



COUNTY OF ROANOKE, VA

PROJECT MANUAL

FOR

**STREAM RESTORATION OF A TRIBUTARY TO MUD LICK CREEK
ALONG CANTER DRIVE**

INVITATION FOR BID (IFB) 2025-038

SEPTEMBER 13, 2024

Prepared by:

**Roanoke County Department of Development Services
5204 Bernard Drive, P.O. Box 29800
Roanoke, Virginia 24018**

COUNTY OF ROANOKE, VA
SPECIFICATIONS FOR
STREAM RESTORATION OF A TRIBUTARY OF MUD LICK CREEK ALONG
CANTER DRIVE

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COUNTY OF ROANOKE, VA

**STREAM RESTORATION OF A TRIBUTARY TO MUD LICK CREEK
ALONG CANTER DRIVE**

ADVERTISEMENT FOR BIDS

Sealed Bids for the construction of the **Stream Restoration of a Tributary to Mud Lick Creek Along Canter Drive (IFB 2025-038)** will be received by the **Finance Department Purchasing Division**, at the office of the **County of Roanoke, 5204 Bernard Drive, Suite 300F, Roanoke, VA 24018**, until **2:00 P.M.** local time on **October 18, 2024**, at which time the Bids received will be publicly opened and read. The Project consists of natural stream restoration along approximately 1,400 feet of stream located within easement on residential properties on Canter Drive.

Bids will be received for a single prime Contract. Bids shall be on a lump sum as indicated in the Bid Form.

The **Issuing Office** is: **The Financing Department Purchasing Division (Attn: Mr. Heath Honaker), County of Roanoke (540) 283-8146, hhonaker@roanokecountyva.gov.** Address all questions to this office.

Bid documents are available from Roanoke County's Purchasing Website at: www.roanokecountyva.gov/bids.aspx. Bidding documents, including any addenda, may be viewed and downloaded at this site.

A mandatory pre-bid conference will be held at 10:00 A.M. local time on October 1, 2024 at the South County Library at 6303 Merriman Road, Roanoke, VA 24018. Offerors should be prepared to observe the project site immediately after this meeting. This will be the only opportunity provided to observe the project site.

Bid security shall be furnished in accordance with the Instructions to Bidders.

Owner: **County of Roanoke, VA**
By: **Heath Honaker**
Title: **Buyer, Purchasing Division Director**

++ END OF ADVERTISEMENT FOR BIDS ++

INSTRUCTIONS TO BIDDERS

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ARTICLE 1 – DEFINED TERMS

1.01 Terms used in these Instructions to Bidders have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below:

A. *Issuing Office* – The office from which the Bidding Documents are to be issued and where the bidding procedures are to be administered. The Issuing Office is the Financing Department Purchasing Division (Attn: Mr. Heath Honaker), County of Roanoke (540) 283-8146, hhonaker@roanokecountyva.gov.

1.02 ~~Where the term Roanoke County, County or Roanoke Board of Supervisors is used it is understood to include Roanoke County School Board, in addition, any contract awarded from this solicitation may be used by Roanoke County Public Schools and any other public entity for which County of Roanoke acts as a fiscal or purchasing agent.~~

Individuals with disabilities, who require assistance or special arrangements in order to participate in bidding, please contact (540) 772-2061. We require that provide at least 48 hours' notice so that reasonable efforts may be made to provide the proper arrangements. You may be requested to specify the nature of any accommodations or assistance, which may be required for your participation.

ARTICLE 2 – COPIES OF BIDDING DOCUMENTS

2.01 Bidding Documents, including all Addenda are available to view and download from the Roanoke County website at www.roanokecountyva.gov/bids.aspx. Sign up for all notifications on the “Notify Me” portion of the site at <https://www.roanokecountyva.gov/list.aspx?Mode=subscribers#bids>

2.02 Complete sets of Bidding Documents shall be used in preparing Bids; neither Owner nor Engineer assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

2.03 Owner and Engineer, in making copies of Bidding Documents available on the above terms, do so only for the purpose of obtaining Bids for the Work and do not authorize or confer a license for any other use.

2.04 All addenda will be posted at www.roanokecountyva.gov/bids.aspx. It is the prospective bidders' responsibility to check this website to ensure that they have all addenda.

ARTICLE 3 – QUALIFICATIONS OF BIDDERS

3.01 To demonstrate Bidder's qualifications to perform the Work, Bidder shall submit with its Bid (a) written evidence establishing its qualifications such as financial data, previous experience, and present commitments, and (b) the following additional information:

- A. Evidence of Bidder's authority to do business in the state where the Project is located.
- B. Bidder's state contractor license number, or evidence of its ability to obtain state contractor license.
- C. Subcontractor and Supplier qualification information; coordinate with provisions of Article 12 of the Instructions, "Subcontractors, Suppliers and Others."
- D. Construction experience information as requested on Qualifications Statement in the bid documents.

3.02 A bidder's failure to submit required qualification information within the times indicated may disqualify Bidder from receiving an award of the Contract.

3.03 No requirement in this Article 3 to submit information will prejudice the right of the Owner to see additional pertinent information regarding Bidder's qualifications.

3.04 Bidder is advised to carefully review those portions of the Bid form requiring Bidder's representations and certifications.

ARTICLE 4 – EXAMINATION OF BIDDING DOCUMENTS, OTHER RELATED DATA, AND SITE

4.01 Subsurface and Physical Conditions

There are no drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site.

4.02 On request, Owner will provide Bidder access to the Site to conduct such examinations, investigations, explorations, tests, and studies as Bidder deems necessary for submission of a Bid. Bidder shall fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies. Bidder shall comply with all applicable Laws and Regulations relative to excavation and utility locates. There are no previous studies on this site that would be pertinent to the bidder.

4.03 It is the responsibility of each Bidder before submitting a Bid to:

- A. examine and carefully study the Bidding Documents, and the other related data identified in the Bidding Documents;
- B. visit the Site and become familiar with and satisfy Bidder as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work;

- C. become familiar with and satisfy Bidder as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work;
- D. carefully study all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) that have been identified in Paragraph 4.02 of the Supplementary Conditions as containing reliable "technical data,".
- E. consider the information known to Bidder; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents; and (3) Bidder's safety precautions and programs;
- F. agree at the time of submitting its Bid that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of its Bid for performance of the Work at the price(s) bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents;
- G. become aware of the general nature of the work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents;
- H. promptly give Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder discovers in the Bidding Documents and confirm that the written resolution thereof by Engineer is acceptable to Bidder; and
- I. determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work.

4.04 The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article 4, that without exception the Bid is premised upon performing and furnishing the Work required by the Bidding Documents and applying any specific means, methods, techniques, sequences, and procedures of construction that may be shown or indicated or expressly required by the Bidding Documents, that Bidder has given Engineer written notice of all conflicts, errors, ambiguities, and discrepancies that Bidder has discovered in the Bidding Documents and the written resolutions thereof by Engineer are acceptable to Bidder, and that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work.

ARTICLE 5 – PRE-BID CONFERENCE

5.01 A **mandatory** pre-bid conference will be held at the time and location stated in the Invitation to Bid. Representatives of Owner and Engineer will be present to discuss the Project. Bidders are required to attend and participate in the conference. If deemed necessary, an Addendum will be prepared after the pre-Bid conference. Oral statements may not be relied upon and will not be

binding or legally effective. Failure by a prospective Bidder to attend and sign-in at the pre-bid conference will result in the County not opening Bidder's sealed bid. It is intended that this will be the only opportunity that prospective Bidders will have access to the project site. Additional days/times for access may be granted, at the County's discretion. Prospective Bidders may not visit the project site, on private property, unless they are accompanied by County staff.

ARTICLE 6 – SITE AND OTHER AREAS

6.01 The Site is identified in the Bidding Documents. The Work is located in County easement on private property. All additional lands and access thereto required for temporary construction facilities, construction equipment, or storage of materials and equipment to be incorporated in the Work are to be obtained and paid for by Contractor.

ARTICLE 7 – INTERPRETATIONS AND ADDENDA

7.01 All questions about the meaning or intent of the Bidding Documents are to be submitted, in writing, to the Financing Department Purchasing Division (Attn: Mr. Heath Honaker), County of Roanoke (540) 283-8146, hhonaker@roanokecountyva.gov. Interpretations or clarifications considered necessary by the Owner in response to such questions will be issued by Addenda and notice will be sent to all parties properly signed up with "Notify Me" on the County of Roanoke website. Questions received less than seven days prior to the date for opening of Bids may not be answered. Only questions answered by Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

7.02 Addenda may be issued to clarify, correct, or change the Bidding Documents as deemed advisable by Owner or Engineer. Addenda will be posted to the procurement/purchasing website (www.roanokecountyva.gov/bids.aspx).

ARTICLE 8 – BID SECURITY

8.01 A Bid must be accompanied by Bid security made payable to Owner in an amount of five percent (5%) of Bidder's maximum Bid price and in the form of a certified check, bank money order, or a Bid bond (on the form attached) issued by a surety meeting the requirements of Paragraphs 5.01 and 5.02 of the General Conditions. Bid security may also be in the form of cash, which is deposited in advance with the County Roanoke Treasurer.

Owner will also accept personal bond or letter of credit issued by an authorized financial institution in the face amount required for the Bid Security, made payable to the County of Roanoke. The forms of security shall be submitted for review and must be approved by the County Attorney, in their sole discretion, at least 3 business days prior to receipt of bids. Approval is based upon a determination that the form of security offered will adequately protect the interest of the County as equivalent to a corporate surety's bond.

8.02 The Bid security of the Successful Bidder will be retained until such Bidder has executed the Contract Documents, furnished the required contract security and met the other conditions of the Notice of Award, whereupon the Bid security will be returned. If the Successful Bidder fails to execute and deliver the Contract Documents and furnish the required contract security within 15 days after the Notice of Award, Owner may consider Bidder to be in default, annul the Notice of

Award, and the Bid security of that Bidder will be forfeited. Such forfeiture shall be Owner's exclusive remedy if Bidder defaults.

- 8.03 Bid security of other Bidders whom Owner believes have a reasonable chance of receiving the award in the event the Successful Bidder does not execute this Contract may be retained by Owner until the earlier of seven days after the Effective Date of the Contract or 61 days after the Bid opening, whereupon Bid security furnished by such bidders will be released.
- 8.04 Bid security of other Bidders that Owner believes do not have a reasonable chance of receiving the award will be released within seven days after the bid opening.

ARTICLE 9 – CONTRACT TIMES

- 9.01 The number of days within which, or the dates by which, the Work is to be substantially completed and ready for final payment are set forth in the Agreement.

ARTICLE 10 – LIQUIDATED DAMAGES

- 10.01 Provisions for liquidated damages, if any, are set forth in the Agreement.

ARTICLE 11 – SUBSTITUTE AND “OR-EQUAL” ITEMS

- 11.01 The Contract, if awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents, or those substitute or “or-equal” materials and equipment approved by Engineer and identified by Addendum. The materials and equipment described in the Bidding Documents establish a standard of required type, function and quality to be met by any proposed substitute or “or-equal” item. No item of material or equipment will be considered by Engineer as a substitute or “or-equal” unless written request for approval has been submitted by Bidder and has been received by Engineer at least 15 days prior to the date for receipt of Bids. Each such request shall conform to the requirements of Paragraph 6.05 of the General Conditions. The burden of proof of the merit of the proposed item is upon Bidder. Engineer's decision of approval or disapproval of a proposed item will be final. If Engineer approves any proposed item, such approval will be set forth in an Addendum issued to all prospective Bidders. Bidders shall not rely upon approvals made in any other manner.

ARTICLE 12 – SUBCONTRACTORS, SUPPLIERS AND OTHERS

- 12.01 If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, individuals, or entities to be submitted to Owner in advance of a specified date prior to the Effective Date of the Agreement, the apparent Successful Bidder, and any other Bidder so requested, shall within five days after Bid opening, submit to Owner a list of all such Subcontractors, Suppliers, individuals, or entities proposed for those portions of the Work for which such identification is required. Such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor, Supplier, individual, or entity if requested by Owner. If Owner or Engineer, after due investigation, has reasonable objection to any proposed Subcontractor, Supplier, individual, or entity, Owner

may, before the Notice of Award is given, request apparent Successful Bidder to submit a substitute, without an increase in the Bid.

- 12.02 If apparent Successful Bidder declines to make any such substitution, Owner may award the Contract to the next lowest Bidder that proposes to use acceptable Subcontractors, Suppliers, individuals, or entities. Declining to make requested substitutions will not constitute grounds for forfeiture of the Bid security of any Bidder. Any Subcontractor, Supplier, individual, or entity so listed and against which Owner or Engineer makes no written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner and Engineer subject to revocation of such acceptance after the Effective Date of the Agreement as provided in Paragraph 6.06 of the General Conditions.
- 12.03 Contractor shall not be required to employ any Subcontractor, Supplier, individual, or entity against whom Contractor has reasonable objection.

ARTICLE 13 – PREPARATION OF BID

- 13.01 The Bid Form is included with the Bidding Documents.
- 13.02 All blanks on the Bid Form shall be completed in ink and the Bid Form signed in ink. Erasures or alterations shall be initialed in ink by the person signing the Bid Form. A Bid price shall be indicated for each Bid item and alternative listed therein. In the case of optional alternatives the words “No Bid,” “No Change,” or “Not Applicable” may be entered.
- 13.03 A Bid by a corporation shall be executed in the corporate name by the president or a vice-president or other corporate officer accompanied by evidence of authority to sign. The corporate seal shall be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown.
- 13.04 A Bid by a partnership shall be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The official address of the partnership shall be shown.
- 13.05 A Bid by a limited liability company shall be executed in the name of the firm by a member and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm shall be shown.
- 13.06 A Bid by an individual shall show the Bidder’s name and official address.
- 13.07 A Bid by a joint venture shall be executed by each joint venturer in the manner indicated on the Bid Form. The official address of the joint venture shall be shown.
- 13.08 All names shall be printed in ink below the signatures.
- 13.09 The Bid shall contain an acknowledgment of receipt of all Addenda, the numbers of which shall be filled in on the Bid Form.

- 13.10 Postal and e-mail addresses and telephone number for communications regarding the Bid shall be shown.
- 13.11 The Bid shall contain evidence of Bidder's authority and qualification to do business in the state where the Project is located, or Bidder shall covenant in writing to obtain such authority and qualification prior to award of the Contract and attach such covenant to the Bid. Bidder's state contractor license number, if any, shall also be shown on the Bid Form.

ARTICLE 14 – BASIS OF BID; COMPARISON OF BIDS

14.01 *Lump Sum*

- A. Bidders shall submit a Bid for a lump sum for the entire project.

14.02 *Allowances*

- A. ~~For cash allowances the Bid price shall include such amounts as the Bidder deems proper for Contractor's overhead, costs, profit, and other expenses on account of cash allowances, if any, named in the Contract Documents, in accordance with Paragraph 11.02.B of the General Conditions.~~

14.03 *Completion Time Comparisons*

- A. ~~Bid prices will be compared after adjusting for differences in the time designated by Bidders for Substantial Completion. The adjusting amount will be determined at the rate set forth in the Contract Documents for liquidated damages for failing to achieve Substantial Completion for each day before or after the desired date appearing in Article 9 above.~~

ARTICLE 15 – SUBMITTAL OF BID

- 15.01 With each copy of the Bidding Documents, a Bidder is furnished one separate unbound copy of the Bid Form, and, if required, the Bid Bond Form. The unbound copy of the Bid Form is to be completed and submitted with the Bid security and the other documents required to be submitted under the terms of Article 7 of the Bid Form. In addition to the unbound original, the Bidder shall submit three (3) copies and one (1) electronic copy (CD/DVD/USB Flash Drive) of the Bid Form.
- 15.02 Required Bidder Qualification Statement with Supporting Data; A Bid shall be received no later than the date and time prescribed and at the place indicated in the advertisement or invitation to bid and shall be enclosed in a plainly marked package with the Project title (and, if applicable, the designated portion of the Project for which the Bid is submitted), the name and address of Bidder, and shall be accompanied by the Bid security and other required documents. If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid shall be enclosed in a separate package plainly marked on the outside with the notation "BID ENCLOSED." A mailed

Bid shall be addressed to Heath Honaker, Finance Department Purchasing Division Director,
County of Roanoke, 5204 Bernard Drive, Roanoke, VA 24018.

15.03 Bids received after the date and time prescribed for the opening of bids, or not submitted at the correct location or in the designated manner, will not be accepted and will be returned to the Bidder unopened.

ARTICLE 16 – MODIFICATION AND WITHDRAWAL OF BID

16.01 A Bid may be modified or withdrawn by an appropriate document duly executed in the same manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids. Upon receipt of such notice, the unopened Bid will be returned to Bidder.

16.02 A Bidder may withdraw its bid from consideration if the price bid was substantially lower than the other bids due solely to a mistake therein, provided the bid was submitted in good faith, and the mistake was a clerical mistake as opposed to a judgement mistake, and was actually due to an unintentional arithmetic error or unintentional omission of quality of work, labor, or material made directly in the compilation of a bid, which unintentional arithmetic error or unintentional omission can be clearly shown by objective evidence drawn from inspection of original work papers, documents, and material used in the preparation of the bid sought to be withdrawn.

16.03 The Bidder shall give notice in writing and shall submit the original work papers with such notice to the County of its claim of right to withdraw its bid within two (2) business days after the conclusion of the opening of bids as set forth in part (1) of Section 2.2-4330 (B), of the Code of Virginia. If accepted by the County, the Bid Security will be returned.

16.04 Other applicable provisions of Section 2.2-4300, of the Code of Virginia shall apply to any errors in the bids or any requested withdrawal due to errors in bids.

16.05 If a bid is withdrawn after the Bid Opening, the bidder will be disqualified from further bidding on the Work if it is rebid.

16.06 If a Bidder wishes to modify its Bid prior to Bid opening, Bidder must withdraw its initial Bid in the manner specified in Paragraph 16.01 and submit a new Bid prior to the date and time for the opening of Bids.

ARTICLE 17 – OPENING OF BIDS

17.01 Bids will be opened at the time and place indicated in the Advertisement or Invitation to Bid and, unless obviously non-responsive, read aloud publicly. An abstract of the amounts of the base Bids and major alternates, if any, will be made available to Bidders after the opening of Bids.

ARTICLE 18 – BIDS TO REMAIN SUBJECT TO ACCEPTANCE

18.01 All Bids will remain subject to acceptance for the period of time stated in the Bid Form, but Owner may, in its sole discretion, release any Bid and return the Bid security prior to the end of this period.

ARTICLE 19 – EVALUATION OF BIDS AND AWARD OF CONTRACT

- 19.01 Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner further reserves the right to reject the Bid of any Bidder whom it finds, after reasonable inquiry and evaluation, to not be responsible. Owner may also reject the Bid of any Bidder if Owner believes that it would not be in the best interest of the Project to make an award to that Bidder. Owner also reserves the right to waive all informalities not involving price, time, or changes in the Work and to negotiate contract terms with the Successful Bidder.
- 19.02 More than one Bid for the same Work from an individual or entity under the same or different names will not be considered. Reasonable grounds for believing that any Bidder has an interest in more than one Bid for the Work may be cause for disqualification of that Bidder and the rejection of all Bids in which that Bidder has an interest.
- 19.03 In evaluating Bids, Owner will consider whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices and other data, as may be requested in the Bid Form or prior to the Notice of Award.
- 19.04 In evaluating Bidders, Owner will consider the qualifications of Bidders and may consider the qualifications and experience of Subcontractors, Suppliers, and other individuals or entities proposed for those portions of the Work for which the identity of Subcontractors, Suppliers, and other individuals or entities must be submitted as provided in the Supplementary Conditions.
- 19.05 Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and financial ability of Bidders, proposed Subcontractors, Suppliers, individuals, or entities proposed for those portions of the Work in accordance with the Contract Documents.
- 19.06 If the Contract is to be awarded, Owner will award the Contract to the Bidder whose Bid is in the best interests of the Project.

ARTICLE 20 – CONTRACT SECURITY AND INSURANCE

- 20.01 Article 5 of the General Conditions, as may be modified by the Supplementary Conditions, sets forth Owner's requirements as to performance and payment bonds and insurance. When the Successful Bidder delivers the executed Agreement to Owner, it shall be accompanied by such bonds.

ARTICLE 21 – SIGNING OF AGREEMENT

- 21.01 When Owner issues a Notice of Award to the Successful Bidder, it shall be accompanied by the required number of unsigned counterparts of the Agreement along with the other Contract Documents which are identified in the Agreement as attached thereto. Within 15 days thereafter, Successful Bidder shall sign and deliver the required number of counterparts of the Agreement and attached documents to Owner. Within ten days thereafter, Owner shall deliver one fully signed

counterpart to Successful Bidder with a complete set of the Drawings with appropriate identification.

ARTICLE 22 – ROANOKE COUNTY BIDDING REQUIREMENTS

22.01 **Compliance With Laws, Regulations And Immigration Law.** Contractor agrees to and shall comply with all applicable Federal, State, and local laws, ordinances and regulations, including all applicable licensing requirements. Contractor further agrees that Contractor does not, and shall not, during the performance of this Contract, knowingly employ or contract with an unauthorized alien as defined in the federal Immigration Reform and Control Act of 1986.

22.02 **Authority to Transact Business in Virginia.** A Contractor organized as a stock or non-stock corporation, limited liability company, business trust, or limited partnership or registered as a registered limited liability partnership shall be authorized to transact business in the Commonwealth as a domestic or foreign business entity if so required by Title 13.1 or Title 50 of the Code of Virginia or as otherwise required by law. Any business entity described herein that enters into a Contract with the County pursuant to the Virginia Public Procurement Act 2.2-4300 et seq. shall not allow its existence to lapse or its certificate of authority or registration to transact business in the Commonwealth, if so required under Title 13.1 or Title 50 of the Code of Virginia, to be revoked or cancelled at any time during the term of the Contract. The County may void any Contract with a business entity if the business entity fails to remain in compliance with the provisions of this section. All corporations, LLC's and LLP's shall be registered with the State Corporation Commission. To determine whether your firm should register, please contact the SCC.

By my signature on this solicitation, I certify compliance with federal, state, and local laws and regulations applicable to the performance of the services described herein.

22.03 **Drug-Free Workplace.** During the performance of this contract, the Contractor agrees to (i) provide a drug-free workplace for the Contractor's employees; (ii) post in conspicuous places, available to employees that the unlawful manufacture, sale distribution, dispensation, possession, or use of a controlled substance or marijuana is prohibited in violation of such prohibition; (iii) state in all solicitations or advertisements for employees placed by or on behalf of the Contractor that the Contractor maintains a drug-free workplace; and (iv) include the provisions of the foregoing clauses in every subcontract or purchase order of over \$10,000, so that the provisions will be binding upon each Subcontractor or Vendor.

For the purposes of this section, “drug-free workplace” means a site for the performance of work done in connection with the specific contract awarded to a Contractor in accordance with this chapter, the employees of whom are prohibited from engaging in the unlawful manufacture, sale,

distribution, dispensation, possession or use of any controlled substance or marijuana during the performance of the contract.

- 22.04 **Availability of Funds.** It is understood and agreed between the parties herein that Owner shall be bound hereunder only to the extent of the funds available, as appropriated by the governing body of the Owner, or which may hereafter become available for the purpose of this contract.
- 22.05 **Assignment of Contract.** A Contract shall not be assignable by the Contractor in whole or part without written consent of Roanoke County.
- 22.06 **Nondiscrimination Provision:** During the performance of this contract, the Contractor will not discriminate against any employee or applicant for employment because of age, race, religion, color, sex or national origin, except where religion, sex or national origin is a bona fide occupational qualification reasonably necessary to the normal operation of the Contractor. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause. The Contractor, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, will state that such Contractor is an equal opportunity employer.

NOTICE OF PROPRIETARY INFORMATION FORM
FOR IFB #2025-038

**STREAM RESTORATION OF A TRIBUTARY TO MUD LICK CREEK ALONG
CANTER DRIVE**

Confidentiality References Protection in Accordance with the Code of Virginia, Section 2.2-4342

Section Title	Page #	Reason(s) for Withholding from Disclosure

INSTRUCTIONS: Identify the data or other materials to be protected and state the reasons by using the codes listed below. Indicate the specific words, figures, or paragraphs that constitute trade secrets or proprietary materials. The classification of an entire bid or proposal document, line item prices, and/or total bid or proposal prices as proprietary or trade secret is not acceptable and will result in rejection of the bid or proposal.

- A) This page contains information relating to "trade secrets", and "proprietary information" including processes. Operations, style of work, or apparatus. Identify confidential statistical data. Amount or source of any income of any person (or) partnership. See Virginia Public Procurement Act. Section 2.2-4342. Unauthorized disclosure of such information would violate the Trade Secrets Act 18 U.S.C. 1905.
- B) This page contains proprietary information including confidential, commercial or financial information, which was provided to the Government on a voluntary basis and is of the type that would not customarily release to the public. See Virginia Public Procurement Act, Section 2.2-4342; 5 U.S.C. 552 (b) (4); 12 C.F.R. 309.5(c) (4).
- C) This page contains proprietary information including confidential, commercial or financial information. The disclosure of such information would cause substantial harm to competitive position and impair the Government's ability to obtain necessary information from contractors in the future. 5 U.S.C. See Virginia Public Procurement Act. Section 2.2-4342; 552 (b) (4)12 C.F.R. 309.5(c) (4).

BID FORM

County of Roanoke

Roanoke, VA

STREAM RESTORATION OF A TRIBUTARY TO MUD LICK CREEK ALONG CANTER DRIVE

IFB 2025-038

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ARTICLE 1 – BID RECIPIENT

1.01 This Bid is submitted to:

*Finance Department Purchasing Division
County of Roanoke, VA
5204 Bernard Dr., Suite 300F
Roanoke, VA 24018*

1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2 – BIDDER’S ACKNOWLEDGEMENTS

2.01 Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 60 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

ARTICLE 3 – BIDDER’S REPRESENTATIONS

3.01 In submitting this Bid, Bidder represents that:

A. Bidder has examined and carefully studied the Bidding Documents, other related data identified in the Bidding Documents, and the following Addenda, receipt of which is hereby acknowledged:

Addendum No.

Addendum Date

- B. Bidder has visited the Site and 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. Bidder is familiar with and is satisfied as to all Laws and Regulations that may affect cost, progress, and performance of the Work.
- D. Bidder has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) that have been identified in SC-4.02 as containing reliable "technical data,".
- E. Bidder has considered the information known to Bidder; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and

documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents; and (3) Bidder's safety precautions and programs.

- F. Based on the information and observations referred to in Paragraph 3.01.E above, Bidder does not consider that further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price(s) bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.
- G. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.
- H. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by Engineer is acceptable to Bidder.
- I. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.
- J. The submission of this Bid constitutes an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, and that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

ARTICLE 4 – BIDDER'S CERTIFICATION

4.01 Bidder certifies that:

- A. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation;
- B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;
- C. Bidder has not solicited or induced any individual or entity to refrain from bidding; and
- D. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 4.01.D:
 - 1. “corrupt practice” means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process;
 - 2. “fraudulent practice” means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;

3. “collusive practice” means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels; and
4. “coercive practice” means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

4.02 IMMIGRATION REFORM AND CONTROL ACT OF 1986: By signing the bid, the bidder certifies that the firm does not and will not during the performance of this contract employ illegal alien workers or otherwise violate the Federal Immigration Reform and Control Act of 1986.

4.03 ANTI-COLLUSION CERTIFICATION: By my signature on the face of this bid, I certify that this bid is made without prior understanding, agreement, or connection with any corporation, firm or person submitting a bid for the same materials, supplies, equipment, or services, and is in all respects fair and without collusion or fraud. I understand collusive bidding is a violation of the Virginia Governmental Frauds Act and Federal Law and can result in fines, prison sentences, and civil damage awards. I agree to abide by all conditions of this bid and certify that I am authorized to sign this bid for the bidder.

4.04 KICKBACKS: I certify and warrant that by my signature on this solicitation, neither I nor the bidder for whom I am authorized to act has offered or received any kickback from any other bidder, supplier, manufacturer, or subcontractor in connection with bid on this contract, subcontract in order, in the form of any payment, loan, subscription, advance, deposit of money, services or anything present, promised, unless consideration of substantially equal or greater value is exchanged. Further, no person shall demand or receive any payment, loan, subscription, advance, deposit of money, service, or anything or more than nominal value, present or promised, unless consideration of substantially equal or greater value is exchanged.

4.05 DEBARMENT: By my signature on this solicitation, I certify that this person/firm/corporation is not currently barred from bidding on contracts by any agency of the Commonwealth of Virginia or the federal government of the United States of America, nor is this person/firm/corporation a part of any firm/corporation that is currently barred from bidding on contracts by any agency of the Commonwealth of Virginia or the federal government of the United States of America. I have attached an explanation of the previous debarment(s) and copies of notices(s) of reinstatement(s).

ARTICLE 5 – BASIS OF BID

5.01 Bidder will complete the Work in accordance with the Contract Documents for the following price:

Lump Sum Bid Price	\$
--------------------	----

Bidder acknowledges that the Lump Sum Bid Price includes an amount considered by Bidder to be adequate to cover Contractor's overhead and profit and to construct the complete project as provided in the Contract documents.

Total Base Bid Price \$ _____

ARTICLE 6 – TIME OF COMPLETION

6.01 Bidder agrees that the Work will be substantially complete and will be completed and ready for final payment in accordance with Paragraph 14.07 of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.

6.02 Bidder accepts the provisions of the Agreement as to liquidated damages.

ARTICLE 7 – ATTACHMENTS TO THIS BID

7.01 The following documents are submitted with and made a condition of this Bid:

- A. Required Bid security in the form of a certified check, bank money order, or a Bid bond as indicated in Article 8 of the Instructions to Bidders;
- B. List of Proposed Subcontractors;
- C. List of Proposed Suppliers;
- D. List of Project References;
- E. Evidence of authority to do business in the state of the Project; or a written covenant to obtain such license within the time for acceptance of Bids;
- F. Contractor's License No.: _____ or Evidence of Bidder's ability to obtain a Commonwealth of Virginia Contractor's License and a covenant by Bidder to obtain said license within the time for acceptance of Bids;
- G. Required Bidder Qualification Statement with supporting data.

ARTICLE 8 – DEFINED TERMS

8.01 The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

ARTICLE 9 – BID SUBMITTAL

9.01 This Bid is submitted by:

If Bidder is:

An Individual

Name (typed or printed): _____

By: _____
(Individual's signature)

Doing business as: _____

A Partnership

Partnership Name: _____

By: _____
(Signature of general partner -- attach evidence of authority to sign)

Name (typed or printed): _____

A Corporation

Corporation Name: _____ (SEAL)

State of Incorporation: _____
Type (General Business, Professional, Service, Limited Liability): _____

By: _____
(Signature -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____
(CORPORATE SEAL)

Attest _____

Date of Qualification to do business in Virginia is ____/____/____.

A Joint Venture

Name of Joint Venture: _____

First Joint Venturer Name: _____ (SEAL)

By: _____
(Signature of first joint venture partner -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

Second Joint Venturer Name: _____ (SEAL)

By: _____
(Signature of second joint venture partner -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

(Each joint venturer must sign. The manner of signing for each individual, partnership, and corporation that is a party to the joint venture should be in the manner indicated above.)

Bidder's Business Address _____

Phone No. _____ Fax No. _____

E-mail _____

SUBMITTED on _____, 20____.

State Contractor License No. _____.

Virginia SCC#: _____
*(or provide explanation why firm is not required to be authorized in accord with VA CODE 2.2-4311.2)

BID BOND

Any singular reference to Bidder, Surety, Owner or other party shall be considered plural where applicable.

BIDDER (*Name and Address*):

SURETY (*Name and Address of Principal Place of Business*):

OWNER (*Name and Address*):

BID

Bid Due Date:

Description (*Project Name and Include Location*):

BOND

Bond Number:

Date (*Not earlier than Bid due date*):

Penal sum

(Words)

\$

(Figures)

Surety and Bidder, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Bid Bond to be duly executed by an authorized officer, agent, or representative.

BIDDER

(Seal)

Bidder's Name and Corporate Seal

By:

Signature

Print Name

Title

Attest:

Signature

Title

SURETY

(Seal)

Surety's Name and Corporate Seal

By:

Signature (Attach Power of Attorney)

Print Name

Title

Attest:

Signature

Title

Note: Above addresses are to be used for giving any required notice. Provide execution by any additional parties, such as joint venturers, if necessary.

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to pay to Owner upon default of Bidder the penal sum set forth on the face of this Bond. Payment of the penal sum is the extent of Bidder's and Surety's liability. Recovery of such penal sum under the terms of this Bond shall be Owner's sole and exclusive remedy upon default of Bidder.
2. Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents.
3. This obligation shall be null and void if:
 - 3.1 Owner accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents, or
 - 3.2 All Bids are rejected by Owner, or
 - 3.3 Owner fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by Paragraph 5 hereof).
4. Payment under this Bond will be due and payable upon default of Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from Owner, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.
5. Surety waives notice of any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by Owner and Bidder, provided that the total time for issuing Notice of Award including extensions shall not in the aggregate exceed 120 days from Bid due date without Surety's written consent.
6. No suit or action shall be commenced under this Bond prior to 30 calendar days after the notice of default required in Paragraph 4 above is received by Bidder and Surety and in no case later than one year after Bid due date.
7. Any suit or action under this Bond shall be commenced only in a court of competent jurisdiction located in the state in which the Project is located.
8. Notices required hereunder shall be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier, or by United States Registered or Certified Mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the party concerned.
9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent, or representative who executed this Bond on behalf of Surety to execute, seal, and deliver such Bond and bind the Surety thereby.
10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond shall be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable

statute, then the provision of said statute shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.

11. The term "Bid" as used herein includes a Bid, offer, or proposal as applicable.

QUALIFICATIONS STATEMENT

**THE INFORMATION SUPPLIED IN THIS DOCUMENT IS CONFIDENTIAL TO THE
EXTENT PERMITTED BY LAWS AND REGULATIONS**

1. SUBMITTED BY:

Official Name of Firm: _____

Address: _____

2. SUBMITTED TO: _____

3. SUBMITTED FOR: _____

Owner: _____

Project Name: _____

TYPE OF WORK: _____

4. CONTRACTOR'S CONTACT INFORMATION

Contact Person: _____

Title: _____

Phone: _____

Email: _____

5. AFFILIATED COMPANIES:

Name: _____

Address: _____

6. TYPE OF ORGANIZATION:

SOLE PROPRIETORSHIP

Name of Owner: _____

Doing Business As: _____

Date of Organization: _____

PARTNERSHIP

Date of Organization: _____

Type of Partnership: _____

Name of General Partner(s): _____

CORPORATION

State of Organization: _____

Date of Organization: _____

Executive Officers:

- President: _____

- Vice President(s): _____

- Treasurer: _____

- Secretary: _____

LIMITED LIABILITY COMPANY

State of Organization: _____

Date of Organization: _____

Members: _____

JOINT VENTURE

Sate of Organization: _____

Date of Organization: _____

Form of Organization: _____

Joint Venture Managing Partner

- Name: _____

- Address: _____

Joint Venture Managing Partner

- Name: _____

- Address: _____

Joint Venture Managing Partner

- Name: _____

- Address: _____

7. SPECIALIZED CONSTRUCTION EXPERIENCE

Stream restoration is a specialized construction field. Therefore, as a prerequisite to be considered as a qualified bidder, each bidder shall provide satisfactory evidence of all of the following minimum qualifications:

A. Project Experience – Bidder must have prior experience in stream restoration, as set forth below:

Bidder must provide written project descriptions and owner references (name, title, phone number, and e-mail address) for 3 stream restoration or bioengineered streambank stabilization construction projects completed by the company within the last 3 years. Each project must be at least 500 feet in length.

B. Project Site Superintendent Experience – In addition to prior stream restoration project experience outlined above, Bidder must provide a project site superintendent that has the minimum experience, as set forth below:

The site superintendent must be dedicated to this project full-time for the duration of construction. Provide written project descriptions and owner references (name, title, phone number, and e-mail address) for 3 stream restoration or bioengineered streambank stabilization construction projects completed by the site superintendent within the last 3 years. Each project must be at least 500 feet in length. In the event that it is necessary to replace the site superintendent, then the replacement site superintendent shall have the same qualifications.

Notice of Award

Date: _____

Project: Stream Restoration of a Tributary to Mud Lick Creek along Canter Drive

Owner: County of Roanoke	Owner's Contract No.: 2025-038
Contract:	Engineer's Project No.:

Bidder:

Bidder's Address:

You are notified that your Bid dated _____ for the above Contract has been considered. You are the Successful Bidder and are awarded a Contract for _____

The Contract Price of your Contract is _____ Dollars (\$______).

[Insert appropriate data if unit prices are used. Change language for cost-plus contracts.]

_____ copies of the proposed Contract Documents (except Drawings) accompany this Notice of Award.

_____ sets of the Drawings will be delivered separately or otherwise made available to you immediately.

You must comply with the following conditions precedent within [15] days of the date you receive this Notice of Award.

1. Deliver to the Owner [_____] fully executed counterparts of the Contract Documents.
2. Deliver with the executed Contract Documents the Contract security [Bonds] as specified in the Instructions to Bidders (Article 20), General Conditions (Paragraph 5.01), and Supplementary Conditions (Paragraph SC-5.01).
3. Other conditions precedent:

Failure to comply with these conditions within the time specified will entitle Owner to consider you in default, annul this Notice of Award, and declare your Bid security forfeited.

Within ten days after you comply with the above conditions, Owner will return to you one fully executed counterpart of the Contract Documents.

Owner
By: _____
Authorized Signature

Title

Copy to Engineer

**FORM OF AGREEMENT
BETWEEN OWNER AND CONTRACTOR
FOR CONSTRUCTION CONTRACT (STIPULATED PRICE)**

THIS AGREEMENT is by and between County of Roanoke, VA, PO Box 29800,
5204 Bernard Drive, Roanoke, VA 24018 ("Owner") and
("Contractor").

Owner and Contractor hereby agree as follows:

ARTICLE 1 – WORK

1.01 Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows:

Construction of approximately 1,400 feet of stream restoration including clearing, grading, placement of fill and structures, planting of vegetation, erosion control and all other activities necessary to complete the work.

ARTICLE 2 – THE PROJECT

2.01 The Project for which the Work under the Contract Documents may be the whole or only a part is generally described as follows:

Stream Restoration of a Tributary to Mud Lick Creek along Canter Drive

ARTICLE 3 – ENGINEER

3.01 The Project has been designed by Wetland Studies and Solutions, Inc. (Engineer), which is to act as Owner's representative, assume all duties and responsibilities, and have the rights and authority assigned to Engineer in the Contract Documents in connection with the completion of the Work in accordance with the Contract Documents.

ARTICLE 4 – CONTRACT TIMES

4.01 *Time of the Essence*

A. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

4.02 *Dates for Substantial Completion and Final Payment*

A. The Work will be substantially completed within 150 calendar days after the date when the Contract times commence to run as provided in Paragraph 14.04 of the General Conditions and

completed and ready for final payment within 180 calendar days after the date when the Contract times commence to run in accordance with Paragraph 14.07 of the General Conditions.

4.03 *Liquidated Damages*

A. Contractor and Owner recognize that time is of the essence as stated in Paragraph 4.01 above and that Owner will suffer financial loss if the Work is not completed within the times specified in Paragraph 4.02 above, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. The parties also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty), Contractor shall pay Owner \$350 for each day that expires after the time specified in Paragraph 4.02 above for Substantial Completion until the Work is substantially complete. After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Time or any proper extension thereof granted by Owner, Contractor shall pay Owner \$350 for each day that expires after the time specified in Paragraph 4.02 above for completion and readiness for final payment until the Work is completed and ready for final payment.

ARTICLE 5 – CONTRACT PRICE

5.01 Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents the amounts that follow, subject to adjustment under the Contract:

A. For all Work, at the prices stated in Contractor's Bid, attached hereto as an exhibit.

ARTICLE 6 – PAYMENT PROCEDURES

6.01 *Submittal and Processing of Payments*

A. Contractor shall submit Applications for Payment in accordance with Article 14 of the General Conditions. Applications for Payment will be processed by Engineer as provided in the General Conditions.

6.02 *Progress Payments; Retainage*

A. Owner shall make progress payments on account of the Contract Price on the basis of Contractor's Applications for Payment on or about the 15th day of each month during performance of the Work as provided in Paragraph 6.02.A.1 below. All such payments will be measured by the schedule of values established as provided in Paragraph 2.07.A of the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no schedule of values, as provided in the General Requirements.

1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as Engineer may determine or Owner may withhold, including

but not limited to liquidated damages, in accordance with Paragraph 14.02 of the General Conditions.

- a. 95 percent of Work completed (with the balance being retainage). If the Work has been 50 percent completed as determined by Engineer, and if the character and progress of the Work have been satisfactory to Owner and Engineer, then as long as the character and progress of the Work remain satisfactory to Owner and Engineer, there will be no additional retainage; and
- b. 95 percent of cost of materials and equipment not incorporated in the Work (with the balance being retainage).

B. Upon Substantial Completion, Owner shall pay an amount sufficient to increase total payments to Contractor to 100 percent of the Work completed, less such amounts as Engineer shall determine in accordance with Paragraph 14.02.B.5 of the General Conditions and less 200 percent of Engineer's estimate of the value of Work to be completed or corrected as shown on the tentative list of items to be completed or corrected attached to the certificate of Substantial Completion.

6.03 *Final Payment*

- A. Upon final completion and acceptance of the Work in accordance with Paragraph 14.07 of the General Conditions, Owner shall pay the remainder of the Contract Price as recommended by Engineer as provided in said Paragraph 14.07.

ARTICLE 7 – INTEREST

7.01 All moneys not paid when due as provided in Article 14 of the General Conditions shall bear interest at the Virginia statutory rate per annum.

ARTICLE 8 – CONTRACTOR'S REPRESENTATIONS

8.01 In order to induce Owner to enter into this Agreement, Contractor makes the following representations:

- A. Contractor has examined and carefully studied the Contract Documents and the other related data identified in the Bidding Documents.
- B. Contractor has visited the Site and 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. Contractor is familiar with and is satisfied as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work.
- D. Contractor has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities), if any, that have been identified in Paragraph SC-4.02 of the Supplementary Conditions as containing

reliable "technical data," and (2) reports and drawings of Hazardous Environmental Conditions, if any, at the Site that have been identified in Paragraph SC-4.06 of the Supplementary Conditions as containing reliable "technical data."

- E. Contractor has considered the information known to Contractor; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and the Site-related reports and drawings identified in the Contract Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, including any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Contract Documents; and (3) Contractor's safety precautions and programs.
- F. Based on the information and observations referred to in Paragraph 8.01.E above, Contractor does not consider that further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract Documents.
- G. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.
- H. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
- I. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

ARTICLE 9 – CONTRACT DOCUMENTS

9.01 *Contents*

- A. The Contract Documents consist of the following:
 - 1. This Agreement (pages 1 to __, inclusive).
 - 2. Performance bond (pages ____ to ____, inclusive).
 - 3. Payment bond (pages ____ to ____, inclusive).
 - 4. Other bonds (pages ____ to ____, inclusive).
 - a. ____ (pages ____ to ____, inclusive).
 - b. ____ (pages ____ to ____, inclusive).
 - c. ____ (pages ____ to ____, inclusive).

5. General Conditions (pages _____ to _____, inclusive).
6. Supplementary Conditions (pages _____ to _____, inclusive).
7. Specifications as listed in the table of contents of the Project Manual.
8. Drawings consisting of _____ sheets with each sheet bearing the following general title: _____ [or] the Drawings listed on attached sheet index.
9. Addenda (numbers _____ to _____, inclusive).
10. Exhibits to this Agreement (enumerated as follows):
 - a. Contractor's Bid (pages _____ to _____, inclusive).
 - b. Documentation submitted by Contractor prior to Notice of Award (pages _____ to _____, inclusive).
11. The following which may be delivered or issued on or after the Effective Date of the Agreement and are not attached hereto:
 - a. Notice to Proceed (pages _____ to _____, inclusive).
 - b. Work Change Directives.
 - c. Change Orders.

B. The documents listed in Paragraph 9.01.A are attached to this Agreement (except as expressly noted otherwise above).

C. There are no Contract Documents other than those listed above in this Article 9.

D. The Contract Documents may only be amended, modified, or supplemented as provided in Paragraph 3.04 of the General Conditions.

ARTICLE 10 – MISCELLANEOUS

10.01 *Terms*

A. Terms used in this Agreement will have the meanings stated in the General Conditions and the Supplementary Conditions.

10.02 *Assignment of Contract*

A. No assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an

assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

10.03 *Successors and Assigns*

- A. Owner and Contractor each binds itself, its partners, successors, assigns, and legal representatives to the other party hereto, its partners, successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

10.04 *Severability*

- A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon Owner and Contractor, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

10.05 *Contractor's Certifications*

- A. Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this Paragraph 10.05:
 1. “corrupt practice” means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process or in the Contract execution;
 2. “fraudulent practice” means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of Owner, (b) to establish Bid or Contract prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
 3. “collusive practice” means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish Bid prices at artificial, non-competitive levels; and
 4. “coercive practice” means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement. Counterparts have been delivered to Owner and Contractor. All portions of the Contract Documents have been signed or have been identified by Owner and Contractor or on their behalf.

This Agreement will be effective on _____ (which is the Effective Date of the Agreement).

OWNER:

By: _____

Title: _____

Attest: _____

Title: _____

Address for giving notices:

(If Owner is a corporation, attach evidence of authority to sign. If Owner is a public body, attach evidence of authority to sign and resolution or other documents authorizing execution of this Agreement.)

CONTRACTOR

By: _____

Title: _____

(If Contractor is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest: _____

Title: _____

Address for giving notices:

License No.: _____

(Where applicable)

Agent for service of process:

Notice to Proceed

Date: _____

Project: Stream Restoration of a Tributary to Mud Lick Creek along Canter Drive

Owner: County of Roanoke	Owner's Contract No.: 2025-038
Contract:	Engineer's Project No.:

Contractor:

Contractor's Address:

You are notified that the Contract Times under the above Contract will commence to run on _____. On or before that date, you are to start performing your obligations under the Contract Documents. In accordance with Article 4 of the Agreement, the date of Substantial Completion is _____, and the date of readiness for final payment is ____ [(or) the number of days to achieve Substantial Completion is _____, and the number of days to achieve readiness for final payment is _____.]

Before you may start any Work at the Site, Paragraph 2.01.B of the General Conditions provides that you and Owner must each deliver to the other (with copies to Engineer and other identified additional insureds and loss payees) certificates of insurance which each is required to purchase and maintain in accordance with the Contract Documents.

Owner

Given by:

Authorized Signature

Title

Date

Copy to Engineer

EJCDC C-550 Notice to Proceed

Prepared by the Engineers Joint Contract Documents Committee and endorsed by the Construction Specifications Institute.

