INFORMATION

## MODIFICATIONS

Any requests for development modifications are subject to the original DSP or DSUP conditions of approval. Changes to the site or building may require amendments to the site plan. **Minor Amendments** may be administratively approved, while **Major Amendments** require a public hearing process. The Director of P&Z determines which amendment is required for the proposed changes.

## DEVELOPMENT CHECKLISTS

Checklists for Concept Plans, DSPs, DSUPs and Final Site Plans can be found at <http://alexandriava.gov/7524>.

*\*Cover photo credit: E Michio for Visit Alexandria.*







# APPLICATION

## DEVELOPMENT SPECIAL USE PERMIT with SITE PLAN

\_\_\_\_\_ Filing Fee  
\_\_\_\_\_ Planning Commission Hearing  
\_\_\_\_\_ City Council

### REQUIREMENTS FOR MAILING NOTICES:

Applicants must send written notice to all abutting property owners. See detailed instructions on "Notice Requirements."

Mail certified or registered notice of hearings between \_\_\_\_\_ and \_\_\_\_\_.

Return notice materials to Department of Planning and Zoning by \_\_\_\_\_.

# INSTRUCTIONS

## DEVELOPMENT SPECIAL USE PERMIT WITH SITE PLAN APPLICATION

APPLICATIONS FOR DEVELOPMENT SPECIAL USE PERMIT, WITH SITE PLAN. A Development Special Use Permit, with Site Plan, for new construction in the City of Alexandria is permitted in accordance with Sections 11-400 and 11-503 (A) (5) of the Alexandria Zoning Ordinance. Such Development Site Plan, with Special Use Permit, must be approved by the Alexandria Planning Commission and City Council after public hearings. Complete all parts of the application form using black ink or type. Sign the form, and include a daytime telephone number.

FILING FEE. Applicants must submit a filing fee with the application. Consult the latest fee schedule to determine fee amount. The fee schedule can be found at [www.alexandriava.gov/planning](http://www.alexandriava.gov/planning)

PROPERTY OWNER NOTIFICATION. Applicants must send written notice by certified mail to all adjoining and facing property owners at least 10 days prior to the Planning Commission public hearing and not more than 30 days prior to the City Council public hearing meeting. Applicants may use the notice forms supplied with the application forms. In the event the application is deferred, notification shall be given again. The following must be submitted to the Department of Planning and Zoning no later than five days prior to the meeting: (a) a copy of the notice letter sent, (b) a copy of the list of the names and addresses of persons to whom notice was sent, (c) a certification of notice statement that notice was sent to those required, (d) a copy of the date-stamped post office receipts.

Failure to send accurate or correct notices will result in deferral of the application to a later hearing date. Property ownership information is to be obtained from the City Office of Real Estate Assessments, Room 2600, City Hall, 301 King Street.

STAFF REPORT. A staff report and recommendation will be prepared and made available in the Department of Planning and Zoning office. The report is typically available 11 days prior to the PC public hearing.

For assistance with any of these procedures,  
please call the Department of Planning & Zoning at 703.746.4666



# APPLICATION

## DEVELOPMENT SPECIAL USE PERMIT with SITE PLAN

DSUP # \_\_\_\_\_ Project Name: \_\_\_\_\_

PROPERTY LOCATION: \_\_\_\_\_

TAX MAP REFERENCE: \_\_\_\_\_ ZONE: \_\_\_\_\_

### APPLICANT:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

### PROPERTY OWNER:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

SUMMARY OF PROPOSAL \_\_\_\_\_

MODIFICATIONS REQUESTED \_\_\_\_\_

SUP's REQUESTED \_\_\_\_\_

THE UNDERSIGNED hereby applies for Development Site Plan with Special Use Permit approval in accordance with the provisions of Section 11-400 of the Zoning Ordinance of the City of Alexandria, Virginia.

THE UNDERSIGNED, having obtained permission from the property owner, hereby grants permission to the City of Alexandria to post placard notice on the property for which this application is requested, pursuant to Article XI, Section 11-301 (B) of the 1992 Zoning Ordinance of the City of Alexandria, Virginia.

THE UNDERSIGNED also attests that all of the information herein provided and specifically including all surveys, drawings, etc., required of the applicant are true, correct and accurate to the best of his/her knowledge and belief.

\_\_\_\_\_  
Print Name of Applicant or Agent

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Mailing/Street Address

\_\_\_\_\_  
Telephone #

\_\_\_\_\_  
Fax #

\_\_\_\_\_  
City and State

\_\_\_\_\_  
Zip Code

\_\_\_\_\_  
Email address

\_\_\_\_\_  
Date

### DO NOT WRITE IN THIS SPACE - OFFICE USE ONLY

Application Received: \_\_\_\_\_

Received Plans for Completeness: \_\_\_\_\_

Fee Paid and Date: \_\_\_\_\_

Received Plans for Preliminary: \_\_\_\_\_

ACTION - PLANNING COMMISSION: \_\_\_\_\_

ACTION - CITY COUNCIL: \_\_\_\_\_

**ALL APPLICANTS MUST COMPLETE THIS FORM.**

Supplemental forms are required for child care facilities, restaurants, automobile oriented uses and freestanding signs requiring special use permit approval.

1. The applicant is: (check one)  
The Owner      Contract Purchaser      Lessee or      Other: \_\_\_\_\_ of  
the subject property.

State the name, address and percent of ownership of any person or entity owning an interest in the applicant, unless the entity is a corporation or partnership in which case identify each owner of more than three percent.

If property owner or applicant is being represented by an authorized agent, such as an attorney, realtor, or other person for which there is some form of compensation, does this agent or the business in which the agent is employed have a business license to operate in the City of Alexandria, Virginia?

Yes. Provide proof of current City business license.

No. The agent shall obtain a business license prior to filing application, if required by the City Code.

## OWNERSHIP AND DISCLOSURE STATEMENT

Use additional sheets if necessary

**1. Applicant.** State the name, address and percent of ownership of any person or entity owning an interest in the applicant, unless the entity is a corporation or partnership, in which case identify each owner of more than three percent. The term ownership interest shall include any legal or equitable interest held at the time of the application in the real property which is the subject of the application.

Name	Address	Percent of Ownership
1.		
2.		
3.		

**2. Property.** State the name, address and percent of ownership of any person or entity owning an interest in the property located at \_\_\_\_\_(address), unless the entity is a corporation or partnership, in which case identify each owner of more than three percent. The term ownership interest shall include any legal or equitable interest held at the time of the application in the real property which is the subject of the application.

Name	Address	Percent of Ownership
1.		
2.		
3.		

**3. Business or Financial Relationships.** Each person or entity listed above (1 and 2), with an ownership interest in the applicant or in the subject property is required to disclose any business or financial relationship, as defined by Section 11-350 of the Zoning Ordinance, existing at the time of this application, or within the 12-month period prior to the submission of this application with any member of the Alexandria City Council, Planning Commission, Board of Zoning Appeals or either Boards of Architectural Review.

Name of person or entity	Relationship as defined by Section 11-350 of the Zoning Ordinance	Member of the Approving Body (i.e. City Council, Planning Commission, etc.)
1.		
2.		
3.		

NOTE: Business or financial relationships of the type described in Sec. 11-350 that arise after the filing of this application and before each public hearing must be disclosed prior to the public hearings.

As the applicant or the applicant's authorized agent, I hereby attest to the best of my ability that the information provided above is true and correct.

\_\_\_\_\_  
Date

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Signature

2. Narrative description. The applicant shall describe below the nature of the request in detail so that the Planning Commission and City Council can understand the nature of the operation and the use, including such items as the nature of the activity, the number and type of patrons, the number of employees, the hours, how parking is to be provided for employees and patrons, and whether the use will generate any noise. If not appropriate to the request, delete pages 6-9. (Attach additional sheets if necessary.)

3. How many patrons, clients, pupils and other such users do you expect?  
Specify time period (i.e., day, hour, or shift).

4. How many employees, staff and other personnel do you expect?  
Specify time period (i.e. day, hour, or shift).

5. Describe the proposed hours and days of operation of the proposed use:

Day	Hours	Day	Hours
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

6. Describe any potential noise emanating from the proposed use:

A. Describe the noise levels anticipated from all mechanical equipment and patrons.

B. How will the noise from patrons be controlled?

7. Describe any potential odors emanating from the proposed use and plans to control them:

8. Provide information regarding trash and litter generated by the use:
- A. What type of trash and garbage will be generated by the use?
  - B. How much trash and garbage will be generated by the use?
  - C. How often will trash be collected?
  - D. How will you prevent littering on the property, streets and nearby properties?
9. Will any hazardous materials, as defined by the state or federal government, be handled, stored, or generated on the property?

Yes.              No.

If yes, provide the name, monthly quantity, and specific disposal method below:

10. Will any organic compounds (for example: paint, ink, lacquer thinner, or cleaning or degreasing solvent) be handled, stored, or generated on the property?

Yes.              No.

If yes, provide the name, monthly quantity, and specific disposal method below:



11. What methods are proposed to ensure the safety of residents, employees and patrons?

#### ALCOHOL SALES

12. Will the proposed use include the sale of beer, wine or mixed drinks?

Yes.            No.

If yes, describe alcohol sales below, including if the ABC license will include on-premises and/or off-premises sales. Existing uses must describe their existing alcohol sales and/or service and identify any proposed changes in that aspect of the operation.

#### PARKING AND ACCESS REQUIREMENTS

13. Provide information regarding the availability of off-street parking:

- A. How many parking spaces are required for the proposed use pursuant to section 8-200 (A) of the zoning ordinance?

\_\_\_\_\_

- B. How many parking spaces of each type are provided for the proposed use:

\_\_\_\_\_ Standard spaces

\_\_\_\_\_ Compact spaces

\_\_\_\_\_ Handicapped accessible spaces

\_\_\_\_\_ Other

- C. Where is required parking located? (check one)      on-site      off-site

If the required parking will be located off-site, where will it be located?

---

Pursuant to section 8-200 (C) of the zoning ordinance, commercial and industrial uses may provide off-site parking within 500 feet of the proposed use, provided that the off-site parking is located on land zoned for commercial or industrial uses. All other uses must provide parking on-site, except that off-street parking may be provided within 300 feet of the use with a special use permit.

- D. If a reduction in the required parking is requested, pursuant to section 8-100 (A) (4) or (5) of the zoning ordinance, complete the Parking Reduction Supplemental Application.

**14.** Provide information regarding loading and unloading facilities for the use:

- A. How many loading spaces are required for the use, per section 8-200 (B) of the zoning ordinance?
- B. How many loading spaces are available for the use?
- C. Where are off-street loading facilities located?
- D. During what hours of the day do you expect loading/unloading operations to occur?
- E. How frequently are loading/unloading operations expected to occur, per day or per week, as appropriate?

15. Is street access to the subject property adequate or are any street improvements, such as a new turning lane, necessary to minimize impacts on traffic flow?

**February 1, 2023 Working Draft**

*\*PROVIDED FOR INITIAL SCOPING AND REFERENCE. CONDITIONS ARE SUBJECT TO CHANGE BASED ON THE CONCEPT SUBMISSION AND DRAFT BASIS OF DESIGN REPORT.*

**STAFF RECOMMENDATIONS**

1. The Final Site Plan shall conform substantially with the preliminary plan dated DATE, and as amended on DATE, *[use when slip sheets come in after completeness; dates used should be when City stamps plans received]* and comply with the following conditions of approval.

**I. SITE PLAN**

2. Per § 11-418 of the Zoning Ordinance, the *[development site plan/development special use permit]* shall expire and become null and void, unless the applicant commences substantial construction of the project within 36 months after initial approval *(plus any extension per § 7 of Ordinance Number 5313 related to the COVID-19 emergency)* and the applicant thereafter pursues such construction with due diligence. The applicant shall provide a written status report to Staff 18 months after initial approval to update the City Council on the project status if they have not yet commenced substantial construction. The applicant may petition to extend the validity period after adequate notice and a public hearing. (P&Z) *[Separate notice required for extension requests]*
3. Submit the plats and associated deeds for all applicable easements prior to submitting the first Final Site Plan. The applicant must obtain approval of the plat(s) prior to or concurrent with Final Site Plan release. (P&Z) (T&ES) (RP&CA) \*
  - a. Provide public easements to the satisfaction of the Directors of P&Z, RP&CA and T&ES. Easements shall be:
    - i. *[Insert location, description, and use(s). Such easements include but are not limited to Public Access, Recreation, and Utility easements.]*
  - b. Emergency Vehicle Easement(s) (EVE) shall not be painted. When an EVE is shared with a pedestrian walkway or consists of grasscrete or a similar surface treatment, the EVE shall be defined in a manner that is compatible with the surrounding ground plane.
4. Record the plat and submit a copy of the recorded plat, dedications, and deeds with the first application for a building permit. (P&Z) (T&ES) \*\*
5. Show site utilities compatibly with other site conditions on the site plan to the satisfaction of the Directors of P&Z and T&ES prior to Final Site Plan release, specifically: (P&Z) (T&ES) (BAR) \*

- a. Locating above grade service openings and required clearances for items such as transformers, telephone, HVAC units, and cable boxes.
  - b. Minimizing conflicts with plantings, pedestrian areas, and major view sheds.
  - c. Excluding above grade utilities from dedicated open space areas and tree wells.
  - d. Screening all utilities from the public right-of-way.
6. Provide a lighting plan with the Final Site Plan, unless otherwise identified below, to verify that lighting meets City standards. The plan shall be to the satisfaction of the Directors of P&Z and T&ES in consultation with the Chief of Police and Code administration shall include: (P&Z) (T&ES) (Code) (RP&CA)\*
  - a. The location of all existing and proposed streetlights and site lights, shading back less relevant information.
  - b. A lighting schedule that identifies each type and number of all fixtures, mounting height, and strength of fixture in Lumens or Watts.
  - c. A photometric plan with lighting calculations encompassing all existing and proposed streetlights and site light fixtures, including any existing streetlights located on the opposite side(s) of all adjacent streets. Photometric calculations must extend from proposed building face(s) to property line and from property line to the opposite side(s) of all adjacent streets and/or 20 feet beyond the property line on all adjacent properties and rights-of-way.
  - d. Manufacturer's specifications and details for all proposed fixtures including site, landscape, pedestrian, sign(s), and security lighting.
  - e. The numeric summary for various areas (i.e., roadway, walkway/sidewalk, alley, and parking lot, etc.) in the proposed development.
  - f. Full cut-off lighting as applicable to prevent light spill onto adjacent properties. Provide a plan distinguishing between the site with all streetlights and other pertinent off-site lighting and the site without streetlights and off-site lighting to demonstrate how the plan complies with light spill regulations.
  - g. Additional lighting to achieve City standards if existing lighting within the City right-of-way adjacent to the site does not meet the minimum standards.
  - h. Basic, approved Dominion LED light fixtures for all proposed light fixtures in the City right-of-way. Light fixtures located within *Waterfront and Alexandria Historic streetlight district* shall be as specified by Staff. All site lights designed to meet City of Alexandria photometric standards shall have photovoltaic switches.
  - i. The location of conduit routing between site lighting fixtures to avoid conflicts with street trees.
  - j. Details indicating proposed light pole and footings relative to the adjacent grade and pavement. All light pole foundations shall be concealed from view or light poles shall be direct bury.
7. Provide a georeferenced CAD file in AutoCAD 2020(.dwg) format (or later) that adheres to the National CAD Standards prior to Final Site Plan release. The file

shall have the dimension plan including existing conditions, proposed conditions, and grading elements. (P&Z) (DPI) (GIS) \*

8. Sheeting and shoring, support of excavation shall not extend beyond the property line, except when the applicant has obtained a written release or encroachment from adjacent property owners which has been reviewed prior to Final Site Plan release and recorded in the Land Records. (P&Z) (Code) \*

#### A. BUILDING

9. Provide a building code analysis with these building code data prior to Final Site Plan release: (1) use group, (2) number of stories, (3) type of construction, (4) total floor area per floor, (5) height of structure, (6) non-separated or separated mixed use, and (7) fire protection system requirements. (P&Z) (Code) \*
10. The building design, including the appearance, color, and quality of materials; final detailing; three-dimensional expression; and depth of all plane changes, shall be consistent with the elevations dated [REDACTED] and the following conditions. Provide this information regarding materials and design to the satisfaction of the Director of P&Z prior to Final Site Plan release: (P&Z) (Code) \*
  - a.
11. Provide detailed drawings in realistic colors to permit evaluation of key building elements such as the building base, entrances, entry canopy, stoops, windows, balconies, railings, cornices, and other ornamental elements, and material details including the final detailing, finish, and color of these elements prior to Final Site Plan release. (P&Z) \*
  - a. The drawings shall be enlarged and coordinated plan-section-elevation studies, typically at  $\frac{1}{4}'' = 1'-0''$  scale, with shadows cast at 45 degrees from both left and above to show true depth of recesses and projections.
  - b. Separate design drawings shall be submitted for each primary building typology, different wall, or bay type.
  - c. When warranted by the three-dimensional complexity of the design, the applicant shall provide isometric vignettes of special conditions or building areas to the satisfaction of the Director of P&Z.
  - d. All structures must remain within the property (e.g., balconies, railings, and canopies), unless permitted under the City of Alexandria Code or an encroachment has been obtained.
12. Provide the items listed below to allow Staff to review the materials, finishes, and architectural details. These materials shall conform substantially to the preliminary plan and the current *Guidelines for Preparation of Mock-Up Panels*, Memo to Industry effective at application submission.
  - a. Drawings of mock-up panel(s) that depict all proposed materials, finishes, and relationships as part of the first Final Site Plan. \*

- b. An on-site, mock-up panel using the approved materials, finishes, and relationships shall be constructed for Staff review and approval. Per VCC108.2 concrete or masonry mock-up panels exceeding 6-ft. require a building permit. The panel(s) shall be constructed and approved prior to vertical (above-grade) construction and before ordering building materials. Locate the panel so that it receives sunlight from the same predominant direction as will the finished structure. \*\*
  - c. The mock-up panel shall remain on-site, in the same location, and visible from the right-of-way without entering the site throughout construction until the issuance of the first Certificate of Occupancy. (P&Z) (Code) \*\*\*
- 13. Building materials, finishes, and architectural details shall be subject to review and approval by the Board of Architectural Review or Appropriate Design Review Board (as applicable). A materials board shall be submitted as part of the Certificate of Appropriateness approval. (BAR) *[BAR cases only. Delete as appropriate]*

## B. OPEN SPACE/LANDSCAPING

- 14. Provide these modifications to the landscape plan and supporting drawings with the Final Site Plan: (P&Z) \*
  - a. *[List specific modifications and amendments as needed and necessary here]*
- 15. Develop a palette of site furnishings for review and approval by Staff prior to Final Site Plan release. \*
  - a. Provide location, and specifications, and details for site furnishings that depict the installation, scale, massing, and character of site furnishings to the satisfaction of the Directors of P&Z and T&ES. *[RP&CA, for public and/or public access easement sites/sites/projects only]*
  - b. Where not otherwise in alignment with the approved or any amended Waterfront Common Elements Design Guidelines, site furnishings shall conform to the current version of the City of Alexandria's Parks Facilities Manual (unless otherwise directed or approved by the City) which may include benches, bicycle racks, trash bins, recycling receptacles, and other associated features *[amend as necessary]*. City standard materials are mandatory in all public right-of-way. (P&Z) (T&ES) *[RP&CA For public sites and/or public access easement sites/projects use City Standards]*
- 16. Provide material, finishes, and architectural details for all retaining, seat, decorative, and screen walls prior to Final Site Plan release. Indicate methods for grade transitions, handrails, directional changes, and above and below-grade conditions. Coordinate with adjacent site and building conditions. Design and construction of all walls shall be to the satisfaction of the Directors of P&Z, T&ES, and Code. (P&Z) (T&ES) (Code) \**[RP&CA For public sites and/or public access easement sites/projects use City Standards]*

17. Install bike runnel(s) on the inside of stair(s) either against or directly on top of the base of the handrail so that the runnel does not project into the stairway any further than the normal base (e.g., 4-6 inches). Show the runnel design in the Final Site Plan submission and install the runnels prior to issuance of the final Certificate of Occupancy. (P&Z) (Code) \*\*\*\* *[Projects with bike runnels]*

### C. TREE PROTECTION AND PRESERVATION

18. Provide a Tree and Vegetation Protection Plan per the City of Alexandria's Landscape Guidelines for approval prior to Final Site Plan release and implement the plan for the duration of construction. (P&Z) (RP&CA) \*
19. Provide a plat delineating all areas that are outside of the limits of disturbance as generally depicted on the preliminary plan (hereby referred to as the "conservation area") for approval by the Director of P&Z *[and RP&CA if public-owned or dedicated land]* and the City Attorney prior to Final Site Plan release. (P&Z) (RP&CA) (City Attorney) \* *[for sites with conservation area]*
20. Record conservation covenants ("covenants") at Land Records for the ARCHAEOLOGY
21. Provide an Archaeological Evaluation and implement a Resource Management Plan prepared by an archaeological consultant, as outlined in the City of Alexandria's Archaeological Standards prior to Final Site Plan release. If archaeological work needs to occur alongside demolition and construction activities, then the applicant must demonstrate this necessity to the satisfaction of the City Archaeologist. (Archaeology) \*
22. Complete all required pre-construction archaeological field work prior to Final Site Plan release, Grading Plan, and any other permits involving ground disturbing activities (e.g., coring, grading, filling, vegetation removal, undergrounding utilities, pile driving, landscaping, and other excavations as defined in § 2-151 of the Zoning Ordinance) subject to the approval of the City Archaeologist. The City Archaeologist may approve ongoing work subject to an Archaeological Evaluation Plan and Resource Management Plan to recover significant resources before or in concert with ground disturbing activities. (Archaeology) \*
23. Call Alexandria Archaeology at (703) 746-4399 two weeks before starting any ground disturbance to arrange an inspection or monitoring. The language noted above shall be included on all Final Site Plan sheets involving any ground disturbing activities. (Archaeology) \*
24. Call Alexandria Archaeology immediately at (703) 746-4399 if any buried structural remains (wall foundations, wells, privies, cisterns, etc.) or concentrations of artifacts are discovered during development. Work must cease in the discovery area until a City archaeologist comes to the site and records the finds. The language noted above shall be included on all Final Site Plan sheets involving any ground disturbing activities. (Archaeology) \*



25. The applicant shall not allow any metal detection and/or artifact collection to be conducted on the property, unless authorized by Alexandria Archaeology. Failing to comply shall result in project delays. The language noted above shall be included on all Final Site Plan sheets involving any ground disturbing activities. (Archaeology) \*
26. The final Certificate of Occupancy shall not be issued for this property until interpretive elements have been constructed, interpretive markers have been erected, and the final archaeological report has been received and approved by the City Archaeologist. (Archaeology) \*\*\*

#### D. PEDESTRIAN/STREETSCAPE

27. Provide the pedestrian improvements listed below to the satisfaction of the Directors of P&Z and T&ES. Complete all pedestrian improvements prior to the issuance of the final Certificate of Occupancy. (P&Z) (T&ES) \*\*\* *[Conditions may be modified for phased projects]*
  - a. Install ADA accessible pedestrian improvements serving the site.
  - b. Construct all concrete and hybrid concrete-brick sidewalks to City standards. The minimum unobstructed width of newly constructed sidewalks shall be six feet in commercial, mixed-use, or other high-density areas and five feet in single-family or other lower density areas.
  - c. All brick sidewalks shall comply with the City's Memos to Industry 05-08 and 01-13. *[if brick sidewalks included]*
  - d. Sidewalks shall be flush across all driveway crossings.
  - e. All newly constructed curb ramps shall be concrete with detectable warning and shall conform to current VDOT standards.
  - f. Provide separate curb ramps for each direction of crossing (i.e., two ramps per corner). Curb ramps shall be perpendicular to the street.
  - g. Provide thermoplastic pedestrian crosswalks at all crossings at the proposed development.
  - h. All crosswalks shall be high-visibility crosswalks *[white, thermoplastic ladder crosswalks as shown in the Manual on Uniform Traffic Control Devices (MUTCD)]*. Alternative crosswalk treatments must be approved by the Director of T&ES.
  - i. All below grade utilities placed within a City sidewalk shall be integrated with the adjacent paving materials and to minimize any visible impacts.
  - j. Provide bollards or other vertical separation along flush transitions between pedestrian and vehicular areas to the satisfaction of the Director of T&ES.
  - k. *[Insert additional conditions here]*

#### E. PARKING

28. Provide wheel stops for all 90-degree and angled vehicle parking spaces adjacent to a sidewalk if the back of the sidewalk is less than 7 feet from the curb. (T&ES).



29. Show all existing and proposed on-street parking controls and restrictions on the Final Site Plan. The Traffic and Parking Board must approve any on-street parking changes desired after the Signature Set approval. (P&Z) (T&ES) \*
30. Provide bicycle parking per current Bicycle Parking Standards. Bicycle parking standards, acceptable rack types for short- and long-term parking, and details for allowable locations are available at: [www.alexandriava.gov/bicycleparking](http://www.alexandriava.gov/bicycleparking). *[RP&CA For public sites and/or public access easement sites/projects use City Standards]*
31. Provide details on the locations and types of bicycle parking on the Final Site Plan. Install bicycle parking prior to the issuance of the first Certificate of Occupancy. (T&ES) \*, \*\*\*
32. Provide signage, striping, or other means to prevent parking in emergency vehicle easement(s) prior to Final Site Plan release, to the satisfaction of the Director of T&ES. (T&ES) \*
33. Update parking counts on the cover sheet to indicate the number of electric vehicle charger and electric vehicle charger ready parking spaces and show the location of these spaces prior to Final Site Plan release. (T&ES) \* *[always applicable]*

## F. SUSTAINABILITY

34. The applicant may propose additional strategies to the sustainability conditions outlined below and these additional sustainability strategies may be incorporated administratively to the satisfaction of the Directors of T&ES and P&Z. (P&Z) (T&ES)
35. The project shall comply with the requirements of the current City of Alexandria Green Building Policy at the time of **DSP/DSUP** approval. Diligent pursuit and achievement of a Verified Award Level shall be monitored through these requirements unless exempted by the certification rating systems and the Green Building Policy:
  - a. Provide documentation of the project's anticipated Award Level per the The Institute of Sustainable Infrastructure (ISI) Envision Rating System (or Approved equivalent) with the submission of the first Final Site Plan and provide a draft checklist from the P&Z website demonstrating how the project plans to achieve the certification and clearly indicate that requirements for the priority performance points are being met as defined by the City of Alexandria's Green Building Policy. \*
  - b. Provide an updated copy of the draft certification scorecard/checklist prior building permit release for above-grade construction to show compliance with the Green Building Policy. \*\*
  - c. Provide updated building energy performance analysis and building energy use intensity (EUI) (energy use per sq. ft.) prior to release of the building permits for above-grade construction. \*\*

- d. Provide a draft commissioning plan and verification, if required by the Green Building Rating System and the building code, from a certified third-party reviewer that includes items “i” through “v” below, prior to receiving building permits for above-grade construction. \*\* *[Commercial buildings only, includes large multi-family buildings]*
    - i. A narrative describing the activities that will be accomplished during each phase of commissioning, including the personnel intended to accomplish each of the activities.
    - ii. A listing of the specific equipment, appliances, or systems to be tested and a description of the tests to be performed.
    - iii. Functions to be tested including, but not limited to, calibrations and economizer controls.
    - iv. Conditions under which the test will be performed. Testing shall affirm winter and summer design conditions and full outside air conditions.
    - v. Measurable criteria for performance.
  - e. Provide updated water efficiency documentation for the priority performance points as defined by the City of Alexandria’s Green Building Policy prior to building permit release for above-grade construction. \*\* *[for projects not LEED certified]*
  - f. Provide updated documentation for the indoor environmental quality priority performance points as defined by the City of Alexandria’s Green Building Policy prior to the release of building permits for above-grade construction. \*\*
  - g. Provide evidence that design phase credits (for the certifying party) have been submitted by the first Certificate of Occupancy, unless directed otherwise by the Director of DPI. \*\*\*
  - h. Provide a commission report that has been verified by a certified, third-party reviewer, including issues log, completed pre-function checklists, and any completed functional performance tests prior to issuance of the final Certificate of Occupancy. \*\*\* *[for non-residential projects]*
  - i. Provide documentation of applicable green building certification prior to release of the performance bond, as directed by the Director of DPI. \*\*\*\*
  - j. Failure to achieve the target certification level will be evaluated by City Staff to determine whether a good faith, reasonable, and documented effort was made to achieve the certification level to the satisfaction of the Director of P&Z.
36. Demonstrate that the roof(s) are solar ready, with the necessary conduit and available electrical panel area to enable future solar panel installation, on the Final Site Plan. (T&ES) \*

## II. TRANSPORTATION

### A. STREETS/TRAFFIC

37. Repair any of the City's existing public infrastructure that is damaged during construction per the most recent version of the T&ES Design and Construction Standards, or to the satisfaction of Director of T&ES, prior to Performance Bond release. (T&ES) \*\*\*\*
38. Conduct a pre-construction walk/survey of the site prior to any land disturbing activities with T&ES Construction & Inspection Staff and Code Administration Staff to document existing conditions prior to Final Site Plan release. (T&ES) (Code) \*
39. Mark all private street signs that intersect a public street with a fluorescent green strip to notify the plowing crews, both City and contractor, that they are not to plow those streets, prior to the issuance of the first Certificate of Occupancy. (T&ES) \*\*\*
40. Furnish and install two 4-inch Schedule 80 PVC conduits with pull wires, and junction boxes located at a maximum interval of 300 feet under the sidewalks around the perimeter of the site *[amend frontage as needed]*. These conduits shall terminate in an underground junction box at each of the four street corners of the site. The junction box cover shall have the word "TRAFFIC" engraved in it. (T&ES) \*\*\*\*
41. Provide full curb to curb restoration for any asphalt patches larger than 20 percent of the total asphalt surface, measured along the length of the road adjacent to the property frontage and/or extending to the centerline of the street prior to Final Completion and Performance Bond release. (T&ES) \*\*\*\*
42. Provide a maintenance agreement for the shared public/private alley prior to Final Site Plan release, with property owners abutting the alley responsible for jointly managing and maintaining the alley to the satisfaction of the Director of T&ES. (T&ES) \*
43. Provide proof of recordation of the maintenance agreement for the shared public/private alley prior to issuance of the first certificate of occupancy, with property owners abutting the alley responsible for jointly managing and maintaining the alley to the satisfaction of the Director of T&ES. (T&ES) \*\*\* *[if public access to the alley]*
44. Provide and install updated traffic equipment as enhancements *[to be determined by City Staff depending on the extent and impact of the development as required]*. The updated traffic equipment and technology shall be on the Final Site Plan to the satisfaction of the Director of T&ES. In lieu of providing and installing updated traffic enhancement equipment, the applicant may provide a contribution of \$XX

prior to Final Site Plan release for the City of Alexandria to complete the upgrades. (T&ES) \*

45. Provide and install Emergency Vehicle Preemption equipment on existing or proposed traffic signal adjacent to the site for each approach. The updated traffic equipment shall be shown on Final Site Plan to the satisfaction of the Director of T&ES. In lieu of providing and installing Emergency Vehicle Preemption equipment, the applicant may provide a contribution of \$XX prior to Final Site Plan release for the City of Alexandria to complete the upgrade. (T&ES) \*
46. Provide bicycle facilities on the site frontage and through the site per the City's Transportation Master Plan, Pedestrian and Bicycle Mobility Plan, and applicable Small Area Plans and Design Guidelines. (T&ES) *[Specific facilities (bike lanes, etc.) required for each project will be listed here]*
  - a. Provide routing signs on on-street bicycle facilities consistent with guidance from AASHTO and MUTCD. For shared-use paths, signs should be consistent with the City's Wayfinding Program.
  - b. Install sharrows consistent with AASHTO guidelines.
47. Provide manufacturer's data sheets and specifications with engineering details describing the materials, installation method, loading capabilities (minimum 80,000 lbs.), and maintenance requirements for the non-standard emergency vehicle easement within the *[Street]* right-of-way, including confirmation that the landing will not compromise any existing underground utilities, to the satisfaction of the Director of T&ES prior to Final Site Plan release. Show any non-standard materials in site plan and landscape sheets. (T&ES) \* *[for non-standard materials like grasscrete]*

## **B. BUS STOPS AND BUS SHELTERS**

48. Show all existing bus stops, bus shelters, and bus stop benches in the vicinity of the site on the Final Site Plan. (T&ES) \*

## **III. PUBLIC WORKS**

### **A. WASTEWATER/SANITARY SEWERS**

49. Comply with the Combined Sewer System Management Policy set forth in the Memo to Industry 07-14, City of Alexandria's Water Quality Volume Default, and state stormwater quality and quantity requirements. (T&ES) *[For projects within the Combined Sewer System area district]*
50. Provide the required infrastructure upgrades listed below to the City's sanitary sewer system as agreed upon during the Preliminary Site Plan review and construct them prior to issuance of the first Certificate of Occupancy. (T&ES) \*\*\* *[Projects]*

*with inadequate sewer capacity at preliminary submission, add specific requirements/improvements required]*

a. *[List specific improvements]*

## **B. UTILITIES**

51. Underground all overhead power and communication lines fronting the development prior to Final Completion and Performance Bond release. (T&ES) *[Include as applicable]* \*\*\*\*
52. Do not locate transformer and switch gears in the public right-of-way. (T&ES) *[Include as applicable]*
53. All new fire hydrants on public streets shall be City owned and maintained. All hydrants on private streets shall be owned, inspected, tested, and maintained by the property owner or their representative. Hydrants must be installed and functional prior to issuance of the Certificate of Occupancy. (T&ES) \*\*\*

## **C. INFORMATION TECHNOLOGY**

54. To the satisfaction of the Director of Planning & Zoning, construct a conduit grid per the specifications listed below that minimizes the need for post-development excavation and/or right-of-way impacts when installing fiber/cables for high-speed internet access. (ITS) (P&Z)
55. Construct all conduits using schedule 80 PVC or HDPE and install them to a depth of 3-feet. Install a pull line and tracer within each conduit. (ITS)

## **D. SOLID WASTE**

56. Meet all the minimum street standards for the City to provide solid waste collection service per City Code Title 5, Chapter 1 (Solid Waste Control). Collection vehicles must be able to pick up solid waste from private streets without backing up. Store containers inside the units or within an enclosure that completely screens them from view. (T&ES) *[For properties that are required users]*
57. Place all trash and recycling at the official set-out location as approved by the Director of T&ES. (T&ES) *[Projects where the City provides collection services]*
58. Provide \$1,449 per receptacle to the Director of T&ES prior to Final Site Plan release to purchase and install *[number]* Victor Stanley Ironsites Series model SD-42 black receptacle with Dome Lid dedicated to trash collection. The receptacle(s) shall be placed in the public right of way to serve open space and park sites. Receptacles shall be generally located along the property frontage and at strategic locations in the vicinity of the site as approved by the Director of T&ES. To the extent that the receptacles cannot be located where accessible for public collection,

the applicant may provide a contribution for receptacles to be installed in the vicinity or may agree to private hauling. (T&ES) \*

59. Provide \$1,685 per receptacle to the Director of T&ES prior to Final Site Plan release to purchase and install [number] Victor Stanley Ironsites Series Model SD-42 blue receptacle with Dome Lid, approved dome decals, and approved band dedicated to recycling collection. The receptacle(s) shall be placed in the public right of way to serve open space and park sites. Receptacles shall be generally located along the property frontage and at strategic locations in the vicinity of the site as approved by the Director of T&ES. To the extent that the receptacle cannot be located where accessible for public collection, the applicant may provide a contribution for receptacles to be installed in the vicinity or may agree to private hauling. (T&ES) \*

#### IV. ENVIRONMENTAL

##### A. FLOODPLAIN MANAGEMENT

60. Demonstrate compliance with Zoning Ordinance flood plain ordinance § 6-300 to § 6-311 of Article VI (Special and Overlay Zones) prior to Final Site Plan release. (T&ES) \* *[Modify and include, as applicable for developments within 100-year flood plain Water Surface Elevation (WSE)]*
61. Provide this minimum required information on the Final Site Plan to comply with the City of Alexandria Floodplain Ordinance:
  - a. The base flood elevation (BFE),
  - b. The elevation of the lowest floor (including basement),
  - c. The elevation to which the structure will be floodproofed, and *[For structures to be floodproofed (nonresidential only)]*
  - d. Topographic information showing existing and proposed ground elevations. (T&ES) \*
62. Provide detailed computations of the impact of fill in the floodplain on the 100-year Water Surface Elevation (WSE) to the satisfaction of the Director of T&ES. Include backwater calculations starting at a downstream cross section to an upstream cross section. Derive figures from modifying the existing HEC-RAS model, as prepared by the U.S. Army Corps of Engineers, Baltimore District. Proposed fill placement shall not raise the 100-year water surface level at any location along the channel reach more than a maximum of 6 inches as permitted under Floodplain Regulations. (T&ES) \*

*[OR]*

63. Provide Elevation Certificate (FEMA Form 086-0-33) for all new or substantially improved buildings located in the FEMA AE Zone certified by a Licensed Land Surveyor or Licensed Professional Engineer to the T&ES Development Coordinator after placing the lowest floor (including basements and garages)



before further vertical construction. (T&ES) \*\* *[All Residential and Non-Residential development (New and/or Substantial Improvement) in Special Flood Hazard Area]*

64. Provide a Certificate of Floodproofing (FEMA Form 086-0-34) for all new or substantially improved non-residential buildings located in the FEMA AE Zone certified by a Licensed Professional Engineer or Architect to the T&ES Development Coordinator with the building permit application, at substantial completion of construction, and prior to issuance of Certificate of Occupancy. (T&ES) (Code) \*\*, \*\*\* *[All Non-Residential development (New and/or Substantial Improvement) in Special Flood Hazard Area that includes Dry Floodproofing]*

## **B. STORMWATER MANAGEMENT**

65. The City of Alexandria's stormwater management regulations regarding water quality are two-fold: (1) state phosphorus removal requirement and (2) Alexandria Water Quality Volume Default. Complying with the state phosphorus reduction requirement does not relieve the applicant from the Alexandria Water Quality Default requirement. The Alexandria Water Quality Volume Default, as determined by the site's post-development impervious area shall be treated in a Best Management Practice (BMP) facility. (T&ES) \*
66. Provide a BMP narrative and complete pre- and post-development drainage maps that include areas outside that contribute surface runoff from beyond project boundaries to include adequate topographic information, locations of existing and proposed storm drainage systems affected by the development, all proposed BMPs and a completed Virginia Runoff Reduction Method (VRMM) worksheet showing project compliance prior to Final Site Plan release. The project must use hydrologic soil group "D" in the spreadsheet unless a soils report from a soil scientist or geotechnical engineer delineates onsite soils otherwise. (T&ES) \*
67. Design all stormwater Best Management Practices (BMPs) to comply with the most recent standards and specifications published in the Virginia Stormwater BMP Clearinghouse. Provide complete design details for all BMPs, including site specific plan views, cross sections, planting plans, and complete design calculations for each BMP prior to Final Site Plan release. (T&ES) \*
68. Provide a BMP table with a separate listing for each individual BMP that includes the name of the practice, total area treated (acres), pervious area treated (acres), impervious area treated (acres), phosphorous removal efficiency (percentage), phosphorous removal efficiency (percentage), phosphorous removed by the practice (lbs.), and latitude and longitude in decimal degrees, prior to Final Site Plan release. (T&ES) \*
69. Complete construction inspection checklists and associated photographic documentation for each stormwater BMP and detention facility. Submit all

documents required by The City of Alexandria As-Built Stormwater Requirements including as-built plans, CAD data, BMP certifications, and completed construction inspection checklists prior to Performance Bond release. (T&ES) \*\*\*\*\*

70. Construct and install the stormwater BMPs required for this project under the direct supervision of the design professional or their designated representative. Submit a written certification from the design professional to the Director of T&ES prior to Performance Bond release certifying that the BMPs are:
  - a. Constructed and installed as designed and in accordance with the released Final Site Plan.
  - b. Clean and free of debris, soil, and litter by either having been installed or brought into service after the site was stabilized. (T&ES) \*\*\*\*\*
71. Install descriptive signage for surface-installed stormwater BMPs (e.g., Bio-Retention Filters, Vegetated Swales) prior to the submission of As-Built Plans to the satisfaction of the Director of T&ES. (T&ES) \*\*\*\*\*
72. Submit two originals of the stormwater quality BMP Maintenance Agreement, to include the BMP Schedule and Guidelines Addendum as part of the Final Site Plan #2. Execute and record the agreement with the Land Records Division of Alexandria Circuit Court prior to Final Site Plan release. (T&ES) \*
73. Submit two originals of the stormwater quality BMP and Stormwater Detention Facilities Maintenance Agreement (interdepartmental MOU anticipated for maintenance by City) to include the BMP Schedule and Guidelines Addendum with the Final Site Plan #2. Execute and record the agreement with the Land Records Division of Alexandria Circuit Court prior to Final Site Plan release. (T&ES) \*
74. The Applicant shall be responsible for maintaining stormwater Best Management Practices (BMPs) until activation of the homeowner's association (HOA), and/or master association, if applicable, or until sale to a private owner. Prior to transferring maintenance responsibility for the BMPs to the HOA, master association, and/or owner, the applicant shall:
  - a. Execute a maintenance service contract with a qualified private contractor for a minimum of three years, and transfer the contract to the HOA, master association, and/or owner.
  - b. Include a copy of the contract in the BMP Operation and Maintenance Manual.
  - c. Submit a copy of the maintenance contract to T&ES prior to Performance Bond release. (T&ES) \*\*\*\*\*
75. Submit a copy of the Operation and Maintenance Manual to the T&ES Stormwater Management Division prior to Substantial Completion. (T&ES) \*\*\*\*\*



76. Submit a certification by a qualified professional that any existing stormwater management facilities adjacent to the project and associated conveyance systems were not adversely affected by construction operations prior to Substantial Completion to the satisfaction of the Director of T&ES. If maintenance of the facilities or systems were required to make this certification, provide a description of the maintenance measures performed. (T&ES) \*\*\*\*\*

### **C. WATERSHED, WETLANDS, & RPAs**

77. Use standard city markers to mark all on-site stormwater curb inlets and public curb inlets within 50 feet of the property line to the satisfaction of the Director of T&ES. (T&ES)
78. For sites that contain marine clays, account for marine clay or highly erodible soils in the construction methodology and erosion and sediment control measures. (T&ES)
79. Provide Environmental Site Assessment Notes that delineate, map, describe, and/or explain these environmental features (if located on site):
  - a. Individual components of the RPA as well as the total geographic extent of the RPA, to include the appropriate buffer, intermittent streams, and associated buffers,
  - b. Highly erodible and highly permeable soils,
  - c. Steep slopes greater than 15 percent in grade,
  - d. Known areas of contamination; springs, seeps, or related features, and
  - e. A listing of all wetlands permits required by law. (T&ES)
80. Provide documentation on the source of onsite wetland delineation and detail actions to minimize and/or mitigate the effect of the development on existing wetlands as required by Article XIII of the City of Alexandria Zoning Ordinance. (T&ES)
81. Prepare a Major Water Quality Impact Assessment per Article XIII of the City of Alexandria Zoning Ordinance to the satisfaction of the Director of T&ES. (T&ES)
82. Prepare a Stormwater Pollution Prevention Plan with enhanced protective measures from site sources to the proximity of the RPA(s) to the project. (T&ES)
83. Mitigate any development effects on water quality due to encroachment into and/or destruction of an existing RPAs and mapped wetland area by these methods to the satisfaction of the Director of T&ES:
  - a. Restore streams subject to historic erosion damage.
  - b. Increase vegetation onsite and/or performing offsite plantings.
  - c. Contribute funds to T&ES/DEQ stream restoration/water quality projects.
  - d. Quantify and tabulate these mitigation efforts per these requirements:

- i. Mitigate wetlands destruction at a ratio of 2:1 and offsite at 3:1.
  - ii. Mitigate RPA encroachments according to the Riparian Buffers Modification & Mitigation Guidance Manual by the Chesapeake Bay Local Assistance Department. (T&ES)
84. Mitigate water quality impacts by stream restoration/stabilization equal to the linear distance to that of the linear encroachment into the RPAs on-site. (T&ES)

#### **D. CONTAMINATED LAND**

85. Indicate on the plan whether any soil and groundwater contamination are present. Submit supporting reports for associated environmental investigations or assessments performed to substantiate this determination. (T&ES) \*
86. If environmental site assessments or investigations discover the presence of contamination on site, the Final Site Plan shall not be released, and no construction activity shall occur until these items have been submitted and approved by the Director of T&ES: (T&ES) \*
- a. A Site Characterization Report/Extent of Contamination Study detailing the location, applicable contaminants, and the estimated quantity of any contaminated soils and/or groundwater at or in the immediate vicinity of the site.
  - b. A Risk Assessment indicating any risks associated with the contamination.
  - c. A Remediation Plan detailing any contaminated soils and/or groundwater, including plans to remediate utility corridors. Utility corridors in contaminated soil shall be over excavated by two feet and backfilled with “clean” soil. Include description of environmentally sound methods of off-site transport and disposal of contaminated soils and debris (including, but not limited to types of vehicles appropriate for handling specific materials and ensuring vehicle loads are covered).
  - d. A Health and Safety Plan with measures to take during remediation and/or construction activities to minimize the potential risks to workers, the neighborhood, and the environment. Initial Air Monitoring may be required during site activities to demonstrate acceptable levels of volatiles and/or airborne particles. Justify the air monitoring determination in the Health and Safety Plan submitted for review.
  - e. Screen for PCBs as part of the site characterization if any of the past uses are within the identified high risk category sites for potential sources of residual PCBs, which includes these SICs: 26&27 (Paper and Allied Products), 30 (Rubber and Misc. Plastics), 33 (Primary Metal Industries), 34 (Fabricated Metal Products), 37 (Transportation Equipment), 49 (Electrical, Gas, and Sanitary Services), 5093 (Scrap Metal Recycling), and 1221 and 1222 (Bituminous Coal).
87. Should any unanticipated contamination, underground storage tanks, drums or containers be encountered at the site during construction, the applicant must notify

T&ES, Office of Environmental Quality immediately. Should unanticipated conditions warrant, stop construction within the affected area until the appropriate environmental reports identified in “a” through “e” above are submitted and approved at the discretion of the Director of T&ES. This shall be included as a note on the Final Site Plan. (T&ES) (Code) \*

88. If warranted by a Site Characterization report, design and install a vapor barrier and ventilation system for buildings and parking areas to prevent the migration or accumulation of methane or other gases or conduct a study and provide a report signed by a professional engineer showing that such measures are not required to the satisfaction of Directors of T&ES and Code Administration. The vapor barrier and ventilation system must include a passive ventilation system that can be converted to an active ventilation system if warranted. (T&ES) (Code)

#### **E. SOILS**

89. Provide a geotechnical report, including recommendations from a geotechnical professional for proposed cut slopes and embankments prior to Final Site plan release. (T&ES) \*

#### **F. NOISE**

90. If necessary, to comply with the City noise ordinance, equip all roof top HVAC and other mechanical equipment with noise reducing devices (e.g., silencers, acoustic plenums, louvers, or enclosures). Show the noise reducing specifications and locations prior to Final Site Plan release and install them prior to the issuance of the Certificate of Occupancy. (T&ES) (Code) \*, \*\*\*
91. No vehicles, including construction vehicles, associated with this project shall be permitted to idle for more than 10 minutes when parked, including vehicles in the loading dock. Post at least two no idling for greater than 10 minutes signs in the loading dock area in plain view prior to the issuance of the Certificate of Occupancy. (T&ES) \*\*\*

#### **G. AIR POLLUTION**

92. Control odors and any other air pollution sources resulting from operations at the site and prevent them from leaving the property or becoming a nuisance to neighboring properties, as determined by the Director of T&ES. (T&ES)

### **V. CONSTRUCTION MANAGEMENT**

93. Submit a construction phasing plan to the satisfaction of the Director of T&ES, for review, approval, and partial release of Erosion and Sediment Control for the Final Site Plan. All the requirements of Zoning Ordinance Article XIII (Environmental Management) for quality improvement, quantity control, and the development of Storm Water Pollution Prevention Plan must be complied with prior to the partial Final Site Plan release. (T&ES) \* *[Include as appropriate]*

94. Submit a separate construction management plan to the Directors of DPI, P&Z, T&ES, and Code Administration prior to Final Site Plan release. The plan shall satisfy these requirements: (P&Z) (T&ES) (Code) *[Include as appropriate]*
- a. No streetlights shall be removed without authorization from the City of Alexandria,
  - b. If streetlights are to be removed from the public right-of-way, then temporary lights shall be provided until the installation and commissioning of new lights, \*
  - c. Include an analysis as to whether temporary street or site lighting is needed for safety during the construction on the site and how it is to be installed, \*
  - d. Provide a detailed sequence of demolition and construction of improvements in the public right of way along with an overall proposed schedule for demolition and construction, \*
  - e. Include an overall proposed schedule for construction, \*
  - f. Include a plan for temporary pedestrian circulation, \*
  - g. Include the location and size of proposed construction trailers, if any, \*
  - h. Include a preliminary Maintenance of Traffic Plan as part of the construction management plan for informational purposes only, to include proposed controls for traffic movement, lane closures, construction entrances and storage of materials, and \*
  - i. Post copies of the plan in the construction trailer and give to each subcontractor before they start work. \*\*\*
95. Provide off-street parking for all construction workers without charge and ensure that all workers use this parking. For workers who use Metro, DASH, or another form of mass transit, subsidize a minimum of 50 percent of the fees. Complying with this condition shall be a component of the construction management plan, which shall be submitted prior to Final Site Plan release and approved by the Departments of P&Z and T&ES prior to commencing any construction activities. This plan shall:
- a. Establish and provide verifiable details and/or agreements on the location of the parking to be provided at various stages of construction, how many spaces will be provided, how many construction workers will be assigned to the work site, and mechanisms which will be used to encourage the use of mass transit, \*
  - b. Post information on transit schedules and routes, \*
  - c. The community liaison must manage parking actively for all construction workers and ensure compliance with the off-street parking requirement, and
  - d. If the off-street construction workers parking plan is found to be violated during construction, a correction notice will be issued to the applicant. If the violation is not corrected within five days, a "stop work order" will be issued, with construction halted until the violation has been corrected. (P&Z) (T&ES) \*

