

Bid Package for Radley Run 46-47 Stream Restoration Project

**Westtown Township
Chester County
Pennsylvania**

October 17, 2025



Prepared for:
Brandywine Red Clay Alliance
1760 Unionville-Wawaset Road
Kennett Square, PA 19382



Prepared by:
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APPENDIX A: Radley Run 46-47 Stream Restoration Project Plans

INVITATION TO BID

Dear Contractor:

October 17, 2025

Thank you for your interest in bidding on the Radley Run 46-47 Stream Restoration Project. Brandywine Red Clay Alliance (BRC) is accepting bids for the Radley Run 46-47 Stream Restoration Project under this bid package. The project is funded in part with funds from a Pennsylvania Growing Greener Grant and Westtown Township.

Contractors must have and include in their packages a demonstrated experience in knowledge and construction of successful [i.e., structural stability for at least three (3) years without degradation due to typical, natural events (2–3-inch rainfall as an example)] stream restoration installation. All contractors are required to address all conditions of the Chester County Conservation District erosion and sediment control measures and PADEP Chapter 102 regulations.

Please note the following:

- **SUBMISSION OF A BID CONSTITUTES AGREEMENT BY THE PERSON OR ENTITY SUBMITTING A BID TO COMPLY WITH ALL REQUIREMENTS, TERMS, AND CONDITIONS SET FORTH IN THIS REQUEST FOR BIDS.**
- The bid package can be obtained starting on October 17, 2025. You may access and download the bid package on the BRC website: <https://brandywineredclay.org/>
- If you are a person with a disability and wish to attend the bid opening at the office of BRC and require an auxiliary aid, service, or accommodation to observe or participate in the proceedings, please contact BRC at (610) 793-1090 or bwinslow@brandywineredclay.org to discuss how we may accommodate your needs.
- BRC reserves the right to reject any or all bids or parts thereof or waive irregularities, nonconformities, or technicalities in any bid if BRC, in its sole discretion, determines such action to be in the best interest of BRC.

James E. Jordan,
Executive Director and C.E.O.



Bid Form Cover Sheet

BIDDER'S COMPANY NAME _____

COMPANY ADDRESS _____

TELEPHONE NUMBER _____

FAX NUMBER _____

CONTACT PERSON _____

EMAIL _____

- **ALL BID SUBMISSIONS MUST INCLUDE THE FOLLOWING:**
 - Completed bid form (i.e. cover sheet, bid sheet, and signature sheet) in its entirety;
 - Detailed budget in the form of bidder's choosing;
 - Documented evidence of three successful stream restoration projects that have maintained their construction integrity for a period of three years or more (with dated photos, project location, and references);
 - Document evidence of knowledge and construction of stream restoration projects incorporating fluvial geomorphology (FGM), streambank stabilization methods, riparian buffer installation, and floodplain reconnection.
 - Consent of Surety accompanied by a Power of Attorney (attesting to the signer's authority to commit the bonding company to a Performance and Payment Bond 100% of project cost if the bid is successful);
 - Affidavit of Non-Discrimination
 - Affidavit of Non-Collusion

Radley Run 46-47:

ITEM DESCRIPTION

UNIT

**TOTAL COST
(in numbers)**

**TOTAL COST
(in words)**

Mobilization/Demobilization/Site Admin.

L.S.

Materials/Construction

L.S.

Pumping/ Erosion & Sediment Control

L.S.

Debris Removal and Off-site Disposal

L.S.

RADLEY RUN 46-47 STREAM RESTORATION TOTAL BID: _____

Bid Form Signature Sheet

By submitting this Bid Form, I, _____, _____ of
(Name) (Title)

_____, in such capacity and/or on behalf of
(Company/Firm/Entity)

_____ affirm and agree that:
(Company/Firm/Entity)

- All documents included in the Bid Package have been examined and the Site has been inspected. The Bid Package consists of the following documents:
 - Invitation to Bid
 - Bid Forms
 - Important Dates
 - General Terms and Conditions
 - Special Conditions
 - Radley Run 46-47 Plans
- **Wage Rates: Pennsylvania Prevailing wage rates apply.**
This project is funded in part with funds from the Commonwealth of Pennsylvania and requires Pennsylvania Prevailing wage rates, see this website for details on these wage rates:
<https://www.dlsecureweb.pa.gov/PrevWage/Pages/Project.aspx?ID=198599&PageType=>
- If selected as the successful bidder, I agree to accept all terms and conditions contained in the Bid Packages.
- The bid will remain firm for the period of time indicated in the bid package.
- The work shall be completed on or before the date indicated in the bid package.

When the bidder is an individual:

WITNESS:

Signature of Individual

_____(SEAL)

Trading and doing business as:

Address:

When the bidder is a partnership (Name of Partners):

WITNESS:

Name of Partnership:

Address:

By: _____ (SEAL)
Partner

By: _____ (SEAL)
Partner

By: _____ (SEAL)
Partner

By: _____ (SEAL)
Partner

When the bidder is a corporation:

ATTEST:

Name of Corporation:

Address:

Secretary/Assistant Secretary

By: _____ (SEAL)
President/Vice President (CORPORATE SEAL)

Radley Run 46-47 Stream Restoration Project
Important Dates

- **Bid Packages Available:** October 17, 2025
- **Mandatory Site Showing:** October 30 at 11:00 AM
 - Meet at 1130 S. New Street, West Chester, PA 19382
- **Last Day for Submission of Questions:** November 13, 2025 by 5:00 PM, prevailing time
- **Submission of bids:** November 21, 2025 by 10:00 AM, prevailing time
- **Bid Opening:** November 21, 2025 at 10:05 AM, prevailing time
- **Notification of Successful bidder:** By December 2, 2025
- **The contractor may select either the Spring Construction Window OR the Fall Construction Window (All work must be completed within the selected window):**
- **Spring Construction Window:**
 - Place One-call and Agency Notifications Before Starting Work
 - January 5, 2026 – Site Mobilization and Instream Construction May Begin
 - March 31, 2026 – All Construction Completed

OR

- **Fall Construction Window:**
 - Place One-call and Agency Notifications Before Starting Work
 - October 1, 2026 – Site Mobilization and Instream Construction May Begin
 - December 31, 2026- All Construction Completed

GENERAL TERMS AND CONDITIONS:

- 1) Submission of a bid constitutes agreement by the person or entity submitting a bid to comply with all requirements, terms, and conditions set forth in this request for bids.
- 2) The terms “Bidder” and “Contractor” are, from time to time, used interchangeably, as the context requires. Brandywine Red Clay Alliance and BRC may be used interchangeably and referred to as one and the same within this document.
- 3) All Bidders must be prepared to present suitable evidence of their financial standing, and to furnish a list of similar work recently completed.
- 4) The Bidder must carefully examine the site where the services are requested, the work proposed, this Bid Package (as defined in the Bid Form), and to compute the quantities of labor or materials and supplies entering therein, and to determine for oneself the difficulties incidental to the prosecution of the work. The presentation of a Bid shall be considered as conclusive evidence of such examination.
- 5) No oral instructions or information to Bidders will be binding. This Bid Package will be considered clear and complete unless written attention is called to any apparent discrepancies or incompleteness thereof, before the opening of bids. Should any written inquiries be received by the Brandywine Red Clay Alliance (BRC), these inquiries will be answered in the form of Addenda to the Bid Package. The last day for submission of questions is November 13, 2025 by 5:00 PM prevailing time, to Aaron S. Clauser, PhD, Clauser Environmental, LLC, at aclauser@verizon.net. Any addenda will be sent via email to the email address provided by the contractor(s) at the mandatory pre-bid meeting on October 30, 2025. These Addenda shall then be considered a part of this Bid Package.
- 6) Submission of a bid will be considered as conclusive evidence of complete examination of the Bid Package.
- 7) Each bid must be enclosed in a sealed envelope, clearly marked on the outside with "Bid on the Radley Run 46-47 Stream Restoration Project" and received by BRC, at 1760 Unionville-Wawaset Road, West Chester, PA 19382 by 10:00 AM, prevailing time, on November 21, 2025. Bids received after 10:00 AM, prevailing time, will not be opened. Bids may be delivered by mail or hand delivery. Bids received by e-mail or facsimile will not be opened.
- 8) Bid Award: BRC intends to award this bid to the lowest responsible and responsive Bidder with demonstrated knowledge and construction of stream stabilization and restoration in accordance with erosion and sediment control measures of the Chester County Conservation District and PADEP Chapter 102 regulations. The firm, or corporation to whom, or to which the Contract has been awarded shall sign and return one copy of same together with properly executed bonds within ten (10) business days set by BRC after written notice of award of contract. BRC shall then execute this Contract promptly, after approval of same and upon receipt of such Bonds, additional certificates, information or samples as may be required, provided, however, that no award shall be considered binding upon BRC unless and until the Contract documents are properly executed by both parties. The successful Contractor will be

required to execute a contract hereto within ten (10) business days of bid award date. Failure of the Contractor to do so may result in the BRC awarding the contract to the next responsible and responsive Bidder. The BRC reserves the right to exercise this option as BRC deems proper and/or necessary.