Page 1 of 1

PERFORMANCE BOND

Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

CONTRACTOR (*Name and Address*):

SURETY (*Name, and Address of Principal Place of Business*):

OWNER (*Name and Address*):

County of Roanoke
Purchasing Division
Attn: Heath Honaker
5204 Bernard Drive SW, Suite 300F
Roanoke, VA 24018-0798

CONTRACT

Effective Date of Agreement:

Amount:

Description: Stream Restoration of a Tributary to Mudlick Creek along Canter Drive

BOND

Bond Number:

Date (*Not earlier than Effective Date of Agreement*):

Amount:

Modifications to this Bond Form:

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

(Seal)

Contractor's Name and Corporate Seal

By:

Signature

Print Name

Title

Attest:

Signature

Title

SURETY

(Seal)

Surety's Name and Corporate Seal

By:

Signature (Attach Power of Attorney)

Print Name

Title

Attest:

Signature

Title

Notes: (1) Provide supplemental execution by any additional parties, such as joint ventures. (2) Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to Owner for the performance of the Contract, which is incorporated herein by reference.

1. If Contractor performs the Contract, Surety and Contractor have no obligation under this Bond, except to participate in conferences as provided in Paragraph 2.1.

2. If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after:

2.1 The Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor, and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this paragraph 2.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor, and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently, to declare a Contractor Default; and

2.2 Owner has declared a Contractor Default and formally terminated Contractor's right to complete the Contract. Such Contractor Default shall not be declared earlier than 20 days after Contractor and Surety have received notice as provided in Paragraph 2.1; and

2.3 Owner has agreed to pay the Balance of the Contract Price to:

1. Surety in accordance with the terms of the Contract; or
2. Another contractor selected pursuant to Paragraph 3.3 to perform the Contract.

3. Failure on the part of the Owner to comply with the notice requirement in paragraph 2.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the surety demonstrates actual prejudice.

4. When Owner has satisfied the conditions of Paragraph 2, Surety shall promptly, and at Surety's expense, take one of the following actions:

4.1 Arrange for Contractor, with consent of Owner, to perform and complete the Contract; or

4.2 Undertake to perform and complete the Contract itself, through its agents or through independent contractors; or

4.3 Obtain bids or negotiated proposals from qualified contractors acceptable to Owner for a contract for performance and completion of the Contract, arrange for a contract to be prepared for execution by Owner and contractor selected with Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Contract, and pay to Owner the amount of damages as described in Paragraph 5 in excess of the Balance of the Contract Price incurred by Owner resulting from Contractor Default; or

4.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor, and with reasonable promptness under the circumstances:

1. After investigation, determine the amount for which it may be liable to Owner and, as soon as practicable after the amount is determined, tender payment therefor to Owner; or

2. Deny liability in whole or in part and notify Owner citing reasons therefor.

5. If Surety does not proceed as provided in Paragraph 4 with reasonable promptness, Surety shall be deemed to be in default on this Bond 15 days after receipt of an additional written notice from Owner to Surety demanding that Surety perform its obligations under this Bond, and Owner shall be entitled to enforce any remedy available to Owner. If Surety proceeds as provided in Paragraph 4.4, and Owner refuses the payment tendered or Surety has denied liability, in whole or in part, without further notice Owner shall be entitled to enforce any remedy available to Owner.

6. After Owner has terminated Contractor's right to complete the Contract, and if Surety elects to act under Paragraph 4.1, 4.2, or 4.3 above, then the responsibilities of Surety to Owner shall not be greater than those of Contractor under the Contract, and the responsibilities of Owner to Surety shall not be greater than those of Owner under the Contract. To the limit of the amount of this Bond, but subject to commitment by Owner of the Balance of the Contract Price to mitigation of costs and damages on the Contract, Surety is obligated without duplication for:

- 6.1 The responsibilities of Contractor for correction of defective Work and completion of the Contract;
- 6.2 Additional legal, design professional, and delay costs resulting from Contractor's Default, and resulting from the actions of or failure to act of Surety under Paragraph 4; and
- 6.3 Liquidated damages, or if no liquidated damages are specified in the Contract, actual damages caused by delayed performance or non-performance of Contractor.

7. Surety shall not be liable to Owner or others for obligations of Contractor that are unrelated to the Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than Owner or its heirs, executors, administrators, successors, and assigns.

8. Surety hereby waives notice of any change, including changes of time, to Contract or to related subcontracts, purchase orders, and other obligations.

9. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the Circuit Court of Roanoke County in the Commonwealth of Virginia or the U.S. District Court for the Western District, Roanoke Division location in which the Work or part of the Work is located, and shall be instituted within two years after Contractor Default or within two years after Contractor ceased working or within two years after Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

10. Notice to Surety, Owner, or Contractor shall be mailed or delivered to the address shown on the signature page.

11. When this Bond has been furnished to comply with a statutory requirement in the location where the Contract was to be performed, any provision in this Bond conflicting with said statutory requirement shall be deemed deleted herefrom and provisions conforming to such statutory requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

12. Definitions.

- 12.1 Balance of the Contract Price: The total amount payable by Owner to Contractor under the Contract after all proper adjustments have been made, including allowance to Contractor of any amounts received or to be received by Owner in settlement of insurance or other Claims for damages to which Contractor is entitled, reduced by all valid and proper payments made to or on behalf of Contractor under the Contract.
- 12.2 Construction Contract: The agreement between Owner and Contractor identified on the signature page, including all Contract Documents and changes made to the agreement and the Contract Documents.
- 12.3 Contractor Default: Failure of Contractor, which has neither been remedied nor waived, to perform or otherwise to comply with the terms of the Contract.
- 12.4 Owner Default: Failure of Owner, which has neither been remedied nor waived, to pay Contractor as required by the Contract or to perform and complete or otherwise comply with the other terms of the Construction Contact.
- 12.5 Contract Documents: All the documents that comprise the agreement between the Owner and Contractor.

FOR INFORMATION ONLY – *(Name, Address and Telephone)*

Surety Agency or Broker:

Owner's Representative:

PAYMENT BOND

Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

CONTRACTOR (*Name and Address*):

SURETY (*Name, and Address of Principal Place of Business*):

OWNER (*Name and Address*):

County of Roanoke
Purchasing Division
Attn: Heath Honaker
5204 Bernard Drive SW, Suite 300F
Roanoke, VA 24018-0798

CONTRACT

Effective Date of Agreement:

Amount:

Stream Restoration of a Tributary to Mudlick Creek along Canterbury Drive

Description (*Name and Location*):

BOND

Bond Number:

Date (*Not earlier than Effective Date of Agreement*):

Amount:

Modifications to this Bond Form:

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Payment Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

SURETY

(Seal)

(Seal)

Contractor's Name and Corporate Seal

Surety's Name and Corporate Seal

By:

Signature

By:

Signature (Attach Power of Attorney)

Print Name

Print Name

Title

Title

Attest:

Signature

Attest:

Signature

Title

Title

Notes: (1) Provide supplemental execution by any additional parties, such as joint ventures. (2) Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

1. Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to Owner to pay for labor, materials, and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.
2. With respect to Owner, this obligation shall be null and void if Contractor:
 - 2.1 Promptly makes payment, directly or indirectly, for all sums due Claimants, and
 - 2.2 Defends, indemnifies, and holds harmless Owner from all claims, demands, liens, or suits alleging non-payment by Contractor by any person or entity who furnished labor, materials, or equipment for use in the performance of the Contract, provided Owner has promptly notified Contractor and Surety (at the addresses described in Paragraph 12) of any claims, demands, liens, or suits and tendered defense of such claims, demands, liens, or suits to Contractor and Surety, and provided there is no Owner Default.
3. With respect to Claimants, this obligation shall be null and void if Contractor promptly makes payment, directly or indirectly, for all sums due.
4. Surety shall have no obligation to Claimants under this Bond until:
 - 4.1 Claimants who are employed by or have a direct contract with Contractor have given notice to Surety (at the address described in Paragraph 12) and sent a copy, or notice thereof, to Owner, stating that a claim is being made under this Bond and, with substantial accuracy, the amount of the claim.
 - 4.2 Claimants who do not have a direct contract with Contractor:
 1. Have furnished written notice to Contractor and sent a copy, or notice thereof, to Owner, within 90 days after having last performed labor or last furnished materials or equipment included in the claim stating, with substantial accuracy, the amount of the claim and the name of the party to whom the materials or equipment were furnished or supplied, or for whom the labor was done or performed; and
 2. Have either received a rejection in whole or in part from Contractor, or not received within 30 days of furnishing the above notice any communication from Contractor by which Contractor had indicated the claim will be paid directly or indirectly; and
 3. Not having been paid within the above 30 days, have sent a written notice to Surety (at the address described in Paragraph 12) and sent a copy, or notice thereof, to Owner, stating that a claim is being made under this Bond and enclosing a copy of the previous written notice furnished to Contractor.
5. If a notice by a Claimant required by Paragraph 4 is provided by Owner to Contractor or to Surety, that is sufficient compliance.
6. When a Claimant has satisfied the conditions of Paragraph 4, the Surety shall promptly and at Surety's expense take the following actions:
 - 6.1 Send an answer to that Claimant, with a copy to Owner, within 45 days after receipt of the claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed.
 - 6.2 Pay or arrange for payment of any undisputed amounts.
7. Surety's total obligation shall not exceed the amount of this Bond, and the amount of this Bond shall be credited for any payments made in good faith by Surety.

8. Amounts owed by Owner to Contractor under the Contract shall be used for the performance of the Contract and to satisfy claims, if any, under any performance bond. By Contractor furnishing and Owner accepting this Bond, they agree that all funds earned by Contractor in the performance of the Contract are dedicated to satisfy obligations of Contractor and Surety under this Bond, subject to Owner's priority to use the funds for the completion of the Work.

9. Surety shall not be liable to Owner, Claimants, or others for obligations of Contractor that are unrelated to the Contract. Owner shall not be liable for payment of any costs or expenses of any Claimant under this Bond and shall have under this Bond no obligations to make payments to, give notices on behalf of, or otherwise have obligations to Claimants under this Bond.

10. Surety hereby waives notice of any change, including changes of time, to the Contract or to related subcontracts, purchase orders, and other obligations.

11. No suit or action shall be commenced by a Claimant under this Bond other than in the Circuit Court of Roanoke County or the U.S. District Court for the Western District of Virginia, Roanoke Division, a court of competent jurisdiction in the location in which the Work or part of the Work is located or after the expiration of one year from the date (1) on which the Claimant gave the notice required by Paragraph 4.1 or Paragraph 4.2.3, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

12. Notice to Surety, Owner, or Contractor shall be mailed or delivered to the addresses shown on the signature page. Actual receipt of notice by Surety, Owner, or Contractor, however accomplished, shall be sufficient compliance as of the date received at the address shown on the signature page.

13. When this Bond has been furnished to comply with a statutory requirement in the location where the Contract was to be performed, any provision in this Bond conflicting with said statutory requirement shall be deemed deleted herefrom and provisions conforming to such statutory requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory Bond and not as a common law bond.

14. Upon request of any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.

15. Definitions

15.1 **Claimant:** An individual or entity having a direct contract with Contractor, or with a first-tier subcontractor of Contractor, to furnish labor, materials, or equipment for use in the performance of the Contract. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Contract, architectural and engineering services required for performance of the Work of Contractor and Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials, or equipment were furnished.

15.2 **Construction Contract:** The agreement between Owner and Contractor identified on the signature page, including all Contract Documents and all changes made to the agreement and the Contract Documents.

15.3 **Owner Default:** Failure of Owner, which has neither been remedied nor waived, to pay Contractor as required by the Contract, or to perform and complete or otherwise comply with the other terms of the Construction Contract.

FOR INFORMATION ONLY – (Name, Address, and Telephone)

Surety Agency or Broker:
Owner's Representative:

Contractor's Application for Payment No. [Redacted]

		Application Period:	Application Date:
To (Owner):	From (Contractor):	Via (Engineer):	
Project:	Contract:		
Owner's Contract No.:	Contractor's Project No.:	Engineer's Project No.:	

Application For Payment

Change Order Summary

Approved Change Orders		
Number	Additions	Deductions
TOTALS		
NET CHANGE BY CHANGE ORDERS		

1. ORIGINAL CONTRACT PRICE..... \$ _____
 2. Net change by Change Orders..... \$ _____
 3. Current Contract Price (Line 1 ± 2)..... \$ _____
4. TOTAL COMPLETED AND STORED TO DATE
 (Column F on Progress Estimate)..... \$ _____
5. RETAINAGE:
 a. X _____ Work Completed..... \$ _____
 b. X _____ Stored Material..... \$ _____
 c. Total Retainage (Line 5a + Line 5b)..... \$ _____
6. AMOUNT ELIGIBLE TO DATE (Line 4 - Line 5c)..... \$ _____
7. LESS PREVIOUS PAYMENTS (Line 6 from prior Application)..... \$ _____
8. AMOUNT DUE THIS APPLICATION..... \$ _____
9. BALANCE TO FINISH, PLUS RETAINAGE
 (Column G on Progress Estimate + Line 5 above)..... \$ _____

Contractor's Certification

The undersigned Contractor certifies that to the best of its knowledge: (1) all previous progress payments received from Owner on account of Work done under the Contract have been applied on account to discharge Contractor's legitimate obligations incurred in connection with Work covered by prior Applications for Payment; (2) title of all Work, materials and equipment incorporated in said Work or otherwise listed in or covered by this Application for Payment will pass to Owner at time of payment free and clear of all Liens, security interests and encumbrances (except such as are covered by a Bond acceptable to Owner indemnifying Owner against any such Liens, security interest or encumbrances); and (3) all Work covered by this Application for Payment is in accordance with the Contract Documents and is not defective.

By:

Date:

Payment of: \$ _____
 (Line 8 or other - attach explanation of the other amount)

is recommended by: _____ (Engineer) _____ (Date)

Payment of: \$ _____
 (Line 8 or other - attach explanation of the other amount)

is approved by: _____ (Owner) _____ (Date)

Approved by: _____ Funding Agency (if applicable) _____ (Date)

Endorsed by the Construction Specifications Institute.

Progress Estimate

Contractor's Application

For (contract):			Application Number:					
Application Period:			Application Date:					
A		B	Work Completed		E	F		G
Item	Description	Scheduled Value	C	D	Materials Presently Stored (not in C or D)	Total Completed and Stored to Date (C + D + E)	% (F) B	Balance to Finish (B - F)
Specification Section No.			From Previous Application (C+D)	This Period				
	Totals							

Progress Estimate

Contractor's Application

Stored Material Summary

Contractor's Application

For (contract):					Application Number:			
Application Period:					Application Date:			
A	B	C Materials Description	D Stored Previously		E Stored this Month		F Incorporated in Work	
Invoice No.	Shop Drawing Transmittal No.		Date (Month/Year)	Amount (\$)	Amount (\$)	Subtotal	Date (Month/Year)	Amount (\$)
		Totals						

Certificate of Substantial Completion

Project: Stream Restoration of a Tributary to Mud Lick Creek along Canter Drive

Owner: County of Roanoke	Owner's Contract No.: 2025-038
Contract:	Engineer's Project No.:

This [tentative] [definitive] Certificate of Substantial Completion applies to:

All Work under the Contract Documents: The following specified portions of the Work:

Date of Substantial Completion

The Work to which this Certificate applies has been inspected by authorized representatives of Owner, Contractor, and Engineer, and found to be substantially complete. The Date of Substantial Completion of the Project or portion thereof designated above is hereby declared and is also the date of commencement of applicable warranties required by the Contract Documents, except as stated below.

A [tentative] [definitive] list of items to be completed or corrected is attached hereto. This list may not be all-inclusive, and the failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

The responsibilities between Owner and Contractor for security, operation, safety, maintenance, heat, utilities, insurance and warranties shall be as provided in the Contract Documents except as amended as follows:

Amended Responsibilities Not Amended

Owner's Amended Responsibilities:

Contractor's Amended Responsibilities:

The following documents are attached to and made part of this Certificate:

This Certificate does not constitute an acceptance of Work not in accordance with the Contract Documents nor is it a release of Contractor's obligation to complete the Work in accordance with the Contract Documents.

Executed by Engineer

Date

Accepted by Contractor

Date

Accepted by Owner

Date

This document has important legal consequences; consultation with an attorney is encouraged with respect to its use or modification. This document should be adapted to the particular circumstances of the contemplated Project and the controlling Laws and Regulations.

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared by

ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

and

Issued and Published Jointly by



AMERICAN COUNCIL OF ENGINEERING COMPANIES

ASSOCIATED GENERAL CONTRACTORS OF AMERICA

AMERICAN SOCIETY OF CIVIL ENGINEERS

PROFESSIONAL ENGINEERS IN PRIVATE PRACTICE
A Practice Division of the
NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS

Endorsed by



CONSTRUCTION SPECIFICATIONS INSTITUTE

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

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ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

A. Wherever used in the Bidding Requirements or Contract Documents and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.

1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
2. *Agreement*—The written instrument which is evidence of the agreement between Owner and Contractor covering the Work.
3. *Application for Payment*—The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
4. *Asbestos*—Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.
5. *Bid*—The offer or proposal of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
6. *Bidder*—The individual or entity who submits a Bid directly to Owner.
7. *Bidding Documents*—The Bidding Requirements and the proposed Contract Documents (including all Addenda).
8. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid security of acceptable form, if any, and the Bid Form with any supplements.
9. *Change Order*—A document recommended by Engineer which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.
10. *Claim*—A demand or assertion by Owner or Contractor seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.
11. *Contract*—The entire and integrated written agreement between the Owner and Contractor concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.

12. *Contract Documents*—Those items so designated in the Agreement. Only printed or hard copies of the items listed in the Agreement are Contract Documents. Approved Shop Drawings, other Contractor submittals, and the reports and drawings of subsurface and physical conditions are not Contract Documents.
13. *Contract Price*—The moneys payable by Owner to Contractor for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of Paragraph 11.03 in the case of Unit Price Work).
14. *Contract Times*—The number of days or the dates stated in the Agreement to: (i) achieve Milestones, if any; (ii) achieve Substantial Completion; and (iii) complete the Work so that it is ready for final payment as evidenced by Engineer's written recommendation of final payment.
15. *Contractor*—The individual or entity with whom Owner has entered into the Agreement.
16. *Cost of the Work*—See Paragraph 11.01 for definition.
17. *Drawings*—That part of the Contract Documents prepared or approved by Engineer which graphically shows the scope, extent, and character of the Work to be performed by Contractor. Shop Drawings and other Contractor submittals are not Drawings as so defined.
18. *Effective Date of the Agreement*—The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.
19. *Engineer*—The individual or entity named as such in the Agreement.
20. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.
21. *General Requirements*—Sections of Division 1 of the Specifications.
22. *Hazardous Environmental Condition*—The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto.
23. *Hazardous Waste*—The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.
24. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
25. *Liens*—Charges, security interests, or encumbrances upon Project funds, real property, or personal property.
26. *Milestone*—A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

27. *Notice of Award*—The written notice by Owner to the Successful Bidder stating that upon timely compliance by the Successful Bidder with the conditions precedent listed therein, Owner will sign and deliver the Agreement.
28. *Notice to Proceed*—A written notice given by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work under the Contract Documents.
29. *Owner*—The individual or entity with whom Contractor has entered into the Agreement and for whom the Work is to be performed.
30. *PCBs*—Polychlorinated biphenyls.
31. *Petroleum*—Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.
32. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.
33. *Project*—The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.
34. *Project Manual*—The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.
35. *Radioactive Material*—Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.
36. *Resident Project Representative*—The authorized representative of Engineer who may be assigned to the Site or any part thereof.
37. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.
38. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements to support scheduled performance of related construction activities.
39. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.
40. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.

41. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by Owner which are designated for the use of Contractor.
42. *Specifications*—That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable thereto.
43. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work at the Site.
44. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms “substantially complete” and “substantially completed” as applied to all or part of the Work refer to Substantial Completion thereof.
45. *Successful Bidder*—The Bidder submitting a responsive Bid to whom Owner makes an award.
46. *Supplementary Conditions*—That part of the Contract Documents which amends or supplements these General Conditions.
47. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or Subcontractor.
48. *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
49. *Unit Price Work*—Work to be paid for on the basis of unit prices.
50. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.
51. *Work Change Directive*—A written statement to Contractor issued on or after the Effective Date of the Agreement and signed by Owner and recommended by Engineer ordering an addition, deletion, or revision in the Work, or responding to differing or unforeseen subsurface or physical conditions under which the Work is to be performed or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the change ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order

following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times.

1.02 *Terminology*

A. The words and terms discussed in Paragraph 1.02.B through F are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.

B. *Intent of Certain Terms or Adjectives:*

1. The Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed” or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Paragraph 9.09 or any other provision of the Contract Documents.

C. *Day:*

1. The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.

D. *Defective:*

1. The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:

- does not conform to the Contract Documents; or
- does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
- has been damaged prior to Engineer’s recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 14.04 or 14.05).

E. *Furnish, Install, Perform, Provide:*

1. The word “furnish,” when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.

2. The word "install," when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.
3. The words "perform" or "provide," when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.
4. When "furnish," "install," "perform," or "provide" is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of Contractor, "provide" is implied.

F. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 – PRELIMINARY MATTERS

2.01 *Delivery of Bonds and Evidence of Insurance*

- A. When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.
- B. *Evidence of Insurance:* Before any Work at the Site is started, Contractor and Owner shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which Contractor and Owner respectively are required to purchase and maintain in accordance with Article 5.

2.02 *Copies of Documents*

- A. Owner shall furnish to Contractor up to three ~~ten~~ printed or hard copies of the Drawings and Project Manual. Additional copies will be furnished upon request at the cost of reproduction.

2.03 *Commencement of Contract Times; Notice to Proceed*

- A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Agreement or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Agreement. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

2.04 *Starting the Work*

- A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to the date on which the Contract Times commence to run.

2.05 *Before Starting Construction*

A. *Preliminary Schedules:* Within 10 days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), Contractor shall submit to Engineer for timely review:

1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents;
2. a preliminary Schedule of Submittals; and
3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.06 *Preconstruction Conference; Designation of Authorized Representatives*

- A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.05.A, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.
- B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit instructions, receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.07 *Initial Acceptance of Schedules*

- A. At least 10 days before submission of the first Application for Payment a conference attended by Contractor, Engineer, and others as appropriate will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.05.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.
 1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.
 2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.

3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

ARTICLE 3 – CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.01 *Intent*

- A. The Contract Documents are complementary; what is required by one is as binding as if required by all.
- B. It is the intent of the Contract Documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that reasonably may be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the indicated result will be provided whether or not specifically called for, at no additional cost to Owner.
- C. Clarifications and interpretations of the Contract Documents shall be issued by Engineer as provided in Article 9.

3.02 *Reference Standards*

A. Standards, Specifications, Codes, Laws, and Regulations

1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.
2. No provision of any such standard, specification, manual, or code, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees, from those set forth in the Contract Documents. No such provision or instruction shall be effective to assign to Owner, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

3.03 *Reporting and Resolving Discrepancies*

A. *Reporting Discrepancies:*

1. *Contractor's Review of Contract Documents Before Starting Work:* Before undertaking each part of the Work, Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy which Contractor discovers, or has actual knowledge of, and shall obtain a written interpretation or clarification from Engineer before proceeding with any Work affected thereby.

2. *Contractor's Review of Contract Documents During Performance of Work:* If, during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) any standard, specification, manual, or code, or (c) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in Paragraph 3.04.
3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

B. *Resolving Discrepancies:*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:
 - a. the provisions of any standard, specification, manual, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference in the Contract Documents); or
 - b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Amending and Supplementing Contract Documents*

- A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof by either a Change Order or a Work Change Directive.
- B. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, by one or more of the following ways:
 1. A Field Order;
 2. Engineer's approval of a Shop Drawing or Sample (subject to the provisions of Paragraph 6.17.D.3); or
 3. Engineer's written interpretation or clarification.

3.05 *Reuse of Documents*

- A. Contractor and any Subcontractor or Supplier shall not:
 1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media editions; or

2. reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer.
- B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

3.06 *Electronic Data*

- A. Unless otherwise stated in the Supplementary Conditions, the data furnished by Owner or Engineer to Contractor, or by Contractor to Owner or Engineer, that may be relied upon are limited to the printed copies (also known as hard copies). Files in electronic media format of text, data, graphics, or other types are furnished only for the convenience of the receiving party. Any conclusion or information obtained or derived from such electronic files will be at the user's sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.
- B. Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 60 days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the transferring party.
- C. When transferring documents in electronic media format, the transferring party makes no representations as to long term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the data's creator.

ARTICLE 4 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS; REFERENCE POINTS

4.01 *Availability of Lands*

- A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work. Owner will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If Contractor and Owner are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of any delay in Owner's furnishing the Site or a part thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.
- B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which the Work is to be performed and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.
- C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.02 *Subsurface and Physical Conditions*

A. *Reports and Drawings:* The Supplementary Conditions identify:

1. those reports known to Owner of explorations and tests of subsurface conditions at or contiguous to the Site; and
2. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).

B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the “technical data” contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such “technical data” is identified in the Supplementary Conditions. Except for such reliance on such “technical data,” Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:

1. the completeness of such reports and drawings for Contractor’s purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or
2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
3. any Contractor interpretation of or conclusion drawn from any “technical data” or any such other data, interpretations, opinions, or information.

4.03 *Differing Subsurface or Physical Conditions*

A. *Notice:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed either:

1. is of such a nature as to establish that any “technical data” on which Contractor is entitled to rely as provided in Paragraph 4.02 is materially inaccurate; or
2. is of such a nature as to require a change in the Contract Documents; or
3. differs materially from that shown or indicated in the Contract Documents; or
4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

B. *Engineer's Review:* After receipt of written notice as required by Paragraph 4.03.A, Engineer will promptly review the pertinent condition, determine the necessity of Owner's obtaining additional exploration or tests with respect thereto, and advise Owner in writing (with a copy to Contractor) of Engineer's findings and conclusions.

C. *Possible Price and Times Adjustments:*

1. The Contract Price or the Contract Times, or both, will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
 - a. such condition must meet any one or more of the categories described in Paragraph 4.03.A; and
 - b. with respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraphs 9.07 and 11.03.
2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times if:
 - a. Contractor knew of the existence of such conditions at the time Contractor made a final commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract; or
 - b. the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such final commitment; or
 - c. Contractor failed to give the written notice as required by Paragraph 4.03.A.
3. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefor as provided in Paragraph 10.05. However, neither Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

4.04 *Underground Facilities*

A. *Shown or Indicated:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

1. Owner and Engineer shall not be responsible for the accuracy or completeness of any such information or data provided by others; and

2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:
 - a. reviewing and checking all such information and data;
 - b. locating all Underground Facilities shown or indicated in the Contract Documents;
 - c. coordination of the Work with the owners of such Underground Facilities, including Owner, during construction; and
 - d. the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

B. *Not Shown or Indicated:*

1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer. Engineer will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence or location of the Underground Facility. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.
2. If Engineer concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, Owner or Contractor may make a Claim therefor as provided in Paragraph 10.05.

4.05 *Reference Points*

- A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.06 Hazardous Environmental Condition at Site

- A. *Reports and Drawings:* The Supplementary Conditions identify those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at the Site.
- B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the “technical data” contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such “technical data” is identified in the Supplementary Conditions. Except for such reliance on such “technical data,” Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:
 - 1. the completeness of such reports and drawings for Contractor’s purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or
 - 2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or
 - 3. any Contractor interpretation of or conclusion drawn from any “technical data” or any such other data, interpretations, opinions or information.
- C. Contractor shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. Contractor shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible.
- D. If Contractor encounters a Hazardous Environmental Condition or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, Contractor shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 6.16.A); and (iii) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 4.06.E.
- E. Contractor shall not be required to resume Work in connection with such condition or in any affected area until after Owner has obtained any required permits related thereto and delivered written notice to Contractor: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, either party may make a Claim therefor as provided in Paragraph 10.05.

- F. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefor as provided in Paragraph 10.05. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 7.
- G. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition: (i) was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be included within the scope of the Work, and (ii) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.G shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- H. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, suits, liens, judgments, costs, losses, expenses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.H shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- I. The provisions of Paragraphs 4.02, 4.03, and 4.04 do not apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 5 – BONDS AND INSURANCE

5.01 *Performance, Payment, and Other Bonds*

- A. Contractor shall furnish performance and payment bonds, each in an amount at least equal to the Contract Price and all subsequent increases, as security for the faithful performance and payment of all of Contractor's obligations under the Contract Documents. These bonds shall remain in effect until ~~one~~ two years after the date when final payment becomes due or until completion of the correction period specified in Paragraph 13.07, whichever is later, except as provided otherwise by Laws or Regulations or by the Contract Documents. Contractor shall also furnish such other bonds as are required by the Contract Documents.
- B. All bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the 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 Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed each bond.

C. If the surety on any bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of Paragraph 5.01.B, Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the requirements of Paragraphs 5.01.B and 5.02.

5.02 *Licensed Sureties and Insurers*

A. All bonds and insurance required by the Contract Documents to be purchased and maintained by Owner or Contractor shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

5.03 *Certificates of Insurance*

A. Within ten days of the date of this Contract, and prior to bringing any equipment or personnel onto the site of the work or the Project Site, Contractor shall deliver to Owner, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Owner or any other additional insured) which Contractor is required to purchase and maintain.

B. Owner shall deliver to Contractor, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Contractor or any other additional insured) which Owner is required to purchase and maintain.

C. Failure of Owner to demand such certificates or other evidence of Contractor's full compliance with these insurance requirements or failure of Owner to identify a deficiency in compliance from the evidence provided shall not be construed as a waiver of Contractor's obligation to maintain such insurance.

D. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor.

E. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner in the Contract Documents.

5.04 *Contractor's Insurance*

A. Contractor shall purchase and maintain such insurance as is appropriate for the Work being performed and as will provide protection from claims set forth below which may arise out of or

result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed or contracted by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:

1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;
2. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;
3. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;
4. claims for damages insured by reasonably available personal injury liability coverage which are sustained:
 - a. by any person as a result of an offense directly or indirectly related to the employment or contract of such person by Contractor, or
 - b. by any other person for any other reason;
5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom, including, but not limited to, Installation Floater coverage; and
6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

B. The policies of insurance required by this Paragraph 5.04 shall:

1. with respect to insurance required by Paragraphs 5.04.A.3 through 5.04.A.6 inclusive, be written on an occurrence basis, include as additional insureds, by endorsement, (subject to any customary exclusion regarding professional liability) Owner and Engineer, and any other individuals or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds, and include coverage for the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby;
2. include at least the specific coverages and be written for not less than the limits of liability provided in the Supplementary Conditions or required by applicable Laws or Regulations, whichever is greater;
3. include contractual liability insurance covering Contractor's indemnity obligations under Paragraphs 6.11 and 6.20;
4. contain an express provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other additional insured identified in the

Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the Contractor pursuant to Paragraph 5.03 will ~~so provide~~ contain such express requirement of notice to Owner by insurer or Contractor, in lieu thereof);

5. remain in effect at least until final payment and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work in accordance with Paragraph 13.07; and
6. include completed operations coverage:
 - a. Such insurance shall remain in effect for two years after final payment.
 - b. Contractor shall furnish Owner and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to Owner and any such additional insured of continuation of such insurance at final payment and one year thereafter.

5.05 *Owner's Liability Insurance*

- A. In addition to the insurance required to be provided by Contractor under Paragraph 5.04, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.

5.06 *Property Insurance*

- A. Unless otherwise provided in the Supplementary Conditions, Owner shall purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:

1. include the interests of Owner, ~~Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions~~, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of ~~each and any of them, each of whom~~ Owner who is deemed to have an insurable interest and shall be listed as a loss payee;
2. ~~be written on a Builder's Risk "all-risk" policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage (other than that caused by flood), and such other perils or causes of loss as may be specifically required by the Supplementary Conditions.~~
3. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);

4. cover materials and equipment stored at the Site or at another location that was agreed to in writing by Owner prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by Engineer;
5. allow for partial utilization of the Work by Owner;
6. include testing and startup; and
7. be maintained in effect until final payment is made unless otherwise agreed to in writing by Owner, Contractor, and Engineer with 30 days written notice to each other loss payee to whom a certificate of insurance has been issued.

~~B. Owner shall purchase and maintain such equipment breakdown insurance or additional property insurance as may be required by the Supplementary Conditions or Laws and Regulations which will include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee.~~

~~C. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 5.06 will contain an express provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other loss payee to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with Paragraph 5.07.~~

~~D. Owner shall not be responsible for purchasing and maintaining any property insurance specified in this Paragraph 5.06 to protect the interests of Contractor, Subcontractors, or others in the Work to the extent of any deductible amounts that are identified in the Supplementary Conditions. The risk of loss within such identified deductible amount will be borne by Contractor, Subcontractors, or others suffering any such loss, and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.~~

~~E. If Contractor requests in writing that other special insurance be included in the property insurance policies provided under this Paragraph 5.06, Owner shall, if possible, include such insurance, and the cost thereof will be charged to Contractor by appropriate Change Order. Prior to commencement of the Work at the Site, Owner shall in writing advise Contractor whether or not such other insurance has been procured by Owner.~~

5.07 *Waiver of Rights*

~~A. Owner and Contractor intend that all policies purchased in accordance with Paragraph 5.06 will protect Owner, Contractor, Subcontractors, and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) Owner in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or loss payees thereunder. Owner and Contractor waive all rights against~~

each other and their respective officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for all losses and damages caused by, arising out of or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Subcontractors and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner as trustee or unless otherwise expressly stated by the Owner and Contractor payable under any policy so issued.

B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for:

1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and
2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial utilization pursuant to Paragraph 14.05, after Substantial Completion pursuant to Paragraph 14.04, or after final payment pursuant to Paragraph 14.07.

C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 5.07.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them.

5.08 Receipt and Application of Insurance Proceeds

A. Any insured loss under the policies of insurance required by Paragraph 5.06 will be adjusted with Owner and made payable to Owner as fiduciary for the loss payees, as their interests may appear, subject to the requirements of any applicable mortgage clause and of Paragraph 5.08.B. Owner shall deposit in a separate account any money so received and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof, and the Work and the cost thereof covered by an appropriate Change Order.

B. Owner as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within 15 days after the occurrence of loss to Owner's exercise of this power. If such objection be made, Owner as fiduciary shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, Owner as fiduciary shall

adjust and settle the loss with the insurers and, if required in writing by any party in interest, Owner as fiduciary shall give bond for the proper performance of such duties.

5.09 *Acceptance of Bonds and Insurance; Option to Replace*

A. If either Owner or Contractor has any objection to the coverage afforded by or other provisions of the bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract Documents, the objecting party shall so notify the other party in writing within 10 days after receipt of the certificates (or other evidence requested) required by Paragraph 2.01.B. Owner and Contractor shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent bonds or insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

5.10 *Partial Utilization, Acknowledgment of Property Insurer*

A. ~~If Owner finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 14.05, no such use or occupancy shall commence before the insurers providing the property insurance pursuant to Paragraph 5.06 have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy.~~

ARTICLE 6 – CONTRACTOR'S RESPONSIBILITIES

6.01 *Supervision and Superintendence*

A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction. Contractor shall not be responsible for the negligence of Owner or Engineer in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents.

B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

6.02 *Labor; Working Hours*

A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site. Owner reserves the right to have Contractor

remove from the Project Site any of Contractor's employees, agents, subcontractors, or assigns where, in Owner's discretion, such removal is in the best interests of safe, lawful completion of the project.

B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours. Contractor will not permit the performance of Work on a Saturday, Sunday, or any legal holiday without Owner's written consent (which will not be unreasonably withheld) given after prior written notice to Engineer.

6.03 *Services, Materials, and Equipment*

A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start-up, and completion of the Work.

B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.

C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

6.04 *Progress Schedule*

A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.07 as it may be adjusted from time to time as provided below.

1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.07) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times. Such adjustments will comply with any provisions of the General Requirements applicable thereto.
2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 12. Adjustments in Contract Times may only be made by a Change Order.

6.05 *Substitutes and "Or-Equals"*

A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or-equal" item or no substitution is permitted, other items of material or equipment or

material or equipment of other Suppliers may be submitted to Engineer for review under the circumstances described below.

1. *“Or-Equal” Items:* If in Engineer’s sole discretion an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by Engineer as an “or-equal” item, in which case review and approval of the proposed item may, in Engineer’s sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this Paragraph 6.05.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named if:

- a. in the exercise of reasonable judgment Engineer determines that:
 - 1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;
 - 2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole; and
 - 3) it has a proven record of performance and availability of responsive service.
- b. Contractor certifies that, if approved and incorporated into the Work:
 - 1) there will be no increase in cost to the Owner or increase in Contract Times; and
 - 2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.

2. *Substitute Items:*

- a. If in Engineer’s sole discretion an item of material or equipment proposed by Contractor does not qualify as an “or-equal” item under Paragraph 6.05.A.1, it will be considered a proposed substitute item.
- b. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. Requests for review of proposed substitute items of material or equipment will not be accepted by Engineer from anyone other than Contractor.
- c. The requirements for review by Engineer will be as set forth in Paragraph 6.05.A.2.d, as supplemented by the General Requirements, and as Engineer may decide is appropriate under the circumstances.
- d. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:
 - 1) shall certify that the proposed substitute item will:

- a) perform adequately the functions and achieve the results called for by the general design,
- b) be similar in substance to that specified, and
- c) be suited to the same use as that specified;

2) will state:

- a) the extent, if any, to which the use of the proposed substitute item will prejudice Contractor's achievement of Substantial Completion on time,
- b) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item, and
- c) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty;

3) will identify:

- a) all variations of the proposed substitute item from that specified, and
- b) available engineering, sales, maintenance, repair, and replacement services; and

4) shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change.

B. *Substitute Construction Methods or Procedures:* If a specific means, method, technique, sequence, or procedure of construction is expressly required by the Contract Documents, Contractor may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by Engineer. Contractor shall submit sufficient information to allow Engineer, in Engineer's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The requirements for review by Engineer will be similar to those provided in Paragraph 6.05.A.2.

C. *Engineer's Evaluation:* Engineer will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to Paragraphs 6.05.A and 6.05.B. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No "or equal" or substitute will be ordered, installed or utilized until Engineer's review is complete, which will be evidenced by a Change Order in the case of a substitute and an approved Shop Drawing for an "or equal." Engineer will advise Contractor in writing of any negative determination.

D. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.

- E. *Engineer's Cost Reimbursement:* Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor pursuant to Paragraphs 6.05.A.2 and 6.05.B. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.
- F. *Contractor's Expense:* Contractor shall provide all data in support of any proposed substitute or "or-equal" at Contractor's expense.

6.06 *Concerning Subcontractors, Suppliers, and Others*

- A. Contractor shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to Owner as indicated in Paragraph 6.06.B), whether initially or as a replacement, against whom Owner may have reasonable objection. Contractor shall not be required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom Contractor has reasonable objection.
- B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to Owner in advance for acceptance by Owner by a specified date prior to the Effective Date of the Agreement, and if Contractor has submitted a list thereof in accordance with the Supplementary Conditions, Owner's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of any right of Owner or Engineer to reject defective Work.
- C. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions. Nothing in the Contract Documents:
 - 1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier or other individual or entity; nor
 - 2. shall create any obligation on the part of Owner or Engineer to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.
- D. Contractor shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with Contractor.

- E. Contractor shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with Engineer through Contractor.
- F. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.
- G. All Work performed for Contractor by a Subcontractor or Supplier will be pursuant to an appropriate agreement between Contractor and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer. Whenever any such agreement is with a Subcontractor or Supplier who is listed as a loss payee on the property insurance provided in Paragraph 5.06, the agreement between the Contractor and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against Owner, Contractor, Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, Contractor will obtain the same.

6.07 *Patent Fees and Royalties*

- A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.
- ~~B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.~~
- C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the

performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

6.08 *Permits*

- A. Unless otherwise provided in the Supplementary Conditions, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

6.09 *Laws and Regulations*

- A. Contractor shall give all notices required by this Agreement and applicable laws and regulations and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work. However, it shall not be Contractor's responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.
- C. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance of the Work shall be the subject of an adjustment in Contract Price or Contract Times. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

6.10 *Taxes*

- A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

6.11 *Use of Site and Other Areas*

A. *Limitation on Use of Site and Other Areas:*

1. Contractor shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.

2. Should any claim be made by any such owner or occupant because of the performance of the Work, Contractor shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.
3. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused by or based upon Contractor's performance of the Work.

B. *Removal of Debris During Performance of the Work:* During the progress of the Work Contractor shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.

C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

D. *Loading Structures:* Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

6.12 Record Documents

A. Contractor shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, and written interpretations and clarifications in good order and annotated to show changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available to Engineer for reference. Upon completion of the Work, these record documents, Samples, and Shop Drawings will be delivered to Engineer for Owner.

6.13 Safety and Protection

A. Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

1. all persons on the Site or who may be affected by the Work;

2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.

B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property.

C. ~~Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.~~

D. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.

E. All damage, injury, or loss to any property referred to in Paragraph 6.13.A.2 or 6.13.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).

F. Contractor's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

6.14 *Safety Representative*

A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

6.15 *Hazard Communication Programs*

A. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

6.16 *Emergencies*

A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

6.17 *Shop Drawings and Samples*

A. Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals (as required by Paragraph 2.07). Each submittal will be identified as Engineer may require.

1. *Shop Drawings:*

- a. Submit number of copies specified in the General Requirements.
- b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 6.17.D.

2. *Samples:*

- a. Submit number of Samples specified in the Specifications.
- b. Clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 6.17.D.

B. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. *Submittal Procedures:*

1. Before submitting each Shop Drawing or Sample, Contractor shall have:

- a. reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
- b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;

- c. determined and verified the suitability of all materials offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
- d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.

2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review and approval of that submittal.
3. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be both a written communication separate from the Shop Drawings or Sample submittal; and, in addition, by a specific notation made on each Shop Drawing or Sample submitted to Engineer for review and approval of each such variation.

D. Engineer's Review:

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
3. Engineer's review and approval shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 6.17.C.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer's review and approval shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 6.17.C.1.

E. Resubmittal Procedures:

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.

6.18 *Continuing the Work*

A. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by Paragraph 15.04 or as Owner and Contractor may otherwise agree in writing.

6.19 *Contractor's General Warranty and Guarantee*

A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on representation of Contractor's warranty and guarantee.

B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:

1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible by operation of law or contract; or
2. normal wear and tear under normal usage.

C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:

1. observations by Engineer;
2. recommendation by Engineer or payment by Owner of any progress or final payment;
3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
4. use or occupancy of the Work or any part thereof by Owner;
5. any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by Engineer;
6. any inspection, test, or approval by others; or
7. any correction of defective Work by Owner.

6.20 *Indemnification*

A. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or

damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable .

- B. In any and all claims against Owner or Engineer or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 6.20.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.
- C. The indemnification obligations of Contractor under Paragraph 6.20.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:
 - 1. the preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or
 - 2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

6.21 *Delegation of Professional Design Services*

- A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable law.
- B. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.
- C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.

- D. Pursuant to this Paragraph 6.21, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 6.17.D.1.
- E. Contractor shall not be responsible for the adequacy of the performance or design criteria required by the Contract Documents.

ARTICLE 7 – OTHER WORK AT THE SITE

7.01 *Related Work at Site*

- A. Owner may perform other work related to the Project at the Site with Owner's employees, or through other direct contracts therefor, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:
 - 1. written notice thereof will be given to Contractor prior to starting any such other work; and
 - 2. if Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefor as provided in Paragraph 10.05.
- B. Contractor shall afford each other contractor who is a party to such a direct contract, each utility owner, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work, and properly coordinate the Work with theirs. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected. The duties and responsibilities of Contractor under this Paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of Contractor in said direct contracts between Owner and such utility owners and other contractors.
- C. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 7, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

7.02 *Coordination*

- A. If Owner intends to contract with others for the performance of other work on the Project at the Site, the following will be set forth in Supplementary Conditions:

1. the individual or entity who will have authority and responsibility for coordination of the activities among the various contractors will be identified;
2. the specific matters to be covered by such authority and responsibility will be itemized; and
3. the extent of such authority and responsibilities will be provided.

B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

7.03 *Legal Relationships*

- A. Paragraphs 7.01.A and 7.02 are not applicable for utilities not under the control of Owner.
- B. Each other direct contract of Owner under Paragraph 7.01.A shall provide that the other contractor is liable to Owner and Contractor for the reasonable direct delay and disruption costs incurred by Contractor as a result of the other contractor's wrongful actions or inactions.
- C. Contractor shall be liable to Owner and any other contractor under direct contract to Owner for the reasonable direct delay and disruption costs incurred by such other contractor as a result of Contractor's wrongful action or inactions.

ARTICLE 8 – OWNER'S RESPONSIBILITIES

8.01 *Communications to Contractor*

- A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

8.02 *Replacement of Engineer*

- A. In case of termination of the employment of Engineer, Owner shall appoint an engineer to whom Contractor makes no reasonable objection, whose status under the Contract Documents shall be that of the former Engineer.

8.03 *Furnish Data*

- A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

8.04 *Pay When Due*

- A. Owner shall make payments to Contractor when they are due as provided in Paragraphs 14.02.C and 14.07.C.

8.05 *Lands and Easements; Reports and Tests*

- A. Owner's duties with respect to providing lands and easements and providing engineering surveys to establish reference points are set forth in Paragraphs 4.01 and 4.05. Paragraph 4.02 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of subsurface conditions and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

8.06 *Insurance*

- A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 5.

8.07 *Change Orders*

- A. Owner is obligated to execute Change Orders as indicated in Paragraph 10.03.

8.08 *Inspections, Tests, and Approvals*

- A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 13.03.B.

8.09 *Limitations on Owner's Responsibilities*

- A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

8.10 *Undisclosed Hazardous Environmental Condition*

- A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 4.06.

8.11 *Evidence of Financial Arrangements*

- A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents.

8.12 *Compliance with Safety Program*

- A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed pursuant to Paragraph 6.13.D.

ARTICLE 9 – ENGINEER'S STATUS DURING CONSTRUCTION

9.01 *Owner's Representative*

- A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract Documents. By appointing Engineer as its representative during the construction period, Owner in no way intends to waive any of the protections afforded it by the doctrine of sovereign immunity.

9.02 *Visits to Site*

- A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.
- B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 9.09. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

9.03 *Project Representative*

- A. If Owner and Engineer agree, Engineer will furnish a Resident Project Representative to assist Engineer in providing more extensive observation of the Work. The authority and responsibilities of any such Resident Project Representative and assistants will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 9.09. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

9.04 *Authorized Variations in Work*

- A. Engineer may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on Owner and also on Contractor, who shall perform the Work involved promptly. If Owner or Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, and the parties are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

9.05 *Rejecting Defective Work*

- A. Engineer will have authority to reject Work which Engineer believes to be defective, or that Engineer believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a

functioning whole as indicated by the Contract Documents. Engineer will also have authority to require special inspection or testing of the Work as provided in Paragraph 13.04, whether or not the Work is fabricated, installed, or completed.

9.06 *Shop Drawings, Change Orders and Payments*

- A. In connection with Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, see Paragraph 6.17.
- B. In connection with Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, see Paragraph 6.21.
- C. In connection with Engineer's authority as to Change Orders, see Articles 10, 11, and 12.
- D. In connection with Engineer's authority as to Applications for Payment, see Article 14.

9.07 *Determinations for Unit Price Work*

- A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of Paragraph 10.05.