96. Include a chapter on maintaining pedestrian access within the Construction Management Plan. Sidewalks adjacent to the site shall remain open during construction. If sidewalks must be closed, pedestrian access shall be maintained adjacent to the site per Memo to Industry #04-18 throughout the construction of the project. (T&ES) \*\*
97. Include a chapter on maintaining bicycle access within the Construction Management Plan. Bicycle facilities adjacent to the site shall remain open during construction. If a bicycle facility must be closed, bicycle access shall be maintained adjacent to the site per Memo to Industry #04-18 throughout the construction of the project. (T&ES) \*\* *[Include for projects adjacent to existing bike lanes or trails]*
98. Include a chapter on the waste control program in the Construction Management Plan. This program shall control wastes such as discarded building materials, concrete truck washout, chemicals, litter or trash, trash generated by construction workers or mobile food vendor businesses serving them, and all sanitary waste at the construction site and prevent offsite migration that may cause adverse impacts to neighboring properties or to the environment to the satisfaction of Directors of T&ES and Code Administration. Dispose of all wastes offsite per all applicable federal, state, and local laws. If program is implemented in coordination with green building certification, include documentation as appropriate per the City's Green Building Policy and conditions therein. (T&ES) (Code)
99. Discuss construction staging activities with DPI and T&ES prior to the release of any permits for ground disturbing activities. No major construction staging shall be allowed within the public right-of-way. (T&ES) \*\* *[Include as appropriate]*
100. Transit stops adjacent to the site shall remain open, if feasible, for the duration of construction. If construction requires closing a stop at *[specify location]*, a temporary ADA accessible transit stop shall be determined and installed. Coordinate with the T&ES Transportation Planning Division at (703) 746-4088 as well as with the transit agency which provides service to the bus stop. Install signs noting the bus stop closure and location of the temporary bus stop prior to taking bus stops out of service. (T&ES)
101. Identify a Certified Land Disturber (CLD) in a letter to the Division Chief of Infrastructure Right of Way prior to any land disturbing activities and include the name on the Phase I Erosion and Sediment Control sheets prior to Final Site Plan release. If the CLD changes during the project, that change must be noted in a letter to the Division Chief. (T&ES) \*
102. Conduct an in-person or virtual meeting to review the location of construction worker parking, plan for temporary pedestrian and vehicular circulation, and hours and overall schedule for construction prior to commencing demolition, clearing, and grading of the site. Notice all adjoining property owners, civic associations,

and the Departments of P&Z and T&ES at least 14 calendar days before the meeting. Hold the meeting before any permits are issued. (P&Z) (T&ES) \*\*

103. Hold an in-person or virtual pre-installation/construction meeting to review the scope of landscaping installation procedures and processes with the P&Z project planner prior to starting work. (P&Z) (Code)
104. Identify a community liaison throughout the duration of construction. Provide their name and telephone number, including an emergency contact number, to residents, property managers, and business owners whose property abuts the site, to the satisfaction of the Directors of P&Z and T&ES. Install a temporary informational sign prior to Final Site Plan release with the community liaison's name and contact information. Display the sign until construction finishes. (P&Z) (T&ES) \*, \*\*\*
105. Temporary construction and/or on-site sales trailer(s) are permitted and subject to the approval of the Directors of P&Z and Code Administration. Remove the trailer(s) prior to the issuance of the final Certificate of Occupancy. (P&Z) (Code) \*\*\*
106. Submit a stamped electronic copy of a wall check survey completed by a licensed, certified public land surveyor or professional engineer when below-grade construction reaches proposed finished grade. Ensure the wall check shows: (P&Z) \*\*
  - a. Key dimensions of the building as shown on the approved Final Site Plan,
  - b. Key dimensions from future face of finished wall above to the property line and any adjacent structures on the property,
  - c. Extent of any below-grade structures,
  - d. Foundation wall in place, and
  - e. Future face of finished wall above.
107. Submit an as-built development site plan survey, pursuant to the requirements outlined in the initial as-built submission for occupancy portion of the as-built development site plan survey checklist to the T&ES Site Plan Coordinator prior to applying for a Certificate of Occupancy permit. The as-built development site plan survey shall be prepared and sealed by a registered architect, engineer, or surveyor. Include a note stating that the height was calculated based on all applicable provisions of the Zoning Ordinance. (P&Z) (T&ES) \*\*\*

#### A. SIGNAGE

108. Design building signs to relate in material, color, and scale to the building and RPCA Parks Facilities Manual and Signage Design Guidelines on which the sign is displayed to the satisfaction of the Director of P&Z. (P&Z) \* *[No coordinated sign plan]*
109. Incorporate and interpret elements of the site history and archaeological findings into the design of the public realm with a professional archaeological consultant

or qualified historian, in consultation with Staff. The site plan shall indicate themes and locations of interpretive elements such as signs, markers, specialty paving, historic features, and the like. Provide text, graphics, and materials for the interpretive elements prior to Final Site Plan release subject to approval by the Office of Historic Alexandria/Alexandria Archaeology and the Director of P&Z. Install the interpretative elements prior to issuance of the Certificate of Occupancy. (P&Z) (Arch) \*, \*\*\* *[Projects with potential archaeological resources on site]*

110. Incorporate and interpret elements of site environmental features (e.g., innovative stormwater facilities and plantings) into the design of the public realm in consultation with Staff. Provide text, graphics, and materials for interpretive elements prior to Final Site Plan release subject to approval by the Directors of P&Z and RP&CA. Install the interpretative elements prior to issuance of the Certificate of Occupancy. (P&Z) (T&ES) (RP&CA) \*, \*\*\* *[projects with interesting environmental features]*

## VI. SUBDIVISIONS

111. The final subdivision plat shall comply with the requirements of § 11-1709 of the Zoning Ordinance. (P&Z) \*
112. Depict the location of all easements and reservations, including those required in this approval, on the Final Subdivision Plat. Do not construct any permanent building or retaining wall over any existing private and/or public utility easements. (T&ES) \*
113. Revise the plat to incorporate the edits specified by P&Z and T&ES Staff in comments #### in Section ## of this report prior to submitting the Final Subdivision Plat submission. (P&Z) (T&ES) \* *[Include if the preliminary plat still requires edits]*
114. Provide a georeferenced CAD file in AutoCAD 2018.dwg format that adheres to the National CAD Standards with the Signature Set submission. The file shall include the subdivision plat including existing and new parcels and neighboring parcels. Identify legal lot numbers for each lot and document the square footages. Show adjacent lots and their Tax Map numbers on the subdivision plat. (GIS) \*

## CITY DEPARTMENT CODE COMMENTS

Legend: C - Code Requirement R - Recommendation S - Suggestion F - Finding

### A. Planning and Zoning (P&Z)

- C - 1 Identify all trees to remove and protect/preserve in the tree conservation and protection plans prior to Final Site Plan release. Detail construction methods to reduce disturbance within driplines. Schedule an on-site inspection of existing conditions with the City



Arborist and Natural Resources Division Staff prior to preparing the Tree Conservation and Protection Plan. \*

- C - 2 No permits shall be issued prior to the receiving the Certificate of Appropriateness and the demolition permit from the Board of Architectural Review. (BAR) \*\* *[BAR projects only]*

## **B. Code Administration (Building Code)**

- F - 1. The review by Code Administration is a preliminary review only. Once the applicant has filed for a building permit, code requirements will be based upon the building permit plans. A preconstruction conference is recommended for large projects. Contact the Code Administration Office, Plan Review Supervisor at (703) 746-4200 with any questions.
- C - 1 New construction or alterations to existing structures must comply with the current Uniform Statewide Building Code (USBC) in effect when applying for building permit(s).
- C - 2 Facilities shall be accessible for persons with disabilities per the current Virginia Uniform Statewide Building Code in effect when applying for building permit(s).
- C - 3 Submit a soils report with the building permit application for all new and existing building structures. \*\*
- C - 4 Submit an abatement plan from a licensed Pest Control Company to prevent rodents from spreading from the construction site to the surrounding community and sewers to the Department of Code Administration prior to receiving a demolition or land disturbance permit. Code Administration Staff will conduct a pre-demolition site survey to verify that the abatement plan is consistent with the field installation. \*\*
- C - 5 Submit a wall location plat prepared by a land surveyor to the Department of Code Administration prior to any building framing inspection. \*\*

## **C. Federal Environmental Reviews:**

- F - 1. Any project that is defined as a federal undertaking, in accordance with the National Historic Preservation Act of 1966 requires a § 106 review or other National Environmental Policy Act (NEPA) review. Projects that require federal review, approval or permitting, or projects that include federal funding are generally considered a federal undertaking. Coordinate with the Virginia Department of Historic Resources or the appropriate federal or state agency to determine the requirements and process and consult with City Staff.
- Information on the § 106 process is at [www.achp.gov](http://www.achp.gov) or [www.dhr.virginia.gov/environmental-review/](http://www.dhr.virginia.gov/environmental-review/)
  - Information on the NEPA process is at [www.epa.gov](http://www.epa.gov)

## **D. Archaeology**

- C - 1 All archaeological preservation measures shall comply with § 11-411 of the Zoning Ordinance.



**E. Transportation & Environmental Services (T&ES)**

- F - 1. Prepare the Final Site Plan per the Memorandum to Industry 02-09 dated December 3, 2009, Design Guidelines for Site Plan Preparation, which is available at: <http://alexandriava.gov/uploadedFiles/tes/info/Memo%20to%20Industry%20No.%2002-09%20December%203,%202009.pdf> (T&ES) \*
- F - 2. Show and label the sanitary and storm sewer and water line in plan and profile in the first Final Site Plan, cross referencing sheets if plan and profile cannot be on the same sheet. Provide existing and proposed grade elevations plus the rim and invert elevations of all the existing and proposed sanitary and storm sewer at manholes, and water line piping at gate wells on the respective profiles. Use distinctive stationing for various sanitary and storm sewers (if applicable or required by the plan), and water line in plan and use the corresponding stationing in respective profiles. (T&ES) \*
- F - 3. Provide a dimension plan with all proposed features, the final property lines, and associated property line annotation. When possible, show all annotation pertaining to the final property line configuration on the site layout sheet (also referred to as the site plan sheet). (T&ES) \*
- F - 4. Construct all storm sewers to the City of Alexandria standards and specifications. The minimum diameter for storm sewers is 18-inches in the public right-of-way and the minimum size storm sewer catch basin lead is 15-inches. Acceptable pipe materials are Reinforced Concrete Pipe (RCP) ASTM C-76 Class IV. Alternatively, the Director of T&ES may approve AWWA C-151 (ANSI A21.51) Class 52. For roof drainage system, Polyvinyl Chloride (PVC) ASTM D-3034-77 SDR 26 and ASTM 1785-76 Schedule 40 pipes are acceptable. The minimum and maximum velocities are 2.0 fps and 15 fps, respectively. The storm sewers immediately upstream of the first manhole in the public right-of-way shall be owned and maintained privately (i.e., all storm drains not shown within an easement or in a public right-of-way shall be owned and maintained privately). (T&ES) \*, \*\*\*\* *[Include this condition on all plans]*
- F - 5. Construct all sanitary sewers to the City of Alexandria standards and specifications. The minimum diameter of sanitary sewers is 10-inches in the public right-of-way and sanitary lateral 6-inches for all commercial and institutional developments; however, a 4-inch sanitary lateral is acceptable for single family residences. Acceptable pipe materials are Polyvinyl Chloride (PVC) ASTM D-3034-77 SDR 26, ASTM 1785-76 Schedule 40, Ductile Iron Pipe (DIP) AWWA C-151 (ANSI A21.51) Class 52, or reinforced concrete pipe ASTM C-76 Class IV (For 12-inches or larger diameters); Class III may be acceptable on private properties. Minimum and maximum velocities are 2.5 fps and 10 fps, respectively. Laterals shall be connected to the sanitary sewer through a manufactured “Y” or “T” or approved sewer saddle. Where the laterals are being connected to existing Terracotta pipes, replace the section of main and provide manufactured “Y” or “T”, or else install a manhole. (T&ES) \*, \*\*\*\* *[Include this condition on all plans]*
- F - 6. Provide a horizontal separation of 10-feet (edge to edge) between a storm or sanitary sewer and a water line. However, if this horizontal separation cannot be achieved, then install the

sewer and water main in separate trenches and set the bottom of the water main at least 18-inches above of the top of the sewer. If both the horizontal and vertical separations cannot be achieved, then use Ductile Iron Pipe (DIP) AWWA C-151 (ANSI A21.51) Class 52 for the sewer pipe material and pressure test it in place without leakage prior to install. (T&ES) \*, \*\*\*\*

- F - 7. Provide at least 18-inches of vertical separation for sanitary sewer and 12-inches for storm sewer when a water main over crosses or under crosses a sanitary/storm sewer. However, if this cannot be achieved, then construct both the water main and the sanitary/storm sewer using Ductile Iron Pipe (DIP) AWWA C-151 (ANSI A21.51) Class 52 with joints that are equivalent to water main standards for a distance of 10-feet on each side of the point of crossing. Center a section of water main pipe at the point of crossing and pressure test the pipes in place without leakage prior to installation. Provide adequate structural support for sewers crossing over the water main (i.e., concrete pier support and/or concrete encasement) to prevent damage to the water main. Encase in concrete sanitary sewers under creeks and storm sewer pipe crossings with less than 6-inch clearance. (T&ES) \*, \*\*\*\*
- F - 8. No water main pipe shall pass through or touch any part of sanitary/storm sewer manhole. Place manholes at least 10-feet horizontally from the water main whenever possible. When local conditions prohibit this horizontal separation, ensure that the manhole is watertight and tested in place. (T&ES) \*, \*\*\*\*
- F - 9. Maintain at least 12-inches of separation or clearance from water main, sanitary, or storm sewers when crossing underground telephone, cable TV, gas, and electrical duct banks. If this separation cannot be achieved, then use Ductile Iron Pipe (DIP) AWWA C-151 (ANSI A21.51) Class 52 material for the sewer pipe for a distance of 10-feet on each side of the point of crossing and pressure test it in place without leakage prior to installation. Provide adequate structural support for sanitary/storm sewers and water main crossing over the utilities (i.e., pier support and/or concrete encasement) to prevent damage to the utilities. (T&ES) \*, \*\*\*\*
- F - 10. Design any rip rap per the requirements of Virginia Erosion and Sediment Control Handbook, Latest Edition. (T&ES) \*, \*\*\*\*
- F - 11. Show the drainage divide areas on the grading plan or on a sheet that includes topography and structures where each sub-area drains. (T&ES) \*
- F - 12. Provide proposed elevations (contours and spot shots) in sufficient details on grading plan to clearly show the drainage patterns. (T&ES) \* *[Include this condition on all plans]*
- F - 13. Show all existing and proposed public and private utilities and easements on the Final Site Plan with a narrative. (T&ES) \*
- F - 14. Provide a Maintenance of Traffic Plan with the Construction Management Plan prior to Final Site Plan release that replicates the existing vehicular, pedestrian, and bicycle routes as closely as practical. Maintain pedestrian and bike access adjacent to the site per Memo to Industry #04-18. (T&ES) \*

- F - 15. Include these notes on all Maintenance of Traffic Plan Sheets (MOT): (T&ES)
- a. Include the statement: “FOR INFORMATION ONLY” on all MOT Sheets. \*
  - b. No sidewalks can remain closed for the duration of the project. Temporary sidewalk closures are subject to separate approval from T&ES at the time of permit application.
  - c. Contractor shall apply for all necessary permits for uses of the City right-of-way and shall submit MOT Plans with the T&ES Application for final approval at that time.
- F - 16. Add complete streets tabulation to the cover sheet with the Final Site Plan submission. (T&ES) \*
- F - 17. Parking for the residential and commercial uses shall match the Zoning Ordinance requirements in effect at approval by the City Council and/or Planning Commission. (P&Z) (T&ES) \*
- F - 18. Maintain a separation of 150 feet between the beginning of street corner radius and any driveway apron radius on arterial and collector roadways, with a minimum of 100 feet permitted, subject to the approval of the Director of T&ES. (T&ES) \*
- F - 19. Maintain a minimum separation of 30 feet on residential streets between the beginning of the street corner radius and any driveway apron radius. (T&ES) \*
- C - 1 Complete a drainage study and adequate outfall analysis for the total drainage area to the receiving sewer that serves the site, per Article XI of the Zoning Ordinance. If the existing storm system is inadequate, design and build on-site or off-site improvements to discharge to an adequate outfall, even if post development stormwater flow from the site is less than pre-development flow. Demonstrate that a non-erosive stormwater outfall is present to the satisfaction of the Director of T&ES. (T&ES) \*
- C - 2 Comply with the stormwater quality requirements and provide channel and flood protection per the Article XIII of the Zoning Ordinance. Meet the peak flow requirements of the Zoning Ordinance if the development proposes combined uncontrolled and controlled stormwater outfall. If the project site is within the Braddock-West watershed or a known flooding area, provide an additional 10 percent storage of the pre-development flows in the watershed to meet detention requirements. (T&ES) \*
- C - 3 Design stormwater facilities that require analysis of pressure hydraulic systems, including but not limited to the design of flow control structures and stormwater flow conveyance systems according to Article XIII of the Zoning Ordinance, § 13-114(F), as signed and sealed by a professional engineer registered in Virginia. Include the adequate outfall, inlet, and hydraulic grade line analyses to the satisfaction of the Director of T&ES. Provide the references and/or sources used to complete these analyses. (T&ES) \* *[include on all plans]*
- C - 4 The proposed development shall conform to all requirements and restrictions set forth in § 6-300 (Flood plain District) of Article VI (Special and Overlay Zones) of the City of Alexandria Zoning Ordinance. (T&ES) \* *[floodplain developments]*

- C - 5 Provide additional improvements to adjust lighting levels if the site does not comply with § 13-1-3 of the City Code, to the satisfaction of the Director of T&ES to comply with the Code. (T&ES) \*
- C - 6 The location of customer utility services and installing transmission, distribution, and main lines in the public rights-of-way by any public service company shall be governed by franchise agreement with the City per Title 5, Ch. 3, § 5-3-2 and § 5-3-3, respectively. The transformers, switch gears, and boxes shall be outside of the public right-of-way. (T&ES) *[Include on all plans]*
- a. All new customer utility services, extensions of existing customer utility services, and existing overhead customer utility services supplied by any existing overhead facilities must be installed underground below the surface of the ground unless exempted by City Code § 5-3-2, to the satisfaction of the Director of T&ES. \*, \*\*\*\*
  - b. Install all new installation or relocation of poles, towers, wires, lines, cables, conduits, pipes, mains, and appurtenances used or intended to transmit or distribute any service (electric current, telephone, telegraph, cable television, traffic control, fire alarm, police communication, gas, water, steam, or petroleum) whether or not on streets, alleys, or other public places of the City must be installed underground or below the surface of bridges and elevated highways unless exempted by City Code § 5-3-3, to the satisfaction of the Director of T&ES. \*, \*\*\*\*
- C - 7 Discharge flow from downspouts, foundation drains, and sump pumps to the storm sewer per the requirements of Memorandum to Industry 05-14. Pipe discharges from downspouts and sump pump to the storm sewer outfall, where applicable after treating for water quality per Article XIII of the Zoning Ordinance. (T&ES) \*, \*\*\*\*
- C - 8 Provide a total turning radius of 25-feet and show turning movements of standard vehicles in the parking lot per the latest AASHTO vehicular guidance per the requirements of Title 4, Ch. 2, Article B, § 4-2-21, Appendix A, § A 106(6), Figure A 106.1 Minimum Standards for Emergency Vehicle Access to the satisfaction of the Directors of T&ES, Office of Building, and Fire Code Administration. (T&ES) \*
- C - 9 Provide storage space for both trash and recycling materials containers as outlined in the City's "Solid Waste and Recyclable Materials Storage Space Guidelines" to the satisfaction of the Director of Transportation & Environmental Services. Show the turning movements of the collection trucks, minimizing the need to reverse to perform trash or recycling collection. The City's storage space guidelines are at: <https://www.alexandriava.gov/ResourceRecovery> or by contacting the City's Resource Recovery Division at (703) 746-4410 or [commercialrecycling@alexandriava.gov](mailto:commercialrecycling@alexandriava.gov). (T&ES) \*
- C - 10 Submit a Recycling Implementation Plan to the Solid Waste Division, as outlined in Article H of Title 5 prior to Final Site Plan release. The form is available at: <https://www.alexandriava.gov/ResourceRecovery> or contact the Resource Recovery Division at (703) 746-4410 or [CommercialRecycling@alexandriava.gov](mailto:CommercialRecycling@alexandriava.gov). (T&ES) \*

- C - 11 Satisfy the City's Minimum Standards for Private Streets and Alleys prior to Final Site Plan Release. (T&ES) \*
- C - 12 Post the bond for the public improvements before Final Site Plan release. (T&ES) \*
- C - 13 Provide plans and profiles of utilities and roads in public easements and/or public right-of-way for review and approval prior to Final Site Plan release. (T&ES) \*
- C - 14 Provide a phased erosion and sediment control plan consistent with the grading and construction plan prior to Final Site Plan release. (T&ES) \*
- C - 15 Provide as-built sewer data with the final as-built process per the Memorandum to Industry, dated July 20, 2005 prior to release of the Performance Bond. Prepare initial site survey work and plans using Virginia State Plane (North Zone) coordinates based on NAD 83 and NAVD 88. Reference the control points/benchmarks used to establish these coordinates. (T&ES) \*\*\*\*
- C - 16 Design the thickness of sub-base, base, and wearing course using "California Method" as set forth on page 3-76 of the second edition of a book entitled, "Data Book for Civil Engineers, Volume One, Design" written by Elwyn E. Seelye. Determine the values of California Bearing Ratios used in the design by field and/or laboratory tests. Using an alternate pavement section for Emergency Vehicle Easements to support H-20 loading designed using California Bearing Ratio determined through geotechnical investigation and using VDOT method (Vaswani Method) and standard material specifications is acceptable to the satisfaction of the Director of T&ES. (T&ES) \*, \*\*\*\*
- C - 17 Provide all pedestrian, traffic, and wayfinding signage per the Manual of Uniform Traffic Control Devices, latest edition to the satisfaction of the Director of T&ES. (T&ES) \*
- C - 18 Design all driveway entrances, curbing, etc. in or abutting public right-of-way per City standards. (T&ES) \*
- C - 19 All sanitary laterals and/or sewers not shown in the easements shall be owned and maintained privately. (T&ES)
- C - 20 Comply with the City of Alexandria's Noise Control Code, Title 11, Ch. 5, which sets the maximum permissible noise level as measured at the property line. (T&ES)
- C - 21 Comply with the Alexandria Noise Control Code Title 11, Ch. 5, § 11-5-4(b)(15), which permits construction activities to occur during these hours: (T&ES)
- i. Monday Through Friday from 7 AM to 6 PM
  - ii. Saturdays from 9 AM to 6 PM
  - iii. No construction activities allowed on Sundays and holidays
- a. § 11-5-4(b)(19) further restricts pile driving to these hours:
- i. Monday through Friday from 9 AM to 6 PM

- ii. Saturdays from 10 AM to 4 PM
- iii. No pile driving is allowed Sundays and holidays

b. § 11-5-109 restricts excavating work in the right-of-way to:

- i. Monday through Saturday 7 AM to 5 PM
- ii. No excavation in the right-of-way allowed on Sundays, New Year's Day, Independence Day, Thanksgiving, and Christmas.

C - 22 Comply with the stormwater pollutant load reduction, treatment of the Alexandria Water Quality Volume Default, and stormwater quantity management per Article XIII of the Zoning Ordinance. (T&ES) \*

C - 23 Comply with the City of Alexandria, Erosion, and Sediment Control Code, Title 5, Ch. 4. (T&ES) \*

C - 24 Obtain all necessary permits from Virginia Department of Environmental Quality, Environmental Protection Agency, Army Corps of Engineers, and/or Virginia Marine Resources for all project construction and mitigation work prior to Final Site Plan release. This condition includes the state requirement for a state General VPDES Permit for Discharges of Stormwater from Construction Activities (general permit) and associated Stormwater Pollution Prevention Plan for land disturbing activities equal to or greater than one acre. Refer to the Memo to Industry 08-14: <http://alexandriava.gov/tes/info/default.aspx?id=3522>. (T&ES) \*

C - 25 Provide a Stormwater Pollution Prevention Plan (SWPPP) Book with the Final Site Plan. The project's stormwater management (SWM) plan and the erosion and sediment control (E&SC) plan must be approved prior to the SWPPP being deemed approved and processed to receive coverage under the VPDES Construction General Permit. Upon approval, provide an electronic copy of the SWPPP Book with the Signature Set submission and a copy of the coverage letter must be added to the plan sheet containing the stormwater management calculations. Include an electronic copy of the SWPPP Binder Book in the released site plans and include a hardcopy of the SWPPP Binder Book with the on-site construction drawings. Separate parcel owners must seek separate VPDES Construction General Permit Coverage unless a blanket entity incorporated in Virginia has control of the entire project. (T&ES) \*

#### **F. AlexRenew Comments**

*[Specific comments provided for each project]*

#### **G. VAWC Comments**

*[Specific comments provided for each project]*



## **H. Information Technology**

- R - 1. Development cases should not use any addresses in their case name as existing site addresses may change during development. (GIS)

## **I. Fire Department**

- C - 1 Show the location of Fire Department Connections (FDC) prior to Final Site Plan release. (P&Z) (Code) \*

- R - 1. Consider letting the Alexandria Fire Department use buildings that will be razed for training exercises. The Fire Department will formulate conditions of use between the parties and provide a hold harmless agreement to the owner or their representative.

## **J. Police Department**

### ***[Landscape Recommendations]***

- R - 2. Plant shrubbery that achieves a natural growth height of no more than 2.5 to 3 feet with a maximum height of 3 feet when it matures to avoid obstructing the view of patrolling law enforcement officers.

### ***[Open Space]***

- R - 3. Choose benches middle armrests to deter unwanted sleeping and skateboarding.

### ***[Miscellaneous]***

- R - 4. Equip all ground floor windows with a device or hardware that enables securing them in a partially open position. This design prevents breaking and entering when the windows are open for air.

### **Asterisks denote:**

- \* Condition must be fulfilled prior to release of the Final Site Plan
- \*\* Condition must be fulfilled prior to release of the building permit
- \*\*\* Condition must be fulfilled prior to issuance of the Certificate of Occupancy
- \*\*\*\* Condition must be fulfilled prior to release of the bond

**EXHIBIT 2.5.1(c)**  
**FEMA FY22 BRIC Application Schematics –**  
**INTERIM AGREEMENT**

**for the**  
**Waterfront Implementation Project**  
**City of Alexandria**

[INCLUDED]



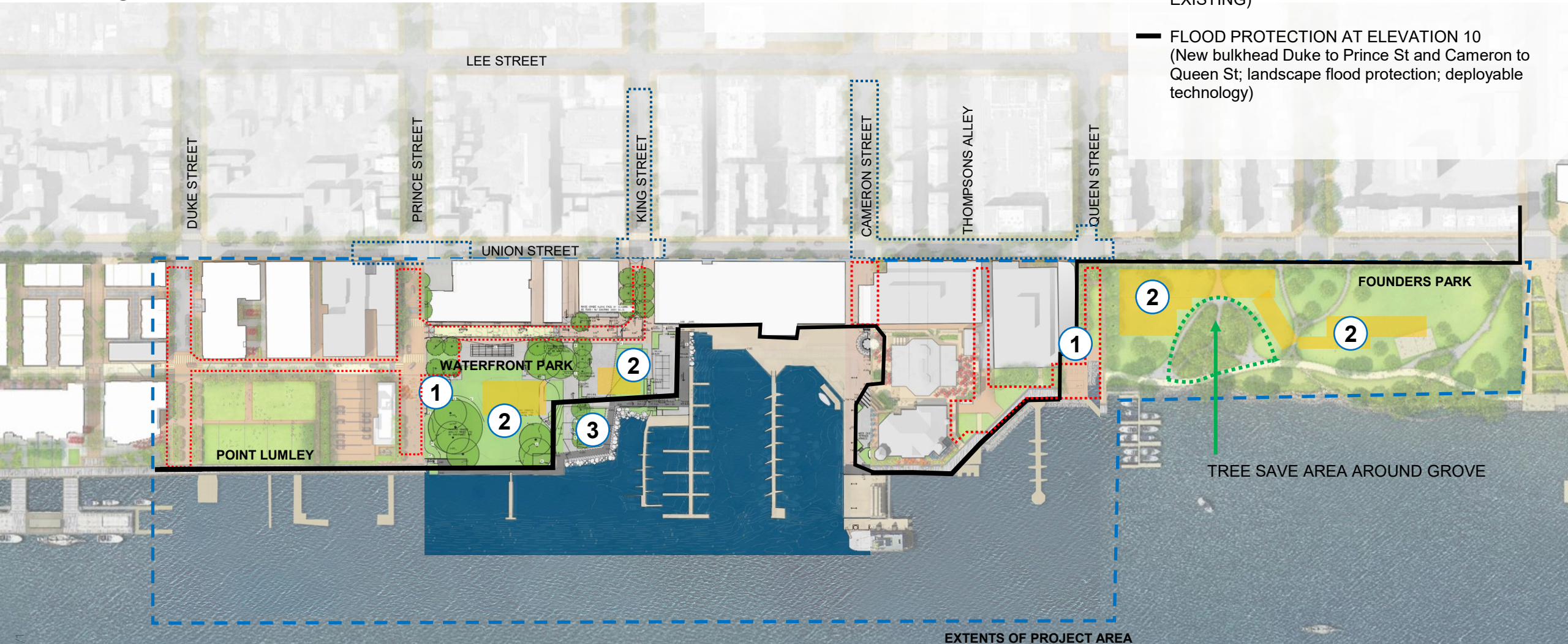
# Proposed Project

## Overall Plan View

### LEGEND

- 1 PUMP STATION
- 2 UNDERGROUND STORMWATER DETENTION CHAMBERS
- 3 RETAIN WATERFRONT PARK AT KING STREET

- ..... STREETSCAPE AND STORMWATER INFRASTRUCTURE IMPROVEMENTS (MATERIALS TO MATCH EXISTING)
- ..... STORMWATER INFRASTRUCTURE IMPROVEMENTS (MATERIALS TO MATCH EXISTING)
- FLOOD PROTECTION AT ELEVATION 10 (New bulkhead Duke to Prince St and Cameron to Queen St; landscape flood protection; deployable technology)



EXTENTS OF PROJECT AREA



## LEGEND

- 1 PUMP STATION
- 2 UNDERGROUND STORMWATER DETENTION CHAMBERS
- 3 RETAIN WATERFRONT PARK AT KING STREET

- STREETSCAPE AND STORMWATER INFRASTRUCTURE IMPROVEMENTS (COMMON ELEMENT PAVING)
- STORMWATER INFRASTRUCTURE IMPROVEMENTS (MATERIALS TO MATCH EXISTING)

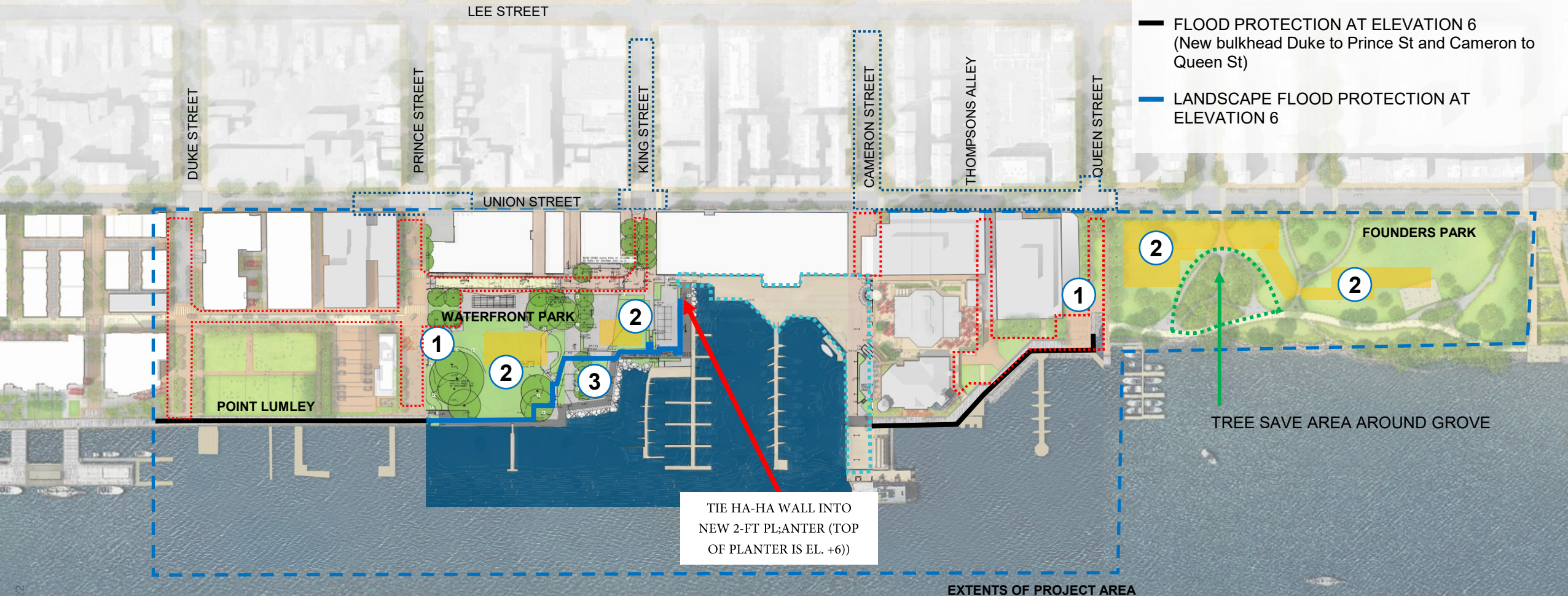
EXISTING GRADE ABOVE ELEVATION 6

FLOOD PROTECTION AT ELEVATION 6  
(New bulkhead Duke to Prince St and Cameron to Queen St)

LANDSCAPE FLOOD PROTECTION AT ELEVATION 6

# Proposed Project

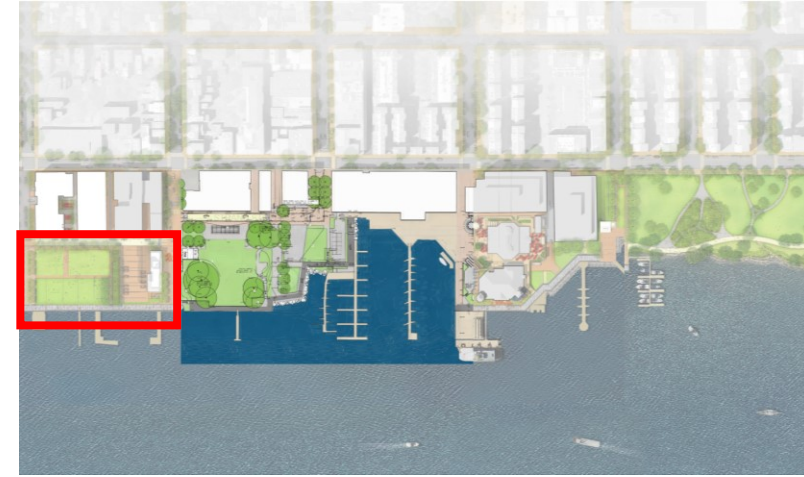
Plan View Showing the New Bulkhead and Landscape Flood Protection at Elevation 6



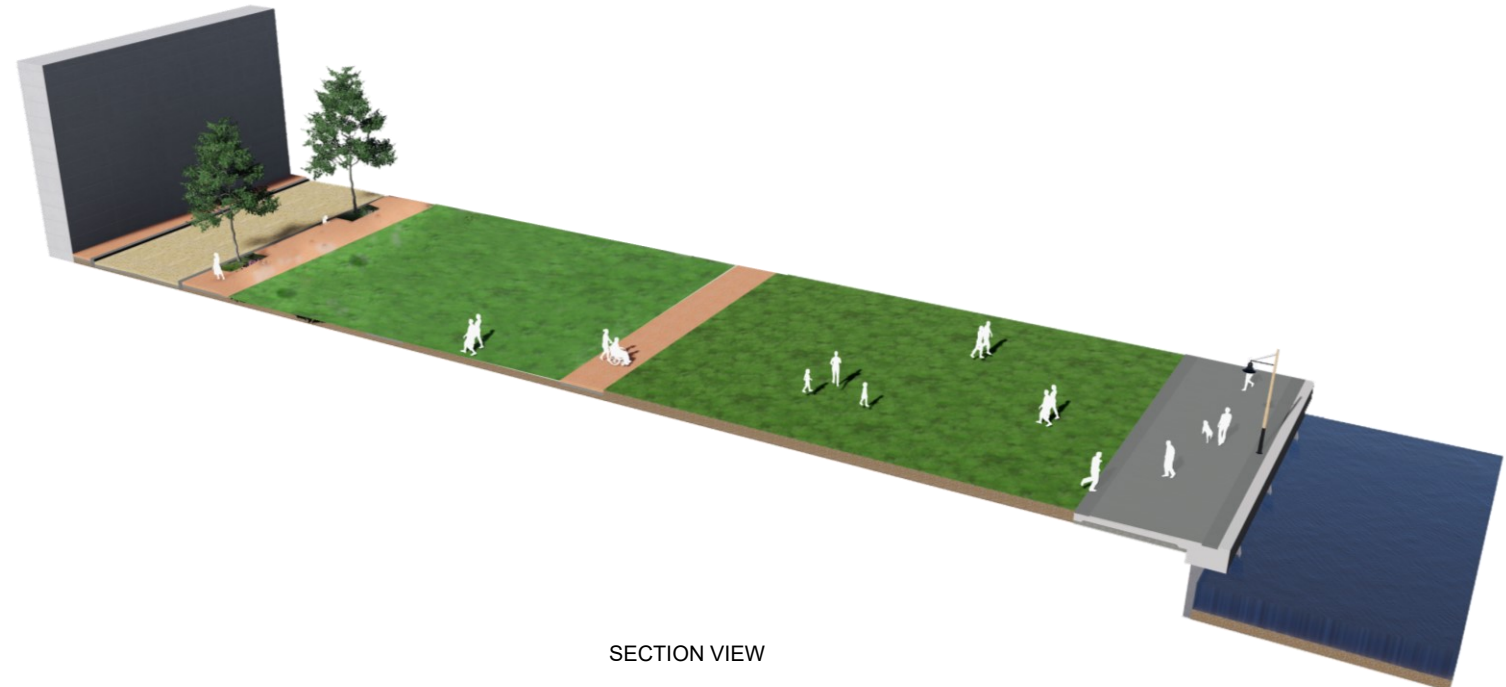
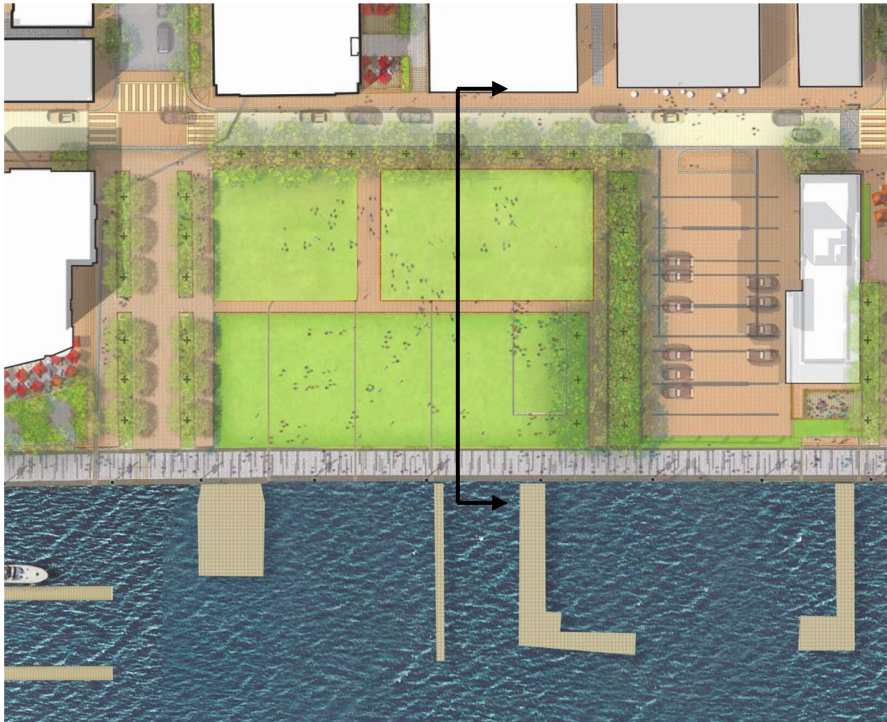


# Plan & Section View of Point Lumley

Deployable FloodBreak Barrier is not shown but is intended to be recessed in the new bulkhead. During dry conditions it is not visible and top of barrier functions as the Waterfront walkway.



KEY PLAN



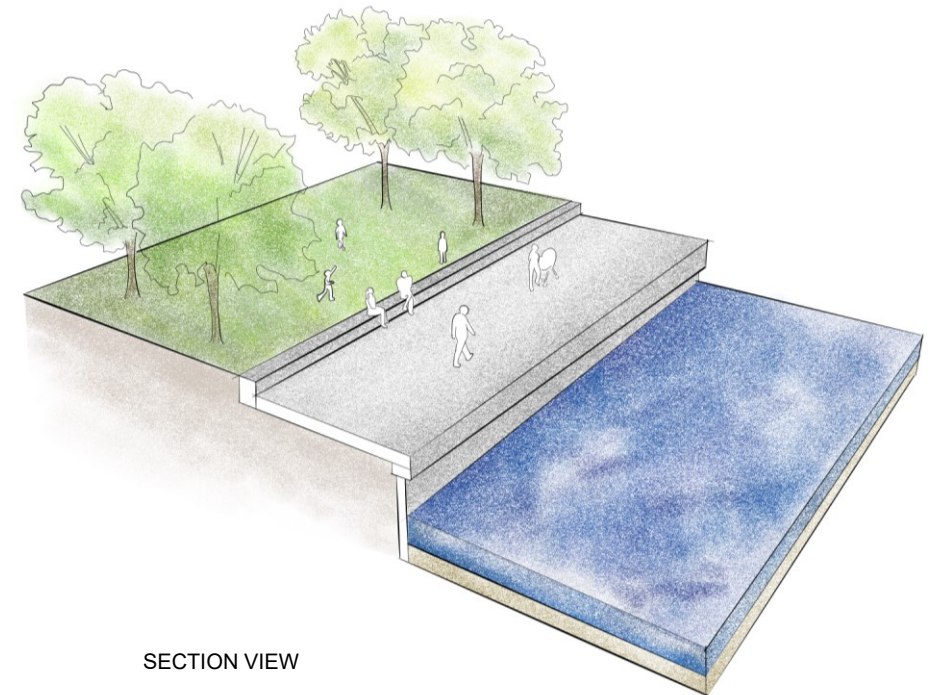
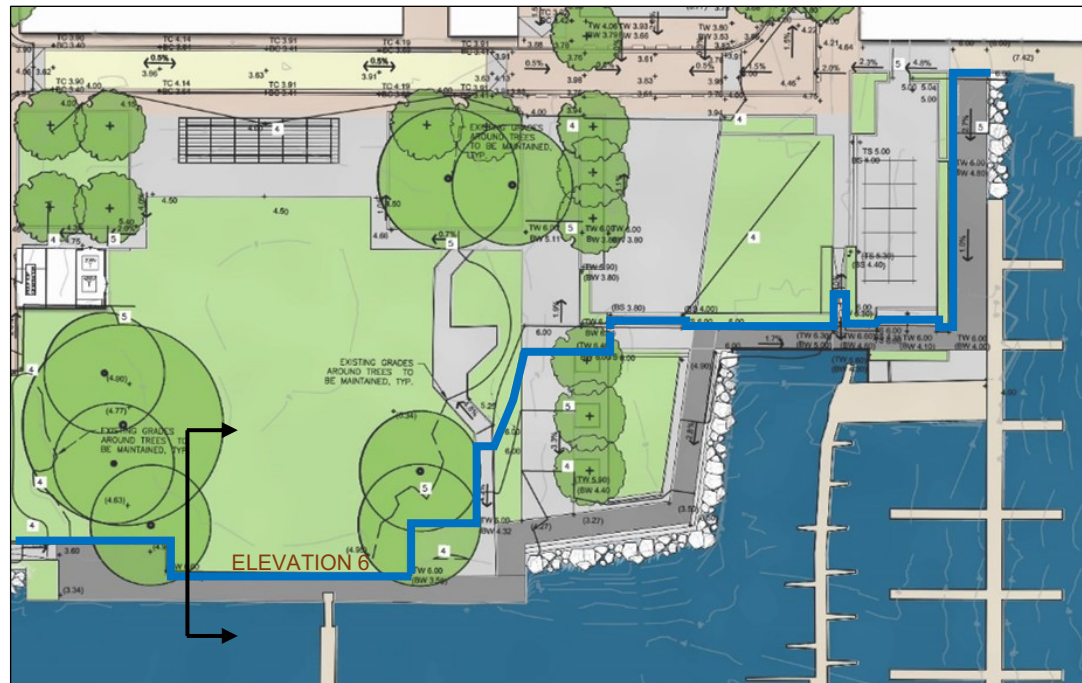
SECTION VIEW

# Plan & Section View of Waterfront Park

Deployable FloodBreak Barrier is not shown but is intended to be recessed in the new bulkhead. During dry conditions it is not visible and top of barrier functions as the Waterfront walkway.



KEY PLAN



SECTION VIEW

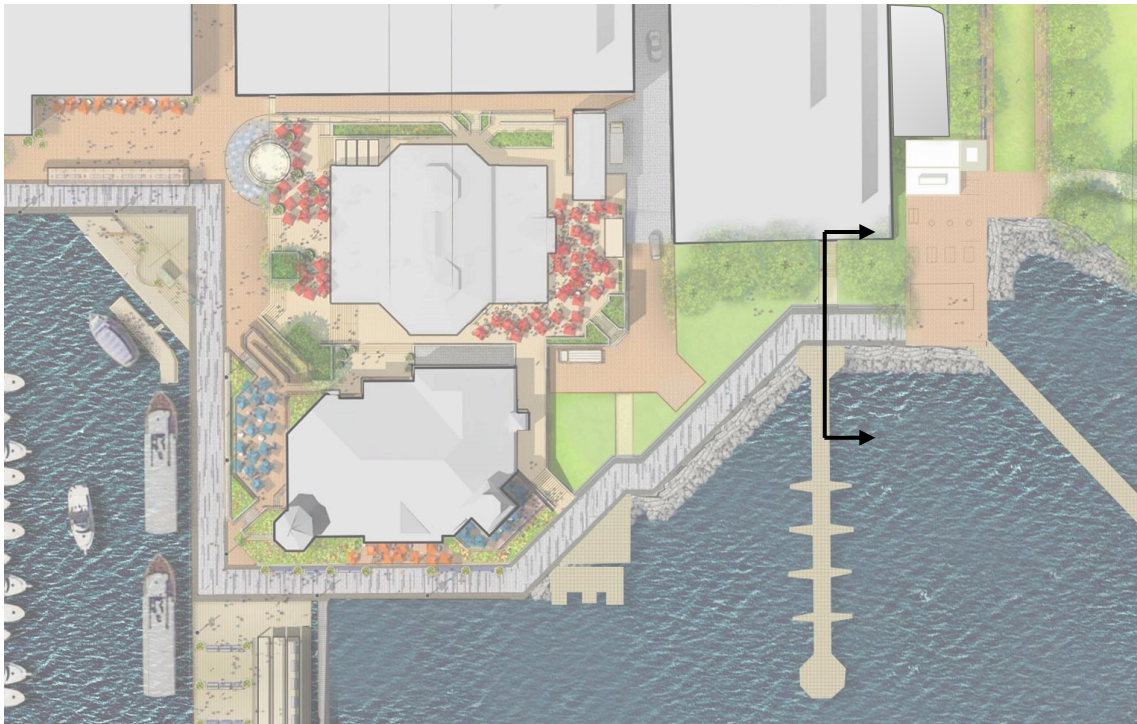


# Plan & Section View of Thompsons Alley / Queen Street End

Deployable FloodBreak Barrier is not shown but is intended to be recessed in the new bulkhead. During dry conditions it is not visible and top of barrier functions as the Waterfront walkway.