- 9) BRC intends to award the contract to the lowest responsive and responsible bidder. BRC reserves the right to reject any or all bids or parts thereof or to waive irregularities, nonconformities, or technicalities in any bid if BRC, in its sole discretion, determines such action to be in the best interest of BRC.
- 10) Contract Term and Extension: The contract term will begin upon receipt of a signed contract by both BRC and Contractor and continue until completion of the work.
- 11) Contract Termination: BRC, at its sole discretion, reserves the right to terminate this Contract or portions thereof at any time, for any reason, with fifteen (15) days written notice of termination.
- 12) Any Bidder who has demonstrated unsatisfactory performance during any agreement with BRC and/or is under enforcement through the PADEP may be considered as unqualified and their bid may be rejected. BRC reserves the right to exercise this option as BRC deems proper and/or necessary in its best interest.
- 13) It is understood that parties making bids accept the terms and conditions expressed and contained in the Bid Package. The failure to comply with any of the conditions may result in the rejection of the bid or the immediate termination of any contract which may have been awarded.
- 14) By submitting a bid, Bidders agree the bid amount will be held firm for a period of sixty (60) days from the date of bid opening. The successful Bidder must execute a Contract with BRC within ten (10) business days after notice of acceptance of the bid.
- 15) This Bid Package is intended to cover the furnishing of all materials and the performance of all work that may be required or necessary for the complete performance of the Contract, and the Contractor will be required to do all things that may be necessary to fully complete the work within the purview of this Bid Package.
- 16) Should the Contractor discover discrepancies in this Invitation to Bid, the matter shall be at once brought to the attention of the BRC office, and the discrepancies corrected by written agreement before proceeding further.
- 17) Items to be furnished shall be new, recycled, first-class, and shall meet with the approval of BRC's designated representative. Contractor shall have competent and efficient workmen, qualified for the type of work to be done, and all workmanship shall be first class. Where there is no detailed description of the material to be furnished or of the work to be done, it is understood that this Bid Package contemplates the use of first-class materials throughout, placed or used in such a manner as to produce a completed job that is first-class and workmanlike.

- 18) The Contractor shall indemnify, defend, and hold Brandywine Red Clay Allia, Westtown Township, Commonwealth of Pennsylvania, and each their respective officers, agents, board members, employees, and consultants harmless from and against all suits, actions, and claims of any character, name, and description, and all losses, damages, costs, and expenses (including attorney's fees and costs) and amounts paid in settlement that they or any of them may incur, suffer or pay, or to which they or any of them may be subject, in respect of or on account of any bodily injuries (including death), damage to property or other losses or damages suffered or sustained by anyone (including but not limited to employees of Contractors and other persons) and arising directly or indirectly out of: (i) the work of Contractor and/or the acts or omissions of Contractor, its subcontractors (of any tier), and its and their agents, consultants and employees, including without limitation injuries sustained as a result of inadequate safeguards and security on the site of the work; (ii) losses and claims arising out of defects in materials or workmanship; and/or (iii) breach by Contractor of the contract or any of its obligations under the bidding documents or applicable laws. Such indemnity includes all claims and damages that are or may be covered by workers' compensation, and Contractor expressly waives the benefit of any limits of liability under workers' compensation statutes to the extent that indemnification hereunder is sought for any claim by such employees against any of the parties entitled to indemnity hereunder. Contractor hereby expressly waives any immunity under the Worker's Compensation Act, either as an employer or statutory employer, for any claim brought by BRC. This waiver is intended to comply with the provisions of Section 303(b) of the Worker's Compensation Act, 77 P.S. § 481 (b). So much of the amounts due Contractor under or by virtue of his Contract as shall be considered necessary by BRC may be retained for the use of BRC on account of any pending claim for which indemnity has been or may be asserted hereunder, and if such sums are insufficient, Contractor's surety bond shall be subject to claim on account thereof, in each case until such claim or loss is fully and finally settled or adjudicated. These obligations shall survive the termination of any Contract entered into by the BRC and Contractor for this work.
- 19) The Contractor accepts, insofar as the work covered by any such contract is concerned, the provisions of the Workers' Compensation Act and any reenactments, supplements, or amendments thereto.
- 20) The Contractor shall be responsible for any injury or damage to the property of the landowner or to the property of any public utility company included in this contract by or on account of any act, omission, neglect, or misconduct of the Contractor in the prosecution of the work or in the storage of materials and equipment.
- 21) The Contractor shall take all necessary precautions to properly safeguard the properties under this Contract and avoid injury or damage to buildings, structures, natural features, and persons, etc., and shall, unless otherwise specified, restore such structures, property, materials, etc., at his own cost and expense to a condition equal to that existing before such damage was done, by repairing, rebuilding, or otherwise, as may be required by BRC, or shall make good such injury or damage in a satisfactory manner before completion of services, and their final acceptance.

- 22) The Contractor shall direct work personally or be represented by a competent foreman with authority to follow the instructions of the authorized representative of BRC.
- 23) The Contractor shall prosecute the work with sufficient workmen and equipment to insure the completion within the time stipulated.
- 24) Workmanship and materials shall at all times be subject to inspection by BRC's authorized representative. In order to maintain proper control over the work as it progresses and to secure flexibility in adapting means to ends, BRC shall appoint a BRC contact, so designated in writing, who shall decide all questions as may arise as to the acceptability of services rendered and/or materials furnished, and as to the rate of progress of the work, provided, however, that the authority of the BRC contact shall not constitute a waiver of the legal rights of BRC or of the Contractor. The BRC contact shall not be authorized to revoke, alter, enlarge, relax, or release any of the requirements of the specifications.
- 25) Omission or failure on the part of the BRC Contact to disapprove or reject any defective material or work shall not be construed to be acceptance of any defective material or work.
- 26) Bidders shall understand that when materials or supplies have been delivered to the job premises, which materials or supplies do not comply with the Bid Package and have not been approved, upon notification, the Contractor shall immediately remove from the premises any such condemned material or supplies, and replace them with material or supplies in full accordance with this Bid Package at no additional expense to BRC.
- 27) It shall be the sole obligation of the Contractor to determine the liability for and pay all sales, use, excise or similar taxes which may become due pursuant to this project. BRC makes no representation with respect to any such taxes or the Contractor's obligation for the payment of such taxes. Sales tax shall not be included in the Bid.
- 28) Where Bidder proposes a substitution from a specification in the Bid Package, it should be submitted during the question period. All substitutions must be approved by issued addenda. Bidders shall state the brand name and/or catalog number of the items upon which their bid is based. It shall be the Bidder's responsibility, if bidding on items other than those specified, to prove to BRC that said items are equal to or better than those indicated.
- 29) When required herein, samples of equivalent items bid upon shall be provided to BRC for examination simultaneously with the submission of the written bid to BRC or within such time as required herein. Failure to comply herewith may be cause for rejection of bid.
- 30) BRC shall be the sole judge as to whether any equivalent item offered is considered equal.
- 31) It shall be understood and agreed by the Bidder that the quantities/frequencies of events listed in this Bid Package are estimated only. The actual requirements of BRC will determine actual ordered amounts. BRC reserves the right to order more or less than the estimates included in the specifications. The Contractor will only deliver goods or provide services based upon receipt of an actual Purchase Order, which will be issued from time to time during the contract period, unless otherwise provided in the Bid Package below.

- 32) BRC shall have the right without invalidating the Contract to order extra work or to make changes by altering, adding to, or deducting from the work as specified in the Contract. Should such alterations or changes in the quantity or character of the work result in increased or in decreased cost to the Contractor, a fair and equitable sum therefore, to be agreed upon in writing in advance by the Contractor. All change orders must be pre-approved by BRC. The difference shall be added or deducted from the bid price, as the case may be. No allowance will be made for anticipated profits on deducted work.
- 33) When a space is provided on the Bid Form for unit prices, Bidders are required to bid a unit price for each service and a total extended price for each service, as well as a total price for all services bid. In addition, Bidders shall show the brand name and/or catalog number of each item upon which bid is based.
- 34) Bidders shall select only one brand or catalog number for each item on which bid is based. "Alternate" offerings contained on the same Bid Form will not be considered.
- 35) An Agreement may be awarded to the most qualified responsible Bidder, meeting the requirements of the Invitation to Bid. Bidder agrees to accept an award for all services bid at the prices quoted.
- 36) Qualifications, conditions, or restrictions, such as "all or none", may result in rejection of bid.
- 37) Where an error is made in computing unit price to total price, the unit price quoted shall govern.
- 38) A bid that is incomplete, illegible, obscure, or conditioned, or which contains additions not called for, or irregularities of any kind, including alterations or erasures, may be rejected. If there is a discrepancy between the bid amount as written, the amount as written in words shall control. A bid which is not accompanied by a consent of surety or is unsigned shall be rejected.
- 39) Successful Bidders, when filling orders, supplying material other than that specified or agreed to as equivalent by BRC, may expect such items to be returned, and the Agreement may be canceled at BRC's option.
- 40) In the event that there is a tie between two or more qualified, responsible Bidders, and the place of business of one is located in the state of Pennsylvania and the other(s) is (are) located outside of Pennsylvania, BRC may in its discretion opt to award the bid to the Pennsylvania Bidder, all other relevant factors being equal.
- 41) Responsibility under the Immigration Control and Reform Act of 1986 for verification of identity and employment eligibility in connection with Bidder's own agents/servants, workers, and employees, is assumed and continues to be assumed by the Bidder.
- 42) Non-Discrimination: The Contractor agrees to comply with all applicable State and Federal laws, regulations, procedures and orders which protect the civil rights of employees, job

applicants, and recipients of service. See and sign Affidavit for Non-discrimination for details.