9.08 *Decisions on Requirements of Contract Documents and Acceptability of Work*

- A. Engineer will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. All matters in question and other matters between Owner and Contractor arising prior to the date final payment is due relating to the acceptability of the Work, and the interpretation of the requirements of the Contract Documents pertaining to the performance of the Work, will be referred initially to Engineer in writing within 30 days of the event giving rise to the question.
- B. Engineer will, with reasonable promptness, render a written decision on the issue referred. If Owner or Contractor believes that any such decision entitles them to an adjustment in the Contract Price or Contract Times or both, a Claim may be made under Paragraph 10.05. The date of Engineer's decision shall be the date of the event giving rise to the issues referenced for the purposes of Paragraph 10.05.B.
- C. Engineer's written decision on the issue referred will be final and binding on Owner and Contractor, subject to the provisions of Paragraph 10.05.
- D. When functioning as interpreter and judge under this Paragraph 9.08, Engineer will not show partiality to Owner or Contractor and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity.

9.09 *Limitations on Engineer's Authority and Responsibilities*

- A. Neither Engineer's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.
- B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
- C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.
- D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 14.07.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals that the results certified indicate compliance with, the Contract Documents.
- E. The limitations upon authority and responsibility set forth in this Paragraph 9.09 shall also apply to the Resident Project Representative, if any, and assistants, if any.

9.10 *Compliance with Safety Program*

- A. While at the Site, Engineer's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Engineer has been informed pursuant to Paragraph 6.13.D.

ARTICLE 10 – CHANGES IN THE WORK; CLAIMS

10.01 *Authorized Changes in the Work*

- A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Change Order, or a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).
- B. If Owner and Contractor are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change Directive, a Claim may be made therefor as provided in Paragraph 10.05.

10.02 *Unauthorized Changes in the Work*

A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented as provided in Paragraph 3.04, except in the case of an emergency as provided in Paragraph 6.16 or in the case of uncovering Work as provided in Paragraph 13.04.D.

10.03 *Execution of Change Orders*

A. Owner and Contractor shall execute appropriate Change Orders recommended by Engineer covering:

1. changes in the Work which are: (i) ordered by Owner pursuant to Paragraph 10.01.A, (ii) required because of acceptance of defective Work under Paragraph 13.08.A or Owner's correction of defective Work under Paragraph 13.09, or (iii) agreed to by the parties;
2. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive; and
3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by Engineer pursuant to Paragraph 10.05; provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, Contractor shall carry on the Work and adhere to the Progress Schedule as provided in Paragraph 6.18.A.

10.04 *Notification to Surety*

A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

10.05 *Claims*

A. *Engineer's Decision Required:* All Claims, except those waived pursuant to Paragraph 14.09, shall be referred to the Engineer for decision. A decision by Engineer shall be required as a condition precedent to any exercise by Owner or Contractor of any rights or remedies either may otherwise have under the Contract Documents or by Laws and Regulations in respect of such Claims.

B. *Notice:* Written notice stating the general nature of each Claim shall be delivered by the claimant to Engineer and the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto. The responsibility to substantiate a Claim shall rest with the party making the Claim. Notice of the amount or extent of the Claim, with supporting data shall be delivered to the Engineer and the other party to the Contract within 60 days after the start of such event (unless Engineer allows additional time for claimant to submit additional or

more accurate data in support of such Claim). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of Paragraph 12.01.B. A Claim for an adjustment in Contract Times shall be prepared in accordance with the provisions of Paragraph 12.02.B. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to Engineer and the claimant within 30 days after receipt of the claimant's last submittal (unless Engineer allows additional time).

C. *Engineer's Action:* Engineer will review each Claim and, within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any, take one of the following actions in writing:

1. deny the Claim in whole or in part;
2. approve the Claim; or
3. notify the parties that the Engineer is unable to resolve the Claim if, in the Engineer's sole discretion, it would be inappropriate for the Engineer to do so. For purposes of further resolution of the Claim, such notice shall be deemed a denial.

D. In the event that Engineer does not take action on a Claim within said 30 days, the Claim shall be deemed denied.

E. Engineer's written action under Paragraph 10.05.C or denial pursuant to Paragraphs 10.05.C.3 or 10.05.D will be final and binding upon Owner and Contractor, unless Owner or Contractor invoke the dispute resolution procedure set forth in Article 16 within 30 days of such action or denial.

F. No Claim for an adjustment in Contract Price or Contract Times will be valid if not submitted in accordance with this Paragraph 10.05.

ARTICLE 11 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

11.01 Cost of the Work

A. *Costs Included:* The term Cost of the Work means the sum of all costs, except those excluded in Paragraph 11.01.B, necessarily incurred and paid by Contractor in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to Contractor will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by Owner, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 11.01.B, and shall include only the following items:

1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall

include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.
3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 11.01.
4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.
5. Supplemental costs including the following:
 - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
 - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.
 - c. Rentals of all construction equipment and machinery, and the parts thereof whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.
 - d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.

- e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed or contracted by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
- f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 5.06.D), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.
- g. The cost of utilities, fuel, and sanitary facilities at the Site.
- h. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, express and courier services, and similar petty cash items in connection with the Work.
- i. The costs of premiums for all bonds and insurance Contractor is required by the Contract Documents to purchase and maintain.

B. *Costs Excluded:* The term Cost of the Work shall not include any of the following items:

- 1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expediters, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 11.01.A.1 or specifically covered by Paragraph 11.01.A.4, all of which are to be considered administrative costs covered by the Contractor's fee.
- 2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
- 3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
- 4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.
- 5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraphs 11.01.A.

C. *Contractor's Fee:* When all the Work is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a

Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 12.01.C.

D. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to Paragraphs 11.01.A and 11.01.B, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

11.02 *Allowances*

A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.

B. *Cash Allowances:*

1. Contractor agrees that:

a. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and

b. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.

C. *Contingency Allowance:*

1. Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.

D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

11.03 *Unit Price Work*

A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.

B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by Contractor will be made by Engineer subject to the provisions of Paragraph 9.07.

C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.

D. Owner or Contractor may make a Claim for an adjustment in the Contract Price in accordance with Paragraph 10.05 if:

1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and
2. there is no corresponding adjustment with respect to any other item of Work; and
3. Contractor believes that Contractor is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 12 – CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES

12.01 *Change of Contract Price*

- A. The Contract Price may only be changed by a Change Order. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.
- B. The value of any Work covered by a Change Order or of any Claim for an adjustment in the Contract Price will be determined as follows:
 1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 11.03); or
 2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 12.01.C.2); or
 3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under Paragraph 12.01.B.2, on the basis of the Cost of the Work (determined as provided in Paragraph 11.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 12.01.C).
- C. *Contractor's Fee:* The Contractor's fee for overhead and profit shall be determined as follows:
 1. a mutually acceptable fixed fee; or
 2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
 - a. for costs incurred under Paragraphs 11.01.A.1 and 11.01.A.2, the Contractor's fee shall be 15 percent;
 - b. for costs incurred under Paragraph 11.01.A.3, the Contractor's fee shall be five percent;

- c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 12.01.C.2.a and 12.01.C.2.b is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under Paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier Subcontractor and Contractor will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;
- d. no fee shall be payable on the basis of costs itemized under Paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;
- e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and
- f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 12.01.C.2.a through 12.01.C.2.e, inclusive.

12.02 *Change of Contract Times*

- A. The Contract Times may only be changed by a Change Order. Any Claim for an adjustment in the Contract Times shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.
- B. Any adjustment of the Contract Times covered by a Change Order or any Claim for an adjustment in the Contract Times will be determined in accordance with the provisions of this Article 12.

12.03 *Delays*

- A. Where Contractor is prevented from completing any part of the Work within the Contract Times due to delay beyond the control of Contractor, the Contract Times will be extended in an amount equal to the time lost due to such delay if a Claim is made therefor as provided in Paragraph 12.02.A. Delays beyond the control of Contractor shall include, but not be limited to, acts or neglect by Owner, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.
- B. If Owner, Engineer, or other contractors or utility owners performing other work for Owner as contemplated by Article 7, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
- C. If Contractor is delayed in the performance or progress of the Work by fire, flood, epidemic, abnormal weather conditions, acts of God, acts or failures to act of utility owners not under the control of Owner, or other causes not the fault of and beyond control of Owner and Contractor, then Contractor shall be entitled to an equitable adjustment in Contract Times, if such adjustment

is essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays described in this Paragraph 12.03.C.

- D. Owner, Engineer, and their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.
- E. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delays within the control of Contractor. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Contractor.

ARTICLE 13 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.01 *Notice of Defects*

- A. Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor. Defective Work may be rejected, corrected, or accepted as provided in this Article 13.

13.02 *Access to Work*

- A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and governmental agencies with jurisdictional interests will have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply therewith as applicable.

13.03 *Tests and Inspections*

- A. Contractor shall give Engineer timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.
- B. Owner shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:
 1. for inspections, tests, or approvals covered by Paragraphs 13.03.C and 13.03.D below;
 2. that costs incurred in connection with tests or inspections conducted pursuant to Paragraph 13.04.B shall be paid as provided in Paragraph 13.04.C; and
 3. as otherwise specifically provided in the Contract Documents.
- C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such

public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.

- D. Contractor shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to Owner and Engineer.
- E. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation.
- F. Uncovering Work as provided in Paragraph 13.03.E shall be at Contractor's expense unless Contractor has given Engineer timely notice of Contractor's intention to cover the same and Engineer has not acted with reasonable promptness in response to such notice.

13.04 *Uncovering Work*

- A. If any Work is covered contrary to the written request of Engineer, it must, if requested by Engineer, be uncovered for Engineer's observation and replaced at Contractor's expense.
- B. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment.
- C. If it is found that the uncovered Work is defective, Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05.
- D. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

13.05 *Owner May Stop the Work*

- A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner

to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

13.06 *Correction or Removal of Defective Work*

- A. Promptly after receipt of written notice, Contractor shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by Engineer, remove it from the Project and replace it with Work that is not defective. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).
- B. When correcting defective Work under the terms of this Paragraph 13.06 or Paragraph 13.07, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.

13.07 *Correction Period*

- A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents) or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for Contractor's use by Owner or permitted by Laws and Regulations as contemplated in Paragraph 6.11.A is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:
 1. repair such defective land or areas; or
 2. correct such defective Work; or
 3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and
 4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom.
- B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by Contractor.
- C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.

- D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this Paragraph 13.07, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.
- E. Contractor's obligations under this Paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this Paragraph 13.07 shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

13.08 *Acceptance of Defective Work*

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner (and, prior to Engineer's recommendation of final payment, Engineer) prefers to accept it, Owner may do so. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness) and for the diminished value of the Work to the extent not otherwise paid by Contractor pursuant to this sentence. If any such acceptance occurs prior to Engineer's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and Owner shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work so accepted. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05. If the acceptance occurs after such recommendation, an appropriate amount will be paid by Contractor to Owner.

13.09 *Owner May Correct Defective Work*

- A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace rejected Work as required by Engineer in accordance with Paragraph 13.06.A, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, Owner may, after seven days written notice to Contractor, correct, or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 13.09, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, take possession of Contractor's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this Paragraph.
- C. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 13.09 will be charged against Contractor, and a Change Order will be

issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, Owner may make a Claim therefor as provided in Paragraph 10.05. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.

D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 13.09.

ARTICLE 14 – PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 *Schedule of Values*

A. The Schedule of Values established as provided in Paragraph 2.07.A will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed.

14.02 *Progress Payments*

A. *Applications for Payments:*

1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.
2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

B. *Review of Applications:*

1. Engineer will, within 10 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to Owner or return the Application to Contractor indicating in writing Engineer's reasons for refusing to

recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.

2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:
 - a. the Work has progressed to the point indicated;
 - b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 9.07, and any other qualifications stated in the recommendation); and
 - c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.
3. By recommending any such payment Engineer will not thereby be deemed to have represented that:
 - a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract Documents; or
 - b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.
4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
 - a. to supervise, direct, or control the Work, or
 - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or
 - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or
 - d. to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, or
 - e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.

5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 14.02.B.2. Engineer may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in Engineer's opinion to protect Owner from loss because:
 - a. the Work is defective, or completed Work has been damaged, requiring correction or replacement;
 - b. the Contract Price has been reduced by Change Orders;
 - c. Owner has been required to correct defective Work or complete Work in accordance with Paragraph 13.09; or
 - d. Engineer has actual knowledge of the occurrence of any of the events enumerated in Paragraph 15.02.A.

C. Payment Becomes Due:

1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended will (subject to the provisions of Paragraph 14.02.D) become due, and when due will be paid by Owner to Contractor.

D. Reduction in Payment:

1. Owner may refuse to make payment of the full amount recommended by Engineer because:
 - a. claims have been made against Owner on account of Contractor's performance or furnishing of the Work;
 - b. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;
 - c. there are other items entitling Owner to a set-off against the amount recommended; or
 - d. Owner has actual knowledge of the occurrence of any of the events enumerated in Paragraphs 14.02.B.5.a through 14.02.B.5.c or Paragraph 15.02.A.
2. If Owner refuses to make payment of the full amount recommended by Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, when Contractor remedies the reasons for such action.
3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 14.02.C.1 and subject to interest as provided in the Agreement.

14.03 *Contractor's Warranty of Title*

- A. Contractor warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to Owner no later than the time of payment free and clear of all Liens.

14.04 *Substantial Completion*

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete (except for items specifically listed by Contractor as incomplete) and request that Engineer issue a certificate of Substantial Completion.
- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.
- C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the tentative certificate during which to make written objection to Engineer as to any provisions of the certificate or attached list. If, after considering such objections, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the tentative certificate to Owner, notify Contractor in writing, stating the reasons therefor. If, after consideration of Owner's objections, Engineer considers the Work substantially complete, Engineer will, within said 14 days, execute and deliver to Owner and Contractor a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as Engineer believes justified after consideration of any objections from Owner.
- D. At the time of delivery of the tentative certificate of Substantial Completion, Engineer will deliver to Owner and Contractor a written recommendation as to division of responsibilities pending final payment between Owner and Contractor with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless Owner and Contractor agree otherwise in writing and so inform Engineer in writing prior to Engineer's issuing the definitive certificate of Substantial Completion, Engineer's aforesaid recommendation will be binding on Owner and Contractor until final payment.
- E. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the tentative list.

14.05 *Partial Utilization*

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable

part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:

1. Owner at any time may request Contractor in writing to permit Owner to use or occupy any such part of the Work which Owner believes to be ready for its intended use and substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 14.04.A through D for that part of the Work.
2. Contractor at any time may notify Owner and Engineer in writing that Contractor considers any such part of the Work ready for its intended use and substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.
4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 5.10 regarding property insurance.

14.06 *Final Inspection*

- A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

14.07 *Final Payment*

A. *Application for Payment:*

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, marked-up record documents (as provided in Paragraph 6.12), and other documents, Contractor may make application for final payment following the procedure for progress payments.
2. The final Application for Payment shall be accompanied (except as previously delivered) by:
 - a. all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by Paragraph 5.04.B.6;
 - b. consent of the surety, if any, to final payment;

- c. a list of all Claims against Owner that Contractor believes are unsettled; and
- d. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of or Liens filed in connection with the Work.

3. In lieu of the releases or waivers of Liens specified in Paragraph 14.07.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien.

B. *Engineer's Review of Application and Acceptance:*

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract Documents have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of payment and present the Application for Payment to Owner for payment. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable subject to the provisions of Paragraph 14.09. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

C. *Payment Becomes Due:*

1. Thirty days after the presentation to Owner of the Application for Payment and accompanying documentation, the amount recommended by Engineer, less any sum Owner is entitled to set off against Engineer's recommendation, including but not limited to liquidated damages, will become due and will be paid by Owner to Contractor.

14.08 *Final Completion Delayed*

- A. If, through no fault of Contractor, final completion of the Work is significantly delayed, and if Engineer so confirms, Owner shall, upon receipt of Contractor's final Application for Payment (for Work fully completed and accepted) and recommendation of Engineer, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by Owner for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if bonds have been furnished as required in Paragraph 5.01, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by Contractor to Engineer with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

14.09 *Waiver of Claims*

A. The making and acceptance of final payment will constitute:

1. ~~a waiver of all Claims by Owner against Contractor, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 14.06, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from Contractor's continuing obligations under the Contract Documents; and~~
2. a waiver of all Claims by Contractor against Owner other than those previously made in accordance with the requirements herein and expressly acknowledged by Owner in writing as still unsettled.

ARTICLE 15 – SUSPENSION OF WORK AND TERMINATION

15.01 *Owner May Suspend Work*

A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by notice in writing to Contractor and Engineer which will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be granted an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if Contractor makes a Claim therefor as provided in Paragraph 10.05.

15.02 *Owner May Terminate for Cause*

A. The occurrence of any one or more of the following events will justify termination for cause:

1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule established under Paragraph 2.07 as adjusted from time to time pursuant to Paragraph 6.04);
2. Contractor's disregard of Laws or Regulations of any public body having jurisdiction;
3. Contractor's repeated disregard of the authority of Engineer; or
4. Contractor's violation in any substantial way of any provisions of the Contract Documents.

B. If one or more of the events identified in Paragraph 15.02.A occur, Owner may, after giving Contractor (and surety) seven days written notice of its intent to terminate the services of Contractor:

1. exclude Contractor from the Site, and take possession of the Work and of all Contractor's tools, appliances, construction equipment, and machinery at the Site, and use the same to the full extent they could be used by Contractor (without liability to Contractor for trespass or conversion);

2. incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere; and
3. complete the Work as Owner may deem expedient.

C. If Owner proceeds as provided in Paragraph 15.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Owner arising out of or relating to completing the Work, such excess will be paid to Contractor. If such claims, costs, losses, and damages exceed such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this Paragraph, Owner shall not be required to obtain the lowest price for the Work performed.

D. Notwithstanding Paragraphs 15.02.B and 15.02.C, Contractor's services will not be terminated if Contractor begins within seven days of receipt of notice of intent to terminate to correct its failure to perform and proceeds diligently to cure such failure within no more than 30 days of receipt of said notice.

E. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue. Any retention or payment of moneys due Contractor by Owner will not release Contractor from liability.

F. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 5.01.A, the termination procedures of that bond shall supersede the provisions of Paragraphs 15.02.B and 15.02.C.

15.03 *Owner May Terminate For Convenience*

A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):

1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;
3. all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and

4. reasonable expenses directly attributable to termination.
- B. Contractor shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

15.04 Contractor May Stop Work or Terminate

- A. If, through no act or fault of Contractor, (i) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (ii) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (iii) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the Contract and recover from Owner payment on the same terms as provided in Paragraph 15.03.
- B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this Paragraph 15.04 are not intended to preclude Contractor from making a Claim under Paragraph 10.05 for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this Paragraph.

ARTICLE 16 – DISPUTE RESOLUTION

16.01 Methods and Procedures

- A. Either Owner or Contractor may request non-binding mediation of any Claim submitted to Engineer for a decision under Paragraph 10.05 before such decision becomes final and binding. ~~The mediation will be governed by the Construction Industry Mediation Rules of the American Arbitration Association in effect as of the Effective Date of the Agreement. The request for mediation shall be submitted in writing to the American Arbitration Association and the other party to the Contract. Timely submission of the request shall stay the effect of Paragraph 10.05.E.~~
- B. Owner and Contractor shall participate in the mediation process in good faith. The process shall be concluded within 60 days of filing of the request. ~~The date of termination of the mediation shall be determined by application of the mediation rules referenced above.~~
- C. If the Claim is not resolved by mediation, Engineer's action under Paragraph 10.05.C or a denial pursuant to Paragraphs 10.05.C.3 or 10.05.D shall become final and binding 30 days after termination of the mediation unless, within that time period, Owner or Contractor:
 1. elects in writing to invoke any dispute resolution process provided for in the Supplementary Conditions; or
 2. agrees with the other party to submit the Claim to another dispute resolution process; or

3. gives written notice to the other party of the intent to submit the Claim to a court of competent jurisdiction.

ARTICLE 17 – MISCELLANEOUS

17.01 *Giving Notice*

- A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:
 1. delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended; or
 2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

17.02 *Computation of Times*

- A. When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

17.03 *Cumulative Remedies*

- A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract Documents. The provisions of this Paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

17.04 *Survival of Obligations*

- A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

17.05 *Controlling Law*

- A. This Contract is to be governed by the law of the Commonwealth of Virginia state in which the Project is located.

17.06 *Headings*

- A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

SUPPLEMENTARY CONDITIONS

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract, EJCDC C-700 (2007 Edition). All provisions which are not so amended or supplemented remain in full force and effect.

The terms used in these Supplementary Conditions have the meanings stated in the General Conditions. Additional terms used in these Supplementary Conditions have the meanings stated below, which are applicable to both the singular and plural thereof.

The address system used in these Supplementary Conditions is the same as the address system used in the General Conditions, with the prefix "SC" added thereto.

SC-2.01 Delete Paragraph 2.01B in its entirety and insert the following new paragraphs:

- A.** Evidence of Contractor's Insurance: When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to the Owner, with copies to each named insured and additional insured (as identified in Supplementary Conditions or elsewhere in the Contract), the certificates and other evidence of insurance required to be provided by Contractor in accordance with Article 6.
- B.** Evidence of Owner's Insurance: Owner is ~~self insured~~ a member of the risk pool of VACORP. Owner shall promptly deliver to Contractor information to the extent available to show the insurance limits, terms and conditions.

SC-4.02 Delete Paragraphs 4.02.A and 4.02.B in their entirety and insert the following:

- A.** No reports of explorations or tests of subsurface conditions at or contiguous to the Site, or drawings of physical conditions relating to existing surface or subsurface structures at the Site, are known to Owner.

SC-4.06 Delete Paragraphs 4.06.A and 4.06.B in their entirety and insert the following:

- A.** No reports or drawings related to Hazardous Environmental Conditions at the Site are known to Owner.
- B.** Not Used.

SC-5.04

Add the following new paragraph immediately after Paragraph 5.04.B (Contractor's Insurance):

C. The limits of liability for the insurance required by Paragraph 5.04 of the General Conditions shall provide coverage for not less than the following amounts or greater where required by Laws and Regulations:

1. Workers' Compensation, and related coverages under Paragraphs 5.04.A.1 and A.2 of the General Conditions:

a. State:	Statutory
b. Applicable Federal (e.g., Longshoreman's):	Statutory
c. Employer's Liability:	<u>\$Statutory</u>

2. Contractor's General Liability under Paragraphs 5.04.A.3 through A.6 of the General Conditions which shall include completed operations and product liability coverages and eliminate the exclusion with respect to property under the care, custody and control of Contractor:

a. General Aggregate	<u>\$3,000,000</u>
b. Installation Floater Coverage	<u>\$1,000,000</u>
c. Products - Completed Operations Aggregate	<u>\$1,000,000</u>
d. Personal and Advertising Injury	<u>\$1,000,000</u>
e. Each Occurrence (Bodily Injury and Property Damage)	<u>\$2,000,000</u>
f. Property Damage liability insurance will provide Explosion, Collapse, and Under-ground coverages where applicable.	
g. Excess or Umbrella Liability	
<input type="checkbox"/> General Aggregate	<u>\$10,000,000</u>
<input type="checkbox"/> Each Occurrence	<u>\$10,000,000</u>

3. Automobile Liability under Paragraph 5.04.A.6 of the General Conditions:

a. Bodily Injury:	
Each person	<u>\$2,000,000</u>
Each Accident	<u>\$2,000,000</u>
b. Property Damage:	
Each Accident	<u>\$2,000,000</u>
c. Combined Single Limit of	<u>\$N/A</u>
4. Excess or umbrella liability:	
a. Per occurrence	<u>\$10,000,000</u>
General aggregate	<u>\$10,000,000</u>

SC-6.02 Add the following new subparagraphs immediately after Paragraph 6.02B:

1. Regular working hours will be Monday through Friday 8 AM to 5 PM.

2. Owners legal holidays are:

New Year's Day	Martin Luther King Jr. Day
Memorial Day	Juneteenth
Independence Day	Labor Day
Thanksgiving Day	Day after Thanksgiving
Christmas Eve	Christmas Day

SC-6.08 Add the new subparagraph immediately after Paragraph 6.08A

B. The following permits are known by the Owner to be needed for the work:

1. Corps of Engineers Nationwide Permit 27, with Special Conditions. The Owner has confirmed that this project may be performed under this nationwide permit. There are no fees for this permit. A copy of the permit conditions are included in the Project Manual.
2. Virginia Department of Transportation Land Use Permit. Canter Drive is a public road. Work performed in the right

of way of Canter Drive, including the temporary construction entrance, requires a permit from VDOT. The Contractor must submit an application and obtain this permit.

- 3. Virginia Department of Environmental Quality General Permit for the Discharge of Stormwater from Construction Activities.** The County has registered this project for coverage under the general permit and paid the necessary fee. A copy of the General Permit requirements is included in the Project Manual. The Contractor shall attend a preconstruction meeting at the County of Roanoke offices, where the permit placard will be given to the Contractor. The Contractor is responsible to maintain the project Stormwater Pollution Prevention Plan.
- 4. County of Roanoke Erosion and Sediment Control Permit.** The County of Roanoke has reviewed and approved the erosion and sediment control plan. There will be no permit fee. The Contractor shall furnish a responsible employee that has a Responsible Land Disturbance certificate from DEQ and shall attend a preconstruction meeting at the County of Roanoke offices, where the permit placard will be given to the Contractor. The Contractor is responsible for providing the necessary plans and submittals needed to amend the erosion and sediment control permit, if needed, to cover offsite areas used to dispose of excess earth material.

C. The information listed in Paragraph B above is based on the Owner's best information. It does not relieve the Contractor of the responsibility of obtaining and complying with any and all other permits that may be required to perform the work.

SC-6.10

Modify paragraph 6.10A, and add the following:

- B.** The County of Roanoke is exempt from any taxes imposed by the State and/or Federal Government. Upon notification, the County will furnish a certificate of tax exemption.
- C.** Notwithstanding the County's tax exempt status, Contractor shall pay all applicable local, state, and federal taxes arising out of or associated with this Project, including but not limited to, sales tax, and Business, Professional, Occupational License (BPOL) taxes.

SC-6.11 Modify paragraph 6.11A, by adding the following subparagraph immediately after item 3:

4. No trees, or limbs, with a diameter of 3-inches or greater may be cut between April 1st and November 14th. Contractor shall schedule and prosecute the work such that all trees, and limbs, with a diameter of 3-inches or greater shall be cut between November 15th and March 31st. This time of year restriction is required to protect nesting endangered/threatened bats.

SC-7.01 Add a new sub-paragraph immediately after Paragraph 7.01C:

D. Owner is not aware of other scheduled work on the site.

SC-14.02 Amend the first sentence of Paragraph 14.02.C.1 by striking the word “Ten” and replacing it with the word “Thirty”.

SC-14.04 Add the following new subparagraph to Paragraph 14.04.B.:

1. If some or all of the Work has been determined not to be at a point of Substantial Completion and will require re-inspection or re-testing, the cost of such re-inspection or re-testing, including the cost of time, travel and living expenses, shall be paid by Contractor to Owner. If Contractor does not pay, or the parties are unable to agree as to the amount owed, then Owner may impose a reasonable set-off against payments due under Article 14.

Add the following Articles to the Standard General Conditions:

Article 18- Authority to Transact Business in Virginia

A Contractor organized as a stock or non-stock corporation, limited liability company, business trust, or limited partnership or registered as a registered limited liability partnership shall be authorized to transact business in the Commonwealth as a domestic or foreign business entity if so required by Title 13.1 or Title 50 of the Code of Virginia or as otherwise required by law. Any business entity described herein that enters into a Contract with the County pursuant to the Virginia Public Procurement Act 2.2-4300 et seq. shall not allow its existence to lapse or its certificate of authority or registration to transact business in the Commonwealth, if so required under Title 13.1 or Title 50 of the Code of Virginia, to be revoked or cancelled at any time during the term of the Contract. The County may void any

Contract with a business entity if the business entity fails to remain in compliance with the provisions of this section. All corporations, LLC's and LLP's shall be registered with the State Corporation Commission. To determine whether your firm should register, please contact the SCC. By my signature on this solicitation, I certify compliance with federal, state, and local laws and regulations applicable to the performance of the services described herein.

Article 19- Nondiscrimination Provision

During the performance of this contract, the Contractor will not discriminate against any employee or applicant for employment because of age, race, religion, color, sex or national origin, except where religion, sex or national origin is a bona fide occupational qualification reasonably necessary to the normal operation of the Contractor. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause. The Contractor, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, will state that such Contractor is an equal opportunity employer.

Article 20- Assignment of Contract

A Contract shall not be assignable by the Contractor in whole or part without written consent of Roanoke County.

Article 21-Availability of Funds

It is understood and agreed between the parties herein that Owner shall be bound hereunder only to the extent of the funds available or which may hereafter become available through appropriations from its governing body, for the purpose of this Contract.

Article 22- Compliance with Laws, Regulations and Immigration Law

Contractor agrees to and shall comply with all applicable Federal, ~~State~~ Virginia, and local laws, ordinances and regulations, including all applicable licensing requirements. Contractor further agrees that Contractor does not, and shall not, during the performance of this Contract, knowingly employ an unauthorized alien as defined in the federal Immigration Reform and Control Act of 1986.

Article 23- Drug-Free Workplace

During the performance of this contract, the Contractor agrees to (i) provide a drug-free workplace for the Contractor's employees; (ii) post in conspicuous places, available to employees that the unlawful manufacture, sale distribution, dispensation, possession, or use of a controlled substance or marijuana is prohibited in violation of such prohibition; (iii) state in all solicitations or advertisements for employees placed by or on behalf of the Contractor that the Contractor maintains a drug-free workplace; and (iv) include the provisions of the foregoing clauses in every subcontract or

purchase order of over \$10,000, so that the provisions will be binding upon each Subcontractor or Vendor.

For the purposes of this section, “drug-free workplace” means a site for the performance of work done in connection with the specific contract awarded to a Contractor in accordance with this chapter, the employees of whom are prohibited from engaging in the unlawful manufacture, sale, distribution, dispensation, possession or use of any controlled substance or marijuana during the performance of the contract.

Work Change Directive

No.

Effective Date:

Project: Stream Restoration of a Tributary to Mud Lick Creek along Canter Drive	Owner: County of Roanoke	Owner's Contract No.: 2025-038
Contract:		Date of Contract:
Contractor:		Engineer's Project No.:

Contractor is directed to proceed promptly with the following change(s):

Attachments (list documents supporting change):

Authorization for Work described herein

Nonagreement on pricing of proposed change.

Necessity to expedite Work described herein prior to agreeing to changes on Contract Price and Contract Time.

Estimated change in Contract Price and Contract Times:

Recommended for Approval by Engineer:	Date
Authorized for Owner by:	Date
Received for Contractor by:	Date
Received by Funding Agency (if applicable):	Date:

Change Order

No. _____

Date of Issuance: _____ Effective Date: _____

Project: Stream Restoration of a Tributary to Mud Lick Creek along Canter Drive	Owner: County of Roanoke	Owner's Contract No.: 2025-038
Contract:		Date of Contract:
Contractor:		Engineer's Project No.:

The Contract Documents are modified as follows upon execution of this Change Order:

Description:

Attachments (list documents supporting change):

CHANGE IN CONTRACT PRICE:

Original Contract Price:

\$ _____

[Increase] [Decrease] from previously approved Change Orders No. _____ to No. _____:

\$ _____

Contract Price prior to this Change Order:

\$ _____

[Increase] [Decrease] of this Change Order:

\$ _____

Contract Price incorporating this Change Order:

\$ _____

CHANGE IN CONTRACT TIMES:

Original Contract Times: Working days Calendar days

Substantial completion (days or date): _____

Ready for final payment (days or date): _____

[Increase] [Decrease] from previously approved Change Orders No. _____ to No. _____:

Substantial completion (days): _____

Ready for final payment (days): _____

Contract Times prior to this Change Order:

Substantial completion (days or date): _____

Ready for final payment (days or date): _____

[Increase] [Decrease] of this Change Order:

Substantial completion (days or date): _____

Ready for final payment (days or date): _____

Contract Times with all approved Change Orders:

Substantial completion (days or date): _____

Ready for final payment (days or date): _____

RECOMMENDED:

By: _____

Engineer (Authorized Signature)

Date: _____

Approved by Funding Agency (if applicable):

ACCEPTED:

By: _____

Owner (Authorized Signature)

Date: _____

ACCEPTED:

By: _____

Contractor (Authorized)

Date: _____

Date: _____

Field Order**No. _____**

Date of Issuance: _____ Effective Date: _____

Project: Stream Restoration of a Tributary to Mud Lick Creek along Canter Drive	Owner: County of Roanoke	Owner's Contract No.: 2025-038
Contract:		Date of Contract:
Contractor:		Engineer's Project No.:

Attention:

You are hereby directed to promptly execute this Field Order issued in accordance with General Conditions Paragraph 9.04.A, for minor changes in the Work without changes in Contract Price or Contract Times. If you consider that a change in Contract Price or Contract Times is required, please notify the Engineer immediately and before proceeding with this Work.

Reference: _____
(Specification Section(s)) _____ (Drawing(s) / Detail(s)) _____Description: _____

_____Attachments: _____

_____Engineer: _____

Receipt Acknowledged by Contractor: _____ Date: _____

Copy to Owner

APPENDIX A

TECHNICAL SPECIFICATIONS PREPARED BY WETLAND STUDIES AND SOLUTIONS, INC., DATED JULY 9, 2024

STREAM RESTORATION OF A TRIBUTARY TO MUD LICK CREEK ALONG CANTER DR.

TECHNICAL SPECIFICATIONS – PROJ #0000805/32252.02

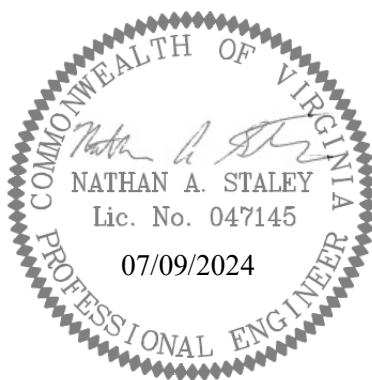
Prepared for:

County of Roanoke – Department of Development Services
5204 S. Bernard Drive
Roanoke, VA 24018

Prepared By:

Wetland Studies and Solutions, Inc.
3154 State Street, Suite B
Blacksburg, VA 24019

July 9, 2024



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SECTION-01 MOBILIZATION

1. DESCRIPTION

Mobilization shall consist of furnishing, transporting, and stockpiling of all materials for assembling and setting up for the project's operations, including but not limited to, the following:

- A. Initial movement of personnel.
- B. Moving all the construction tools and other related equipment required to complete the work on site. Equipment must be cleaned (power washed off-site) prior to entering the project site in order to prevent the inadvertent spread/introduction of non-native species.
- C. Submission and approval of submittals for imbricated rock, reinforced bed material, erosion control matting, geogrid material, seed and planting materials, or other related items.
- D. All other initial expenses and operations which must be performed before the beginning of the work.
- E. Demobilization.

SECTION-02 EROSION AND SEDIMENT CONTROL

1. DESCRIPTION

The Contractor shall perform all work for erosion and sediment control in accordance with the *Virginia Erosion & Sediment Control Handbook, Third Edition*, dated 1992, the Contract Documents, or as directed by the County of Roanoke.

SECTION-03 GEOTEXTILE FABRIC

1. DESCRIPTION

This work shall consist of furnishing, transporting, maintaining, stockpiling, and properly installing geotextile fabric underneath access roads and in the stream channel as indicated in the Contract Documents, or as directed by the County of Roanoke.

2. MATERIALS

Geotextile fabric shall be woven or non-woven polypropylene geotextile, such as Mirafi 700x, Mirafi 70/20, Filterweave 500, n060, or approved equal. The fabric shall have puncture resistance greater than 100 lbs, apparent opening size greater than U.S. 70 sieve, and 30 lbs. of tensile strength at 20% (maximum).

SECTION-04 COIR FIBER MATTING AND BIODEGRADABLE STAKES

1. DESCRIPTION

This work shall consist of furnishing, transporting, maintaining, stockpiling and properly installing coir fiber matting (secured with biodegradable stakes) on all stream bank slopes which will not receive

additional stabilization techniques and at other locations designated in the Contract Documents, or as directed by the County of Roanoke.

2. MATERIALS

Coir fiber matting shall consist of 100% coconut fiber matting having a weight of at least 700 g/m². Acceptable products are Ecomesh CM700, CF-700 (Coir Fiber Matting 700) by SKB India Co., BioD-Mat70 by Rolanka International, Coir Fiber Mats 700 by Pinelands Nursery, or approved equal. Biodegradable stakes used to secure coir matting shall be EcoStakes by ACF West or approved equal. Source of coir fiber matting and stakes shall be submitted to the County of Roanoke for review and approval prior to beginning construction. Installation shall be in accordance with the Contract Documents, or as directed by the County of Roanoke.

3. CONSTRUCTION

A. Installation

1. All materials and construction techniques shall be inspected and approved by the County of Roanoke prior to installation.
2. Install in-stream structures, grade stream bed and banks, and place reinforced stream bed material and topsoil to the contours indicated in the Contract Documents. After placement of reinforced stream bed material, topsoil, permanent seed mix (**SEED MUST GO UNDER MATTING**), and straw mulch, in accordance with the Contract Documents, the Contractor shall install the coir fiber matting as indicated in the Contract Documents or as directed by the County of Roanoke.
3. The Contractor shall place coir fiber matting along the stream edge as shown in the Construction Documents or as directed by the County of Roanoke. The coir fiber matting shall be unrolled along the top of bank and across the full width of any bankfull or low flow benches, if present. Matting shall be placed in full contact with the soil. All exterior edges (those edges not overlapping with an adjacent coir fiber matting roll) shall be “keyed” into the ground a minimum of 6 inches in such a way that a seamless grade is created (no humps or bulges in fabric will be permitted).
4. Coir fiber matting edges (matting installed side by side at any given elevation) shall be overlapped a minimum of 6 inches and staked down using biodegradable stakes at 2 foot on center.
5. Coir fiber matting ends (where upstream roll abuts downstream roll) shall be placed such that the upstream roll overlaps the downstream roll a minimum of 6 inches and staked down using biodegradable stakes at 2 foot on center.
6. Coir fiber matting ends (matting installed where ends of matting abut in-stream structures) shall be ‘keyed-in’ a minimum of 6 inches in such a way that a seamless grade, or transition, is created. (No humps or bulges will be accepted.) These edge areas shall be staked down using biodegradable stakes at 2 foot on center.
7. Biodegradable stakes shall be arrayed 2 feet on center across coir fiber matting, so that there shall be approximately 2 biodegradable stake pairs per square yard of coir fiber matting.

B. Clean-up

1. During installation of coir fiber matting, all areas shall be kept neat, clean and free of all trash and debris, and all reasonable precautions shall be taken to avoid damage to existing plants,

turf, structures, and private property.

2. The Contractor shall be responsible for off-site removal and disposal of all trash, excess backfill and any materials incidental to the project and disposing of them off-site.

SECTION-05 SAFETY FENCE (TREE PROTECTION FENCE)

1. DESCRIPTION

This work shall consist of the installation of a safety fence (tree protection fence) in areas indicated in the Contract Documents, or as directed by the County of Roanoke. Contractor shall be responsible for maintaining the safety fence throughout the duration of the project. This shall include, but is not limited to, re-securing fallen fence and replacing damaged fence.

2. MATERIALS

- A. Safety fence (tree protection fence) - Fence shall be international orange, high-density polyethylene diamond mesh with a mesh opening of 1.5 inch. The fence shall be 4 feet in height with a roll weight of 20 pounds per roll and roll size of 4 feet by 50 feet.
- B. Posts - Posts shall be conventional metal "T" or "U" posts.
- C. Ties - Tension wire, zip-ties, or rope.

3. CONSTRUCTION

A. Installation

1. Posts shall be spaced every 6 feet and installed to a minimum of 18 inches.
2. Ties shall be wrapped around a horizontal fence strand and post and are for securing the fence to the post.
3. Tension wire or rope may be used as a top stringer woven through the top row of strands to prevent potential sagging.
4. The safety fence and posts shall be removed (off-site) at the end of the contract and with the approval of the County of Roanoke. The fence and posts shall become the property of the contractor at the completion of the project.

B. Clean-up

1. During installation of safety fence, all areas shall be kept neat, clean and free of all trash and debris, and all reasonable precautions shall be taken to avoid damage to existing plants, turf, structures, and private property.
2. The Contractor shall be responsible for off-site removal and disposal of all trash, excess backfill and any materials incidental to the project and disposing of them off-site.

SECTION-06 PUMP AROUND/DIVERSION PIPE/DEWATERING

1. DESCRIPTION

This work shall consist of maintaining and diverting stream flow for the purpose of isolating work areas when construction activities take place within the stream channel as indicated in the Contract Documents, or as directed by the County of Roanoke.

2. MATERIALS

- A. Sandbags shall consist of materials which are resistant to ultraviolet radiation, tearing, and puncture and woven tightly enough to prevent leakage of fill material (i.e. sand, fine gravel, etc.).
- B. Sheeting shall consist of polyethylene plastic, which is impervious and resistant to puncture and tearing.
- C. Pump(s) shall be large enough to maintain uninterrupted base flow to the channel downstream of the work area. The pump around shall include a hose suitable to convey water overland to the downstream section. Minimum linear feet of hose required is equivalent to the maximum estimate for one workday provided by the Contractor. The pump shall be shut off at night and baseflow (if present) shall flow through the completed and stabilized portion of the project into the existing downstream channel unless otherwise noted in the Contract Documents.
- D. Filter bags made of non-woven geotextile as indicated in the Contract Documents shall be used for dewatering the turbid water within the active work area.
- E. When working in an intermittent channel the contractor shall work in dry conditions. If recent rainfall results in channel flow, such flow shall be pumped around as described above. If no flow is observed work may proceed, with all channel areas stabilized prior to any runoff producing rain event.

3. CONSTRUCTION

- A. Installation of sandbags, sheeting, and pump around shall be in accordance with the approved erosion and sediment control plan in the Contract Documents, or as directed by the County of Roanoke.
- B. The diversion structure shall be installed from upstream to downstream.
- C. The height of the sandbag diversion structure shall be a minimum of baseflow depth plus one foot, and a minimum of 2 feet. Further, the sandbag diversion shall be of sufficient height as to provide a pool deep enough to maintain pumping operations.
- D. Sheeting shall overlap the sandbags such that the upstream portion covers the downstream sandbag face with at least an 18-inch overlap.
- E. When dewatering the work area, the pump shall discharge into a non-woven geotextile filter bag of adequate size to accommodate the incoming flow as indicated in the Contract Documents. The filter bag must be placed within the Limits of Disturbance on a flat surface to allow dewatering without creating erosive conditions in the area of the outfall.

SECTION-07 ACCESS PATH/DECK MATS

1. DESCRIPTION

This work shall consist of installing, maintaining and removing portions of access constructed of Deck Mats by Carolina Mat Incorporated (or the County of Roanoke approved equal) or stone for the purpose of maintaining a stable access path to active construction areas as indicated in the Contract Documents, or as directed by the County of Roanoke. This section also includes repaving for any disturbed paved areas.

2. MATERIALS

A. Woven filter fabric as indicated in the Contract Documents.

B. Deck Mats

Deck Mats shall be "Deck Mat" by Carolina Mat Incorporated, or the County of Roanoke approved equal. Deck Mats shall be 4 inches thick by 10 feet in length by 14 feet in width. Each Deck Mat is approximately 1,600 pounds.

C. Stone

VDOT #1 Stone

D. Asphalt

Asphalt and gravel base material for repaving disturbed pavement areas (if applicable).

3. CONSTRUCTION

A. Installation

1. Deck Mats/Construction Road Stabilization (CRS) shall be installed by the contractor along the access path as depicted in the contract documents. Deck Mats/CRS shall be installed concurrently with tree removal along the access path, as indicated on the Grading Plan in the Contract Documents, or as directed by the County of Roanoke. Installation of Deck Mats shall be installed concurrently so that equipment used for indicated tree removal along the access path and cut ins shall travel on top of installed Deck Mats or CRS.
2. Areas of CRS shall be constructed per guidelines set forth in the latest manual of the Virginia Erosion and Sediment Control Handbook (VESCH), at locations as outlined in the Contract Documents, and shall be underlain by geotextile fabric in all locations. The CRS alternative may only be used in areas where application will not affect adjacent mature trees and their root systems.
3. Deck Mats shall be installed according to detail provided in Contract Documents. Woven filter fabric must be installed under the deck mats and extend a minimum of 4 feet on both sides of all mats.
4. Install Deck Mats starting at the point along the access path that is closest to the construction entrance and work in to the project site. Mats shall be placed such that the timbers run parallel with the vehicle tread. Subsequent mats shall be installed such that the ends abut one another.
5. Deck Mats shall be installed in all areas depicted in the Construction Documents (access path, stockpile areas, and active cut-ins), unless otherwise approved by the County of Roanoke. Mats are critical in protecting existing tree roots, where access areas pass through forest.
6. Deck Mats shall not be required over existing gravel/asphalt roads shown in Construction Documents, unless conditions change and warrant installation as determined by the County or County's representative. The Contractor may elect to use Deck Mats in existing trail/road areas

to prevent damage to the existing surface. Road/trail damage and associated replacement/repair is the sole responsibility of the Contractor, unless otherwise noted in the Contract Documents.

7. Any existing asphalt areas shall be repaved/resurfaced to pre-construction conditions or better, if their condition is adversely affected by construction activities. Paving shall be per the direction of County staff, including gravel subbase and filter fabric underlayment consistent with pre-construction conditions.

B. Clean-up

1. Remove Deck Mats starting with the mat farthest into the project site and work back to the construction entrance.
2. As Deck Mats are removed grade shall be returned to the pre-construction contours. The area shall be stabilized and planted according to the planting plan and vegetation schedule provided in the Contract Documents. Any roads or trails shall be returned to pre-construction conditions or better.

SECTION-08 STOCKPILE/STAGING AREAS

1. DESCRIPTION

This work shall consist of installing, maintaining, and removing stockpile/staging areas for the purpose of maintaining stable materials and equipment storage areas as indicated in the Contract Documents, or as directed by the County of Roanoke.

2. MATERIALS

A. Woven filter fabric as indicated in the Contract Documents.

B. Deck Mats

Deck Mats shall be "Deck Mat" by Carolina Mat Incorporated, or the County of Roanoke approved equal. Deck Mats shall be 4 inches thick by 10 feet in length by 14 feet (typ.) in width. Each Deck Mat is approximately 1,600 pounds.

C. Super Silt Fence as indicated in the Contract Documents.

3. CONSTRUCTION

A. Installation

1. Deck Mats shall be installed by the contractor within active stockpile/staging areas during the tree removal stage as indicated in the Contract Documents, or as directed by the County of Roanoke. Installation of Deck Mats shall be installed concurrently so that equipment used for indicated tree removal within active stockpile/staging areas shall travel on top of installed Deck Mats. **Note:** Deck mat usage shall be eliminated (subject to County approval) if no risk to adjacent tree roots is expected and weather conditions are conducive to construction traffic without rutting.
2. Deck Mats shall be installed according to the detail provided in Contract Documents. Woven filter fabric must be installed under and extend a minimum of 4 feet around all active stockpile/staging areas.

3. Install Deck Mats starting closest to the entrance of the stockpile/staging area and work into the project site. Place the deck mats such that the timbers run parallel with the vehicle tread (to increase durability). Subsequent mats shall be installed such that the ends and sides abut one another.
4. Super silt fence shall be installed around the downhill end of the stockpile/staging areas as indicated in the Erosion and Sediment Control Plan and Details presented in the Contract Documents, or as directed by the County of Roanoke.
5. Any erodible materials left in stockpile areas shall be mulched or covered prior to rain events.