KEY PLAN



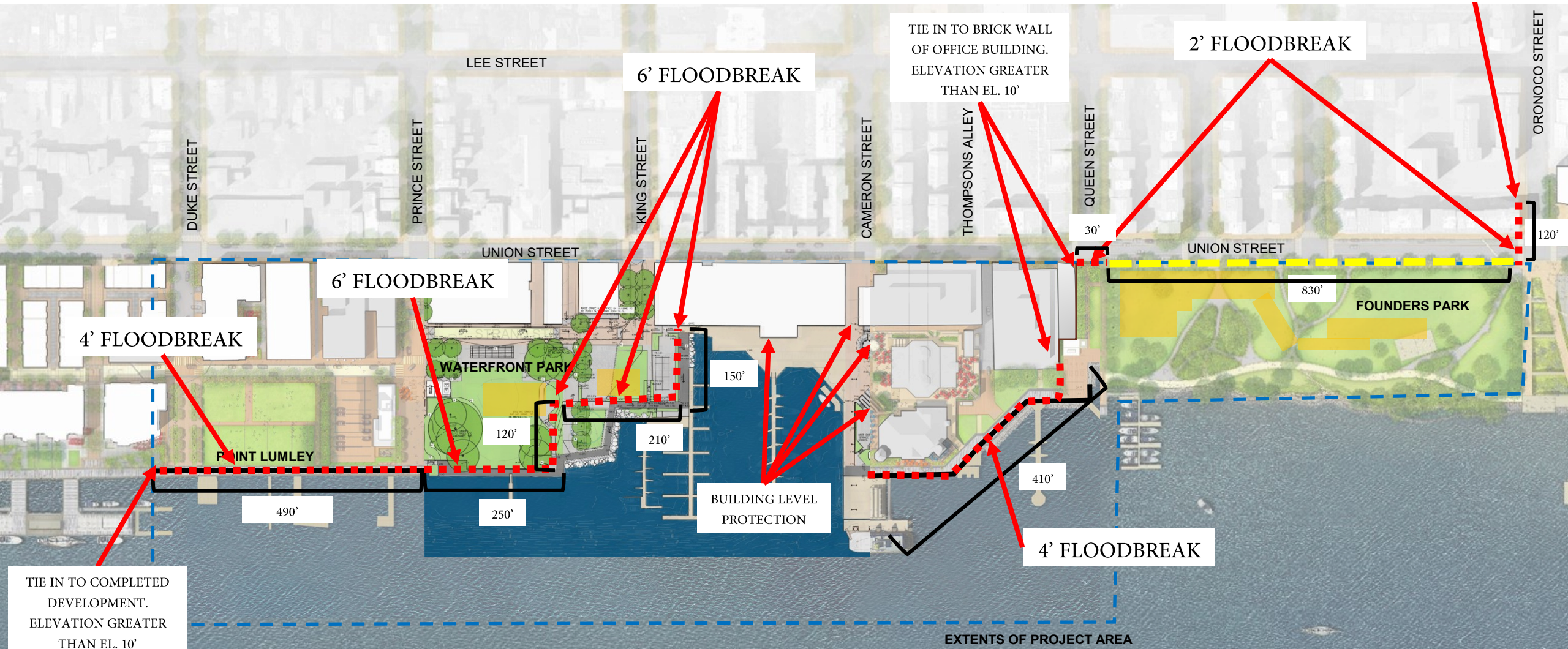
SECTION VIEW



# Proposed Project

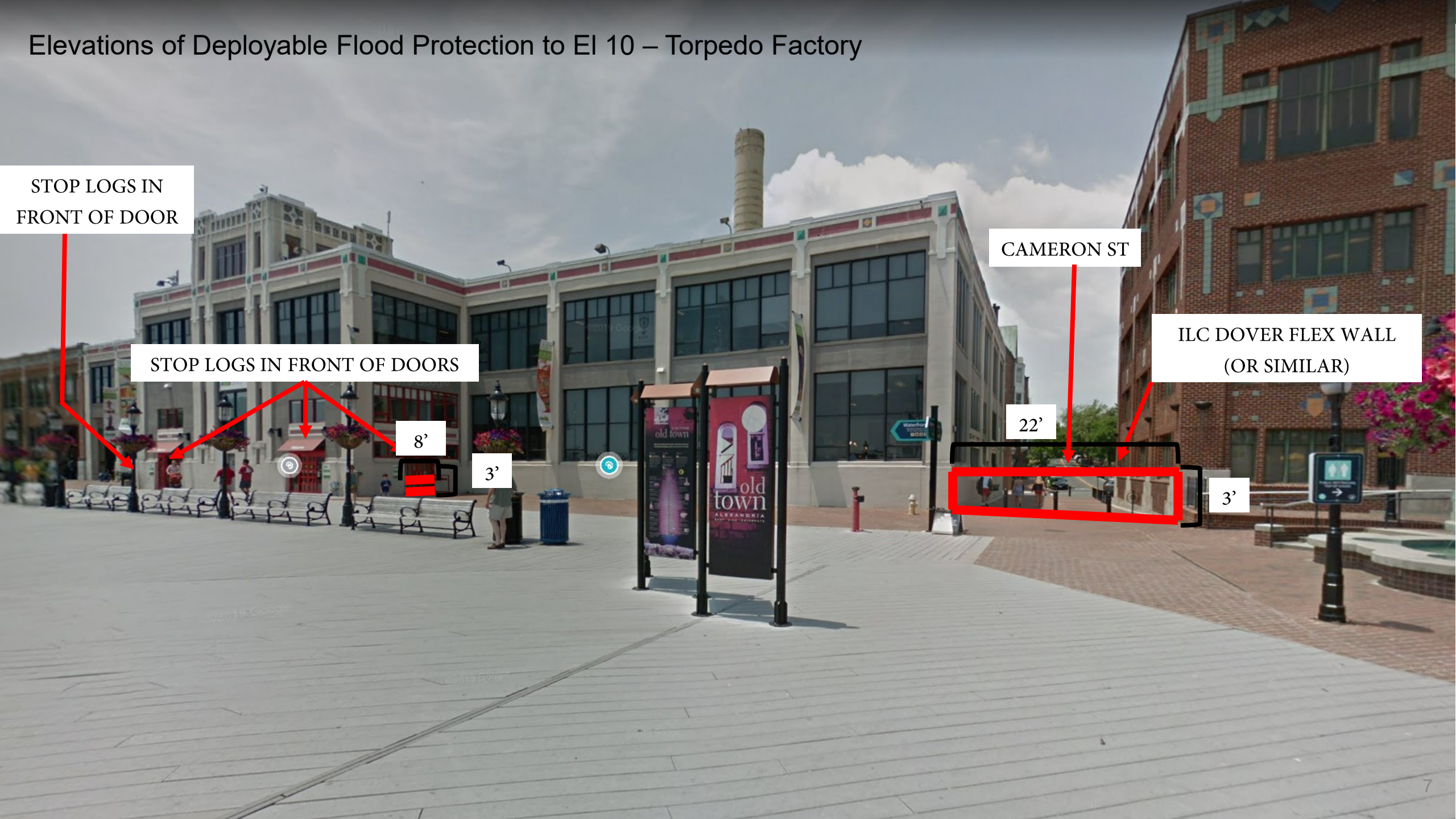
## Detailed Plan View of Deployable Flood Protection and Landscape-Protection to El 10

EXTEND BARRIER UP TO  
EXISTING EL. 10' CONTOUR  
AND TIE INTO BUILDING





# Elevations of Deployable Flood Protection to EI 10 – Torpedo Factory



STOP LOGS IN  
FRONT OF DOOR

STOP LOGS IN FRONT OF DOORS

CAMERON ST

ILC DOVER FLEX WALL  
(OR SIMILAR)

8'

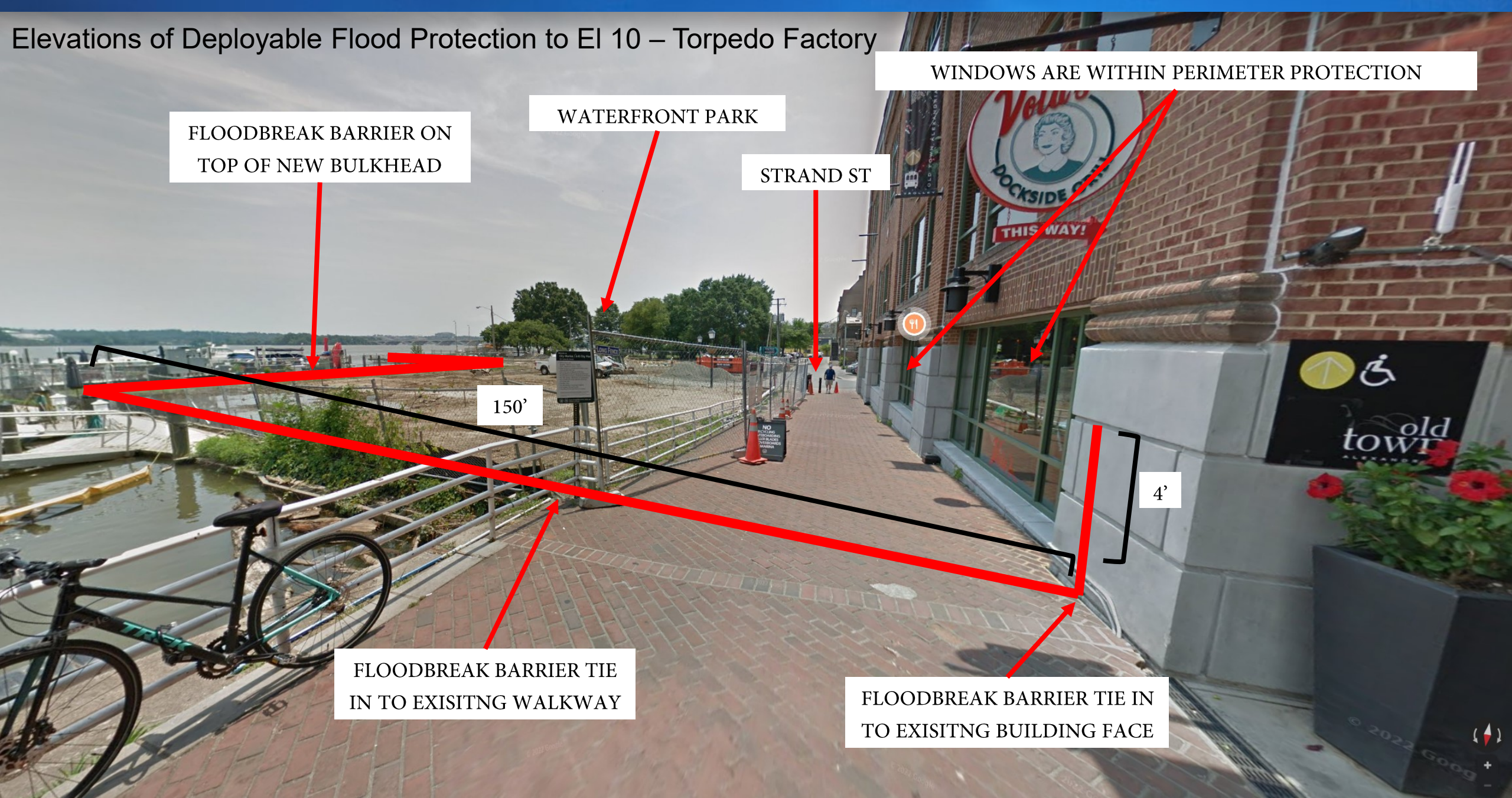
3'

22'

3'



Elevations of Deployable Flood Protection to El 10 – Torpedo Factory



WINDOWS ARE WITHIN PERIMETER PROTECTION

FLOODBREAK BARRIER ON  
TOP OF NEW BULKHEAD

WATERFRONT PARK

STRAND ST

150'

FLOODBREAK BARRIER TIE  
IN TO EXISITNG WALKWAY

4'

FLOODBREAK BARRIER TIE IN  
TO EXISITNG BUILDING FACE



Elevations of Deployable Flood Protection to El 10 – Torpedo Factory

WINDOWS ARE  
ABOVE EL 10

STOP LOG  
BARRIERS

10'

3'

3'

FINISHED  
FLOOR = EL 7

10'



# Elevations of Deployable Flood Protection to El 10 – Blackwall Hitch

WINDOWS ARE  
ABOVE EL 10

STOP LOG BARRIER

STAIRS RISE  
ABOVE EL 10

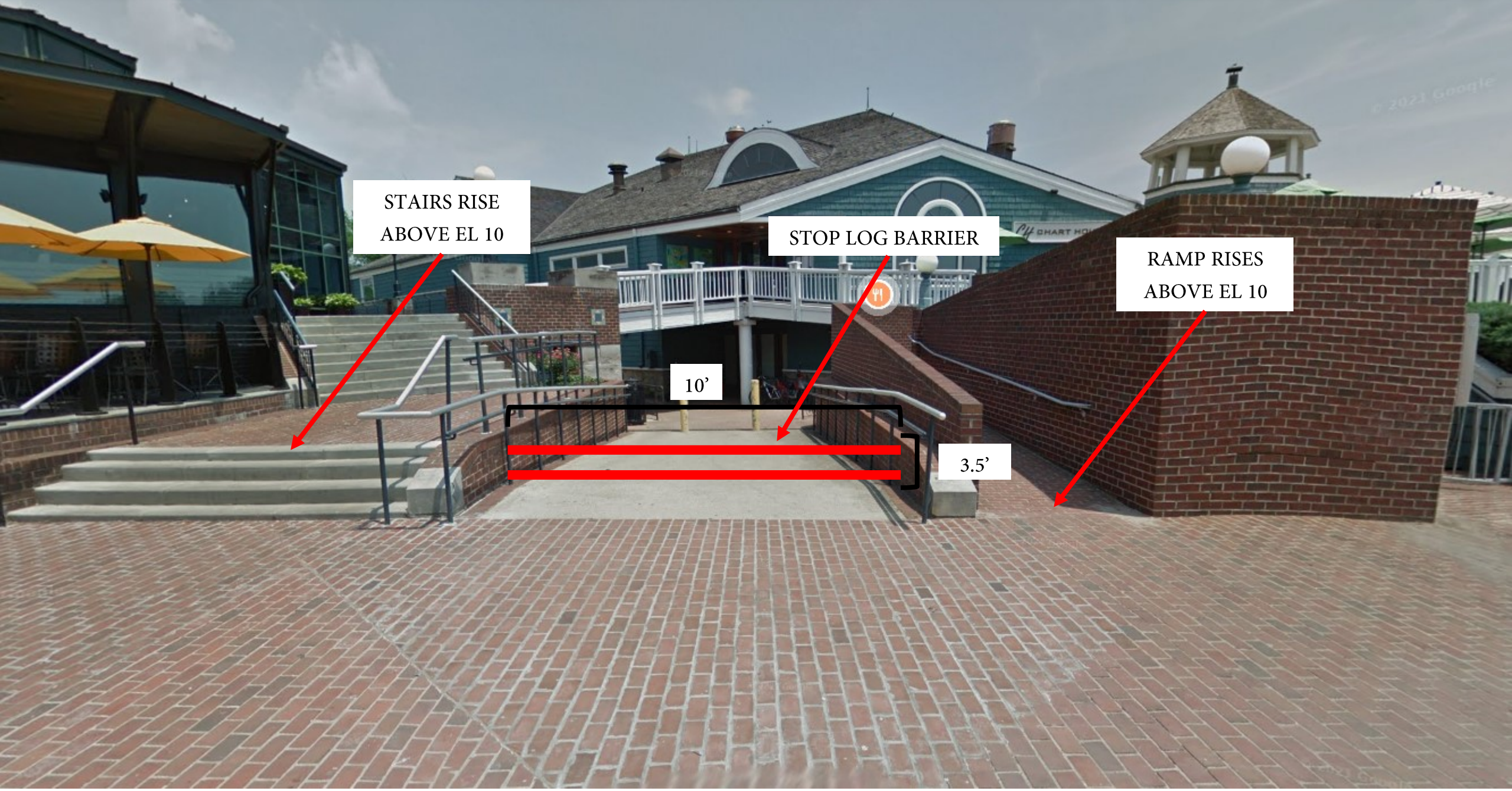
8'

3'

FINISHED  
FLOOR = EL 7



# Elevations of Deployable Flood Protection to El 10 – Chart House



STAIRS RISE  
ABOVE EL 10

STOP LOG BARRIER

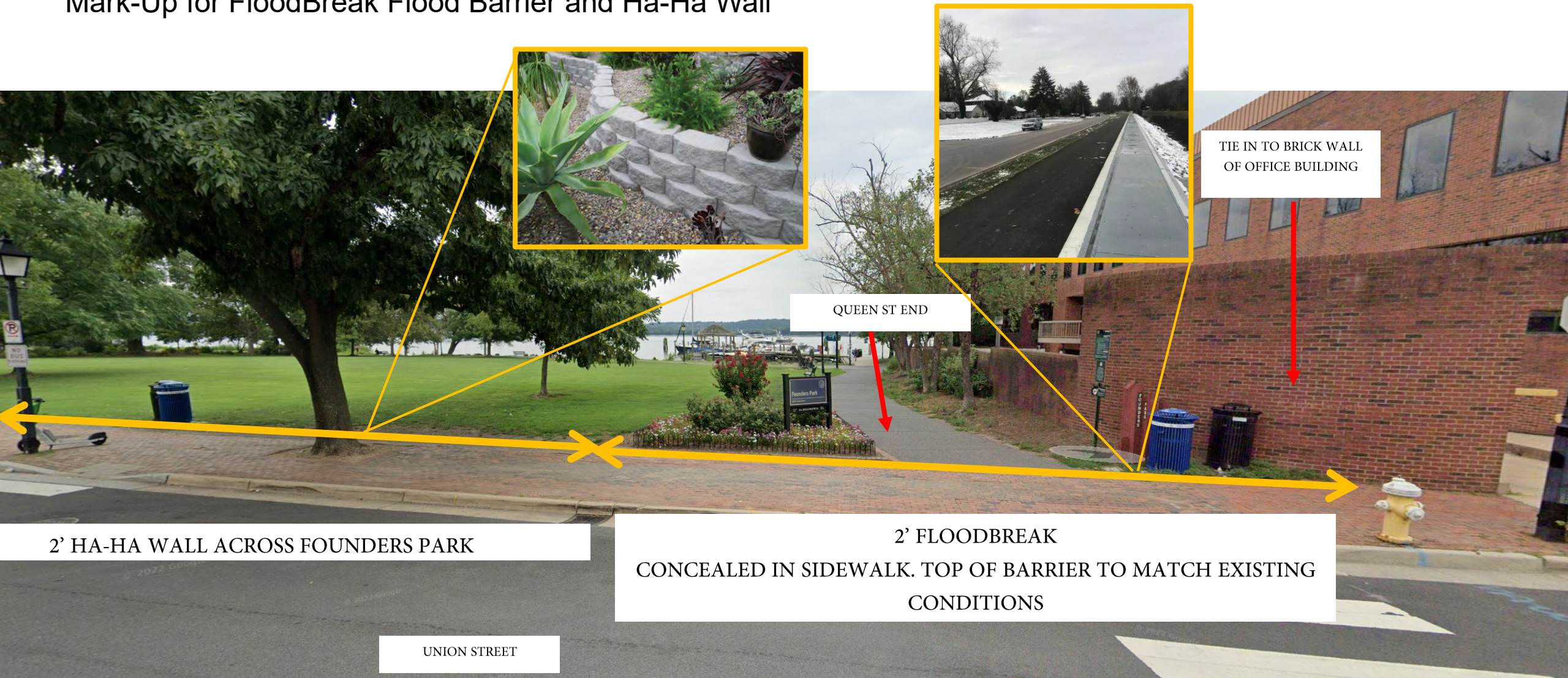
RAMP RISES  
ABOVE EL 10

10'

3.5'



# Founders Park/Queen Street Intersection at Union Street Mark-Up for FloodBreak Flood Barrier and Ha-Ha Wall



**EXHIBIT 2.5.1(d)**

**City of Alexandria Flood Insurance Study (Dated June 16, 2011) –  
INTERIM AGREEMENT**

**for the**

**Waterfront Implementation Project**

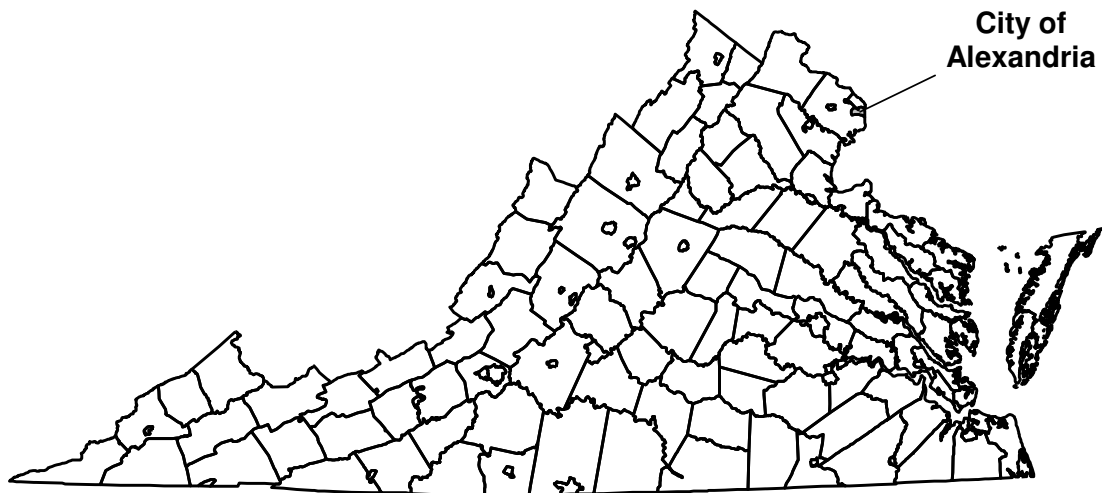
**City of Alexandria**

**[INCLUDED]**

# **FLOOD INSURANCE STUDY**



**CITY OF ALEXANDRIA,  
VIRGINIA  
(INDEPENDENT CITY)**



**JUNE 16, 2011**



**Federal Emergency Management Agency**

FLOOD INSURANCE STUDY NUMBER  
515519V000A

NOTICE TO  
FLOOD INSURANCE STUDY USERS

Communities participating in the National Flood Insurance Program have established repositories of flood hazard data for floodplain management and flood insurance purposes. This Flood Insurance Study (FIS) may not contain all data available within the repository. It is advisable to contact the community repository for any additional data.

Part or all of this FIS may be revised and republished at any time. In addition, part of this FIS may be revised by the Letter of Map Revision process, which does not involve republication or redistribution of the FIS. It is, therefore, the responsibility of the user to consult with community officials and to check the community repository to obtain the most current FIS components.

Initial FIS Date: June 16, 2011

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Four Mile Run	Panels 06P-07P
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#### Exhibit 2 - Flood Insurance Rate Map

Flood Insurance Rate Map Index

**FLOOD INSURANCE STUDY  
CITY OF ALEXANDRIA, VIRGINIA (INDEPENDENT CITY)**

**1.0 INTRODUCTION**

**1.1 Purpose of Study**

This Flood Insurance Study (FIS) investigates the existence and severity of flood hazards in, or revises and updates previous FISs / Flood Insurance Rate Maps (FIRMs) in the geographic area of the City of Alexandria.

This FIS aids in the administration of the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973. This FIS has developed flood-risk data for various areas of the community that will be used to establish actuarial flood insurance rates. This information will also be used by the City of Alexandria to update existing floodplain regulations as part of the Regular Phase of the National Flood Insurance Program (NFIP), and will also be used by local and regional planners to further promote sound land use and floodplain development. Minimum floodplain management requirements for participation in the NFIP are set forth in the Code of Federal Regulations at 44 CFR, 60.3.

In some states or communities, floodplain management criteria or regulations may exist that are more restrictive or comprehensive than the minimum Federal requirements. In such cases, the more restrictive criteria take precedence, and the State (or other jurisdictional agency) shall be able to explain them.

**1.2 Authority and Acknowledgments**

The sources of authority for this FIS are the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973.

The original flood hazard analysis was prepared by the Baltimore District of the U.S. Army Corps of Engineers (USACE) in 1970. It was funded by the Federal Insurance Administration of the Department of Housing and Urban Development. The FIRMs have since been revised several times, but a FIS report was not previously published for the City of Alexandria.

For this initial FIS, a detailed report titled *Hydrologic and Hydraulic Analysis for the Cameron Run Watershed* was prepared by the USACE, Baltimore District in May 2007 and has been incorporated into this report. The investigation was conducted by the Planning Division of the USACE, Baltimore District, under Interagency Agreement No. HSFE03-06-X-0028. The work for the investigation was completed in March 2007. Fairfax County Department of Stormwater Planning, Virginia Department of Transportation (VDOT), and FEMA provided hydraulic data for several of the flooding sources in this investigation (Reference 4). In June 2009, the

Baltimore Corps District provided a follow-up study to the aforementioned report titled *Overland Flood Analysis for Hooffs Run, City of Alexandria, Virginia* which provided a more detailed hydrologic and hydraulic analysis for Hooffs Run. This analysis was used to generate flood profiles and floodplain boundaries for Hooffs Run (Reference 9).

In addition, tidal flood hazards for the Potomac River were updated according to a cursory-level frequency-of-occurrence storm surge analysis performed by the USACE Engineer Research and Development Center (ERDC) Coastal and Hydraulics Laboratory (CHL) (Reference 7). This analysis was completed on April 3, 2008 and the results were used to develop a unified storm surge profile for the Potomac River. The final Potomac unified profile is provided in a report titled *Unified Storm Surge Profile Methodology – For the Tidal Portions of the Potomac River*, Version 1.1, August 6, 2008. This document, prepared by the Michael Baker Corporation Regional Management Center 3 (RMC3), was considered the best available data for mapping the Potomac River at the time of this restudy (Reference 8).

Planimetric base map information is provided in digital format for all FIRM panels. These files were provided by the City of Alexandria and were compiled at a scale of 1" = 100' from aerial photography dated 2004. Users of this FIRM should be aware that minor adjustments may have been made to specific base map features.

The coordinate system used for the production of this FIRM is Universal Transverse Mercator (UTM), Zone 18 North, North American Datum of 1983 (NAD 83), GRS 80 spheroid. Corner coordinates shown on the FIRM are in latitude and longitude referenced to the UTM projection, NAD 83. Differences in the datum and spheroid used in the production of FIRMs for adjacent counties may result in slight positional differences in map features at the county boundaries. These differences do not affect the accuracy of information shown on the FIRM.

The Digital Flood Insurance Rate Map (DFIRM) production for this study was performed by AMEC, Earth & Environmental, Inc. for FEMA, under Contract No. EMP-2001-CO-2411, Task Order 0023.

### 1.3 Coordination

An initial CCO meeting is held typically with representatives of FEMA, the community, and the study contractor to explain the nature and purpose of a FIS and to identify the streams to be studied by detailed methods. A final CCO meeting is held typically with representatives of FEMA, the community, and the study contractor to review the results of the study.

For this FIS, an initial CCO meeting was held July 21, 2005. This meeting was attended by representatives of FEMA, the study contractors, and the City of Alexandria. A final CCO meeting was held on September 29, 2009,

to discuss the results of this study. This meeting was attended by representatives from FEMA, the study contractors, and the City of Alexandria.

## **2.0 AREA STUDIED**

### **2.1 Scope of Study**

This FIS covers the geographic area of the Independent City of Alexandria, Virginia.

All or portions of the flooding sources listed in Table 1 “Flooding Sources Studied by Detailed Methods” were studied by detailed methods. Limits of detailed study are indicated on the FIRMs (Exhibit 1).

**TABLE 1 – FLOODING SOURCES STUDIED BY DETAILED METHODS**

Backlick Run  
Cameron Run  
Four Mile Run  
Holmes Run  
Hooffs Run  
Hooffs Run Overland Flow  
South Lucky Run  
Old Cameron Run Channel  
Potomac River  
Strawberry Run  
Taylor Run  
Timber Branch  
Tributary 1 to Cameron Run  
Tributary 1 to Taylor Run  
Tributary 2 to Taylor Run

The areas studied by detailed methods were selected with priority given to all known flood hazard areas and areas of projected development and proposed construction at the time of the original study.

No Letters of Map Revision (LOMRs) were recorded for this study.

For this revision, new hydrologic and hydraulic analyses were performed for the flooding sources identified in Table 2, “Studied Stream Reaches”. As mentioned previously, new data was provided in three separate reports.

**TABLE 2 – STUDIED STREAM REACHES**

<b>Flooding Source</b>	<b>Community(ies)</b>	<b>Study Start Point (Downstream)</b>	<b>Study End Point (Upstream)</b>
Backlick Run	City of Alexandria and Fairfax County	Confluence with Holmes Run	Near Springfield Interchange
Cameron Run	City of Alexandria and Fairfax County	Confluence with Potomac River	Confluence of Backlick Run and Holmes Run
Holmes Run	City of Alexandria and Fairfax County	Confluence with Backlick Run	U.S. Route 66
Hooffs Run	City of Alexandria	Confluence with Cameron Run	Linden Street
Old Cameron Run Channel	City of Alexandria	Confluence with Hooffs Run	Culvert at Mill Road
Potomac River	City of Alexandria	Confluence of Cameron Run	Confluence of Four Mile Run
Strawberry Run	City of Alexandria	Culvert at Early Street	Saylor Place
Taylor Run	City of Alexandria	Confluence with Cameron Run	Near intersection of Scroggins Road and King Street
Tributary 1 to Cameron Run	City of Alexandria	Confluence with Cameron Run	0.45 miles upstream of confluence with Cameron Run
Tributary 1 to Taylor Run	City of Alexandria	Confluence with Taylor Run	Downstream of Railroad
Tributary 2 to Taylor Run	City of Alexandria	Confluence with Taylor Run	Culvert at Key Drive
Timber Branch	City of Alexandria	Culvert at Glendale Avenue	Culvert at Valley Drive

## 2.2 Community Description

The City of Alexandria is located in the northeastern tip of Virginia on the banks of the Potomac River across from Washington, D.C, which lies to the east. The city is bounded by the Capital Beltway (I-495) to the south and Washington National Airport to the north. Fairfax County and Falls Church lie to the west and south and Arlington County is located to the north.

The population of the city was estimated at 128,283 in 2000 and experienced a 6.8% rate of growth over the next 6 years resulting in a 2006 estimate of 136,974 (Reference 1).

Since the late 1980s, Alexandria has experienced unprecedented commercial development. Today the Old Town historic district is known for its array of museums, architecture, special events, fine restaurants and hotels, and other attractions that draw more than 1.5 million international and domestic visitors to it each year. More than two million square feet of new office complexes have been constructed. With this development, the

City has become a mecca for divisional, regional, national, and multinational headquarters for operations ranging from research and development to high technology, associations, and professional services. According to the City profile as part of the Virginia Economic Development Partnership, Alexandria claims the fourth largest concentration of professional associates and trade associations in the country, behind only New York City, Washington, D.C. and Chicago (Reference 2).

The average annual precipitation consists of approximately 40 inches of rainfall and approximately 17 inches of snowfall. The climate of the city is pleasant except for short periods of weather extremes. It has warm, humid summers, while winters are generally mild but wet. Average temperatures for January and July are 36 degrees Fahrenheit (°F) and 79°F, respectively (Reference 3).

The topography of Alexandria is mainly rolling hills with a maximum elevation of approximately 280 feet and a minimum elevation of 3 feet above sea level.

## 2.3 Principal Flood Problems

In general, three types of storms historically cause flooding (non-tidal) in the City of Alexandria: thunderstorms, tropical systems, and frontal storms. The summer thunderstorms, with high intensity-short duration rainfall, are the major cause of flooding. The three largest flood events on record, which included record rainfall over long duration (i.e. 24 hours), was primarily caused by short duration, high intensity bursts of rainfall (i.e. 6 hours or less) during the larger storm duration (Reference 4).

The city experiences nuisance flooding due to an overtaxed stormwater system and owing to the high levels of development described above. Also, its proximity to the tidally influenced Potomac River and low-lying developed areas, both residential and commercial, make parts of the City susceptible to significant flood related damage. It has been included in several disaster declarations, most recently due to severe storms in June of 2006 and as a result of Hurricane Isabel in 2003. Extensive damage due to storm surge and riverine flooding occurred during both of these events.

The highest recorded flows determined by an analysis of two USGS gaging stations located in Alexandria (along Four Mile Run and Cameron Run) occurred in 2006 and 1972, respectively. The gage height at Four Mile Run was 20.20 feet with a streamflow of 18,100 cfs, due to high levels of rainfall which fell across the Potomac River basin area in late June of 2006, resulting in several homes being flooded within the community. The gage height at Cameron Run was 18.14 feet with a streamflow of 19,900 cfs on June 22, 1972, associated with Hurricane Agnes (Reference 5).

The most recent widespread flooding in the City Alexandria occurred in June 2006. Several roadways, including Telegraph Road and U.S. Interstate Highway 495/95 (Capital Beltway) were overtopped; commercial and residential structures in the City of Alexandria reported significant flooding; stormwater infrastructure was inundated with larger than design flows causing deep ponding of water on roadways; and the Huntington area in Fairfax County, on the southern bank of Cameron Run, received significant flood damages. News reports estimated damages in Huntington near \$10 million (Reference 10).

On September 23, 2003, the USGS gaging station (01653000) at Cameron Run in Alexandria recorded a peak streamflow of 9,330 cfs with a gage height of 11.29 feet as a result of Hurricane Isabel (Reference 5). The hurricane's eye tracked well west of the Chesapeake Bay, but the storm's 40 to 60 mph sustained winds pushed a bulge of water northward up the bay and its tributaries producing a record storm surge. The Virginia western shore counties of the Chesapeake Bay and the tidal tributaries of the Potomac, Rappahannock and other smaller rivers, experienced a storm surge which reached 5 to 9 feet above normal tides. In many locations, Isabel's surge was higher than the previous record storm known as the Chesapeake-Potomac Hurricane of 1933. Impact on the commonwealth of Virginia as a whole is staggering with \$1.6 billion in damages with over 1,186 homes and 77 businesses destroyed, 9,110 homes and 333 businesses with major damage and 107,908 homes and over 1,000 businesses affected or impacted with minor damage. An estimated 660,000 dump trucks of debris was generated. At least 10 people were directly killed by the storm with hundreds injured. Almost 2 million electrical customers found themselves without power. Crop losses were calculated to be \$59.3 million with another \$57.6 million in damages to fences, farm buildings and equipment. Cost to Virginia's Dominion Power were \$128 million, Red Cross outlays \$6 million, military bases \$283 million, private property \$732 million, National Park Service \$123 million, and public property \$270 million (Reference 6).

## 2.4 Flood Protection Measures

Floodplain management measures in Alexandria are described in the Virginia Uniform Statewide Building Code (Commonwealth of Virginia, 1975). This building code was adopted and is enforced by the city building inspector. The code states that, where a structure is located in the 1-percent annual chance flood plain, the lowest floor must be built at or above the 1-percent annual chance flood elevation, except for non-residential structures which may be flood-proofed to that level.

A flood control channel was constructed in the 1970's along Cameron Run between the Capital Beltway and the railroad bridge. At Cameron Station, a concrete-lined flood control channel was constructed on Backlick Run to protect residential areas from flooding (Reference 4).

The USACE constructed a flood protection project on Four Mile Run from Interstate 395 to a point 1,050 feet downstream of South Arlington Ridge Road. The project, which impacts both Arlington County and the City of Alexandria, consists of 11,850 feet of improved channel, approximately 4,700 linear feet of floodwalls, bridge improvements, drop structures and other appropriate hydraulic modifications to carry the design flow. Although the project was initially designed to protect against the 1-percent annual chance flooding event, it currently is not certified to provide this level of protection (Reference 28).

### **3.0 ENGINEERING METHODS**

For the flooding sources studied in detail in the community, standard hydrologic and hydraulic study methods were used to determine the flood hazard data required for this study. Flood events of a magnitude which are expected to be equaled or exceeded once on the average during any 10-, 50-, 100-, or 500-year period (recurrence interval) have been selected as having special significance for floodplain management and for flood insurance rates. These events, commonly termed the 10-, 50-, 100-, and 500-year floods, have a 10-, 2-, 1-, and 0.2-percent chance, respectively, of being equaled or exceeded during any year. Although the recurrence interval represents the long term average period between floods of a specific magnitude, rare floods could occur at short intervals or even within the same year. The risk of experiencing a rare flood increases when periods greater than 1 year are considered. For example, the risk of having a flood which equals or exceeds the 100-year flood (1-percent chance of annual exceedance) in any 50-year period is approximately 40 percent (4 in 10), and, for any 90-year period, the risk increases to approximately 60 percent (6 in 10). The analyses reported herein reflect flooding potentials based on conditions existing in the community at the time of completion of this study. Maps and flood elevations will be amended periodically to reflect future changes.

#### **3.1 Hydrologic Analyses**

Hydrologic analyses were carried out to establish the peak discharge-frequency relationships for each flooding source studied in detail affecting the county. Detailed hydrologic information was unavailable for South Lucky Run, one of two flooding sources that were not restudied as part of this revision.

Since Four Mile Run forms the corporate boundary between the City of Alexandria and Arlington County, hydrologic information for Four Mile Run was obtained from the effective FIS for Arlington County, dated November 3, 1981. The hydrologic analysis for Four Mile Run was a modification of the work presented by the USGS in their Water-Supply Paper, *Effects of Urban Development on Floods in Northern Virginia*, which relates basin characteristics to stream flow characteristics (Reference 15). This analysis followed the standard log-Pearson Type III method as outlined by the Water Resources Council (Reference 26).



Using a multiple linear regression discharges at the selected recurrence intervals were then related to basin characteristics (Reference 27). Those regression equations were then used to determine discharges on the ungaged portions of Four Mile Run (Reference 28).

To determine the existing peak flows for the 10-, 2-, 1-, and 0.2-percent annual chance flood events for all remaining flooding sources with the exception of the Potomac River, the U.S. Army Corps of Engineers Hydrologic Modeling System (HMS), version 3.1.0, was used. HEC-HMS is a public domain software package for hydrologic analysis developed by the U.S. Army Corps of Engineers Hydrologic Engineering Center (HEC). HEC-HMS is designed to simulate the precipitation-runoff process in dendritic watershed systems. It is designed to be applicable in a wide range of geographic areas for solving the widest possible range of problems (Reference 19). It is widely used and is an approved model for FEMA's mapping partners.

Although the watershed contains a streamflow gage operated by the USGS, with 50+ years of record, the project scope specifically outlined the use of a rainfall-runoff model, such as HEC-HMS, to perform the analysis. This is due to the theory that the data record at the USGS gage is not homogeneous due to increasing levels of watershed development throughout the period of record. USACE Engineering Regulation 1110-2-1464 states that a rainfall-runoff model is desirable where urbanization has changed the runoff response during the gaging record (Reference 20). FEMA guidelines and specifications state that rainfall-runoff models should be used in lieu of a gage analysis where the data is non-homogeneous (Reference 21)

The calibrated and verified HEC-HMS basin model was used to determine peak flows for the 10-, 2-, 1-, and 0.2-percent annual chance synthetic storm events (Reference 4).

Because of the complex nature of the Hooff's Run flooding conditions, the USACE- Baltimore District performed an overland flow flooding analysis of Hooffs Run in the City of Alexandria. Significant overland flooding occurs between East Maple Street and Jamieson Avenue due to a lack of capacity of the local stormwater infrastructure. An analysis of this level of detail was outside of the scope of the initial May 2007 USACE Cameron Run Watershed study. For the supplemental analysis, more detail was placed on simulating the hydrology specifically of the Hoofs Run watershed and overland flooding area, thus leading to minor refinements in the original HEC-HMS model (Reference 9).

A summary of the drainage area-peak discharge relationships for detailed studied streams is shown in Table 3, "Summary of Discharges."

TABLE 3 – SUMMARY OF DISCHARGES

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (sq. miles)	PEAK DISCHARGES (cfs) ANNUAL CHANCE			
		10%	2%	1%	0.2%
BACKLICK RUN					
Confluence with Holmes Run	13.18	6,304	11,484	13,948	19,896
Downstream of Confluence with Turkeycock Run	12.05	6,259	11,422	13,858	19,756
Downstream of Confluence with Indian Run	8.56	4,921	8,330	9,999	14,129
At US. Route 495 (Capital Beltway)	3.81	1,600	2,799	3,405	4,797
Upstream of Henry Shirley Memorial Highway	2.72	1,455	2,348	2,940	4,171
At Leesville Boulevard	2.04	1,337	2,071	2,493	3,605
Upstream of Braddock Road	1.08	789	1,187	1,398	1,889
Downstream of Carmine Street	0.54	704	1,067	1,233	1,610
CAMERON RUN					
Upstream of U.S. Route 1 Interchange	44.49	11,203	20,400	25,414	39,189
At Telegraph Road (and Huntington Area)	39.14	10,820	20,400	25,398	39,056
At Confluence with Strawberry Run	36.03	10,814	20,397	25,350	38,372
At Railroad Bridge	33.96	10,434	19,555	24,275	36,650
At USGS Gage	32.62	9,922	18,498	22,944	34,657
FOUR MILE RUN					
At the confluence with Long Branch (upstream of corporate limits)	17.3	*	*	26,000	42,000
HOLMES RUN					
At confluence with Backlick Run	19.04	4,424	8,232	10,195	15,875
Upstream of Duke Street	18.73	4,393	8,166	10,095	15,712
At Henry Shirley Memorial Highway	17.56	4,254	7,887	9,741	15,138
Upstream of Beauregard Street	16.74	4,100	7,560	9,315	14,438
Below Lake Barcroft Dam	14.7	3,770	6,914	8,486	13,088

\* Data not available

TABLE 3 – SUMMARY OF DISCHARGES (continued)

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (sq. miles)	PEAK DISCHARGES (cfs)			
		ANNUAL CHANCE			
		<u>10%</u>	<u>2%</u>	<u>1%</u>	<u>0.2%</u>
<b>HOOFFS RUN</b>					
At U.S. Route 495	2.80	1,901	2,443	2,727	3,006
At Jamieson Avenue	2.37	1,559	2,094	2,338	3,032
Overland Flood Area	1.77	628	1,311	1,627	2,324
Upstream of Linden Street	1.77	1,885	2,574	2,882	3,595
<b>OLD CAMERON RUN CHANNEL</b>					
At Truesdale Drive	0.29	410	570	641	805
<b>STRAWBERRY RUN</b>					
Upstream of Eisenhower Avenue	0.74	509	806	949	1,310
At Early Street	0.37	256	449	535	744
At Duke Street	0.3	196	357	435	610
Upstream of Fort Williams Parkway	0.08	67	123	150	217
<b>TAYLOR RUN</b>					
Upstream of Telegraph Road	1.69	996	1,629	1,932	2,654
At Duke Street	1.2	553	917	1,104	1,594
At Janney's Lane	0.94	343	538	672	817
Near Intersection of Quincy Street and King Street	0.48	252	445	540	781
<b>TIMBER BRANCH</b>					
At Glendale Avenue Culvert	0.56	671	995	1,141	1,480
At Timber Branch Parkway	0.41	581	851	969	1,237
At Braddock Road	0.26	408	591	669	852
<b>TRIBUTARY 1 TO CAMERON RUN</b>					
Confluence with Cameron Run	1.3	946	1,480	1,730	2,347
<b>TRIBUTARY 1 TO TAYLOR RUN</b>					
At confluence with Taylor Run	0.38	391	588	676	889

TABLE 3 – SUMMARY OF DISCHARGES (continued)

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (sq. miles)	PEAK DISCHARGES (cfs)			
		ANNUAL CHANCE			
		10%	2%	1%	0.2%
TRIBUTARY 2 TO TAYLOR RUN					
At Francis Hammond Parkway	0.26	118	224	277	412
Downstream of Key Drive	0.14	61	119	148	223

### 3.2 Hydraulic Analyses

Analyses of the hydraulic characteristics of flooding from the sources studied were carried out to provide estimates of the elevations of floods of the selected recurrence intervals. Users should be aware that flood elevations shown on the Flood Insurance Rate Map (FIRM) represent rounded whole-foot elevations and may not exactly reflect the elevations shown on the Flood Profiles or in the Floodway Data table in the FIS report. Flood elevations shown on the FIRM are primarily intended for flood insurance rating purposes. For construction and/or floodplain management purposes, users are cautioned to use the flood elevation data presented in this FIS report in conjunction with the data shown on the FIRM.

Table 4 below summarizes the method of floodplain boundary determination for all detailed flooding sources.

TABLE 4 – SUMMARY OF FLOOD BOUNDARY DETERMINATION

FLOODING SOURCE	CLASSIFICATION
Backlick Run	New study
Cameron Run	New study
Four Mile Run	Redelineated (based on Arlington County BFEs)
Holmes Run	New study
Hooffs Run	New study
South Lucky Run	Redelineated
Old Cameron Run	New study
Potomac River	Revised study
Taylor Run	New study
Timber Branch	New study
Tributary 1 to Cameron Run	New study
Tributary to 1 Taylor Run	New study
Tributary 2 to Taylor Run	New study

The redelineated flooding sources were remapped using the BFEs on the previously effective FIRMs and the 2' contour interval topographic data provided by the City of Alexandria. For Four Mile Run, BFEs were taken from the Arlington County FIS since this information was more detailed and up-to-date than the plotted BFEs shown on the previous effective Alexandria DFIRM, dated May 15, 1991. Elevations were adjusted according to the vertical datum conversion listed in section 3.3. Flood hazards may be altered significantly from the previous delineation based on major changes in base mapping and/or topography.

USACE ERDC CHL performed a cursory-level frequency-of-occurrence analysis of the storm surge for the tidally influenced reach of the Potomac River. This reach extends from the Potomac's confluence with the Chesapeake Bay to Washington D.C. The 1-percent annual chance storm surge elevation along the lower Potomac was estimated using the Advanced CIRCulation (ADCIRC) numerical model. In order to estimate the 1-percent annual chance storm surge elevation, an event emulating Hurricane Isabel was dynamically simulated. This model was calibrated to replicate the 1-percent annual chance storm surge elevation at the Washington, DC National Ocean Service gauge no. 8594900 (Haines Point) (Reference 7). The results of this analysis were compiled into a unified storm surge profile and published in a report titled *Unified Storm Surge Profile Methodology – For the Tidal Portions of the Potomac River*, Version 1.1, August 6, 2008. The water-surface elevations provided in this document, prepared by the Baker Regional Management Center 3 (RMC3), were utilized to delineate the revised floodplain boundaries for the Potomac River (Reference 8).

With the exception the Hooff's Run reach between East Maple Street and Jamieson Avenue, the U.S. Army Corps of Engineers HEC-RAS (River Analysis System), version 3.1.1, was used to calculate flood elevations for the 10-, 2-, 1-, and 0.2-percent annual chance storm events for newly studied reaches. All HEC-RAS hydraulic modeling was performed by the USACE – Baltimore District as part of the Cameron Run Watershed Study (May 2007).

The Hooff's Run Overland Flow analysis between East Maple Street and Jamieson Avenue was performed by the USACE-Baltimore District utilizing FLO-2D two dimensional flood routing software (June 2009). This level of analysis was performed due to the complex nature of the sheet flow occurring as a result of the lack of stormwater infrastructure capacity in this area. The FLO-2D model for Hooff's Run was developed based on a 1 meter digital elevation model (DEM) developed by the U.S. Army Geospatial Center (AGC) developed from flights performed in October 2003. Floodplain delineations for the overland flow area between East Maple Street and Jamieson Avenue were also based on the AGC 1 meter DEM. Flooding depths of less than 1-foot in this overland flow area are depicted as 0.2-percent annual chance (Shaded Zone X) floodplain.

Cross section geometries were obtained from a variety of sources and methodologies, as specified in the previously referenced USACE reports.

Roughness factors (Manning's "n") used in the hydraulic computations for all flooding sources were chosen based upon engineering judgment, land use, aerial photography, and field observations. Several flooding sources in the watershed contain concrete lined channels. A summary of the roughness values used in this investigation is shown in Table 5.

**TABLE 5 – MANNING’S “N” VALUES**

<b>Flooding Source</b>	<b>Channel “n”</b>	<b>Overbank “n”</b>
Backlick Run	.015 (concrete-lined) .035-.050 (natural)	.015-.120
Cameron Run	.030-.040	.015-.120
Four Mile Run	.030-.050	.040-.080
Holmes Run	.045-.070	.015-.120
Hooffs Run	.015 (concrete-lined) .035 (natural)	.015-.100
FLO-2D values (Overland Flooding Area)	.020 (concrete) 0.20 (average grass cover)	
Old Cameron Run Channel	.035	.015-.100
Strawberry Run	.020 (concrete-lined) .035-.045(natural)	
Taylor Run	.035-.050	.015-.100
Timber Branch	.015 (concrete-lined) .030-.045 (natural)	.015-.100
Tributary 1 to Cameron Run	.045	.015-.120
Tributary 1 to Taylor Run	.035	.015-.070
Tributary 2 to Taylor Run	.035-.040	.015-.100

FEMA guidelines and specifications (Reference 21) state that the starting water-surface elevations chosen for profile computations are to be based upon normal depth (slope-area) unless known water surface elevations are available from other sources. For tributaries, normal depth is also to be used unless a coincident peak situation is assumed. The assumption of coincident peak may be appropriate if the following are true:

- The ratio of drainage areas lies between 0.6 and 1.4;
- The times of peak flow are similar for the two combining watersheds; and
- The likelihood of both watersheds being covered by the same storm being modeled is high.

The third criterion is met as the total area of the entire Cameron Run watershed is less than 50 square miles. However, other than the Backlick

Run-Holmes Run confluence, none of the other flooding sources meet the drainage area ratio criteria. However, the results of the HEC-HMS model can be used to determine if the times of peak are similar for the combining watersheds. The results of the HEC-HMS model were used as a guideline for whether to model a flooding source with a downstream boundary condition of normal depth, or backwater (coincident peaks). If the peak for the tributary was more than 30 minutes before or after the peak of the main flooding source, the tributary was modeled as a backwater (coincident peak) condition. If the peak for the tributary was 30 minutes before or after the peak of the main flooding source, normal depth was used as the downstream boundary condition.