- 43) The Contractor expressly agrees to comply with Title VI of the Civil Rights Act of 1964, as amended, the Americans with Disabilities Act of 1990, and all other applicable federal, state, and/or local laws, ordinances, rules, regulations, and orders prohibiting discrimination in hiring or employment opportunities.

During the term of this contract, the Contractor agrees as follows:

- a. Pursuant to federal regulations promulgated under the authority of the *Americans with Disabilities Act*, 28 C.F.R. § 35.101 et seq., the Contractor understands and agrees that no individual with a disability shall, on the basis of the disability, be excluded from participation in this contract or from activities provided for under this contract. As a condition of accepting and executing this contract, the Contractor agrees to comply with the “*General Prohibitions Against Discrimination*,” 28 C.F.R. § 35.130, and all other regulations promulgated under Title II of the *Americans with Disabilities Act* which are applicable to the benefits, services, programs, and activities provided by the Commonwealth through contracts with outside contractors.
 - b. The Contractor shall be responsible for and agrees to indemnify and hold harmless the Commonwealth for all losses, damages, expenses, claims, demands, suits, and actions brought by any party against the Commonwealth as a result of the Contractor’s failure to comply with the provisions of the subparagraph above.
- 44) In the employment of persons for the performance of public work, no contractor or subcontractor, nor any person acting on behalf of such contractor or subcontractor, shall by reason of race, color, religious creed, ancestry, age, national origin, sex, or disability discriminate against any individual who is qualified and available to perform the work to which the employment relates.
- 45) The Contractor shall observe and comply with all laws, ordinances, and regulations in any way affecting the equipment or materials used, those engaged on the work or the conduct of the work.
- 46) The Contractor shall procure and pay for any permits and licenses required, unless otherwise stated herein, and shall give all notices necessary or incident to the due and lawful prosecution of work.
- 47) This Contract shall be governed by the laws of the Commonwealth of Pennsylvania. The Bidder (Contractor) has the responsibility and obligation to become aware of and comply with all applicable statutes, rules, and regulations that affect this transaction in any regard.
- 48) The Contractor, its employees, agents, servants, and any subcontractors of Contractor are independent contractors under this Contract and are not deemed to be employees, agents, or servants of BRC in any manner or for any purpose whatsoever.
- 49) BRC may, by written notification to the Contractor, terminate in whole or any part of this Contract if BRC determines that the Contractor has failed to perform the services or to

provide the materials or supplies required by this Bid Package in the manner and quality as specified herein.

- 50) If the Contractor fails or refuses to begin work within the time required in this Bid Package or to perform the work with sufficient workmen, equipment, or materials to insure the completion of said work in accordance with the terms of the Contract, or shall discontinue the prosecution of the work without the approval of BRC or shall neglect or refuse to perform anew such work as has been rejected as defective and unsuitable, or shall become insolvent or be declared bankrupt, or for any cause shall not carry on the work in an acceptable manner and conformity with contract, BRC after ten (10) days' written notice served personally on the Contractor or mailed to him at the address given on his bid, and on his failure to remedy the condition or conditions complained of, shall have the right to terminate the Contract without process or action at law, and to turn over to the surety for completion or, at their option, to enter upon and take possession of the work, using the materials and equipment of the Contractor assembled for the project, and to complete the performance of the Contract in accordance with the terms thereof, with or without advertising or re-letting, and should the total cost of the work contracted for be in excess of the original bid price, the Contractor and his surety shall be held responsible for such excess cost.
- 51) Neither by the taking over of the work by BRC, nor by the termination of the Contract shall BRC forfeit the right to recover damages from the Contractor or his surety for failure to complete this Contract.
- 52) Conflicts of interest may arise when any employee, officer, director, volunteer or agent of BRC has a financial, family or any other beneficial interest in the Bidder or Contractor selected or considered for an award. Bidder or Contractor, as the case may be, certifies that to the best of their knowledge, no BRC official or employee has a vested interest, financial or otherwise, in this Contractor. Bidder or Contractor agrees to comply in all respects with the Public Official and Employee Ethics Act (65 P.S. § 1101 et seq.). Bidder or Contractor will inform BRC in writing immediately if any potential conflict of interest arises during the course of bidding or during the performance of any agreement entered into with BRC. Conflict of interest may constitute grounds for disqualification of Bidder or termination of any Contract with the Contractor following notification by BRC to Bidder or Contractor where same is not corrected by Bidder or Contractor within the time period established by BRC in such notice.
- 53) The Contractor shall pay for all royalties, claims, and fees for any patented invention, article, or arrangements, which may be used in the work under Contract.
- 54) The Contractor shall accept the compensation as provided in the Contract in full payment for furnishing all bonds, materials, labor, tools, equipment, transportation, etc., and for performing all work under the Contract, and for all loss or damage arising from the work, until its final acceptance by BRC.
- 55) No extra or additional work will be allowed or paid for unless ordered in writing by BRC before such work is commenced.**

- 56) Contractor agrees to maintain records relating to the performance of the work and compliance with prevailing wage under this Contract as may be required by the funders. If prevailing wage rates are required, contractor shall send verification of prevailing wage rates and timesheets for each time period as they occur. Such records shall be open for inspection to these entities and BRC, and to such agents of BRC as are designated during reasonable business hours.
- 57) BRC reserves the right to let additional contractors work at the site. The Contractor shall coordinate the execution of his work with other contractors, and should the Contractor cause damage to any other contractor on the work the Contractor agrees, upon due notice, to settle with such contractor by agreement, or otherwise at BRC's option.
- 58) Contractor agrees to replace any individual on its project team upon reasonable request of BRC Contact. BRC has the sole right to accept or reject any assignment by the Contractor of individuals to perform services under this Contract.
- 59) Subcontracted Work: In the event that a Contractor subcontracts any part of this project, Contractor must submit this information with proof of any required licensing and/or certifications in writing to BRC for approval prior to entering into the subcontract. BRC reserves the sole right to accept or not accept any subcontractor, as it deems proper and/or necessary. Contractor shall retain total responsibility for the performance of all work performed under this contract.
- 60) Safety: Safety of persons maintaining and using the property is paramount to Contractor's maintenance operations. The Contractor shall be responsible for providing all necessary safety equipment, procedures, and employee training and instruction in the use of the safety equipment. Safe operation includes, for example, halting the equipment operation to allow safe passage of nearby persons or vehicles, safe operation of equipment on steep slopes, etc.
- 61) The Contractor shall be in compliance with all Occupational Safety and Health Administration (O.S.H.A.) regulations and all safety related state and federal regulations regarding the use of any of the equipment that is used on the work site. Any employee observed operating equipment in an unsafe manner or failing to use necessary safety equipment as determined by BRC will be requested to leave the property. Contractor shall fulfill such requests and immediately vacate the property.
- 62) Limits of Work: The physical Contract Limits of Work are to be considered the property defined in the Scope of Work and Technical Specifications.
- 63) Schedule: Upon receipt of Notice to Proceed, Contractor shall schedule a preconstruction meeting with designated BRC staff and contact to discuss the procedures for all work activities, acceptance, and payment. Contractor shall schedule with the BRC Watershed Conservation Director regular inspection meetings throughout the life of the project. These meetings are to review the work completed and discuss when and what work is scheduled to take place for the coming period and obtain any necessary approvals. All meetings must be scheduled during the hours of 8:00 AM and 4:00 PM (Monday through Friday, except federal holidays).

- 64) For the purposes of this work, business hours are defined as 8:00 AM to 4:00 PM on Monday through Friday. Contractor is free to work during the non-business hours, EXCEPT for Sundays and major federal holidays, if approval is obtained from the BRC Contact and landowner. In general, deliveries shall be at such times as may be fixed by BRC and shall not be made except upon definite instructions by BRC.
- 65) Payments: Upon notification of project completion, BRC has five (5) business days to certify construction meets contract standards and design specifications. Contractor shall invoice for the approved completed work. Upon receipt and approval, BRC has ten (10) business days to administer and process the invoice for payment to contractor.