B. Clean-up

1. Remove deck mats starting with the mat farthest into the stockpile/staging areas and work back to the access path.
2. As mats are removed grade shall be returned to the pre-construction grade and areas of vegetation shall be replanted according to the planting plan and vegetation schedule presented in the Contract Documents.

SECTION-09 CLEARING AND GRUBBING

1. DESCRIPTION

This work shall consist of clearing, grubbing, removing, and disposing of vegetation, debris, and other objects within the construction limits except for vegetation and objects that are designated to be preserved, protected, or removed in accordance with the requirements of other provisions of these specifications.

- A. The Contractor shall be responsible for any and all damage to trees, shrubs, herbaceous plants and wetlands located beyond the limit of disturbance which occurs from his/her operations during the life of the Contract. The Contractor shall fully restore, at his/her own expense, and to the satisfaction of the County of Roanoke, any trees, shrubs, herbaceous plants, and wetlands that have been damaged or destroyed. Wetland restoration shall be in accordance with regulatory agency conditions.
- B. Tree removal shall only be done in accordance with Contract Documents or as directed by the County of Roanoke. The Contractor shall only clear and grub as much of the proposed channel and grading areas that the Contractor can complete the construction on and have stabilized in the same day as the clearing and grubbing. The Contractor shall install tree protection fencing and matting, as described in the Contract Documents, prior to any disturbance.

SECTION-10 SALVAGING AND/OR FURNISHING AND PLACING TOPSOIL

1. DESCRIPTION

This work shall consist of salvaging topsoil, placing salvaged topsoil, furnishing topsoil and placing furnished topsoil as indicated in the Contract Documents, or as directed by The County of Roanoke. Furnished topsoil shall be approved by the County of Roanoke.

2. MATERIALS

A. Salvaged Topsoil

Salvaged topsoil shall be existing topsoil salvaged from the project site where excavation or filling is required. Salvaging and placing topsoil shall consist of stripping and stockpiling existing topsoil and shall include removal of clay lumps, brush litter, roots, stones 3 inches and larger, and other foreign materials. Stockpiling shall occur in stockpile areas as indicated in the Contract Documents or as directed by the County of Roanoke.

B. Furnished Topsoil

Furnished topsoil shall be natural, friable surface soil uniform in color and texture and not supplied from the project. Furnished topsoil shall mimic native project area soils as described in local soil survey data based on the U.S.D.A. classification system. It shall be of uniform composition, without mixture of subsoil. Furnished topsoil shall be free from species present on State and Federal noxious plant lists or invasive species. It shall be from a local well drained site with a history of satisfactory vegetative growth.

Furnished topsoil shall also meet the following criteria:

<u>Characteristic:</u>	<u>Criteria:</u>
pH	From 6.0 to 7.5
Cation-exchange capacity	From 5 to 25 cmol ⁺ /kg (meq/100g)
Organic Matter (OM)	From 2 to 10% by wt. (ODS)
Nutrient content	Normal contents of nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, proper micronutrient levels
Soluble salts	Less than 200 ppm
Contaminants	Should contain no toxic substances

Grading analysis shall be as follows:

<u>Sieve Size</u>	<u>Minimum % Passing by Weight</u>
2 inches	100
No. 4	90
No. 10	80

Textural analysis shall be as follows:

<u>Soil Particle Size (mm)</u>	<u>% Passing By Weight</u>
Sand (2.0 – 0.050)	20-75
Silt (0.050 – 0.002)	10-60
Clay (less than 0.002)	5-30

Excess topsoil shall become the responsibility of the Contractor and shall be completely removed from the project site prior to final site inspection and approval of the project.

C. Straw Mulch

Straw mulch shall be un-rotten small grain straw.

3. CONSTRUCTION

A. Salvaging Topsoil

1. When soil or weather conditions are unsuitable, the Contractor shall cease topsoil operations until conditions improve such that the chance of offsite impacts is minimized to the greatest extent practicable.
2. Topsoil and subsoil shall be removed from all areas to be graded as indicated in the Contract Documents or as directed by the County of Roanoke. Prior to removing topsoil, the Contractor shall mow or remove all surface vegetation over the areas where topsoil is to be salvaged. Topsoil shall be removed to a depth of 4 to 6 inches. Topsoil shall be transported and stockpiled in separate storage piles and kept separated from other materials.
3. Storage areas for topsoil shall be constructed on well drained land, away from streams, in indicated stockpile areas. Prior to stockpiling, the Contractor shall install silt fence around the perimeter of the stockpile area and maintain the silt fence until the stockpile is removed. Topsoil shall be kept in neat and separate piles from other excavated material.
4. Topsoil piles shall NOT be seeded. Topsoil piles shall be immediately and thoroughly covered with wood cellulose or straw mulch. The piles shall be occasionally re-mulched in order to maintain a consistent cover until they are removed.

B. Placing Salvaged Topsoil

1. Verify that any utilities have been field located and/or installed and accepted; if there is to be a drainage system, verify that it has been installed and accepted.
2. Do not handle topsoil or subsoil if it is wet or frozen.
3. The Contractor shall completely prepare and finish the surface of all areas to be covered with topsoil as indicated in the Contract Documents.
4. Immediately prior to being covered with topsoil, the prepared sub grade shall be loosened to a depth of 3 inches and be free from rocks or other foreign material 3 inches or greater.
5. Prior to the start of placing salvaged topsoil, all grass, weeds, brush, stumps, and other objectionable material shall be removed from the surface of stockpiles.
6. Salvaged topsoil shall be placed, spread, and maintained over the areas designated to a depth of at least 4 inches, that after settlement, the completed work shall be in conformance with the thickness, lines, grades, and elevations indicated in the Contract Documents.
7. Rocks and other foreign material larger than 3 inches shall be removed and disposed of by the Contractor.
8. Slopes 4:1 to 2:1 shall be tracked with cleated tracked-type equipment operated perpendicular to the slope.
9. Loosening of compacted soils or amending poorly drained subsoils:
 - a. Loosen subgrade with a backhoe bucket to a depth of 18 inches. After gathering subsoil in backhoe bucket, drop soil onto the ground from a height of 6 feet to break up soil clumps. Position backhoe during work to prevent re-compaction of soils by beginning the work in corners or against walls, or the center of isolated beds, and progressing outward towards the borders.

- b. After subgrade has been broken up, rototill entire area to a minimum depth of 8 inches.
10. Backfill areas to the indicated grades. No additional compaction is necessary to the broken-up subgrade, the weight of the fill will compact the existing subgrade.
11. Seeding of topsoil and planting of plant material should be carried out simultaneously to prevent excessive traffic over soil lifts and the final grade and create undesirable soil compaction.
12. The Contractor shall place barricades as required to prevent any unnecessary compaction of soil from vehicles, equipment, or personnel.

C. Placing Furnished Topsoil

The Contractor shall refer to Section B, Placing Salvaged Topsoil, above, in addition to the following:

1. The Contractor shall make all arrangements and assume all responsibility for consents, agreements, and payments involved in furnished topsoil and subsoil operations.
2. If furnished topsoil is stockpiled upon delivery for future use on the project, the stockpiling shall conform to Section A, Salvaging Topsoil, above.

SECTION-11 REGULAR EXCAVATION (OR EARTHWORK)

1. DESCRIPTION

Earthwork shall consist of performing all operations necessary to excavate and transport all material, process material as required, deposit, place, and compact material in accordance with the grades as shown on the plans or as directed by the County of Roanoke. Such earthwork shall include the loosening, removing, loading, transporting, stockpiling, depositing, and compacting in its final location of all materials wet and dry, as required for the purposes of completing the work.

2. MATERIALS

- A. Local borrow shall consist of material excavated within the limits of the project and in accordance with the grading plan and is subject to approval by the County of Roanoke.
- B. Select earth fill material shall consist of material obtained within the limits of the project and used to raise the site elevations to those indicated in the grading plan. If sufficient satisfactory soil materials for use as earth fill are not available from onsite excavations, it shall be the contractor's responsibility to provide suitable earth fill material. Soils sufficient for use as earth fill include ASTM D 2487 Soil Classification Groups GW, GP, GM, GC, SW, SP, SM, and SC, or combination of these groups or as approved by the County of Roanoke. Earth fill shall be free of rock greater than 3 inches, debris, waste, frozen materials, vegetation, invasive species, pathogens, and any other deleterious matter.

3. CONSTRUCTION

- A. The existing elevations and contours shown on the plans, cross sections, and profiles were surveyed prior to plan development. Existing elevations and grades may have changed since the original survey was completed due to stream erosion, sediment accretion, or fill. It is the Contractor's

responsibility to confirm existing grades and adjust earthwork as necessary at no additional cost to the County of Roanoke.

- B. All earthwork shall be performed in accordance with permit requirements.
- C. All erosion and sediment control devices shall be in place prior to onset of earthwork activities.
- D. Erosion and sediment control devices and measures shall be always maintained in a functional condition. Temporary and permanent erosion and sedimentation control measures shall be inspected after each rainfall and at least daily during periods of prolonged rainfall. Deficiencies shall be immediately corrected.
- E. Grading operations shall be conducted so that material outside construction limits will not be disturbed.
- F. Local borrow shall be stockpiled in the stockpile/staging areas depicted in the Contract Documents. All stockpile areas will require appropriate sediment control (silt fence or as is otherwise necessary) in order to prevent erosion and sediment transport throughout the duration of storage. The County of Roanoke reserves the right to require other temporary measures not specifically described herein to correct an erosion or siltation condition.
- G. Fill areas shall be placed as maximum 1foot thick lifts and compacted using the equipment bucket and tracks unless otherwise indicated in the Contract Documents.
- H. Topsoil and reinforced stream bed material shall be installed as described in the Construction Documents, or as directed by the County of Roanoke, to bring surface to final grades as shown in the Construction Documents. Final grade shall be as specified within the Construction Tolerances section of these specifications.
- I. Material shown on the plans as suitable material but found at the time of construction to be unsuitable shall be disposed of as unsuitable material at no additional cost to the County of Roanoke.
- J. Loose rock 3 inches or larger shall be removed from the surface of cut slopes.
- K. The Contractor shall be responsible for stabilizing all stream banks with temporary seeding, permanent herbaceous seeding (riparian/wetland seed mix), straw mulch, and coir fiber matting immediately after the completion of grading. The Contractor shall perform all care and remediation work required to maintain stable stream banks during construction, including erosion and sediment control.
- L. All excess material shall be removed from the site at no additional cost to the County of Roanoke.

SECTION-12 REINFORCED STREAM BED MATERIAL

1. DESCRIPTION

This work shall consist of furnishing, transporting, stockpiling, maintaining and placing reinforced stream bed material to be utilized for construction of the proposed channel and protection of in-stream structures and at other locations as indicated in the Contract Documents or as directed by the County of Roanoke. Stream bed material shall be placed along the full length of the stream channel and tributaries unless otherwise indicated in the Contract Documents, and along the width of the channel and tributaries as indicated in the Contract Documents, or as directed by the County of Roanoke. Salvaged stream bed material shall be used to supplement reinforced stream bed material, as indicated in the Construction

Documents, or as directed by the County of Roanoke.

2. MATERIALS

A. Reinforced stream bed material shall consist of natural field rock or natural river rock. Crushed rock from a quarry shall not be permitted (exceptions noted in item C, footnotes). The stream bed material shall be sound, tough, dense, resistant to the action of air and water, and suitable in all respects for the purpose intended.

B. Source of stream reinforced bed material shall be from an approved mining operation with up-to-date regulatory permits. Stream bed material shall NOT be indiscriminately mined from active streams and rivers.

C. Reinforced stream bed material¹ shall be a mixture containing approximately the following size distribution:

35-40% Rock² - $D_{50} = 13$ inches (33 cm)

35-40% Bank Run Gravel³ - 0.08 to 2.5 inch (0.2 – 6.4 cm) diameter

12-17% Coarse Sand⁴ - 0.04 to 0.08 inch (1 – 2 mm) diameter

7-12% Topsoil – Loam or silt loam with 3-5% organic content

D. All reinforced stream bed material shall meet the approval of the County of Roanoke. While no specific gradation is required, the various sizes of the rock shall be equally distributed within the required size range. The size of an individual rock particle shall be determined by measuring its diameter across the intermediate axis.

E. Samples of reinforced stream bed material shall be delivered to project site for approval by the County of Roanoke, prior to its use in the project. Any unsuitable material shall be removed at the Contractor's expense.

3. CONSTRUCTION

The Contractor shall install reinforced stream bed material to a minimum depth of twenty four (24) inches in restored channel areas unless otherwise indicated in the Contract Documents, and as directed by the County of Roanoke. Salvaged Stream bed material shall be used to top-dress the furnished reinforced stream bed material as indicated in the Contract Documents and as directed by the County of Roanoke.

¹ Unless specified otherwise, the reinforced bed shall be a minimum of 24" in depth in all restoration areas. See longitudinal profile for location and thickness.

² The rock portion of the mixture shall consist of rock (min. allowable $D_{50} = 13$ inches) of color white, tan, yellow, or brown. The voids will be filled with a mixture of sand, gravel, and topsoil. This composition will result in a very resistant, armored substrate that will be capable of withstanding much greater shear stress than the computation of the required D_{50} would suggest. Class 1 riprap shall be an acceptable alternate, subject to owner approval, as long as it meets the specified size requirements.

³ Bank run gravel may include up to 5% clay, silt, and/or sand, and up to 25% cobble ($D_{50} = 3"$ to 8"). Gravel must have natural color (white, tan, yellow, or brown).

⁴ The sand portion of the mixture shall consist of well-mixed sand predominantly 1.0 millimeters to 2.0 millimeters in size; subject to engineer approval (i.e. washed concrete sand is not required). Sand must be white, tan, yellow, or brown in color.

SECTION-13 SALVAGED STREAM BED MATERIAL

1. DESCRIPTION

This work shall consist of salvaging and placing salvaged existing stream bed material as indicated in the Contract Documents, or as directed by the County of Roanoke.

2. MATERIALS

Salvaged stream bed material shall consist of boulders, cobbles, gravels, sands, and fines excavated from the existing stream channel, as specified by the County of Roanoke.

3. CONSTRUCTION

- A. Salvaged stream bed material shall be mined/excavated and temporarily stockpiled immediately prior to grading a section of stream bed. This material shall then be used to top dress imported reinforced bed material immediately upon achieving final grade. Construction should be phased to minimize the duration of any particular stockpile of salvaged bed material.
- B. Salvaged stream bed material shall be excavated and staged/stockpiled within the stream channel, or immediately mined and placed on adjacent recently completed areas inside the pump around/diversion pipe/de-watering location.
- C. Salvaged stream bed material shall be excavated from point bars and riffles, as directed by The County of Roanoke.
- D. Salvaged stream bed material shall be used to top-dress the furnished reinforced stream bed material as shown in the Contract Documents and as directed by the County of Roanoke.

SECTION-14 ROCK

1. DESCRIPTION

This work shall consist of furnishing, transporting, stockpiling, maintaining and placing of rock for rock steps, modified cross vanes, imbricated rock walls, boulder pools, cross vane woody debris, log vane w/ or w/o rock sills (i.e. log j-hooks), and other structures as indicated in the Contract Documents, or as directed by the County of Roanoke.

2. MATERIALS

- A. Rock shall consist of angular flat rock of appropriate color (e.g., green/gray, brown/gray, dark gray, and/or dark brown in color) obtained from an approved source. Rock shall not be harvested from streams or rivers outside a commercial quarry operation. All rock shall be free from laminations, weak cleavages and shall not disintegrate from the action of air, salt water and in handling and placing. Granular sedimentary rock shall generally be unacceptable. Concrete shall not be considered as an alternative for rock. White rock is not acceptable.
- B. Rock sizes shall be as indicated in the Contract Documents for step pools, rock steps, modified cross vanes, imbricated rock walls, boulder riffles, in-stream habitat logs, in-stream woody debris, log vane w/ or w/o rock sills, and other structures. Rock sizes are shown in the table below.
- C. The rock shall have a minimum unit weight of 160 lbs. per cubic foot.

D. The Contractor shall obtain from the quarry and submit to the County of Roanoke a certificate verifying the following – 1) Rock, 2) Classification, 3) Weight per cubic foot, 4) Weight of rock being supplied, and 5) Rock quantity shall meet all the above specifications.

Rock Size Requirements

Structure	X-Axis Dimension	Y-Axis Dimension	Z-Axis Dimension
Imbricated Rock Wall	3-5 ft	2-4 ft	1-2 ft
Boulder Pool (Armor material shall be Class II Rip Rap)	3-5 ft (header rock)	2-4 ft (header rock)	1-2 ft (header rock)
	1-2 ft (sill rock)	1-2 ft (sill rock)	1-2 ft (sill rock)
	1-2 ft (sill rock)	1-2 ft (sill rock)	1-2 ft (sill rock)
	2-4 ft (armor)	2-4 ft (armor)	2-4 ft (armor)
Log Vane w/ Rock Sill (J-Hook)	3-5 ft (footer rock)	2.5-4 ft (footer rock)	1-2 ft (footer rock)
	3-4 ft (header rock)	2.5-3 ft (header rock)	1-2 ft (header rock)
	2-3ft (anchor rock)	2-3ft (anchor rock)	1.5-2 ft (anchor rock)
	1-2 ft (floodplain sill rock)	1-2 ft (floodplain sill rock)	1-2 ft (floodplain sill rock)

E. Samples shall be delivered to project site for approval by the County of Roanoke, prior to its use in the project. Any unsuitable material shall be removed at the Contractor's expense.

F. The Contractor shall not be granted an extension of time or extra compensation due to delay caused by sampling, testing, approval or disapproval of rock protection material under the requirements of these Specifications.

G. Due to the anticipated quarry preparatory time, and/or demand for the rock as indicated in the Contract documents, it shall be the Contractor's responsibility to make all necessary arrangements with the source of supply in a timely fashion, so that the Contractor shall maintain an adequate supply of rock material and that work shall not be unnecessarily delayed due to insufficient supply.

3. CONSTRUCTION

The Contractor shall install rock in accordance with the Contract Documents.

SECTION-15 ROCK CROSS VANES

1. DESCRIPTION

This work shall consist of furnishing, stockpiling, transporting, installing and maintaining rock cross vanes (including modified [differing arm lengths] or stepped structures) within the stream channel as indicated in the Contract Documents, or as directed by the County of Roanoke.

2. MATERIALS

A. Footer Rock

Footer rock shall meet the Specifications for 'Rock' contained in the Contract Documents. Footer rock consists of rock placed below the invert of the proposed channel to provide support for the top

rock and prevent downstream scour.

B. Top Rock (Header)

Top rock (header rock) shall meet the Specifications for 'Rock' contained in the Contract Documents. Top rock consists of rock placed upon the footer rock.

C. Sill Rock

Sill rock shall meet the Specifications for 'Rock' contained in the Contract Documents. Sill rock consists of a single row of rock at the ends of the structure arms. These rocks shall be installed flush with grade and extend into existing bank materials in a direction perpendicular to main channel flow.

D. Geotextile Fabric

Geotextile fabric shall meet the specifications for 'Geotextile Fabric' contained in the Contract Documents.

E. Reinforced Stream Bed Material

Reinforced stream bed material shall meet the Specifications for 'Reinforced Stream Bed Material' contained in the Contract Documents.

3. CONSTRUCTION

A. Installation

1. Rock cross vanes shall be constructed in a "V" formation so that adjoining rocks taper up in elevation towards the stream bank in a downstream direction. Contractor shall install structures per construction details and stakeout information provided in the Contract Documents, and as directed by the County of Roanoke.
2. The footer rocks shall be installed by excavating a trench to accommodate both the footer rocks and a 2-foot area upstream. The bottom of all footer rocks shall be below (typically 18" or as otherwise indicated in Contract Documents) the elevation of the deepest part of the pool associated with the structure. In the event that bedrock is present in the area of installation, footer rock shall still be required unless approval for elimination of footer rock is obtained from the engineer. For example, where bedrock is friable and weathered and can be trenched or hoe rammed, footer rock will be required. In areas where bedrock is resistant and blasting would be required, the engineer shall determine whether or not to eliminate the footer rock.
3. Geotextile fabric shall be placed in the bottom and upstream side of the trench across the entire structure. Footer rocks shall be placed at the bottom and downstream side of the trench so that a minimum of one (1) foot of geotextile fabric lies under the rock. The rocks shall abut one another. The top elevation of the footer rock placed at the centerline of the stream shall be flush with the proposed stream grade immediately below the step structure. Footer rocks shall be firmly embedded into the trench bottom.
4. In the event that installation of the rock modified cross vane may damage tree roots, excavation shall be minimized. This may include reducing the length of the vane or eliminating trenching for footer rocks and reinforced stream bed material. This decision shall be field determined and authorized by the engineer.
5. Top rocks shall be placed tightly together (touching) on top of the footer rocks but offset slightly

upstream (approx. 1/3rd of the rock diameter), as shown in the construction details of the Contract Documents. Any remaining gaps present between the rocks larger than fist sized shall be filled-in (“chinked”) with appropriately sized rock. The seams between top rocks shall not line up with the seams of footer rocks. Top rock elevations and locations shall be set according to the structure stakeout tables and structure points within the vertical and horizontal tolerances indicated in the Contract Documents. The top elevation of the top rocks placed at the thalweg shall be equal to the elevation of the thalweg, as indicated on the profile and structure stakeout tables. Starting at the thalweg, adjacent rocks shall taper up at a consistent slope (which is indicated in stakeout and structure details) until reaching bankfull or an otherwise indicated elevation. Consistent vane arm slope is important and undulations along the arm shall be unacceptable. Contractor shall install the structures as described in the stakeout locations and elevations indicated in the Contract documents, and as directed by the County of Roanoke.

6. The outermost top rocks on each end of the cross vane shall be installed with at least one top rock buried into the stream bank. The trench behind the top rocks shall be backfilled with reinforced stream bed material, taking care to fill all voids underneath and between the rocks.
7. The trench behind the top rocks shall be backfilled with reinforced stream bed material with the geotextile fabric between the reinforced stream bed material and top rocks. The geotextile fabric shall be left so that it is visible above the top rocks until the rocks and reinforced stream bed material have been installed and inspected.
8. Sill rock consists of a single row of rock, underlain by geotextile fabric, beginning at the ends of the structure arms and extending into the floodplain or bankfull bench as shown in the grading plan of the Contract Documents or until extending fully across any fill areas, unless otherwise noted on the plan sheets or directed by the County of Roanoke. Sill rocks shall be aligned perpendicular to the stream, with each rock abutted tightly against each other and the top face installed flush with proposed grade.
9. Reinforced stream bed material shall be placed to the proposed invert elevation as shown in the Contract Documents.
10. After inspection, trim the geotextile fabric flush with the top rocks and reinforced stream bed material.

B. Clean-up

1. Upon completion of work, reshape slopes and stream bottom to indicated elevations.
2. Remove unsuitable and surplus rocks and excavated materials to fill areas or approved off-site locations.

SECTION-16 IMBRICATED ROCK WALL/TOE PROTECTION AND SLOPE STABILIZATION

1. DESCRIPTION

This work shall consist of furnishing, transporting, stockpiling, installing and maintaining imbricated rock walls and toe protection along the stream channel, as indicated in the Contract Documents, or as directed by the County of Roanoke.

2. MATERIALS

A. Footer Rock

Footer rock shall meet the specifications for 'Rock' contained in the Contract Documents. Footer rock consists of rock placed below the invert of the proposed channel or underneath top rocks (off-channel) to provide support for the top rock and prevent downstream/toe scour.

B. Top Rocks (Header)

Top rock (header rock) shall meet the specifications for 'Rock' contained in the Contract Documents. Top rock consists of the row(s) of rock placed upon and above footer rocks.

C. Geotextile Fabric

Geotextile fabric shall meet the Specifications for 'Geotextile Fabric' contained in the Contract Documents.

3. CONSTRUCTION

A. Installation

1. The imbricated rock walls and toe rock placement shall be constructed along stream banks or in off-channel areas on steep slopes as shown in the Contract Documents.
2. Excavate a trench along the base of the wall. The trench shall be of sufficient depth and size to accommodate the footer rocks such that when installed, they are below the invert of the stream thalweg (if along the channel) or sufficiently deep to allow placement of top rocks at the indicated final elevation (off-channel areas). Where bedrock is encountered, toe rocks shall be keyed-in or grouted in place if grades do not allow placement of reinforced bed material along the streamside face of the rock to a minimum depth of 1-ft. Minimize over-excavation as much as possible.
3. Place one end of the geotextile fabric in the footer trench. The geotextile fabric shall be cut to a sufficient size such that it will extend from the bottom of the footer trench to the top of the back side of the imbricated wall/toe rock.
4. Place footer rocks in footer trench directly on top of the geotextile fabric.
5. Place top rocks on footer rocks allowing batter or setback. Each row of top rocks shall be offset, or setback, six (6) inches (min.) from the previous lower row. Top rocks shall be placed so that they lean on the footer rocks and fit tightly against each other (touching). Any remaining gaps present between the rocks larger than fist sized shall be filled-in ("chinked") with appropriately sized rock. The seams between top rocks shall not line up with the seams between the footer rocks. Continue placing rows of top rocks until elevation indicated in the Contract Documents is achieved.
6. Geogrid layers shall tie in to wall rock as indicated in the Contract Documents, tying-in under the top wall rock.
7. Imbricated rock walls/toe rock shall be keyed into the bank by at least two rocks at the upstream and downstream end. Rocks used to key in wall to bank shall include footers.
8. Once the indicated imbricated wall height is achieved or toe rock is high enough to allow a 3:1

(unless otherwise indicated in Contract Documents) bank grade above rock areas, pull the geotextile fabric up against the fill-side or back side of the wall and backfill.

9. Back fill behind the imbricated wall/toe rock with suitable earth fill which has been approved by the County inspector.
10. Trim any excess geotextile fabric such that it is not visible.
11. Install geogrid material in lifts as indicated in the Contract Documents for steep slope areas associated with imbricated rock wall placement. The Contractor shall minimize over-excavation while ensuring minimum tie-back distances are achieved.

B. Clean-up

1. Upon completion of work, reshape slopes and stream bottom to indicated elevations.
2. Remove unsuitable and surplus rocks and excavated materials to fill areas or approved off-site locations.

SECTION-17 BOULDER POOL

1. DESCRIPTION

This work shall consist of furnishing, transporting, stockpiling, installing and maintaining boulder pools along the stream channel, as indicated in the Contract Documents, or as directed by the County of Roanoke.

2. MATERIALS

A. Footer Rock

Footer rock shall meet the specifications for 'Rock' contained in the Contract Documents. Footer rock consists of rock placed below the invert of the proposed channel to provide support for top rocks and prevent downstream scour.

B. Top Rock (Header)

Top rock (header rock) shall meet the specifications for 'Rock' contained in the Contract Documents. Top rock consists of the rows of rock placed upon and above the footer rock.

C. Reinforced Stream Bed Material

Reinforced Stream bed material shall meet the Specifications for 'Reinforced Stream Bed Material' contained in the Contract Documents.

D. Class II Rip-Rap

Class II Rip-Rap shall meet the Specifications for "Rock" contained in the Contract Documents, such that the D_{50} of the stone shall be 19" with no more than ten (10) percent of the stones by total weight weighing more than 400 pounds per piece, and no more than fifteen (15) percent of the stones by total weight weighing less than 25 pounds per piece. The stones shall be evenly graded and a minimum of 50% by weight of the stones shall weigh 200 pounds or more per piece.

E. Geotextile Fabric

Geotextile fabric shall meet the Specifications for 'Geotextile Fabric' contained in the Contract Documents.

3. CONSTRUCTION

A. Installation

1. Boulder Pools shall be constructed at stations and grades as indicated in the Contract Documents.
2. Place rock sills, set flush with existing grade, at the upstream and downstream extents of Boulder Pool sections.
3. Fill/excavate the channel bed between sills to a depth equal to twice the D_{50} of the reinforced stream bed material (3.0-ft for Class II bed material, 2-ft for Class I).
4. Geotextile fabric shall be placed in the bottom and upstream side of the trench across the entire weir section. Footer rocks shall be placed at the bottom and downstream side of the trench so that a minimum of 1-foot of geotextile fabric lies under the rock.
5. Place weir footers on the edge of fabric as shown in the construction detail of the Contract Documents. Vary outer and inner weir arm angles to avoid symmetry and create variation in pool location. Weir rocks should be placed at 30-50 degree angles from the flow direction in order to create an alternating thalweg/pool configuration. Tilting the top face of footer rocks upstream is encouraged to enhance stability of top rock placement (especially in the center third of the channel where gaps in top rocks may be desirable).
6. Place top rocks on footer rocks to create sloping weir arms, the ends of which extend into and are buried in the adjacent banks. The lowest weir rock may vary laterally from the centerline within the middle third of bankfull width.
7. Optional gaps in center header rocks (middle 1/3rd) should be incorporated occasionally to create protrusion heights of approximately half the rock diameter, with the invert of the gap at design elevation and rocks adjacent to the gap placed such that they are pinned or leaning upstream, partially resting on footers and partially on reinforced bed material behind (upstream of) the weir.
8. Pool depths within the Boulder Pool feature should be approximately twice the riffle bankfull depth. Variation in pool depth and location is encouraged.
9. Top rocks shall be placed so that they lean on the footer rocks and fit tightly against each other (with the exception of optional gaps in the center of the weir). With footer rocks extending at least 12" further downstream than header rocks. The seams between top rocks shall not line up with the seams between the footer rocks.
10. The outermost top rocks on each end of the weir arm shall be installed with at least one top rock buried into the stream bank. The trench behind the top rocks shall be backfilled with reinforced stream bed material, taking care to chink/fill all voids larger than fist sized underneath and between the rocks.
11. The trench behind the top rocks shall be backfilled with reinforced stream bed material with the geotextile fabric between the reinforced stream bed material and top rocks. The geotextile fabric shall be left so that it is visible above the top rocks until the rocks and reinforced stream

bed material have been installed and inspected. After inspection, trim the geotextile flush with the top rocks and reinforced stream bed material.

12. Sill rock consists of a single row of rock, underlain by geotextile fabric, beginning at the ends of the weir sections, extending into the floodplain or bankfull bench a minimum of 5 feet unless otherwise noted on the plan sheets or directed by the County of Roanoke, aligned perpendicular to the stream, with each rock abutted tightly against each other with tops set at proposed grade.
13. After inspection, trim the geotextile flush with the top rocks and reinforced stream bed material.

A. Clean-up

1. Upon completion of work, reshape slopes and stream bottom to indicated elevations.
2. Remove unsuitable and surplus rocks and excavated materials to fill areas or approved off-site locations.

SECTION-18 LOGS

1. DESCRIPTION

This work shall consist of furnishing, transporting, stockpiling, maintaining and placing of logs in-stream habitat logs, cross vane or in-stream woody debris, wetland/floodplain habitat logs, and/or log vanes (with or without rock sills) as indicated in the Contract Documents, or as directed by the County of Roanoke.

2. MATERIALS

- A. Logs shall consist of on-site hardwood trees harvested during the clearing and grubbing process. Logs shall be green timber, free of branches (except as noted in the Contract Documents) for in-stream woody debris, free of roots, and rotted areas. Logs shall be one solid piece extending the entire vane arm or sill length unless otherwise noted in Contract Documents.
- B. Log sizes shall be as indicated in the Contract Documents for log vanes/J-hooks and log sills. Log sizes are shown in the table below.

Structure	Diameter Dimension	Length Dimension*
Cross Vane Woody Debris – Type I	12 in. min.	Greater of 12-ft or $\frac{1}{2} W_{BKF}$
Cross Vane Woody Debris – Type II	12 in. min.	Greater of 12-ft or $\frac{1}{2} W_{BKF}$
Log Vane w/ or w/o Rock Sill (J-Hook)	24 in. min. (header log) 18 in. min. (header log)	15 ft. min. (header log) 10 ft. min. (footer log)

*In the event that logs of sufficient length are not available on site contractor shall consult with The County of Roanoke as to what alternate course of action shall be taken.

1. Any unsuitable material shall be removed at the Contractor's expense.
2. The Contractor shall not be granted an extension of time or extra compensation due to delay caused by sampling, testing, approval or disapproval of log material under the requirements of

these Specifications.

3. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAKE ALL NECESSARY ARRANGEMENTS TO SAVE THIS ON-SITE MATERIAL DURING THE CLEARING AND GRUBBING PROCESS AND MAINTAIN AN ADEQUATE SUPPLY OF LOG MATERIAL AND THAT WORK SHALL NOT BE UNNECESSARILY DELAYED DUE TO INSUFFICIENT SUPPLY.

3. CONSTRUCTION

The Contractor shall install logs in accordance with the Contract Documents.

SECTION-19 IN-STREAM HABITAT LOG SILL

1. DESCRIPTION

This work shall consist of furnishing, transporting, stockpiling, installing and maintaining Instream Habitat Log Sills within the stream channel, as indicated in the Contract Documents, or as directed by the County of Roanoke.

2. MATERIALS

A. Anchor Rock

Anchor rock shall meet the Specifications for 'Rock' contained in the Contract Documents. Anchor rock consists of rock placed upon or against the log.

B. Woody Debris

Woody debris shall meet the Specification for 'Logs' contained in the contract Documents.

C. Reinforced Stream Bed Material

Reinforced stream bed material shall meet the Specifications for 'Reinforced Stream Bed Material' contained in the Contract Documents.

3. CONSTRUCTION

A. Installation

1. **The Contractor is solely responsible for the proper log handling (during clearing) necessary to ensure an adequate supply of logs is available for all indicated log features.** Logs shall be marked prior to clearing so as to indicate the intended use. These trees shall be felled carefully to preserve branching and the crown and root ball to the maximum extent practicable where this structure is indicated in final placement. Logs shall be carefully stockpiled during clearing.
2. The In-stream Habitat Log Sills shall be constructed at the locations/stations as indicated in the Contract Documents. The log shall be placed at proposed stream invert, as indicated in the longitudinal profile, roughly perpendicular to channel flow. Log length shall be sufficient to allow the log to extend a minimum of two (2) feet beyond the bankfull width on either side of the stream. Ends of log will be buried into the stream bank and anchored with structure rocks

buried with the tops of rocks set flush with finished grade.

3. The sill log may have up to a 2 percent cross slope.
4. A second splash log shall be used in steep channels or where necessitated by severe erosion to allow the bottom of the lower log to be placed a minimum of eighteen (18) inches below pool depth. Branches shall be trimmed to a maximum length of 4 feet when measured from the main trunk. (Some branching is desirable in order to create habitat and local scour.)
5. In the event that installation of the habitat log or Woody Debris placement may damage tree roots, excavation shall be minimized. This may include adjusting the location of the feature or eliminating trenching for logs and stream reinforced bed material. This decision shall be field determined and authorized by the County of Roanoke.
6. Logs shall be secured with Model 88 duck bill anchors with 5/16" stainless steel cable, and anchor rocks shall be placed upon each end of the log as shown in the Contract Documents.
7. Reinforced stream bed material shall be placed along the entire restored channel upstream and downstream of the cross vane woody debris. The reinforced stream bed material shall be placed to the proposed invert elevation shown in the Contract Documents.

B. Clean-up

1. Upon completion of work, reshape slopes and stream bottom to indicated elevations.
2. Remove unsuitable and surplus rocks and excavated materials to fill areas or approved off-site locations.

SECTION-20 CONSTRUCTION TOLERANCES

1. DESCRIPTION

All stream work shall be performed such that the finished product adheres to the stream restoration construction tolerances contained herein. The contractor is solely responsible for ensuring the finished product meets the tolerances.

2. SPECIFICATIONS

A. During construction, the Contractor shall adhere to the construction grading tolerances noted as follows:

1. Locations, elevations, and dimensions of all STRUCTURES and all associated structure stakeout points shall be as follows:
 - a. For channels where the bankfull width is $\geq 25'$ and the bankfull maximum depth $\geq 2'$:
 - Vertical tolerance: $+\/- 0.2'$ maximum; and,
 - Horizontal tolerance: $+\/- 1.0'$ maximum;
 - b. For channels where the bankfull width is $< 25'$ and/or the bankfull maximum depth is $< 2'$:
 - Vertical tolerance: $+\/- 0.1'$ maximum; and,
 - Horizontal tolerance: $+\/- 0.5'$ maximum;

- c. In channel areas of low slope, deviation from design (even if within the above indicated tolerances) shall not create conditions which prevent positive drainage (stream flow) in the downstream direction. (i.e. Structure inverts must drop or remain flat when progressing in the downstream direction unless specifically noted otherwise in the Contract Documents.)
- 2. Locations, elevations, and dimensions of all CHANNEL features (as indicated on the grading plan, longitudinal profile, geometry plan, and detailed cross sections) shall be as follows in 2.a and 2.b. Typical riffle cross section dimensions apply to all fully shaped channel areas.
 - a. For channels where the bankfull width is $\geq 25'$ and the bankfull maximum depth $> 2'$:
 - Vertical tolerance: $+\/- 0.3'$ maximum; and,
 - Horizontal tolerance: $+\/- 1.0'$ maximum;
 - b. For channels where the bankfull width is $< 25'$ and/or the bankfull maximum depth $< 2'$:
 - Vertical tolerance: $+\/- 0.2'$ maximum; and,
 - Horizontal tolerance: $+\/- 0.5'$ maximum;
- B. Should the contractor encounter a situation where they believe tolerances overlap and/or conflict, the contractor shall request clarification of the tolerance priority from the County of Roanoke staff (or their designated representative) at least one (1) week prior to working in any area which may be affected by the tolerance in question.
- C. It is recognized that field conditions may warrant adjustments to design elements (such an adjustment requires the prior written approval of County of Roanoke. In addition, certain design elements that fail to meet the above listed tolerances may be acceptable. Such acceptance will be on a case-by-case basis by County of Roanoke staff.

If a tolerance is adjusted all points within a given structure and/or cross section must be shifted equally to maintain dimensional integrity. The restored dimensions cannot vary from the design dimensions beyond the values indicated below without prior written approval of County staff:

- Restored stream bank slopes do not exceed 3:1, unless otherwise noted;
- Cross section width remains within 10% of the design;
- Riffle depth remains within 10% of the design;
- Restored riffle slopes remain with 1% of design (and maintains positive drainage);
- Vane arm slopes remain between 2% and 7%;
- Vane arm deflection angles remain between 20° and 30° ;
- Pool depths remain within 10% of the design depth;

Any such change shall be noted on the final as-built drawing as well as on the preliminary as-built forms with justification for the change. Acceptance of field changes and/or areas outside of tolerances does not relieve the contractor of liability for the structures or channel features during the warranty period.

Adherence to the tolerances shall be documented as indicated in the 'Stream Restoration Certification As-Built Survey' section of this document.

SECTION-21 PLANTING TREES AND SHRUBS

1. DESCRIPTION

- A. This work shall consist of furnishing, transporting, storing and installing trees and shrubs to complete the work for the planting plan as indicated in the Contract Documents, or as directed by the County of Roanoke.
- B. Prior to the start of work, the Contractor shall submit a proposed planting schedule, including species and quantities, anticipated planting dates, and the source of plant material to the County of Roanoke for review. No work shall be performed until this information has been reviewed and approved by the County of Roanoke.
- C. The County of Roanoke may request the Contractor to stake the location of individual plants within the approved Planting Zones.

2. MATERIALS

A. Plant Material

1. All plant material shall conform to the current issue of the American Standard for Nursery Stock published by the American Association of Nurserymen.
2. Plant materials must be selected from certified nurseries that have been inspected by state and/or federal agencies. Nursery inspection certificates shall be furnished to The County of Roanoke upon request.
3. The nursery supply source shall certify that the origin of the seeds from which the trees and shrubs were produced is Hardiness Zone 7, east of the Mississippi River. Stock from colder zones may be accepted, subject to County approval.
4. Plant material collected from the wild is prohibited.
5. Container grown stock shall have been grown in a container long enough for the root system to have developed sufficiently to hold its soil. Roots shall visibly extend to the inside face of the growing container. All container grown plants shall be grouped and kept moist and cool until they are planted. Plants left to dry in the sun prior to planting may be rejected on-site by the Inspector.
6. Plants damaged in handling or transportation shall be rejected.
7. No plants shall be installed unless the County of Roanoke approves both the condition of the plantings and the process of installation.

B. Substitute Plant Material

1. Prior to NOTICE-TO-PROCEED, the County of Roanoke must approve all plant substitutions.
2. If a substitute is selected, it must be native to the County of Roanoke and of the same size, value, and quality as the original plant.

C. Water

1. Water used in the establishment or caring of plants and seed shall be free from any substance that is injurious to plant life.

D. Fertilizer

1. No broadcast fertilization shall be permitted on stream restoration projects unless specifically noted in Contract Documents.
2. Fertilize each bare root, plug, tuber, and pint container plant with a 5 gram tablet of controlled release fertilizer. Fertilize each quart container with a 10 gram tablet of controlled release fertilizer. Fertilize each 1 gallon and/or 2 gallon container with a 20 gram tablet of controlled release fertilizer. Generally, for each 12 to 18 inches of plant height or for each $\frac{1}{2}$ " of tree diameter at the base, use 20 grams for slow growing plants or 40 grams for fast growing plants or poor soil conditions. Said fertilizer tablets shall be Agriform 20-10-5 or approved equivalent, applied in accordance with manufacturer's recommendations.

E. Mycorrhizal Fungi

All bare root seedlings shall be treated with root dip absorbent polymers and mycorrhizal root dip inoculates in accordance with the manufacturer's recommendations. Root Dip shall be Mycortree™ Root Dip or the County of Roanoke approved equal.

F. Root Growth Hormone

All live stake plantings shall be treated with Root Growth Hormone prior to installation.

G. Straw Mulch

Straw mulch shall consist of un-rotten small grain straw.

3. CONSTRUCTION

A. Installation

1. All areas disturbed by construction shall be planted in accordance with the composition and planting schedules for each designated planting zone. Areas within designated planting zones not disturbed by construction shall be supplemented with trees and shrubs to meet the acre quantities specified in the composition schedule.
2. The Contractor shall refer to the planting plan, vegetation schedule, planting details and notes in the Construction Documents for specific spacing requirements.
3. The Contractor shall use the overall spacing requirements, spacing diagrams, and the Planting Notes and Details in the Construction Documents to determine the spacing between each species of vegetation and among the same species vegetation.
4. Immediately after site preparation and approval, trees and shrubs shall be planted. Containerized plants shall be installed between September 30 and March 31, or as directed by the County of Roanoke. Live stakes shall only be planted between February 1 and March 31 (when stock is dormant). Tubelings shall be planted between September 30 and March 31. No planting shall occur when soil is frozen.
5. Root stock of the plant material shall be kept moist during transport from the source to the job site and until planted.
6. The Contractor may be required to flag and label individual planting pits at specific locations. Upon planting a typical area within each planting zone, the Contractor shall have the County of

Roanoke inspect and approve plant spacing and planting techniques before proceeding.

7. All planting pits shall be dug by hand. Walls of planting pits shall be dug so that they are vertical or sloping outward in heavy soils. Scarify the walls of the pit after digging.
8. Excavate the planting pit to a depth of 1 foot plus the container depth in which the plant was grown and 2 feet wider than the container.
9. Planting holes for bare root trees shall be 1-2" deeper than the root collar (i.e. 1-2" deeper than they were growing in the nursery). Bare root seedlings shall be installed with the use of a "sharpshooter shovel".
10. Remove all non-organic debris from the pit and tamp loose soil in the bottom of the pit by hand.
11. Remove the plant either by cutting or inverting the container.
12. DO NOT handle the plant by the branches, leaves, trunk or stem.
13. Place the plant straight in the center of the planting pit, carrying the plant by the root mass. Never lift or carry a plant by the trunk or branches.
14. Place controlled release fertilizer in the planting hole in accordance with Section 24.2.D of these specifications (above).
15. Treat all bare root seedlings with root dip absorbent polymers and mycorrhizal root dip inoculates in accordance with the manufacturer's recommendations as indicated in Section 24.2.E of these specifications (above).
16. Treat all live stake plantings with Root Growth Hormone prior to installation.
17. Backfill planting pit with existing soil and hand tamp as pit is being backfilled to completely fill all voids and air pockets. Do not over compact soil. Make sure plant remains straight during backfilling/tamping procedure.
18. Do not cover the top of the root mass with soil.
19. An additional 18-inch diameter area of topsoil shall be placed around each tree and shrub. Topsoil shall be 2 inches thick.
20. Water plants thoroughly immediately after planting and as needed to maintain survival during the warranty period.
21. The Contractor shall leave no open planting pits at the close of each day.
22. Remove all tags, labels, strings and wire from the plant materials, unless otherwise directed by the County of Roanoke.

B. Clean Up

1. During installation of trees and shrubs, all areas shall be kept neat, clean and free of all trash and debris, and all reasonable precautions shall be taken to avoid damage to existing plants, turf, structures, and private property.
2. The Contractor shall be responsible for off-site removal and disposal of all trash, excess backfill and any materials incidental to the project and disposing of them off-site.

4. WARRANTY

- A. The Contractor shall maintain a 1-year care and replacement warranty of 85% on all B&B, container grown, and tubelings and 60% on all bareroot and tuber stock.
- B. The period of care and replacement shall begin after final inspection and approval of the initial installation of all plants and continue for 1 year, with a potential plant replacement period after the year warranty inspection.
- C. Tree and shrub warranty replacements shall be performed in accordance with the Contract Documents and these specifications.

SECTION-22 HERBACEOUS PERMANENT SEEDING

1. DESCRIPTION

- A. This work shall consist of furnishing, transporting, storing, and installing all herbaceous permanent seeding for the Planting Zones as indicated in the Contract Documents, or as directed by the County of Roanoke.
- B. Prior to start of work on this item, the Contractor shall submit all herbaceous permanent seeding paperwork, to include shipping invoices, seed bag tickets for the herbaceous permanent seed mixes to be installed and the source of the seed to the County of Roanoke for review. No work shall be performed until the seeding paperwork is approved by the County of Roanoke.

2. MATERIALS

A. Seed Mix

Seed Mix shall consist of the varieties indicated in the vegetation schedule and planting plan sheets of the Contract Documents for all planting zones.

Seed shall be certified that the Pure Live Seed (PLS) percentage is equal to or greater than that which is specified on the Plant Schedules. If the PLS is less than specified, the Contractor shall increase the seeding rate to compensate for the PLS difference at his/her own expense.

All seed and seed varieties shall be free from State and Federal prohibited noxious weed seeds and the following:

Annual bluegrass	Corn cockle	Spurred anoda
Bermuda grass	Dodder	Wild garlic
Bindweed	Giant foxtail	Wild onion
Cocklebur	Horse nettle	Johnson grass
Japanese stilt grass	Japanese knotweed	Mile-a-minute
Wavy basket grass	Multiflora rose	

B. Straw Mulch

Straw mulch shall consist of un-rotten small grain straw.

C. Water

Water used in the establishment or caring of plants and seed shall be free from any substance that is injurious to plant life.

D. Fertilizer

Herbaceous seeding areas shall not be fertilized, except in the limited turf grass area at the proposed construction entrance.

E. Limestone

Limestone shall not be applied to any areas receiving herbaceous seeding.