Normal depth was used as the downstream boundary condition for the following flooding sources: Cameron Run; Tributary 1 to Cameron Run; Hooffs Run; Strawberry Run; Taylor Run; and Timber Branch. Cameron Run empties into the Potomac River and the probability that the Potomac River will be at flood stage (riverine or tidal) at the same moment as the Cameron Run peak is extremely low. For Timber Branch, the downstream boundary condition is controlled by a culvert, and the slope of the pipe was used as the normal depth slope.

Backwater (coincident peaks) was used as the downstream boundary condition for the following flooding sources: Backlick Run; Holmes Run; and Old Cameron Run Channel. The downstream end of these flooding sources were modeled as junctions in HEC-RAS.

The hydraulic analysis for this study was based on unobstructed flow. The flood elevations computed thus are considered valid only if hydraulic structures remain unobstructed, operate properly, and do not fail.

Flooding for Timber Branch in the City of Alexandria continues beyond the downstream limit of the study area. Floodwaters overtop the culvert headwall and enter a drainage swale in a residential area. During the June 2006 flood event city staff observed that the floodwaters continue in this swale and eventually enter the sub-surface stormwater infrastructure at the next downstream stormwater inlet. This dynamic was not modeled in the original USACE study (2007); however, it is clear that the homes near this swale are affected by floodwaters.

For the Timber Branch culvert, it was determined using HEC-RAS that the culvert capacity is 450 cfs. This culvert was identified as a reach, using lag routing, in the original HEC-HMS model. For the revised model, this reach was converted to a diversion that can convey 450 cfs. All flow entering the culvert above 450 cfs was placed into a new reach where the overland flow occurs. A FLO-2D model was developed for the Timber Branch area using the same process, methods, and assumptions used for the Hooffs Run overland flood model (Reference 9). Because average flood depths for the overland flow portion of Timber Branch were less than 1 ft, this area was designated as 0.2-percent annual chance floodplain.

Flood profiles were drawn showing computed water-surface elevations to an accuracy of 0.5 foot for floods of the selected recurrence intervals. Locations of the selected cross sections used in the hydraulic analyses are shown on the Flood Profiles (Exhibit 1).

All qualifying benchmarks within a given jurisdiction that are catalogued by the National Geodetic Survey (NGS) and entered into the National Spatial Reference System (NSRS) as First or Second Order Vertical and have a vertical stability classification of A, B or C are shown and labeled on the FIRM with their 6-character NSRS Permanent Identifier.

Benchmarks catalogued by the NGS and entered into the NSRS vary widely in vertical stability classification. NSRS vertical stability classifications are as follows:

- Stability A: Monuments of the most reliable nature, expected to hold position/elevation (e.g., mounted in bedrock)
- Stability B: Monuments which generally hold their position/elevation (e.g., concrete bridge abutment)
- Stability C: Monuments which may be affected by surface ground movements (e.g., concrete monument below frost line)
- Stability D: Mark of questionable or unknown vertical stability (e.g., concrete monument above frost line, or steel witness post)

In addition to NSRS benchmarks, the FIRM may also show vertical control monuments established by a local jurisdiction; these monuments will be shown on the FIRM with the appropriate designations. Local monuments will only be placed on the FIRM if the community has requested that they be included, and if the monuments meet the aforementioned NSRS inclusion criteria.

To obtain current elevation, description, and/or location information for benchmarks shown on the FIRM for this jurisdiction, please contact the Information Services Branch of the NGS at (301) 713-3242, or visit their Web site at [www.ngs.noaa.gov](http://www.ngs.noaa.gov).

It is important to note that temporary vertical monuments are often established during the preparation of a flood hazard analysis for the purpose of establishing local vertical control. Although these monuments are not shown on the FIRM, they may be found in the Technical Support Data Notebook associated with the FIS report and FIRM for this community. Interested individuals may contact FEMA to access these data.



### 3.3 Vertical Datum

All FIS reports and FIRMs are referenced to a specific vertical datum. The vertical datum provides a starting point against which flood, ground, and structure elevations can be referenced and compared. Until recently, the standard vertical datum used for newly created or revised FIS reports and FIRMs was the National Geodetic Vertical Datum of 1929 (NGVD 29). With the completion of the North American Vertical Datum of 1988 (NAVD 88), many FIS reports and FIRMs are now prepared using NAVD 88 as the referenced vertical datum.

All flood elevations shown in this FIS report and on the FIRM are now referenced to NAVD 88. In order to perform this conversion, effective NGVD 29 elevation values were adjusted downward by 0.8 foot. Structure and ground elevations in the community must, therefore, be referenced to NAVD 88. It is important to note that adjacent communities may be referenced to NGVD 29. This may result in differences in base flood elevations across the corporate limits between the communities.

For more information on NAVD 88, see Converting the National Flood Insurance Program to the North American Vertical Datum of 1988, FEMA Publication FIA-20/June 1992, or contact the National Geodetic Survey at the following address:

NGS Information Services  
NOAA, N/NGS12  
National Geodetic Survey  
SSMC-3, #9202  
1315 East-West Highway  
Silver Spring, Maryland 20910-3282  
(301) 713-3242  
<http://www.ngs.noaa.gov/>

## 4.0 **FLOODPLAIN MANAGEMENT APPLICATIONS**

The NFIP encourages State and local governments to adopt sound floodplain management programs. To assist in this endeavor, each FIS report provides 1-percent annual chance floodplain data, which may include a combination of the following: 10-, 2-, 1-, and 0.2-percent annual chance flood elevations; delineations of the 1-percent and 0.2-percent annual chance floodplains; and a 1-percent annual chance floodway. This information is presented on the FIRM and in many components of the FIS report, including Flood Profiles, Floodway Data tables, and Summary of Stillwater Elevation tables. Users should reference the data presented in the FIS report as well as additional information that may be available at the local community map repository before making flood elevation and/or floodplain boundary determinations.

#### 4.1 Floodplain Boundaries

To provide a national standard without regional discrimination, the 1-percent annual chance (100-year) flood has been adopted by FEMA as the base flood for floodplain management purposes. The 0.2-percent annual chance (500-year) flood is employed to indicate additional areas of flood risk in the county. For the streams studied in detail, the 1-percent and 0.2-percent annual chance floodplain boundaries have been determined at each cross section. The delineations are based on the best available topographic information.

Topographic data was provided by the City of Alexandria to support floodplain mapping efforts. The city provided 2-foot contour data developed from aerial topographic information in 2004. For Hooff's Run between East Maple Street and Jamieson Avenue, the AGC 1 meter DEM was used to delineate the overland flow floodplain boundary. This information was developed from flights performed in October 2003.

The 1-percent and 0.2-percent annual chance floodplain boundaries are shown on the FIRM. On this map, the 1-percent annual chance floodplain boundary corresponds to the boundary of the areas of special flood hazards (Zones A and AE), and the 0.2-percent annual chance floodplain boundary corresponds to the boundary of areas of moderate flood hazards. In cases where the 1-percent and 0.2-percent annual chance floodplain boundaries are close together, only the 1-percent annual chance floodplain boundary has been shown. Small areas within the floodplain boundaries may lie above the flood elevations but cannot be shown due to limitations of the map scale and/or lack of detailed topographic data.

New floodplains were delineated based upon the USACE study (May 2007) for all streams in the Cameron Run watershed with the exception of Hooff's Run between East Maple Street and Jamieson Avenue. New floodplains in this area were delineated based on the USACE Hooff's Run Overland Flood Analysis (June 2009). The Potomac River floodplains were based on the Potomac Unified Storm Surge Profiles prepared by Baker RMC 3 (FEMA, 2008). Floodplain boundaries were redelineated for South Lucky Run and Four Mile Run in the City of Alexandria.

For the streams studied by approximate methods, only the 1-percent annual chance floodplain boundary is shown on the FIRM.

#### 4.2 Floodways

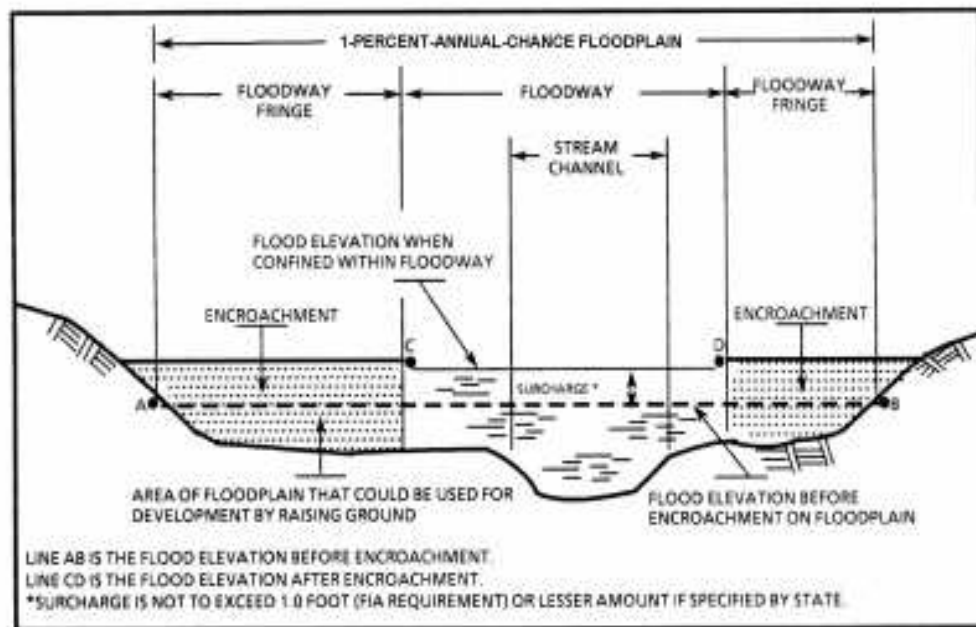
Encroachment on floodplains, such as structures and fill, reduces flood-carrying capacity, increases flood heights and velocities, and increases flood hazards in areas beyond the encroachment itself. One aspect of floodplain management involves balancing the economic gain from floodplain development against the resulting increase in flood hazard. For purposes of the NFIP, a floodway is used as a tool to assist local

communities in this aspect of floodplain management. Under this concept, the area of the 1-percent annual chance floodplain is divided into a floodway and a floodway fringe. The floodway is the channel of a stream, plus any adjacent floodplain areas, that must be kept free of encroachment so that the 1-percent annual chance flood can be carried without substantial increases in flood heights. Minimum federal standards limit such increases to 1.0 foot, provided that hazardous velocities are not produced. The floodways in an FIS are presented to local agencies as minimum standards that can be adopted directly or that can be used as a basis for additional floodway studies.

The area between the floodway and 1-percent annual chance floodplain boundaries is termed the floodway fringe. The floodway fringe encompasses the portion of the floodplain that could be completely obstructed without increasing the water-surface elevation of the 1-percent annual chance flood by more than 1.0 foot at any point. Typical relationships between the floodway and the floodway fringe and their significance to floodplain development are shown in Figure 1.

No floodways were shown on the previous FIRMs for the City of Alexandria, and no new floodways have been computed as part of this revision.

FIGURE 1: FLOODWAY SCHEMATIC



## **5.0 INSURANCE APPLICATIONS**

For flood insurance rating purposes, flood insurance zone designations are assigned to a community based on the results of the engineering analyses. The zones are as follows:

### **Zone A**

Zone A is the flood insurance rate zone that corresponds to the 1-percent annual chance floodplains that are determined in the FIS by approximate methods. Because detailed hydraulic analyses are not performed for such areas, no base flood elevations or depths are shown within this zone.

### **Zone AE**

Zone AE is the flood insurance rate zone that corresponds to the 1-percent annual chance floodplains that are determined in the FIS by detailed methods. In most instances, whole-foot base flood elevations derived from the detailed hydraulic analyses are shown at selected intervals within this zone.

### **Zone X**

Zone X is the flood insurance rate zone that corresponds to areas outside the 0.2-percent annual chance floodplain, areas within the 0.2-percent annual chance floodplain, and to areas of 1-percent annual chance flooding where average depths are less than 1 foot, areas of 1-percent annual chance flooding where the contributing drainage area is less than 1 square mile, and areas protected from the 1-percent annual chance flood by levees. No base flood elevations or depths are shown within this zone.

## **6.0 FLOOD INSURANCE RATE MAP**

The FIRM is designed for flood insurance and floodplain management applications.

For flood insurance applications, the map designates flood insurance rate zones as described in Section 5.0. In the 1-percent annual chance floodplains that were studied by detailed methods, shows selected whole-foot base flood elevations or average depths. Insurance agents use the zones and base flood elevations in conjunction with information on structures and their contents to assign premium rates for flood insurance policies.

For floodplain management applications, the map shows by tints, screens, and symbols, the 1-percent and 0.2-percent annual chance floodplains. Floodways and the locations of selected cross sections used in the hydraulic analyses and floodway computations are shown where applicable.

## **7.0 OTHER STUDIES**

FISs have been prepared for jurisdictions neighboring the City of Alexandria. The Flood Insurance Study for Arlington County was prepared on November 3, 1981 and is currently being revised (References 28 and 32). The Flood Insurance Study for the Unincorporated Areas of Fairfax County, Virginia was prepared on September 17, 2010. The Flood Insurance Study for the City of Falls Church, Virginia (Independent City) was prepared on July 16, 2004 (reference 30).

Information pertaining to revised and unrevised flood hazards for the City of Alexandria has been compiled into this FIS. Therefore, this FIS supersedes all previously printed FIS Reports, FIRMs, FBFMs, and FHBMs for the City of Alexandria.

## **8.0 LOCATION OF DATA**

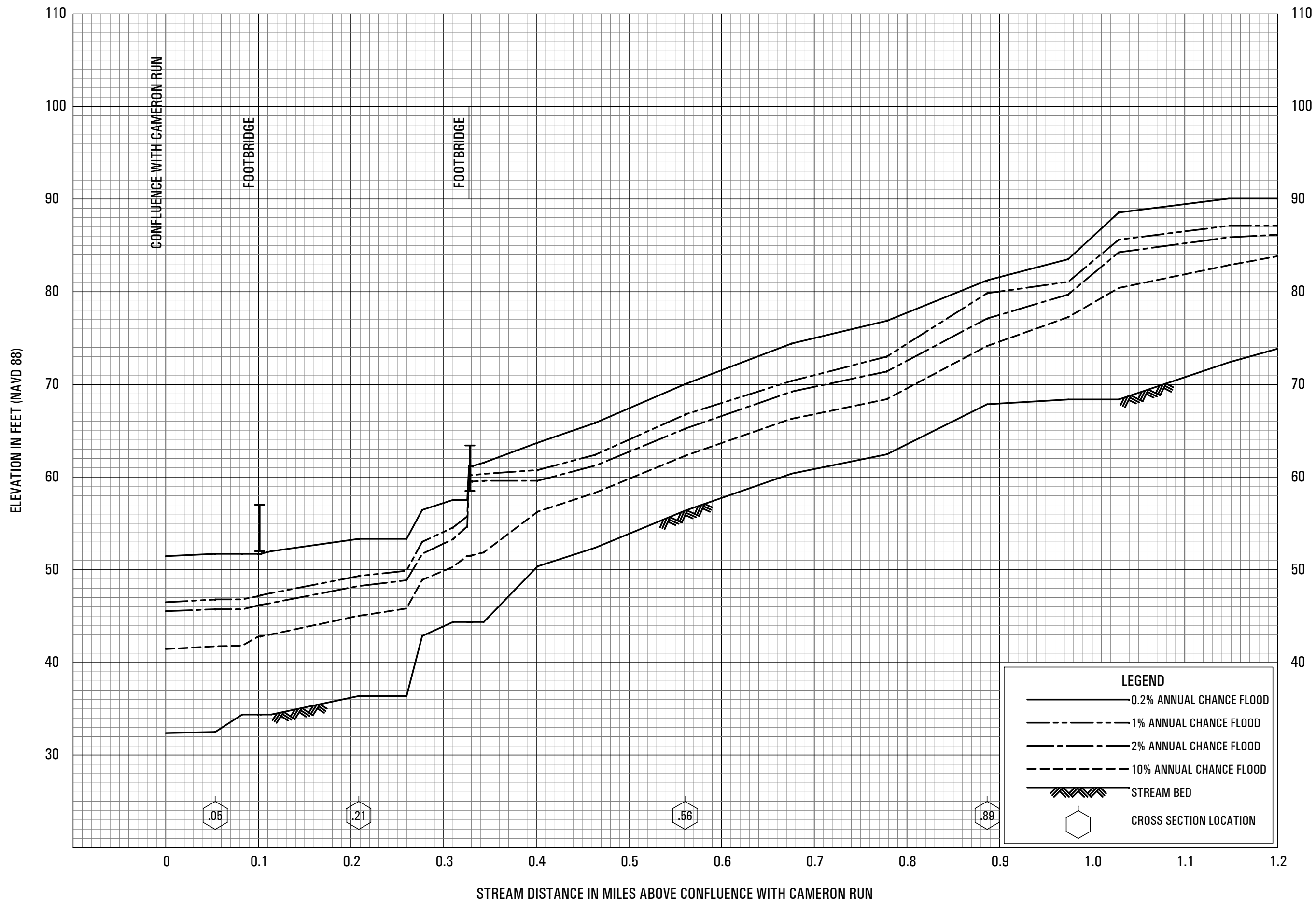
Information concerning the pertinent data used in preparation of this study can be obtained by contacting Federal Insurance and Mitigation Division, Federal Emergency Management Agency, One Independence Mall, Sixth Floor, 615 Chestnut Street, Philadelphia, Pennsylvania 19106-4404.

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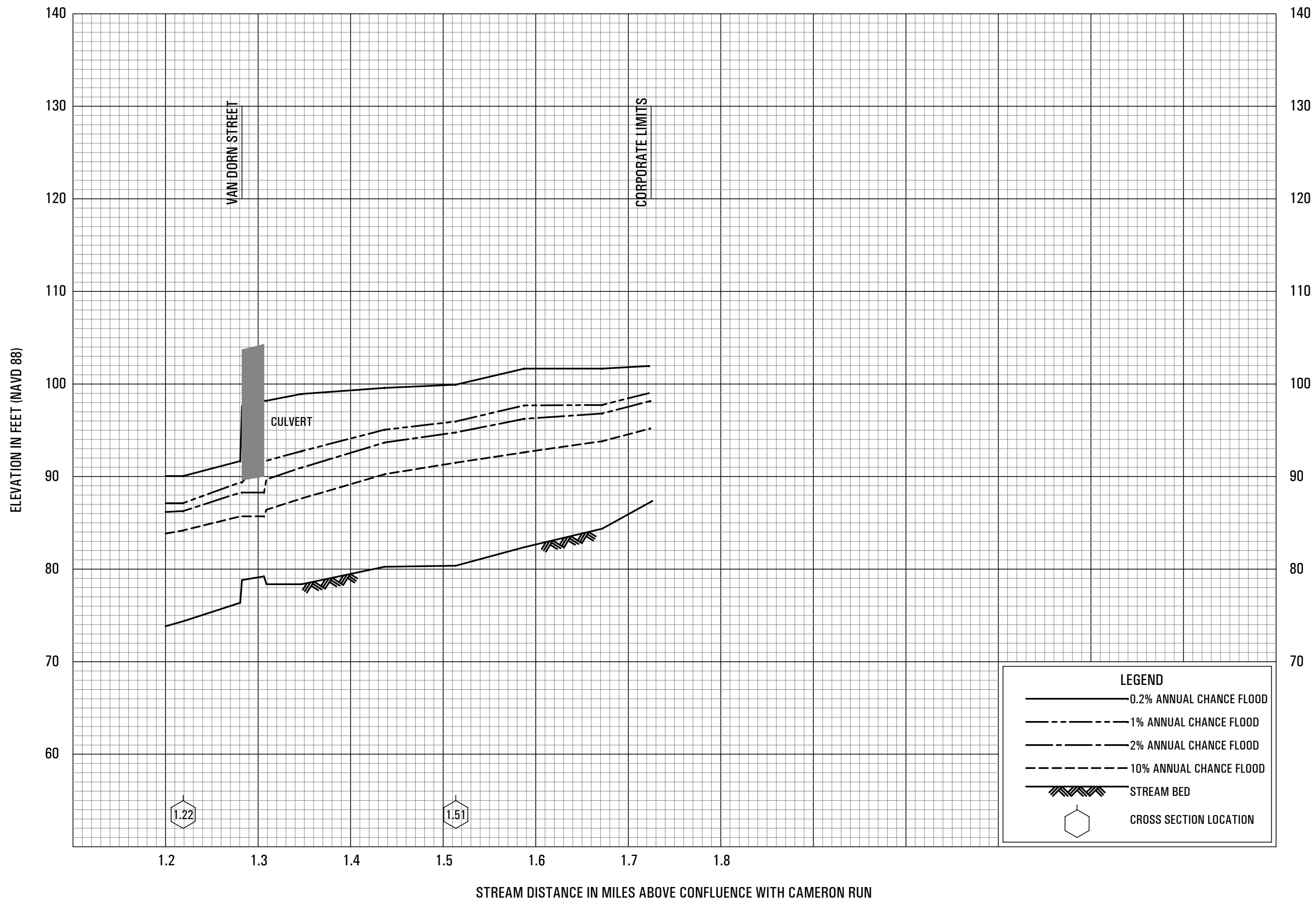
FLOOD PROFILES

BACKLICK RUN

FEDERAL EMERGENCY MANAGEMENT AGENCY  
CITY OF ALEXANDRIA, VA  
(INDEPENDENT CITY)

01P

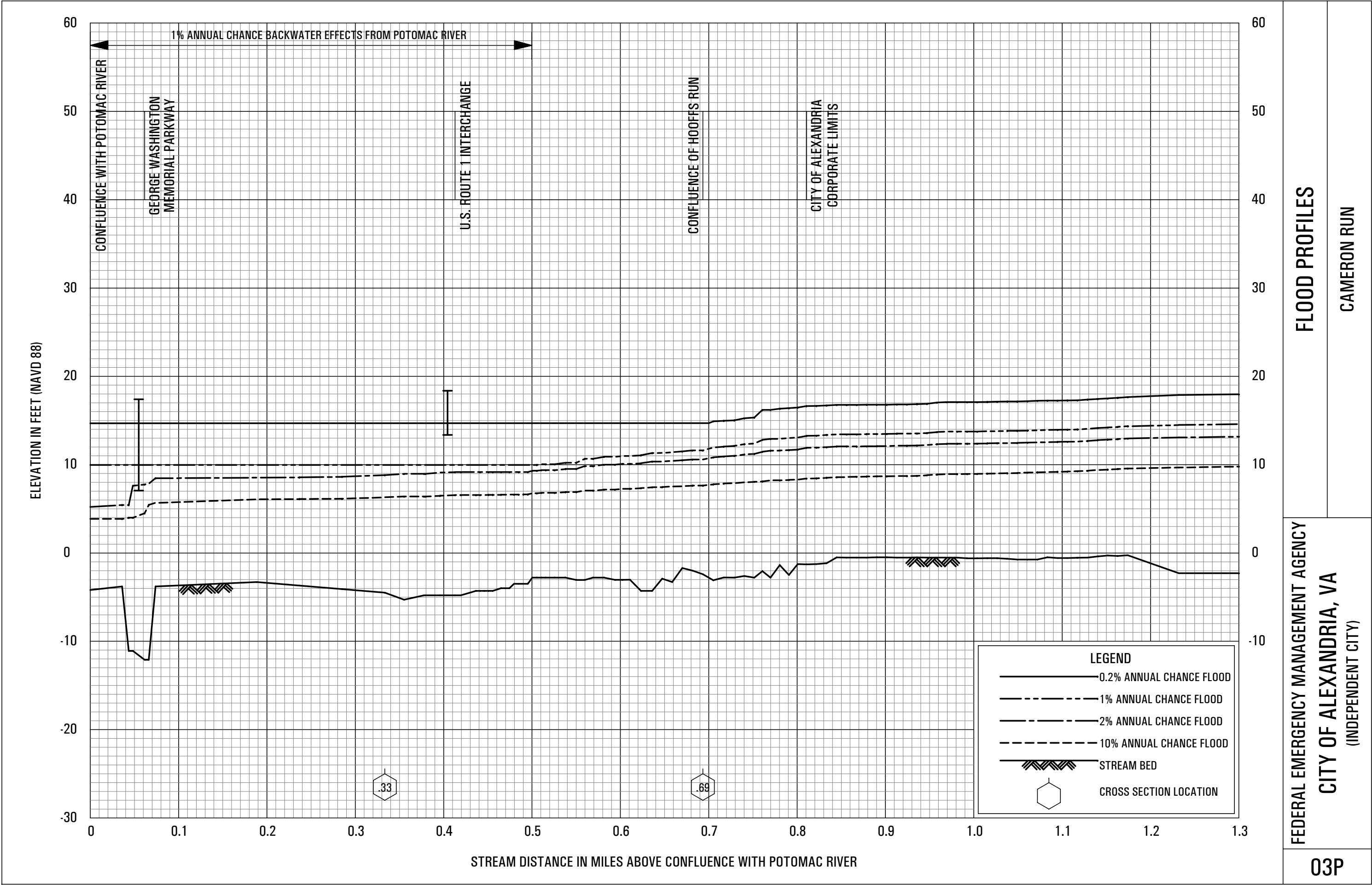




FLOOD PROFILES

BACKLICK RUN

FEDERAL EMERGENCY MANAGEMENT AGENCY  
CITY OF ALEXANDRIA, VA  
(INDEPENDENT CITY)



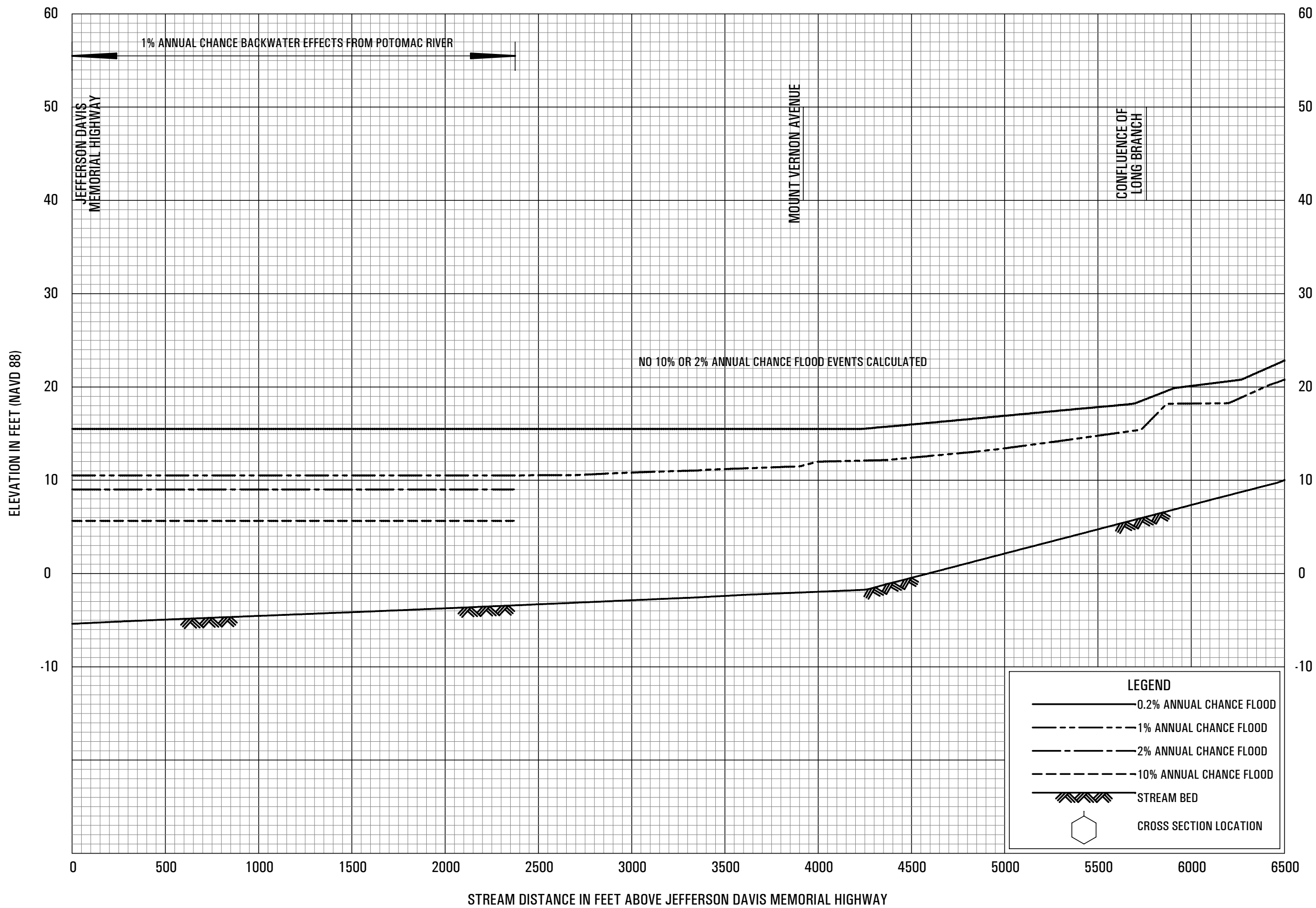
FLOOD PROFILES

CAMERON RUN

FEDERAL EMERGENCY MANAGEMENT AGENCY  
CITY OF ALEXANDRIA, VA  
(INDEPENDENT CITY)



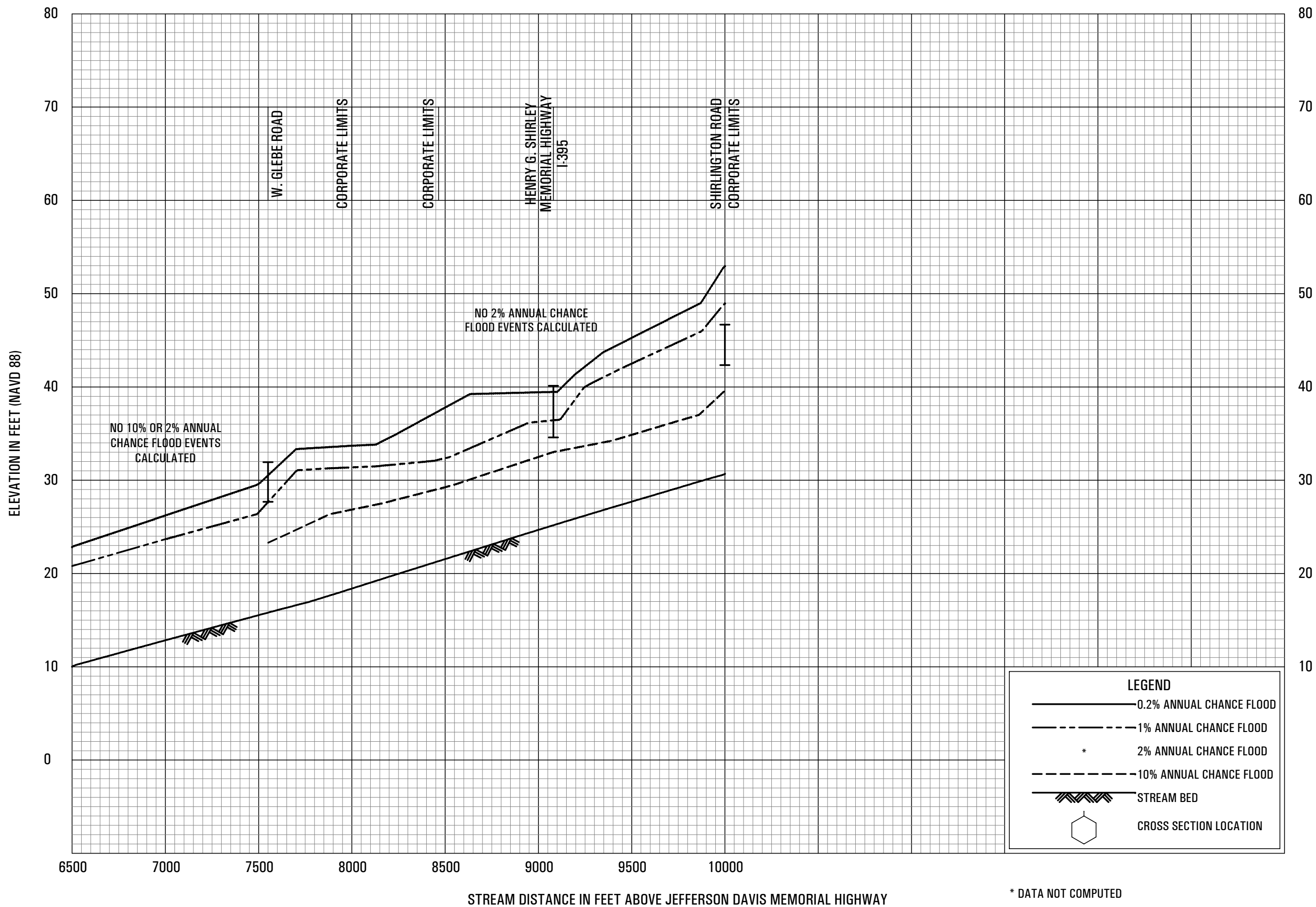




FLOOD PROFILES

FOUR MILE RUN

FEDERAL EMERGENCY MANAGEMENT AGENCY  
CITY OF ALEXANDRIA, VA  
(INDEPENDENT CITY)

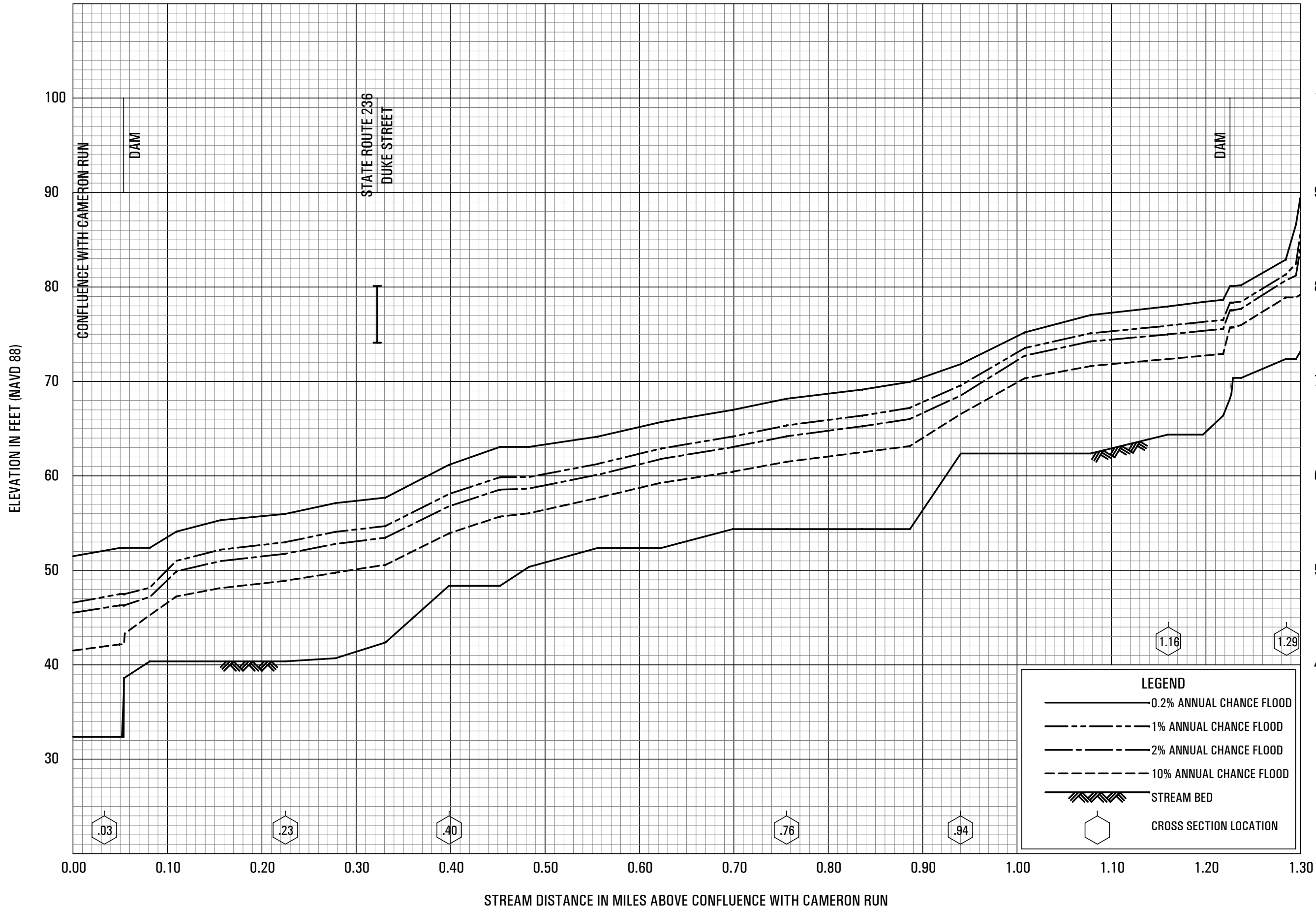


\* DATA NOT COMPUTED

FLOOD PROFILES

FOUR MILE RUN

FEDERAL EMERGENCY MANAGEMENT AGENCY  
CITY OF ALEXANDRIA, VA  
(INDEPENDENT CITY)

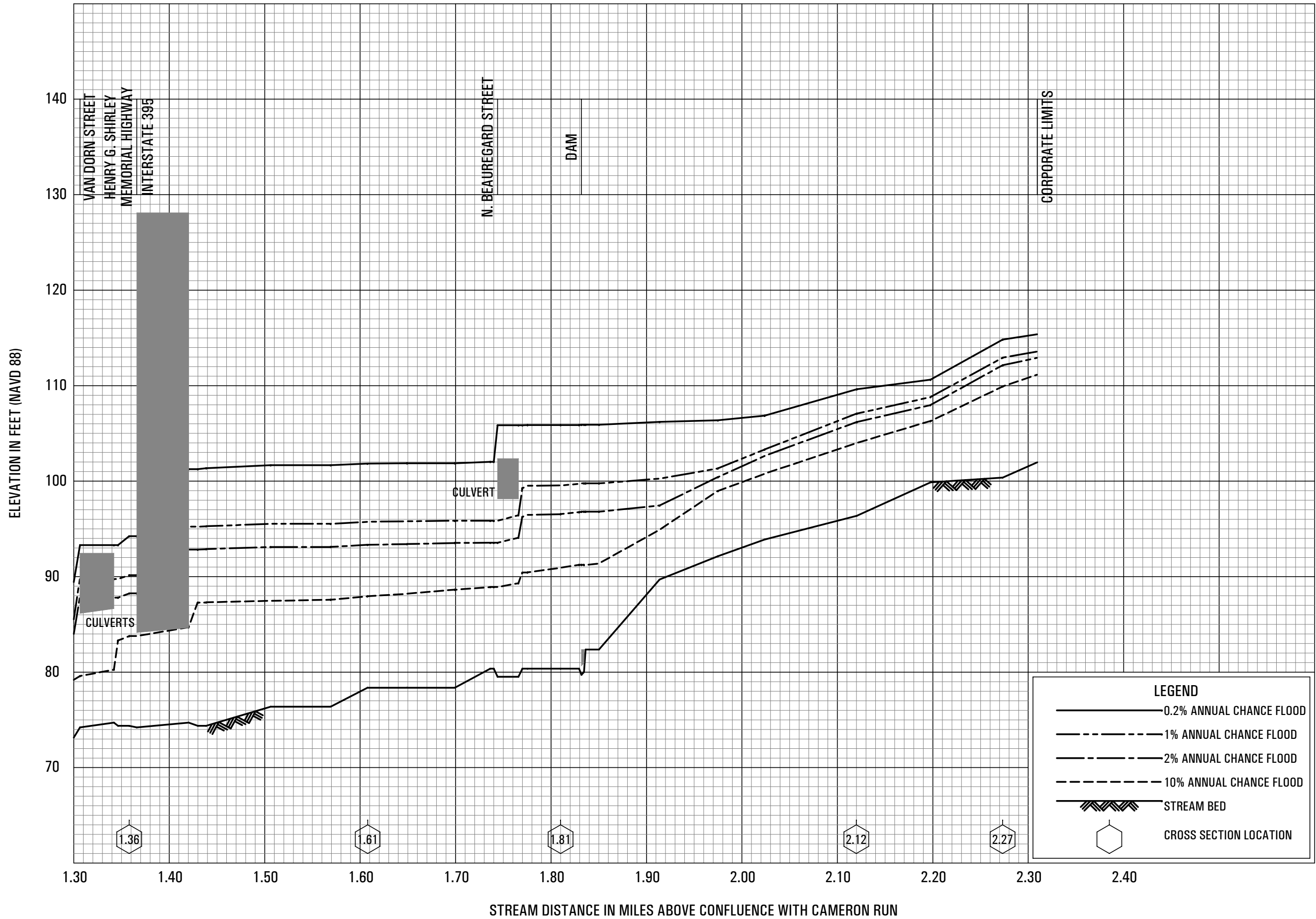


FLOOD PROFILES

HOLMES RUN

FEDERAL EMERGENCY MANAGEMENT AGENCY  
CITY OF ALEXANDRIA, VA  
(INDEPENDENT CITY)

08P



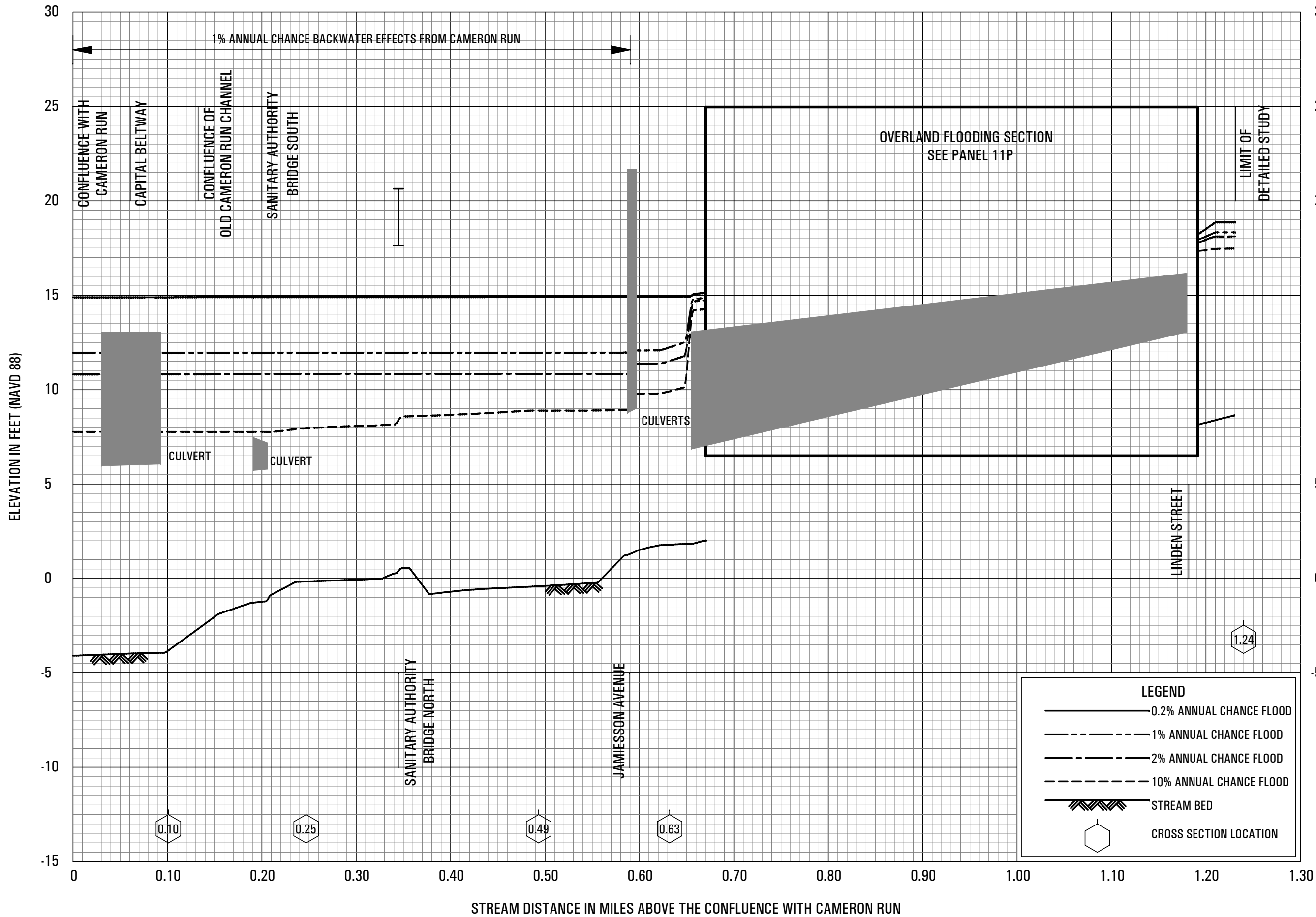
FLOOD PROFILES

HOLMES RUN

FEDERAL EMERGENCY MANAGEMENT AGENCY  
CITY OF ALEXANDRIA, VA  
(INDEPENDENT CITY)

09P

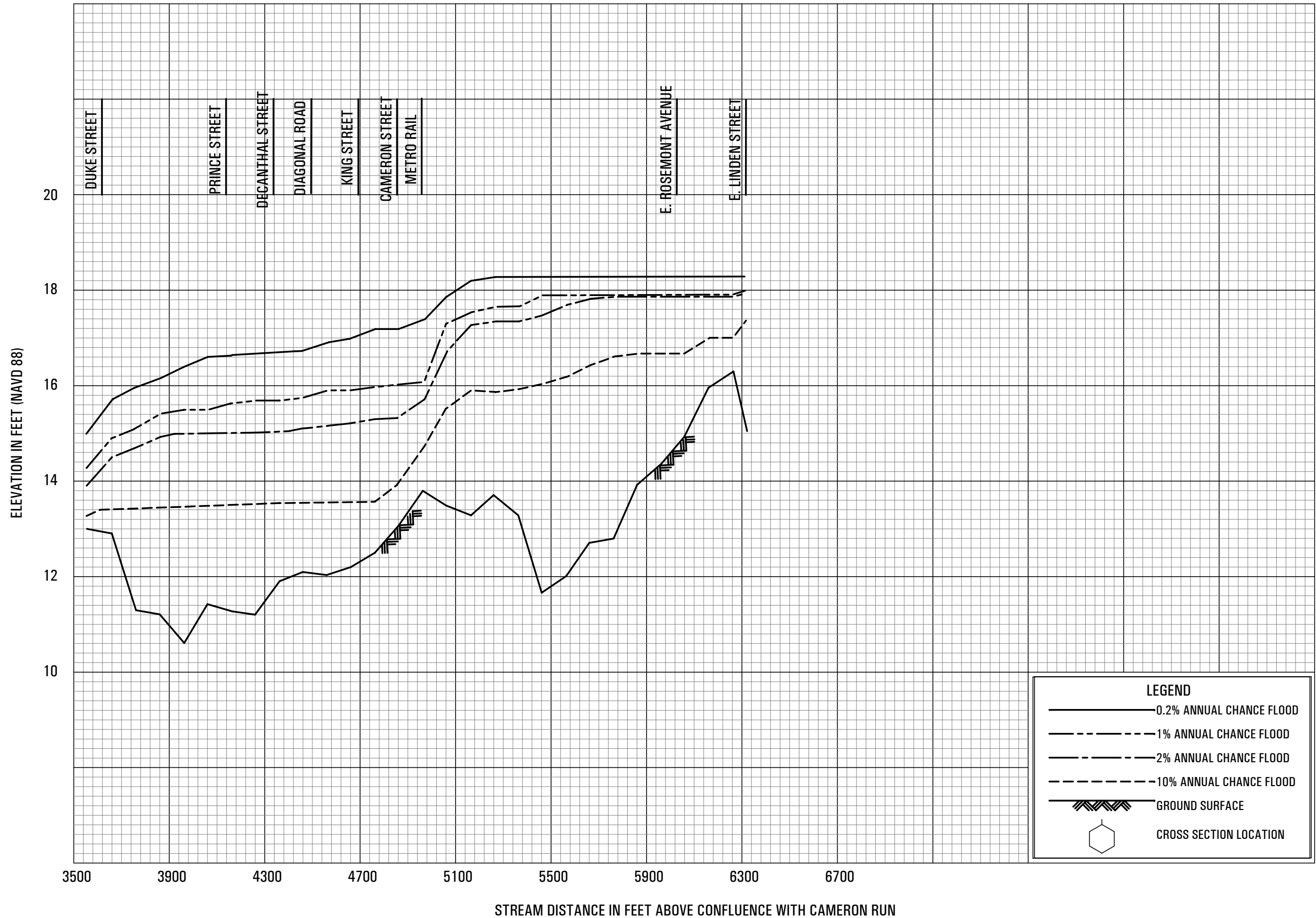




FLOOD PROFILES

HOOFFS RUN

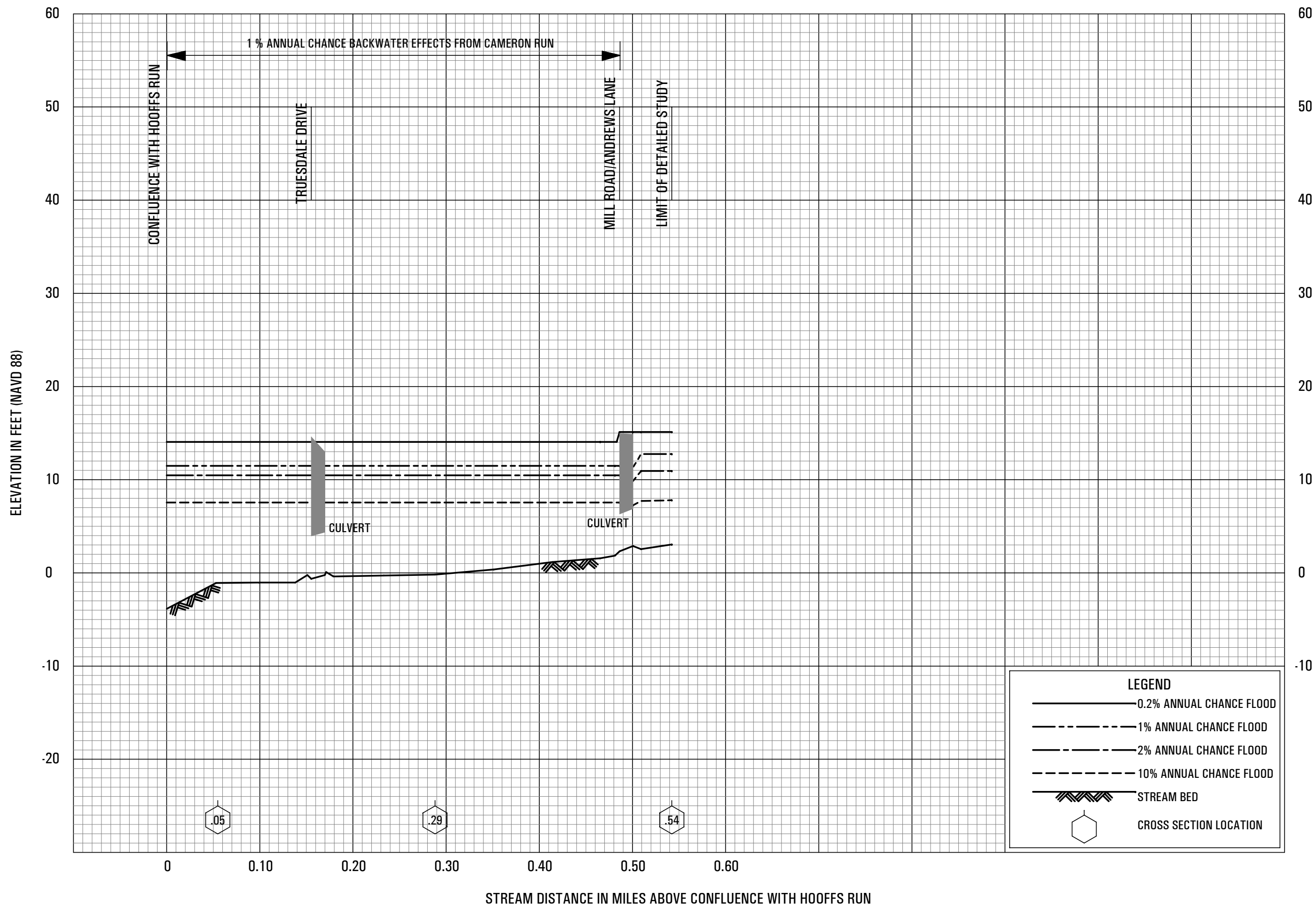
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CITY OF ALEXANDRIA, VA  
(INDEPENDENT CITY)