SPECIAL CONDITIONS:

- a. Contractors must have and include in the package a documented knowledge and construction of stream restoration projects incorporating fluvial geomorphology (FGM), streambank stabilization methods, riparian buffer installation, floodplain creation, wetland creation, stormwater basin retrofits and naturalization of the same. Contractors must be familiar with the recommendations of the Pennsylvania Stream Team. All contractors are required to address and include all conditions and requirements of the Pennsylvania Department of Environmental Protection (PADEP) and United States Army Corps of Engineers (USACE) stream encroachment approvals, erosion and sediment control measures of the Chester County Conservation District, and PADEP Chapter 102 regulations. Contractors must also provide evidence of three successful stream stabilization and/or restoration projects that have maintained their construction integrity for a period of three years or more (including dated photos, locations, and references).
- b. All Bidders must adhere to the grant requirements of the PA DEP Growing Greener Grant.
- c. All construction must occur in accordance with the dates outlined on the important dates page outlined in this bid package.
- d. **Wage Rates: Pennsylvania Prevailing wage rates apply.**
 - a. This project is funded in part with funds from the Commonwealth of Pennsylvania and requires Pennsylvania Prevailing wage rates, see this website for details on these wage rates:
<https://www.dlsecureweb.pa.gov/PrevWage/Pages/Project.aspx?ID=198599&PageType=>
- e. Consent of Surety: Consent of Surety must be submitted by all Bidders with their bid packages. "Consent of Surety" shall consist of a statement from the Bidder's bonding company certifying if the Bidder is awarded the bid the bonding company will provide a Performance Bond and Payment Bond for Labor and Materials on the form that is provided herein in the amount of one hundred percent (100%) of the total bid award for each bond, or if the bonding company is willing to combine bonds, then one (1) Performance and Payment Bond in the amount of one hundred percent (100%) of the total bid award. The Consent of Surety must be accompanied by a Power of Attorney attesting to the signer's authority to commit the bonding company. The Consent of Surety must not contain any conditions that contradict the terms and conditions of these Specifications and/or the Performance Bond or Payment Bond.
- f. Performance Bond and Payment Bond: The selected Contractor will be required to submit a Performance and Payment Bond in the amount of one hundred percent (100%) of the contract award amount within ten (10) business days of the award date, the condition of which shall be the full and complete execution and performance of each and all of the terms contained in the Contract and Bid Package. The Bonds shall be executed by the same surety, and may be combined, if permitted by the surety. If Bonds are not combined, then two separate Performance and Payment Bonds, each in the amount of one

hundred percent (100%) of the contract award, will be required. The Performance and Payment Bond(s) may cover the contract award amount for a single year, in which case they shall be renewed or extended and resubmitted for each year of the Contract in the amount of one hundred percent (100%) until the completion of the Contract.

- g. The condition of the Payment Bond shall be the prompt payment for all materials and labor supplied or performed in the prosecution of the work. It shall be a condition of said bond that persons furnishing labor and materials in and for the prosecution of said work shall have the right, according to law, to sue in an action of assumpsit, in the name of the obligee, for his or their use upon said bond, for such sum or sums as may be justly due.
- h. Insurance: Contractor shall purchase and maintain such policy or policies of insurance as will protect from claims, as hereinafter set forth, which may arise out of or result from Contractor's operation under this Contract, whether such operations be by himself or by any subcontractor, or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable. Such insurance shall name the agents, elected officials, employees, and officers of BRC, Westtown Township, Commonwealth of Pennsylvania and the project landowner(s) (names and addresses to be provided to chosen bidder with notice of award). Certificates of Insurance, made out to "Brandywine Red Clay Alliance" and the project landowners must be provided to BRC prior to execution of the Contract by the BRC. The kinds of claims to be insured against are as follows:
 - Claims for damages because of bodily injury, occupational disease, sickness, disease, or death of Contractor's employees.
 - Claims for damages insured by usual personal injury liability coverage, which are sustained by any person as a result of any injury directly or indirectly related to the employment of such person by Contractor or by any other person.
 - Claims for damages other than to the work itself because of injury to and destruction of tangible property, including loss of use resulting therefrom.
 - Claims for damages because of bodily injury or death of any persons or property damage arising out of the ownership, maintenance, or use of any motor vehicle.
 - Claims for false arrest or imprisonment, assault and battery, errors and omissions, invasion of civil rights, and like claims.
 - The insurance required by Special Condition i), first paragraph above, shall be for not less than the limits as set forth hereafter or as may be required by law, whichever is greater.
- i. Commercial General Liability and Commercial Automobile Liability shall include:
 - Bodily Injury (including owned and non-owned vehicles); Personal Injury; Property Damage Liability (including owned and non-owned vehicles); and Contractual Liability with limit not less than \$1,000,000 per occurrence.
 - Commercial General Liability insurance shall include coverage for products/completed operations coverage with limit not less than \$1,000,000 per occurrence.
 - Coverage is to be carried on an occurrence basis and limits are to apply to a "per project" basis.

- j. The Contractor must carry Employer's Liability insurance coverage and Worker's Compensation coverage as required by statute. The Contractor shall furnish suitable evidence that he has insured his liability under the Workmen's Compensation Act and any supplements or amendments thereto, or file with BRC an acceptable certificate of exemption therefrom.
- k. Original Certificates of Insurance for Worker's Compensation and Liability Insurance Coverage must be submitted within ten (10) business days of bid award date or with the signed Contract, whichever is earlier, and prior to commencing any work on this project. The Contract will not be executed by BRC in the absence of Certificate(s) of Insurance. Special coverage may be required in addition to any of the foregoing as may be specifically set forth in any special conditions of the contract. Policies shall be effective commencing by the first day of work and remain in effect during the life of the project.
- l. The Contractor must submit the certificates to BRC, prior to commencement of the Contract and annually thereafter, or otherwise as insurance coverage is changed. Insurance certificates shall provide for thirty days' notice to BRC and the project landowner(s) of expiration of insurance. The insurance coverage required under this paragraph must be maintained by the Contractor throughout the terms of this Contract and any extensions, if applicable. If the Contractor's insurance expires during the term, BRC may at its sole option withhold payments and/or stop the work until insurance coverage is renewed.
- m. BRC Representation: The Watershed Conservation Director of the BRC and the designated BRC Contact(s) will represent BRC for this project.
- n. Cut soils occurring on site will be the sole responsibility of the Contractor including but not limited to removal and proper transportation to the site location shown on the project drawings.
- o. Contractor must comply with any and all Pennsylvania Department of Transportation permits and requirements concerning road access.
- p. Notification of the start of construction must be given to the landowner(s). The BRC representative will do this when notified by the Contractor.
- q. Any change order to the Scope of Work or design, construction, and/or construction materials must be approved by the BRC Contact.
- r. Any and all administrative questions on the project should be directed to the BRC Contact. Any and all erosion, sedimentation, sequence/scope of work, plan, PADEP Chapter 102, and similar site questions should be directed to the designated BRC Representative.
- s. BRC reserves the right to extend or shorten the work area based on funding availability.
- t. The Contractor is to give an itemized budget in the format of their choosing.

AFFIDAVIT OF NON-DISCRIMINATION

I, _____, being duly sworn, depose and say that I reside at
(Name)

_____, and that I am the _____ of
(Address) (Title)

_____. In such capacity and/or and on behalf of _____,
(Company) (Company)

I hereby affirm and agree as follows:

As required by the Pennsylvania Department of Environmental Protection Growing Greener Grant, the Contractor agrees:

- 1) In the hiring of any employee(s) for the manufacture of supplies, performance of work, or any other activity required under the grant agreement or any subgrant agreement, contract, or subcontract, the Grantee, a subgrantee, a contractor, a subcontractor, or any person acting on behalf of the Grantee shall not discriminate by reason of race, gender, creed, color, sexual orientation, gender identity or expression, or in violation of the *Pennsylvania Human Relations Act* (PHRA) and applicable federal laws, against any citizen of this commonwealth who is qualified and available to perform the work to which the employment relates.
- 2) The Grantee, any subgrantee, contractor or any subcontractor or any person on their behalf shall not in any manner discriminate by reason of race, gender, creed, color, sexual orientation, gender identity or expression, or in violation of the PHRA and applicable federal laws, against or intimidate any of its employees.
- 3) Neither the Grantee nor any subgrantee nor any contractor nor any subcontractor nor any person on their behalf shall in any manner discriminate by reason of race, gender, creed, color, sexual orientation, gender identity or expression, or in violation of the PHRA and applicable federal laws, in the provision of services under the grant agreement, subgrant agreement, contract or subcontract.
- 4) Neither the Grantee nor any subgrantee nor any contractor nor any subcontractor nor any person on their behalf shall in any manner discriminate against employees by reason of participation in or decision to refrain from participating in labor activities protected under the *Public Employee Relations Act*, *Pennsylvania Labor Relations Act* or *National Labor Relations Act*, as applicable and to the extent determined by entities charged with such Acts' enforcement, and shall comply with any provision of law establishing organizations as employees' exclusive representatives.

(AFFIDAVIT OF NON-DISCRIMINATION continued)

- 5) The Grantee, and subgrantee, contractor or any subcontractor shall establish and maintain a written nondiscrimination and sexual harassment policy and shall inform their employees in writing of the policy. The policy must contain a provision that sexual harassment will not be tolerated and employees who practice it will be disciplined. Posting this Nondiscrimination/Sexual Harassment Clause conspicuously in easily-accessible and well-lighted places customarily frequented by employees and at or near where the grant services are performed shall satisfy this requirement for employees with an established work site.
- 6) The Grantee, any subgrantee, contractor or any subcontractor shall not discriminate by reason of race, gender, creed, color, sexual orientation, gender identity or expression, or in violation of the PHRA and applicable federal laws, against any subgrantee, contractor, subcontractor or supplier who is qualified to perform the work to which the grant relates.
- 7) The Grantee and each subgrantee, contractor and subcontractor represents that it is presently in compliance with and will maintain compliance with all applicable federal, state, and local laws and regulations relating to nondiscrimination and sexual harassment. The Grantee and each subgrantee, contractor and subcontractor further represents that it has filed a Standard Form 100 Employer Information Report ("EEO-1") with the U.S. Equal Employment Opportunity Commission ("EEOC") and shall file an annual EEO-1 report with the EEOC as required for employers' subject to *Title VII of the Civil Rights Act of 1964*, as amended, that have 100 or more employees and employers that have federal government contracts or first-tier subcontracts and have 50 or more employees. The Grantee, any subgrantee, any contractor or any subcontractor shall, upon request and within the time periods requested by the Commonwealth, furnish all necessary employment documents and records, including EEO-1 reports, and permit access to their books, records, and accounts by granting agency and the Bureau of Diversity, Inclusion and Small Business Opportunities for the purpose of ascertaining compliance with the provisions of this Nondiscrimination/Sexual Harassment Clause.
- 8) The Grantee, any subgrantee, contractor or any subcontractor shall include the provisions of this Nondiscrimination/Sexual Harassment Clause in every subgrant agreement, contract or subcontract so that those provisions applicable to subgrantees, contractors or subcontractors will be binding upon each subgrantee, contractor or subcontractor.
- 9) The Grantee's and each subgrantee's, contractor's and subcontractor's obligations pursuant to these provisions are ongoing from and after the effective date of the grant agreement through the termination date thereof. Accordingly, the Grantee and each subgrantee, contractor and subcontractor shall have an obligation to inform the commonwealth if, at any time during the term of the grant agreement, it becomes aware of any actions or occurrences that would result in violation of these provisions.