3. CONSTRUCTION

A. Installation

1. **No grading or excavation shall begin without having approved seed mixes on site.** If seed supply runs out, no further work shall be done until seed supply is replenished.
2. Any seed bags found on site containing seed other than that indicated in the Contract Documents (e.g. perennial rye) shall be immediately removed from the site.
3. All areas disturbed by construction shall be seeded in accordance with the planting plans and schedules. The herbaceous permanent seeding is specified on the composition and planting schedules in the Contract Documents. Areas not disturbed, shall not be seeded.
4. The Contractor shall supply the content analysis seed tag from each seed bag to the County of Roanoke for approval prior to seeding.
5. All areas to be seeded shall conform to the finished grades as specified on the plans and be free of all weeds, trash, debris, brush, clods, loose rocks and other foreign materials larger than 3 inches in diameter or length that would interfere with seeding. All gullies, washes or disturbed areas that develop subsequent to final dressing shall be repaired prior to seeding.
6. Seeding shall be accomplished by using a broadcast spreader. Any alternative seeding methods must be approved by the County of Roanoke, prior to Bid Submittal. All seeding equipment shall be calibrated before application to the satisfaction of The County of Roanoke so that the material is applied accurately and evenly to avoid misses and overlaps. The broadcast spreader used shall be capable of placing seed at the specified rate.
7. Broadcast fertilizer (Scott's Turfbuilder Lawn Starter, or approved equivalent) may only be used for the isolated areas of lawn at the planned construction entrance. Fertilization shall not exceed manufacturer's recommended rate unless soil testing is performed to indicate otherwise.
8. The specified herbaceous permanent seed mix shall be thoroughly mixed with Species Group 9 (temporary seed) and seeded using a broadcast seeder at the rates indicated in the Contract Documents. Seed shall be applied to the top of the topsoil in two different directions. Following the placement of the topsoil and herbaceous permanent seed mix, the Contractor shall hand rake the seeded areas to mix herbaceous permanent seed mix into the first one (1) inch of the surface media.
9. Seed shall be spread immediately following fine grading or tillage of an area, as construction progresses, in order to achieve rapid stabilization. After seeding and raking, the Contractor shall

cover the seeded areas with straw mulch (overbank areas) or coir matting along the stream banks, as indicated in the Contract documents. **No seed shall be spread on top of straw or coir matting.**

10. At the sole discretion of County staff, additional seeding may be required in areas where poor vegetative establishment is observed (less than 85% surface coverage). Additional seeding may be requested at any time prior to substantial completion or in association with planting inspections during the one-year warranty period. Additional seeding shall be considered within the original contract scope and shall not be subject to change order request.

B. Clean-up

The Contractor shall be responsible for the removal of all trash and any other materials incidental to the project and disposing of them off-site.

4. WARRANTY

- A. The period of care and replacement shall begin after final inspection and approval of the initial installation of all plants and continue for 1 year, with a potential plant replacement period after the year warranty inspection.
- B. Herbaceous permanent seeding warranty replacements shall be performed in accordance with the Contract Documents and these specifications.

SECTION-23 NON-NATIVE AND INVASIVE SPECIES CONTROL

1. DESCRIPTION

- A. In order to prevent the spread or establishment of invasive species the Contractor shall:
 1. Remove all Invasive and Highly Invasive plant species within the Limits of Disturbance (LOD) during the clearing operations.
 2. Maintain the site free of Invasive and Highly Invasive plant species during the construction.
 3. Maintain the site free of Invasive and Highly Invasive plant species for the duration of the Warranty period.
- B. The warranty period shall be equal to that for planted materials (trees and shrubs).
 1. For the purposes of this warranty, one year shall include one full growing season through the next fall planting window. For example, if the Contractor plants in the spring 2022, the warranty period runs through November 2023.
 2. However, in no case shall the warranty period be less than twelve (12) full months beginning with the date of final planting inspection and approval.
- C. The scope of work for this item shall include:
 1. Existing invasive plant species will be removed as part of clearing and grubbing within the project limits of disturbance (LOD).
 2. After clearing and grubbing, the Contractor will be responsible for controlling non-native invasive plants within the project limits of disturbance during construction and for the full one-year warranty period.

3. The bid for this contract item should include all resources necessary to control non-native invasive species within the project limits of disturbance in accordance with the standards set forth below.
- D. The County will inspect the project area periodically to ensure successful performance of this Work by the Contractor. At a minimum, the inspections will be:
 1. Once at the end of the clearing operations.
 2. Once at the end of grading operations and prior to planting.
 3. Once at the end of the warranty period
- E. If invasive species are found in excess of their respective definitions (Paragraph 35.2, below) during any of these inspections the Contractor shall remove and or treat the invasive plants and modify the control plan accordingly.

2. DEFINITIONS

- A. For the purposes of this Contract, Invasive and Highly invasive species are as defined in the *Virginia Invasive Plant Species List* that can be found at the Virginia Department of Conservation & Recreation Division of Natural Heritage (DNH) website at http://www.dcr.virginia.gov/natural_heritage/documents/nh-invasive-plant-list-2014.pdf.
- B. Invasive Plant Species - Invasive plant species (as defined in paragraph 35.2, above) shall not be present on more than 20% of the site.
- C. Highly Invasiveness Species - no plants defined as a Highly Invasive species (as defined in paragraph 35.2, above) can be present on-site.

3. CONTROL

- A. Control of Invasive and Highly Invasive plant species shall be per *A Management Guide For Invasive Plants In Southern Forests*, by Miller, James H.; Manning, Steven T.; Enloe, Stephen F. 2010. Gen. Tech. Rep. SRS-131. Available through Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 120 p. A PDF of this document can be found online at: <http://www.srs.fs.usda.gov/pubs/36915>.
- B. All chemical applications must be performed by Virginia certified pesticide applicators.
 1. It is solely the Contractor's responsibility to obtain all necessary permits to use pesticides and work within the riparian corridor.
 2. The Contractor shall be responsible for ensuring that only pesticides appropriate for use adjacent to surface water are used, where applicable.
- C. The Contractor shall maintain current copies of applicator's spray logs, prepared by Virginia certified pesticide applicators' on-site.
- D. Payment for Invasive Plant Species Control shall not be approved without copies of the current spray logs.
- E. Identification - The approximate locations of observed Invasive and Highly Invasive plant species, specified above, and their relative abundance will be identified on a site map.
- F. Control - Specific methods to control the invasive plant species specified above and on the Virginia Department of Conservation and Recreation Natural Heritage Program Virginia Invasive Plant Species List, will be dependent upon the relative abundance of the species identified. Proposed control methods may include manual, mechanical, biological, and/or chemical methods.
- G. Control Plan -- The proposed control plan shall be submitted to County staff for authorization prior to its implementation. The recommended method of control for an identified invasive plant

species will then be performed by the Contractor, as needed based on current accepted and effective control methods (e.g. cut stump method, twice per year according to the plant's life cycle), and as directed by the County throughout the length of the warranty period, prior to release of the Warranty Period. If chemical or biological control methods are to be implemented, the Contractor shall ensure all required applicator certifications and regulations are followed. If physical removal is implemented, the Contractor shall ensure the plant materials are disposed of completely and responsibly.

SECTION-24 STREAM RESTORATION CERTIFICATION AS-BUILT SURVEY

Certified as-built survey will be provided by the design engineer under a separate contract. The contractor is responsible for coordinating as-built survey with the design engineer within one (1) month of achieving final grade in all project areas.

1. DURING CONSTRUCTION

- A. The Contractor shall perform grade checks and evaluate field conditions for planned work areas a minimum of one (1) week prior to active work in said areas. This information shall be provided during regularly scheduled project team meetings to allow discussion of possible field adjustments or concerns regarding constructability. Failure to provide grade checks may result in construction delays. The contractor shall be responsible for any and all costs associated with such delays.
- B. The Contractor shall provide daily, non-certified, as-built surveys in the form of "Construction Foreman's GRADE CHECK NOTES" to County Staff. The GRADE CHECK NOTES shall show the as-built elevations are in conformance (within specified tolerances) with the proposed elevations at all nodes shown in the structure tables and all proposed in-channel grading, top of bench and bench limits (if in bench section), top of stream bank, and all proposed topographic features outside of the stream channel extended to the LOD on both sides of the channel, as shown in the grading plans, proposed cross sections and longitudinal profile.
- C. The Contractor shall maintain a record of approved field changes (red line plans) for reference during the certified as-built survey. Red line markups shall clearly convey the site conditions/reason for deviation from plans.
- D. Any errors or omissions found during the course of the certified as-built survey and determined by the County of Roanoke, who shall be the sole judge, to have occurred during construction shall be repaired by the Contractor to the satisfaction of the County of Roanoke at no additional expense to the County. The Contractor shall make any necessary repairs or corrections required by the County of Roanoke including grading, adjustment of stream restoration structures, etc. Upon completion of corrective action, the Contractor shall be responsible for re-survey of the problem area showing the original as-built information and any modification highlighted and noted. A Land Surveyor licensed to practice in the Commonwealth of Virginia shall seal the re-survey.
- E. Final acceptance of the project by the County of Roanoke shall not occur until the certified as-built has been completed for the entire project and approved by the County of Roanoke.

2. MAINTENANCE

- A. The Contractor will be held fully responsible for maintaining the project during the course of the construction including the period of the as-built certification.

B. The Contractor shall be held responsible for maintaining the integrity of the project until final acceptance of the certified as-built survey and a determination by the County of Roanoke that no errors or omissions have been made by the Contractor during the course of construction. The County of Roanoke shall make every effort to notify the Contractor within 3 weeks of receipt of the certified as-built survey as to the acceptability or rejection of the construction of the stream restoration project; however, lapse of this time frame does not relieve the Contractor of responsibility for maintaining the integrity of the project or for correcting any errors/omissions until final acceptance of the certified as-built for the entire stream restoration project.

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APPENDIX B

U.S. ARMY CORPS OF ENGINEERS NATIONWIDE PERMIT 27, WITH SPECIAL CONDITIONS

Nationwide Permit 27 – Aquatic Habitat Restoration, Enhancement, and Establishment Activities

Effective Date: February 25, 2022 / Expiration Date: March 14, 2026

Authorities: Sections 10 and 404

Activities in waters of the United States associated with the restoration, enhancement, and establishment of tidal and non-tidal wetlands and riparian areas, the restoration and enhancement of non-tidal streams and other non-tidal open waters, and the rehabilitation or enhancement of tidal streams, tidal wetlands, and tidal open waters, provided those activities result in net increases in aquatic resource functions and services.

To be authorized by this NWP, the aquatic habitat restoration, enhancement, or establishment activity must be planned, designed, and implemented so that it results in aquatic habitat that resembles an ecological reference. An ecological reference may be based on the characteristics of one or more intact aquatic habitats or riparian areas of the same type that exist in the region. An ecological reference may be based on a conceptual model developed from regional ecological knowledge of the target aquatic habitat type or riparian area.

To the extent that a Corps permit is required, activities authorized by this NWP include, but are not limited to the removal of accumulated sediments; releases of sediment from reservoirs to maintain sediment transport continuity to restore downstream habitats; the installation, removal, and maintenance of small water control structures, dikes, and berms, as well as discharges of dredged or fill material to restore appropriate stream channel configurations after small water control structures, dikes, and berms are removed; the installation of current deflectors; the enhancement, rehabilitation, or re-establishment of riffle and pool stream structure; the placement of in-stream habitat structures; modifications of the stream bed and/or banks to enhance, rehabilitate, or re-establish stream meanders; the removal of stream barriers, such as undersized culverts, fords, and grade control structures; the backfilling of artificial channels; the removal of existing drainage structures, such as drain tiles, and the filling, blocking, or reshaping of drainage ditches to restore wetland hydrology; the installation of structures or fills necessary to restore or enhance wetland or stream hydrology; the construction of small nesting islands; the construction of open water areas; the construction of oyster habitat over unvegetated bottom in tidal waters; coral restoration or relocation activities; shellfish seeding; activities needed to reestablish vegetation, including plowing or discing for seed bed preparation and the planting of appropriate wetland species; re-establishment of submerged aquatic vegetation in areas where those plant communities previously existed; re-establishment of tidal wetlands in tidal waters where those wetlands previously existed; mechanized land clearing to remove non-native invasive, exotic, or nuisance vegetation; and other related activities. Only native plant species should be planted at the site.

This NWP authorizes the relocation of non-tidal waters, including non-tidal wetlands and streams, on the project site provided there are net increases in aquatic resource functions and services.

Except for the relocation of non-tidal waters on the project site, this NWP does not authorize the conversion of a stream or natural wetlands to another aquatic habitat type (e.g., the conversion of a stream to wetland or vice versa) or uplands. Changes in wetland plant communities that occur when wetland hydrology is more fully restored during wetland rehabilitation activities are not considered a conversion to another aquatic habitat type. This NWP does not authorize stream channelization. This NWP does not authorize the relocation of tidal waters or the conversion of tidal waters, including tidal wetlands, to other aquatic uses, such as the conversion of tidal wetlands into open water impoundments.

Compensatory mitigation is not required for activities authorized by this NWP since these activities must result in net increases in aquatic resource functions and services.

Reversion. For enhancement, restoration, and establishment activities conducted: (1) In accordance with the terms and conditions of a binding stream or wetland enhancement or restoration agreement, or a wetland establishment agreement, between the landowner and the U.S. Fish and Wildlife Service (FWS), the Natural Resources Conservation Service (NRCS), the Farm Service Agency (FSA), the National Marine Fisheries Service (NMFS), the National Ocean Service (NOS), U.S. Forest Service (USFS), or their designated state cooperating agencies; (2) as voluntary wetland restoration, enhancement, and establishment actions documented by the NRCS or USDA Technical Service Provider pursuant to NRCS Field Office Technical Guide standards; or (3) on reclaimed surface coal mine lands, in accordance with a Surface Mining Control and Reclamation Act permit issued by the Office of Surface Mining Reclamation and Enforcement (OSMRE) or the applicable state agency, this NWP also authorizes any future discharge of dredged or fill material associated with the reversion of the area to its documented prior condition and use (i.e., prior to the restoration, enhancement, or establishment activities). The reversion must occur within five years after expiration of a limited term wetland restoration or establishment agreement or permit, and is authorized in these circumstances even if the discharge of dredged or fill material occurs after this NWP expires. The five-year reversion limit does not apply to agreements without time limits reached between the landowner and the FWS, NRCS, FSA, NMFS, NOS, USFS, or an appropriate state cooperating agency. This NWP also authorizes discharges of dredged or fill material in waters of the United States for the reversion of wetlands that were restored, enhanced, or established on prior-converted cropland or on uplands, in accordance with a binding agreement between the landowner and NRCS, FSA, FWS, or their designated state cooperating agencies (even though the restoration, enhancement, or establishment activity did not require a section 404 permit). The prior condition will be documented in the original agreement or permit, and the determination of return to prior conditions will be made by the Federal agency or appropriate state agency executing the agreement or permit. Before conducting any reversion activity, the permittee or the appropriate Federal or state agency must notify the district engineer and include the documentation of the prior condition. Once an area has reverted to its prior physical condition, it will be subject to whatever the Corps Regulatory requirements are applicable to that type of land at the time. The requirement that the activity results in a net increase in aquatic resource functions and services does not apply to reversion activities meeting the above conditions. Except for the activities described above, this NWP does not authorize any future discharge of dredged or fill material associated with the reversion of the area to its prior condition. In such cases a separate permit would be required for any reversion.

Reporting. For those activities that do not require pre-construction notification, the permittee must submit to the district engineer a copy of: (1) the binding stream enhancement or restoration agreement or wetland enhancement, restoration, or establishment agreement, or a project description, including project plans and location map; (2) the NRCS or USDA Technical Service Provider documentation for the voluntary stream enhancement or restoration action or wetland restoration, enhancement, or establishment action; or (3) the SMCRA permit issued by OSMRE or the applicable state agency. The report must also include information on baseline ecological conditions on the project site, such as a delineation of wetlands, streams, and/or other aquatic habitats. These documents must be submitted to the district engineer at least 30 days prior to commencing activities in waters of the United States authorized by this NWP.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing any activity (see general condition 32), except for the following activities:

(1) Activities conducted on non-Federal public lands and private lands, in accordance with the terms and conditions of a binding stream enhancement or restoration agreement

or wetland enhancement, restoration, or establishment agreement between the landowner and the FWS, NRCS, FSA, NMFS, NOS, USFS or their designated state cooperating agencies;

(2) Activities conducted in accordance with the terms and conditions of a binding coral restoration or relocation agreement between the project proponent and the NMFS or any of its designated state cooperating agencies;

(3) Voluntary stream or wetland restoration or enhancement action, or wetland establishment action, documented by the NRCS or USDA Technical Service Provider pursuant to NRCS Field Office Technical Guide standards; or

(4) The reclamation of surface coal mine lands, in accordance with an SMCRA permit issued by the OSMRE or the applicable state agency.

However, the permittee must submit a copy of the appropriate documentation to the district engineer to fulfill the reporting requirement. (Authorities: Sections 10 and 404)

Note: This NWP can be used to authorize compensatory mitigation projects, including mitigation banks and in-lieu fee projects. However, this NWP does not authorize the reversion of an area used for a compensatory mitigation project to its prior condition, since compensatory mitigation is generally intended to be permanent.

REGIONAL CONDITIONS:

For applicable Regional Conditions, Water Quality Certification (WQC) determination or requirements, and Coastal Zone Management Act (CZMA) consistency determinations or requirements see the Norfolk District Final Regional Conditions for the 2021 Nationwide Permits (NWPs) Applicable in Virginia (Including Northern Virginia Military Installations within Baltimore District's Area of Responsibility) for the 41 Nationwide Permits affixed to the end of this document.

GENERAL CONDITIONS:

Note: To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as applicable, in addition to any regional or case-specific conditions imposed by the division engineer or district engineer. Prospective permittees should contact the appropriate Corps district office to determine if regional conditions have been imposed on an NWP. Prospective permittees should also contact the appropriate Corps district office to determine the status of Clean Water Act Section 401 water quality certification and/or Coastal Zone Management Act consistency for an NWP. Every person who may wish to obtain permit authorization under one or more NWPs, or who is currently relying on an existing or prior permit authorization under one or more NWPs, has been and is on notice that all of the provisions of 33 CFR 330.1 through 330.6 apply to every NWP authorization. Note especially 33 CFR 330.5 relating to the modification, suspension, or revocation of any NWP authorization.

1. Navigation.

- (a) No activity may cause more than a minimal adverse effect on navigation.
- (b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.
- (c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions

caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

- 2. *Aquatic Life Movements.* No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. All permanent and temporary crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species. If a bottomless culvert cannot be used, then the crossing should be designed and constructed to minimize adverse effects to aquatic life movements.
- 3. *Spawning Areas.* Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.
- 4. *Migratory Bird Breeding Areas.* Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.
- 5. *Shellfish Beds.* No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48, or is a shellfish seeding or habitat restoration activity authorized by NWP 27.
- 6. *Suitable Material.* No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see section 307 of the Clean Water Act).
- 7. *Water Supply Intakes.* No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.
- 8. *Adverse Effects from Impoundments.* If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.
- 9. *Management of Water Flows.* To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization, storm water management activities, and temporary and permanent road crossings, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g. stream restoration or relocation activities).
- 10. *Fills Within 100-Year Floodplains.* The activity must comply with applicable FEMA-approved state or local floodplain management requirements.
- 11. *Equipment.* Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.
- 12. *Soil Erosion and Sediment Controls.* Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow, or during low tides.

13. *Removal of Structures and Fills.* Temporary structures must be removed, to the maximum extent practicable, after their use has been discontinued. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

14. *Proper Maintenance.* Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety and compliance with applicable NWP general conditions, as well as any activity-specific conditions added by the district engineer to an NWP authorization.

15. *Single and Complete Project.* The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

16. *Wild and Scenic Rivers.*

(a) No NWP activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status.

(b) If a proposed NWP activity will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, the permittee must submit a pre-construction notification (see general condition 32). The district engineer will coordinate the PCN with the Federal agency with direct management responsibility for that river. Permittees shall not begin the NWP activity until notified by the district engineer that the Federal agency with direct management responsibility for that river has determined in writing that the proposed NWP activity will not adversely affect the Wild and Scenic River designation or study status.

(c) Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency responsible for the designated Wild and Scenic River or study river (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service). Information on these rivers is also available at:

<http://www.rivers.gov/>.

17. *Tribal Rights.* No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

18. *Endangered Species.*

(a) No activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which "may affect" a listed species or critical habitat unless ESA section 7 consultation addressing the consequences of the proposed activity on listed species or critical habitat has been completed. See 50 CFR 402.02 for the definition of "effects of the action" for the purposes of ESA section 7 consultation, as well as 50 CFR 402.17, which provides further explanation under ESA section 7 regarding "activities that are reasonably certain to occur" and "consequences caused by the proposed action."

(b) Federal agencies should follow their own procedures for complying with the requirements of the ESA (see 33 CFR 330.4(f)(1)). If pre-construction notification is required for the proposed activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation has not been submitted, additional ESA section 7 consultation may be necessary for the activity and the respective federal agency would be responsible for fulfilling its obligation under section 7 of the ESA.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the endangered or threatened species that might be affected by the proposed activity or that utilize the designated critical habitat that might be affected by the proposed activity. The district engineer will determine whether the proposed activity "may affect" or will have "no effect" to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps' determination within 45 days of receipt of a complete pre-construction notification. For activities where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the activity, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification that the proposed activity will have "no effect" on listed species or critical habitat, or until ESA section 7 consultation has been completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(d) As a result of formal or informal consultation with the FWS or NMFS the district engineer may add species specific permit conditions to the NWPs.

(e) Authorization of an activity by an NWP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the FWS or the NMFS, the Endangered Species Act prohibits any person subject to the jurisdiction of the United States to take a listed species, where "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word "harm" in the definition of "take" means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

(f) If the non-federal permittee has a valid ESA section 10(a)(1)(B) incidental take permit with an approved Habitat Conservation Plan for a project or a group of projects that includes the proposed NWP activity, the non-federal applicant should provide a copy of that ESA section 10(a)(1)(B) permit with the PCN required by paragraph (c) of this general condition. The district engineer will coordinate with the agency that issued the ESA section 10(a)(1)(B) permit to determine whether the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation conducted for the ESA section 10(a)(1)(B) permit. If that coordination results in concurrence from the agency that the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation for the ESA section 10(a)(1)(B) permit, the district engineer does not need to conduct a separate ESA section 7 consultation for the proposed NWP activity. The district engineer will notify the non-federal applicant within 45 days of receipt of a complete pre-construction notification whether the ESA section 10(a)(1)(B) permit covers the proposed NWP activity or whether additional ESA section 7 consultation is required.

(g) Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the FWS and NMFS or their worldwide Web pages at <http://www.fws.gov/> or <http://www.fws.gov/ipac> and <http://www.nmfs.noaa.gov/pr/species/esa/> respectively.

19. *Migratory Birds and Bald and Golden Eagles.* The permittee is responsible for ensuring that an action authorized by NWP complies with the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. The permittee is responsible for contacting the appropriate local office of the U.S. Fish and Wildlife Service to determine what measures, if any, are necessary or appropriate to reduce adverse effects to migratory birds or eagles, including whether "incidental take" permits are necessary and available under the Migratory Bird Treaty Act or Bald and Golden Eagle Protection Act for a particular activity.

20. *Historic Properties.*

- (a) No activity is authorized under any NWP which may have the potential to cause effects to properties listed, or eligible for listing, in the National Register of Historic Places until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.
- (b) Federal permittees should follow their own procedures for complying with the requirements of section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)(1)). If pre-construction notification is required for the proposed NWP activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation is not submitted, then additional consultation under section 106 may be necessary. The respective federal agency is responsible for fulfilling its obligation to comply with section 106.
- (c) Non-federal permittees must submit a pre-construction notification to the district engineer if the NWP activity might have the potential to cause effects to any historic properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties might have the potential to be affected by the proposed NWP activity or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of, or potential for, the presence of historic properties can be sought from the State Historic Preservation Officer, Tribal Historic Preservation Officer, or designated tribal representative, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). When reviewing pre-construction notifications, district engineers will comply with the current procedures for addressing the requirements of section 106 of the National Historic Preservation Act. The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts commensurate with potential impacts, which may include background research, consultation, oral history interviews, sample field investigation, and/or field survey. Based on the information submitted in the PCN and these identification efforts, the district engineer shall determine whether the proposed NWP activity has the potential to cause effects on the historic properties. Section 106 consultation is not required when the district engineer determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR 800.3(a)). Section 106 consultation is required when the district engineer determines that the activity has the potential to cause effects on historic properties. The district engineer will conduct consultation with consulting parties identified under 36 CFR 800.2(c) when he or she makes any of the following effect determinations for the purposes of section 106 of the NHPA: no historic properties affected, no adverse effect, or adverse effect.
- (d) Where the non-Federal applicant has identified historic properties on which the proposed NWP activity might have the potential to cause effects and has so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects to historic properties or that NHPA section 106 consultation has been completed. For non-federal permittees, the district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA section 106 consultation is required. If NHPA section 106 consultation is required, the district engineer will notify the non-Federal applicant that he or she cannot begin the activity until section 106 consultation is completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.
- (e) Prospective permittees should be aware that section 110k of the NHPA (54 U.S.C. 306113) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (AHP),

determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

21. *Discovery of Previously Unknown Remains and Artifacts.* Permittees that discover any previously unknown historic, cultural or archeological remains and artifacts while

accomplishing the activity authorized by NWP, they must immediately notify the district engineer of what they have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal, and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

22. *Designated Critical Resource Waters.* Critical resource waters include, NOAA-managed

marine sanctuaries and marine monuments, and National Estuarine Research Reserves. The district engineer may designate, after notice and opportunity for public comment, additional waters officially designated by a state as having particular environmental or ecological significance, such as outstanding national resource waters or state natural heritage sites. The district engineer may also designate additional critical resource waters after notice and opportunity for public comment.

- (a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, 50, 51, 52, 57 and 5258 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.
- (b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, 38, and 54, notification is required in accordance with general condition 32, for any activity proposed by permittees in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after she or he determines that the impacts to the critical resource waters will be no more than minimal.

23. *Mitigation.* The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal:

- (a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).
- (b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating for resource losses) will be required to the extent necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal.
- (c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse environmental effects of the proposed activity are no more than minimal, and provides an activity-specific waiver of this requirement. For wetland losses of 1/10-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in only minimal adverse environmental effects.
- (d) Compensatory mitigation at a minimum one-for-one ratio will be required for all losses of stream bed that exceed 3/100-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse environmental effects of the

proposed activity are no more than minimal, and provides an activity-specific waiver of this requirement. This compensatory mitigation requirement may be satisfied through the restoration or enhancement of riparian areas next to streams in accordance with paragraph (e) of this general condition. For losses of stream bed of 3/100-acre or less that require pre- construction notification, the district engineer may determine on a case-by- case basis that compensatory mitigation is required to ensure that the activity results in only minimal adverse environmental effects. Compensatory mitigation for losses of streams should be provided, if practicable, through stream rehabilitation, enhancement, or preservation since streams are difficult-to- replace resources (see 33 CFR 332.3(e)(3)).

(e) Compensatory mitigation plans for NWP activities in or near streams or other open waters will normally include a requirement for the restoration or enhancement, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, the restoration or maintenance/protection of riparian areas may be the only compensatory mitigation required. If restoring riparian areas involves planting vegetation, only native species should be planted. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. If it is not possible to restore or maintain/protect a riparian area on both sides of a stream, or if the waterbody is a lake or coastal waters, then restoring or maintaining/protecting a riparian area along a single bank or shoreline may be sufficient. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of minimization or compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

(f) Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR part 332.

(1) The prospective permittee is responsible for proposing an appropriate compensatory mitigation option if compensatory mitigation is necessary to ensure that the activity results in no more than minimal adverse environmental effects. For the NWPs, the preferred mechanism for providing compensatory mitigation is mitigation bank credits or in-lieu fee program credits (see 33 CFR 332.3(b)(2) and (3)). However, if an appropriate number and type of mitigation bank or in-lieu credits are not available at the time the PCN is submitted to the district engineer, the district engineer may approve the use of permittee- responsible mitigation.

(2) The amount of compensatory mitigation required by the district engineer must be sufficient to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see 33 CFR 330.1(e)(3)). (See also 33 CFR 332.3(f)).

(3) Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, aquatic resource restoration should be the first compensatory mitigation option considered for permittee-responsible mitigation.

(4) If permittee-responsible mitigation is the proposed option, the prospective permittee is responsible for submitting a mitigation plan. A conceptual or detailed mitigation plan may be used by the district engineer to make the decision on the NWP verification request, but a final mitigation plan that addresses the applicable requirements of 33 CFR 332.4(c)(2) through (14) must be approved by the district engineer before the permittee begins work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation (see 33 CFR 332.3(k)(3)). If permittee-responsible mitigation is the proposed option, and the proposed compensatory mitigation site is located on land in which another federal agency holds an easement, the district engineer will coordinate with that federal agency to determine if proposed compensatory mitigation project is compatible with the terms of the easement.

(5) If mitigation bank or in-lieu fee program credits are the proposed option, the mitigation plan needs to address only the baseline conditions at the impact site and the number of credits to be provided (see 33 CFR 332.4(c)(1)(ii)).

(6) Compensatory mitigation requirements (e.g., resource type and amount to be provided as compensatory mitigation, site protection, ecological performance standards, monitoring requirements) may be addressed through conditions added to the NWP authorization, instead of components of a compensatory mitigation plan (see 33 CFR 332.4(c)(1)(ii)).

(g) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2-acre, it cannot be used to authorize any NWP activity resulting in the loss of greater than 1/2-acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that an NWP activity already meeting the established acreage limits also satisfies the no more than minimal impact requirement for the NWPs.

(h) Permittees may propose the use of mitigation banks, in-lieu fee programs, or permittee- responsible mitigation. When developing a compensatory mitigation proposal, the permittee must consider appropriate and practicable options consistent with the framework at 33 CFR 332.3(b). For activities resulting in the loss of marine or estuarine resources, permittee-responsible mitigation may be environmentally preferable if there are no mitigation banks or in-lieu fee programs in the area that have marine or estuarine credits available for sale or transfer to the permittee. For permittee-responsible mitigation, the special conditions of the NWP verification must clearly indicate the party or parties responsible for the implementation and performance of the compensatory mitigation project, and, if required, its long-term management.

(i) Where certain functions and services of waters of the United States are permanently adversely affected by a regulated activity, such as discharges of dredged or fill material into waters of the United States that will convert a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse environmental effects of the activity to the no more than minimal level.

24. *Safety of Impoundment Structures.* To ensure that all impoundment structures are safely designed, the district engineer may require non-Federal applicants to demonstrate that the structures comply with established state or federal, dam safety criteria or have been designed by qualified persons. The district engineer may also require documentation that the design has been independently reviewed by similarly qualified persons, and appropriate modifications made to ensure safety.

25. *Water Quality.*

(a) Where the certifying authority (state, authorized tribe, or EPA, as appropriate) has not previously certified compliance of an NWP with CWA section 401, a CWA section 401 water quality certification for the proposed discharge must be obtained or waived (see 33 CFR 330.4(c)). If the permittee cannot comply with all of the conditions of a water quality certification previously issued by certifying authority for the issuance of the NWP, then the permittee must obtain a water quality certification or waiver for the proposed discharge in order for the activity to be authorized by an NWP.

(b) If the NWP activity requires pre-construction notification and the certifying authority has not previously certified compliance of an NWP with CWA section 401, the proposed discharge is not authorized by an NWP until water quality certification is obtained or waived. If the certifying authority issues a water quality certification for the proposed discharge, the permittee must submit a copy of the certification to the district engineer. The discharge is not authorized by an NWP until the district engineer has notified the permittee that the water quality certification requirement has been satisfied by the issuance of a water quality certification or a waiver.

(c) The district engineer or certifying authority may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

26. **Coastal Zone Management.** In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). If the permittee cannot comply with all of the conditions of a coastal zone management consistency concurrence previously issued by the state, then the permittee must obtain an individual coastal zone management consistency concurrence or presumption of concurrence in order for the activity to be authorized by an NWP. The district engineer or a state may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

27. **Regional and Case-By-Case Conditions.** The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its CWA section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

28. **Use of Multiple Nationwide Permits.** The use of more than one NWP for a single and complete project is authorized, subject to the following restrictions:

- (a) If only one of the NWPs used to authorize the single and complete project has a specified acreage limit, the acreage loss of waters of the United States cannot exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.
- (b) If one or more of the NWPs used to authorize the single and complete project has specified acreage limits, the acreage loss of waters of the United States authorized by those NWPs cannot exceed their respective specified acreage limits. For example, if a commercial development is constructed under NWP 39, and the single and complete project includes the filling of an upland ditch authorized by NWP 46, the maximum acreage loss of waters of the United States for the commercial development under NWP 39 cannot exceed 1/2-acre, and the total acreage loss of waters of United States due to the NWP 39 and 46 activities cannot exceed 1 acre.

29. **Transfer of Nationwide Permit Verifications.** If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature:

"When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below."

(Transferee)

(Date)

30. **Compliance Certification.** Each permittee who receives an NWP verification letter from the Corps must provide a signed certification documenting completion of the authorized activity and implementation of any required compensatory mitigation. The success of any required permittee-responsible mitigation, including the achievement of ecological performance standards, will be addressed separately by the district engineer. The Corps will provide the permittee the certification document with the NWP verification letter. The certification document will include:

- (a) A statement that the authorized activity was done in accordance with the NWP authorization, including any general, regional, or activity-specific conditions;
- (b) A statement that the implementation of any required compensatory mitigation was completed in accordance with the permit conditions. If credits from a mitigation bank or in-lieu fee program are used to satisfy the compensatory mitigation requirements, the certification must include the documentation required by 33 CFR 332.3(l)(3) to confirm that the permittee secured the appropriate number and resource type of credits; and
- (c) The signature of the permittee certifying the completion of the activity and mitigation. The completed certification document must be submitted to the district engineer within 30 days of completion of the authorized activity or the implementation of any required compensatory mitigation, whichever occurs later.

31. **Activities Affecting Structures or Works Built by the United States.** If an NWP activity also requires permission from the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers (USACE) federally authorized Civil Works project (a "USACE project"), the prospective permittee must submit a pre-construction notification. See paragraph (b)(10) of general condition 32. An activity that requires section 408 permission and/or review is not authorized by an NWP until the appropriate Corps office issues the section 408 permission or completes its review to alter, occupy, or use the USACE project, and the district engineer issues a written NWP verification.

32. **Pre-Construction Notification.**

- (a) **Timing.** Where required by the terms of the NWP, the permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, if the PCN is determined to be incomplete, notify the prospective permittee within that 30 day period to request the additional information necessary to make the PCN complete. The request must specify the information needed to make the PCN complete. As a general rule, district engineers will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:
 - (1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or
 - (2) 45 calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 18 that listed species or critical habitat might be affected or are in the vicinity of the activity, or to notify the Corps pursuant to general condition 20 that the activity might have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that there is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)) has been completed. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee may not begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the pr set forth in 33 CFR 330.5(d)(2).
- (b) **Contents of Pre-Construction Notification:** The PCN must be in writing and include the following information:
 - (1) Name, address and telephone numbers of the prospective permittee;

- (2) Location of the proposed activity;
- (3) Identify the specific NWP or NWP(s) the prospective permittee wants to use to authorize the proposed activity;
- (4)
 - (i) A description of the proposed activity; the activity's purpose; direct and indirect adverse environmental effects the activity would cause, including the anticipated amount of loss of wetlands, other special aquatic sites, and other waters expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure; a description of any proposed mitigation measures intended to reduce the adverse environmental effects caused by the proposed activity; and any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings for linear projects that require Department of the Army authorization but do not require pre-construction notification. The description of the proposed activity and any proposed mitigation measures should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no more than minimal and to determine the need for compensatory mitigation or other mitigation measures.
 - (ii) For linear projects where one or more single and complete crossings require pre-construction notification, the PCN must include the quantity of anticipated losses of wetlands, other special aquatic sites, and other waters for each single and complete crossing of those wetlands, other special aquatic sites, and other waters (including those single and complete crossings authorized by an NWP but do not require PCNs). This information will be used by the district engineer to evaluate the cumulative adverse environmental effects of the proposed linear project and does not change those non-PCN NWP activities into NWP PCNs.
 - (iii) Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the activity and when provided results in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed activity (e.g., a conceptual plan), but do not need to be detailed engineering plans).
- (5) The PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial and intermittent streams, on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many wetlands, other special aquatic sites, and other waters. Furthermore, the 45-day period will not start until the delineation has been submitted to or completed by the Corps, as appropriate.
- (6) If the proposed activity will result in the loss of greater than 1/10-acre of wetlands or 3/100-acre of stream bed and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied, or explaining why the adverse environmental effects are no more than minimal and why compensatory mitigation should not be required. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.
- (7) For non-federal permittees, if any listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation) might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat (or critical habitat proposed for such designation), the PCN must include the name(s) of those endangered or threatened species (or species proposed for listing) that might be affected by the proposed activity or utilize the designated critical habitat (or critical habitat proposed for such designation) that might be affected by the proposed activity. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with the Endangered Species Act.
- (8) For non-federal permittees, if the NWP activity might have the potential to cause effects to a historic property listed on, determined to be eligible for listing on, or

potentially eligible for listing on, the National Register of Historic Places, the PCN must state which historic property might have the potential to be affected by the proposed activity or include a vicinity map indicating the location of the historic property. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with section 106 of the National Historic Preservation Act.

- (9) For an activity that will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, the PCN must identify the Wild and Scenic River or the "study river" (see general condition 16); and
- (10) For an NWP activity that requires permission from, or review by, the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers federally authorized civil works project, the pre-construction notification must include a statement confirming that the project proponent has submitted a written request for section 408 permission from, or review by, the Corps office having jurisdiction over that USACE project.

(c) *Form of Pre-Construction Notification:* The nationwide permit pre-construction notification form (Form ENG 6082) should be used for NWP PCNs. A letter containing the required information may also be used. Applicants may provide electronic files of PCNs and supporting materials if the district engineer has established tools and procedures for electronic submittals.

(d) *Agency Coordination:*

- (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the activity's adverse environmental effects so that they are no more than minimal.
- (2) Agency coordination is required for:
 - (i) All NWP activities that require pre-construction notification and result in the loss of greater than 1/2-acre of waters of the United States;
 - (ii) NWP 13 activities in excess of 500 linear feet, fills greater than one cubic yard per running foot, or involve discharges of dredged or fill material into special aquatic sites; and
 - (iii) NWP 54 activities in excess of 500 linear feet, or that extend into the waterbody more than 30 feet from the mean low water line in tidal waters or the ordinary high water mark in the Great Lakes.
- (3) When agency coordination is required, the district engineer will immediately provide (e.g., via email, facsimile transmission, overnight mail, or other expeditious manner) a copy of the complete PCN to the appropriate Federal or state offices (FWS, state natural resource or water quality agency, EPA, and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will have 10 calendar days from the date the material is transmitted to notify the district engineer via telephone, facsimile transmission, or email that they intend to provide substantive, site-specific comments. The comments must explain why the agency believes the adverse environmental effects will be more than minimal. If so, contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame concerning the proposed activity's compliance with the terms and conditions of the NWPs, including the need for mitigation to ensure that the net adverse environmental effects of the proposed activity are no more than minimal. The district engineer will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

- (4) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.
- (5) Applicants are encouraged to provide the Corps with either electronic files or multiple copies of pre-construction notifications to expedite agency coordination.

DISTRICT ENGINEER'S DECISION:

1. In reviewing the PCN for the proposed activity, the district engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. If a project proponent requests authorization by a specific NWP, the district engineer should issue the NWP verification for that activity if it meets the terms and conditions of that NWP, unless he or she determines, after considering mitigation, that the proposed activity will result in more than minimal individual and cumulative adverse effects on the aquatic environment and other aspects of the public interest and exercises discretionary authority to require an individual permit for the proposed activity. For a linear project, this determination will include an evaluation of the single and complete crossings of waters of the United States that require PCNs to determine whether they individually satisfy the terms and conditions of the NWP(s), as well as the cumulative effects caused by all of the crossings of waters of the United States authorized by an NWP. If an applicant requests a waiver of an applicable limit, as provided for in NWPs 13, 36, or 54, the district engineer will only grant the waiver upon a written determination that the NWP activity will result in only minimal individual and cumulative adverse environmental effects.
2. When making minimal adverse environmental effects determinations the district engineer will consider the direct and indirect effects caused by the NWP activity. He or she will also consider the cumulative adverse environmental effects caused by activities authorized by an NWP and whether those cumulative adverse environmental effects are no more than minimal. The district engineer will also consider site specific factors, such as the environmental setting in the vicinity of the NWP activity, the type of resource that will be affected by the NWP activity, the functions provided by the aquatic resources that will be affected by the NWP activity, the degree or magnitude to which the aquatic resources perform those functions, the extent that aquatic resource functions will be lost as a result of the NWP activity (e.g., partial or complete loss), the duration of the adverse effects (temporary or permanent), the importance of the aquatic resource functions to the region (e.g., watershed or ecoregion), and mitigation required by the district engineer. If an appropriate functional or condition assessment method is available and practicable to use, that assessment method may be used by the district engineer to assist in the minimal adverse environmental effects determination. The district engineer may add case-specific special conditions to the NWP authorization to address site-specific environmental concerns.
3. If the proposed activity requires a PCN and will result in a loss of greater than 1/10-acre of wetlands or 3/100-acre of stream bed, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory mitigation for NWP activities with smaller impacts, or for impacts to other types of waters. The district engineer will consider any proposed compensatory mitigation or other mitigation measures the applicant has included in the proposal in determining whether the net adverse environmental effects of the proposed activity are no more than minimal. The compensatory mitigation proposal may be either conceptual or detailed. If the district engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse environmental effects are no more than minimal, after considering mitigation, the district engineer will notify the permittee and include any activity-specific conditions in the NWP verification the district engineer deems necessary. Conditions for compensatory mitigation requirements must comply with the appropriate provisions at 33 CFR 332.3(k). The district engineer must approve the final mitigation plan before the permittee commences work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation. If the prospective permittee elects to submit a

compensatory mitigation plan with the PCN, the district engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the proposed compensatory mitigation plan within 45 calendar days of receiving a complete PCN and determine whether the proposed mitigation would ensure that the NWP activity results in no more than minimal adverse environmental effects. If the net adverse environmental effects of the NWP activity (after consideration of the mitigation proposal) are determined by the district engineer to be no more than minimal, the district engineer will provide a timely written response to the applicant. The response will state that the NWP activity can proceed under the terms and conditions of the NWP, including any activity-specific conditions added to the NWP authorization by the district engineer.

4. If the district engineer determines that the adverse environmental effects of the proposed activity are more than minimal, then the district engineer will notify the applicant either:
 - (a) That the activity does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit;
 - (b) that the activity is authorized under the NWP subject to the applicant's submission of a mitigation plan that would reduce the adverse environmental effects so that they are no more than minimal; or
 - (c) that the activity is authorized under the NWP with specific modifications or conditions. Where the district engineer determines that mitigation is required to ensure no more than minimal adverse environmental effects, the activity will be authorized within the 45-day PCN period (unless additional time is required to comply with general conditions 18, 20, and/or 31), with activity-specific conditions that state the mitigation requirements. The authorization will include the necessary conceptual or detailed mitigation plan or a requirement that the applicant submit a mitigation plan that would reduce the adverse environmental effects so that they are no more than minimal. When compensatory mitigation is required, no work in waters of the United States may occur until the district engineer has approved a specific mitigation plan or has determined that prior approval of a final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation.

FURTHER INFORMATION:

1. District engineers have authority to determine if an activity complies with the terms and conditions of an NWP.
2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.
3. NWPs do not grant any property rights or exclusive privileges.
4. NWPs do not authorize any injury to the property or rights of others.
5. NWPs do not authorize interference with any existing or proposed Federal project (see general condition 31).

DEFINITIONS:

Best management practices (BMPs): Policies, practices, procedures, or structures implemented to mitigate the adverse environmental effects on surface water quality resulting from development. BMPs are categorized as structural or non-structural.

Compensatory mitigation: The restoration (re-establishment or rehabilitation), establishment (creation), enhancement, and/or in certain circumstances preservation of aquatic resources for the purposes of offsetting unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved.

Currently serviceable: Useable as is or with some maintenance, but not so degraded as to essentially require reconstruction.

Direct effects: Effects that are caused by the activity and occur at the same time and place.

Discharge: The term "discharge" means any discharge of dredged or fill material into waters of the United States.

Ecological reference: A model used to plan and design an aquatic habitat and riparian area restoration, enhancement, or establishment activity under NWP 27. An ecological reference may be based on the structure, functions, and dynamics of an aquatic habitat type or a riparian area

type that currently exists in the region where the proposed NWP 27 activity is located. Alternatively, an ecological reference may be based on a conceptual model for the aquatic habitat type or riparian area type to be restored, enhanced, or established as a result of the proposed NWP 27 activity. An ecological reference takes into account the range of variation of the aquatic habitat type or riparian area type in the region.

Enhancement: The manipulation of the physical, chemical, or biological characteristics of an aquatic resource to heighten, intensify, or improve a specific aquatic resource function(s). Enhancement results in the gain of selected aquatic resource function(s), but may also lead to a decline in other aquatic resource function(s). Enhancement does not result in a gain in aquatic resource area.

Establishment (creation): The manipulation of the physical, chemical, or biological characteristics present to develop an aquatic resource that did not previously exist at an upland site. Establishment results in a gain in aquatic resource area.

High Tide Line: The line of intersection of the land with the water's surface at the maximum height reached by a rising tide. The high tide line may be determined, in the absence of actual data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm.

Historic Property: Any prehistoric or historic district, site (including archaeological site), building, structure, or other object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria (36 CFR part 60).

Independent utility: A test to determine what constitutes a single and complete non-linear project in the Corps Regulatory Program. A project is considered to have independent utility if it would be constructed absent the construction of other projects in the project area. Portions of a multi-phase project that depend upon other phases of the project do not have independent utility. Phases of a project that would be constructed even if the other phases were not built can be considered as separate single and complete projects with independent utility.

Indirect effects: Effects that are caused by the activity and are later in time or farther removed in distance but are still reasonably foreseeable.

Loss of waters of the United States: Waters of the United States that are permanently adversely affected by filling, flooding, excavation, or drainage because of the regulated activity. The loss of stream bed includes the acres of stream bed that are permanently adversely affected by filling or excavation because of the regulated activity. Permanent adverse effects include permanent discharges of dredged or fill material that change an aquatic area to dry land, increase the bottom elevation of a waterbody, or change the use of a waterbody. The acreage of loss of waters of the United States is a threshold measurement of the impact to jurisdictional waters or wetlands for determining whether a project may qualify for an NWP; it is not a net threshold that is calculated after considering compensatory mitigation that may be used to offset losses of aquatic functions and services. Waters of the United States temporarily filled, flooded, excavated, or drained, but restored to pre-construction contours and elevations after construction, are not included in the measurement of loss of waters of the United States. Impacts resulting from activities that do not require Department of the Army authorization, such as activities eligible for exemptions under section 404(f) of the Clean Water Act, are not considered when calculating the loss of waters of the United States.

Navigable waters: Waters subject to section 10 of the Rivers and Harbors Act of 1899. These waters are defined at 33 CFR part 329.

Non-tidal wetland: A non-tidal wetland is a wetland that is not subject to the ebb and flow of tidal waters. Non-tidal wetlands contiguous to tidal waters are located landward of the high tide line (i.e., spring high tide line).