FLOOD PROFILES

HOOFTS RUN (OVERLAND FLOODING)

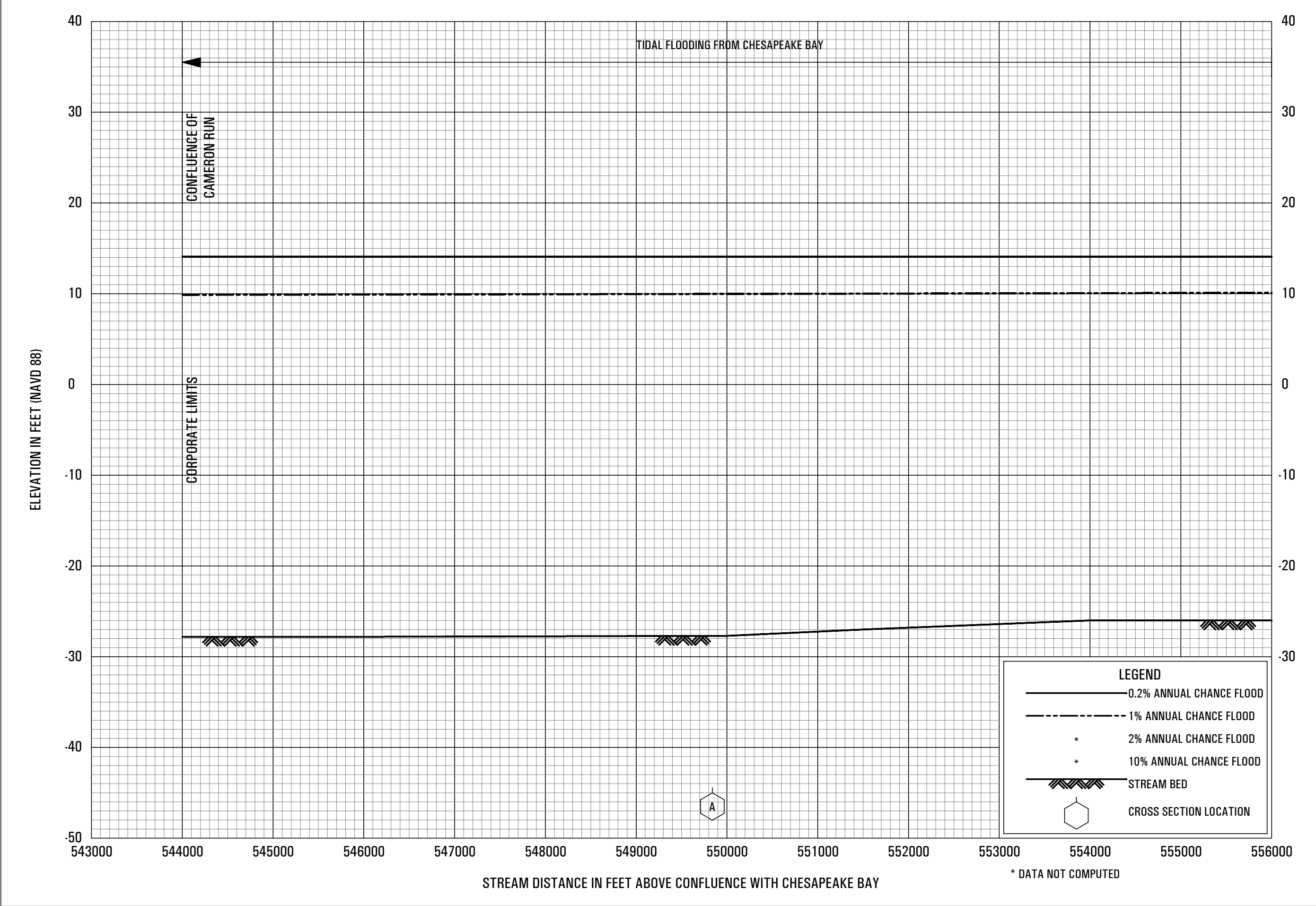
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CITY OF ALEXANDRIA, VA  
(INDEPENDENT CITY)



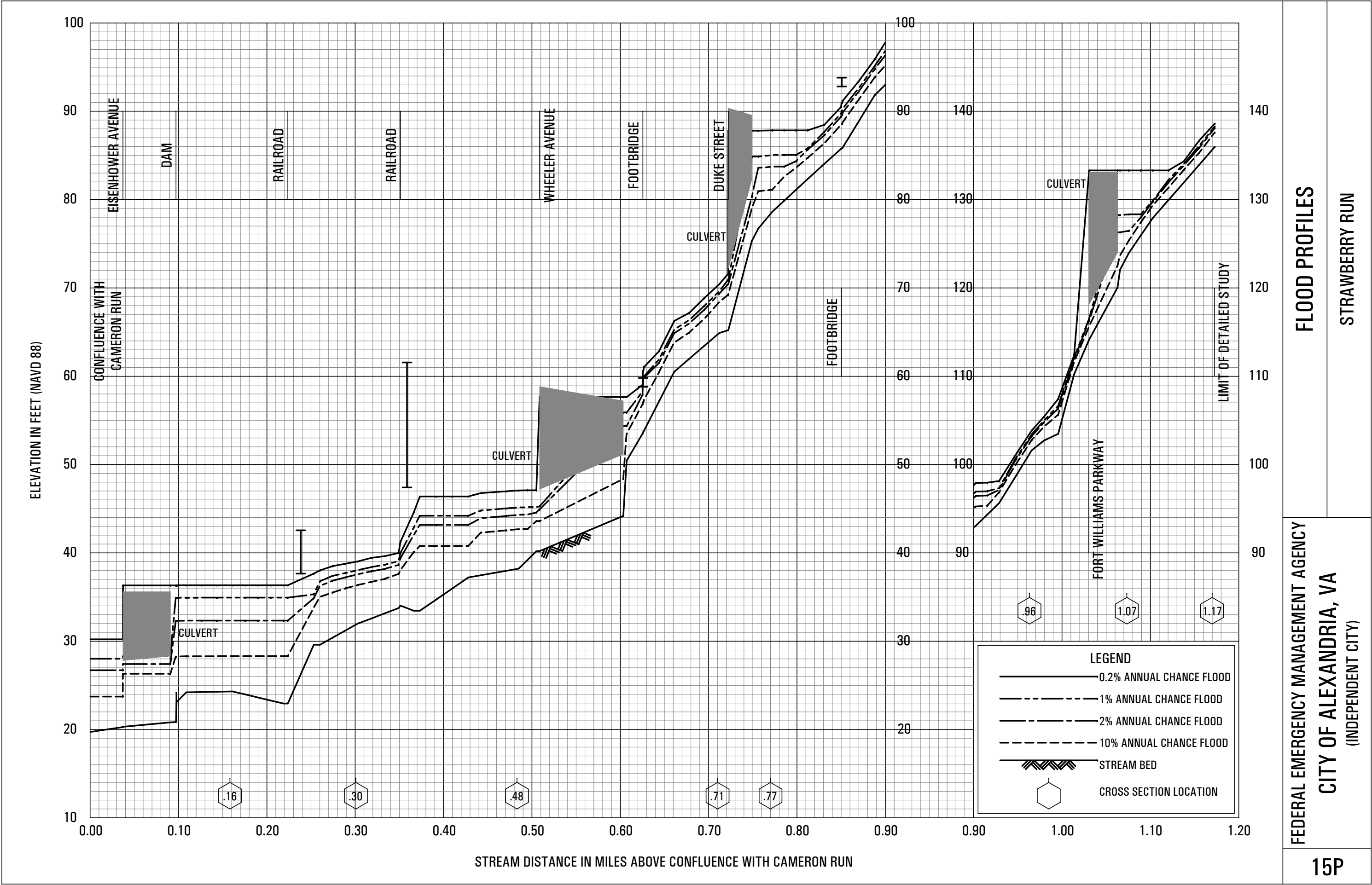
FLOOD PROFILES

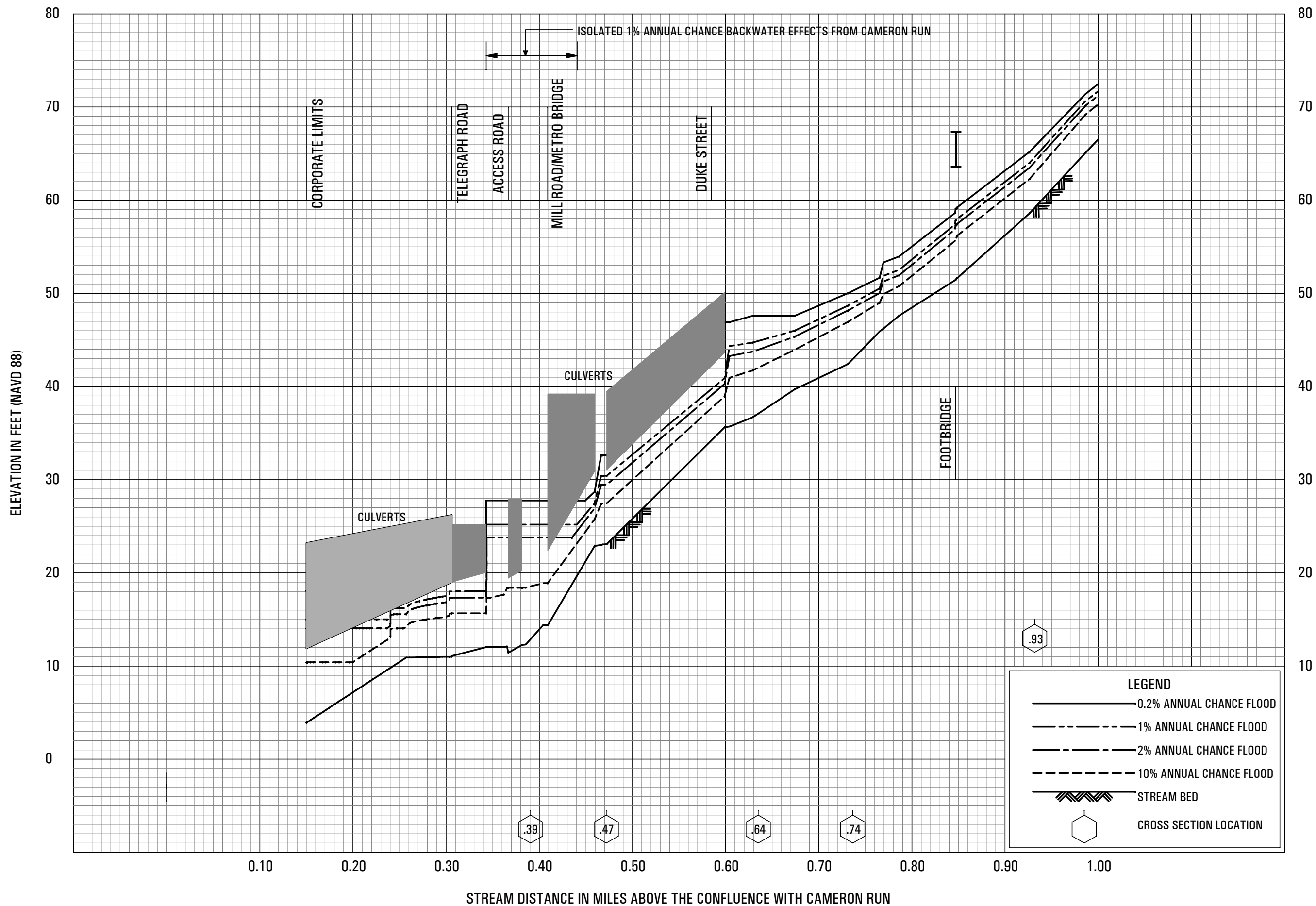
OLD CAMERON RUN CHANNEL

FEDERAL EMERGENCY MANAGEMENT AGENCY  
CITY OF ALEXANDRIA, VA  
(INDEPENDENT CITY)





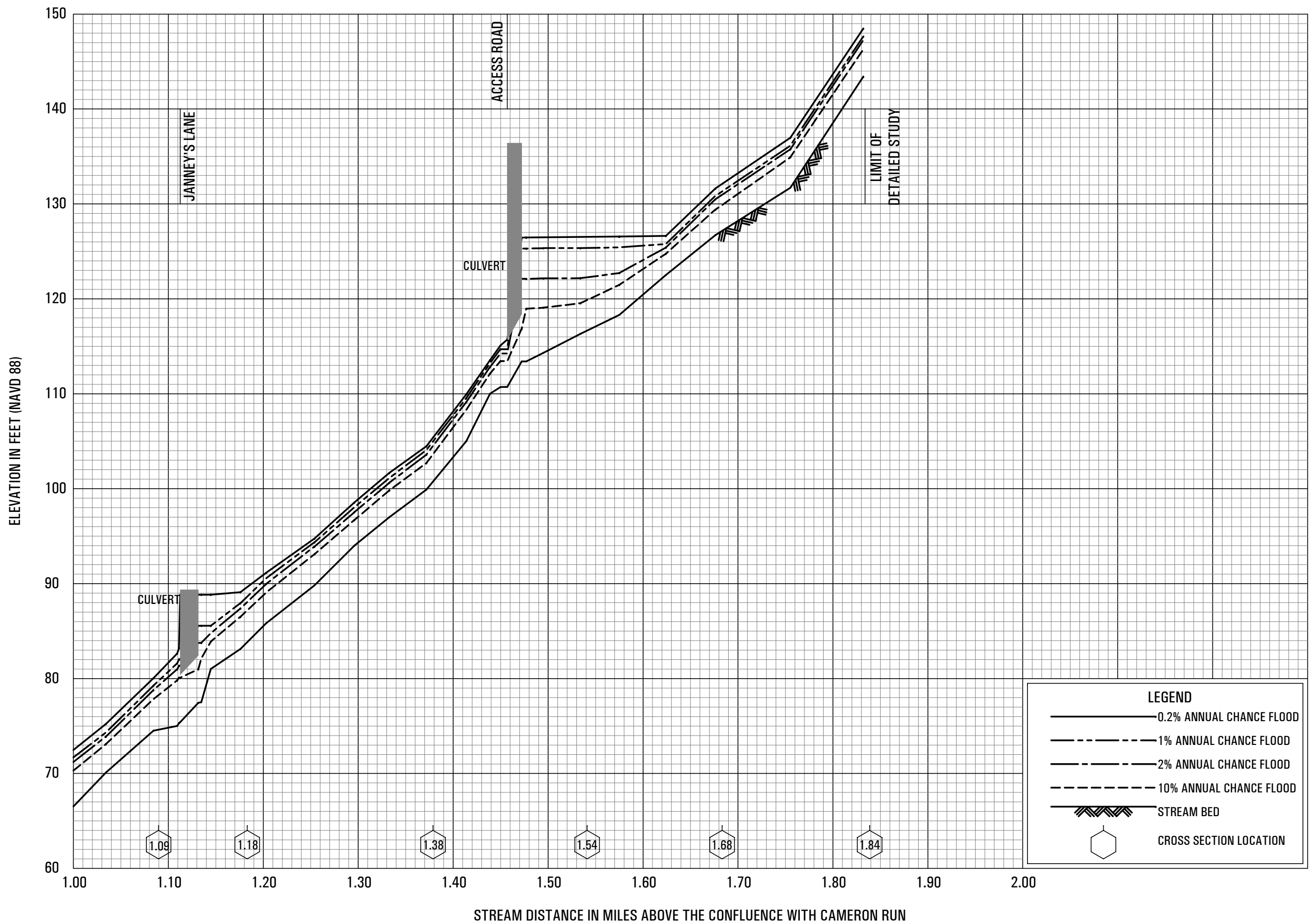




FLOOD PROFILES

TAYLOR RUN

FEDERAL EMERGENCY MANAGEMENT AGENCY  
CITY OF ALEXANDRIA, VA  
(INDEPENDENT CITY)

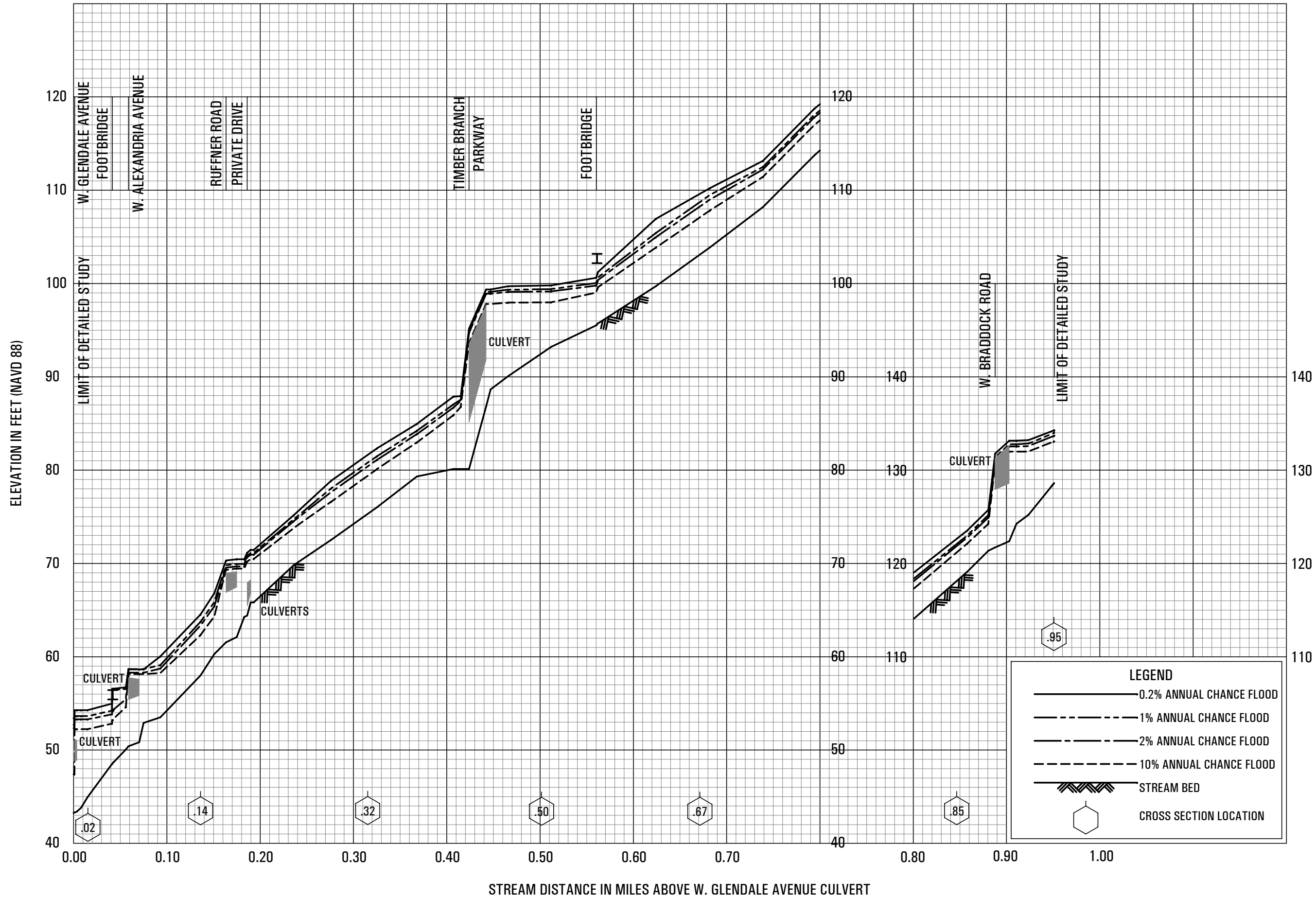


FLOOD PROFILES

TAYLOR RUN

FEDERAL EMERGENCY MANAGEMENT AGENCY  
CITY OF ALEXANDRIA, VA  
(INDEPENDENT CITY)

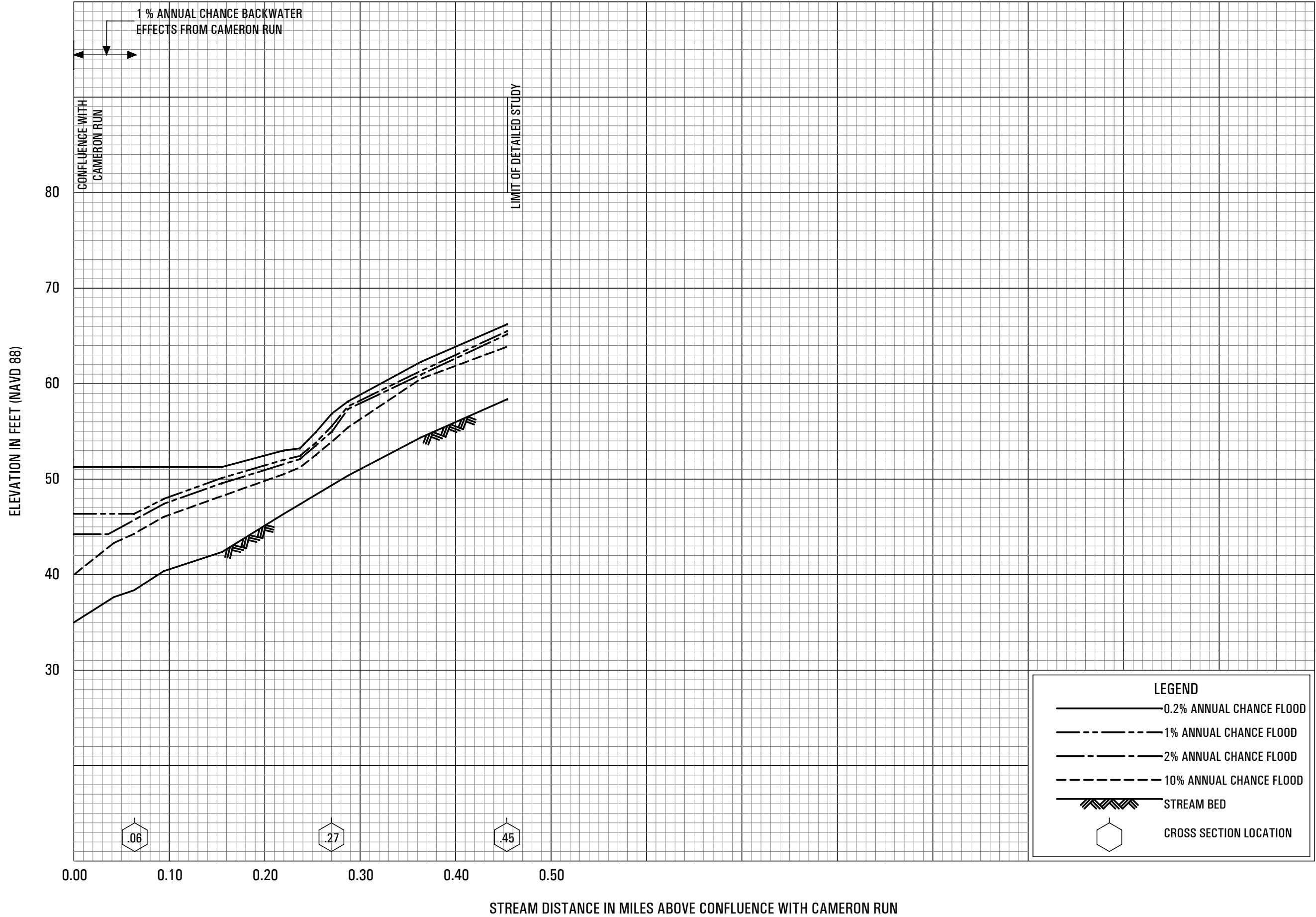




FLOOD PROFILES

TIMBER BRANCH

FEDERAL EMERGENCY MANAGEMENT AGENCY  
CITY OF ALEXANDRIA, VA  
(INDEPENDENT CITY)



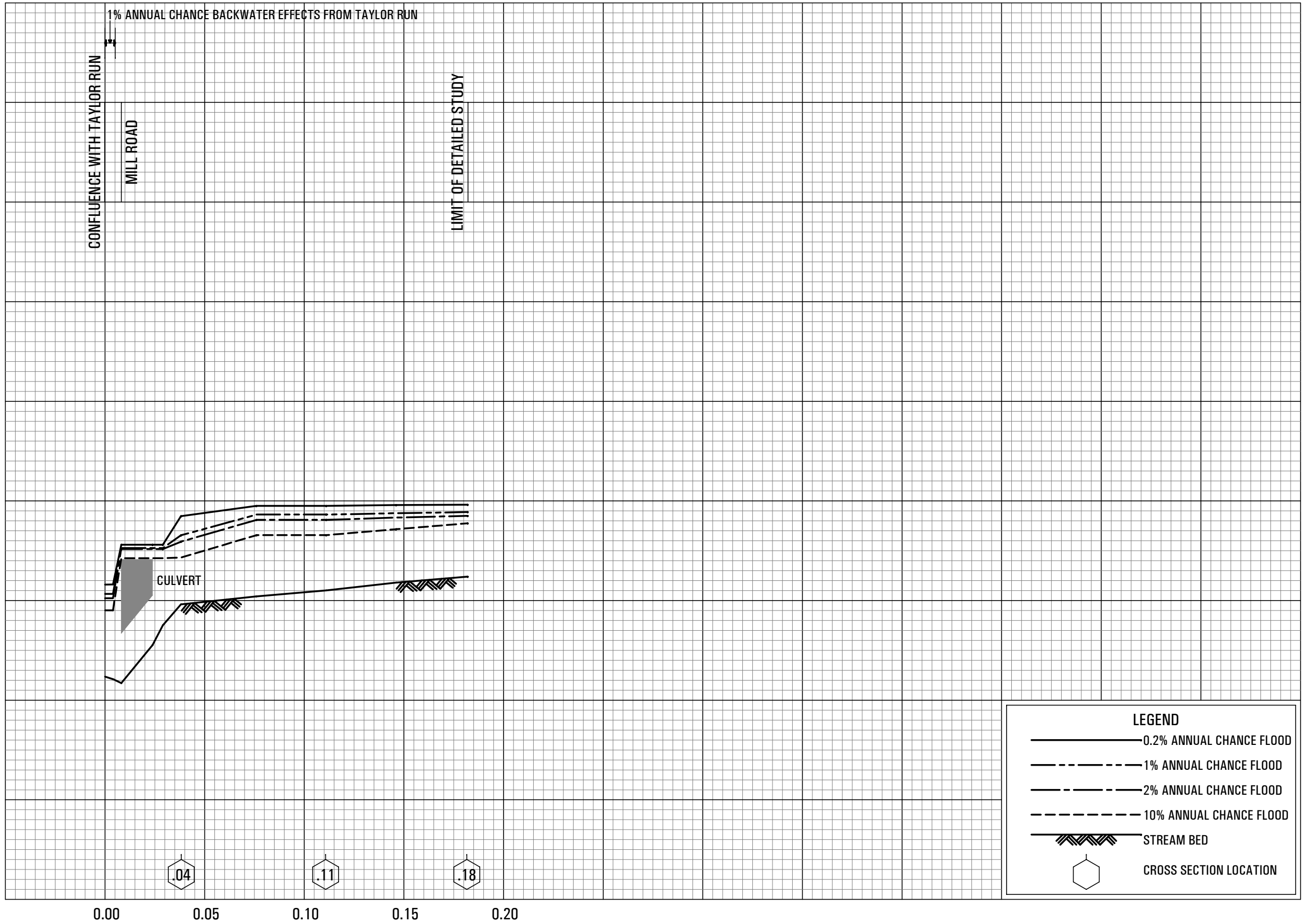
FLOOD PROFILES

TRIBUTARY 1 TO CAMERON RUN

FEDERAL EMERGENCY MANAGEMENT AGENCY  
CITY OF ALEXANDRIA, VA  
(INDEPENDENT CITY)

ELEVATION IN FEET (NAVD 88)

40  
30  
20  
10



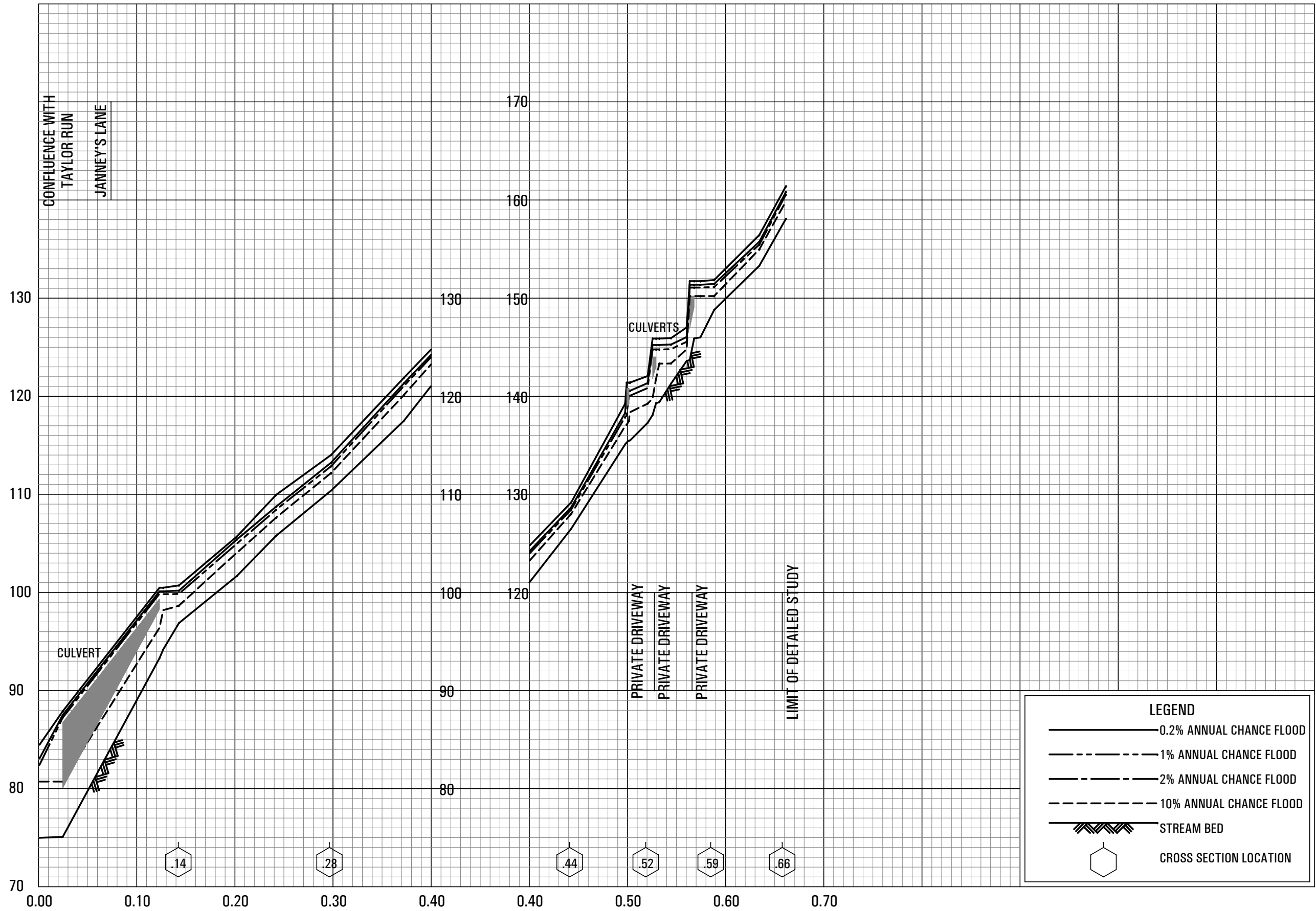
STREAM DISTANCE IN MILES ABOVE CONFLUENCE WITH TAYLOR RUN

FLOOD PROFILES

TRIBUTARY 1 TO TAYLOR RUN

FEDERAL EMERGENCY MANAGEMENT AGENCY  
CITY OF ALEXANDRIA, VA  
(INDEPENDENT CITY)

ELEVATION IN FEET (NAVD 88)



**LEGEND**

- 0.2% ANNUAL CHANCE FLOOD
- - - 1% ANNUAL CHANCE FLOOD
- . - . 2% ANNUAL CHANCE FLOOD
- - - - 10% ANNUAL CHANCE FLOOD
- / / / / / STREAM BED
- ⬡ CROSS SECTION LOCATION

**EXHIBIT 2.5.1(e)**

**Unified Storm Surge Profile Methodology for the Tidal Portions of the Potomac  
River (Dated August 6, 2008) –  
INTERIM AGREEMENT**

**for the**

**Waterfront Implementation Project**

**City of Alexandria**

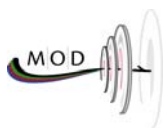
**[INCLUDED]**

# Unified Storm Surge Profile Methodology

## For the Tidal Portions of the Potomac River

Version 1.1

August 6, 2008





# Tidal Potomac River Unified Profile Development Methodology

## Document Management History

### Document Location

Location
File Path: H:\_FEMA\Projects\Tidal_Potomac\Cursory Potomac River Tidal Surge Elevation Profile Dev Report.doc

### Revision History

Version Number	Version Date	Summary of Changes	Team/Author
1.0	July 18, 2008	Initial Report	RMC3
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### Approvals

This document requires the approval of the following persons:

Role	Name	Title	Review Date	Approved Date
Originator	Lori Wade	RMC3 Engineer	July 18, 2008	July 18, 2008
Exec Reviewer	Lee Brancheau	RMC3 Lead	August 6, 2008	August 6, 2008

### Client Distribution

Name	Title/Organization	Location
Robin Danforth	FEMA Region III	Philadelphia, PA
Vanessa Glynn-Linaris	FEMA Region III	Philadelphia, PA
Jon Janowicz	FEMA Region III	Philadelphia, PA





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# 1. Introduction

During production of updates to the Flood Insurance Studies (FIS) in various counties as part of the FEMA Map Modernization project, it was determined that there is a significant need for a unified profile along the Potomac River that accurately represents storm surge elevations.

At the request of Region III of the Federal Emergency Management Agency (FEMA), the US Army Corps of Engineers, Engineer Research and Development Center (ERDC) Coastal and Hydraulics Laboratory (CHL) performed a cursory-level frequency-of-occurrence analysis of storm surge for the tidally-influenced reach of the Potomac River (See Appendix A). This reach extends from its confluence with the Chesapeake Bay to the 14<sup>th</sup> Street Bridge in Washington, DC. The USACE cursory-level analysis was envisioned to be an interim product until a more detailed study is completed.

Baker Regional Management Center 3 (RMC3) was tasked by FEMA Region III with the development of a unified profile using the USACE Cursors study. The RMC investigated the currently effective FIS reports and profiles for comparison purposes and developed new profiles in digital format. The extent of the profiles is shown in Figure 1 below. The unified profiles could be further enhanced and ultimately be incorporated into the corresponding countywide Flood Insurance Study reports as part of the Map Modernization Program.

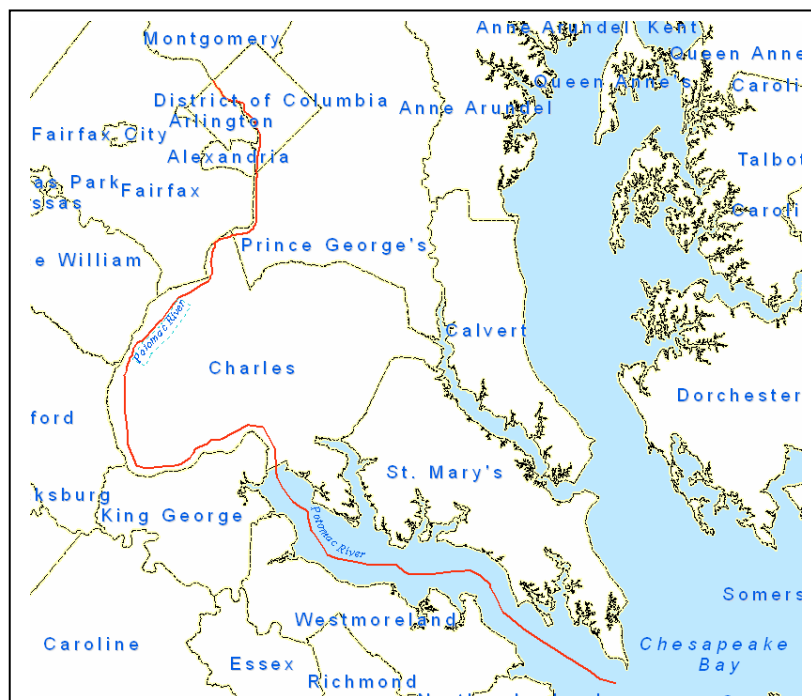


Figure 1: Study Area Showing Unified Potomac River Profile Baseline

## 2. Profile Baseline Development

Along with the cursory level report, USACE submitted storm surge elevations to FEMA as an ESRI point shapefile with attribution. USACE placed storm surge elevation points at key locations along the Potomac, as shown in Figures 9, 10, and 11 of the USACE report (see Appendix A). Because the original profile baseline is not available, RMC3 developed a best-available baseline in GIS using the USGS NHD High Resolution stream centerline file. The centerline for the Potomac River was extracted and converted to a Polyline ZM shapefile, able to contain both elevation and distance measures at each vertex. This baseline shapefile is including on CD-ROM in Appendix D.

The profile baseline extends from the confluence of the Potomac River with the Chesapeake Bay (directly south of Point Lookout in St. Mary's County, Maryland) to the point upstream where the Potomac River crosses the Montgomery County Maryland and District of Columbia jurisdictional boundary (see Figure 1). Although USACE provided storm surge elevation points all the way up to cross-section M in the District of Columbia, the riverine cross-section elevations are higher than the storm surge elevations from cross-section B upstream. The Anacostia River is not affected.

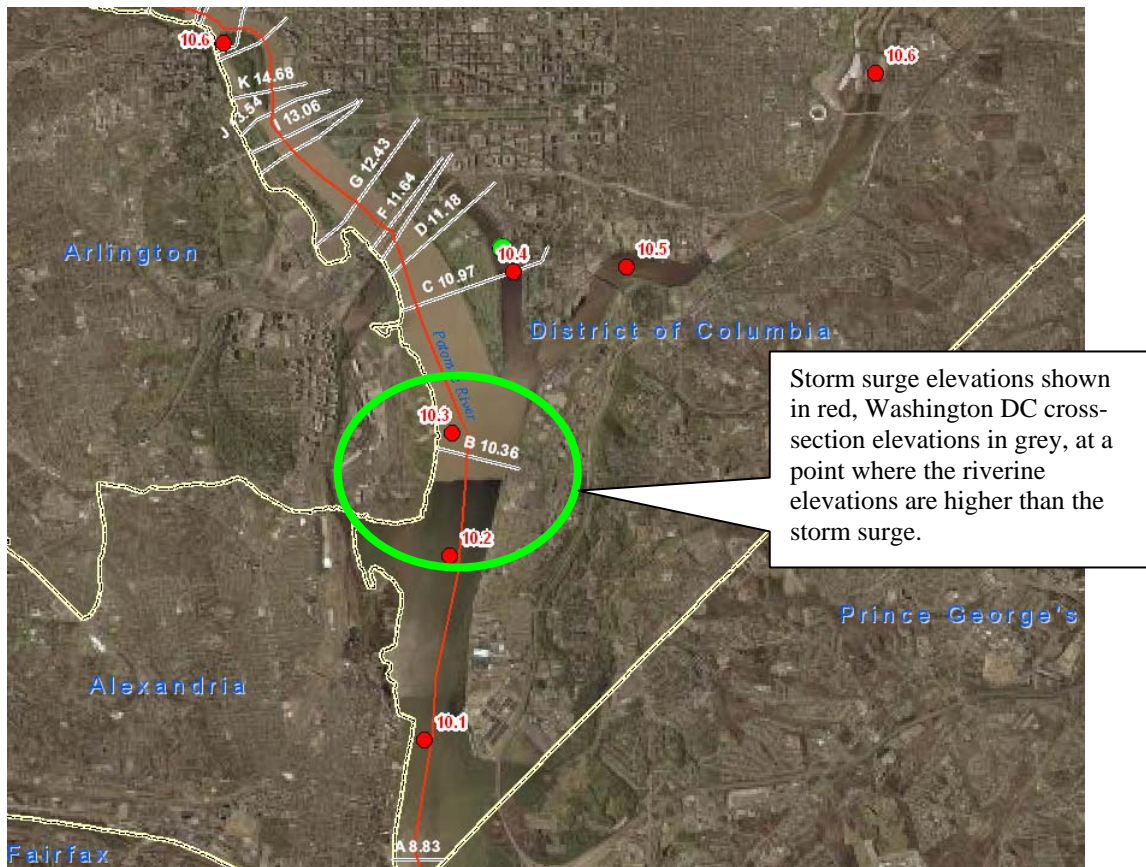


Figure 2 -DC Preliminary DFIRM Cross-section Elevations Compared to Storm Surge Elevations

All data prepared as part of this project are referenced in the Maryland State Plane Coordinate System, Units: Feet,: NAD83 Datum, and vertical referenced in the NAVD 88 Datum, Units: Feet.

Baker created a series of polylines across the Potomac River which stored the selected storm surge elevations provided by USACE at that point on the profile baseline. Existing District of Columbia preliminary DFIRM cross-sections B through Z were also used. Both sets of cross-sections were used to build a triangular irregular network (TIN). As shown in Figure 3 below, only a select set of storm surge elevations were used to create the TIN and subsequent profiles. Elevations represented by green point symbols were used, while those in red were omitted because they represent storm surge elevations on tributary streams further away from the baseline. Storm surge elevations were not used from DC cross-section B upwards, instead the DC cross-section elevations were substituted in the creation of the TIN.

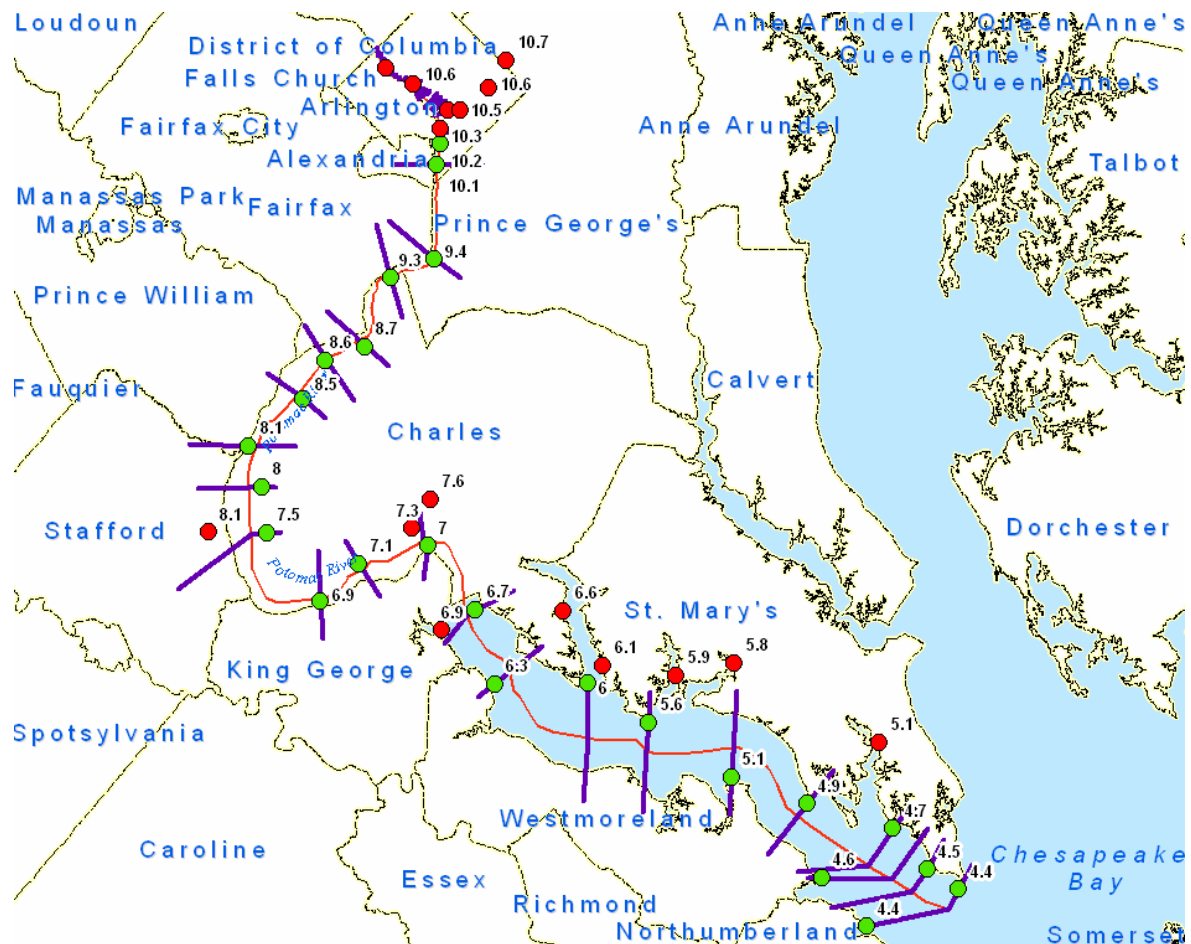


Figure 3 - Storm Surge Elevations and Cross-section Elevations Used to Build TINs and Profiles

After the TIN was created, ArcGIS 3D Analyst was used to apply elevation (Z) values from the TIN to each vertex along the profile baseline shapefile.

Measure (M) values were applied to the profile baseline shapefile using several methods. First, since the District of Columbia, Prince George County Maryland, and a portion of Charles County Maryland had existing Potomac River profiles, these profile lengths were used instead of the GIS shape length. The profile baseline length below the US 301 bridge between Charles County Maryland and King George County Virginia was determined using the calculated GIS feature shape length. It is important to note that the GIS shape length and the existing effective profile lengths do not always match, especially in the area between the District of Columbia southern boundary and cross-section A of the DC profiles. There are discrepancies between the locations of political boundaries between DC and Prince Georges County MD and also between Prince Georges County MD and Charles County MD which made the unification of the profiles difficult.

After Z and M values were applied to the profile baseline, locations and elevations of confluences with other streams, bridge locations, and political boundary locations were extracted from the profile baseline shapefile. Table 1 shows the profile stationing and storm surge elevation at key points along the profile baseline.