(AFFIDAVIT OF NON-DISCRIMINATION continued)

- 10) The Commonwealth may cancel or terminate the grant agreement and all money due or to become due under the grant agreement may be forfeited for a violation of the terms and conditions of this Nondiscrimination/Sexual Harassment Clause. In addition, the granting agency may proceed with debarment or suspension and may place the Grantee, subgrantee, contractor, or subcontractor in the Contractor Responsibility File.

(Signature)

Sworn and subscribed
to before me this _____
day of _____, 20 ____.

(Name of Company)

My Commission Expires: _____

(Notary Public in and for County)

AFFIDAVIT OF NON-COLLUSION

I state that I am _____ [Title]

of _____ [Company],

and that I am authorized to make this affidavit on behalf of _____ [Company], and its owners, directors, and officers. I am the person responsible in my firm for the price(s) and the amount of this bid. I state that:

1. The price(s) and amount of this bid have been arrived at independently and without consultation, communication or agreement with any other contractor, bidder or potential bidder.
2. Neither the price(s) nor the amount of this bid, and neither the approximate price(s) nor approximate amount of this bid, have been disclosed to any other firm or person who is a bidder or potential bidder, and neither the price(s) nor the amount of the bid will not be disclosed before bid opening.
3. No attempt has been made or will be made to induce any firm or person to refrain from bidding on this contract, or to submit a bid higher than this bid, or to submit any intentionally high or noncompetitive bid or other form of complementary bid.
4. The bid of my firm is made in good faith and not pursuant to any agreement or discussion with, or inducement from, any firm or person to submit a complementary or other noncompetitive bid.
5. _____ [Company], its affiliates, subsidiaries, officers, directors, and employees are not currently under investigation by any governmental agency and have not in the last three years been convicted or found liable for any act prohibited by State or Federal law in any jurisdiction, involving conspiracy or collusion with respect to bidding on any public contract, except as follows: _____

Any affidavits stating that the bidder or any of its affiliates, subsidiaries, officers, directors, or employees have been convicted or found liable for any act, prohibited by State or Federal law in any jurisdiction, involving conspiracy or collusion with respect to bidding on any public contract within the last three years, does not prohibit the Brandywine Red Clay Alliance ("BRC") from accepting a bid from or awarding a contract to the bidder, but may be a ground for consideration on the question whether the BRC should decline to award a contract to that bidder on the basis of lack of responsibility.

I state that _____ [Company] understands and acknowledges that the above representations are material and important, and will be relied on by BRC in awarding the contracts for which this bid is submitted. My firm and I understand that any misstatement in this affidavit is and shall be treated as fraudulent concealment from BRC of the true facts relating to the submission of bids for this contract.