Open water: For purposes of the NWPs, an open water is any area that in a year with normal patterns of precipitation has water flowing or standing above ground to the extent that an

ordinary high water mark can be determined. Aquatic vegetation within the area of flowing or standing water is either non-emergent, sparse, or absent. Vegetated shallows are considered to be open waters. Examples of "open waters" include rivers, streams, lakes, and ponds.

Ordinary High Water Mark: The term ordinary high water mark means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

Perennial stream: A perennial stream has surface water flowing continuously year-round during a typical year.

Practicable: Available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.

Pre-construction notification: A request submitted by the project proponent to the Corps for confirmation that a particular activity is authorized by nationwide permit. The request may be a permit application, letter, or similar document that includes information about the proposed work and its anticipated environmental effects. Pre- construction notification may be required by the terms and conditions of a nationwide permit, or by regional conditions. A pre-construction notification may be voluntarily submitted in cases where pre-construction notification is not required and the project proponent wants confirmation that the activity is authorized by nationwide permit.

Preservation: The removal of a threat to, or preventing the decline of, aquatic resources by an action in or near those aquatic resources. This term includes activities commonly associated with the protection and maintenance of aquatic resources through the implementation of appropriate legal and physical mechanisms. Preservation does not result in a gain of aquatic resource area or functions.

Re-establishment: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former aquatic resource. Re-establishment results in rebuilding a former aquatic resource and results in a gain in aquatic resource area and functions.

Rehabilitation: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function but does not result in a gain in aquatic resource area.

Restoration: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: Re-establishment and rehabilitation.

Riffle and pool complex: Riffle and pool complexes are special aquatic sites under the 404(b)(1) Guidelines. Riffle and pool complexes sometimes characterize steep gradient sections of streams. Such stream sections are recognizable by their hydraulic characteristics. The rapid movement of water over a coarse substrate in riffles results in a rough flow, a turbulent surface, and high dissolved oxygen levels in the water. Pools are deeper areas associated with riffles. A slower stream velocity, a streaming flow, a smooth surface, and a finer substrate characterize pools.

Riparian areas: Riparian areas are lands next to streams, lakes, and estuarine-marine shorelines. Riparian areas are transitional between terrestrial and aquatic ecosystems, through which surface and subsurface hydrology connects riverine, lacustrine, estuarine, and marine waters with their adjacent wetlands, non-wetland waters, or uplands. Riparian areas provide a variety of ecological functions and services and help improve or maintain local water quality. (See general condition 23.)

Shellfish seeding: The placement of shellfish seed and/or suitable substrate to increase shellfish production. Shellfish seed consists of immature individual shellfish or individual shellfish attached to shells or shell fragments (i.e., spat on shell). Suitable substrate may consist of shellfish shells, shell fragments, or other appropriate materials placed into waters for shellfish habitat.

Single and complete linear project: A linear project is a project constructed for the purpose of getting people, goods, or services from a point of origin to a terminal point, which often involves multiple crossings of one or more waterbodies at separate and distant locations. The term

“single and complete project” is defined as that portion of the total linear project proposed or accomplished by one owner/developer or partnership or other association of owners/developers that includes all crossings of a single water of the United States (i.e., a single waterbody) at a specific location. For linear projects crossing a single or multiple waterbodies several times at separate and distant locations, each crossing is considered a single and complete project for purposes of NWP authorization. However, individual channels in a braided stream or river, or individual arms of a large, irregularly shaped wetland or lake, etc., are not separate waterbodies, and crossings of such features cannot be considered separately.

Single and complete non-linear project: For non-linear projects, the term “single and complete project” is defined at 33 CFR 330.2(i) as the total project proposed or accomplished by one owner/developer or partnership or other association of owners/developers. A single and complete non-linear project must have independent utility (see definition of “independent utility”). Single and complete non-linear projects may not be “piecemealed” to avoid the limits in an NWP authorization.

Stormwater management: Stormwater management is the mechanism for controlling stormwater runoff for the purposes of reducing downstream erosion, water quality degradation, and flooding and mitigating the adverse effects of changes in land use on the aquatic environment.

Stormwater management facilities: Stormwater management facilities are those facilities, including but not limited to, stormwater retention and detention ponds and best management practices, which retain water for a period of time to control runoff and/or improve the quality (i.e., by reducing the concentration of nutrients, sediments, hazardous substances and other pollutants) of stormwater runoff.

Stream bed: The substrate of the stream channel between the ordinary high water marks. The substrate may be bedrock or inorganic particles that range in size from clay to boulders. Wetlands contiguous to the stream bed, but outside of the ordinary high water marks, are not considered part of the stream bed.

Stream channelization: The manipulation of a stream's course, condition, capacity, or location that causes more than minimal interruption of normal stream processes. A channelized jurisdictional stream remains a water of the United States.

Structure: An object that is arranged in a definite pattern of organization. Examples of structures include, without limitation, any pier, boat dock, boat ramp, wharf, dolphin, weir, boom, breakwater, bulkhead, revetment, riprap, jetty, artificial island, artificial reef, permanent mooring structure, power transmission line, permanently moored floating vessel, piling, aid to navigation, or any other manmade obstacle or obstruction.

Tidal wetland: A tidal wetland is a jurisdictional wetland that is inundated by tidal waters. Tidal waters rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by other waters, wind, or other effects. Tidal wetlands are located channelward of the high tide line.

Tribal lands: Any lands title to which is either: (1) Held in trust by the United States for the benefit of any Indian tribe or individual; or (2) held by any Indian tribe or individual subject to restrictions by the United States against alienation.

Tribal rights: Those rights legally accruing to a tribe or tribes by virtue of inherent sovereign authority, unextinguished aboriginal title, treaty, statute, judicial decisions, executive order or agreement, and that give rise to legally enforceable remedies.

Vegetated shallows: Vegetated shallows are special aquatic sites under the 404(b)(1) Guidelines. They are areas that are permanently inundated and under normal circumstances have rooted aquatic vegetation, such as seagrasses in marine and estuarine systems and a variety of vascular rooted plants in freshwater systems.

Waterbody: For purposes of the NWPs, a waterbody is a “water of the United States.” If a wetland is adjacent to a waterbody determined to be a water of the United States, that waterbody and any adjacent wetlands are considered together as a single aquatic unit (see 33 CFR 328.4(c)(2)).

Norfolk District Final Regional Conditions for the 2021 Nationwide Permits (NWPs) Applicable in Virginia (Including Northern Virginia Military Installations within Baltimore District's Area of Responsibility)

These Regional Conditions apply only to the 41 NWPs published in the December 27, 2021 (86 FR 73522). The following 41 NWPs are effective February 25, 2022 and will expire on March 14, 2026:

NWP 1, NWP 2, NWP 3, NWP 4, NWP 5, NWP 6, NWP 7, NWP 8, NWP 9, NWP 10, NWP 11, NWP 13, NWP 14, NWP 15, NWP 16, NWP 17, NWP 18, NWP 19, NWP 20, NWP 22, NWP 23, NWP 24, NWP 25, NWP 27, NWP 28, NWP 30, NWP 31, NWP 32, NWP 33, NWP 34, NWP 35, NWP 36, NWP 37, NWP 38, NWP 41, NWP 45, NWP 46, NWP 49, NWP 53, NWP 54, and NWP 59.

I. REGIONAL CONDITIONS APPLICABLE TO ALL NWPS UNLESS OTHERWISE STATED:

1. Waters Containing Submerged Aquatic Vegetation (SAV) Beds:

This condition applies to: NWPs 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 22, 23, 24, 25, 27, 28, 31, 32, 33, 35, 36, 37, 38, 45, 53, and 54.

A pre-construction notification (PCN) is required if work will occur in areas that contain submerged aquatic vegetation (SAV). Information about SAV habitat can be found at the Virginia Institute of Marine Science's website <http://mobjack.vims.edu/sav/savwabmap/>. Additional avoidance and minimization measures, such as relocating a structure or time-of-year restrictions (TOYR), may be required to avoid or reduce impacts to SAV habitat.

2. Anadromous Fish Use Areas:

Authorizations associated with the NWPs shall not adversely affect spawning habitat or a migratory pathway for anadromous fish. Areas of anadromous fish use are indicated on the Virginia Department of Wildlife Resources (DWR) information system at: <https://services.dwr.virginia.gov/fwis/>. If a project is located within an area documented as an anadromous fish use area (confirmed or potential), all in-stream work is prohibited from occurring between February 15 through June 30 of any given year or other time of year restriction (TOYR) specified by the DWR and/or the Virginia Marine Resources Commission (VMRC). Should the Norfolk District determine that the work is minimal and no TOYR is needed, the District will initiate consultation with NOAA Fisheries Service for their concurrence. A TOYR is not required for dredging activities in the Elizabeth River upstream of the Mid-Town Tunnel on the main-stem and the

West Norfolk Bridge (Route 164, Western Freeway) on the Western Branch of the Elizabeth River.

3. Designated Critical Resource Waters, which include National Estuarine Research Reserves:

A PCN is required for work under NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, 38 and 54 in the Chesapeake Bay National Estuarine Research Reserve in Virginia. This multi-site system along a salinity gradient of the York River includes Sweet Hall Marsh, Taskinas Creek, Catlett Islands, and Goodwin Islands. More information can be found at: <http://www.vims.edu/cbnerr/>.

NWPs 7, 12, 14, 16, 17, 31, 35, and 49 cannot be used to authorize the discharge of dredged or fill material in the Chesapeake Bay National Estuarine Research Reserve in Virginia.

4. Federally Listed Threatened or Endangered Species and Designated Critical Habitat for Non-Federal Permittees

For ALL NWPs, a PCN is required for any project that may affect a federally listed threatened or endangered species or designated critical habitat. The U.S. Fish and Wildlife Service (Service) has developed an online system that allows users to find information about sensitive resources that may occur within the vicinity of a proposed project. This system named "Information, Planning and Conservation System" (IPaC), is located at: <http://ecos.fws.gov/ipac/>. The applicant may use IPaC to determine if any federally listed threatened or endangered species or designated critical habitat may be affected by their proposed project. If your Official Species List from IPaC identifies any federally listed threatened or endangered species, you are required to submit a PCN for the proposed activity, unless the project clearly does not impact a listed species or suitable habitat for the listed species. If you are unsure about whether your project will impact federally listed threatened or endangered species, please submit a PCN, so the Norfolk District may review the action. Further information about the Virginia Field Office "Project Review Process" may be found at: <https://www.fws.gov/office/virginia-ecological-services/virginia-field-office-online-review-process>.

Additional consultation may also be required with NOAA Fisheries Service, Protected Resources Division, for listed species or critical habitat under their jurisdiction, including sea turtles, marine mammals, shortnose sturgeon, and Atlantic sturgeon. For additional information about species under their jurisdiction in Virginia, please see <https://www.fisheries.noaa.gov/new-england-mid-atlantic/consultations/section-7-consultations-greater-atlantic-region>.

Additional resources to assist in determining compliance with this condition can be found on our webpage:
<http://www.nao.usace.army.mil/Missions/Regulatory/USFWS.aspx>

5. Conditions for Designated Trout Waters

A PCN is required for work in Designated Trout Waters, as defined by the Virginia State Water Control Board and the DWR. The waters, occurring specifically within the mountains of Virginia, are within the following river basins:

- 1) Potomac-Shenandoah River Basins
- 2) James River Basin
- 3) Roanoke River Basin
- 4) New River Basin
- 5) Tennessee and Big Sandy River Basins
- 6) Rappahannock River Basin

Information on designated trout streams can be obtained via DWR's Virginia Fish and Wildlife Information Service's (VAFWIS's) Cold Water Stream Survey database. Basic access to the VAFWIS is available via <https://services.dwr.virginia.gov/fwis/>.

DWR specifies the following time-of-year restrictions (TOYRs) for any in-stream work within streams identified as wild trout waters in its Cold Water Stream Survey database. The recommended TOYRs for trout species are:

- Brook Trout: October 1 through March 31
- Brown Trout: October 1 through March 31
- Rainbow Trout: March 15 through May 15

This condition applies to the following counties and cities: Albemarle, Allegheny, Amherst, Augusta, Bath, Bedford, Bland, Botetourt, Bristol, Buchanan, Buena Vista, Carroll, Clarke, Covington, Craig, Dickenson, Floyd, Franklin, Frederick, Giles, Grayson, Greene, Henry, Highland, Lee, Loudoun, Madison, Montgomery, Nelson, Page, Patrick, Pulaski, Rappahannock, Roanoke City, Roanoke Co., Rockbridge, Rockingham, Russell, Scott, Shenandoah, Smyth, Staunton, Tazewell, Warren, Washington, Waynesboro, Wise, and Wythe.

Any discharge of dredged and/or fill material authorized by the NWP, which would occur in the designated waterways or adjacent wetlands of the specified counties, requires a PCN to the appropriate Corps of Engineers field office, and written approval from that office prior to performing the work. The Norfolk District recommends that permittees first contact the applicable Norfolk District Field Office, found at this web link: <http://www.nao.usace.army.mil/Missions/Regulatory/Contacts.aspx>, to determine if the PCN procedures would apply.

6. Invasive Species

Plant species listed in the most current Virginia Department of Conservation and Recreation's (DCR) *Invasive Alien Plant List* shall not be used for re-vegetation for activities authorized by any NWP. The list of invasive plants in Virginia is found at: <https://www.dcr.virginia.gov/natural-heritage/invsppdflist>. DCR recommends the use of regional native species for re-vegetation as identified in the DCR *Native Plants for Conservation, Restoration and Landscaping* brochures for the coastal, piedmont and mountain regions <http://www.dcr.virginia.gov/natural-heritage/nativeplants#brochure> also see the DCR native plant finder: <https://www.dcr.virginia.gov/natural-heritage/native-plants-finder>.

7. Countersinking Pipes and Culverts

This condition applies to: NWPs 3, 7, 12, 14, 17, 18, 23, 25, 27, 32, 33, 37, 38, 41, 45, 46, and 49.

NOTE FOR WORK IN TIDAL WATERS: New and replacement pipes/culverts in tidal waters must be installed with the inverts no higher than the prevailing stream/channel bottom elevation. If the permittee determines that matching existing elevations is not practicable, then a PCN is required. This condition does not apply to pipe extensions in tidal waters.

Based on consultation with DWR, the Norfolk District has determined that fish and other aquatic organisms are most likely present in any nontidal stream being crossed, in the absence of site-specific evidence to the contrary. The following conditions will apply in nontidal waters:

- a. All pipes and culverts placed in streams will be countersunk at both the inlet and outlet ends, unless indicated otherwise by the Norfolk District on a case-by-case basis (see below). Pipes that are 24" or less in diameter shall be countersunk 3" below the natural stream bottom. Pipes that are greater than 24" in diameter shall be countersunk 6" below the natural stream bottom. The countersinking requirement does not apply to bottomless pipes/culverts or pipe arches. All single pipes or culverts (with bottoms) shall be depressed (countersunk) below the natural streambed at both the inlet and outlet of the structure. In sets of multiple pipes or culverts (with bottoms) at least one pipe or culvert shall be depressed (countersunk) at both the inlet and outlet to convey low flows.
- b. When countersinking culverts, permittees must ensure reestablishment of a surface water channel (within 15 days post construction) that allows for the movement of aquatic organisms and maintains the same hydrologic regime that was present pre-construction (i.e. the depth of surface water through the permit area should match the upstream and downstream depths). This may require the addition of finer materials to choke the larger stone and/or placement of riprap to allow for a low flow channel.

- c. The requirement to countersink does not apply to extensions of existing pipes or culverts that are not countersunk, or to maintenance to pipes/culverts that does not involve replacing the pipe/culvert (such as repairing cracks, adding material to prevent/correct scour, etc.).
- d. Floodplain pipes: The requirement to countersink does not apply to pipes or culverts that are being placed above ordinary high water, such as those placed to allow for floodplain flows. The placement of pipes above ordinary high water is not jurisdictional (provided no fill is discharged into wetlands).
- e. Hydraulic opening: Pipes should be adequately sized to allow for the passage of ordinary high water with the countersinking and invert restrictions taken into account.
- f. Pipes on bedrock or above existing utility lines: Different procedures will be followed for pipes or culverts to be placed on bedrock or above existing buried utility lines where it is not practicable to relocate the lines, depending on whether the work is for replacement of an existing pipe/culvert or a new pipe/culvert:
 - i. Replacement of an existing pipe/culvert: Countersinking is not required provided the elevations of the inlet and outlet ends of the replacement pipe/culvert are no higher above the stream bottom than those of the existing pipe/culvert. Documentation (photographic or other evidence) must be maintained in the permittee's records showing the bedrock condition and the existing inlet and outlet elevations.
 - ii. A pipe/culvert is being placed in a new location: If the permittee determines that bedrock or an existing buried utility line that is not practicable to relocate prevents countersinking, they should evaluate the use of a bottomless pipe/culvert, bottomless utility vault, span (bridge) or other bottomless structure to cross the waterway, and also evaluate alternative locations for the new pipe/culvert that will allow for countersinking. If the permittee determines that neither a bottomless structure nor an alternative location is practicable, then a PCN is required. The permittee must provide documentation of measures evaluated to minimize disruption of the movement of aquatic life as well as documentation of the cost, engineering factors, and site conditions that prohibit countersinking the pipe/culvert. Options that must be considered include partial countersinking (such as less than 3" of countersinking, or countersinking of one end of the pipe), and constructing stone step pools, low rock weirs downstream, or other measures to provide for the movement of aquatic organisms. PCN must also include photographs documenting site conditions. NOTE: Blasting of stream bottoms through the use of explosives is not acceptable as a means of providing for countersinking of pipes on bedrock.

- g. Pipes on steep terrain: Pipes being placed on steep terrain (slope of 5% or greater) must be countersunk in accordance with the conditions above and will in most cases be non-reporting. It is recommended that on slopes greater than 5%, a larger pipe than required be installed to allow for the passage of ordinary high water in order to increase the likelihood that natural velocities can be maintained. There may be situations where countersinking both the inlet and outlet may result in a slope in the pipe that results in flow velocities that cause excessive scour at the outlet and/or prohibit some fish movement. This type of situation could occur on the side of a mountain where falls and drop pools occur along a stream. Should this be the case, or should the permittee not want to countersink the pipe/culvert for other reasons, they must submit a PCN. The permittee must provide documentation of measures evaluated to minimize disruption of the movement of aquatic life as well as documentation of the cost, engineering factors, and site conditions that prohibit countersinking the pipe/culvert. The permittee should design the pipe to be placed at a slope as steep as stream characteristics allow, countersink the inlet 3-6", and implement measures to minimize any disruption of fish movement. These measures can include constructing a stone step/pool structure, preferably using river rock/native stone rather than riprap, constructing low rock weirs to create a pool or pools, or other structures to allow for fish movements in both directions. Stone structures should be designed with sufficient-sized stone to prevent erosion or washout and should include keying-in as appropriate. These structures should be designed both to allow for fish passage and to minimize scour at the outlet. The quantities of fill discharged below ordinary high water necessary to comply with these requirements (i.e., the cubic yards of stone, riprap or other fill placed below the plane of ordinary high water) must be included in project totals.
- h. Problems encountered during construction: When a pipe/culvert is being replaced, and the design calls for countersinking at both ends of the pipe/culvert, and during construction it is found that the streambed/banks are on bedrock, a utility line, or other documentable obstacle, then the permittee must stop work and contact the Norfolk District (contact by telephone and/or email is acceptable). The permittee must provide the Norfolk District with specific information concerning site conditions and limitations on countersinking. The Norfolk District will work with the permittee to determine an acceptable plan, taking into consideration the information provided by the permittee, but the permittee should recognize that the Norfolk District could determine that the work will not qualify for a NWP.
- i. Emergency pipe replacements: In the case of an emergency situation, such as when a pipe/culvert washes out during a flood, a permittee is encouraged to countersink the replacement pipe at the time of replacement, in accordance with the conditions above. However, if conditions or timeframes do not allow for countersinking, then the pipe can be replaced as it was before the washout, but the permittee will have to come back and replace the pipe/culvert and countersink it in accordance with the guidance above. In other words, the replacement of the washed out pipe is viewed as a temporary repair, and a countersunk replacement should be made at the earliest possible date. The Norfolk District must be notified

of all pipes/culverts that are replaced without countersinking at the time that it occurs, even if it is an otherwise non-reporting activity, and must provide the permittee's planned schedule for installing a countersunk replacement (it is acceptable to submit such notification by email). The permittee should anticipate whether bedrock or steep terrain will limit countersinking, and if so, should follow the procedures outlined in (f) and/or (g) above.

8. Repair of Pipes

This condition applies to: NWP 3, 7, 12, 14, 17, 18, 23, 25, 27, 32, 33, 37, 38, 41, 45, 46, and 49.

NOTE FOR WORK IN TIDAL WATERS: New and replacement pipes/culverts in tidal waters must be installed with the inverts no higher than the prevailing stream/channel bottom elevation. If the permittee determines that matching existing elevations is not practicable, then a PCN is required. This condition does not apply to pipe extensions in tidal waters.

For Nontidal Waters: If any discharge of fill material will occur in conjunction with pipe maintenance, such as concrete being pumped over rebar into an existing deteriorated pipe for stabilization, then the following conditions apply:

- a. If the existing pipe or multi-barrel array of pipes are NOT currently countersunk:
 - i. As long as the inlet and outlet invert elevations of at least one pipe located in the low flow channel are not being altered, and provided that no concrete apron is being constructed, then the work may proceed under the NWP for the other pipes, provided it complies with all other NWP General Conditions. In such cases, a PCN is not required, unless specified in the Regional Conditions for other reasons, and the permittee may proceed with the work.
 - ii. Otherwise, the permittee must submit a PCN prior to commencing the activity. For all such projects, the following information should be provided:
 - 1) Photographs of the existing inlet and outlet;
 - 2) A measurement of the degree to which the work will raise the invert elevations of both the inlet and outlet of the existing pipe;
 - 3) The reasons why other methods of pipe maintenance are not practicable (such as metal sleeves or a countersunk pipe replacement);
 - 4) A vicinity map showing the pipe locations.

The Norfolk District will assess all such pipe repair proposals in accordance with guidelines that can be found under "Pipe Repair Guidelines" at:

<http://www.nao.usace.army.mil/Missions/Regulatory/GuidanceDocuments.aspx>

- iii. If the Norfolk District determines that the work qualifies for the NWP, additional conditions will be placed on the verification. Those conditions can be found at the web link above (in item ii).
- iv. If the Norfolk District determines that the work does NOT qualify for the NWP, the applicant will be directed to apply for either Regional Permit 01, applicable only for Virginia Department of Transportation (VDOT) projects or an Individual Permit. However, it is anticipated that the applicant will still be required to perform the work such that the waterway is not blocked or restricted to a greater degree than its current conditions.

b. If the existing pipe or at least one pipe in the multi-barrel array of pipes IS countersunk and at least one pipe located in the low flow channel will continue to be countersunk, and no concrete aprons are proposed:

No PCN to the Norfolk District is required, unless specified in the Regional Conditions for other reasons, and the permittee may proceed with the work.

c. If the existing pipe or at least one pipe in the multi-barrel array of pipes IS countersunk and no pipe will continue to be countersunk in the low flow channel:

This work cannot be performed under the NWPs. The permittee must apply for either a Regional Permit 01 (applicable only for VDOT projects) or an Individual Permit. However, it is anticipated that the permittee will still be required to perform the work such that the waterway is not blocked or restricted more so than its current conditions.

d. In emergency situations, if conditions or timeframes do not allow for compliance with the procedure outlined herein, then the pipe can be temporarily repaired to the condition before the washout. If the temporary repair would require a PCN by the above procedures, the permittee must submit the PCN at the earliest practicable date, but no longer than 15 days after the temporary repair.

9. Impacts Requiring a Compensatory Mitigation Plan

When a PCN is required, a compensatory mitigation plan must be submitted if the permanent loss exceeds 0.1 acre of wetlands and/or 0.03 acre of stream bed or 300 linear feet of stream bed unless otherwise stated in the regional conditions (see Regional Condition 11 for Transportation Projects). The stream channel loss must be reported in acreage and linear feet.

10. Removal of Temporary Fills and Impacts

The soils of any temporarily impacted areas located in wetlands that are cleared, grubbed, excavated, dredged and/or filled, must be restored once these areas are

no longer needed for their authorized purpose, no later than completion of project construction, and not to exceed twelve (12) months after commencing the temporary impacts. To restore, temporary fill must be removed in its entirety and the affected areas returned to preconstruction elevations, the soil surface loosened by ripping or chisel plowing to a depth of 8-12", and then seeded using native wetland species. See Regional Condition 6: Invasive Species for more information on vegetation recommendations.

Fill or dredged material in waters of the U.S. that is not removed within the 12-month period will be considered a permanent impact, unless otherwise determined by the Corps. This additional impact to waters of the U.S. may result in the Corps initiating a permit non-compliance action, which may include a restoration order, after-the-fact permitting, and/or compensatory mitigation.

11. Transportation Projects Funded in Part or in Total by Local, State or Federal Funds

For all impacts associated with transportation projects funded in part or in total by local, state or federal funds and requiring a PCN, compensatory mitigation will generally be required for all permanent wetland impacts (including impacts less than 1/10 acre). Therefore, the PCN must include a compensatory mitigation plan.

12. Activities Affecting Structures or Works Built by the United States

If the NWP activity also requires permission from the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a Corps Federally authorized Civil Works project, the activity that requires section 408 permission is not authorized by the NWP until the appropriate Corps District office issues the section 408 permission to alter, occupy, or use the Corps Civil Works project, and the District Engineer issues a written NWP verification.

Contact a Norfolk District Regulatory Project Manager to assist in determining if your proposed activity might alter or temporarily or permanently occupy or use a Corps of Engineers Civil Works project.

Locations of Norfolk District Civil Works projects can be found at:

<https://www.nao.usace.army.mil/408Review/>

For projects located within the Civil Works boundary of the Baltimore, Huntington, Nashville or Wilmington District, please contact a Norfolk District Project Manager for assistance.

13. Clean Water Act Section 401 Water Quality Certification

The Virginia Department of Environmental Quality (VADEQ) provided general Section 401 Water Quality Certification (WQC) for NWPs 3, 4, 5, 6, 7, 8, 11, 13, 14, 15, 16, 18, 19, 20, 22, 23, 25, 27, 28, 30, 31, 33, 34, 35, 36, 37, 38, 41, 45, 46, 49, 53, 54 and 59. As a condition of the General Certifications, applicants are required to satisfy one of the following:

- a. Comply with VADEQ's WQC Conditions 1-12 (see attached Appendix A)
- OR
- b. Obtain one of the following from the VADEQ: a Virginia Water Protection (VWP) permit, an Individual Section 401 Water Quality Certification, or a waiver from the VWP program.

In addition, the VADEQ also included additional general Section 401 WQC conditions for NWP 3, 13, 14, 16, 18, 22, 27, 33, 36, and 59. See these specific NWP requirements in Section II. REGIONAL CONDITIONS APPLICABLE TO SPECIFIC 2021 NWPS to determine if your project qualifies for general water quality certification or if you must obtain an individual Section 401 WQC from VADEQ.

The VADEQ provided a written Section 401 WQC waiver for NWPs 1, 2, 9, 10, 24, and 32; therefore, no further Section 401 WQC action is needed for the use of these NWPs.

The VADEQ denied general WQC for NWP 17; therefore, applicants must obtain an individual Section 401 WQC from the VADEQ in order to qualify for use of NWP 17.

14. Federal Consistency under the Coastal Zone Management Act (CZMA)

For proposed activities located within Virginia's designated coastal zone, applicants are required to access the Virginia Department of Wildlife Resources' (DWR) Virginia Fish and Wildlife Information Service (VAFWIS) at <https://services.dwr.virginia.gov/fwis/> to determine if a state-listed species or designated resource is known within 2 miles of the proposed activity being permitted. Should a state-listed species and/or designated resource be identified within 2 miles of the proposed activity, the applicant must coordinate with the DWR's Environmental Services Section (ESS) by submitting information on permit applications via email to: ESSProjects@dwr.virginia.gov. Applicant shall allow at least 30 days for review and comment by the DWR ESS.

II. REGIONAL CONDITIONS APPLICABLE TO SPECIFIC 2021 NWPS:

NWP 3 - Maintenance

Section 401 WQC Conditions-An Individual WQC is required if any of the following conditions are not met.

1. Activities conducted under NWP 3 shall not modify the original configuration or filled area such that the character, scope, or size of the original or DEQ approved alternative design is changed.
2. Activities conducted under NWP 3 that involve emergency reconstruction shall occur as soon as practicable after damage occurs or is discovered.
3. Discharges conducted under NWP 3 shall not increase the capacity of an impoundment or reduce instream flows.

NWP 5 - Scientific Measurement Devices

Condition for Construction or Installation of Subaqueous Turbines:

A PCN is required if a permittee proposes the construction or installation of subaqueous turbines because this work may have more than minimal impacts and the work will need to be coordinated with appropriate federal, state, and/or local agencies.

NWP 7 - Outfall Structures and Associated Intake Structures

Conditions for Intakes in Anadromous Fish Waters:

When an intake is proposed in designated anadromous fish waters, the following design parameters will be incorporated as permit conditions to protect the sensitive life stages of shellfish, resident and anadromous fish:

1. Screening over the mouth of the intake with mesh size that does not exceed 1mm;
2. Intake velocities that do not exceed 0.25 feet per second;
3. Intake must be positioned such that an unimpeded flow of water parallel to the screen surface occurs along the entire surface of the screen to take advantage of sweeping velocity.

NWP 10 - Mooring Buoys

Conditions for Sufficient Mooring Depths:

1. Water depths in the mooring areas should be sufficient that vessels moored float at all stages of the tide.

2. Boats should not hit bottom during low water conditions. The swing radius of the vessel plus the mooring chain should not result in the vessel becoming an obstruction to navigation.
3. Use of this NWP is prohibited in and around SAV beds. Information about SAV habitat can be found at the Virginia Institute of Marine Science's website
<http://mobjack.vims.edu/sav/savwabmap/>.

NWP 11 - Temporary Recreational Structures

Conditions for Sufficient Mooring Depths:

1. Water depths in the mooring areas should be sufficient that structures moored float at all stages of the tide or stoppers must be utilized to prevent the structures from resting on the bottom, so as to not damage the underlying benthic communities.
2. Structures should not hit bottom during low water conditions.
3. Use of this NWP is prohibited in and around SAV beds. Information about SAV habitat can be found at the Virginia Institute of Marine Science's website

<http://mobjack.vims.edu/sav/savwabmap/>.

NWP 13 - Bank Stabilization

Section 401 WQC Conditions-An Individual WQC is required if any of the following conditions are not met.

1. Stabilization activities conducted under NWP 13 shall not channelize the stream bed or stream channel as defined in 9VAC25-210-10.
2. Stabilization activities shall not permanently impact more than 1,500 linear feet below the ordinary water mark of any type of nontidal stream bed or stream channel as defined in 9VAC25-210-10, regardless of any waiver decision made by the Norfolk District.

NWP 14-Linear Transportation Projects

Restricted use of NWP 14 Linear Transportation Projects in Nontidal Waters

A portion of NWP 14 overlaps with the current State Program General Permit (SPGP-01); therefore, NWP 14 may not be used for projects impacting Section 404 only, nontidal waters of the United States, including wetlands, unless the Norfolk District determines that the SGPG-01 is not applicable. NWP 14 may still be considered for projects impacting tidal waters of the United States, other nontidal, Section 10 waters of the United States and in the Northern Virginia Military Installations within Baltimore District's Area of Responsibility.

Section 401 WQC Conditions-An Individual WQC is required if the following condition is not met.

Activities conducted under NWP 14 shall not cumulatively impact more than 1/10 of an acre of wetlands or open water or more than 300 linear feet of stream bed or stream channel, as defined in 9VAC25-210-10.

NWP 16 - Return Water from Upland Disposal Areas

Section 401 WQC Conditions-An Individual WQC is required if the following condition is not met.

Return flow discharges from dredge disposal sites conducted under NWP 16 shall not occur where prohibited by state law or without applicable authorization from DEQ.

NWP 17 – Hydropower Projects

Section 401 WQC Denial- An Individual WQC is required for all NWP 17 projects.

NWP 18 – Minor Discharges

Section 401 WQC Conditions-An Individual WQC is required if the following condition is not met.

Discharges conducted under NWP 18 shall comply with Virginia Department of Environmental Quality law and regulations for discharge of sewage and other wastes from boats, if applicable.

NWP 22 – Removal of Vessels

Section 401 WQC Conditions-An Individual WQC is required if the following condition is not met.

Discharges conducted under NWP 22 shall comply with Virginia Department of Environmental Quality law and regulations for discharge of sewage and other wastes from boats, if applicable.

NWP 23 - Approved Categorical Exclusions

Conditions Specific to NWP 23:

1. The use of this NWP applies to an entire project addressed in the Categorical Exclusion prepared by another Federal agency. This NWP cannot be used separately at individual crossings/impact areas of a single project. However, multiple crossings/impact areas of a single project can be authorized by this NWP provided the combined impacts of all crossings/impact areas do not exceed the

thresholds described below. This NWP cannot be used in combination with other NWPs for a single project.

2. Discharges from an entire project must not cause a combined permanent loss of greater than $\frac{1}{2}$ acre of wetlands or 1,000 linear feet of stream.
3. The permittee must submit a PCN if the project results in a discharge to a special aquatic site, including wetlands, and/or results in combined impacts to more than 300 linear feet of streambed from the entire project.
4. To ensure that permanent losses of waters of the United States do not result in more than minimal adverse effects to the aquatic environment, compensation will be required for all wetland impacts and for any single impact to a stream of greater than 300 linear feet. For projects where the combined impacts to streams due to the entire project exceed 300 linear feet, but no single impact exceeds 300 linear feet, the Corps will determine on a case-by-case basis whether compensation for stream impacts is required.

NWP 27-Aquatic Habitat Restoration, Establishment, and Enhancement Activities

1. For all projects proposing stream restoration, when a PCN is required, proponents must provide a completed Natural Channel Design Review Checklist and Selected Morphological Characteristics form, including the name and location of the reference reach, unless the district engineer waives this criterion by making a written determination concluding that the discharge will result in no more than minimal adverse environmental effects. These forms and the associated manual can be located at:

<https://www.epa.gov/cwa-404/natural-channel-design-review-checklist-under-cwa-section-404>

2. Proponents must provide a monitoring plan to DEQ in accordance with the 401 certificate conditions for NWP 27.
3. If the permittee intends for the permitted activity to generate compensatory mitigation credits, the permittee must comply with all terms and conditions of the mitigation banking instrument/in-leu fee program instrument and modifications to those instruments. Verification of this NWP prior to execution of the mitigation banking instrument/in-leu fee program instrument or modifications to those instruments does not guarantee the approval of the use of any credits, generated from the permitted activities, for compensatory mitigation.
4. **Section 401 WQC Conditions-An Individual WQC is required if any of the following conditions are not met.**

- a. When NWP 27 authorizes wetland or stream mitigation banks or in-lieu fee mitigation sites, compensation required for any surface water impacts shall be debited from the bank's or in-lieu fee program's credits.
- b. Natural stream channel design methods shall be used for stream restoration projects authorized by NWP 27.
- c. Performance monitoring shall be conducted for projects authorized by NWP 27.
 - i. Reports shall be submitted with the as-built during post-construction monitoring years, at a frequency and duration adequate to observe performance according to project objectives. If there is no monitoring schedule otherwise specified, then an as-built and a minimum of five years of annual postconstruction monitoring will be required.
 - ii. The as-built report may include final grade topographic surveys (plan, profile, and cross sections, as appropriate, and approved by DEQ), final location of all planted riparian buffer vegetation (as appropriate and approved by DEQ), site photographs, and a discussion of project design versus as-built conditions.
 - iii. As approved by DEQ, each postconstruction monitoring report may include comparison of as built to monitoring year surveys (plan, profile, and cross sections, as appropriate), vegetation surveys (as appropriate), site photographs/ and a discussion of project performance.

NWP 33 - Temporary Construction, Access, and Dewatering

Section 401 WQC Conditions-An Individual WQC is required if any of the following conditions are not met.

1. Activities conducted under NWP 33 that involve emergency reconstruction shall occur as soon as practicable after damage occurs or is discovered.
2. Discharges conducted under NWP 33 shall not increase the capacity of an impoundment or reduce instream flows.

NWP 36 - Boat Ramps

Section 401 WQC Conditions-An Individual WQC is required if any of the following conditions are not met.

1. Activities conducted under NWP 36 shall not impact more than 1/10 of an acre of wetlands or more than 1,500 linear feet of stream bed or stream channel as defined in 9VAC25-210-10.
2. Excavation conducted under NWP 36 shall be limited to the area necessary for site preparation and all excavated material shall be removed to an area that has no surface waters. Deviations from the original configuration or filled area shall not change the character, scope, or size of the original or DEQ approved alternative design.

NWP 53-Removal of Low-Head Dams

The following information related to physical removal of the dam structure should be included in the PCN:

1. Timing and rate of the drawdown of the impoundment to avoid and minimize downstream flooding and excessive sedimentation to downstream areas.
2. Method of re-establishment and stabilization of the stream channel, and avoidance of other environmental impacts, including the potential for drainage of adjacent wetlands.
3. Construction equipment to be used in the stream channel and appropriate measures that will be taken, such as the use of construction mats or barges, to minimize impacts.
4. Information sufficient to ensure that accumulated sediments are free from contaminants and are disposed of properly. If testing is required, the testing criteria shall be developed in cooperation with Virginia Department of Environmental Quality.
5. Information concerning competing uses of the waterbody above the dam if the impoundment is not fully owned by the applicant.

NWP 54-Living Shorelines

1. This activity authorizes the placement of sandy fill material, including the placement landward of sill(s) provided the fill is for shoreline protection and/or wetland establishment or enhancement (and not solely a recreational beach). The maximum fill area within waters of the United States that can be authorized under this NWP is one (1) acre. For the purpose of this NWP, a sill is defined as a low (not to exceed +1 ft. above MHW), detached structure constructed near shore and parallel to the shoreline for the purpose of building up an existing beach by trapping and retaining sand in the littoral zone. Because a sill acts like a natural bar, it is most effective when constructed at or near the mean low water line and low enough to allow wave overtopping.
2. The grain size of the source material used for fill must be beach quality sand that is the same size or slightly larger than that of the native beach material and suitable for the proposed project. Excess silt/clay fraction and grain sizes smaller than the former native sands will perform poorly. In most cases, sand material with no more than 10% passing a #100 sieve is appropriate. All fill material will be obtained from either an upland source, a borrow pit, or dredge material approved by the Corps.

3. Coir logs, coir mats, and native oyster shell should be of sufficient weight, adequately anchored, or placed in a manner to prevent them from being dislodged or carried away by wave action.
4. Sills may be constructed of riprap stone, gabion baskets, or clean broken concrete free of metal and re-bar. Alternative materials may be considered for use during the permit review process. The materials should be of sufficient weight or adequately anchored to prevent them from being dislodged and carried away by wave action. Asphalt and materials containing asphalt or other contaminants shall not be used in the construction of sills.
5. Sills will be designed with at least one 5-foot window/gap per property and per 100 linear feet of sill unless waived by the District Engineer.
6. The sill height should be a maximum of +1 foot above mean high water and should be placed at a distance no greater than 30 feet from mean low water to the channelward toe of the sill unless waived by the District Engineer.
7. The total amount of existing vegetated wetlands, which may be filled, graded, or excavated, in square feet, may not exceed the length of the activity along the shoreline in linear feet unless the District Engineer waives this criterion by making a written determination concluding that the project will result in minimal adverse effects. Impacts to sub-tidal, inter-tidal, and/or existing wetland vegetation may require a wetland mitigation plan and must result in no net loss of vegetated wetlands.
8. If the proposed project results in impacts to existing wetland vegetation, then a written monitoring report may be required at the end of the first full growing season following planting, and after the second year of establishment. If required, the monitoring should be undertaken between June and September of each year and should include at a minimum: the project location, the Corps project number, representative photos of the site, and a brief statement on the success of the project.
9. As the design of a living shoreline project is site specific, it is suggested that the applicant refer to the Virginia Institute of Marine Sciences Living Shoreline Design Guidelines for Shore Protection in Virginia's Estuarine Environments and other reference documents which can be found at:
https://www.vims.edu/ccrm/outreach/living_shorelines/index.php
10. Projects which include placement of sandy fill material may result in impacts to or creation of suitable habitat for various federally listed threatened or endangered species. If this occurs or the applicant seeks to either add to or replenish the area previously filled, the Corps will consult with the U.S. Fish and Wildlife Service pursuant to Section 7 of the Endangered Species Act to ensure work is not likely to adversely affect proposed or listed species or proposed or designated critical

habitat. Specific requirements on the type of sand allowed for beach and dune work may be required.

NWP 59 – Water Reclamation and Reuse Facilities

Section 401 WQC Conditions-An Individual WQC is required if any of the following conditions are not met.

1. Construction or expansion activities conducted under NWP 59 shall not impact more than 1/4 of an acre of wetlands or 300 linear feet of stream bed or stream channel as defined in 9VAC25-210-10. Maintenance activities conducted under NWP 59 shall not impact more than 300 linear feet of stream bed or stream channel when conducted in impact areas not previously authorized by DEQ or when located on or in existing, currently serviceable structures or fills.
2. Activities conducted under NWP 59 that involve emergency reconstruction shall occur as soon as practicable after damage occurs or is discovered.
3. Discharges conducted under NWP 59 shall not increase the capacity of an impoundment or reduce instream flows.

APPENDIX A

Norfolk District Final Regional Conditions for the 2021 Nationwide Permits (NWPs) Applicable in Virginia (Including Northern Virginia Military Installations within Baltimore District's Area of Responsibility)

Section 401 Water Quality Certification Conditions (1-12)

1. For activities that are proposed to occur in state surface waters as defined in § 62.1-44.3 of the Code of Virginia: Once an activity is proposed to occur in any surface water that is not subject to federal jurisdiction, and as such not subject to a NATIONWIDE PERMIT, application to DEQ shall be required in accordance with Virginia Administrative Code 9VAC25-210 et seq., 9VAC25-660 et seq. through -690 et seq. as applicable, and State Water Control Law for i) coverage under a Virginia Water Protection (VWP) general permit, ii) a VWP individual permit, or iii) a decision that no permit is required (in situations where VWP permitting exclusions apply). A DEQ VWP permit or decision shall need to have been finalized prior to the project proponent impacting any surface waters. If a DEQ VWP general permit coverage or individual permit is issued, it shall be based on all impacts of the proposed activities in surface waters under both state and federal jurisdiction, pursuant to applicable permit regulations and State Water Control Law. Other permits may be required from DEQ based on the proposed activities or impacts.

40 C.F.R. § 121.7(d)(2)(i): This condition is necessary in order to assure that i) any discharge authorized under the general license or permit will comply with water quality requirements; ii) activities will not cause or contribute to a significant impairment of state waters or fish and wildlife resources; and iii) state water quality requirements are met, including the General Criteria (9VAC25-260-20 et seq.): "State waters, including wetlands, shall be free from substances attributable to sewage, industrial waste, or other waste in concentrations, amounts, or combinations which contravene established standards or interfere directly or indirectly with designated uses of such water or which are inimical or harmful to human, animal, plant, or aquatic life.

40 C.F.R. § 121.7(d)(2)(ii): Article XI, Section 1 Constitution of VA; Title 62.1 of the Code of Virginia; Chapter 3.1 of Title 62.1 of the Code of Virginia (§§ 62.1-44.2 through 62.1-44.34:28) [§ 62.1-44.2 through -44.6, § 62.1-44.15, § 62.1-44.15:01, § 62.1-44.15:4.1, § 62.1-44.15:5.1, § 62.1-44.15:5.2, § 62.1-44.15:20, § 62.1-44.15:21, § 62.1-44.15:24, § 62.1-44.15:25, § 62.1-44.15:28, § 62.1-44.15:28.1, § 62.1-44.15:31, § 62.1-44.15:34, § 62.1-44.15:40, § 62.1-44.15:50, § 62.1-44.15:52, Article 2.5 of Title 62.1 (§§ 62.1-44.15:67 through § 62.1-44.15:79), § 62.1-44.19:5]; § 10.1-400 et seq.; § 10.1-604 et seq.; § 10.1-1408.5; § 28.2-1300 et seq.; § 62.1-7; § 62.1-8; § 62.1-10; § 62.1-11; § 62.1-194 through -194.3; 9VAC25 - Preface (Agency Summary); 9VAC25-31 et seq.; 9VAC25-40 et seq.; 9VAC25-210 Sections 10 through 230 and 500; 9VAC25-260 et seq.; 9VAC25-380 et seq.; 9VAC25-401 et seq.; 9VAC25-410 and 415 et seq.; 9VAC25-630 et seq.; 9VAC25-660 et seq.; 9VAC25-670 et seq.; 9VAC25-680 et seq.; 9VAC25-690 et seq.; 9VAC25-720 et seq.; 9VAC25-820 et seq.; 9VAC25-830 et seq.; 9VAC25-840 et seq.; 9VAC25-870 through 890 et seq.; 33 U.S.C. § 1251 et seq.; 33 U.S.C. § 1313(d); 33 U.S.C. § 1315(b); 33 U.S.C. § 1317(a); 33 U.S.C. § 1341 et seq.; 33 U.S.C. § 1344 et seq.; 33 U.S.C. § 1370; 33 C.F.R. Part 332; 40 C.F.R. § 121 et seq.; 40 C.F.R. § 131 et seq.; Public Law 95-217

2. For activities in wetlands, open water, streams, or mitigation sites that are under a deed restriction, conservation easement, declaration of restrictive covenant, or other land use protective instrument ("protected areas"), and when such restriction, easement, covenant, or instrument is the result of a federal or state permit action and is specific to activities in wetlands and compensatory mitigation sites, application to DEQ shall be required in accordance with Virginia Administrative Code 9VAC25-210 et seq.,

9VAC25-660 et seq. through -690 et seq., and State Water Control Law for i) coverage under a Virginia Water Protection (VWP) general permit, ii) a VWP individual permit, or iii) a decision that no permit is required (in situations where VWP permitting exclusions apply). A DEQ VWP permit or decision shall need to have been finalized prior to the project proponent impacting any surface waters. If a DEQ VWP general permit coverage or individual permit is issued, it shall be based on all impacts of the proposed activities in surface waters under both state and federal jurisdiction, pursuant to applicable permit regulations and State Water Control Law. Compensatory mitigation may be required for all permanent impacts. Other permits may be required from DEQ based on the proposed activities or impacts.

40 C.F.R. § 121.7(d)(2)(i): This condition is necessary in order to assure that i) any discharge authorized under the general license or permit will comply with water quality requirements; ii) activities will not cause or contribute to a significant impairment of state waters or fish and wildlife resources; and iii) state water quality requirements are met, including the General Criteria (9VAC25-260-20 et seq.): "State waters, including wetlands, shall be free from substances attributable to sewage, industrial waste, or other waste in concentrations, amounts, or combinations which contravene established standards or interfere directly or indirectly with designated uses of such water or which are inimical or harmful to human, animal, plant, or aquatic life."