**Table 1 - Unified Profile Stationing and Storm Surge Elevations  
Compared to DC Preliminary Profile Stationing**

Wash. DC 8/17/2007 Prelim. DFIRM Profile Station (in feet)	Potomac River Profile Station (in feet)	Storm Surge Elevation (NAVD 88)	Description
	0	4.4	Confluence with Chesapeake Bay
	251724	6.884	US Route 301 Bridge - Charles and St Mary's County Boundary
	264396	7	Confluence with Popes Creek - Charles
	268884	7.032	Confluence with Port Tobacco River - Charles
	307428	7.075	Confluence with Nanjemoy Creek - Charles
	353924	7.242	Stafford / King George County Boundary
	411548	8.1	Prince William / Stafford County Boundary
	436524	8.5	Confluence with Mattawoman Creek - Charles
	445937	8.558	Fairfax / Prince William County Boundary
	503316	9.331	PG/Charles County Limits - PG Profile
	503316	9.331	PG/Charles County Limits - Charles Profile
	515428	9.386	Confluence with Piscataway Creek - PG
	531060	9.635	Confluence with Broad Creek - PG
	544108	9.925	Alexandria / Fairfax Boundary - Confluence with Cameron Run

**Table 1 - Unified Profile Stationing and Storm Surge Elevations  
Compared to DC Preliminary Profile Stationing**

Wash. DC 8/17/2007 Prelim. DFIRM Profile Station (in feet)	Potomac River Profile Station (in feet)	Storm Surge Elevation (NAVD 88)	Description
0	546616	9.978	DC/PG Corporate Limits - DC Profile
3224	549840	9.993	XS A - DC
15027	564867	10.3	Arlington / Alexandria Boundary - Confluence with Four Mile Run
21518	568134	10.36	XS B - DC
29039	575655	10.97	XS C - DC
31205	577821	11.18	XS D - DC
32231	578847	11.31	XS E - DC
32829	579445	11.64	XS F - DC
34645	581261	12.43	XS G - DC
38253	584869	12.74	XS H - DC
38951	585567	13.06	XS I - DC
40294	586910	13.54	XS J - DC
41402	588018	14.68	XS K - DC
43635	590251	15.22	XS L - DC
44922	591538	15.27	XS M - DC
46653	593269	15.81	XS N - DC
46944	593560	17.31	XS O - DC
49196	595812	17.55	XS P - DC
51525	598141	20.6	XS Q - DC
53424	600040	20.78	XS R - DC
55435	602051	22.23	XS S - DC
58038	604654	26.86	XS T - DC
60359	606975	27.39	XS U - DC
61852	608468	29.77	XS V - DC
64360	610976	38.56	XS W - DC
64731	611347	39.6	XS X - DC
65093	611709	39.64	XS Y - DC
66799	613415	41.09	XS Z - DC

The TIN and profile baseline are included on CD-ROM in Appendix D.



### 3. Unified Profile Creation

The Washington DC RASPlot database was used as the basis for the unified profiles. The additional nodes for areas outside of the District of Columbia were added to create a unified RASPlot database. The DC Potomac River HEC-RAS model contains all frequencies, but only the 100 Year is shown on the unified profiles to be consistent with the remainder of the unified profiles. The other frequencies were not deleted from the unified RASPlot database.

The choice of scale is based on the existing effective profiles for the District of Columbia, Prince Georges County, and Charles County as shown in Table 2 below:

Table 2 - Profile Scales in Effective FIS and Unified Profiles

Unified Reach	County	Community	# of Existing Potomac Profiles in Study Area	Profile Horiz. Scale (1" =)	Profile Vert. Scale (1" =)	Profile Length in Study Area (ft.)
Upper	Washington DC	DC	4	1000'	10'	52000
Middle	Prince Georges MD	Unincorporated Areas	1	10000'	2'	43300
Lower	Charles MD	Unincorporated Areas	1	5 miles	2'	251856
Lower	Charles MD	Indian Head	0	N/A	N/A	0
Lower	St. Mary's MD	Unincorporated Areas	0	N/A	N/A	0

It was decided that unifying the scale of the profiles was not practical and the existing profile scales for the District of Columbia, Prince Georges County, and Charles County were maintained.

Unifying the scale across the entire study area would result in a large number of very flat profiles in the lower reach or a very steep and short profile in the upper reach, depending on what scale was chosen.

After the RASPlot database was completed, profiles for each reach were exported to DXF format at the appropriate scale shown in Table 2. The DXFs were brought into AutoCAD and finalized in DWG 2004 format.

The RASPlot database and the AutoCAD DWG version of the profiles are included on the CD-ROM in Appendix D.

## Appendix A. USACE Report dated April 3, 2008

USACE Cursory-Level Analysis of the 100-Year Storm Surge Elevation for the Lower Potomac River, April 3, 2008



# **Cursory-Level Analysis of the 100-Year Storm Surge Elevation for the Lower Potomac River**

## **Introduction**

The Federal Emergency Management Agency (FEMA) requested that the US Army Engineer Research and Development Center (ERDC) Coastal and Hydraulics Laboratory (CHL) develop a scope of work to perform a cursory-level frequency-of-occurrence analysis of storm surge for the tidally-influenced reach of the Potomac River. This reach extends from its confluence with the Chesapeake Bay to Washington, DC.

The purpose for this study was to quickly develop an estimate of the 100-year flood elevations along the lower Potomac River reach above Chesapeake Bay using a consistent method for the entire study reach. Flooding along this reach can be caused by hurricane- and northeaster-induced storm events, as well as spring-time rainfall run-off. For a rigorous-level study, separate analyses must be performed for each type of flooding, resulting in a separate frequency-of-occurrence relationships for each, then convolved, or combined, into a single stage-frequency curve (for each location along the River reach). Due to severe budget and time constraints imposed on this study, a rigorous frequency-of-occurrence analysis could not be performed. Instead, a cursory analysis was done to meet the needs of FEMA. The simple approach taken in this study was to use a numerical storm surge model to simulate a hypothetical hurricane as the means for propagating extreme water levels from the mouth of the Potomac River to Washington D.C. In this simulation, 100-yr flood elevations at Lewisetta, VA, were used to define the downstream boundary condition, wind and atmospheric pressure forcings for an extreme historical hurricane (emulating Hurricane Isabel) were modified and imposed so that the model replicates the 100-year flood elevation at Washington, DC. A hurricane was simulated as part of the approach under the assumption that hurricanes are the dominant type of storm event for determining 100-yr water levels in the Potomac River.

The 100-year flood elevations defined above were determined in the re-evaluation study of the Washington, DC, Flood Insurance Study (White, K.D., Flick, M.S. and Mark, D.J., in press. In the re-evaluation study the 100-year flood elevation for the Washington, DC, gauge was determined using a Log-Pearson Type III analysis of the measured water-surface elevations. A total of 73 years of measurements were processed for extracting the peak water level occurring in each year and subsequently used in the analysis. As such, no distinction was made whether the peak water level resulted from a hurricane, northeaster, or spring-time runoff.

Key aspects for conducting a rigorous-level study include developing a numerical grid, calibrating and validating that model, performing a storm climatology analysis, selecting storms based on that analysis, depicting tidal and wave processes as part of the modeling procedures, and developing and applying a sound frequency-of-occurrence

methodology. To accurately replicate how a basin such as the Lower Potomac River responds to a storm, the numerical grid must accurately replicate its bathymetry, topography of adjacent low-lying areas that become flooded, as well as resolving features such as river bends and bridge abutments (if they restrict the river flow). Once a grid is deemed to represent the system, the storm surge model is then tested through calibration/validation exercises to ensure that it reproduces historical events via comparisons to measured data, such as water-surface elevations or high-water marks collected after a storm.

Storm climatology is performed to characterize the type and frequency of major storms occurring at a particular site, as well as their intensity and duration. Pertaining to tropical storms, additional information is needed including track direction and landfall location, maximum wind speeds, central pressure, and translational or forward speed to accurately depict the climate. Once this information has been collected and analyzed, accurate storm wind and atmospheric pressure fields can then be developed, which, in turn, can be used as input in simulating storm surge events. Thereafter, peak storm surge elevations are extracted from all simulations and a frequency-of-occurrence analysis for synthesizing stage-frequency relationships can be made for estimating flood inundation within the basin.

Several approaches exist for incorporating tidal and wave effects into the frequency-of-occurrence analysis. The optimal approach, however, is dependent on the basin itself. Concerning tides, if surge levels respond relatively linearly over the range of tidal elevations, then the tides can simply be added to the surge elevation for determining a total water level; if not, each storm in the population will need to be simulated for a variety of tide levels.

Factors that determine the optimal approach for including wave effects in a stage-frequency analysis include deepwater wave height, exposure of a site to open water, local bathymetry, fetch length, and storm duration. As a rough estimate, wave setup is equal to 15% of the wave height. As such, given its exposure to the open ocean and its waves, wave effects along the York River will probably need to be analyzed more rigorously than along the Potomac, which lies about 90 kilometers north of the Ocean entrance. Concerning the Potomac River, waves most probably will be locally generated and depth limited and, due to the relatively short fetch length, small in comparison to those experienced along the York River.

## **Study Approach**

The 100-year storm surge elevation along the lower Potomac River was estimated using the ADvanced CIRCulation (ADCIRC) numerical model. A high-resolution grid of the River was generated for this region, and water depths specified in the model were obtained from NOAA-published bathymetric databases together with USACE navigational surveys. For estimating the 100-year storm surge elevation, a hurricane emulating Hurricane Isabel, which impacted the study area in September 2003, was simulated with the model. In this simulation, the simulated hurricane had identical track

and landfall point as Hurricane Isabel. A time-series of water-surface elevations having a peak surge elevation equal to the 100-year storm surge for Lewisetta, Virginia was extracted and applied at the River mouth, and averaged-daily hurricane-season river flow rates were specified at the upstream boundaries on the Potomac and Anacostia Rivers. Wind and atmospheric pressure fields were generated with the TC96 Planetary Boundary Layer model, and wind speeds were reduced uniformly over the entire domain in order that model-generated surge levels at the Washington, DC, gauge replicated the 100-year storm surge elevation at this station. Astronomical tide was included in this analysis. However, it was limited to using the historical time-series of tide that occurred during Isabel. (In a rigorous analysis, a series of tides should be included in an analysis.) Peak storm surge elevations were saved at 40 locations along the study reach, and were subsequently added to an ArcGIS database for reporting/distributing model results.

Study procedures and findings are presented in the following sections: grid development; model testing; model application; and recommendations for the regional Chesapeake Bay study. This study was conducted by members of the USACE's Product Delivery Team for FEMA-sponsored studies. Team members from ERDC are Fulton C. Carson, Zeki Demirbelik, Lihwa Lin, and David J. Mark. Ms. Karen Nook, USACE Baltimore District, also was a team member.

## **Grid Development**

To create the grid, the Potomac River was extracted from the Chesapeake Bay grid described in Lin, Demirbelik and Mark (in preparation) and subsequently refined, increasing resolution throughout the domain (Figure 1). The grid contains 6910 nodes and 11816 elements. The finest grid resolution, about 90 feet (30 meters), resides in the upper Potomac and Anacostia Rivers (Figure 2), whereas the coarsest resolution resides at the river mouth, where nodal spacings are about 1000 meters.

Grid shorelines and coastlines positions are based on satellite imagery extracted from the U.S. National Geospatial-Intelligence Agency (NGA) Control Image Base (5-meter resolution) database. Bathymetry data assigned in the grid were obtained from the NOAA NOS charts and USACE navigation surveys, and subsequently converted to the mean-tidal datum. Figure 3 displays the grid bathymetry.

Topography along the rivers was extracted from the NGA-published Digital Terrain Elevation Database (DTED). (For the U.S., the NGA publishes and distributes products generated by other agencies, such as USGS Digital Elevation Models, using their own formats.) After reviewing the topography, it was judged that the low-lying areas were significantly less than the surface area of the River proper. Therefore, omitting the low-lying areas from the grid will not substantially change the predicted storm surge elevations along the Potomac and Anacostia Rivers. Consequently, low-lying areas were omitted from the grid. A consequence of omitting these areas is that the estimated 100-year flood elevations are conservative in that they are over-predicted; however, the over-predictions are judged to be on the order of tenths of feet.

## Model Testing

Several modeling experiments were conducted that included steady-state and dynamic simulations. Boundary conditions imposed at the mouth of the Potomac River included the estimated 100-year storm surge elevation computed in Lin, Demirbelik, and Mark (in preparation). Wind and atmospheric pressure forcings were omitted in these simulations.

For steady-state simulations, water levels at the downstream boundary and flow at the upstream boundaries were initially imposed to zero and increased in time to their full contribution. For dynamic simulations, upstream boundaries were treated in the same manner as above, whereas the surge was input as a “pulse” to mimic the rise and fall of the storm surge. The height of the pulse was equal to the 100-yr elevation determined for northeasters and hurricanes. The “pulse” duration of the hurricane simulation was 8 hours, and the duration for the northeaster simulation was 48 hours.

Comparing the peak water-surface elevations computed for steady-state and dynamic simulations showed negligible to minimal differences in the computed water-surface elevations. This observation holds for both northeaster and hurricane tests. The model-generated water-surface elevation for Washington, DC, nearly equaled the elevation imposed at the downstream boundary. Because the 100-year flood elevation at Washington, DC, is roughly 3 feet greater than that at Lewisetta, VA, wind is an important contributor to the storm surge along the upper reaches of the River. (The wind, therefore, accounts for roughly one-third of the surge experienced in the upper reaches of the River, whereas two-thirds results from surge entering through the River mouth and propagating upstream.)

A hindcast simulation of Hurricane Isabel, which impacted the area in September 2003, was simulated with the original Chesapeake Bay model described in Lin, Demirbelik, and Mark (in prep.) and adapted to include the high-resolution Potomac River grid. Wind and atmospheric pressure fields were generated using the TC96 Planetary Boundary Model (PBL). Input to the PBL model includes time-series of central pressures, maximum wind speed, and track position of the hurricane’s eye. These data were obtained from the North Atlantic Hurricane Track Database (1897-2006) maintained by the Unisys Corporation.

PBL model wind fields are generally accurate for the open coast and ocean applications, but tend to over-predict wind speeds over land. In the Chesapeake Bay and adjacent areas, the wind fields were adjusted for over-bay and over-land effects following procedures described in Part II, Coastal Engineering Manual (CEM 2006). Adjustments were performed using the following equation:

$$U_L = U_W/R_L \quad (1)$$

where  $U_L$  is the wind speed over land,  $U_W$  is the wind speed over water, and  $R_L$  is an adjustment factor. Details about this formula can be found in the CEM (2006).

Peak model-generated water-surface elevations are compared to measured water levels at twelve NOS-maintained gauges in Table 1. As shown in the table, the model reproduces the measured peak data well at each gauge. For the Lewisetta, Virginia gauge, which is located close to the mouth of the Potomac River, the model produced a peak water-surface elevation of 5.02 ft (1.53 m) compared to 4.72 ft (1.44 m) measured at the gauge, or within 0.30 ft (0.09 m) of the measured peak.

Although the peak water-surface elevations compared well for Hurricane Isabel at the Lewisetta gauge, the model produced a peak water level of about 15 ft for the Potomac River (Haines Point) tidal gauge at Washington, DC, gauge (National Ocean Service (NOS) gauge no. 8594900), as opposed to the 8.7 ft NAVD measured by the gauge. A simulation made with only the high-resolution Potomac River model driven with winds, pressures, and measured water surface elevation from Lewisetta at the lower river mouth boundary produced similar results.

Discrepancies between model-generated and measured peak water levels at the Washington, DC, gauge are attributed to inaccuracies in the PBL-generated winds which, in turn, are attributed to the over-land wind reduction algorithm. The model produced accurate peak storm surge elevations using the wind reduction algorithm described above, at those stations in the Bay proper. Topography of the Eastern Banks, separating the Bay from Atlantic Ocean, can be characterized as low-lying and relatively narrow. Consequently, over-land frictional effects that decrease wind strength are minimal.

Conversely, topography west of the Potomac River can be characterized as having high relief, with hills exceeding 200 ft in height. Given that the over-land wind reduction algorithm was developed for low-lying coastal areas, the algorithm can underestimate wind reduction (or over-estimate wind strength) in hilly regions. Figure 4 compares winds measured at the USGS Lewisetta gauge to winds measured at Washington National, Quantico, and Davison (Ft. Belvoir) Airports.

The hurricane was estimated to have made landfall on 18 September at 17:00 GMT, whereas the peak storm surge measured at Washington, DC, occurred on 19 September at 4:48 GMT, roughly 12 hours later (Figure 6). Given that Hurricane Isabel made landfall to the south of the Bay and that winds rotate in a counter-clockwise direction around the eye of the hurricane, peak surge in the upper Potomac occurs on the “backside” of the storm when winds are directed roughly from south to north (Figure 7). (At landfall, winds were blowing from the northeast, pushing the water in the upper Potomac downstream, suppressing the surge along this reach.) At the time when surge levels reached their peak at Washington, DC, the eye of the storm was located in the foothills of the Appalachian Mountains.

Peak wind speed measured at Lewisetta on 19 September, the day following landfall was about 48 kts. For National and Davison Airports, peak wind speeds were 40 kts and 24 kts, respectively. Although these airports are located in close proximity to one another, the large disparity in wind speeds is attributed to the complex topography in the



region. Figure 8 displays a digital terrain model of the area.

## **Model Application**

For estimating the 100-year storm surge elevation, a hurricane emulating Hurricane Isabel was dynamically simulated with the model. For this application, the simulated hurricane had an identical track (prior to and after making landfall) and landfall point as Hurricane Isabel. Wind and atmospheric pressure fields were generated with the Planetary Boundary Layer model, and wind speeds were reduced by 27 percent to those predicted by the PBL model (or to about 30 kts), so that model-generated surge levels at the Washington, DC, gauge replicated the 100-year storm surge elevation of 10.5 ft NAVD88 at this station.

Of the five greatest water levels measured at the Washington, DC, gauge, three were induced by hurricanes, whereas the remaining two were induced by northeasters. The greatest surge occurred in October 1942 and resulted from a tropical storm that had a northerly heading, roughly in parallel with the Potomac. The second and third greatest surge levels were caused by a northeaster in 1936 and by Hurricane Isabel, respectively. Hurricane Isabel was emulated in this study for estimating the 100-year flood elevation because measurements agree well to the FEMA-published 100-year flood elevations, the availability of measured data, and that hurricane parameters for more recent storms are considered more accurate than those occurring prior to 1970.

At the River mouth, a time-series of water-surface elevations having a peak surge elevation equal to the 100-year storm surge for Lewisetta, Virginia was specified by scaling the measured hydrograph for Isabel. For upstream boundaries, the averaged river flow rates were specified at the upstream boundaries on the Potomac and Anacostia Rivers. Averaged flow rates were determined by averaging the monthly USGS-published discharges for months June through October. For the Potomac River, flow rate data were collected at USGS gauge no. 01646500, near the Washington, DC, Little Falls Pumping Station, which is not tidally influenced. For the Anacostia River, data collected by the USGS gauge no. 01649500 at Riverdale, MD, on the northeast branch were used.

Peak storm surge elevations were saved at 40 locations along the study reach, and were subsequently added to an ArcGIS database for reporting purposes. Figures 9 through 11 present the estimated 100-year flood elevation.

## **Recommendations**

In the introduction, several key aspects for conducting for a rigorous-level study were presented. Below is a brief explanation of their importance to the present Chesapeake Bay storm surge study.

**Numerical Grid:** The numerical grid used in Lin, Demirbelik, and Mark (in preparation) was adapted from one used in studying storm surge and waves for designing coastal

structures to protect several islands within Chesapeake Bay. Upstream grid limits were subsequently added to the various tributaries so that the new limits coincide with the head-of-tides. For the present study, it is highly recommended that FEMA identify those rivers where stage-frequency curves are desired so that grid modifications, to the same degree of accuracy as performed in this cursory-level study, can begin.

**Frequency-of-Occurrence Methodology:** The Empirical Stimulation Technique (EST) model used in the frequency-of-occurrence analyses applied in Lin, Demirbelik, and Mark (in prep.) is based on a re-sampling procedure for estimating storm surge elevations and their return periods. Using the ADCIRC model, storm surge is simulated using the wind fields replicating historical events (e.g. Hurricane Isabel), and peak storm surge elevations for each storm simulated at a particular station are saved in a database. Using these peak elevations, a 100-year period is simulated with the EST model, where this model randomly selects a particular storm (and its associated peak water level) from the database, generating a “historical” record of surges that is subsequently processed to yield a single stage-frequency curve. A Poisson distribution law is imposed so that the EST model replicates the frequency-of-occurrence of the storms themselves. (For example, if 20 storms occurred over a 50-year period, the EST model will replicate the same frequency of forty storms occurring over a 100-year period.) Consequently, the frequency is determined by the number of storms simulated together with the year of the earliest and the most recent storms available.

One of the fundamental assumptions made in applying the EST is that the population of storms is representative of those that have occurred in the study area. By simulating historical events, this assumption is sound. However, this population may not be representative of those that can occur in the future. The EST attempts to address this issue by employing a nearest-neighbor interpolation technique among the various storm parameters (e.g., central pressure, maximum wind speeds, etc.) for estimating storm surge levels produced by storms that vary from the historical storms. In light of recent work performed for the Gulf coast, where hurricanes are the dominant contributor to the flooding hazard, it is unlikely that the nearest-neighbor interpolation technique can accurately predict hurricane surge levels in highly complex regions of Chesapeake Bay and especially in its tributaries. The EST applied only with historical hurricanes does not adequately capture the different combinations of hurricane parameters, especially track, that are possible. Proper consideration of hurricane tracks will be particularly important for the Chesapeake Bay.

An alternative approach for conducting the frequency-of-occurrence analysis is the Joint Probability Method. In this approach, storm parameters are assumed independent from one another, and each storm parameter (e.g., central pressure, maximum wind speed) is segmented into ranges by way of their probability density functions, then choosing discrete values for each range. A storm is synthesized by combining one discrete value for each of these parameters; the full populations of storms are created by assembling the discrete values in all possible combinations. Direct application of this method requires simulating hundreds of synthetic storms, the majority of which have little bearing on the water-surface elevations associated with the higher

return period events; with the optimal strategy approach developed in the FEMA-sponsored Coast of Louisiana frequency-of-occurrence study, weaker storms may be eliminated, reducing the number of simulations to a more reasonable level. For track directions and landfall locations, which are critical parameters for the proposed study, these parameters can be selected so as to define the “worst case” scenario for flooding along the many tributaries emptying into Chesapeake Bay. The JPM-OS (Optimal Sampling) is the recommended approach for treating the hurricane hazard in Chesapeake Bay.

**Wind and Atmospheric Pressure Fields:** Based on comparisons of model-generated and measured peak water-surface elevations along the open Chesapeake Bay, the PBL-generated wind and pressure fields, together with over-land wind reduction algorithm presented in the Coastal Engineering Manual (CEM 2006), provide reasonable estimates of peak storm surge elevations. However, these fields lack the necessary accuracy for predicting surge levels in rivers emptying into the Bay along its western banks. The PDT for the FEMA-sponsored Coastal of Louisiana developed an over-land wind reduction algorithm that is based on wind direction and land-use. In light of the findings made in this study, the above algorithm should be modified to include topography to account for orographic effects due to the hilly terrain surrounding the various western tributaries.

**Waves:** Wave-induced setup and runup were omitted in this analysis because their contributions were judged to be small in comparison to storm surge and tide contributions to the 100-year water-surface elevations. The greatest source of wave energy within the Bay can be expected to result from waves entering the Bay from the Atlantic Ocean, located roughly 89 km to the south of the River mouth. Given the shallowness of the Bay and River, together with complex landfall geometry, these waves were judged to have little impact on flooding within the Potomac River floodplain. Concerning locally-generated waves, given the shallowness of the Bay together with the short duration of the storm and small fetch-length, locally generated waves would not be fully risen and therefore the contribution to the total water level stemming from wave-induced setup and runup would be small.

This same assumption will probably not be valid if applied to areas in southern Chesapeake Bay as well as to the tributaries that empty in to this region because of the open exposure to the Bay from the Atlantic Ocean. Test simulations with a wave model should be conducted in order to determine whether waves in this region will have an appreciable impact on the total water level.

**River Inflow:** Sensitivity of peak water-surface elevations caused by river inflows was not evaluated in this study. Because the surge travels upstream during a storm, and that river flows are directed downstream, their respective momentums are directed in opposite directions. This net change in momentum may decrease surge levels at upstream locations during periods of higher flow rates; conversely, surge levels may increase at upstream locations during low-flow conditions. Whether this phenomenon is important is unknown, and therefore, test simulations should be made for its determination.

## References

CEM (2006). *Coastal Engineering Manual*, EM 1110-2-1100. Headquarters, U.S. Army Corps of Engineers, Washington, DC.

Lin, L., Demirbilek, Z., and Mark, D. J. (in preparation). "Chesapeake Bay Storm Flooding Frequency-of-Occurrence Studies," US Army Engineer Research and Development Center, Coastal and Hydraulics Laboratory, Vicksburg, MS.

White, Kathleen D., Flick, Mark S. and Mark, David J. 2008. "Re-evaluation Study of Washington, D.C. Flood Insurance Study," US Army Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory, Hanover, N.H. in press.

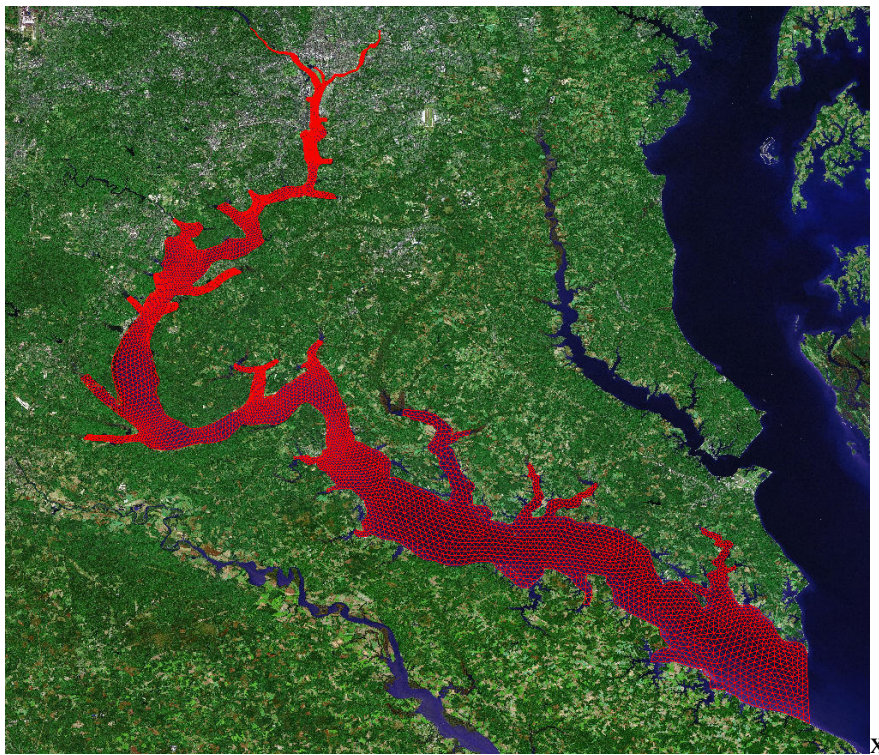
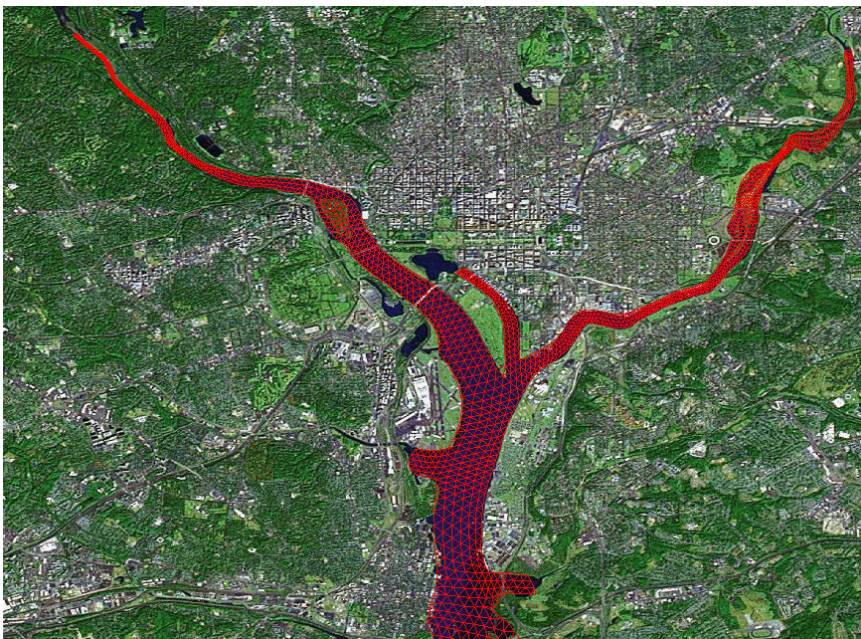
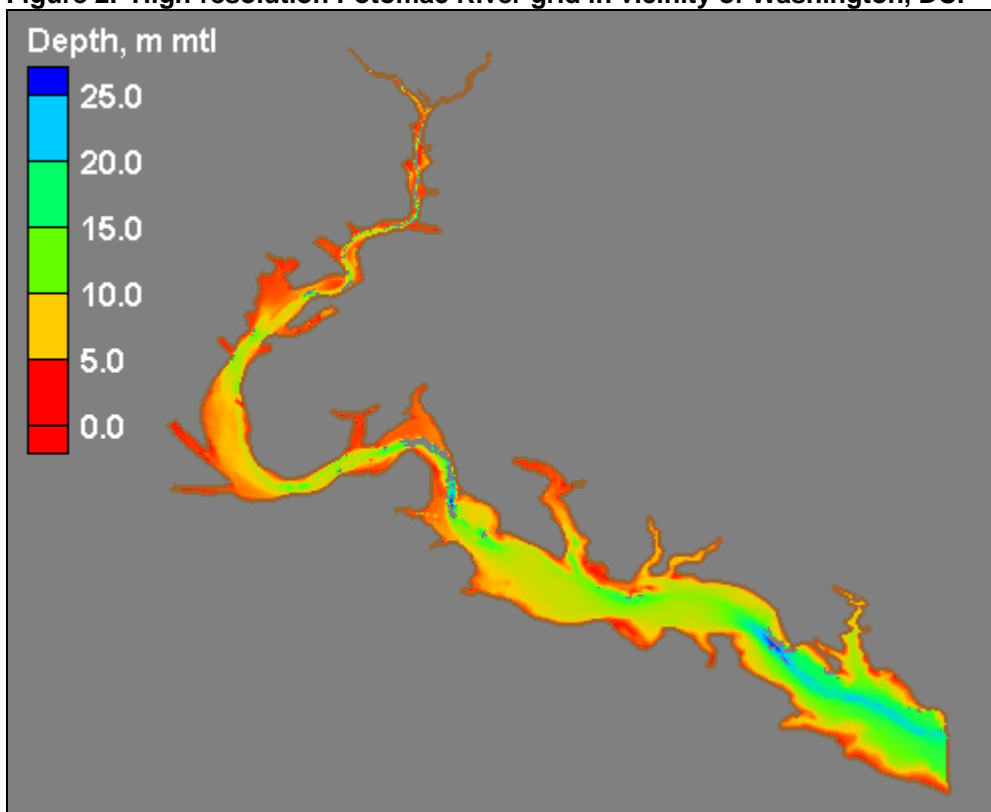


Figure 1. High-resolution Potomac River grid.





**Figure 2. High-resolution Potomac River grid in vicinity of Washington, DC.**



**Figure 3. Bathymetry of the high-resolution Potomac River grid.**

**Table 1. Measured and calculated peak water levels, Hurricane Isabel (September 2003).**

Station	Name	Measured, m (ft)	Calculated, m (ft)	Calculated – Measured, m (ft)
8551910	Reedy Pt, C&D Canal, DE	1.75 (5.74)	1.69 (5.54)	-0.06 (-0.20)
8557380	Lewes, Ft. Miles, DE	1.31 (4.30)	1.00 (3.28)	-0.31 (-1.02)
8571892	Cambridge, Choptank River, MD	1.58 (5.18)	1.68 (5.51)	0.10 (0.33)
8573927	Chesapeake City, MD	2.18 (7.15)	1.94 (6.36)	-0.26 (-0.85)
8574680	Baltimore, MD	2.24 (7.35)	2.28 (7.48)	0.04 (0.13)
8575512	US Naval Academy, MD	1.98 (6.50)	2.30 (7.55)	0.32 (1.05)
8577330	Solomons Is, MD	1.85 (6.07)	1.80 (5.91)	-0.05 (-0.16)
8632200	Kiptopeke Beach, VA	1.55 (5.09)	1.70 (5.58)	0.15 (0.49)
8635750	Lewisetta, Potomac River, VA	1.44 (4.72)	1.53 (5.02)	0.09 (0.30)
8636580	Windmill Pt, VA	1.48 (4.86)	1.30 (4.27)	-0.18 (-0.59)
8638610	Sewells Pt, VA	1.99 (6.53)	2.35 (7.71)	0.36 (1.18)
8638863	Chesapeake Bay Bridge Tunnel, VA	1.87 (6.14)	1.91 (6.27)	0.04 (0.13)
Root-mean-square error of calculated peak water level = 0.20 (m)				
Bias = mean of (calculated – measured) = 0.02 (m)				

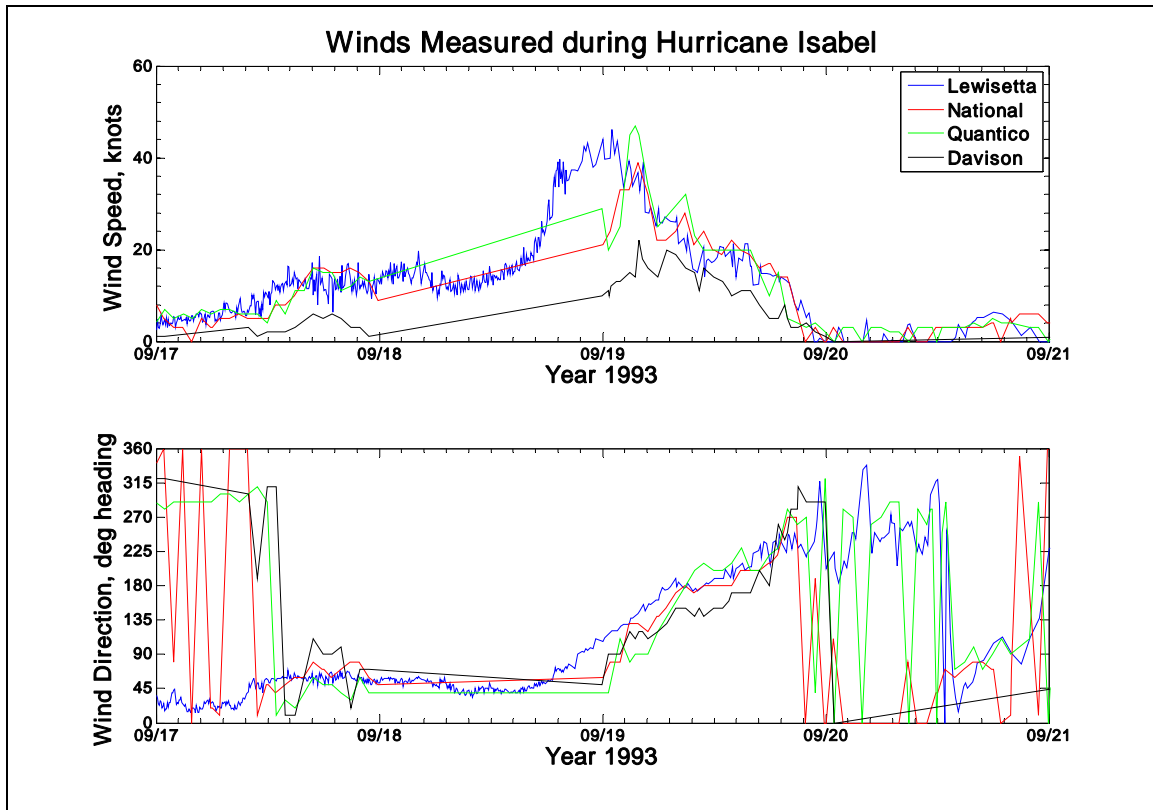


Figure 4. Comparison of measured wind speeds and directions.

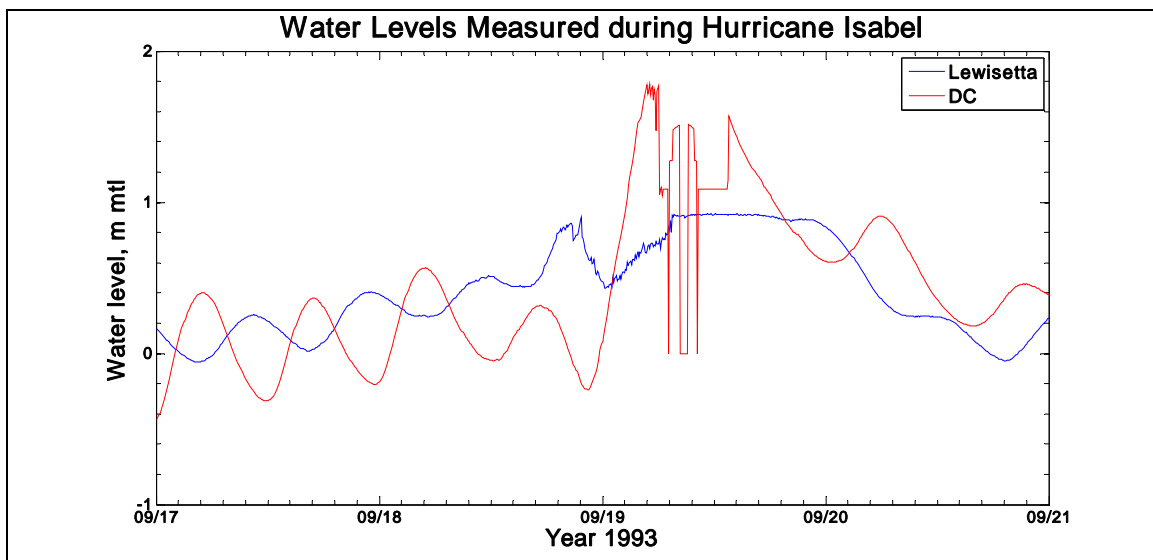


Figure 5. Comparison of measured water-surface elevations at the Lewisetta and Washington, DC, NOS gauges.

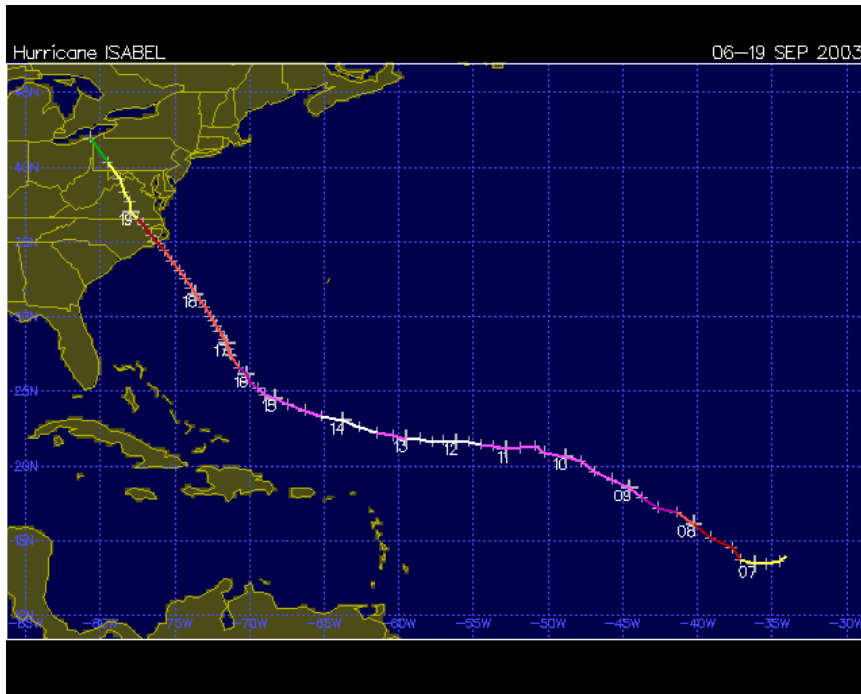


Figure 6. Track of Hurricane Isabel (after Unisys Corp.)

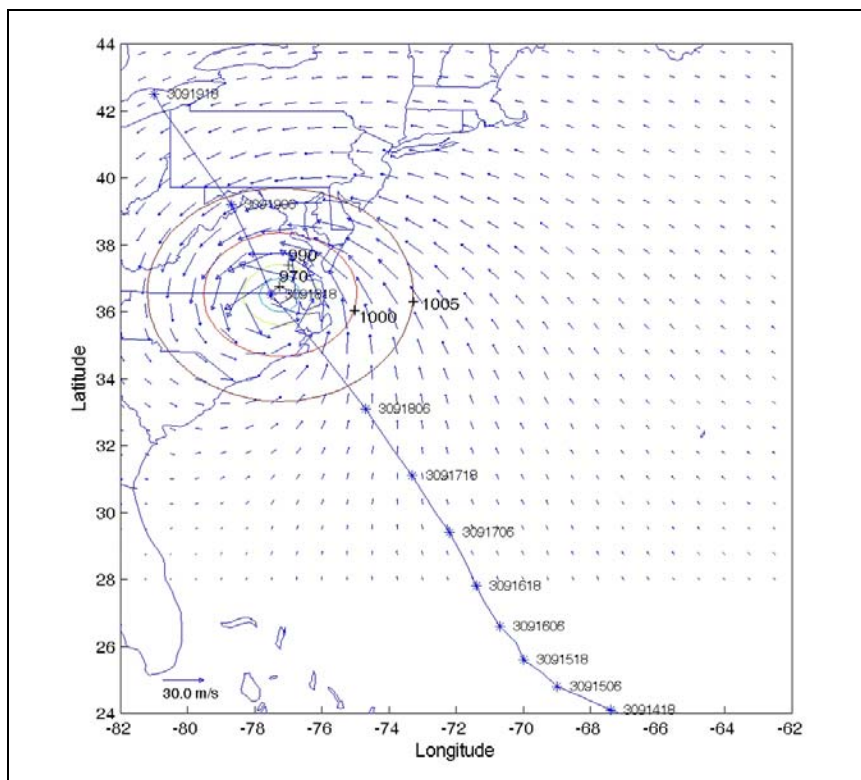


Figure 7. PBL-generated wind fields of Hurricane Isabel.



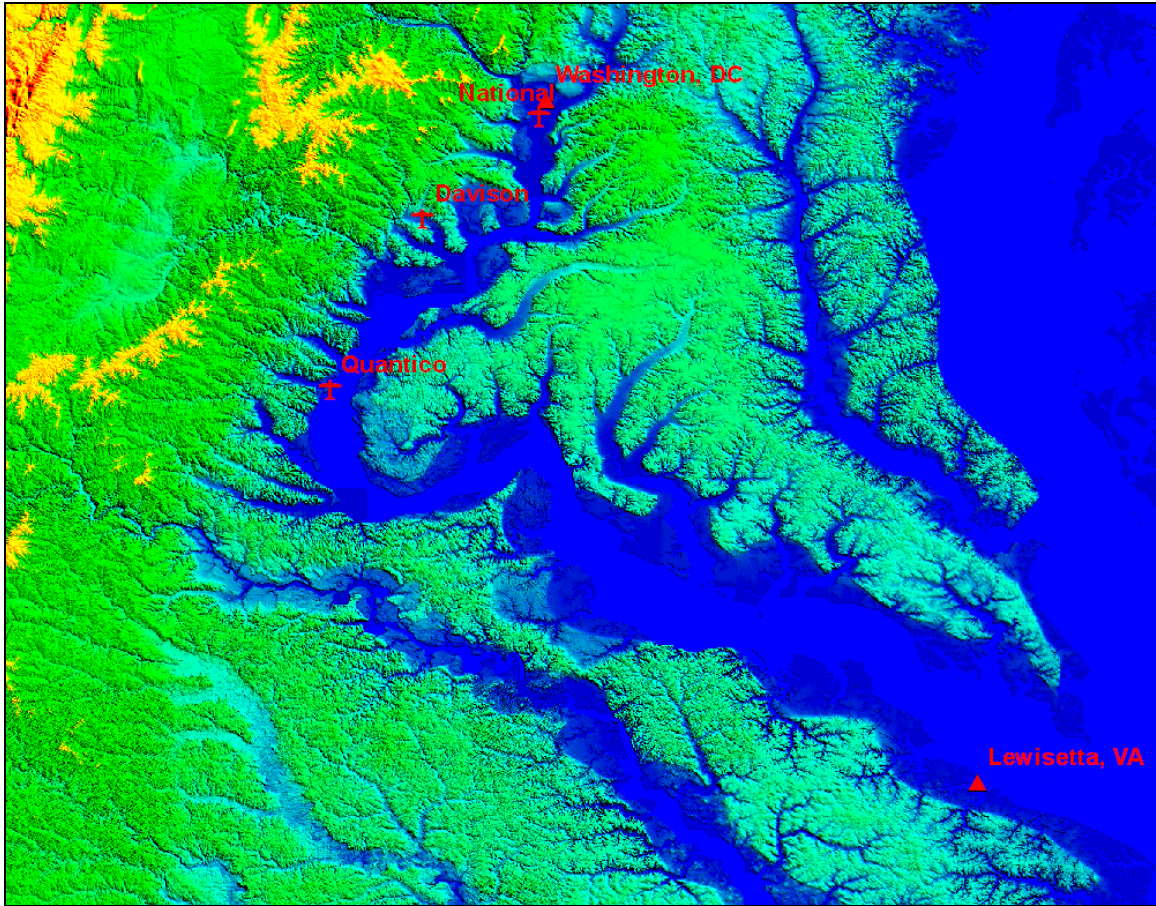


Figure 8. Topography of Potomac the River Basin and surrounding areas.



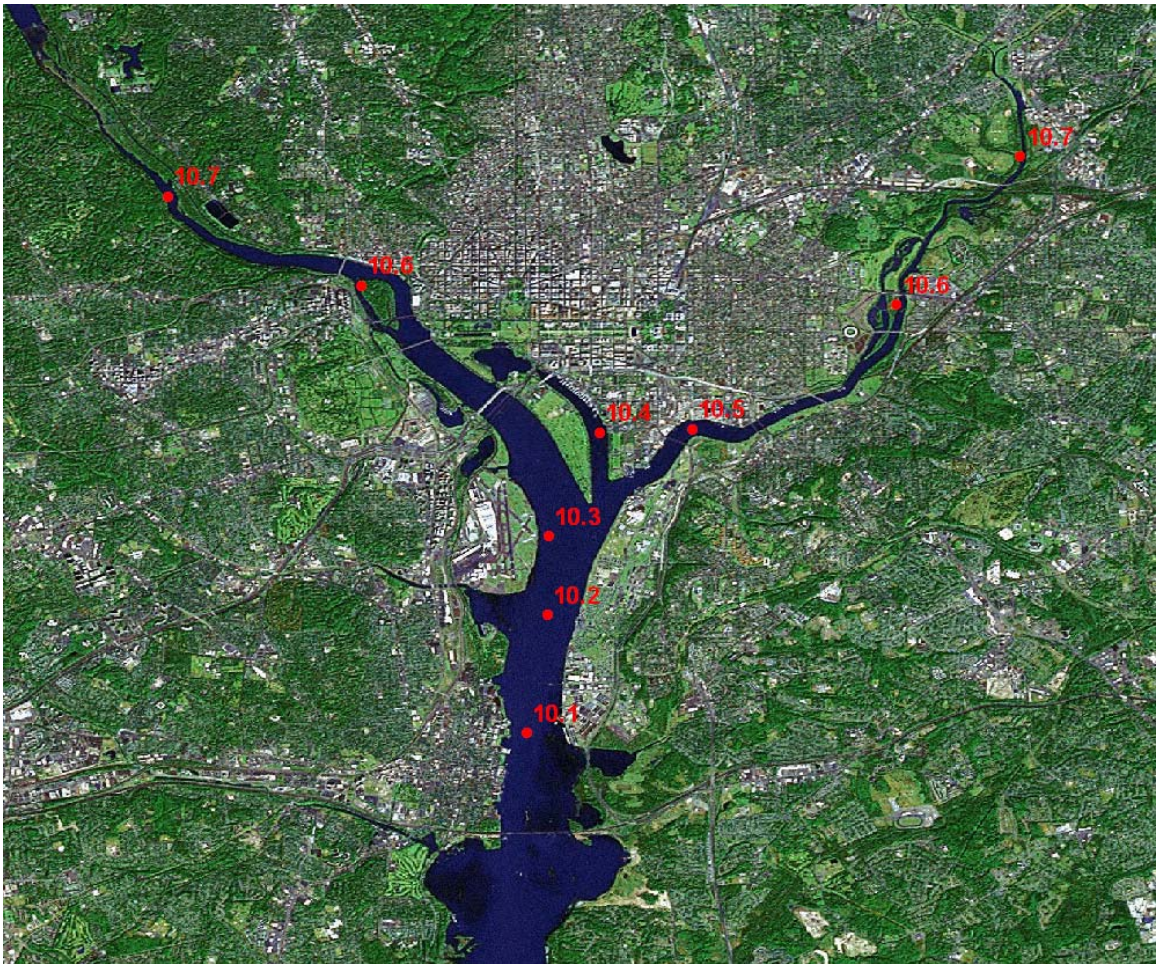


Figure 9. Estimated 100-yr storm surge elevation (ft NAVD88).