NAME OF FIRM _____

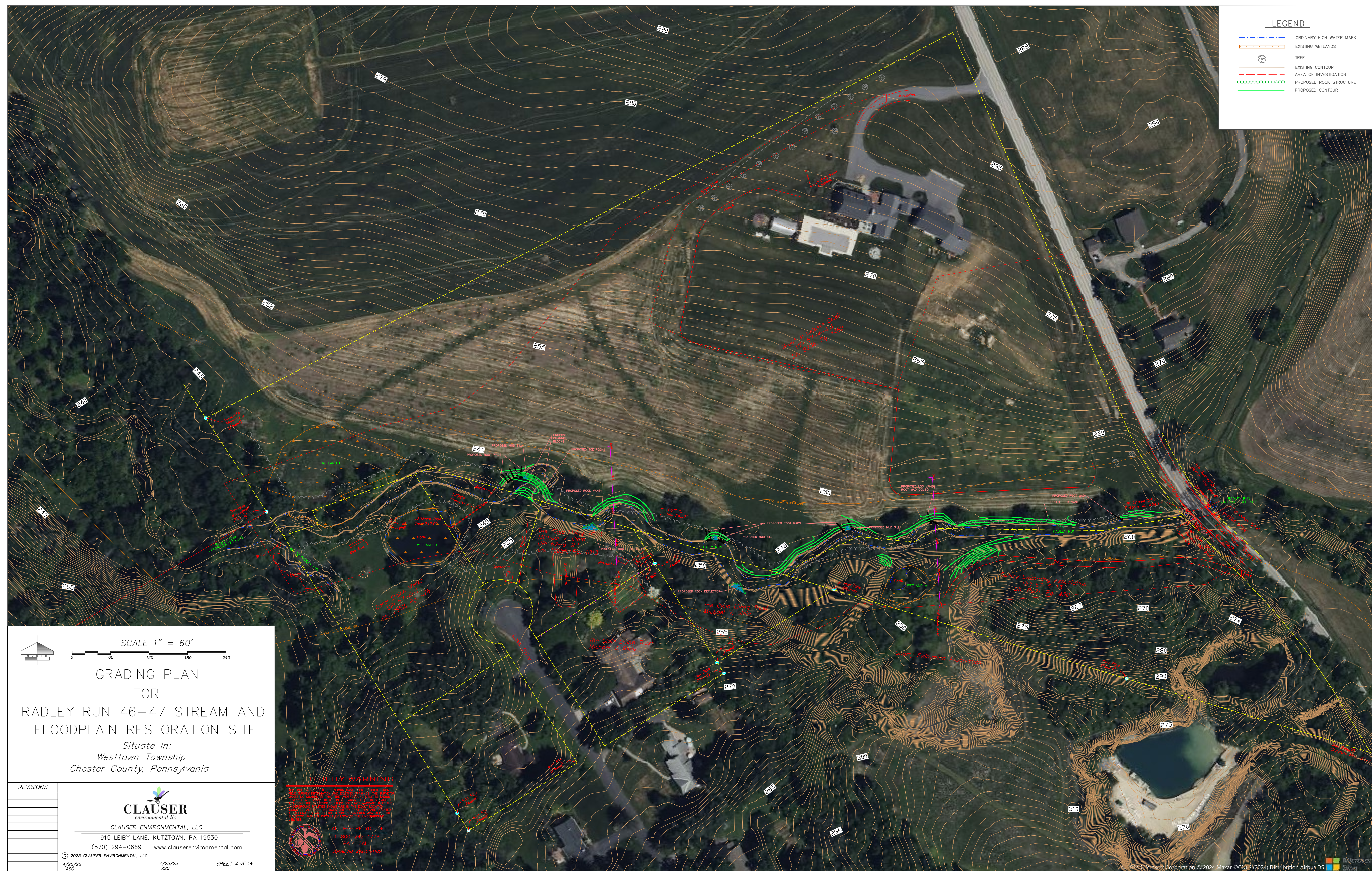
By: _____

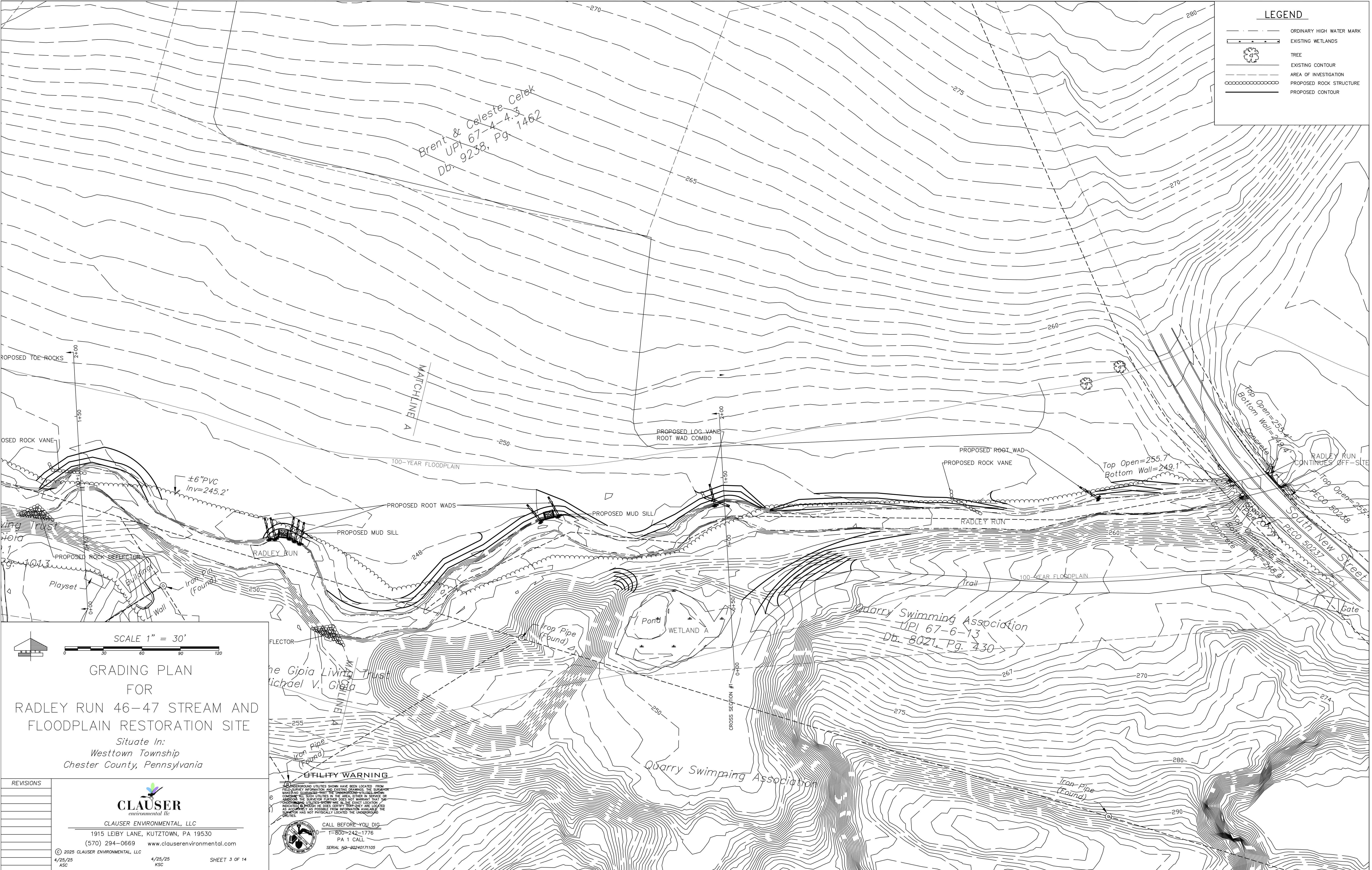
Title: _____

Date: _____

SWORN TO AND SUBSCRIBED
BEFORE ME THIS _____
DAY OF _____, 20__.

Notary Public
My commission expires _____





LEGEND

ORDINARY HIGH WATER MARK

EXISTING WETLANDS

TREE

EXISTING CONTOUR

AREA OF INVESTIGATION

PROPOSED ROCK STRUCTURE

PROPOSED CONTOUR

SCALE 1" = 30'

GRADING PLAN
FOR
RADLEY RUN 46-47 STREAM AND
FLOODPLAIN RESTORATION SITE

Situate In:
Westtown Township
Chester County, Pennsylvania

REVISIONS

CLAUSER
environmental llc

CLAUSER ENVIRONMENTAL, LLC

1915 LEIBY LANE, KUTZTOWN, PA 19530

(570) 294-0669 www.clouserenvironmental.com

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SHEET 3 OF 14

UTILITY WARNING

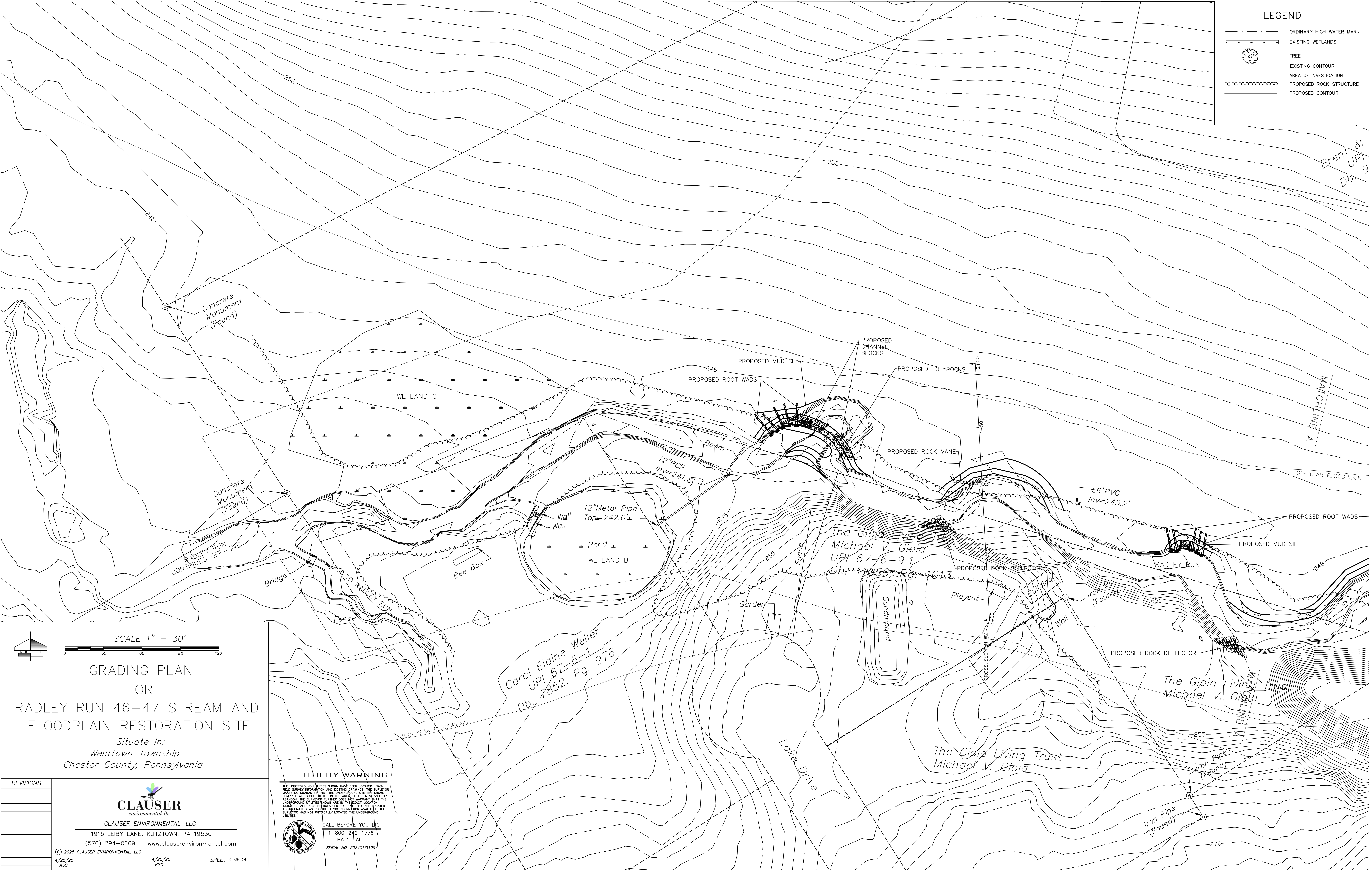
UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEE THAT THE INFORMATION IS COMPLETELY ACCURATE. THE SURVEYOR DOES NOT WARRANT THAT THE INFORMATION IS COMPLETELY ACCURATE. THE SURVEYOR DOES NOT WARRANT THAT THE INFORMATION IS COMPLETELY ACCURATE. THE SURVEYOR DOES NOT WARRANT THAT THE INFORMATION IS COMPLETELY ACCURATE.

CALL BEFORE YOU DIG

1-800-242-1776

PA 1 CALL

SERIAL NO-80240171105



LEGEND

ORDINARY HIGH WATER MARK

EXISTING WETLANDS

TREE

EXISTING CONTOUR

AREA OF INVESTIGATION

PROPOSED ROCK STRUCTURE

PROPOSED CONTOUR

SCALE 1" = 30'

0

30

60

90

120

GRADING PLAN
FOR
RADLEY RUN 46-47 STREAM AND
FLOODPLAIN RESTORATION SITE

Situate In:
Westtown Township
Chester County, Pennsylvania

REVISIONS

CLAUSER ENVIRONMENTAL, LLC
1915 LEIBY LANE, KUTZTOWN, PA 19530
(570) 294-0669 www.clauserenvironmental.com