40 C.F.R. § 121.7(d)(2)(ii): Article XI, Section 1 Constitution of VA; Title 62.1 of the Code of Virginia; Chapter 3.1 of Title 62.1 of the Code of Virginia (§§ 62.1-44.2 through 62.1-44.34:28) [§ 62.1-44.2 through -44.5, § 62.1-44.13, § 62.1-44.15, § 62.1-44.15:01, § 62.1-44.15:5.1, § 62.1-44.15:20, § 62.1-44.15:21, § 62.1-44.15:23, § 62.1-44.19:5; § 62.1-44.34:18]; § 28.2-1300 et seq.; 9VAC25 - Preface (Agency Summary); 9VAC25-31 et seq.; 9VAC25-210 Sections 10 through 230 and 500; 9VAC25-380 et seq.; 9VAC25-660 et seq., 9VAC25-670 et seq., 9VAC25-680 et seq. or 9VAC25-690 et seq. as applicable; 9VAC25-770 et seq.; 33 U.S.C § 1341 et seq.; 33 U.S.C § 1344 et seq.; 33 U.S.C. § 1370; 33 C.F.R. Part 332; 40 C.F.R. § 121 et seq.; 40 C.F.R. § 131 et seq.; 40 C.F.R. § 230 et seq.

3. Activities conducted in state surface waters shall not cause or contribute to a significant impairment of state fish and wildlife resources, including but not limited to: 1) documented spawning habitat or a migratory pathways for anadromous fish; 2) trout waters in specified locations of Virginia, as provided by the Virginia State Water Control Board's Water Quality Standards 9VAC25-260-370 et seq. and 9VAC25-260-390 et seq.; 3) state-listed threatened or endangered species or designated critical habitat; and 4) areas that contain submerged aquatic vegetation (SAV). This certification condition does not preclude compliance by the permittee with all applicable state laws and regulations concerning Virginia's fish and wildlife or critical habitat resources.

a. The project proponent shall ensure the activities do not cause or contribute to a significant impairment of state waters or fish and wildlife resources, including state listed threatened or endangered species or critical habitat, through screening or coordination with state resource agencies prior to doing work in surface waters. This requirement is in addition to identifying any potential or actual impacts to federal listed threatened or endangered species or critical habitat that may be required by the NATIONWIDE PERMIT or regional conditions.

(i) Where a project proponent is not required to obtain a verification from the Corps that the proposed activities qualify for the NATIONWIDE PERMIT, the project proponent shall follow all Time-of-Year Restrictions (TOYRs) applicable to state surface waters that are recommended by the

state resource agencies and other interested and affected agencies in the results or information provided to the project proponent. Results or information may include correspondence or documentation from state resource agencies and other interested and affected agencies addressing potential impacts, or reference materials that address potential impacts such as database search results or confirmed waters and wetlands delineations or jurisdictional determinations, or a combination thereof.

(ii) Where the project proponent receives a verification from the Corps that the proposed activities qualify for the NATIONWIDE PERMIT, the project proponent or authorized agent shall submit upon receipt or the next business day the screening or coordination results or information concerning the potential for activities to impact state threatened and endangered species (listed or proposed) or critical habitat to the Corps office having responsibility over the proposed project. Results or information may include correspondence or documentation from state resource agencies and other interested and affected agencies addressing potential impacts, or reference materials that address potential impacts such as database search results or confirmed waters and wetlands delineations or jurisdictional determinations, or a combination thereof. Time-of-year restrictions (TOYRs) recommended by state resource agencies and other interested and affected agencies shall be applied to any Corps verification of the NATIONWIDE PERMIT.

State resource agencies include the Virginia Department of Wildlife Resources (DWR), the Virginia Department of Conservation and Recreation (DCR), the Virginia Marine Resources Commission (MRC) at minimum. Other interested and affected agencies may include the Virginia Department of Health (VDH) or the Maryland Department of the Environment where activities occur in the Potomac River. The Virginia DWR has developed an online system that allows users to find information about sensitive state resources that may occur within the vicinity of a proposed project. This system named the Virginia Fish and Wildlife Information System is located at <https://vafwis.dgif.virginia.gov/fwis/>. This system may be used to determine if any state listed threatened or endangered species or designated critical habitat may be affected by the proposed activities.

b. Notification to the Corps is required prior to conducting any activities in state surface waters if they contain submerged aquatic vegetation (SAV). Information regarding submerged aquatic vegetation can be located on the Virginia Institute of Marine Science's SAV website at <http://mobjack.vims.edu/sav/savwabmap/>. Additional avoidance and minimization measures, such as relocating a structure

or time-of-year restrictions (TOYR), may be required to reduce impacts to SAV habitat in state surface waters.

- c. Activities in surface waters shall be performed behind cofferdams, turbidity curtains, or other methods to control turbidity when operationally feasible and state listed threatened or endangered species may be present.
- d. No activities may substantially disrupt the movement of aquatic life indigenous to the water body, including those species which normally migrate through the area, unless the primary purpose of the activity is to impound water.

40 C.F.R. § 121.7(d)(2)(i): This condition is necessary in order to assure that i) any discharge authorized under the general license or permit will comply with water quality requirements; ii) activities will not cause or contribute to a significant impairment of state waters or fish and wildlife resources; and iii) state water quality requirements are met, including the General Criteria (9VAC25-260-20 et seq.): "State waters, including wetlands, shall be free from substances attributable to sewage, industrial waste, or other waste in concentrations, amounts, or combinations which contravene established standards or interfere directly or indirectly with designated uses of such water or which are inimical or harmful to human, animal, plant, or aquatic life."

40 C.F.R. § 121.7(d)(2)(ii): Article XI, Section 1 Constitution of VA; Title 62.1 of the Code of Virginia; Chapter 3.1 of Title 62.1 of the Code of Virginia (§§ 62.1-44.2 through 62.1-44.34:28) [§ 62.1-44.2 through -44.6, § 62.1-44.13, § 62.1- 44.15, § 62.1-44.15:4.1, § 62.1-44.15:5.1, § 62.1-44.15:5.2, § 62.1-44.15:20, § 62.1-44.15:21, § 62.1-44.15:23, § 62.1-44.15:24, § 62.1-44.15:25, § 62.1-44.15:27, § 62.1-44.15:28, § 62.1-44.15:31, § 62.1-44.15:34, § 62.1-44.15:37, § 62.1- 44.15:37.1, § 62.1-44.15:40, § 62.1-44.15:50, § 62.1-44.15:52, § 62.1-44.15:54, § 62.1-44.15:55, § 62.1-44.15:56, § 62.1-44.15:58, § 62.1- 44.15:58.1, Article 2.5 of Title 62.1 (§§ 62.1-44.15:67 through § 62.1-44.15:79), §§ 62.1-44.16 through § 62.1-44.17, § 62.1-44.17:2, § 62.1-44.17:3, § 62.1-44.18, § 62.1-44.19, § 62.1-44.19:3, § 62.1-44.19:5, § 62.1-44.33, §§ 62.1-44.34:14 through § 62.1-44.34:19, § 62.1-44.34:23, § 62.1-44.34:26]; §§ 3.2-1000 through 3.2-1011; § 10.1-400 et seq.; § 10.1- 604 et seq.; § 28.2-1200 et seq.; § 28.2-1300 et seq.; § 29.1-500 through -579; § 62.1-7; § 62.1-8; § 62.1-10; § 62.1-11; § 62.1-194 through -194.3; 4VAC15-20 et seq.; 4VAC15-30 et seq.; 4VAC15-290-60; 4VAC15-320-100; 9VAC25 - Preface (Agency Summary); 9VAC25-31 Sections 10 through 60, 120, 150 through 220, 330, and if applicable, 420 through 1030; 9VAC25-40 et seq.; 9VAC25-120 et seq.; 9VAC25-151 et seq.; 9VAC25-190 et seq.; 9VAC25-191 through -196 et seq.; 9VAC25-210 Sections 10 through 230 and 500; 9VAC25-260 et seq.; 9VAC25-370 et seq.; 9VAC25-380 et seq.; 9VAC25-390 et seq.; 9VAC25-401 et seq.; 9VAC25-410 and 415 et seq.; 9VAC25-630 et seq.; 9VAC25-660 et seq.; 9VAC25-670 et seq., 9VAC25-680 et seq. or 9VAC25-690 et seq. as applicable; 9VAC25-720 et seq.; 9VAC25-740 et seq.; 9VAC25-790 et seq.; 9VAC25-800 et seq.; 9VAC25-820 et seq.; 9VAC25-830 et seq.; 9VAC25-840 et seq.; 9VAC25-860 et seq.; 9VAC25-870 through 890 et seq.; 33 U.S.C. § 1251 et seq.; 33 U.S.C. § 1313(d); 33 U.S.C. § 1315(b); 33 U.S.C. § 1317(a); 33 U.S.C. § 1341 et seq.; 33 U.S.C. § 1344 et seq.; 33 U.S.C. § 1370; 40 C.F.R. § 121 et seq.; 40 C.F.R. § 131 et seq.; Public Law 95-217

4. Plant species listed in the most current Virginia Department of Conservation and Recreation's (DCR) Virginia Invasive Plant Species List shall not be used for re-vegetation. The list of invasive plants in Virginia is found at:

<http://www.dcr.virginia.gov/natural-heritage/invspdpdflist>. DCR recommends the use of regional native species for re-vegetation as identified in the DCR Native Plants for Conservation, Restoration and Landscaping brochures for the coastal, piedmont and mountain regions <http://www.dcr.virginia.gov/natural-heritage/nativeplants#brochure>. See also DCR's native plant finder at <https://www.dcr.virginia.gov/natural-heritage/native-plants-finder>.

40 C.F.R. § 121.7(d)(2)(i): This condition is necessary in order to assure that i) any discharge authorized under the general license or permit will comply with water quality requirements; ii) activities will not cause or contribute to a significant impairment of state waters or fish and wildlife resources; and iii) state water quality requirements are met, including the General Criteria (9VAC25-260-20 et seq.): "State waters, including wetlands, shall be free from substances attributable to sewage, industrial waste, or other waste in concentrations, amounts, or combinations which contravene established standards or interfere directly or indirectly with designated uses of such water or which are inimical or harmful to human, animal, plant, or aquatic life."

40 C.F.R. § 121.7(d)(2)(ii): Article XI, Section 1 Constitution of VA; Title 62.1 of the Code of Virginia; Chapter 3.1 of Title 62.1 of the Code of Virginia (§§ 62.1-44.2 through 62.1-44.34:28) [§ 62.1-44.2, § 62.1-44.13, § 62.1-44.15, § 62.1-44.15:20, § 62.1-44.15:21, § 62.1-44.15:23, § 62.1-44.15:50]; §§ 3.2-800 through -805; 2VAC5-317 et seq.; 4VAC15-20-210; 4VAC15-30-20; 4VAC15-30-40; 4VAC15-20-130 B and C; 4VAC15-290-60; 9VAC25 - Preface (Agency Summary); 9VAC25-210 Sections 10 through 230 and 500; 9VAC25-380 et seq.; 9VAC25-660 et seq., 9VAC25-670 et seq., 9VAC25-680 et seq. or 9VAC25-690 et seq. as applicable; 9VAC25-800 et seq.; 9VAC25-830 et seq.; 9VAC25-840 et seq.; 33 U.S.C § 1341 et seq.; 33 U.S.C § 1344 et seq.; 33 U.S.C. § 1370; 40 C.F.R. § 121 et seq.; 40 C.F.R. § 131 et seq.; 40 C.F.R. § 230 et seq.

5. Stormwater management facilities, as defined in 9VAC25-870-10, shall not be constructed in a perennial stream bed or stream channel, as defined in 9VAC25-210-10, or in waters designated as oxygen-impaired or temperature-impaired (does not include wetlands).

40 C.F.R. § 121.7(d)(2)(i): This condition is necessary in order to assure that i) any discharge authorized under the general license or permit will comply with water quality requirements; ii) activities will not cause or contribute to a significant impairment of state waters or fish and wildlife resources; and iii) state water quality requirements are met, including the General Criteria (9VAC25-260-20 et seq.): "State waters, including wetlands, shall be free from substances attributable to sewage, industrial waste, or other waste in concentrations, amounts, or combinations which contravene established standards or interfere directly or indirectly with designated uses of such water or which are inimical or harmful to human, animal, plant, or aquatic life."

40 C.F.R. § 121.7(d)(2)(ii): Article XI, Section 1 Constitution of VA; Title 62.1 of the Code of Virginia; Chapter 3.1 of Title 62.1 of the Code of Virginia (§§ 62.1-44.2 through 62.1-44.34:28) [§ 62.1-44.2 through -44.6, § 62.1-44.15, § 62.1-44.15:20, § 62.1-44.15:21, § 62.1-44.15:24, § 62.1-44.15:25, § 62.1-44.15:27, § 62.1-44.15:28, § 62.1-44.15:31, § 62.1-44.15:34, § 62.1-44.19:5]; § 10.1-604 et seq.; § 28.2-1300 et seq.; § 62.1-7; § 62.1-8; § 62.1-10; § 62.1-11; 9VAC25 - Preface (Agency Summary); 9VAC25-31 Sections 10 through 60, 120, 150 through 220, 330, and if applicable, 420 through 1030; 9VAC25-40 et seq.; 9VAC25-151 et seq.; 9VAC25-210 Sections 10 through 230 and 500; 9VAC25-260 et seq.; 9VAC25-660 et seq., 9VAC25-670 et seq., 9VAC25-680 et seq. or 9VAC25-690 et seq. as applicable; 9VAC25-720 et seq.; 9VAC25-820 et seq.; 9VAC25-870 through 890 et seq.; 33 U.S.C. 403 et seq.; 33 U.S.C. § 1251 et seq.; 33 U.S.C. § 1313(d); 33 U.S.C. § 1315(b); 33 U.S.C. § 1317(a); 33 U.S.C § 1341 et seq.; 33 U.S.C § 1344 et seq.; 33 U.S.C. § 1370; 40 C.F.R. § 121 et seq.; 40 C.F.R. § 131 et seq.; Public Law 95-217

6. Compensatory mitigation for unavoidable permanent impacts, including the conversion of forested wetlands, that are greater than 1/10 of an acre of wetlands or greater than 300 linear feet of stream bed or stream channel as defined by 9VAC25-210-10 shall be provided in accordance with Section 62.1-44.15:23 A through C of the Code of Virginia, as applicable to the project activities and Virginia Water Protection Permit Program regulations.

- a. Stream bed or stream channel impacts shall be determined by utilizing a stream impact assessment methodology acceptable to the Department of Environmental Quality.**
- b. The mitigation shall be sufficient to achieve no net loss of existing wetland acreage and functions or stream functions and water quality benefits. In the absence of same river watershed alternatives in Hydrologic Unit Codes (HUC) 02040303 and 02040304, single-family dwellings or locality projects may use compensatory mitigation in HUC 02080102, 02080108, 02080110, or 02080111 in Virginia.**
- c. Unless the area is outside of permittee control, the permittee shall have all non-impacted surface waters and compensatory mitigation areas within 50 feet of authorized activities and within the project or right-of-way limits clearly flagged or marked for the life of the construction activity at that location to preclude**

unauthorized disturbances to these surface waters and compensatory mitigation areas during construction. The permittee shall notify contractors that no activities are to occur in these marked surface waters.

40 C.F.R. § 121.7(d)(2)(i): This condition is necessary in order to assure that i) any discharge authorized under the general license or permit will comply with water quality requirements; ii) activities will not cause or contribute to a significant impairment of state waters or fish and wildlife resources; and iii) state water quality requirements are met, including the General Criteria (9VAC25-260-20 et seq.): "State waters, including wetlands, shall be free from substances attributable to sewage, industrial waste, or other waste in concentrations, amounts, or combinations which contravene established standards or interfere directly or indirectly with designated uses of such water or which are inimical or harmful to human, animal, plant, or aquatic life."

40 C.F.R. § 121.7(d)(2)(ii): Article XI, Section 1 Constitution of VA; Title 62.1 of the Code of Virginia; Chapter 3.1 of Title 62.1 of the Code of Virginia (§§ 62.1-44.2 through 62.1-44.34:28) [§ 62.1-44.2 through -44.5, § 62.1-44.13, § 62.1-44.15, § 62.1-44.15:01, § 62.1-44.15:5.1, § 62.1-44.15:20, § 62.1-44.15:21, § 62.1-44.15:23]; 9VAC25 - Preface (Agency Summary); 9VAC25-210 Sections 10 through 230 and 500; 9VAC25-380 et seq.; 9VAC25-660 et seq., 9VAC25-670 et seq., 9VAC25-680 et seq. or 9VAC25-690 et seq. as applicable; 9VAC25-770 et seq.; 9VAC25-800 et seq.; 33 U.S.C § 1341 et seq.; 33 U.S.C § 1344 et seq.; 33 U.S.C. § 1370; 33 C.F.R. Part 332; 40 C.F.R. § 121 et seq.; 40 C.F.R. § 131 et seq.; 40 C.F.R. § 230 et seq.

7. The following information associated with activities in state surface waters, as applicable, shall be submitted by the permittee to the Virginia Water Protection Permit Program at the DEQ office having responsibility over the project location. The Joint Permit Application process may be used to meet this condition, provided all required information is included.

- a. When required, any pre-construction notification (PCN) materials or information shall be concurrently submitted to DEQ and the Corps.
- b. All jurisdictional determination information provided to the Corps and issued from the Corps, such as jurisdictional determination requests, maps, forms, photos, correspondence, Corps determinations or confirmations, shall be concurrently submitted to or shared with DEQ. Delineation of state surface waters on the entire project site is strongly encouraged prior to submitting an application to expedite state permit processing, if required.
- c. Proof of coverage ("verification") under one or more NATIONWIDE PERMITS, upon issuance by the Corps or on the next business day, unless the activities are excluded from permitting under the Virginia Water Protection Permit Program or no NATIONWIDE PERMIT verification is issued by the Corps.

40 C.F.R. § 121.7(d)(2)(i): This condition is necessary in order to assure that i) any discharge authorized under the general license or permit will comply with water quality requirements; ii) activities will not cause or contribute to a significant impairment of state waters or fish and wildlife resources; and iii) state water quality requirements are met, including the General Criteria (9VAC25-260-20 et seq.): "State waters, including wetlands, shall be free from substances attributable to sewage, industrial waste, or other waste in concentrations, amounts, or combinations which contravene established standards or interfere directly or indirectly with designated uses of such water or which are inimical or harmful to human, animal, plant, or aquatic life."

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seq.; 33 U.S.C § 1344 et seq.; 33 U.S.C. § 1370; 40 C.F.R. § 121 et seq.; 40 C.F.R. § 131 et seq.; 40 C.F.R. § 230 et seq.; Public Law 95-217

8. Activities shall include measures to prevent spills of fuels or lubricants into state waters. Any fish kills or spills of fuels or oils shall be reported to DEQ immediately upon discovery. If DEQ cannot be reached, the spill or fish kill shall be reported to the Virginia Department of Emergency Management (VDEM) at 1-800-468-8892 or the National Response Center (NRC) at 1-800-424-8802. Any spill of oil as defined in § 62.1-44.34:14 of the Code of Virginia that is less than 25 gallons, and that reaches or is expected to reach land only, is not reportable if recorded per § 62.1-44.34:19.2 of the Code of Virginia and if properly cleaned up. If unauthorized impacts have occurred, the permittee shall notify DEQ within 24 hours of discovery.

40 C.F.R. § 121.7(d)(2)(i): This condition is necessary in order to assure that i) any discharge authorized under the general license or permit will comply with water quality requirements; ii) activities will not cause or contribute to a significant impairment of state waters or fish and wildlife resources; and iii) state water quality requirements are met, including the General Criteria (9VAC25-260-20 et seq.): "State waters, including wetlands, shall be free from substances attributable to sewage, industrial waste, or other waste in concentrations, amounts, or combinations which contravene established standards or interfere directly or indirectly with designated uses of such water or which are inimical or harmful to human, animal, plant, or aquatic life."

40 C.F.R. § 121.7(d)(2)(ii): Article XI, Section 1 Constitution of VA; Title 62.1 of the Code of Virginia; Chapter 3.1 of Title 62.1 of the Code of Virginia (§§ 62.1-44.2 through 62.1-44.34:28) [§ 62.1-44.2 through -44.6, § 62.1-44.13, § 62.1-44.15, § 62.1-44.15:4.1, § 62.1-44.15:20, § 62.1-44.15:21, § 62.1-44.15:40, § 62.1-44.15:50, Article 2.5 of Title 62.1 (§§ 62.1-44.15:67 through § 62.1-44.15:79), §§ 62.1-44.16 through § 62.1-44.17, § 62.1-44.17:2, § 62.1-44.17:3, § 62.1-44.34:19.2, § 62.1-44.19:5, § 62.1-44.33, §§ 62.1-44.34:14 through § 62.1-44.34:19, § 62.1-44.34:23, § 62.1-44.34:26]; § 62.1-10; § 62.1-11; § 62.1-194 through -194.3; 9VAC25 - Preface (Agency Summary); 9VAC25-31 Sections 10 through 60, 120, 150 through 220, 330, and if applicable, 420 through 1030; 9VAC25-40 et seq.; 9VAC25-71 et seq.; 9VAC25-101 et seq.; 9VAC25-120 et seq.; 9VAC25-151 et seq.; 9VAC25-190 et seq.; 9VAC25-210 Sections 10 through 230 and 500; 9VAC25-260 et seq.; 9VAC25-380 et seq.; 9VAC25-410 and 415 et seq.; 9VAC25-660 et seq., 9VAC25-670 et seq., 9VAC25-680 et seq. or 9VAC25-690 et seq. as applicable; 9VAC25-720 et seq.; 9VAC25-820 et seq.; 9VAC25-830 et seq.; 33 U.S.C. § 1251 et seq.; 33 U.S.C. § 1313(d); 33 U.S.C. § 1315(b); 33 U.S.C. § 1317(a); 33 U.S.C. § 1341 et seq.; 33 U.S.C. § 1344 et seq.; 33 U.S.C. § 1370; 40 C.F.R. § 121 et seq.; 40 C.F.R. § 131 et seq.; 40 C.F.R. § 140; Public Law 95-217

9. Activities shall be executed in a manner so as to minimize adverse impacts on instream beneficial uses as defined in § 62.1-10 (b) of the Code of Virginia.

40 C.F.R. § 121.7(d)(2)(i): This condition is necessary in order to assure that i) any discharge authorized under the general license or permit will comply with water quality requirements; ii) activities will not cause or contribute to a significant impairment of state waters or fish and wildlife resources; and iii) state water quality requirements are met, including the General Criteria (9VAC25-260-20 et seq.): "State waters, including wetlands, shall be free from substances attributable to sewage, industrial waste, or other waste in concentrations, amounts, or combinations which contravene established standards or interfere directly or indirectly with designated uses of such water or which are inimical or harmful to human, animal, plant, or aquatic life."

40 C.F.R. § 121.7(d)(2)(ii): Article XI, Section 1 Constitution of VA; Title 62.1 of the Code of Virginia; Chapter 3.1 of Title 62.1 of the Code of Virginia (§§ 62.1-44.2 through 62.1-44.34:28) [§ 62.1-44.2 through -44.6, § 62.1-44.15, § 62.1-44.15:4.1, § 62.1-44.15:5.1, § 62.1-44.15:5.2, § 62.1-44.15:20, § 62.1-44.15:21, § 62.1-44.15:24, § 62.1-44.15:25, § 62.1-44.15:27, § 62.1-44.15:28, § 62.1-44.15:28.1, § 62.1-44.15:31, § 62.1-44.15:34, § 62.1-44.15:37, § 62.1-44.15:37.1, § 62.1-44.15:50, § 62.1-44.15:52, § 62.1-44.15:54, § 62.1-44.15:55, § 62.1-44.15:56, § 62.1-44.15:58, § 62.1-44.15:58.1, Article 2.5 of Title 62.1 (§§ 62.1-44.15:67 through § 62.1-44.15:79), §§ 62.1-44.16 through § 62.1-44.17, § 62.1-44.17:2, § 62.1-44.17:3, § 62.1-44.18, § 62.1-44.19, § 62.1-44.19:3, § 62.1-44.19:5, § 62.1-44.33, §§ 62.1-44.34:14 through § 62.1-44.34:19, § 62.1-44.34:23, § 62.1-44.34:26]; § 10.1-400 et seq.; § 10.1-604 et seq.; § 28.2-1300 et seq.; § 62.1-7; § 62.1-8; § 62.1-10; § 62.1-11; § 62.1-194 through -194.3; 9VAC25 - Preface (Agency Summary); 9VAC25-31 Sections 10 through 60, 120, 150 through 220, 330, and if applicable, 420 through 1030; 9VAC25-40 et seq.; 9VAC25-71 et seq.; 9VAC25-101 et seq.; 9VAC25-120 et seq.; 9VAC25-151 et seq.; 9VAC25-190 et seq.; 9VAC25-191 through -196 et seq.; 9VAC25-210 Sections 10 through 230 and 500; 9VAC25-260 et seq.; 9VAC25-370 et seq.; 9VAC25-401 et seq.; 9VAC25-410 and 415 et seq.; 9VAC25-630 et seq.; 9VAC25-660 et seq., 9VAC25-670 et seq., 9VAC25-680 et seq. or 9VAC25-690 et seq. as applicable; 9VAC25-720 et seq.; 9VAC25-740 et seq.; 9VAC25-790 et seq.; 9VAC25-800 et seq.; 9VAC25-820 et seq.; 9VAC25-830 et seq.; 9VAC25-840 et seq.; 9VAC25-860 et seq.; 9VAC25-870 through 890 et seq.;

33 U.S.C. § 1251 et seq.; 33 U.S.C. 403 et seq.; 33 U.S.C. § 1313(d); 33 U.S.C. § 1315(b); 33 U.S.C. § 1317(a); 33 U.S.C. § 1341 et seq.; 33 U.S.C. § 1344 et seq.; 33 U.S.C. § 1370; 40 C.F.R. § 121 et seq.; 40 C.F.R. § 131 et seq.; 40 C.F.R. § 140; 40 C.F.R. § 230 et seq.; Public Law 95-217

10. All fill material in state surface waters shall be clean and free of contaminants in toxic concentrations or amounts in accordance with all applicable state laws and regulations.

40 C.F.R. § 121.7(d)(2)(i): This condition is necessary in order to assure that i) any discharge authorized under the general license or permit will comply with water quality requirements; ii) activities will not cause or contribute to a significant impairment of state waters or fish and wildlife resources; and iii) state water quality requirements are met, including the General Criteria (9VAC25-260-20 et seq.): "State waters, including wetlands, shall be free from substances attributable to sewage, industrial waste, or other waste in concentrations, amounts, or combinations which contravene established standards or interfere directly or indirectly with designated uses of such water or which are inimical or harmful to human, animal, plant, or aquatic life."

40 C.F.R. § 121.7(d)(2)(ii): Article XI, Section 1 Constitution of VA; Title 62.1 of the Code of Virginia; Chapter 3.1 of Title 62.1 of the Code of Virginia (§§ 62.1-44.2 through 62.1-44.34:28) [§ 62.1-44.2, § 62.1-44.4 through -44.6, § 62.1-44.15, § 62.1-44.15:5.1, § 62.1-44.15:20, § 62.1-44.15:21, § 62.1-44.15:52, § 62.1-44.15:54, § 62.1-44.15:55, § 62.1-44.15:56, Article 2.5 of Title 62.1 (§§ 62.1-44.15:67 through § 62.1-44.15:79), §§ 62.1-44.16 through § 62.1-44.17, § 62.1-44.17:2, § 62.1-44.17:3, § 62.1-44.19:5]; § 62.1-194 through -194.3; 9VAC25 - Preface (Agency Summary); 9VAC25-40 et seq.; 9VAC25-190 et seq.; 9VAC25-210 Sections 10 through 230 and 500; 9VAC25-260 et seq.; 9VAC25-380 et seq.; 9VAC25-410 and 415 et seq.; 9VAC25-660 et seq., 9VAC25-670 et seq., 9VAC25-680 et seq. or 9VAC25-690 et seq. as applicable; 9VAC25-720 et seq.; 9VAC25-820 et seq.; 9VAC25-830 et seq.; 33 U.S.C. § 1251 et seq.; 33 U.S.C. 403 et seq.; 33 U.S.C. § 1313(d); 33 U.S.C. § 1315(b); 33 U.S.C. § 1317(a); 33 U.S.C. § 1341 et seq.; 33 U.S.C. § 1344 et seq.; 33 U.S.C. § 1370; 40 C.F.R. § 121 et seq.; 40 C.F.R. § 131 et seq.; Public Law 95-217

11. Temporary disturbances to surface waters during construction shall be avoided and minimized to the maximum extent practicable.

a. All temporarily disturbed wetland areas shall be restored to preexisting conditions within 30 days of completing work at each respective temporary impact area, which shall include reestablishing preconstruction elevations and contours with topsoil from the impact area where practicable and planting or seeding with appropriate wetland vegetation according to cover type (i.e., emergent, scrub-shrub, or forested). The permittee shall take all appropriate measures to promote and maintain revegetation of temporarily disturbed wetland areas with wetland vegetation through the second year post-disturbance. All temporarily impacted stream beds or stream channels and streambanks shall be restored to their preconstruction elevations and contours with topsoil from the impact area where practicable within 30 days following the construction at that stream segment. Streambanks shall be seeded or planted with the same vegetation cover type originally present, including any necessary supplemental erosion control grasses. Invasive species identified on the Department of Conservation and Recreation's Virginia Invasive Plant Species List shall not be used without prior approval from the Department of Environmental Quality.

b. Materials (including fill, construction debris, and excavated and woody materials) temporarily stockpiled in wetlands, and heavy equipment in temporarily impacted wetland areas shall be placed on mats, geotextile fabric, or other suitable material; shall be immediately stabilized to prevent entry into state waters; shall be managed such that leachate does not enter state waters; and shall be completely removed within 30 days following completion of that construction activity. Disturbed areas shall be returned to preconstruction elevations and contours with topsoil from the impact area where

practicable; restored within 30 days following removal of the stockpile; and restored with the same vegetation cover type originally present, including any necessary supplemental erosion control grasses. Invasive species identified on the Department of Conservation and Recreation's Virginia Invasive Plant Species List shall not be used to the maximum extent practicable or without prior approval from the Department of Environmental Quality.

c. All construction, construction access (e.g., cofferdams, sheet piling, and causeways) and demolition activities associated with the project shall be accomplished in a manner that minimizes construction or waste materials from entering surface waters to the maximum extent practicable.

40 C.F.R. § 121.7(d)(2)(i): This condition is necessary in order to assure that i) any discharge authorized under the general license or permit will comply with water quality requirements; ii) activities will not cause or contribute to a significant impairment of state waters or fish and wildlife resources; and iii) state water quality requirements are met, including the General Criteria (9VAC25-260-20 et seq.): "State waters, including wetlands, shall be free from substances attributable to sewage, industrial waste, or other waste in concentrations, amounts, or combinations which contravene established standards or interfere directly or indirectly with designated uses of such water or which are inimical or harmful to human, animal, plant, or aquatic life."

40 C.F.R. § 121.7(d)(2)(ii): Article XI, Section 1 Constitution of VA; Title 62.1 of the Code of Virginia; Chapter 3.1 of Title 62.1 of the Code of Virginia (§§ 62.1-44.2 through 62.1-44.34:28) [§ 62.1-44.2 through -44.6, § 62.1-44.13, § 62.1-44.15, § 62.1-44.15:4.1, § 62.1-44.15:5.1, § 62.1-44.15:5.2, § 62.1-44.15:20, § 62.1-44.15:21, § 62.1-44.15:24, § 62.1-44.15:25, § 62.1-44.15:27, § 62.1-44.15:28, § 62.1-44.15:31, § 62.1-44.15:34, § 62.1-44.15:37.1, § 62.1-44.15:50, § 62.1-44.15:52, § 62.1-44.15:54, § 62.1-44.15:55, § 62.1-44.15:56, § 62.1-44.15:58, § 62.1-44.15:58.1, Article 2.5 of Title 62.1 (§§ 62.1-44.15:67 through § 62.1-44.15:79), §§ 62.1-44.16 through § 62.1-44.17, § 62.1-44.19:5]; § 10.1-604 et seq.; § 28.2-1300 et seq.; § 62.1-7; § 62.1-8; § 62.1-10; § 62.1-11; § 62.1-194 through -194.3; 9VAC25 - Preface (Agency Summary); 9VAC25-40 et seq.; 9VAC25-210 Sections 10 through 230 and 500; 9VAC25-260 et seq.; 9VAC25-380 et seq.; 9VAC25-401 et seq.; 9VAC25-410 and 415 et seq.; 9VAC25-660 et seq., 9VAC25-670 et seq., 9VAC25-680 et seq. or 9VAC25-690 et seq. as applicable; 9VAC25-720 et seq.; 9VAC25-770 et seq.; 9VAC25-800 et seq.; 9VAC25-820 et seq.; 9VAC25-830 et seq.; 33 U.S.C. § 1251 et seq.; 33 U.S.C. § 1313(d); 33 U.S.C. § 1315(b); 33 U.S.C. § 1317(a); 33 U.S.C. § 1341 et seq.; 33 U.S.C. § 1344 et seq.; 33 U.S.C. § 1370; 33 C.F.R. Part 332; 40 C.F.R. § 121 et seq.; 40 C.F.R. § 131 et seq.; 40 C.F.R. § 230 et seq.; Public Law 95-217

12. If stream channelization or relocation is required, all work in surface waters shall be done in the dry, unless otherwise authorized by the Department of Environmental Quality, and all flows shall be diverted around the channelization or relocation area until the new channel is stabilized. This work shall be accomplished by leaving a plug at the inlet and outlet ends of the new channel during excavation. Once the new channel has been stabilized, flow shall be routed into the new channel by first removing the downstream plug and then the upstream plug. The rerouted stream flow must be fully established before construction activities in the old stream bed or stream channel can begin.

40 C.F.R. § 121.7(d)(2)(i): This condition is necessary in order to assure that i) any discharge authorized under the general license or permit will comply with water quality requirements; ii) activities will not cause or contribute to a significant impairment of state waters or fish and wildlife resources; and iii) state water quality requirements are met, including the General Criteria (9VAC25-260-20 et seq.): "State waters, including wetlands, shall be free from substances attributable to sewage, industrial waste, or other waste in concentrations, amounts, or combinations which contravene established standards or interfere directly or indirectly with designated uses of such water or which are inimical or harmful to human, animal, plant, or aquatic life."

40 C.F.R. § 121.7(d)(2)(ii): Article XI, Section 1 Constitution of VA; Title 62.1 of the Code of Virginia; Chapter 3.1 of Title 62.1 of the Code of Virginia (§§ 62.1-44.2 through 62.1-44.34:28) [§ 62.1-44.2, § 62.1-44.5, § 62.1-44.6, § 62.1-44.13, § 62.1-44.15, § 62.1-44.15:5.1, § 62.1-44.15:20, § 62.1-44.15:21, § 62.1-44.15:52, § 62.1-44.15:54, § 62.1-44.15:55, § 62.1-44.15:56, Article 2.5 of Title 62.1 (§§ 62.1-44.15:67 through § 62.1-44.15:79)]; § 62.1-10; § 62.1-11; § 62.1-194 through -194.3; 9VAC25 - Preface (Agency Summary); 9VAC25-210 Sections 10 through 230 and 500; 9VAC25-260 et

seq.; 9VAC25-660 et seq., 9VAC25-670 et seq., 9VAC25-680 et seq. or 9VAC25-690 et seq. as applicable; 9VAC25-800 et seq.; 9VAC25-840 et seq.; 33 U.S.C. 403 et seq.; 33 U.S.C. § 1341 et seq.; 33 U.S.C. § 1344 et seq.; 33 U.S.C. § 1370; 40 C.F.R. § 121 et seq.; 40 C.F.R. § 131 et seq.

APPENDIX C

VIRGINIA GENERAL PERMIT FOR THE DISCHARGE OF

STORMWATER FROM CONSTRUCTION ACTIVITIES



Commonwealth of Virginia

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

www.deq.virginia.gov

General Permit No.: VAR10

Effective Date: July 1, 2024

Expiration Date: June 30, 2029

**GENERAL VPDES PERMIT FOR DISCHARGES OF STORMWATER FROM
CONSTRUCTION ACTIVITIES**

**AUTHORIZATION TO DISCHARGE UNDER THE VIRGINIA EROSION AND
STORMWATER MANAGEMENT PROGRAM AND THE VIRGINIA EROSION AND
STORMWATER MANAGEMENT ACT**

In compliance with the provisions of the Clean Water Act, as amended, and pursuant to the Virginia Erosion and Stormwater Management Act and regulations adopted pursuant thereto, operators of construction activities are authorized to discharge to surface waters within the boundaries of the Commonwealth of Virginia, except those specifically named in State Water Control Board regulations that prohibit such discharges.

The authorized discharge shall be in accordance with the registration statement filed with the Department of Environmental Quality, this cover page, Part I - Discharge Authorization and Special Conditions, Part II - Stormwater Pollution Prevention Plan, and Part III - Conditions Applicable to All VPDES Permits as set forth in this general permit.

For stormwater discharge associated with a small construction activity of a single-family detached residential structure, within or outside a common plan of development or sale, the authorized discharge shall be in accordance with this cover page, Part I - Discharge Authorization and Special Conditions, Part II - Stormwater Pollution Prevention Plan, and Part III - Conditions Applicable to All VPDES Permits as set forth in this general permit.

PART I

DISCHARGE AUTHORIZATION AND SPECIAL CONDITIONS

A. Coverage under this general permit.

1. During the period beginning with the date of coverage under this general permit and lasting until the general permit's expiration date, the operator is authorized to discharge stormwater from construction activities.
2. This general permit also authorizes stormwater discharges from construction support activities located on-site or off-site provided that:
 - a. The support activity is directly related to the construction site that is required to have general permit coverage for discharges;
 - b. The support activity is neither a commercial operation nor serves multiple unrelated construction sites;
 - c. The support activity does not operate beyond the completion of the last construction activity it supports;
 - d. The support activity is identified in the registration statement at the time of general permit coverage or reported in a modified registration statement once the need for the support activity is known;
 - e. Appropriate control measures are identified in a stormwater pollution prevention plan and implemented to address the discharges from the support activity; and
 - f. All applicable state, federal, and local approvals are obtained for the support activity.

B. Limitations on coverage.

1. Post-construction discharges. This general permit does not authorize stormwater discharges that originate from the construction site after construction activities have been completed and the construction site, including any construction support activity covered under the general permit registration, has undergone final stabilization. Post-construction industrial stormwater discharges may need to be covered by a separate VPDES permit.
2. Discharges mixed with nonstormwater. This general permit does not authorize discharges that are mixed with sources of nonstormwater, other than those discharges that are identified in Part I E (Authorized nonstormwater discharges) and are in compliance with this general permit.
3. Discharges covered by another permit. This general permit does not authorize discharges of stormwater from construction activities that are covered under an individual permit or required to obtain coverage under an alternative general permit.

4. Impaired waters and total maximum daily load (TMDL) limitation.

- a. Nutrient and sediment impaired waters. Discharges of stormwater from construction activities to surface waters identified as impaired in the 2022 § 305(b)/303(d) Water Quality Assessment Integrated Report for Benthic Macroinvertebrates Bioassessments or for which a TMDL wasteload allocation has been established and approved prior to the term of this general permit for (i) sediment or a sediment-related parameter (i.e., total suspended solids or turbidity) or (ii) nutrients (i.e., nitrogen or phosphorus), including all surface waters within the Chesapeake Bay Watershed, are not eligible for coverage under this general permit unless the operator develops, implements, and maintains a stormwater pollution prevention plan (SWPPP) in accordance with Part II B 5 of this permit that minimizes the pollutants of concern and, when applicable, is consistent with the assumptions and requirements of the approved TMDL wasteload allocations and implements an inspection frequency consistent with Part II G 2 a.
- b. Polychlorinated biphenyl (PCB) impaired waters. Discharges of stormwater from construction activities that include the demolition of any structure with at least 10,000 square feet of floor space built or renovated before January 1, 1980, to surface waters identified as impaired in the 2022 § 305(b)/303(d) Water Quality Assessment Integrated Report or for which a TMDL wasteload allocation has been established and approved prior to the term of this general permit for PCB are not eligible for coverage under this general permit unless the operator develops, implements, and maintains a SWPPP in accordance with Part II B 6 of this permit that minimizes the pollutants of concern and, when applicable, is consistent with the assumptions and requirements of the approved TMDL wasteload allocations and implements an inspection frequency consistent with Part II G 2 a.

5. Exceptional waters limitation. Discharges of stormwater from construction activities not previously covered under the general permit effective on July 1, 2019, to exceptional waters identified in 9VAC25-260-30 A 3 c are not eligible for coverage under this general permit unless the operator develops, implements, and maintains a SWPPP in accordance with Part II B 7 of this permit and implements an inspection frequency consistent with Part II G 2 a.

6. There shall be no discharge of floating solids or visible foam in other than trace amounts.

C. Commingled discharges. Discharges authorized by this general permit may be commingled with other sources of stormwater that are not required to be covered under a permit, so long as the commingled discharge is in compliance with this general permit. Discharges authorized by a separate state or VPDES permit may be commingled with discharges authorized by this general permit so long as all such discharges comply with all applicable state and VPDES permit requirements.

D. Prohibition of nonstormwater discharges. Except as provided in Part I A 2, C, and E, all discharges covered by this general permit shall be composed entirely of stormwater associated with construction activities. All other discharges, including the following, are prohibited:

1. Wastewater from washout of concrete;

2. Wastewater from the washout or cleanout of stucco, paint, form release oils, curing compounds, and other construction materials;
3. Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance;
4. Oils, toxic substances, or hazardous substances from spills or other releases; and
5. Soaps, solvents, or detergents used in equipment and vehicle washing.

E. Authorized nonstormwater discharges. The following nonstormwater discharges from construction activities are authorized by this general permit:

1. Discharges from emergency firefighting activities;
2. Fire hydrant flushings, managed to avoid an instream impact;
3. Waters used to wash vehicles or equipment, provided no soaps, solvents, or detergents are used and the wash water is filtered, settled, or similarly treated prior to discharge;
4. Water used to control dust that is filtered, settled, or similarly treated prior to discharge;
5. Potable water, including uncontaminated waterline flushings, managed in a manner to avoid an instream impact;
6. Routine external building wash down provided no soaps, solvents or detergents are used, external building surfaces do not contain hazardous substances, and the wash water is filtered, settled, or similarly treated prior to discharge;
7. Pavement wash waters, provided spills or leaks of toxic or hazardous materials have not occurred, unless all spilled or leaked material has been removed prior to washing; soaps, solvents, or detergents are not used; and where the wash water is filtered, settled, or similarly treated prior to discharge;
8. Uncontaminated air conditioning or compressor condensate;
9. Uncontaminated ground water or spring water;
10. Foundation or footing drains, provided flows are not contaminated with process materials such as solvents or contaminated groundwater;
11. Uncontaminated excavation dewatering, including dewatering of trenches and excavations that are filtered, settled, or similarly treated prior to discharge; and
12. Landscape irrigation.

F. Termination of general permit coverage.

1. The operator of the construction activity shall submit a notice of termination in accordance with 9VAC25-880-60, unless a registration statement was not required to be

submitted in accordance with 9VAC25-880-50 A 1 c or A 2 b for single-family detached residential structures, to the Virginia Erosion and Stormwater Management (VESMP) authority after one or more of the following conditions have been met:

- a. Necessary permanent control measures included in the SWPPP for the construction site are in place and functioning effectively and final stabilization has been achieved on all portions of the construction site for which the operator has operational control. When applicable, long-term responsibility and maintenance requirements for permanent control measures shall be recorded in the local land records prior to the submission of a complete and accurate notice of termination and the construction record drawing prepared;
- b. Another operator has assumed control over all areas of the construction site that have not been finally stabilized and obtained coverage for the ongoing discharge;
- c. Coverage under an alternative VPDES permit or other applicable permit has been obtained; or
- d. For individual lots in residential construction only, final stabilization as defined in 9VAC25-880-1 has been completed, including providing written notification to the homeowner and incorporating a copy of the notification and signed certification statement into the SWPPP, and the residence has been transferred to the homeowner.

2. The notice of termination shall be submitted no later than 30 days after one of the conditions in subdivision 1 of this subsection is met.
3. Termination of authorization to discharge shall be effective upon notification from the department that the provisions of subdivision 1 of this subsection have been met or 90 days after submittal of a complete and accurate notice of termination in accordance with 9VAC25-880-60 C, whichever occurs first, unless otherwise notified by the VESMP or the department.
4. The notice of termination shall be signed in accordance with Part III K 1 and include the required certification in accordance with Part III K 4 of this general permit.

G. Water quality protection.

1. The operator shall select, install, implement, and maintain control measures as identified in the SWPPP at the construction site that minimize pollutants in the discharge as necessary to ensure that the operator's discharge does not cause or contribute to an excursion above any applicable water quality standard.
2. If it is determined by the department that the operator's discharges are causing, have reasonable potential to cause, or are contributing to an excursion above any applicable water quality standard, the department, in consultation with the VESMP authority, may take appropriate enforcement action and require the operator to:
 - a. Modify or implement additional control measures in accordance with Part II C to adequately address the identified water quality concerns;

- b. Submit valid and verifiable data and information that are representative of ambient conditions and indicate that the receiving water is attaining water quality standards; or
- c. Submit an individual permit application in accordance with 9VAC25-875-980 B 3.

H. All written responses required under this general permit shall include a signed certification consistent with Part III K.

PART II

STORMWATER POLLUTION PREVENTION PLAN

A. Stormwater pollution prevention plan.

- 1. A stormwater pollution prevention plan (SWPPP) shall be developed prior to the submission of a registration statement and implemented for the construction activity, including any construction support activity, covered by this general permit. For a small construction activity of a single-family detached residential structure, within or outside a common plan of development or sale, a SWPPP shall be developed and implemented prior to the initiation of the construction activity, including any construction support activity covered by this general permit.
- 2. SWPPPs shall be prepared in accordance with good engineering practices. Construction activities that are part of a larger common plan of development or sale and disturb less than one acre may utilize a SWPPP template provided by the department and need not provide a separate stormwater management plan if one has been prepared and implemented for the larger common plan of development or sale.
- 3. The SWPPP requirements of this general permit may be fulfilled by incorporating by reference other plans such as a spill prevention control and countermeasure (SPCC) plan developed for the construction site under § 311 of the federal Clean Water Act or best management practices (BMP) programs otherwise required for the construction site provided that the incorporated plan meets or exceeds the SWPPP requirements of Part II B. All plans incorporated by reference into the SWPPP become enforceable under this general permit. If a plan incorporated by reference does not contain all of the required elements of the SWPPP, the operator shall develop the missing elements and include them in the SWPPP.
- 4. Any operator that was authorized to discharge under the general permit effective July 1, 2019, and that intends to continue coverage under this general permit shall update its stormwater pollution prevention plan to comply with the requirements of this general permit no later than 60 days after the date of coverage under this general permit.