Figure 10. Estimated 100-yr storm surge elevation (ft NAVD88).



Figure 11. Estimated 100-yr storm surge elevation (ft NAVD88).





## Appendix B. Draft Unified Potomac River Storm Surge Profiles

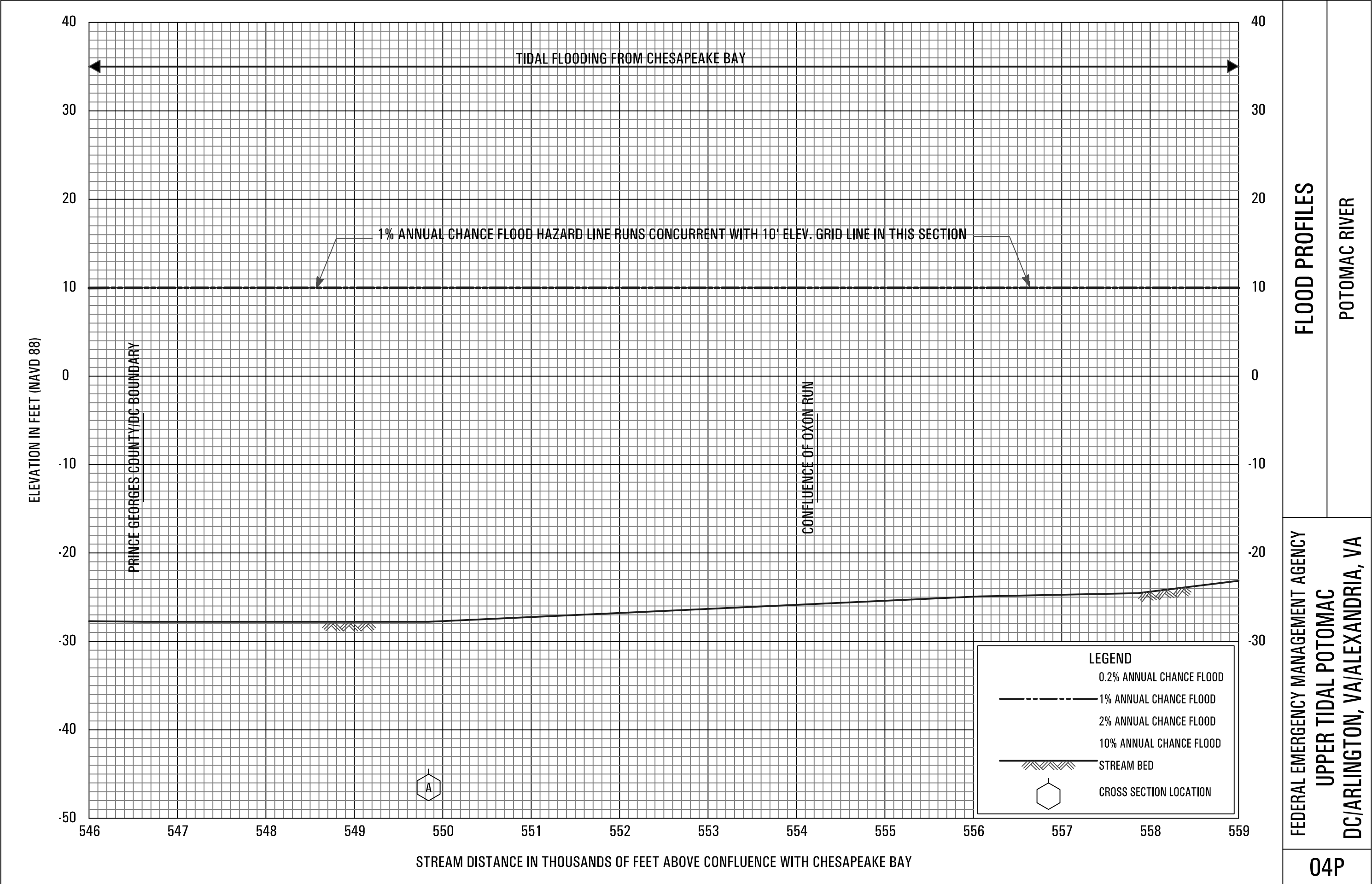


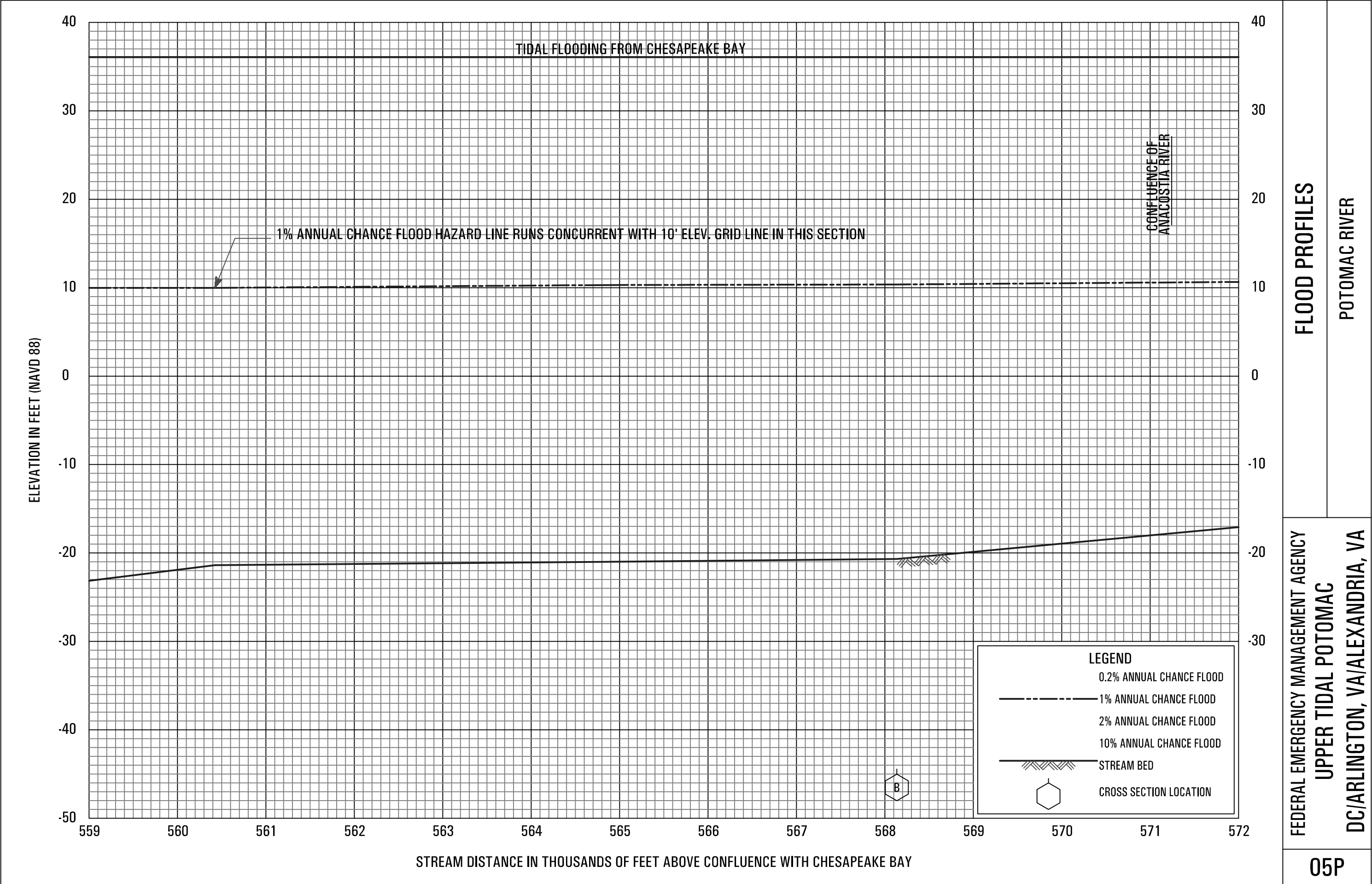


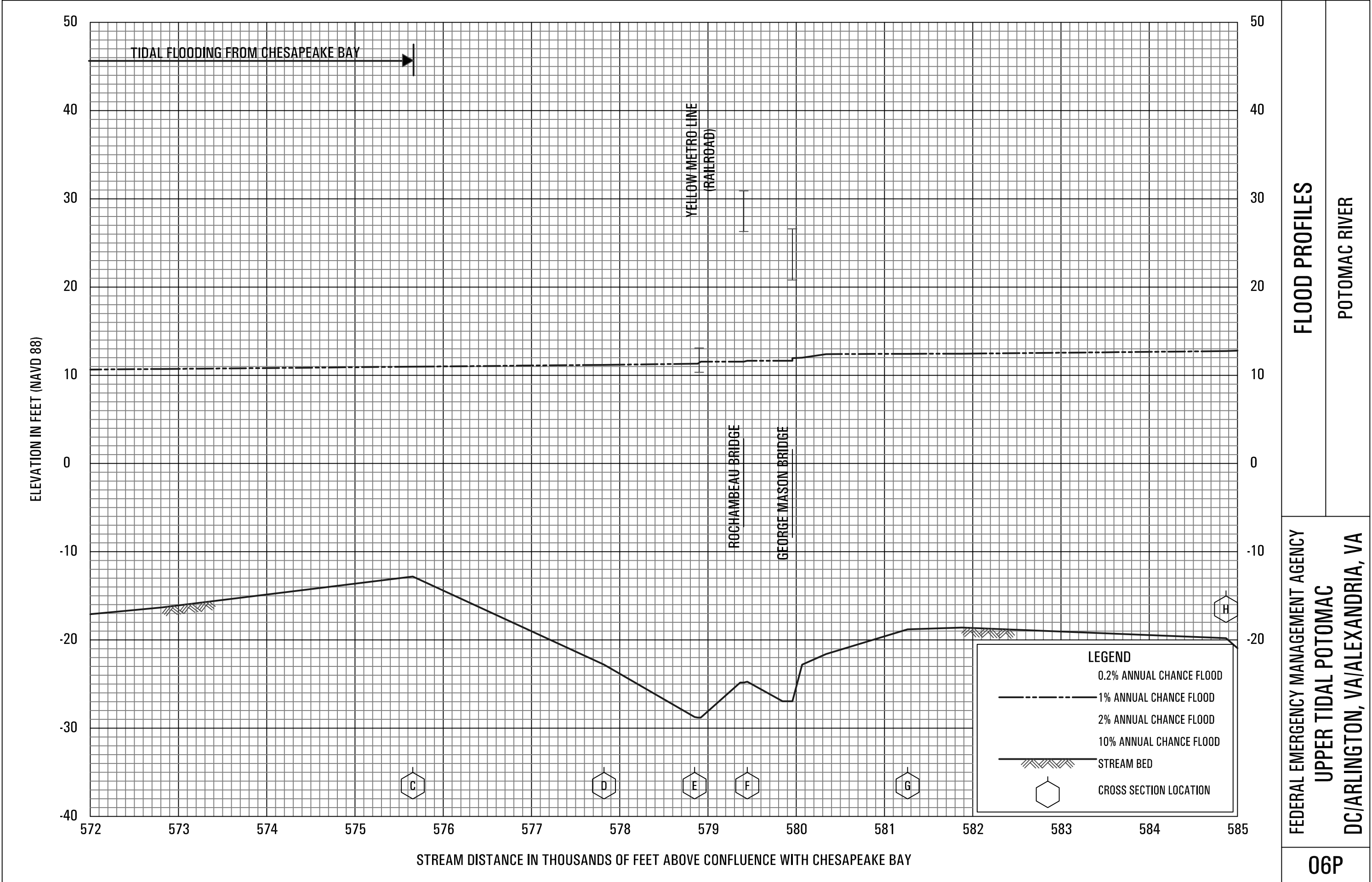


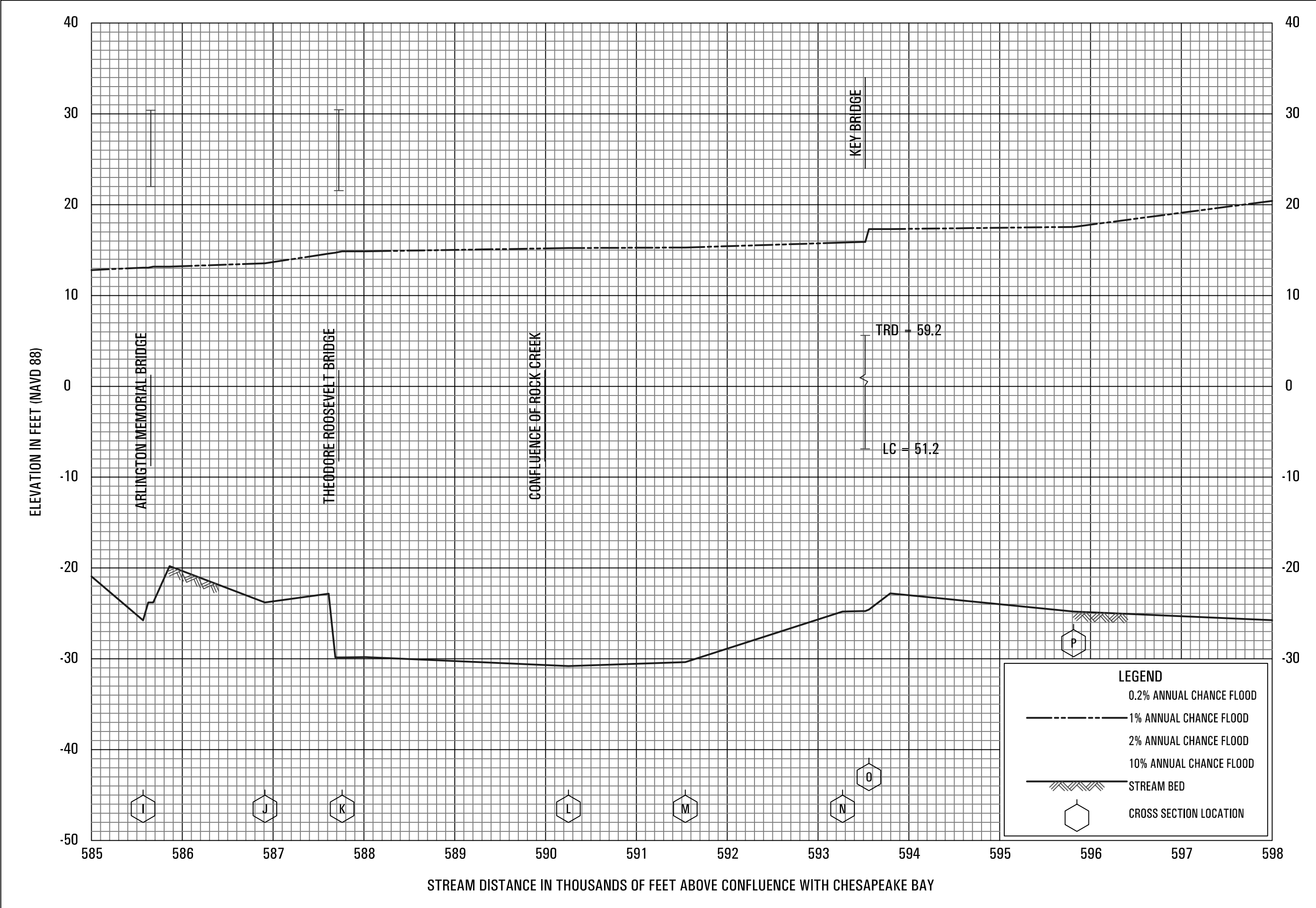


















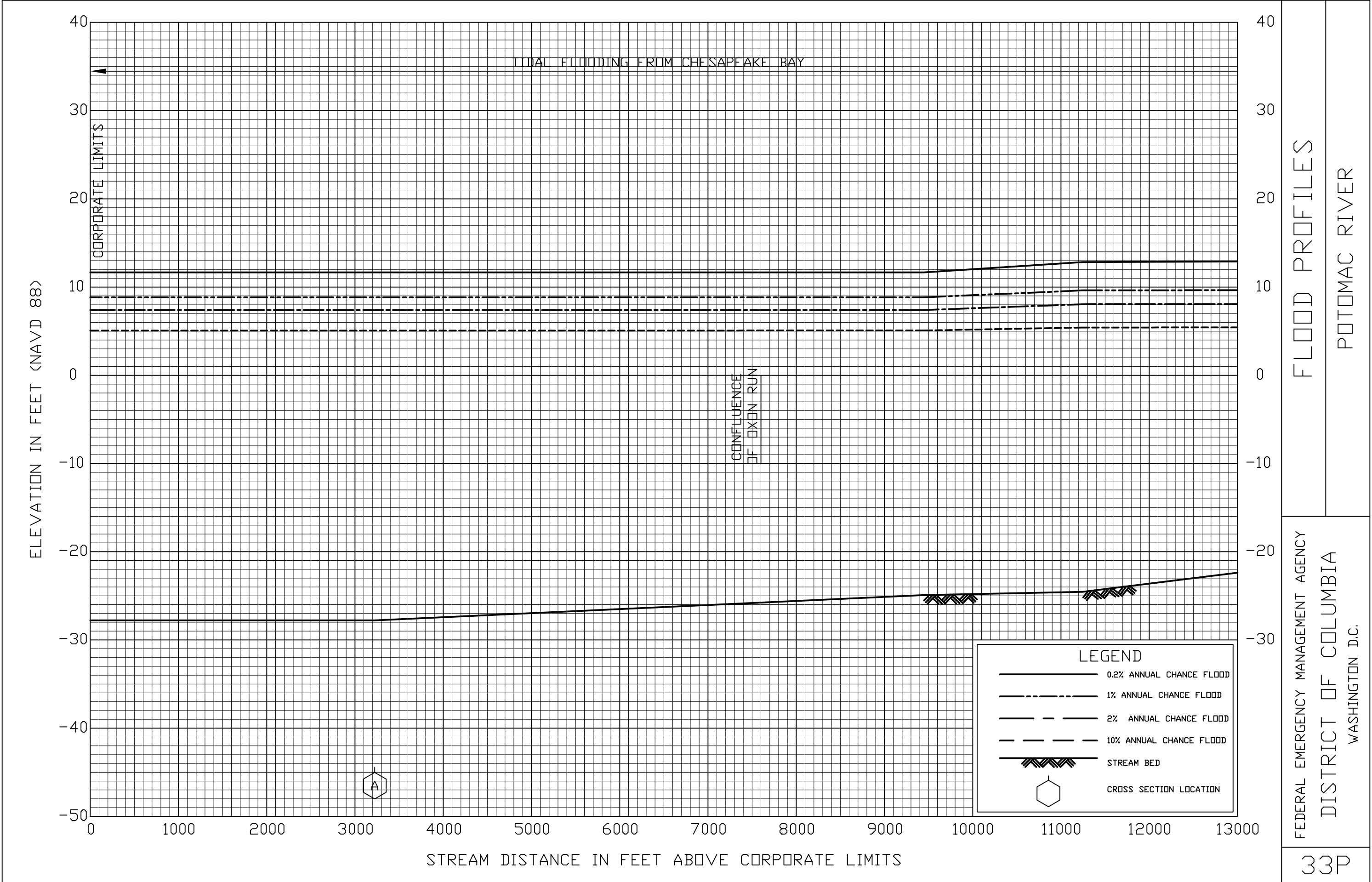
## Appendix C. Effective and Preliminary Profiles

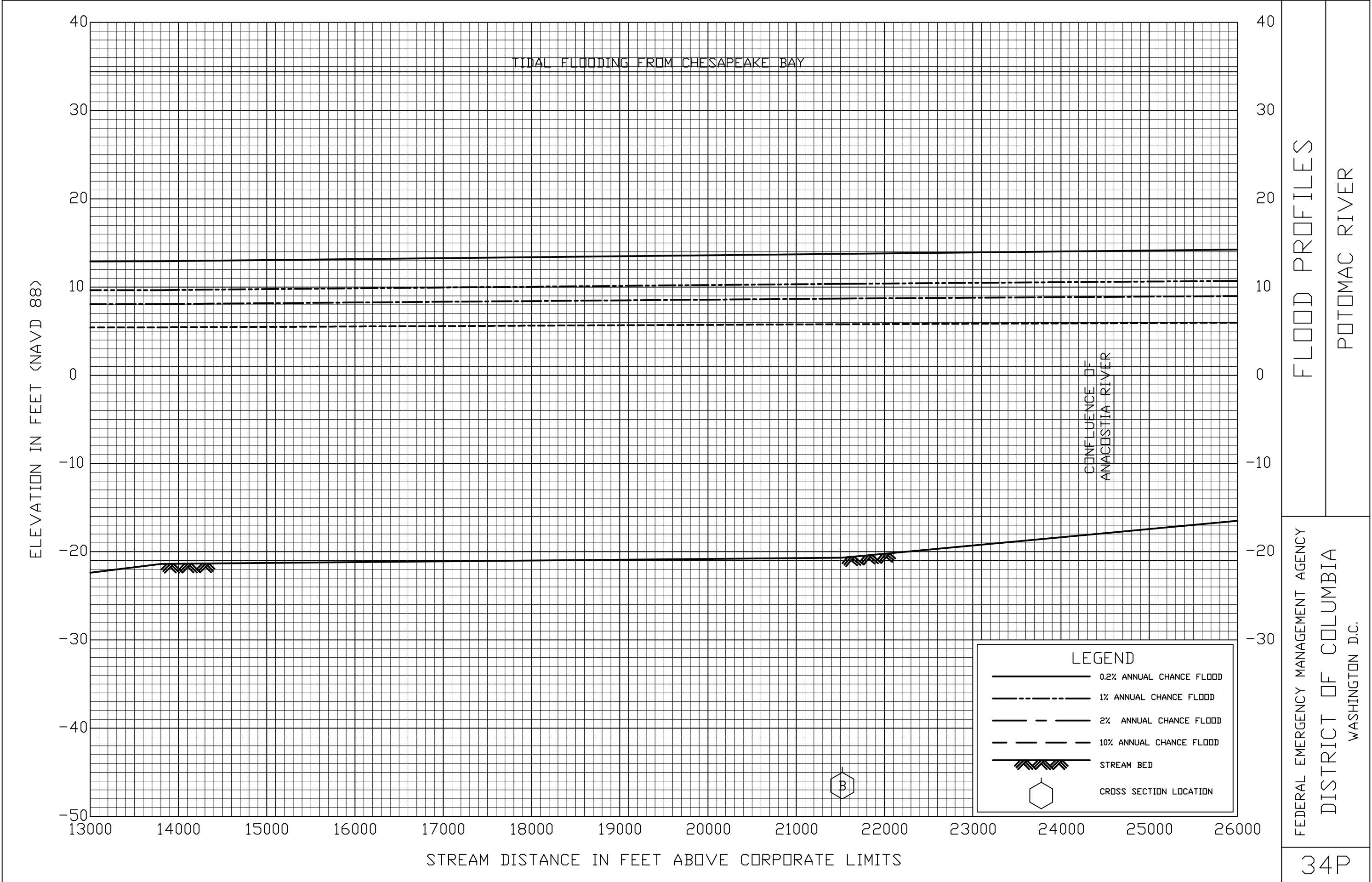
Washington DC August 17, 2007 Preliminary FIS Profiles – NAVD 88

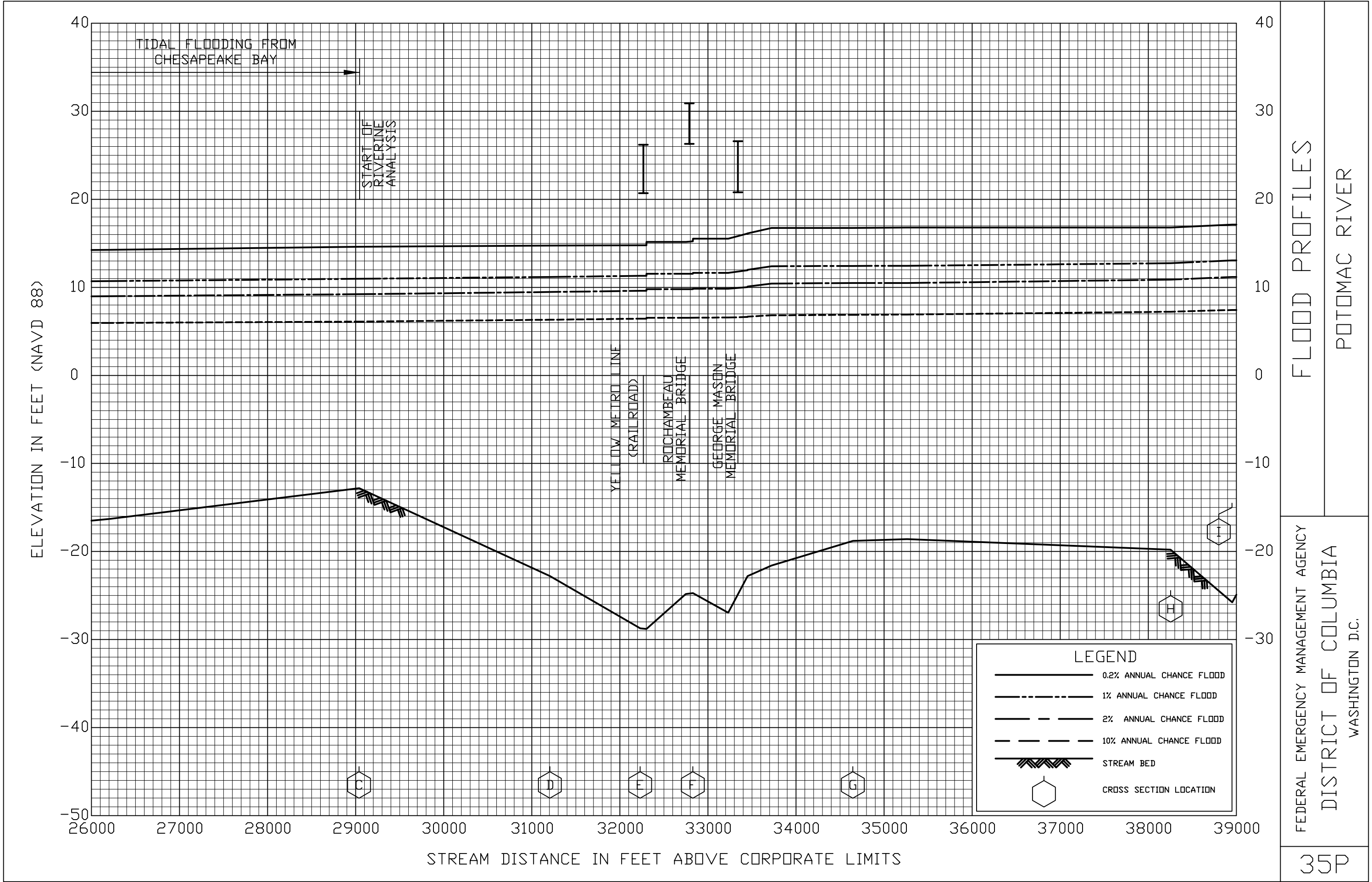
Prince Georges County MD September 6, 1996 Effective Profile – NGVD 29

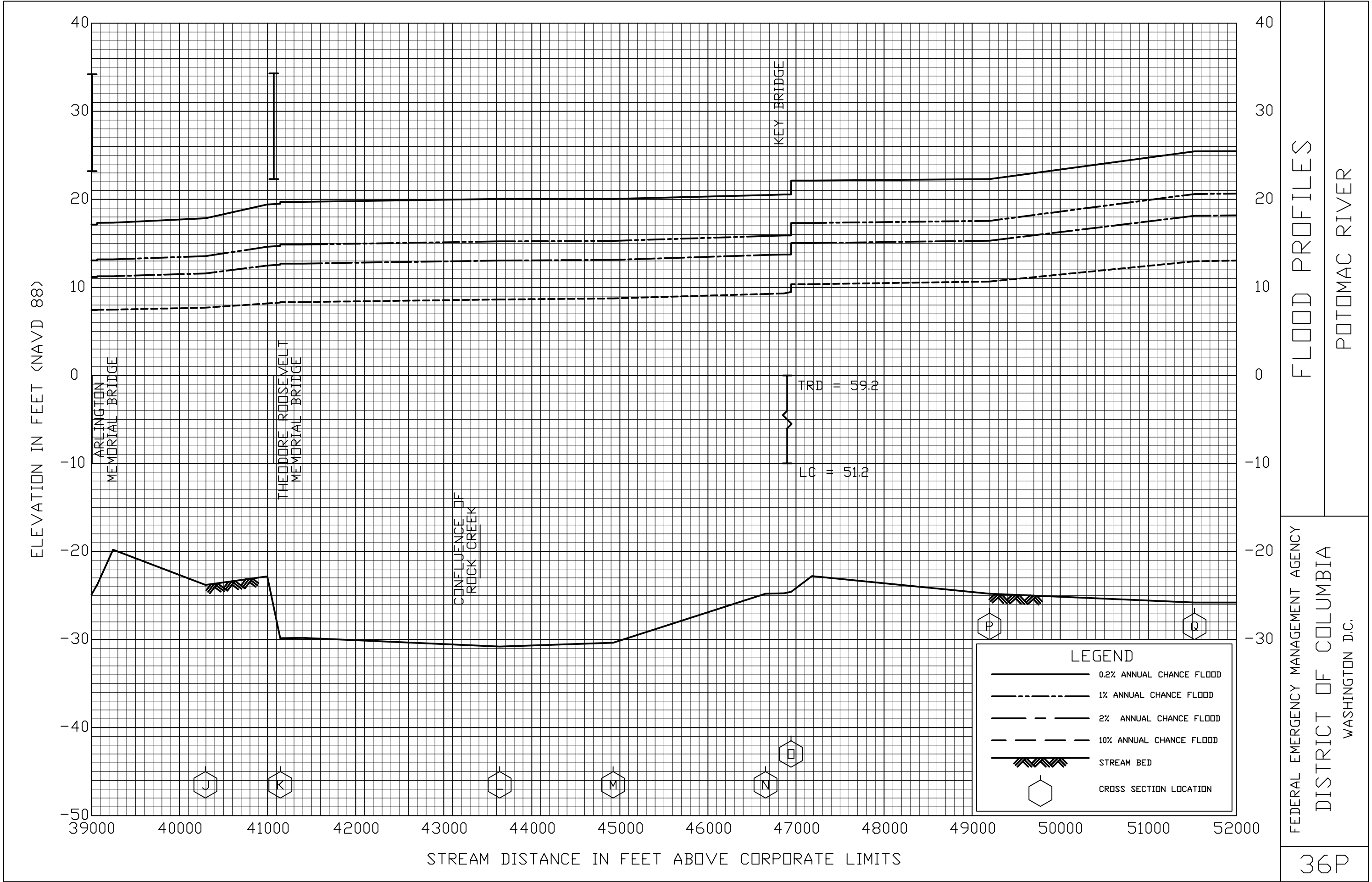
Charles County MD December 5, 1984 Effective Profile – NGVD 29

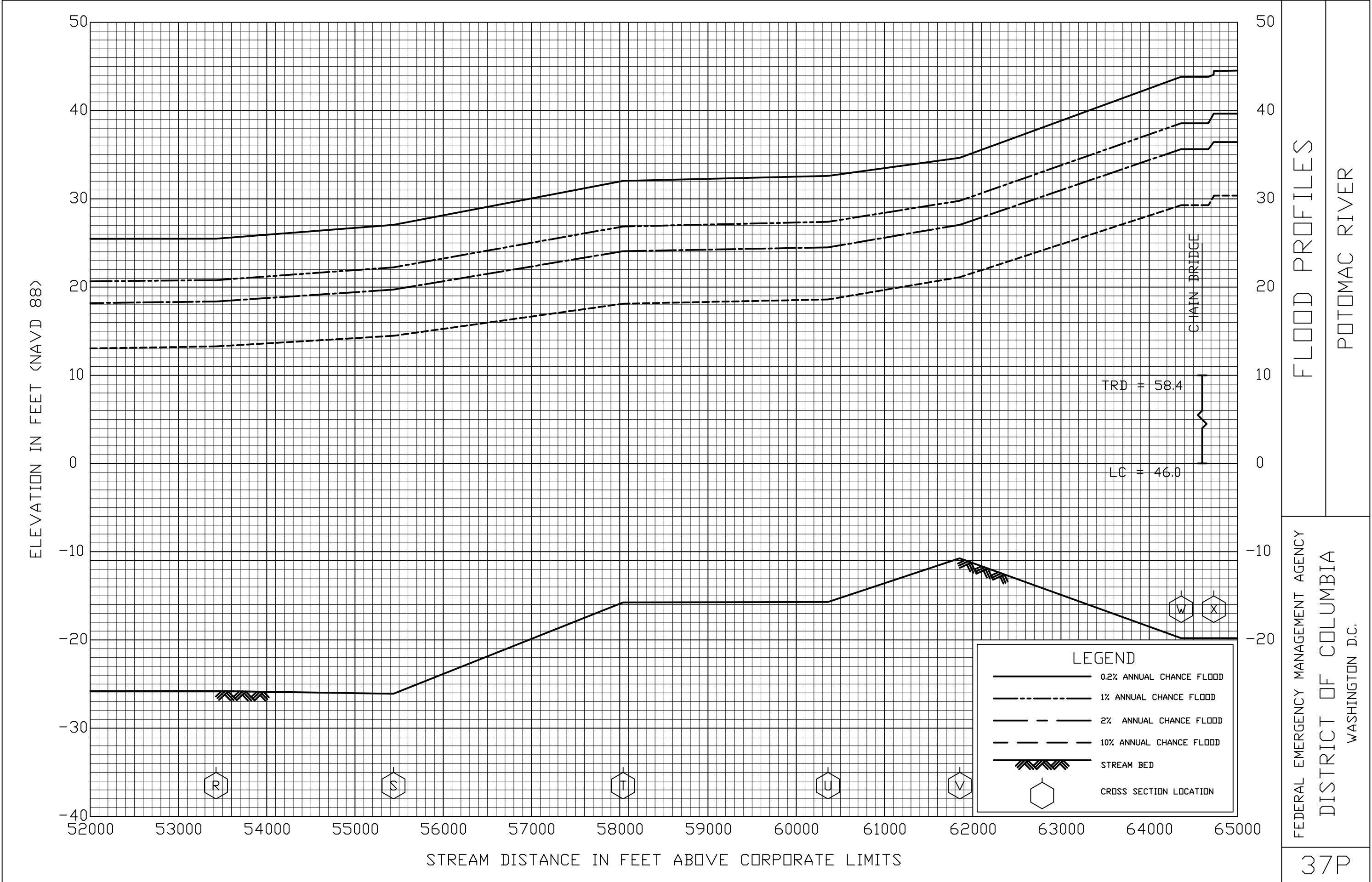






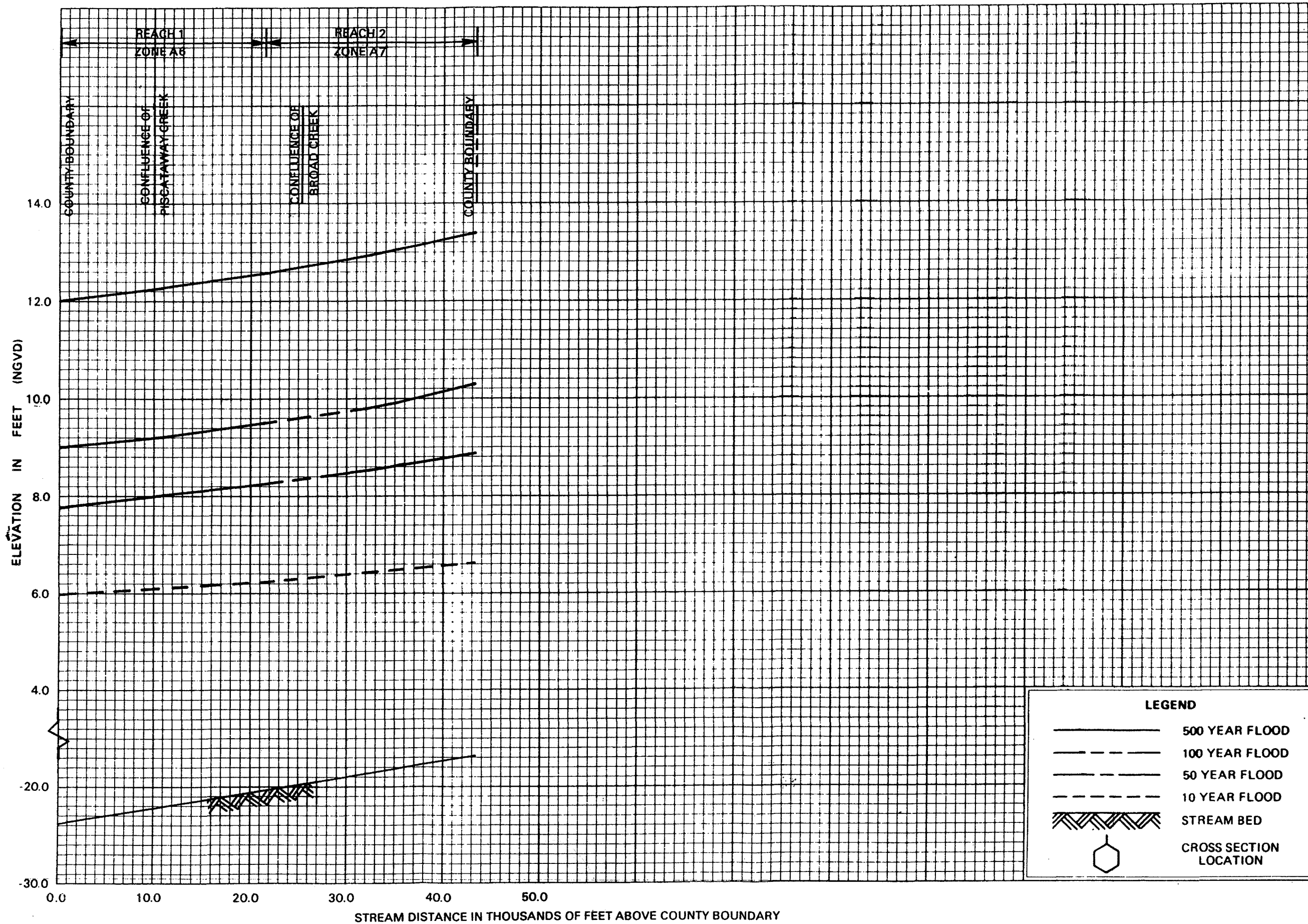










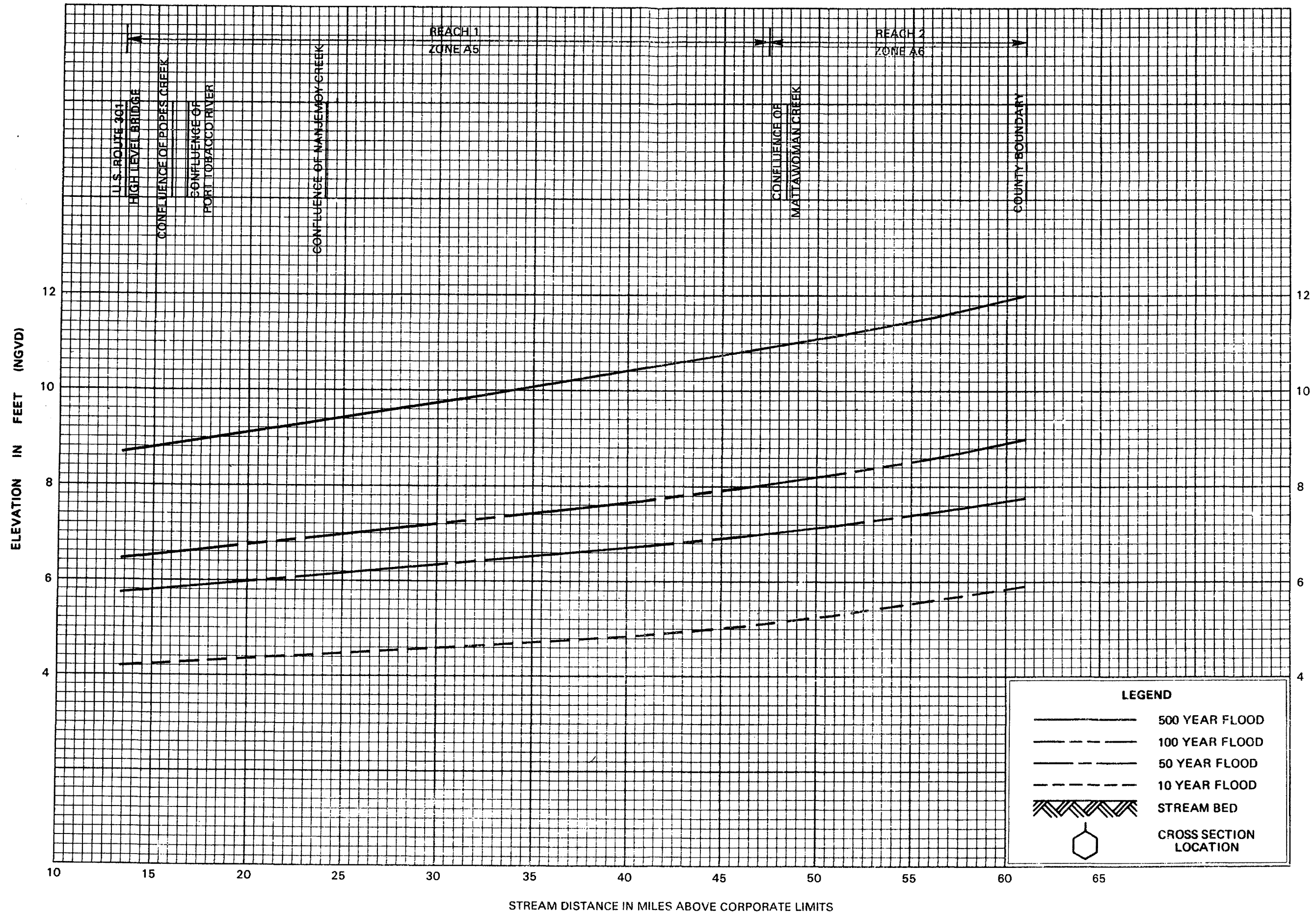


# FLOOD PROFILES

POTOMAC RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

PRINCE GEORGE'S COUNTY, MD  
(UNINCORPORATED AREAS)



# FLOOD PROFILES

POTOMAC RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

CHARLES COUNTY, MD  
(UNINCORPORATED AREAS)

## Appendix D. Digital Data

USACE 100 Year Surge Elevation Shapefile

Water Level Stations showing location of Haines Point

Triangular Irregular Network (TIN) of Storm Surge Elevations

Profile Baseline Shapefile

RASPlot Database

AutoCAD 2004 Version of Unified Profiles

**EXHIBIT 2.5.2**

**Designated City-Furnished Information –  
INTERIM AGREEMENT**

**for the**

**Waterfront Implementation Project**

**City of Alexandria**

**EXHIBIT 2.5.2(a)**  
**Geotechnical Data Report –**  
**INTERIM AGREEMENT**  
  
**for the**  
  
**Waterfront Implementation Project**  
  
**City of Alexandria**

[INCLUDED UNDER SEPARATE COVER]

Exhibit 2.5.2(a) Geotechnical Data, “Geotechnical Data Report” (MRCE 2022) inclusive of the ESA Phase 1 and 2 and Geoarchaeological Report is provided under Exhibit 2.5.1(a) in the Conceptual Design Report.

The Geo-Archaeology Report (Hayes 2023), in support of the Geotechnical Investigations, will be provided under a separate cover to the Design-Builder once available.

**EXHIBIT 2.5.2(b)**  
**Geotechnical Design Memorandum –**  
**INTERIM AGREEMENT**  
  
**for the**  
  
**Waterfront Implementation Project**  
  
**City of Alexandria**

[INCLUDED UNDER SEPARATE COVER]

Exhibit 2.5.2(b) Geotechnical Design Memorandum, “Geotechnical Design Memorandum” (MRCE 2022) is provided under Exhibit 2.5.1(a) in the Conceptual Design Report.

**EXHIBIT 2.5.2(c)**  
**Topographic Survey –**  
**INTERIM AGREEMENT**  
  
**for the**  
  
**Waterfront Implementation Project**  
  
**City of Alexandria**

[INCLUDED UNDER SEPARATE COVER]

Exhibit 2.5.2(c) Topographic Survey, “Survey” (Gordon 2022) is provided under Exhibit 2.5.1(a) in the Conceptual Design Report.