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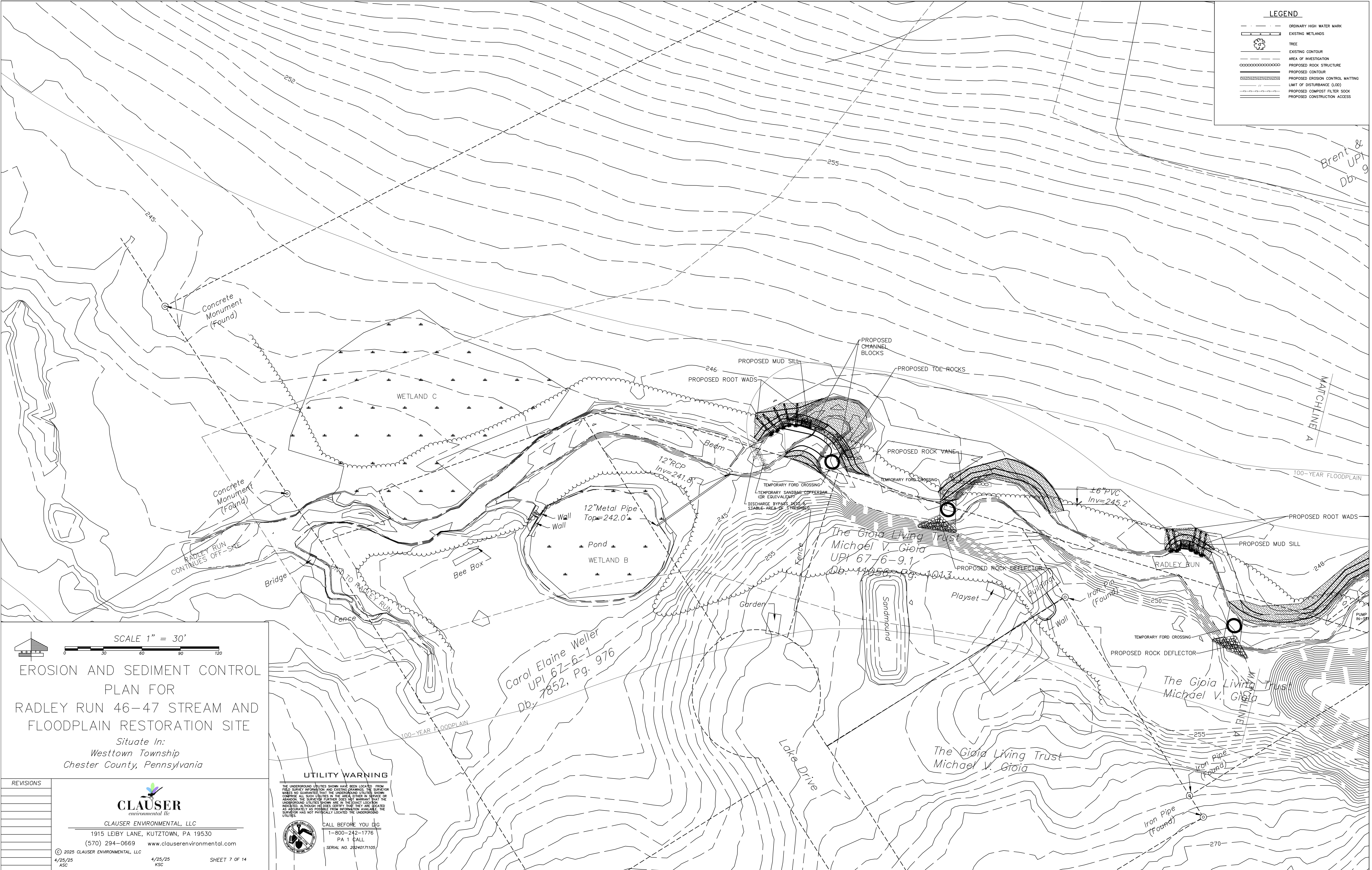
4/25/25
KSC

SHEET 4 OF 14

UTILITY WARNING

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA EITHER IN SERVICE OR ABANDON. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED, ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

CALL BEFORE YOU DIG
1-800-242-1776
PA 1 CALL
SERIAL NO. 20240171105



LEGEND

- ORDINARY HIGH WATER MARK
- EXISTING WETLANDS
- TREE
- EXISTING CONTOUR
- AREA OF INVESTIGATION
- PROPOSED ROCK STRUCTURE
- PROPOSED CONTOUR
- PROPOSED EROSION CONTROL MATTING
- LIMIT OF DISTURBANCE (LOD)
- PROPOSED COMPOST FILTER SOCK
- PROPOSED CONSTRUCTION ACCESS

SCALE 1" = 30'

0 30 60 90 120

**EROSION AND SEDIMENT CONTROL
PLAN FOR
RADLEY RUN 46-47 STREAM AND
FLOODPLAIN RESTORATION SITE**

Situate In:
Westtown Township
Chester County, Pennsylvania

REVISIONS

CLAUSER ENVIRONMENTAL, LLC
1915 LEIBY LANE, KUTZTOWN, PA 19530
(570) 294-0669 www.clouserenvironmental.com

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SHEET 7 OF 14

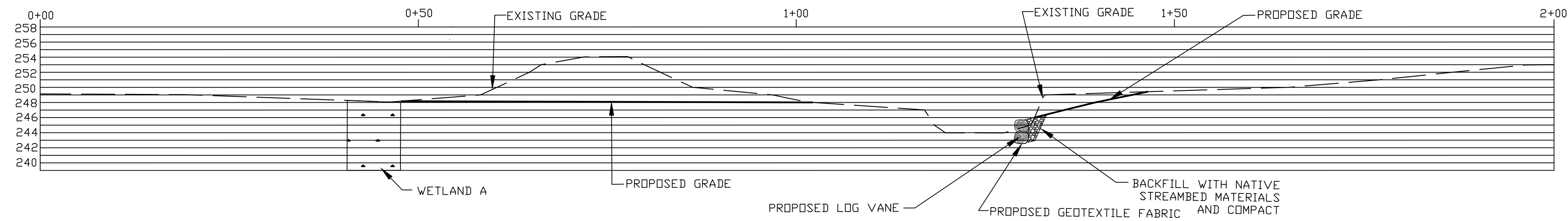
UTILITY WARNING

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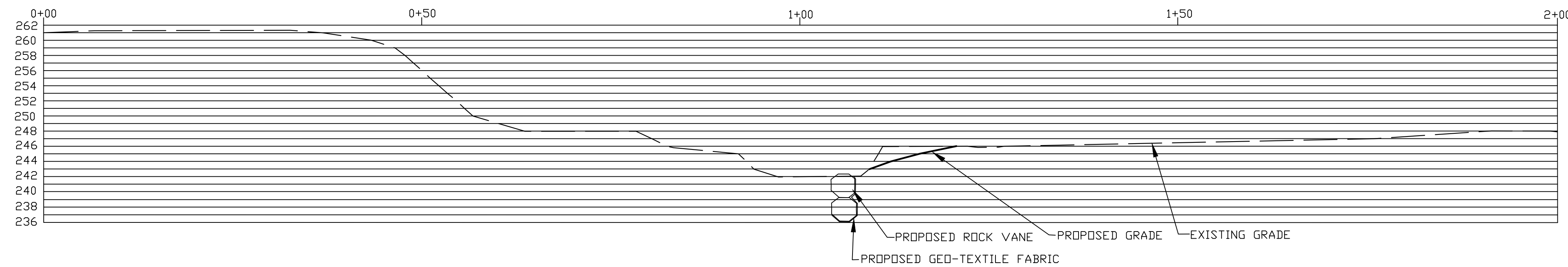
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PA 1 CALL
SERIAL NO. 20240171105



CROSS SECTION #1



CROSS SECTION #2



CROSS SECTIONS
FOR
RADLEY RUN 46-47 STREAM AND
FLOODPLAIN RESTORATION SITE
Situate In:
Westtown Township
Chester County, Pennsylvania

REVISIONS

CLAUSER
environmental llc

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UTILITY WARNING

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CALL BEFORE YOU DIG
1-800-242-1776
PA 1 CALL
SERIAL NO. 20240171105



CONSTRUCTION SEQUENCE NOTES

THE OPERATOR SHALL ASSURE THAT THE APPROVED EROSION AND SEDIMENT CONTROL PLAN IS PROPERLY AND COMPLETELY IMPLEMENTED.

THE OPERATOR SHALL ASSURE THAT AN EROSION AND SEDIMENT CONTROL PLAN HAS BEEN PREPARED BY THE APPLICANT, SUBMITTED TO AND APPROVED BY THE CHESTER COUNTY CONSERVATION DISTRICT, AND IS BEING IMPLEMENTED AND MAINTAINED FOR ALL SOIL AND/OR ROCK SPOIL AND BORROW AREAS, REGARDLESS OF THEIR LOCATIONS.

BEFORE INITIATING ANY REVISIONS TO THE APPROVED EROSION AND SEDIMENT CONTROL PLAN OR REVISIONS TO OTHER PLANS WHICH MAY AFFECT THE EFFECTIVENESS OF THE APPROVED E&S CONTROL PLAN, THE OPERATOR MUST RECEIVE APPROVAL OF THE REVISIONS FROM THE CHESTER COUNTY CONSERVATION DISTRICT.

ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE FOLLOWING SEQUENCE. EACH STAGE SHALL BE COMPLETED BEFORE ANY FOLLOWING STAGE IS INITIATED. CLEARING AND GRUBBING SHALL BE LIMITED ONLY TO THOSE AREAS DESCRIBED IN EACH STAGE.

EROSION AND SEDIMENT BMPs MUST BE CONSTRUCTED, STABILIZED, AND FUNCTIONAL BEFORE SITE DISTURBANCE BEGINS WITHIN THE TRIBUTARY AREAS OF THOSE BMPs.

AT LEAST 7 DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, THE OPERATOR SHALL INVITE ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES, THE LANDOWNER, ALL APPROPRIATE MUNICIPAL OFFICIALS, THE EROSION AND SEDIMENT CONTROL PLAN PREPARER, AND THE CHESTER CONSERVATION DISTRICT TO AN ON-SITE MEETING. ALSO, AT LEAST 3 DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES SHALL NOTIFY THE PENNSYLVANIA ONE CALL SYSTEM INCORPORATED AT 1-800-242-1776 FOR BURIED UTILITIES LOCATIONS.