B. Contents. The SWPPP shall include the following items:

- 1. General information.
 - a. A signed copy of the registration statement, if required, for coverage under this general permit;

- b. Upon receipt, a copy of the notice of coverage under this general permit (i.e., notice of coverage letter);
- c. Upon receipt, a copy of the general VPDES permit for discharges of stormwater from construction activities;
- d. A narrative description of the nature of the construction activity, including the function of the project (e.g., low density residential, shopping mall, highway);
- e. A legible map of the construction site identifying:
 - (1) Existing and proposed drainage patterns on the construction site and approximate slopes before and after major grading activities;
 - (2) Limits of clearing and grading (i.e., land disturbance), including steep slopes and natural buffers around surface waters that will remain undisturbed;
 - (3) Locations of major structural and nonstructural control measures, including sediment basins and traps, perimeter dikes and diversions, sediment barriers, and other measures intended to filter, settle, or similarly treat sediment that will be installed between disturbed areas and the undisturbed vegetated areas in order to increase sediment removal and maximize stormwater infiltration;
 - (4) Locations of surface waters;
 - (5) Locations where concentrated stormwater is discharged;
 - (6) Locations of any construction support activities, including (i) areas where equipment and vehicle washing, wheel wash water, and other wash water is to occur; (ii) storage areas for chemicals such as acids, fuels, fertilizers, and other lawn care chemicals; (iii) concrete wash out areas; (iv) vehicle fueling and maintenance areas; (v) sanitary waste facilities, including those temporarily placed on the construction site; (vi) construction waste storage; and (vii) areas where polymers, flocculants, or other stormwater treatment chemicals will be used or stored; and
 - (7) When applicable, the location of the on-site rain gauge or the methodology established in consultation with the VESMP authority used to identify measurable storm events for inspection as allowed by Part II G 2 a (1) (ii) or 2 b (2).

2. Erosion and sediment control plan for the construction activity authorized by this general permit.

- a. An erosion and sediment control plan designed and approved in accordance with the Virginia Erosion and Stormwater Management Regulations (9VAC25-875), an "agreement in lieu of a plan" as defined in 9VAC25-875-20, or an erosion and sediment control plan prepared in accordance with department-approved standards and specifications.

- b. All erosion and sediment control plans shall include a statement describing the maintenance responsibilities required for the erosion and sediment controls used.
- c. An approved erosion and sediment control plan, "agreement in lieu of a plan," or erosion and sediment control plan prepared in accordance with department-approved standards and specifications shall be implemented to:
 - (1) Control the volume and velocity of stormwater runoff within the construction site to minimize soil erosion;
 - (2) Control stormwater discharges, including peak flow rates and total stormwater volume, to minimize erosion at outlets and to minimize downstream channel and stream bank erosion;
 - (3) Minimize the amount of soil exposed during the construction activity;
 - (4) Minimize the disturbance of steep slopes;
 - (5) Minimize sediment discharges from the construction site in a manner that addresses (i) the amount, frequency, intensity, and duration of precipitation; (ii) the nature of resulting stormwater runoff; and (iii) soil characteristics, including the range of soil particle sizes present on the construction site;
 - (6) Provide and maintain natural buffers around surface waters, direct stormwater to vegetated areas to increase sediment removal, and maximize stormwater infiltration, unless infiltration would be inadvisable due to the underlying geology (e.g., karst topography) and groundwater contamination concerns or infeasible due to site conditions;
 - (7) Minimize soil compaction. Minimizing soil compaction is not required where the intended function of a specific area of the construction site dictates that it be compacted;
 - (8) Unless infeasible, preserve topsoil. Preserving topsoil is not required where the intended function of a specific area of the construction site dictates that the topsoil be disturbed or removed;
 - (9) Ensure the initiation of stabilization activities of disturbed areas occurs immediately whenever any clearing, grading, excavating, or other land-disturbing activities have permanently ceased on any portion of the construction site, or temporarily ceased on any portion of the construction site and will not resume for a period exceeding 14 days; and
 - (10) Utilize outlet structures that withdraw stormwater from the surface (i.e., above the permanent pool or wet storage water surface elevation), unless infeasible, when discharging from sediment basins or sediment traps.
- 3. Stormwater management plan for the construction activity authorized by this general permit.

- a. Except for those projects identified in Part II B 3 b, a stormwater management plan approved in accordance with the Virginia Erosion and Stormwater Management Regulation (9VAC25-875) or an "agreement in lieu of a plan" as defined in 9VAC25-875-20 or a stormwater management plan prepared in accordance with department-approved standards and specifications.
- b. For any operator meeting the conditions of 9VAC25-875-480 B of the Virginia Erosion and Stormwater Management Regulation, an approved stormwater management plan is not required. In lieu of an approved stormwater management plan, the SWPPP shall include a description of and all necessary calculations supporting all post-construction stormwater management measures that will be installed prior to the completion of the construction process to control pollutants in stormwater discharges after construction operations have been completed. Structural measures should be placed on upland soils to the degree possible. Such measures must be designed and installed in accordance with applicable VESCP authority, VESMP authority, state, and federal requirements, and any necessary permits must be obtained.

4. Pollution prevention plan for the construction activity authorized by this general permit. A pollution prevention plan that addresses potential pollutant-generating activities that may reasonably be expected to affect the quality of stormwater discharges from the construction activity, including any support activity. The pollution prevention plan shall:

- a. Identify the potential pollutant-generating activities and the pollutant that is expected to be exposed to stormwater;
- b. Describe the location where the potential pollutant-generating activities will occur, or if identified on the site plan, reference the site plan;
- c. Identify all nonstormwater discharges, as authorized in Part I E of this general permit, that are or will be commingled with stormwater discharges from the construction activity, including any applicable support activity;
- d. Identify the person responsible for implementing the pollution prevention practices for each pollutant-generating activity (if other than the person listed as the qualified personnel);
- e. Describe the pollution prevention practices and procedures that will be implemented to:
 - (1) Prevent and respond to leaks, spills, and other releases, including (i) procedures for expeditiously stopping, containing, and cleaning up spills, leaks, and other releases; and (ii) procedures for reporting leaks, spills, and other releases in accordance with Part III G;
 - (2) Prevent the discharge of spilled and leaked fuels and chemicals from vehicle fueling and maintenance activities (e.g., providing secondary containment such as spill berms, decks, spill containment pallets, providing cover where appropriate, and having spill kits readily available);

- (3) Prevent the discharge of soaps, solvents, detergents, and wash water from construction materials, including the clean-up of stucco, paint, form release oils, and curing compounds (e.g., providing (i) cover (e.g., plastic sheeting or temporary roofs) to prevent contact with stormwater; (ii) collection and proper disposal in a manner to prevent contact with stormwater; and (iii) a similarly effective means designed to prevent discharge of these pollutants);
- (4) Minimize the discharge of pollutants from vehicle and equipment washing, wheel wash water, and other types of washing (e.g., locating activities away from surface waters and storm drain inlets and constructed or natural site drainage features and directing wash waters to sediment basins or traps, using filtration devices such as filter bags or sand filters, or using similarly effective controls);
- (5) Direct concrete wash water into a leak-proof container or leak-proof settling basin designed so that no overflows can occur due to inadequate sizing or precipitation. Hardened concrete wastes shall be removed and disposed of in a manner consistent with the handling of other construction wastes. Liquid concrete wastes shall be removed and disposed of in a manner consistent with the handling of other construction wash waters and shall not be discharged to surface waters, disposed of through infiltration, or otherwise disposed of on the ground;
- (6) Minimize the discharge of pollutants from storage, handling, and disposal of construction products, materials, and wastes, including (i) building products such as asphalt sealants, copper flashing, roofing materials, adhesives, and concrete admixtures; (ii) pesticides, herbicides, insecticides, fertilizers, and landscape materials; and (iii) construction and domestic wastes such as packaging materials, scrap construction materials, masonry products, timber, pipe and electrical cuttings, plastics, Styrofoam, concrete, and other trash or building materials;
- (7) Prevent the discharge of fuels, oils, and other petroleum products, hazardous or toxic wastes, waste concrete, and sanitary wastes;
- (8) Address any other discharge from the potential pollutant-generating activities not addressed in this subdivision 4; and
- (9) Minimize the exposure of waste materials to precipitation by closing or covering waste containers during precipitation events and at the end of the business day or implementing other similarly effective practices. Minimization of exposure is not required in cases where the exposure to precipitation will not result in a discharge of pollutants; and

f. Describe procedures for providing pollution prevention awareness of all applicable wastes, including any wash water, disposal practices, and applicable disposal locations of such wastes, to personnel in order to comply with the conditions of this general permit. The operator shall implement the procedures described in the SWPPP.

5. SWPPP requirements for discharges to nutrient and sediment impaired waters. For discharges to surface waters (i) identified as impaired in the 2022 § 305(b)/303(d) Water Quality Assessment Integrated Report for Benthic Macroinvertebrates Bioassessments or (ii) with an applicable TMDL wasteload allocation established and approved prior to the

term of this general permit for sediment or a sediment-related parameter (i.e., total suspended solids or turbidity) or nutrients (i.e., nitrogen or phosphorus), including all surface waters within the Chesapeake Bay Watershed, the operator shall:

- a. Identify the impaired waters, approved TMDLs, and pollutants of concern in the SWPPP; and
- b. Provide documentation in the SWPPP that:
 - (1) Permanent or temporary soil stabilization shall be applied to denuded areas within seven days after final grade is reached on any portion of the construction site;
 - (2) Nutrients shall be applied in accordance with manufacturer's recommendations or an approved nutrient management plan and shall not be applied during rainfall events; and
 - (3) A modified inspection schedule shall be implemented in accordance with Part II G 2 a.

6. SWPPP requirements for discharges to polychlorinated biphenyl (PCB) impaired waters. For discharges from construction activities that include the demolition of any structure with at least 10,000 square feet of floor space built or renovated before January 1, 1980, to surface waters (i) identified as impaired in the 2022 § 305(b)/303(d) Water Quality Assessment Integrated Report or (ii) with an applicable TMDL wasteload allocation established and approved prior to the term of this general permit for PCB, the operator shall:

- a. Identify the impaired waters, approved TMDLs, and pollutant of concern in the SWPPP;
- b. Implement the approved erosion and sediment control plan in accordance with Part II B 2;
- c. Dispose of waste materials in compliance with applicable state, federal, and local requirements; and
- d. Implement a modified inspection schedule in accordance with Part II G 2 a.

7. SWPPP requirements for discharges to exceptional waters. For discharges to surface waters identified in 9VAC25-260-30 A 3 c as an exceptional water, the operator shall:

- a. Identify the exceptional surface waters in the SWPPP; and
- b. Provide documentation in the SWPPP that:
 - (1) Permanent or temporary soil stabilization shall be applied to denuded areas within seven days after final grade is reached on any portion of the construction site;

- (2) Nutrients shall be applied in accordance with manufacturer's recommendations or an approved nutrient management plan and shall not be applied during rainfall events; and
- (3) A modified inspection schedule shall be implemented in accordance with Part II G 2 a.

8. SWPPP requirements for construction dewatering discharges to sediment impaired waters or exceptional waters. Dewatering discharges of uncontaminated stormwater or groundwater from footers or foundations of a single-family detached residential structure are exempt from the requirements of this subdivision 8, provided that such discharges are not discharged directly to surface waters. For construction dewatering discharges to surface waters (i) identified as impaired in the 2022 § 305(b)/303(d) Water Quality Assessment Integrated Report for Benthic Macroinvertebrates Bioassessments; (ii) with an applicable TMDL wasteload allocation established and approved prior to the term of this general permit for sediment or a sediment-related parameter (i.e., total suspended solids or turbidity), including all surface waters within the Chesapeake Bay Watershed; or (iii) identified in 9VAC25-260-30 A 3 c as an exceptional water, the operator shall undertake one of the following methods for controlling and documenting construction dewatering discharges:

a. Turbidity benchmark option 1:

- (1) Identify the location of all construction dewatering discharges in the SWPPP;
- (2) Select, install, implement, and maintain control measures at each dewatering location that minimize pollutants, including suspended solids, in construction dewatering discharges prior to discharging into a stormwater conveyance system or surface water; and
- (3) Provide documentation in the SWPPP that:
 - (a) Sample frequency. At least one grab sample shall be collected from each construction dewatering discharge when the first discharge at that location occurs, daily thereafter until the dewatering discharge stops, and after any installation of new controls or routine maintenance activity of existing controls. An upstream grab sample shall be collected from the receiving stream;
 - (b) Sample timing. Grab samples of the construction dewatering discharge shall be collected during the first 15 minutes of the construction dewatering discharge and daily thereafter until the dewatering discharge stops. Upstream grab samples of the receiving stream shall be collected within 15 minutes of the corresponding construction dewatering discharge sample;
 - (c) Sample location. Grab samples shall be collected after the construction dewatering water has been filtered, settled, or similarly treated and prior to its discharge into a stormwater conveyance system or surface water;
 - (d) Test methods. Grab samples taken as required by this subdivision 8 shall be measured using a turbidity meter that reports results in nephelometric

turbidity units (NTUs) or formazin turbidity units (FTUs), and a turbidity meter calibration verification shall be conducted prior to each day's use, consistent with manufacturer recommendations;

(e) Visual monitoring. All dewatering discharges shall be visually monitored for changes in the characterization of effluent discharge;

(f) Corrective action. If (i) any turbidity measurement of the construction dewatering discharge exceeds the upstream grab sample of the receiving stream by more than 50 NTUs/FTUs or (ii) visual monitoring indicates a change in the characterization of effluent discharge, corrective action shall be taken in accordance with Part II H 2 of this general permit; and

(g) Recordkeeping. Turbidity monitoring information (i.e., location, date, sample collection time, and turbidity measurement) and any necessary corrective actions taken shall be recorded in the SWPPP; or

b. Turbidity benchmark option 2:

(1) Identify the location of all construction dewatering discharges in the SWPPP;

(2) Select, install, implement, and maintain control measures at each dewatering location that minimize pollutants, including suspended solids, in construction dewatering discharges prior to discharging into a stormwater conveyance system or surface water; and

(3) Provide documentation in the SWPPP that:

(a) Sample frequency. At least one grab sample shall be collected from each construction dewatering discharge when the first discharge at that location occurs, daily thereafter until the dewatering discharge stops, and after any installation of new controls or routine maintenance activity of existing controls. Grab samples shall be tested to confirm a turbidity measurement of equal to or less than 150 NTUs/FTUs from the construction dewatering discharge;

(b) Sample timing. Grab samples of the construction dewatering discharge shall be collected during the first 15 minutes of the construction dewatering discharge and daily thereafter until the dewatering discharge stops;

(c) Sample location. Grab samples shall be collected after the construction dewatering water has been filtered, settled, or similarly treated and prior to its discharge into a stormwater conveyance system or surface water;

(d) Test methods. Grab samples taken as required by this subdivision 8 shall be measured using a turbidity meter that reports results in nephelometric turbidity units (NTUs) or formazin turbidity unit (FTUs), and a turbidity meter calibration verification shall be conducted prior to each day's use, consistent with manufacturer recommendations;

(e) Visual monitoring. All dewatering discharges shall be visually monitored for changes in the characterization of effluent discharge;

(f) Corrective action. If (i) any turbidity measurement of the construction dewatering discharge exceeds 150 NTUs/FTUs or (ii) visual monitoring indicates a change in the characterization of effluent discharge, corrective action shall be taken in accordance with Part II H 2 of this general permit; and

(g) Recordkeeping. Turbidity monitoring information (i.e., location, date, sample collection time, and turbidity measurement) and any necessary corrective actions taken shall be recorded in the SWPPP ; or

c. Turbidity benchmark option 3:

- (1) Identify the location of all construction dewatering discharges in the SWPPP;
- (2) Select, install, implement, and maintain control measures at each dewatering location that minimize pollutants, including suspended solids, in construction dewatering discharges prior to discharging into a stormwater conveyance system or surface water; and
- (3) Provide documentation in the SWPPP that:

(a) Sample frequency. At least one grab sample shall be collected from each construction dewatering discharge when the first discharge at that location occurs, daily thereafter until the dewatering discharge stops, and after any installation of new controls or routine maintenance activity of existing controls. Grab samples shall be tested to confirm a turbidity measurement of equal to or less than 50 NTUs/FTUs, based on a weekly average, from the construction dewatering discharge;

(b) Sample timing. Grab samples of the construction dewatering discharge shall be collected during the first 15 minutes of the construction dewatering discharge and daily thereafter until the dewatering discharge stops;

(c) Sample location. Grab samples shall be collected after the construction dewatering water has been filtered, settled, or similarly treated and prior to its discharge into a stormwater conveyance system or surface water;

(d) Test methods. Grab samples taken as required by this subdivision 8 shall be measured using a turbidity meter that reports results in NTUs or FTUs, and a turbidity meter calibration verification shall be conducted prior to each day's use, consistent with manufacturer recommendations;

(e) Visual monitoring. All dewatering discharges shall be visually monitored for changes in the characterization of effluent discharge;

(f) Corrective action. If (i) the weekly average of the turbidity measurements of the construction dewatering discharge exceeds 50 NTUs/FTUs or (ii) visual monitoring indicates a change in the characterization of effluent discharge,

corrective action shall be taken in accordance with Part II H 2. The weekly average is the sum of all turbidity samples taken during a monitoring week (starting on Monday and ending on Sunday) divided by the number of samples measures during that week; and

(g) Recordkeeping. Turbidity monitoring information (i.e., location, date, sample collection time, and turbidity measurement) and any necessary corrective actions taken shall be recorded in the SWPPP.

d. Request for alternative benchmark threshold:

(1) At any time prior to or during coverage under this permit, a request may be submitted to the department to approve a benchmark that is higher than turbidity benchmark options 1, 2, and 3 if information is available demonstrating the higher number is the same as the receiving water's water quality standard for turbidity. To request approval of an alternate benchmark, the operator must submit the following to the department:

(a) The current turbidity water quality standard that applies to the receiving water; and

(b) Information on the natural or background turbidity level to determine the specific standard for the receiving water, including available data that can be used to establish the natural turbidity levels of the receiving water.

(2) The department will notify the operator of its decision on whether to approve the requested alternate benchmark within 30 days. Until the department approves an alternate benchmark, the operator is required to use the option 1, option 2, or option 3 turbidity benchmark and take any required corrective actions if an exceedance occurs.

9. Identification of qualified personnel. The name, telephone number, and qualifications of the qualified personnel conducting inspections required by this general permit.

10. Duly authorized representatives. The SWPPP shall include the names of individuals or positions duly authorized to sign inspection reports or modify the SWPPP on behalf of the operator. Any authorization shall be signed and dated in accordance with Part III K 2 and shall include the required certification in accordance with Part III K 4.

11. SWPPP signature and certification. The SWPPP shall be signed and dated in accordance with Part III K 2 of this general permit and shall include the required certification in accordance with Part III K 4 of this general permit.

C. SWPPP amendments, modification, and updates.

1. The operator shall amend the SWPPP whenever there is a change in the design, construction, operation, or maintenance that has a significant effect on the discharge of pollutants to surface waters and that has not been previously addressed in the SWPPP.

2. The SWPPP shall be amended if during inspections or investigations by the operator's qualified personnel or by local, state, or federal officials, it is determined that the existing control measures are ineffective in minimizing pollutants in discharges from the construction activity. Revisions to the SWPPP shall include additional or modified control measures designed and implemented to correct problems identified. If approval by the VESCP authority, VESMP authority, or department is necessary for the control measure, revisions to the SWPPP shall be completed no later than five business days following approval. Implementation of these additional or modified control measures shall be accomplished as described in Part II H.

3. The SWPPP shall clearly identify the contractors that will implement and maintain each control measure identified in the SWPPP. The SWPPP shall be amended to identify any new contractor that will implement and maintain a control measure.

4. The operator shall update the SWPPP as soon as possible but no later than five business days following any modification to its implementation. All modifications or updates to the SWPPP shall be noted and shall include the following items:

a. A record of dates when:

- (1) Major grading activities occur;
- (2) Construction activities temporarily or permanently cease on a portion of the construction site; and
- (3) Stabilization measures are initiated;

b. Documentation of replaced or modified controls where periodic inspections or other information have indicated that the controls have been used inappropriately or incorrectly and were modified;

c. Areas that have reached final stabilization and where no further SWPPP or inspection requirements apply;

d. All properties that are no longer under the legal control of the operator and the dates on which the operator no longer had legal control over each property;

e. The date of any prohibited discharges, the discharge volume released, and what actions were taken to minimize the impact of the release;

f. Measures taken to prevent the reoccurrence of any prohibited discharge; and

g. Measures taken to address any evidence identified as a result of an inspection required under Part II G.

5. Amendments, modifications, or updates to the SWPPP shall be signed in accordance with Part III K 2 and shall include the required certification in accordance with Part III K 4.

D. Public notification. Upon commencement of construction activities, the operator shall post a copy of the notice of coverage letter at a publicly accessible location near the main entrance of

the construction site. For linear projects, the operator shall post a copy of the notice of coverage letter at a publicly accessible location near an active part of the construction site (e.g., where a pipeline crosses a public road). The copy of the notice of coverage letter shall be visible such that it can be readily viewed from a public right-of-way. The operator shall maintain the posted information until termination of general permit coverage as specified in Part I F.

E. SWPPP availability.

1. Operators with day-to-day operational control over SWPPP implementation shall have a copy of the SWPPP available at a central location on-site for use by those identified as having responsibilities under the SWPPP whenever they are on the construction site.
2. The operator shall make the SWPPP and all amendments, modifications, and updates available upon request to the department, the VESMP authority, the EPA, the VESCP authority, local government officials, or the operator of a municipal separate storm sewer system receiving discharges from the construction activity. If an on-site location is unavailable to store the SWPPP when no personnel are present, notice of the SWPPP's location shall be posted near the main entrance of the construction site.
3. The operator shall make the SWPPP available for public review in an electronic format or in hard copy. Information for public access to the SWPPP shall be posted and maintained in accordance with Part II D. If not provided electronically, public access to the SWPPP may be arranged upon request at a time and at a publicly accessible location convenient to the operator or the operator's designee but shall be no less than once per month and shall be during normal business hours. Information not required to be contained within the SWPPP by this general permit is not required to be released.

F. SWPPP implementation. The operator shall implement the SWPPP and subsequent amendments, modifications, and updates from commencement of land disturbance until termination of general permit coverage as specified in Part I F.

1. All control measures shall be properly maintained in effective operating condition in accordance with good engineering practices and, where applicable, manufacturer specifications.
2. If a site inspection required by Part II G identifies a control measure that is not operating effectively or needs routine maintenance, corrective actions or routine maintenance shall be completed as soon as practicable, but no later than five business days after discovery or a longer period as established by the VESMP authority, to maintain the continued effectiveness of the control measures.
3. If the operator must make the same repairs more than two times to the same control at the same location, even if the fix can be completed by the close of the next business day, the operator shall either:
 - a. Complete work to fix any subsequent repeat occurrences of this same problem under the corrective action procedures in Part II H, including keeping any records of the condition and how it was corrected under Part II C; or

- b. Document in the inspection report under Part II G why the specific reoccurrence of this same problem should still be addressed as a routine maintenance fix.
4. If site inspections required by Part II G identify an existing control measure that needs to be modified or if an additional or alternative control measure is necessary for any reason, implementation shall be completed prior to the next anticipated measurable storm event. If implementation prior to the next anticipated measurable storm event is impracticable, then additional or alternative control measures shall be implemented as soon as practicable, but no later than five business days after discovery or a longer period as established by the VESMP authority.

G. SWPPP Inspections.

1. Personnel responsible for on-site and off-site inspections. Inspections required by this general permit shall be conducted by the qualified personnel identified by the operator in the SWPPP. The operator is responsible for ensuring that the qualified personnel conduct the inspection. Qualified personnel may be a person on the operator's staff or a third party hired to conduct such inspections.
2. Inspection schedule.
 - a. For construction activities that discharge to a surface water identified in Part II B 5 and B 6 as impaired or having an approved TMDL or Part II B 7 as exceptional, the following inspection schedule requirements apply:
 - (1) Inspections shall be conducted at a frequency of (i) at least once every four business days or (ii) at least once every five business days and no later than 24 hours following a measurable storm event. In the event that a measurable storm event occurs when there are more than 24 hours between business days, the inspection shall be conducted on the next business day; and
 - (2) Representative inspections as authorized in Part II G 2 d shall not be allowed.
 - b. Except as specified in Part II G 2 a, inspections shall be conducted at a frequency of:
 - (1) At least once every five business days; or
 - (2) At least once every 10 business days and no later than 24 hours following a measurable storm event. In the event that a measurable storm event occurs when there are more than 24 hours between business days, the inspection shall be conducted on the next business day.
 - (a) A storm event that produces 0.25 inches or more of rain within a 24-hour period on the first day of the storm and continues to produce 0.25 inches or more of rain on subsequent days. The operator is required to conduct an inspection within 24 hours of the first day of the storm and within 24 hours after the last day of the storm that produces 0.25 inches or more of rain.

(b) A discharge caused by snowmelt from a snow event producing 3.25 inches or more of snow within a 24-hour period. The operator is required to conduct one inspection once the discharge of snowmelt occurs. Additional inspections are only required if, following the discharge from the first snowmelt, there is a discharge from a separate storm event.

c. Where areas have been temporarily stabilized or construction activities will be suspended due to continuous frozen ground conditions and stormwater discharges are unlikely, the inspection frequency described in Part II G 2 a and 2 b may be reduced to once per month. If weather conditions (such as above freezing temperatures or rain or snow events) make discharges likely, the operator shall immediately resume the regular inspection frequency.

d. Except as prohibited in Part II G 2 a (2), representative inspections may be utilized for utility line installation, pipeline construction, or other similar linear construction activities provided that:

- (1) Temporary or permanent soil stabilization has been installed and vehicle access may compromise the temporary or permanent soil stabilization and potentially cause additional land disturbance increasing the potential for erosion;
- (2) Inspections occur on the same frequency as other construction activities;
- (3) Control measures are inspected along the construction site 0.25 miles above and below each access point (i.e., where a roadway, undisturbed right-of-way, or other similar feature intersects the construction activity and access does not compromise temporary or permanent soil stabilization); and
- (4) Inspection locations are provided in the inspection report required by Part II G.

e. If adverse weather causes the safety of the inspection personnel to be in jeopardy, the inspection may be delayed until the next business day on which it is safe to perform the inspection. Any time inspections are delayed due to adverse weather conditions, evidence of the adverse weather conditions shall be included in the SWPPP with the dates of occurrence.

3. Inspection requirements. As part of the inspection, the qualified personnel shall at a minimum:

- a. Record the date and time of the inspection and, when applicable, the date and rainfall or snowfall amount of the last measurable storm event;
- b. Record the information and a description of any discharges occurring at the time of the inspection or evidence of discharges occurring prior to the inspection;
- c. Record any construction activities that have occurred outside of the approved erosion and sediment control plan;
- d. Inspect all stormwater discharge locations at the construction site. If a stormwater discharge is occurring during the inspection, observe and document the visual quality

and characteristics of the discharge, including color; odor; floating, settled, or suspended solids; foam; oil sheen; and other indicators of stormwater pollutants;

e. Inspect all construction dewatering discharge locations at the construction site, if applicable. If a construction dewatering discharge is occurring during the inspection, observe and document the visual quality and the characteristics of the discharge, including color; odor; floating, settled, or suspended solids; foam; oil sheen; and other indicators of pollutants;

f. Inspect the following for installation in accordance with the approved erosion and sediment control plan, identification of any maintenance needs, and evaluation of effectiveness in minimizing sediment discharge, including whether the control has been inappropriately or incorrectly used:

- (1) All perimeter erosion and sediment controls, such as silt fence;
- (2) Soil stockpiles, when applicable, and borrow areas for stabilization or sediment trapping measures;
- (3) Completed earthen structures, such as dams, dikes, ditches, and diversions for stabilization and effective impoundment or flow control;
- (4) Cut and fill slopes;
- (5) Sediment basins and traps, sediment barriers, and other measures installed to control sediment discharge from stormwater;
- (6) Temporary or permanent channels, flumes, or other slope drain structures installed to convey concentrated runoff down cut and fill slopes;
- (7) Storm inlets that have been made operational to ensure that sediment laden stormwater does not enter without first being filtered or similarly treated; and
- (8) Construction vehicle access routes that intersect or access paved or public roads for minimizing sediment tracking;

g. Inspect areas that have reached final grade or that will remain dormant for more than 14 days to ensure:

- (1) Initiation of stabilization activities have occurred immediately, as defined in 9VAC25-880-1; and
- (2) Stabilization activities have been completed within seven days of reaching grade or stopping work;

h. Inspect for evidence that the approved erosion and sediment control plan, "agreement in lieu of a plan," or erosion and sediment control plan prepared in accordance with department-approved standards and specifications has not been properly implemented. This includes:

- (1) Concentrated flows of stormwater in conveyances such as rills, rivulets, or channels that have not been filtered, settled, or similarly treated prior to discharge, or evidence thereof;
- (2) Sediment laden or turbid flows of stormwater that have not been filtered or settled to remove sediments prior to discharge;
- (3) Sediment deposition in areas that drain to unprotected stormwater inlets or catch basins that discharge to surface waters. Inlets and catch basins with failing sediment controls due to improper installation, lack of maintenance, or inadequate design are considered unprotected;
- (4) Sediment deposition on any property (including public and private streets) outside of the construction activity covered by this general permit;
- (5) Required stabilization has not been initiated or completed or is not effective on portions of the construction site;
- (6) Sediment basins without adequate wet or dry storage volume or sediment basins that allow the discharge of stormwater from below the surface of the wet storage portion of the basin;
- (7) Sediment traps without adequate wet or dry storage or sediment traps that allow the discharge of stormwater from below the surface of the wet storage portion of the trap; and
- (8) Land disturbance or sediment deposition outside of the approved area to be disturbed;
 - i. Inspect pollutant generating activities identified in the pollution prevention plan for the proper implementation, maintenance, and effectiveness of the procedures and practices;
 - j. Identify and report any pollutant generating activities not identified in the pollution prevention plan; and
 - k. Identify and document the presence of any evidence of the discharge of pollutants prohibited by this general permit.

4. Inspection report. Each inspection report shall include the following items:

- a. The date and time of the inspection and, when applicable, the date and rainfall or snowfall amount of the last measurable storm event;
- b. Summarized findings of the inspection;
- c. The locations, visual quality, and characteristics of all stormwater discharges, when occurring;

- d. The locations, visual quality, and characteristics of all construction dewatering discharges, if applicable;
- e. The locations of prohibited discharges;
- f. The locations of control measures that require routine maintenance;
- g. The locations of control measures that failed to operate as designed or proved inadequate or inappropriate for a particular location;
- h. The locations where any evidence identified under Part II G 3 h exists;
- i. The locations where any additional control measure is needed;
- j. A list of corrective actions required (including any changes to the SWPPP that are necessary) as a result of the inspection or to maintain permit compliance;
- k. Documentation of any corrective actions required from a previous inspection that have not been implemented;
- l. Any incidents of noncompliance. If none, the report shall contain a certification that the construction activity is in compliance with the SWPPP and this general permit;
- m. The required certification in accordance with Part III K 4 of this general permit; and
- n. The date and signature of the qualified personnel and the operator or its duly authorized representative in accordance with Part III K 2 of this general permit.

5. The inspection report shall be included into the SWPPP no later than four business days after the inspection is complete.

6. The inspection report and any actions taken in accordance with Part II shall be retained by the operator as part of the SWPPP for at least three years from the date that general permit coverage expires or is terminated.

H. Corrective actions.

- 1. Except as required in Part II H 2, the operator shall implement the corrective actions identified as a result of an inspection as soon as practicable but no later than five business days after discovery or a longer period as approved by the VESMP authority. If approval of a corrective action by a regulatory authority (e.g., VESMP authority, VESCP authority, or the department) is necessary, additional control measures shall be implemented to minimize pollutants in stormwater discharges until such approvals can be obtained.
- 2. When any turbidity measurement of the construction dewatering discharge exceeds the selected benchmark option or visual monitoring indicates a change in the characteristics of effluent discharge, as outlined in Part II B 8, the operator shall :

- a. Immediately cease the construction dewatering discharge at the location that exceeds the turbidity benchmark or where visual monitoring indicates a change in the characterization of effluent discharge;
- b. Determine whether the construction dewatering controls are operating effectively or need routine maintenance or if an additional or alternate control measure is necessary; and
- c. Make any necessary adjustments, additions, repairs, or replacements to the construction dewatering controls.

Once these corrective action steps are completed and any necessary adjustments, additions, repairs, or replacements are made, the operator may resume its construction dewatering discharge and shall sample for turbidity within 15 minutes of the construction dewatering discharge commencing. No additional corrective action items are required beyond recording the results in the SWPPP.

3. The operator may be required to remove accumulated sediment deposits located outside of the construction site covered by this general permit as soon as practicable in order to minimize environmental impacts.
4. The operator shall notify the VESMP authority and the department as well as obtain all applicable federal, state, and local authorizations, approvals, and permits prior to the removal of sediments accumulated in surface waters, including wetlands.

PART III

CONDITIONS APPLICABLE TO ALL VPDES PERMITS

Discharge monitoring is not required for this general permit. If the operator chooses to monitor stormwater discharges or control measures, the operator shall comply with the requirements of Part III A, B, and C, as appropriate.

A. Monitoring.

1. Samples and measurements taken for the purpose of monitoring shall be representative of the monitoring activity.
2. Monitoring shall be conducted according to procedures approved under 40 CFR Part 136 or alternative methods approved by the U.S. Environmental Protection Agency, unless other procedures have been specified in this general permit. Analyses performed according to test procedures approved under 40 CFR Part 136 shall be performed by an environmental laboratory certified under regulations adopted by the Department of General Services (1VAC30-45 or 1VAC30-46).
3. The operator shall periodically calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at intervals that will ensure accuracy of measurements.

B. Records.

1. Monitoring records and reports shall include:
 - a. The date, exact place, and time of sampling or measurements;
 - b. The individuals who performed the sampling or measurements;
 - c. The dates and times analyses were performed;
 - d. The individuals who performed the analyses;
 - e. The analytical techniques or methods used; and
 - f. The results of such analyses.
2. The operator shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this general permit, and records of all data used to complete the registration statement for this general permit, for a period of at least three years from the date of the sample, measurement, report, or request for coverage. This period of retention shall be extended automatically during the course of any unresolved litigation regarding the regulated activity or regarding control standards applicable to the operator, or as requested by the department.

C. Reporting monitoring results.

1. The operator shall update the SWPPP to include the results of the monitoring as may be performed in accordance with this general permit, unless another reporting schedule is specified elsewhere in this general permit.
2. Monitoring results shall be reported on a discharge monitoring report (DMR); on forms provided, approved, or specified by the department; or in any format provided that the date, location, parameter, method, and result of the monitoring activity are included.
3. If the operator monitors any pollutant specifically addressed by this general permit more frequently than required by this general permit using test procedures approved under 40 CFR Part 136 or using other test procedures approved by the U.S. Environmental Protection Agency or using procedures specified in this general permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or reporting form specified by the department.
4. Calculations for all limitations that require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this general permit.

D. Duty to provide information. The operator shall furnish, within a reasonable time, any information that the department may request to determine whether cause exists for terminating this general permit coverage or to determine compliance with this general permit. The department, EPA, or VESMP authority may require the operator to furnish, upon request, such plans, specifications, and other pertinent information as may be necessary to determine the effect of the

wastes from the operator's discharge on the quality of surface waters, or such other information as may be necessary to accomplish the purposes of the Clean Water Act and the Virginia Erosion and Stormwater Management Act. The operator shall also furnish to the department, EPA, or VESMP authority, upon request, copies of records required to be kept by this general permit.

E. Compliance schedule reports. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this general permit shall be submitted no later than 14 days following each schedule date.

F. Unauthorized stormwater discharges. Pursuant to § 62.1-44.5 of the Code of Virginia, except in compliance with a permit issued by the department, it shall be unlawful to cause a stormwater discharge from a construction activity.

G. Reports of unauthorized discharges. Any operator who discharges or causes or allows a discharge of sewage, industrial waste, other wastes, any noxious or deleterious substance, a hazardous substance, or oil in an amount equal to or in excess of a reportable quantity established under either 40 CFR Part 110, 40 CFR Part 117, 40 CFR Part 302, or § 62.1-44.34:19 of the Code of Virginia that occurs during a 24-hour period into or upon surface waters or that discharges or causes or allows a discharge that may reasonably be expected to enter surface waters shall notify the department and the VESMP authority of the discharge immediately upon discovery of the discharge, but in no case later than within 24 hours after said discovery. A written report of the unauthorized discharge shall be submitted to the department and the VESMP authority within five calendar days of discovery of the discharge. The written report shall contain:

1. A description of the nature and location of the discharge;
2. The cause of the discharge;
3. The date on which the discharge occurred;
4. The length of time that the discharge continued;
5. The volume of the discharge;
6. If the discharge is continuing, how long it is expected to continue;
7. If the discharge is continuing, what the expected total volume of the discharge will be; and
8. Any steps planned or taken to reduce, eliminate, and prevent a recurrence of the present discharge or any future discharges not authorized by this general permit.

Discharges reportable to the department and the VESMP authority under the immediate reporting requirements of other regulations are exempted from this requirement.

H. Reports of unusual or extraordinary discharges. If any unusual or extraordinary discharge, including a "bypass" or "upset," as defined in this general permit, should occur from a construction site and the discharge enters or could be expected to enter surface waters, the operator shall promptly notify, in no case later than within 24 hours, the department and the VESMP authority after the discovery of the discharge. This notification shall provide all available details of the

incident, including any adverse effects on aquatic life and the known number of fish killed. The operator shall reduce the report to writing and shall submit it to the department and the VESMP authority within five calendar days of discovery of the discharge in accordance with Part III I 2. Unusual and extraordinary discharges include any discharge resulting from:

1. Unusual spillage of materials resulting directly or indirectly from processing operations;
2. Breakdown of processing or accessory equipment;
3. Failure or taking out of service of some or all of the facilities; and
4. Flooding or other acts of nature.

I. Reports of noncompliance. The operator shall report any noncompliance that may adversely affect state waters or may endanger public health.

1. A report to the department and the VESMP authority shall be provided within 24 hours from the time the operator becomes aware of the circumstances. The following shall be included as information that shall be reported within 24 hours under this subsection:

- a. Any unanticipated bypass; and
- b. Any upset that causes a discharge to surface waters.

2. A written report shall be submitted within five days and shall contain:

- a. A description of the noncompliance and its cause;
- b. The period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and
- c. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

The department may waive the written report on a case-by-case basis for reports of noncompliance under Part III I if the oral report has been received within 24 hours and no adverse impact on surface waters has been reported.

3. The operator shall report all instances of noncompliance not reported under Part III I 1 or 2 in writing as part of the SWPPP. The reports shall contain the information listed in Part III I 2.

4. The immediate (within 24 hours) reports required in Part III G, H, and I may be made to the department and the VESMP authority. Reports may be made by telephone, email, or online at <https://www.deq.virginia.gov/our-programs/pollution-response>. For reports outside normal working hours, leaving a recorded message shall fulfill the immediate reporting requirement. For emergencies, the Virginia Department of Emergency Management maintains a 24-hour telephone service at 1-800-468-8892.

5. Where the operator becomes aware of a failure to submit any relevant facts, or submittal of incorrect information in any report, including a registration statement, to the department or the VESMP authority, the operator shall promptly submit such facts or correct information.

J. Notice of planned changes.

1. The operator shall give notice to the department and the VESMP authority as soon as possible of any planned physical alterations or additions to the permitted facility or activity. Notice is required only when:

a. The operator plans an alteration or addition to any building, structure, facility, or installation that may meet one of the criteria for determining whether a facility is a new source in 9VAC25-875-990; or

b. The operator plans an alteration or addition that would significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this general permit.

2. The operator shall give advance notice to the department and VESMP authority of any planned changes in the permitted facility or activity that may result in noncompliance with permit requirements.

3. The operator may continue construction activities based on the information provided in the original registration statement and SWPPP but must wait until the review period has ended before commencing or continuing construction activities on any portion of the construction site that would be affected by any of the planned changes or modifications. Any operator that chooses to proceed with unapproved construction activities while plans are being reviewed is proceeding at its own risk and subject to compliance actions if the plan is determined to be inadequate.

K. Signatory requirements.

1. Registration statement and notice of termination. All registration statements and notices of termination shall be signed as follows:

a. For a corporation: by a responsible corporate officer. For the purpose of this chapter, a responsible corporate officer means (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy-making or decision-making functions for the corporation; or (ii) the manager of one or more manufacturing, production, or operating facilities, provided the manager is authorized to make management decisions that govern the operation of the regulated facility, including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long-term compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

- b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or
 - c. For a municipality, state, federal, or other public agency: by either a principal executive officer or ranking elected official. For purposes of this chapter, a principal executive officer of a public agency includes (i) the chief executive officer of the agency or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.
2. Reports and other information. All reports required by this general permit, including SWPPPs, and other information requested by the department shall be signed by a person described in Part III K 1 or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - a. The authorization is made in writing by a person described in Part III K 1;
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the operator. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and
 - c. The signed and dated written authorization is included in the SWPPP. A copy shall be provided to the department and VESMP authority, if requested.
3. Changes to authorization. If an authorization under Part III K 2 is no longer accurate because a different individual or position has responsibility for the overall operation of the construction activity, a new authorization satisfying the requirements of Part III K 2 shall be submitted to the VESMP authority as the administering entity for the department prior to or together with any reports or information to be signed by an authorized representative.
4. Certification. Any person signing a document under Part III K 1 or 2 shall make the following certification:

"I certify under penalty of law that I have read and understand this document and that this document and all attachments were prepared in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."
- L. Duty to comply. The operator shall comply with all conditions of this general permit. Any noncompliance with this general permit constitutes a violation of the Virginia Erosion and Stormwater Management Act and the Clean Water Act, except that noncompliance with certain provisions of this general permit may constitute a violation of the Virginia Erosion and Stormwater Management Act but not the Clean Water Act. Permit noncompliance is grounds for enforcement

action; for permit coverage, termination, revocation, and reissuance, or modification of permit coverage; or denial of a permit renewal application.

The operator shall comply with effluent standards or prohibitions established under § 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if this general permit has not yet been modified to incorporate the requirement.

M. Duty to reapply. If the operator wishes to continue an activity regulated by this general permit after the expiration date of this general permit, the operator shall submit a new registration statement at least 90 days before the expiration date of the existing general permit, unless permission for a later date has been granted by the department. The department shall not grant permission for registration statements to be submitted later than the expiration date of the existing general permit.

N. Effect of a permit. This general permit neither conveys any property rights in either real or personal property or any exclusive privileges nor authorizes any injury to private property or invasion of personal rights, or any infringement of federal, state, or local law or regulations.

O. State law. Nothing in this general permit shall be construed to preclude the institution of any legal action under or relieve the operator from any responsibilities, liabilities, or penalties established pursuant to any other state law or regulation or under authority preserved by § 510 of the Clean Water Act. Except as provided in general permit conditions on bypassing under Part III U and upset under Part III V, nothing in this general permit shall be construed to relieve the operator from civil and criminal penalties for noncompliance.

P. Oil and hazardous substance liability. Nothing in this general permit shall be construed to preclude the institution of any legal action or relieve the operator from any responsibilities, liabilities, or penalties to which the operator is or may be subject under §§ 62.1-44.34:14 through 62.1-44.34:23 of the State Water Control Law or § 311 of the Clean Water Act.

Q. Proper operation and maintenance. The operator shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances), which are installed or used by the operator to achieve compliance with the conditions of this general permit. Proper operation and maintenance also includes effective plant performance, adequate funding, adequate staffing, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems, which are installed by the operator only when the operation is necessary to achieve compliance with the conditions of this general permit.

R. Disposal of solids or sludges. Solids, sludges, or other pollutants removed in the course of treatment or management of pollutants shall be disposed of in a manner so as to prevent any pollutant from such materials from entering surface waters and in compliance with all applicable state and federal laws and regulations.

S. Duty to mitigate. The operator shall take all steps to minimize or prevent any discharge in violation of this general permit that has a reasonable likelihood of adversely affecting human health or the environment.

T. Need to halt or reduce activity not a defense. It shall not be a defense for an operator in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this general permit.

U. Bypass.

1. "Bypass," as defined in 9VAC25-875-850, means the intentional diversion of waste streams from any portion of a treatment facility. The operator may allow any bypass to occur that does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to ensure efficient operation. These bypasses are not subject to the provisions of Part III U 2 and U 3.

2. Notice.

a. Anticipated bypass. If the operator knows in advance of the need for a bypass, the operator shall submit prior notice to the department, if possible at least 10 days before the date of the bypass.

b. Unanticipated bypass. The operator shall submit notice of an unanticipated bypass as required in Part III I.

3. Prohibition of bypass.

a. Except as provided in Part III U 1, bypass is prohibited, and the department may take enforcement action against an operator for bypass unless:

(1) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage. Severe property damage means substantial physical damage to property, damage to the treatment facilities that causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production;

(2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance; and

(3) The operator submitted notices as required under Part III U 2.

b. The department may approve an anticipated bypass, after considering its adverse effects, if the department determines that it will meet the three conditions listed in Part III U 3 a.

V. Upset.

1. An "upset," as defined in 9VAC25-875-850, means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent

limitations because of factors beyond the reasonable control of the operator. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

2. An upset constitutes an affirmative defense to an action brought for noncompliance with technology-based permit effluent limitations if the requirements of Part III V 3 are met. A determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is not a final administrative action subject to judicial review.

3. An operator who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that:

- a. An upset occurred and that the operator can identify the cause of the upset;
- b. The permitted facility was at the time being properly operated;
- c. The operator submitted notice of the upset as required in Part III I; and
- d. The operator complied with any remedial measures required under Part III S.

4. In any enforcement proceeding, the operator seeking to establish the occurrence of an upset has the burden of proof.

W. Inspection and entry. The operator shall allow the department, the VESMP authority, EPA, or an authorized representative of either entity (including an authorized contractor), upon presentation of credentials and other documents as may be required by law, to:

1. Enter upon the operator's premises where a regulated facility or activity is located or conducted or where records shall be kept under the conditions of this general permit;
2. Have access to and copy, at reasonable times, any records that shall be kept under the conditions of this general permit;
3. Inspect and photograph at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this general permit; and
4. Sample or monitor at reasonable times, for the purposes of ensuring permit compliance or as otherwise authorized by the Clean Water Act or the Virginia Erosion and Stormwater Management Act, any substances or parameters at any location.

For purposes of this section, the time for inspection shall be deemed reasonable during regular business hours and whenever the facility is discharging. Nothing contained in this general permit shall make an inspection unreasonable during an emergency.

X. Permit actions. Permit coverage may be modified, revoked and reissued, or terminated for cause. The filing of a request by the operator for a permit modification, revocation and reissuance,

or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

Y. Transfer of permit coverage.

1. Permits are not transferable to any person except after notice to the department. Except as provided in Part III Y 2, a permit may be transferred by the operator to a new operator only if the permit has been modified or revoked and reissued, or a minor modification made, to identify the new operator and incorporate such other requirements as may be necessary under the Virginia Erosion and Stormwater Management Act and the Clean Water Act.
2. As an alternative to transfers under Part III Y 1, this permit may be automatically transferred to a new operator if:
 - a. The current operator notifies the department at least 30 days in advance of the proposed transfer of the title to the facility or property;
 - b. The notice includes a written agreement between the existing and new operators containing a specific date for transfer of permit responsibility, coverage, and liability between them; and
 - c. The department does not notify the existing operator and the proposed new operator of its intent to modify or revoke and reissue the permit. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in Part III Y 2 b.
3. For ongoing construction activity involving a change of operator, the new operator shall accept and maintain the existing SWPPP, or prepare and implement a new SWPPP prior to taking over operations at the construction site.

Z. Severability. The provisions of this general permit are severable, and if any provision of this general permit or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances and the remainder of this general permit shall not be affected thereby.