**EXHIBIT 3.2.1**

**Initial 90-Day Schedule –  
INTERIM AGREEMENT**

**for the**

**Waterfront Implementation Project**

**City of Alexandria**

[ATTACHED]

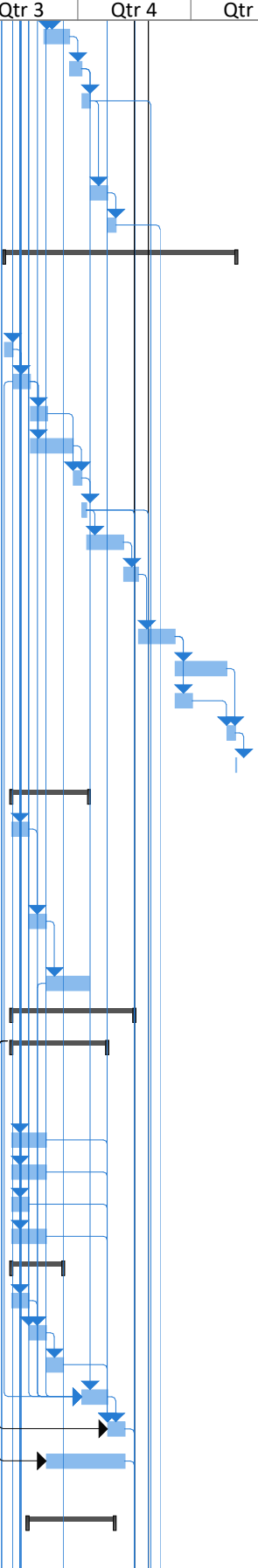


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ID	Outline Number	Task Name	Duration	Start	Finish	Predecessors	Successors	2023				2024		
								Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3
63	2.3.10	DB collaborate/coordinate w/ Owner contracted Artist and Office of the Arts to integrate public art in Project (including locations/site requirements) during Phase 1 and/or 2 directed by the City and in preparation of Phase 1B Proposal	60 days	Tue 8/8/23	Fri 10/6/23	10								
64	<b>2.3.11</b>	<b>Site Investigations</b>	<b>189 days</b>	<b>Wed 8/2/23</b>	<b>Tue 2/6/24</b>									
65	<b>2.3.11.1</b>	<b>General Site Investigation Support Documents and Procedures</b>	<b>21 days</b>	<b>Wed 8/2/23</b>	<b>Tue 8/22/23</b>		<b>173,171FF+7 days</b>							
66	2.3.11.1.1	Develop (as applicable and necessary) Traffic and Pedestrian Control Plan, Stormwater Pollution Prevention Plan (SWPPP), and Construction Site Management Plan	20 days	Wed 8/2/23	Mon 8/21/23	5	15,67							
67	2.3.11.1.2	DB will provide 10 days notification and/or summary to Owner intended laboratory for services and/or water needs for testing (ongoing activity)	1 day	Tue 8/22/23	Tue 8/22/23	66	82							
68	<b>2.3.11.2</b>	<b>Geotechnical Investigations</b>	<b>91 days</b>	<b>Tue 8/8/23</b>	<b>Mon 11/6/23</b>		<b>173,171FF+7 days</b>							
69	2.3.11.2.1	Review Geotechnical Data Report (GDR) and Geotechnical Data Memorandum, Assess/Confirm adequacy of geotechnical data available, Identify additional geotechnical investigations necessary for DB to prepare GBR	21 days	Tue 8/8/23	Mon 8/28/23	10	70							
70	2.3.11.2.2	Develop draft GBR; Submit to Owner for Review; Owner Review and provide comments	49 days	Tue 8/29/23	Mon 10/16/23	69	71,123SS+7 days							
71	2.3.11.2.3	Develop final GBR based upon comments received from the Owner; Submit to Owner for Review; DB provide a copy of all completed documentation that DB develops in performing geotechnical investigations	21 days	Tue 10/17/23	Mon 11/6/23	70	144							
72	<b>2.3.11.3</b>	<b>Supplemental Site Survey</b>	<b>56 days</b>	<b>Tue 8/8/23</b>	<b>Mon 10/2/23</b>		<b>173,171FF+7 days</b>							
73	2.3.11.3.1	Review existing survey data provided by Owner, identify supplemental site survey locations, and Develop draft scope of services for supplemental site	7 days	Tue 8/8/23	Mon 8/14/23	10	74,75							
74	2.3.11.3.2	Submittal and Owner Review; DB notify all affected owners (via letter) at least 2 weeks prior to entry and DB provide confirmation of delivery of each letter to	14 days	Tue 8/15/23	Mon 8/28/23	73	77,76							
75	2.3.11.3.3	Initiate supplementary site survey permitting including MOT plan and permits	14 days	Tue 8/15/23	Mon 8/28/23	73	77,76							
76	2.3.11.3.4	Perform test pits survey	14 days	Tue 8/29/23	Mon 9/11/23	74,75	78							
77	2.3.11.3.5	Perform supplemental site survey	14 days	Tue 8/29/23	Mon 9/11/23	74,75	78							
78	2.3.11.3.6	Develop survey data for Phase 1A scope of services (surveys will be prepared and signed by a land surveyor licensed in VA)	21 days	Tue 9/12/23	Mon 10/2/23	77,76	123SS							
79	<b>2.3.11.4</b>	<b>Bulkhead Condition Assessment</b>	<b>70 days</b>	<b>Tue 8/8/23</b>	<b>Mon 10/16/23</b>		<b>173,171FF+7 days</b>							
80	2.3.11.4.1	Review existing bulkhead condition assessment data and survey, including topographic and bathymetric data; Develop draft of proposed bulkhead condition assessment, Field Work Plan, Health and Safety Job Hazard Analysis, MOT Plan and Permits	21 days	Tue 8/8/23	Mon 8/28/23	10	81SS+14 days							
81	2.3.11.4.2	Submittal and Owner Review (draft proposed bulkhead condition assessment, Field Work Plan, Health and Safety Job Hazard Analysis, MOT Plan and Permits)	14 days	Tue 8/22/23	Mon 9/4/23	80SS+14 days	82							
82	2.3.11.4.3	Perform Bulkhead Condition Assessment (DB coordinate w/ Owner for access to Marina and notification of Recreation, Parks, & Cultural Activities Department)	28 days	Tue 9/5/23	Mon 10/2/23	81,67	83,123SS+7 days							
83	2.3.11.4.4	DB obtain bulkhead condition assessment information and incorporate into GBR, as appropriate	14 days	Tue 10/3/23	Mon 10/16/23	82	124							
84	<b>2.3.11.5</b>	<b>Environmental Site Investigations: DB review ex. env. data and develop a supplemental plan if required, DB assess and document the impacts of env. survey/investigations and results on the project cost, constructability, design</b>	<b>91 days</b>	<b>Wed 8/2/23</b>	<b>Tue 10/31/23</b>		<b>173,171FF+7 days</b>							
85	2.3.11.5.1	DB to assess current available documentation provided in the RFP and develop a supplemental workplan for further investigation	8 days	Wed 8/2/23	Wed 8/9/23	5	87							
86	2.3.11.5.2	DB to develop Environmental Site Investigation workplan. (Submit to Owner draft Proposed Env. Investigation prior to proceeding w/ assessment)	8 days	Tue 8/8/23	Tue 8/15/23	10	87,89							
87	2.3.11.5.3	Submittal and Owners review of Workplan	14 days	Wed 8/16/23	Tue 8/29/23	86,85	88							
88	2.3.11.5.4	Finalize Workplan; Address Owners Comments	4 days	Wed 8/30/23	Sat 9/2/23	87	90							
89	2.3.11.5.5	Initiate permitting including MOT plan and permits	14 days	Wed 8/16/23	Tue 8/29/23	86	90							

ID	Outline Number	Task Name	Duration	Start	Finish	Predecessors	Successors	2023				2024		
								Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3
90	2.3.11.5.6	Perform Environmental Site Investigation	21 days	Sun 9/3/23	Sat 9/23/23	89,88	91							
91	2.3.11.5.7	Perform Environmental Lab Testing	10 days	Sun 9/24/23	Tue 10/3/23	90	92,123							
92	2.3.11.5.8	DB to submit to owner draft Environmental Site Investigation for review to assess and document the impacts of env. Survey/investigations and results on the project cost, constructability, design duration or direction	7 days	Wed 10/4/23	Tue 10/10/23	91	143FF-14 days,93							
93	2.3.11.5.9	Submittal and Owners review of draft Environmental Site Investigation	14 days	Wed 10/11/23	Tue 10/24/23	92	94							
94	2.3.11.5.10	Finalize Environmental Site Investigation; Address Owners Comments	7 days	Wed 10/25/23	Tue 10/31/23	93	148FS-14 days							
95	2.3.11.6	Archaeological: DB review ex. Archaeological data provided by Owner, DB assess and document impact of archaeology survey/investigations and results on project cost. DB to implement field work previously included in 1B.	189 days?	Wed 8/2/23	Tue 2/6/24									
96	2.3.11.6.1	Coordinate with Alexandria Archaeology	7 days	Wed 8/2/23	Tue 8/8/23	5	97							
97	2.3.11.6.2	Field Work and Phase 1A Report development	14 days	Wed 8/9/23	Tue 8/22/23	96	98,99,123SS+30 d							
98	2.3.11.6.3	Submittal and Owners review of Phase 1A Report	14 days	Wed 8/23/23	Tue 9/5/23	97	100							
99	2.3.11.6.4	Submittal and Agency review (NPS) of Phase 1A Report	35 days	Wed 8/23/23	Tue 9/26/23	97	100							
100	2.3.11.6.5	Address Agency and Owners review comments	7 days	Wed 9/27/23	Tue 10/3/23	99,98	101							
101	2.3.11.6.6	Agency submits report to Virginia Department of Historic Resources	4 days	Wed 10/4/23	Sat 10/7/23	100	102,173,171FF+7							
102	2.3.11.6.7	Virginia Department of Historic Resources review of report	30 days	Sun 10/8/23	Mon 11/6/23	101	103							
103	2.3.11.6.8	In consultation with Alexandria DB perform arch. Investigation of Project in Phase 1A (Previously included in 1B)	12 days	Tue 11/7/23	Sat 11/18/23	102	104							
104	2.3.11.6.9	Phase 1 Reporting and Workplan Development	30 days	Sun 11/19/23	Mon 12/18/23	103	105,106							
105	2.3.11.6.10	Phase 1 Reporting and Workplan submitted to Agency (NPS) for review	42 days	Tue 12/19/23	Mon 1/29/24	104	107							
106	2.3.11.6.11	Phase 1 Reporting and Workplan submitted to Owner for review	14 days	Tue 12/19/23	Mon 1/1/24	104	107							
107	2.3.11.6.12	Address Agency and Owners Review Comments	7 days	Tue 1/30/24	Mon 2/5/24	105,106	108							
108	2.3.11.6.13	Agency (NPS) submits report to VDHR	1 day?	Tue 2/6/24	Tue 2/6/24	107								
109	2.3.11.7	Outfall Structures	63 days	Tue 8/8/23	Mon 10/9/23									
110	2.3.11.7.1	Review outfall structure condition assessment data provided by the Owner; Develop draft of proposed outfall structure assessment, Field Work Plan, Health and Safety Job Hazard Analysis, MOT Plan and Permits	14 days	Tue 8/8/23	Mon 8/21/23	10	111							
111	2.3.11.7.2	Submittal and Owner Review (draft proposed outfall structure assessment, Field Work Plan, Health and Safety Job Hazard Analysis, MOT Plan and Permits	14 days	Tue 8/22/23	Mon 9/4/23	110	112							
112	2.3.11.7.3	Perform outfall structure condition assessment	35 days	Tue 9/5/23	Mon 10/9/23	111	123SS							
113	2.3.12	Alternatives Evaluations	100 days	Tue 8/8/23	Wed 11/15/23									
114	2.3.12.1	DB develop Cost-Benefit Evaluation and scoring methodology (will incorporate discussions and feedback from stakeholders and community, will be documented in BODR and Communications and Outreach Plan)	78 days	Tue 8/8/23	Tue 10/24/23		124SS+21 days,125SS+28 days,143SS							
115	2.3.12.1.1	Riverine Protection Waterfront Park	28 days	Tue 8/8/23	Mon 9/4/23	10	124							
116	2.3.12.1.2	Pump Station Generator Location	28 days	Tue 8/8/23	Mon 9/4/23	10	124							
117	2.3.12.1.3	Pretreatment	14 days	Tue 8/8/23	Mon 8/21/23	10	124							
118	2.3.12.1.4	Northern Pump Station Location	28 days	Tue 8/8/23	Mon 9/4/23	10	124							
119	2.3.12.1.5	Innovations	42 days	Tue 8/8/23	Mon 9/18/23									
120	2.3.12.1.5.1	Deliverable 1 - Scope TBD	14 days	Tue 8/8/23	Mon 8/21/23	10	121							
121	2.3.12.1.5.2	Deliverable 2 - Scope TBD	14 days	Tue 8/22/23	Mon 9/4/23	10,120	122							
122	2.3.12.1.5.3	Deliverable 3 - Scope TBD	14 days	Tue 9/5/23	Mon 9/18/23	121	124							
123	2.3.12.1.6	Stormwater Detention Chambers	21 days	Wed 10/4/23	Tue 10/24/23	112SS,78SS,82SS+7	124							
124	2.3.12.2	DB summarize alt evals w/in technical memoranda that include DB recommendations	14 days	Wed 10/25/23	Tue 11/7/23	83,115,116,117,118	144							
125	2.3.12.3	DB demonstrate the selected alternatives project scope complies with the Project budget	64 days	Tue 9/5/23	Tue 11/7/23	114SS+28 days	144							
126	2.3.12.4	DB prepare presentation materials and facilitate up to 12, 4-hour workshops (in-person) to discuss alternatives and associated evaluations, and to participate	71 days	Mon 8/21/23	Mon 10/30/23									

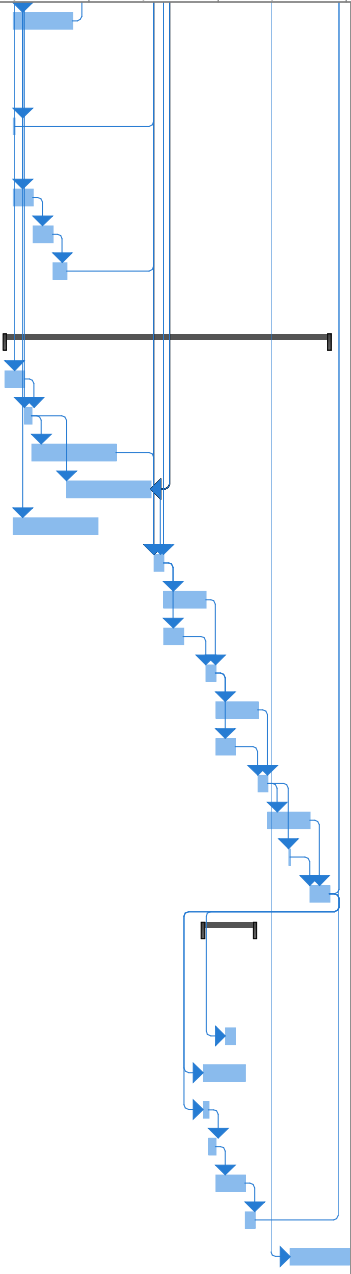




ID	Outline Number	Task Name	Duration	Start	Finish	Predecessors	Successors	2023				2024			
								Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	
127	2.3.12.4.1	Workshop 1 - Agenda TBD	1 day	Mon 8/21/23	Mon 8/21/23	10SS+14 days	128SS+7 days,144								
128	2.3.12.4.2	Workshop 2 - Agenda TBD	1 day	Mon 8/28/23	Mon 8/28/23	127SS+7 days	129SS+7 days,144								
129	2.3.12.4.3	Workshop 3 - Agenda TBD	1 day	Mon 9/4/23	Mon 9/4/23	128SS+7 days	130SS+7 days,144								
130	2.3.12.4.4	Workshop 4 - Agenda TBD	1 day	Mon 9/11/23	Mon 9/11/23	129SS+7 days	131SS+7 days,144								
131	2.3.12.4.5	Workshop 5 - Agenda TBD	1 day	Mon 9/18/23	Mon 9/18/23	130SS+7 days	132SS+7 days,144								
132	2.3.12.4.6	Workshop 6 - Agenda TBD	1 day	Mon 9/25/23	Mon 9/25/23	131SS+7 days	133SS+7 days,144								
133	2.3.12.4.7	Workshop 7 - Agenda TBD	1 day	Mon 10/2/23	Mon 10/2/23	132SS+7 days	134SS+7 days,144								
134	2.3.12.4.8	Workshop 8 - Agenda TBD	1 day	Mon 10/9/23	Mon 10/9/23	133SS+7 days	135SS+7 days,144								
135	2.3.12.4.9	Workshop 9 - Agenda TBD	1 day	Mon 10/16/23	Mon 10/16/23	134SS+7 days	136SS+7 days,144								
136	2.3.12.4.10	Workshop 10 - Agenda TBD	1 day	Mon 10/23/23	Mon 10/23/23	135SS+7 days	137SS+7 days,144								
137	2.3.12.4.11	Workshop 11 - Agenda TBD	1 day	Mon 10/30/23	Mon 10/30/23	136SS+7 days	144								
138	2.3.12.5	Community Meetings	59 days	Mon 9/18/23	Wed 11/15/23										
139	2.3.12.5.1	Meeting 1 - Agenda TBD	1 day	Mon 9/18/23	Mon 9/18/23	10SS+42 days	140FS+28 days								
140	2.3.12.5.2	Meeting 2 - Agenda TBD	1 day	Tue 10/17/23	Tue 10/17/23	139FS+28 days,154	141FS+28 days								
141	2.3.12.5.3	Meeting 3 - Agenda TBD	1 day	Wed 11/15/23	Wed 11/15/23	140FS+28 days									
142	2.3.13	Basis of Design Report (BODR)	198 days	Tue 9/19/23	Wed 4/3/24										
143	2.3.13.1	Prepare Draft Preliminary BODR (includes: Reports, Plans, Comps, Project Cost Estimate, O&M 11 year Cost Estimate, Updated Schedule, Construction Sequencing and Scheduling, Sustainability & WQ Compliance section, and draft	58 days	Tue 9/19/23	Wed 11/15/23	10,162,114SS,92FF-	144,146FS+7 days,147FS+20 days,173								
144	2.3.13.2	Submittal; Owner 21 day review; and DB receive Owner comments	21 days	Thu 11/16/23	Wed 12/6/23	143,51,30,18,19,20,									
145	2.3.13.3	DB schedule/facilitate 2, 8-hour, review meetings (in person) w/ Owner and Owner Rep to present BODR and address comments; DB revise BODR in response to comments; DB submit (final) BODR	14 days	Thu 11/23/23	Wed 12/6/23										
146	2.3.13.3.1	Meeting 1	1 day	Thu 11/23/23	Thu 11/23/23	143FS+7 days	148								
147	2.3.13.3.2	Meeting 2	1 day	Wed 12/6/23	Wed 12/6/23	143FS+20 days	148								
148	2.3.13.4	Finalize Preliminary BODR; Address Owner and Owner Rep Comments	7 days	Thu 12/7/23	Wed 12/13/23	146,147,94FS-14 da	151,149								
149	2.3.13.5	Prepare Draft Final BODR	82 days	Fri 12/22/23	Tue 3/12/24	148,189FF+7 days,1	150,190FS-21 day								
150	2.3.13.6	Submittal; Owner 21 day review; and DB receive Owner comments	21 days	Wed 3/13/24	Tue 4/2/24	149	151								
151	2.3.13.7	Owner will notify DB of acceptance of revised (final) BODR prior to DB proceeding with the development of the technical exhibits. Revised (final) BODR will serve as the basis for subsequent Phase 1 submittals	1 day	Wed 4/3/24	Wed 4/3/24	148,150									
152	2.3.14	Building Information Modeling (BIM): DB develop BIM in format approved by Owner	49 days	Tue 8/15/23	Mon 10/2/23										
153	2.3.14.1	DB to begin lidar scans	21 days	Tue 8/15/23	Mon 9/4/23	10FS+7 days	154								
154	2.3.14.2	DB to process data and develop model	28 days	Tue 9/5/23	Mon 10/2/23	153	140								
155	2.4	Governmental Approvals and Project Governmental Approval Plan (PGAP)	42 days	Tue 8/8/23	Mon 9/18/23										
156	2.4.1	Governmental Approval Assistance	42 days	Tue 8/8/23	Mon 9/18/23										
157	2.4.1.1	DB determine governmental approval requirements and initiate application for permits, excluding the Owner-Provided Approvals; DB participate in meetings w/ Owner's Building Department to obtain preliminary information of building code	21 days	Tue 8/8/23	Mon 8/28/23	10	160								
158	2.4.1.2	DB develop a PGAP (includes: activities and approval schedules for Phase 1A, 1B, and 2; schedule for permit development, reviews, incorporating comments, agency submittal, responses, review of responses, resubmittal to agency, and	21 days	Tue 8/8/23	Mon 8/28/23	10	160								
159	2.4.1.3	DB develop plan and register that documents the requirements and responsibilities for environmental and wetland mitigation	21 days	Tue 8/8/23	Mon 8/28/23	10	160								
160	2.4.1.4	Submittal and Owner review of PGAP	14 days	Tue 8/29/23	Mon 9/11/23	158,159,157	161								
161	2.4.1.5	DB schedule and facilitate 1, 4-hour, meeting w/ Owner to present and summarize the draft PGAP to discuss permitting coordination between DB and Owner; Update the draft PGAP based on comments, submit final PGAP	7 days	Tue 9/12/23	Mon 9/18/23	160									

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ID	Outline Number	Task Name	Duration	Start	Finish	Predecessors	Successors	2023				2024		
								Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3
162	2.4.2	Water Quality Compliance: DB Coordinate w/ Owner's Trans. and Env. Services Dept. to identify WQ Compliance reqs for Project resulting from selected Alt. in BODR; DB quantify total Phosphorous removal reqs using VRRM (or other approved method)	42 days	Tue 8/8/23	Mon 9/18/23	10	143							
163	2.4.3	Government Approval Responsibilities: DB provide min. 14 days notice to Owner to attend any meetings w/ regulatory agencies regarding Governmental Approvals	1 day	Tue 8/8/23	Tue 8/8/23	10	144							
164	2.4.4	Subcontractor Procurement: DB develop and administer DBE/SWAM Participation Pla	14 days	Tue 8/8/23	Mon 8/21/23	10	165							
165	2.4.5	Submit DBE/SWAM Participation Plan and Owner review	14 days	Tue 8/22/23	Mon 9/4/23	164	166							
166	2.4.6	Update DBE/SWAM Participation Plan based on comment and resubmit final DBE/SWAM Participation Plan to Owner	10 days	Tue 9/5/23	Thu 9/14/23	165	144							
167	2.5	NEPA/Permitting Process	231 days	Wed 8/2/23	Tue 3/19/24									
168	2.5.1	Develop Draft Purpose and Need	14 days	Wed 8/2/23	Tue 8/15/23	5	169							
169	2.5.2	Kickoff Meeting with Agency (NPS)	5 days	Wed 8/16/23	Sun 8/20/23	5,168	170,171							
170	2.5.3	Perform field investigations (includes receiving permits such as NPS Special Use Permi	60 days	Mon 8/21/23	Thu 10/19/23	169	173							
171	2.5.4	Develop/refine alternatives and identify preliminary impacts	60 days	Fri 9/15/23	Mon 11/13/23	169,65FF+7 days,68	173							
172	2.5.5	Develop Biological Assessment/EFH Report/NPS statement of findings	60 days	Tue 8/8/23	Fri 10/6/23	10								
173	2.5.6	Develop Scoping Package/Meeting Materials	7 days	Thu 11/16/23	Wed 11/22/23	171,10,170,65,68,7	174,175							
174	2.5.7	Agency (NPS) Review of Scoping Materials	30 days	Thu 11/23/23	Fri 12/22/23	173	176							
175	2.5.8	Owner Review of Scoping Materials	14 days	Thu 11/23/23	Wed 12/6/23	173	176							
176	2.5.9	Revise Scoping Materials based on City/NPS comments	7 days	Sat 12/23/23	Fri 12/29/23	174,175	177,178							
177	2.5.10	Agency (NPS) Review of revised Scoping Materials	30 days	Sat 12/30/23	Sun 1/28/24	176	179							
178	2.5.11	Owner Review of revised Scoping Materials	14 days	Sat 12/30/23	Fri 1/12/24	176	179							
179	2.5.12	Send out Scoping Materials and publish notice in newspaper	7 days	Mon 1/29/24	Sun 2/4/24	177,178	181FS+15 days,18							
180	2.5.13	Scoping Review Period	30 days	Mon 2/5/24	Tue 3/5/24	179	182							
181	2.5.14	Hold Agency (NPS)and public scoping meetings	1 day	Tue 2/20/24	Tue 2/20/24	179FS+15 days	182							
182	2.5.15	Develop Scoping Summary Report	14 days	Wed 3/6/24	Tue 3/19/24	181,180	184FS-74 days,18							
183	2.6	Planning and Zoning DSUP Approvals and Development; Concept 1 & 2, BAR, Preliminary Plan Submission (Completed and Signed DSUP, Completed and Signed Preliminary Plan Checklist, Filing Fee, Site Plans After Completeness Review of	37 days	Thu 12/21/23	Fri 1/26/24									
184	2.6.1	Introductory Meeting with Staff	7 days	Sat 1/6/24	Fri 1/12/24	182FS-74 days								
185	2.6.2	Community/Commission Meetings	30 days	Thu 12/21/23	Fri 1/19/24	182FS-90 days								
186	2.6.3	Concept Stage 1 & 2 Submission (Internal Review)	4 days	Thu 12/21/23	Sun 12/24/23	182FS-90 days	187							
187	2.6.4	File Concept Stage 1 & 2 Submission	5 days	Mon 12/25/23	Fri 12/29/23	186	188							
188	2.6.5	Concept Stage 1 & 2 comments received from Staff	21 days	Sat 12/30/23	Fri 1/19/24	187	189							
189	2.6.6	Meeting with Staff to discuss comments	7 days	Sat 1/20/24	Fri 1/26/24	188	149FF+7 days							
190	2.7	Phase 1B Proposal and Negotiations	42 days	Wed 2/21/24	Tue 4/2/24	149FS-21 days								



## EXHIBIT 4.2

### Phase 1 Services Compensation – INTERIM AGREEMENT

for the

Waterfront Implementation Project

City of Alexandria

#### A. Phase 1 Services Compensation

1. This Section A addresses the compensation due Design-Builder for the Phase 1 Services and is independent from compensation due for Work performed during Phase 2 Services. The Phase 1 Services Compensation shall be subject to the Contract Price pursuant to Article 4.1 of the Interim Agreement, Phase 1A Services Not to Exceed (Attachment 1), and Phase 1B Services Not to Exceed (Attachment 2).

Owner shall compensate Design-Builder for its self-performed Work in accordance with the hourly rates listed in Attachment 3 - Hourly Rate and Reimbursable Costs Schedule (Design-Builder Personnel). Owner shall compensate Design Consultants and Subcontractors for Work in accordance with the hourly rates listed in Attachment 4 - Hourly Rate and Reimbursable Costs Schedule (Design Consultant Personnel), and Attachment 5 - Hourly Rate and Reimbursable Costs Schedule (Subcontractor Personnel). The hourly rates in such Attachments are “all-in” rates for such personnel, including but not limited costs of direct wages, salaries, payroll taxes, fringe benefits, insurance, overhead, and profit of Design-Builder and the applicable DB-Related Entity. Design-Builder shall be compensated based on the value of actual hours expended for the applicable personnel category and hourly rate. Additionally, Design-Builder shall be compensated for the reimbursable expenses listed in Section 3 below and incurred by Design-Builder or a DB-Related Entity.

2. For the avoidance of doubt, the following costs shall not be reimbursed separately but shall be compensated in the hourly rates in Attachments 3 and 4:
  - a. Timekeepers, bookkeepers, clerks, accountants, information technology staff, secretaries, and similar employees employed at an entity’s principal offices performing general business administration duties not directly attributable to the Project;
  - b. All home and branch office overhead, including taxes, rent, utilities, office equipment, maintenance, and other general administrative costs;
  - c. All insurance of any type; and
  - d. Legal fees;
3. Reimbursable expense compensation shall be based on the unit costs rates in the Reimbursable Costs Schedules and based on actual costs without markup for approved outside expenses. Only expenses that are directly related to the Work and incurred directly by Design-Builder or the DB-Related Entity. Reimbursement is allowed for:
  - a. Transportation and authorized out-of-town travel and subsistence;
  - b. Printing, reproductions, plots, standard form documents;
  - c. Postage, courier services

- d. Renderings, physical models, mock-ups and professional photography requested by Owner;
- e. All taxes levied on reimbursable expenses; and
- f. Other Project-related expenditures, if authorized in advance in writing by Owner.



**Attachment 1 – Phase 1A Service Not to Exceed**

**Form D.1 - DESIGN-BUILDER & SUBCONTRACTORS**

<b>Phase 1A Services</b>	<b>Labor Subtotal (\$)</b>	<b>Expenses Subtotal (\$)</b>	<b>Designer Consultants Subtotal (\$)</b>	<b>Total (Labor + Expenses+Designer Consultants) (\$)</b>
<b>REQUIRED SERVICES</b>				
1.1 Design Initiation	\$20,378	\$9,711	\$49,951	\$80,039
1.2 Project Coordination and Management	\$255,953	\$111,373	\$369,605	\$736,931
2.1 Project Requirements and Existing Documentation Review	\$15,462	\$4,998	\$81,169	\$101,629
2.2 Site Investigations	\$126,202	\$32,925	\$709,005	\$868,132
2.3 Alternative Evaluations	\$107,241	\$7,890	\$812,698	\$927,829
2.4 Basis of Design Report	\$32,358	\$0	\$300,302	\$332,660
2.5 Building Information Modeling (BIM)	\$7,422	\$0	\$105,590	\$113,011
3.1 Governmental Approval Assistance	\$9,499	\$0	\$149,081	\$158,580
3.2 Development Review Requirements	\$19,660	\$0	\$131,661	\$151,321
3.3 Water Quality Compliance	\$3,060	\$0	\$28,186	\$31,245
3.8 Historical & Cultural Preservation Workplan	\$0	\$0	\$94,777	\$94,777
4.1 DBE/SWAM Participation Plan	\$22,176	\$0	\$1,377	\$23,553
5.1 Phase 1B Proposal and Phase 1B Amendment to Agreement	\$17,410	\$2,687	\$29,621	\$49,718
<b>Phase 1A Services <u>Not to Exceed</u> Subtotal (subtotal of line items 1.1 thru 5.1 above)</b>	<b>\$636,820</b>	<b>\$169,584</b>	<b>\$2,863,022</b>	<b>\$3,669,426</b>
<b><u>Estimated Additional Total (Labor &amp; Expenses) for Award of FEMA BRIC FY22 \$50M Grant</u></b>				<b>\$2,158,356</b>
<b>Phase 1A Services Not to Exceed Subtotal (subtotal of line items 1.1 thru 5.1 above) plus Additional Total for FEMA Award</b>				<b>\$5,827,783</b>

[illegible]

**FORM D.1.2 - PHASE 1A SERVICES NOT TO EXCEED SUMMARY (DESIGN CONSULTANT)**

CITY OF ALEXANDRIA, VA  
RFP NO. 1047

Date: \_\_\_\_\_

[illegible]

















[illegible]

**Attachment 2 – Phase 1B Service Not to Exceed**

**Form D.2 - DESIGN BUILDER**

<b>Phase 1B Services</b>	<b>Labor Subtotal (\$)</b>	<b>Expenses Subtotal (\$)</b>	<b>Designer Consultants Subtotal (\$)</b>	<b>Total (Labor + Expenses+Designer Consultants) (\$)</b>
<b><u>REQUIRED SERVICES</u></b>				
1.1 Phase 1B Initiation	\$13,516	\$3,682	\$15,113	\$32,311
1.2 Project Coordination and Management	\$412,462	\$204,911	\$547,225	\$1,164,599
2.1 Site Investigations	\$27,120	\$3,725	\$401,013	\$431,858
2.2 Building Information Modeling (BIM)	\$11,344	\$1,226	\$63,487	\$76,057
2.3 Value-Engineering	\$34,632	\$17,555	\$140,748	\$192,935
3.1 Technical Exhibits	\$84,316	\$9,996	\$2,223,352	\$2,317,664
3.2 Governmental Approval Assistance	\$33,742	\$1,226	\$150,806	\$185,774
3.3 Development Review Requirements	\$23,768	\$0	\$267,246	\$291,013
3.4 Cost Estimates	\$164,005	\$29,735	\$70,726	\$264,466
3.5 Utility Relocation Plan	\$15,750	\$0	\$71,975	\$87,725
3.6 Soils and Groundwater Management Plan	\$12,000	\$0	\$27,983	\$39,983
3.7 Site Management and Work Sequencing Plan	\$9,045	\$3,725	\$18,115	\$30,885
3.8 Historic and Cultural Resources Preservation Work Plan	\$25,171	\$0	\$0	\$25,171
3.9 Short-Term Operations and Maintenance Workplan	\$5,799	\$0	\$17,479	\$23,278
3.10 Parks Maintenance Plan	\$5,799	\$0	\$16,257	\$22,056
4.1 Subcontractor Procurement Plan	\$34,450	\$0	\$6,817	\$41,267
4.2 Subcontractor Procurement	\$35,425	\$1,226	\$2,754	\$39,405
4.3 Updated DBE/SWAM Participation Plan	\$30,844	\$2,012	\$2,754	\$35,610
5.1 Phase 2 GMP Proposal and Phase 2 Amendment to Agreement	\$59,577	\$18,089	\$50,239	\$127,904
<b>Phase 1B Services Not to Exceed Subtotal (subtotal of line items 1.1 thru 5.1 above)</b>	<b>\$1,038,763</b>	<b>\$297,107</b>	<b>\$4,094,089</b>	<b>\$5,429,960</b>
<b><u>Estimated Additional Total (Labor &amp; Expenses) for Award of FEMA BRI C FY22 \$50M Grant</u></b>				<b>\$3,193,902</b>
<b><u>Phase 1B Services Not to Exceed Subtotal (subtotal of line items 1.1 thru 5.1 above) plus Additional Total for FEMA Award</u></b>				<b>\$8,623,862</b>







Date:

[illegible]













**Attachment 3 – Hourly Rates and Reimbursable Costs Schedule (Design-Builder Personnel)**



[illegible]

**Attachment 4 – Hourly Rates and Reimbursable Costs Schedule (Design Consultant Personnel)**









**Attachment 5 – Hourly Rates and Reimbursable Costs Schedule (Subcontractor Personnel)**

[illegible]



## EXHIBIT 7.2

### Insurance Requirements – INTERIM AGREEMENT

for the

Waterfront Implementation Project

City of Alexandria

#### A. Design-Builder Insurance Coverages

1. General and Insurance Limits. Design-Builder shall obtain and maintain, at its own cost and expense, the following insurance and limits of liability at all times during the period in which the Interim Agreement is in full force and effect. The required insurance must be obtained and maintained from insurance companies that have at least an A.M. Best's Insurance Guide ("Best's Guide") Rating of A- and Financial Size Category of Class VII or better, according to the most current edition of the Best's Guide, and are authorized to do business in the Commonwealth of Virginia. Design-Builder, at its own cost, may purchase any additional insurance it believes necessary to protect its interests.

(a) Workers' Compensation and Employer's Liability Insurance. Design-Builder shall obtain and maintain Workers' Compensation insurance with statutory workers' compensation (Coverage A) limits and employer's liability (Coverage B) limits of at least \$1,000,000 bodily injury by accident, each accident, and \$1,000,000 bodily injury by disease, each employee. Coverage will be extended, if needed, to cover any claims under the United States Longshore and Harbor Workers' Compensation Act (33 U.S.C. §§ 901-950) and the Jones Act (46 U.S.C. §30104).

(b) Commercial General Liability Insurance. Design-Builder shall obtain and maintain Commercial General Liability insurance with a combined single limit of \$2,000,000 and in the aggregate annually. Such insurance shall include coverage for premises and operations, independent contractors, personal injury, product and completed operations, explosion, collapse and underground, and broad form contractual liability.

(c) Automobile Liability Insurance. Design-Builder shall obtain and maintain Automobile Liability insurance providing liability coverage for claims of bodily injury and property damage arising from the ownership, maintenance or use of all owned/leased, non-owned and hired motor vehicles used in the performance of the Work. Such policy shall provide coverage of \$1,000,000 combined single limit of liability for bodily injury and property damage. Coverage shall include pollution liability arising from overturn and collision.

(d) Umbrella/Excess Liability Insurance. Design-Builder shall obtain and maintain an Umbrella/Excess Liability insurance policy in excess of the limits above for employer's liability, commercial general liability, and automobile liability in the amount of \$15,000,000 per occurrence and in the aggregate annually.

(e) Professional Liability Insurance. Design-Builder or Lead Engineer shall obtain and maintain Professional Liability insurance with a limit of \$5,000,000 per claim and in the aggregate annually. Such insurance must provide coverage from the first date any professional services were rendered for the Project and must remain in full force and effect during the performance of the Work and be maintained or include an extended reporting period of at least five (5) years after completion of the Work under the Interim Agreement.

2. Insurance Policy Requirements. All policies of insurance that Design-Builder is required to purchase and maintain under Paragraph 1 above shall:

(a) Contain a provision requiring the insurer to give not less than thirty (30) days' prior notice to the City whenever the insurer gives Design-Builder a notice of cancellation or non-renewal with respect to the policy (except in the case of any non-premium payment, not less than ten (10) days' prior notice, which the insurer shall be obligated to give to the City simultaneously with providing such notice to Design-Builder). The provision required by the preceding sentence shall not be deemed to infer a right of cancellation that would otherwise not exist in the absence of such provision.

(b) Delete any specific design-build or similar exclusions that could compromise coverage because of Design-Builder's involvement in the design-build process.

(c) Contain coverage terms and conditions that reflect the industry standard for projects of a similar size, scope, and nature of this Project that the commercial market will provide and support as of the date of such insurance procurement and any subsequent renewals.

(d) Other than for professional liability insurance, and workers compensation/employer's liability insurance, where additional insured coverage is required include cross-liability clauses allowing one insured to bring a claim against another insured party.

(e) Other than for professional liability insurance and workers compensation/employer's liability insurance, be endorsed so that the insurer agrees to waive, to the extent permitted by law, all rights of subrogation or action that it may have or acquire against the City, City Indemnitees, or any additional insured.

(f) Other than for professional liability insurance, workers compensation/employer's liability insurance, and automobile liability insurance, contain a provision under which the insurer agrees that the failure of one insured to observe and fulfill the terms of the policy will not prejudice the coverage of the other insureds.

(g) For commercial general liability and umbrella/excess liability insurance, not include defense costs within the limits of coverage or permit erosion of coverage limits by defense costs.

(h) Design-Builder's commercial general liability, automobile liability, and umbrella/excess must:

1. Include and list as additional insureds the City and the City Indemnitees, and include coverage for the respective officers, directors, members, partners, and employees of all such additional insureds;

2. Afford primary coverage to these additional insureds for all claims covered thereby (including as applicable those arising from both ongoing and completed operations);
3. Not seek contribution from insurance maintained by the additional insured; and
4. As to commercial general liability insurance, apply to additional insureds with respect to liability caused in whole or in part by Design-Builder's acts or omissions, or the acts and omissions of DB-Related Entities, in the performance of Design-Builder's operations.

**B. Insurance to be Maintained by First-Tier Design Consultants and Subcontractors**

1. General and Insurance Limits. Design-Builder will cause all first-tier Design Consultants and Subcontractors to obtain and maintain the following minimum insurance coverages or be responsible for maintaining such coverages on behalf of each party. City Indemnitees shall be additional insureds on each such policy on a primary, non-contributory basis for the coverages set forth in Paragraphs (b), (c) and (d) below.

(a) Workers' Compensation and Employer's Liability Insurance with statutory workers' compensation (Coverage A) limits and employer's liability (Coverage B) limits of \$500,000 bodily injury by accident, each accident, and \$500,000 bodily injury by disease, each employee. Coverage will be extended, if needed, to cover any claims under the United States Longshore and Harbor Workers' Compensation Act (33 U.S.C. §§ 901-950) and the Jones Act (46 U.S.C. § 30104).

(b) Commercial General Liability Insurance including coverage for premises and operations, independent contractors, personal injury, product and completed operations, explosion, collapse and underground, and contractual liability. Minimum limits for Design Consultants and Subcontractors with Subcontracts valued at less than or equal to \$1 million shall have the minimum limits of no less than \$1,000,000 per occurrence and in the aggregate annually. For those Design Consultants and Subcontractors with Subcontracts valued at greater than \$1 million, such coverage shall have limits of no less than \$1,000,000 million per occurrence and in the aggregate annually.

(c) Automobile Liability Insurance with a limit of at least \$500,000 combined single limit for bodily injury and property damage covering all owned (if any), non-owned, hired, or borrowed vehicles on site or off.

(d) Umbrella/Excess Liability Insurance in excess of the underlying limits noted above for employer's liability, commercial general liability, and automobile liability for Subcontracts valued at more than \$1 million, coverage shall be in the amount of \$4 million per occurrence and in the aggregate annually.

**C. Miscellaneous**

1. Delivery to the City. Design-Builder shall deliver to the City, with copies to each additional insured, the following:

(a) Certificates of insurance and endorsements establishing that Design-Builder has obtained and is maintaining the policies and coverages required hereunder, with the understanding that updated, compliant certificates of insurance and endorsements shall be delivered annually, at least ten (10) days prior to the expiration of any policy, to evidence renewal of the required insurance coverages.

(b) Upon request by the City or any additional insured, evidence of such required insurance, including documentation of applicable self-insured retentions (if allowed) and deductibles, full disclosure of all relevant endorsements, exclusions, and evidence of insurance required to be purchased and maintained by Design-Builder, Design Consultants, or Subcontractors. In any documentation furnished under this provision, Design-Builder, Design Consultants, and Subcontractors may block out (redact) any confidential premium or pricing information or other information not applicable to this Project or Agreement.

(c) Failure of the City or any additional insured to demand the documents required by this Paragraph 1, or failure of the City identify a deficiency in compliance from the evidence provided, will not be construed as a waiver of the obligation of the relevant party (i.e., Design-Builder, Design Consultant, or Subcontractor) to obtain and maintain such insurance.

2. No Representation. The City does not represent that insurance coverage and limits established in this Exhibit 7.2 will be adequate to protect the interests of Design-Builder, Design Consultants, or Subcontractors. Each such party is responsible for determining whether such coverage and limits are adequate to protect its interests, and for obtaining and maintaining any additional insurance that Design-Builder deems necessary.

3. Limits are Minimums. The insurance and insurance limits required in this Exhibit 7.2 are minimums and shall not be deemed as a limitation on Design-Builder's liability, or that of any DB-Related Entity, under the indemnities granted to the City, additional insureds and other individuals and entities in the Contract Documents or otherwise.

4. Failure of Design-Builder to Perform. If in any instance Design-Builder has not performed its obligations respecting obtaining and maintaining insurance coverage required hereunder, or is unable to enforce and collect any such insurance for failure to assert claims in accordance with the terms of the insurance policies, then for purposes of determining Design-Builder's liability and the limits thereon or determining reductions in compensation due from the City to Design-Builder on account of available insurance, Design-Builder shall be treated as if it has elected to self-insure up to the full amount of insurance coverage that would have been available had Design-Builder performed such obligations and not committed such failure.

5. Deductibles. Design-Builder, Design Consultants, and Subcontractors shall be solely responsible for any and all deductibles or self-insured retentions that shall apply under any required, or otherwise purchased, insurances and shall have no recourse against the City for any such costs.

**EXHIBIT 14.21**  
**FEMA Grant Requirements –**  
**INTERIM AGREEMENT**  
**for the**  
**Waterfront Implementation Project**  
**City of Alexandria**

Design-Builder understands that the Project is expected to be financed in part with assistance provided by the Federal Emergency Management Agency (“FEMA”). A condition to such assistance is the application of certain Legal Requirements to the Interim Agreement and Design-Builder (“FEMA Requirements”). This Exhibit 14.21 identifies such Legal Requirements. Design-Builder agrees that it shall comply with all such Legal Requirements, and, through flow-down provisions in Subcontracts, require all applicable DB-Related Entities to comply with such requirements to the extent mandated by the applicable FEMA Requirement.

1. Equal Employment Opportunity

FEMA requires that with respect to Equal Employment Opportunity the following language be used without modification. This language uses the following undefined terms: “contractor,” “subcontractor,” “subcontract and purchase order,” and “applicant.” The term “contractor” shall be construed to mean “Design-Builder;” the term “subcontractor or vendor” shall be construed to mean “DB-Related Entities;” the terms “subcontract and/or purchase order” shall be construed to mean “Subcontract;” and the term “applicant” shall be construed to mean “the City.”

During the performance of this contract, the contractor agrees as follows:

1. The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action shall include, but not be limited to the following:

Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

2. The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.

3. The contractor will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the contractor's legal duty to furnish information.

4. The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

5. The contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

6. The contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

7. In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

8. The contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (8) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance:

Provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

The applicant further agrees that it will be bound by the above equal opportunity clause with respect to its own employment practices when it participates in federally assisted construction work: *Provided*, That if the applicant so participating is a State or local government, the above equal opportunity clause is not applicable to any agency, instrumentality or subdivision of such government which does not participate in work on or under the contract.

The applicant agrees that it will assist and cooperate actively with the administering agency and the Secretary of Labor in obtaining the compliance of contractors and subcontractors with the equal opportunity clause and the rules, regulations, and relevant orders of the Secretary of Labor, that it will furnish the administering agency and the Secretary of Labor such information as they may require for the supervision of such compliance, and that it will otherwise assist the administering agency in the discharge of the agency's primary responsibility for securing compliance.

The applicant further agrees that it will refrain from entering into any contract or contract modification subject to Executive Order 11246 of September 24, 1965, with a contractor debarred from, or who has not demonstrated eligibility for, Government contracts and federally assisted construction contracts pursuant to the Executive Order and will carry out such sanctions and penalties for violation of the equal opportunity clause as may be imposed upon contractors and subcontractors by the administering agency or the Secretary of Labor pursuant to Part II, Subpart D of the Executive Order. In addition, the applicant agrees that if it fails or refuses to comply with these undertakings, the administering agency may take any or all of the following actions: Cancel, terminate, or suspend in whole or in part this grant (contract, loan, insurance, guarantee); refrain from extending any further assistance to the applicant under the program with respect to which the failure or refund occurred until satisfactory assurance of future compliance has been received from such applicant; and refer the case to the Department of Justice for appropriate legal proceedings.

## 2. Contract Work Hours and Safety Standards Act

1. Overtime requirements. No DB-Related Entity contracting for any part of the Interim Agreement work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1) of this section the DB-Related Entity responsible therefor shall be liable for the unpaid wages. In addition, such DB-Related Entity shall be liable to the United States for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1) of this section, in the sum of \$27 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1) of this section.

3. Withholding for unpaid wages and liquidated damages. The City shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the DB-Related Entity under any this Interim Agreement or any other federal contract with Design-Builder, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by Design-Builder, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2) of this section.

4. Subcontracts. Design-Builder shall insert in any first-tier Subcontracts the clauses set forth in paragraph (1) through (4) of this section and also a clause requiring each Design Consultant and Subcontractor to include these clauses in any lower tier subcontracts. Design-Builder shall be responsible for compliance by any Design Consultant and Subcontractor and lower-tier Design Consultants and Subcontractors with the clauses set forth in paragraphs (1) through (4) of this section.

3. Clean Air Act and Federal Water Pollution Control Act

Clean Air Act

a. Design-Builder agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. § 7401 et seq.

b. Design-Builder agrees to report each violation to the City and understands and agrees that the City will, in turn, report each violation as required to assure notification to the Federal Emergency Management Agency, and the appropriate Environmental Protection Agency Regional Office.

c. Design-Builder agrees to include these requirements in each Subcontract exceeding \$150,000.

Federal Water Pollution Control Act

a. Design-Builder agrees to comply with all applicable standards, orders, or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et seq.

b. Design-Builder agrees to report each violation to the City and understands and agrees that the City will, in turn, report each violation as required to assure notification to the Federal Emergency Management Agency, and the appropriate Environmental Protection Agency Regional Office.

c. Design-Builder agrees to include these requirements in each Subcontract exceeding \$150,000.

4. Debarment and Suspension

a. This Interim Agreement is a covered transaction for purposes of 2 C.F.R. pt. 180 and 2 C.F.R. pt. 3000. As such, Design-Builder is required to verify that none of Design-Builder's principals (defined at 2 C.F.R. § 180.995) or its Affiliates (defined at 2 C.F.R. §



180.905) are excluded (defined at 2 C.F.R. § 180.940) or disqualified (defined at 2 C.F.R. § 180.935).

b. Design-Builder must comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C, and must include a requirement to comply with these regulations in any lower tier covered transaction it enters into.

c. This certification is a material representation of fact relied upon by the City. If it is later determined that Design-Builder did not comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C, in addition to remedies available to the City, the federal government may pursue available remedies, including but not limited to suspension and/or debarment.

d. Design-Builder agrees to comply with the requirements of 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C throughout the period that it is performing work under this Interim Agreement. Design-Builder further agrees to include a provision requiring such compliance in its lower tier covered transactions.

5. Byrd Anti-Lobbying Amendment

Contractors who apply or bid for an award of \$100,000 or more shall file the certification required by Appendix A, 44 C.F.R. Part 18 – Certification Regarding Lobbying, which is set forth below. Each tier certifies to the tier above that it will not and has not used federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, officer or employee of Congress, or an employee of a Member of Congress in connection with obtaining any Federal contract, grant, or any other award covered by 31 U.S.C. § 1352. Each tier shall also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the City who in turn will forward the certification(s) to the awarding agency.

Certification for Contracts, Grants, Loans, and Cooperative Agreements

The undersigned certifies, to the best of his or her knowledge and belief, that:

1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

2. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative

agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

3. The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

The Contractor, \_\_\_\_\_, certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Contractor understands and agrees that the provisions of 31 U.S.C. Chap. 38, Administrative Remedies for False Claims and Statements, apply to this certification and disclosure, if any.

\_\_\_\_\_  
Signature of Contractor's Authorized Official

\_\_\_\_\_  
Name and Title of Contractor's Authorized Official

\_\_\_\_\_  
Date

#### 6. Procurement of Recovered Materials

In the performance of this Interim Agreement, Design-Builder shall make maximum use of products containing recovered materials that are EPA-designated items unless the product cannot be acquired—

- a. Competitively within a timeframe providing for compliance with the contract performance schedule;
- b. Meeting contract performance requirements; or
- c. At a reasonable price.

Information about this requirement, along with the list of EPA- designated items, is available at EPA's Comprehensive Procurement Guidelines web site, <https://www.epa.gov/smm/comprehensive-procurement-guideline-cpg-program>.

Design-Builder also agrees to comply with all other applicable requirements of Section 6002 of the Solid Waste Disposal Act.

7. Prohibition on Contracting for Covered Telecommunications Equipment or Services

(a) Definitions. As used in this clause, the terms backhaul; covered foreign country; covered telecommunications equipment or services; interconnection arrangements; roaming; substantial or essential component; and telecommunications equipment or services have the meaning as defined in FEMA Policy 405-143-1, Prohibitions on Expending FEMA Award Funds for Covered Telecommunications Equipment or Services (Interim), as used in this clause—

(b) Prohibitions.

(1) Section 889(b) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019, Pub. L. No. 115-232, and 2 C.F.R. § 200.216 prohibit the head of an executive agency on or after Aug.13, 2020, from obligating or expending grant, cooperative agreement, loan, or loan guarantee funds on certain telecommunications products or from certain entities for national security reasons.

(2) Unless an exception in paragraph (c) of this clause applies, Design-Builder and any other DB-Related Entity may not use grant, cooperative agreement, loan, or loan guarantee funds from the Federal Emergency Management Agency to:

(i) Procure or obtain any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology of any system;

(ii) Enter into, extend, or renew a contract to procure or obtain any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology of any system;

(iii) Enter into, extend, or renew contracts with entities that use covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system; or

(iv) Provide, as part of its performance of this contract, subcontract, or other contractual instrument, any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system.

(c) Exceptions.

(1) This clause does not prohibit Design-Builder or any other DB-Related entity from providing—

(i) A service that connects to the facilities of a third-party, such as backhaul, roaming, or interconnection arrangements; or

(ii) Telecommunications equipment that cannot route or redirect user data traffic or permit visibility into any user data or packets that such equipment transmits or otherwise handles.

(2) By necessary implication and regulation, the prohibitions also do not apply to:

- (i) Covered telecommunications equipment or services that:
  - i. Are not used as a substantial or essential component of any system; and
  - ii. Are not used as critical technology of any system.
- (ii) Other telecommunications equipment or services that are not considered covered telecommunications equipment or services.

(d) Reporting requirement.

(1) In the event Design-Builder identifies covered telecommunications equipment or services used as a substantial or essential component of any system, or as critical technology as part of any system, during contract performance, or Design-Builder is notified of such by a DB-Related Entity at any tier or by any other source, Design-Builder shall report the information in paragraph (d)(2) of this clause to the recipient or subrecipient, unless elsewhere in the Contract Documents are established procedures for reporting the information.

(2) Design-Builder shall report the following information pursuant to paragraph (d)(1) of this clause:

(i) Within one business day from the date of such identification or notification: The contract number; the order number(s), if applicable; supplier name; supplier unique entity identifier (if known); supplier Commercial and Government Entity (CAGE) code (if known); brand; model number (original equipment manufacturer number, manufacturer part number, or wholesaler number); item description; and any readily available information about mitigation actions undertaken or recommended.

(ii) Within 10 business days of submitting the information in paragraph (d)(2)(i) of this clause: Any further available information about mitigation actions undertaken or recommended. In addition, the contractor shall describe the efforts it undertook to prevent use or submission of covered telecommunications equipment or services, and any additional efforts that will be incorporated to prevent future use or submission of covered telecommunications equipment or services.

(e) Subcontracts. Design-Builder shall insert the substance of this clause, including this paragraph (e), in all Subcontracts.

## 8. Domestic Preference for Procurements

As appropriate, and to the extent consistent with law, Design-Builder should, to the greatest extent practicable, provide a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States. This includes, but is not limited to iron, aluminum, steel, cement, and other manufactured products.

For purposes of this clause:

Produced in the United States means, for iron and steel products, that all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States. Manufactured products mean items and construction materials composed in whole or in part of non-ferrous metals such as aluminum; plastics and polymer-based products such as polyvinyl chloride pipe; aggregates such as concrete; glass, including optical fiber; and lumber.