CONSTRUCTION SEQUENCE

1. INSTALL ROCK CONSTRUCTION ENTRANCES AND COMPOST FILTER SOCK AT ALL PROPOSED LOCATIONS.
2. STAKE/FLAG ALL LIMIT OF DISTURBANCE (LOD) LINES FOR THE PROJECT.
3. INSTALL THE TEMPORARY FORD CROSSINGS AS SHOWN ON THE PROJECT PLANS BEFORE CROSSING STREAMBEDS.
4. WHEN WORKING WITHIN THE STREAM TO INSTALL IN-STREAM STRUCTURES, WORK IN THE DEWATERED STREAMBED THROUGH THE USE OF TEMPORARY COFFERDAMS (OR EQUIVALENT) AND PUMP BYPASS AND IN ACCORDANCE WITH THE SEQUENCE FOR WORKING WITHIN THE STREAM CHANNEL. LOCATIONS OF TEMPORARY COFFERDAMS AND PUMP BY-PASS SETUPS CAN BE DETERMINED BY THE CONTRACTOR IN THE FIELD. USE SEDIMENT FILTER BAGS AS NEEDED TO MINIMIZE SEDIMENTATION FROM THE DEWATERED ZONE.
5. PRE-POSITION MATERIALS ON-SITE FOR EACH WORKZONE SO THAT STABILIZATION MAY OCCUR IMMEDIATELY FOLLOWING GRADING OF EACH WORKZONE. GRADING OF STREAM BANKS SHOULD OCCUR ONE WORKZONE AT A TIME. IT IS ANTICIPATED THAT GRADING AND STABILIZATION OF THE WORKZONES WILL BE COMPLETED FROM UPSTREAM TO DOWNSTREAM. BUT, CONSTRUCTION CONDITIONS SHOULD BE TAKEN INTO ACCOUNT TO PROVIDE THE LEAST IMPACT TO THE SITE. IF WEATHER AND CONSTRUCTION CONDITIONS WARRANT, THE ON-SITE INSPECTOR OR CHESTER COUNTY CONSERVATION DISTRICT MAY AUTHORIZE A REQUEST BY THE CONTRACTOR TO BEGIN WORK IN MORE THAN ONE WORKZONE AT A TIME.
6. WHEN THE TEMPORARY COFFERDAMS AND PUMP BYPASS IS REMOVED, INSPECT ALL IN-STREAM STRUCTURES FOR FUNCTION. REPAIR ANY DEFICIENCIES.
7. AS WORK PROCEEDS, PROGRESSIVELY SEED AND MULCH FRESHLY GRADED AREAS AND REMOVE ANY CONSTRUCTION DEBRIS. ALL STREAMBANKS SHOULD BE COMPACTED SO THAT THE SOIL IS NOT LOOSE BEFORE MATTING. REFER TO THE ATTACHED PLANTING PLAN FOR THE PROPOSED RIPARIAN BUFFER PLANTING AREAS AND THE SEEDING SPECIFICATIONS NOTE ON THIS PAGE. EROSION CONTROL MATTING SHOULD BE INSTALLED IMMEDIATELY FOLLOWING GRADING OF EACH SECTION. THE EROSION CONTROL MATTING SHOULD BE INSTALLED SO THAT THE DOWNSLOPE EDGE IS JUST ABOVE THE NORMAL FLOW LEVEL OF THE STREAM.
8. REMOVE THE ROCK CONSTRUCTION ENTRANCES.
9. STABILIZE ALL DISTURBED AREAS WITH SEED, FERTILIZE, LIME, AND MULCH AS REQUIRED.
10. WHEN VEGETATION REACHES AT LEAST 70% UNIFORM, PERENNIAL COVER, REMOVE THE COMPOST FILTER SOCK. STABILIZE ANY AREAS DISTURBED DURING REMOVAL OF THE TEMPORARY BMPs.

SOILS

C&B – CHESTER SILT LOAM, 3 TO 8 PERCENT SLOPES
CHD2 – CHROME SILT LOAM, 15 TO 25 PERCENT SLOPES
Co – CORDORUS SILT LOAM
G&c – GLENELG SILT LOAM, 8 TO 15 PERCENT SLOPES
GIB – GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES
Hg – HATBORO SILT LOAM

SURVEY INFORMATION

1. ELEVATIONS AND CONTOURS OF THE STREAM CHANNEL AND RIPARIAN ZONE ARE SHOWN FROM ACTUAL FIELD SURVEY PERFORMED IN FEBRUARY OF 2022 BY BRINKASH AND ASSOCIATES, INC. THE FIELD SURVEY WAS MERGED WITH PA LIDAR DATA FOR THE SURROUNDING AREA.
2. PROPERTY LINES SHOWN WERE TAKEN FROM CHESTER COUNTY GIS. THIS PLAN DOES NOT REPRESENT AN ACTUAL BOUNDARY SURVEY.
3. UNDERGROUND UTILITY RESPONSES AND/OR BEST AVAILABLE PLAN INFORMATION, PA ONE CALL UTILITY RESPONSES AND/OR BEST AVAILABLE PLAN INFORMATION.
4. RESIDENTIAL LOT IMPROVEMENTS (DWELLINGS, OUT-BUILDINGS, WELLS & SEPTIC SYSTEMS ARE NOT SHOWN.
5. RESIDENTIAL SERVICE UTILITY LOCATIONS (ELECTRIC, GAS, CABLE & TELEPHONE) ARE PARTIALLY SHOWN BASED ON PLANS PROVIDED BY UTILITY SERVICE PROVIDERS AND MUST BE FIELD VERIFIED.
6. THE BASIS OF HORIZONTAL DATUM IS NAD83(2011) PA SOUTH ZONE.
7. THE BASIS OF VERTICAL DATUM IS NAVD83.
8. THE FOLLOWING MAPS WERE USED FOR THIS SURVEY. MAP19796, 18799, 19288,11033& B-5, PG. 16.
9. THE RIGHT OF WAY FOR SOUTH NEW STREET WAS REPRODUCED FROM MAP 11033.
10. THE PROPERTY LINES DEPICTED HEREON WERE REPRODUCED FROM LIMITED EXISTING MONUMENTS SURVEY LOCATED AND A "BEST FIT" OF THE CURRENT DEEDS/MAPS OF RECORD. A COMPLETE BOUNDARY SURVEY OF THESE PARCELS WAS NOT COMPLETED.

WETLANDS

WETLAND DELINEATION WAS COMPLETED BY CLAUSER ENVIRONMENTAL, LLC
In December 2023.

ENVIRONMENTAL DUE DILLIGENCE

ENVIRONMENTAL DUE DILLIGENCE: THE APPLICANT MUST PERFORM ENVIRONMENTAL DUE DILLIGENCE TO DETERMINE IF THE FILL MATERIALS ASSOCIATED WITH THE PROJECT QUALIFY AS CLEAN FILL. ENVIRONMENTAL DUE DILLIGENCE IS DEFINED AS: INVESTIGATIVE TECHNIQUES, INCLUDING, BUT NOT LIMITED TO, VISUAL PROPERTY INSPECTIONS, ELECTRONIC DATA BASE SEARCHES, REVIEW OF PROPERTY OWNERSHIP, REVIEW OF PROPERTY USE HISTORY, SANBORN MAPS, ENVIRONMENTAL QUESTIONNAIRES, TRANSACTION SORDENS, ANALYTICAL TESTING, ENVIRONMENTAL ASSESSMENTS OR AUDITS. ANALYTICAL TESTING IS NOT A REQUIRED PART OF DUE DILLIGENCE UNLESS VISUAL INSPECTION AND/OR REVIEW OF THE PAST LAND USE OF THE PROPERTY INDICATES THAT THE FILL MAY HAVE BEEN SUBJECTED TO A SPILL OR RELEASE OF REGULATED SUBSTANCE. IF THE FILL MAY HAVE BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE, IT MUST BE TESTED TO DETERMINE IF IT QUALIFIES AS CLEAN FILL. TESTING SHOULD BE PERFORMED IN ACCORDANCE WITH APPENDIX A OF THE DEPARTMENT'S POLICY "MANAGEMENT OF FILL".

LIABILITY NOTE

FAILURE TO CORRECTLY INSTALL SEDIMENT CONTROL FACILITIES OR FAILURE TO PREVENT SEDIMENT LADEN RUNOFF FROM LEAVING THE CONSTRUCTION SITE OR FAILURE TO TAKE CORRECTIVE ACTIONS TO IMMEDIATELY RESOLVE FAILURE OF SEDIMENT CONTROL FACILITIES MAY RESULT IN ADMINISTRATIVE, CIVIL AND/OR CRIMINAL PENALTIES BEING INSTITUTED BY THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION AS DEFINED IN SECTION 602 OF THE CLEAN STREAMS LAW OF PENNSYLVANIA. THE CLEAN STREAMS LAW PROVIDES FOR UP TO \$10,000 PER DAY IN CIVIL PENALTIES, UP TO \$10,000 IN SUMMARY CRIMINAL PENALTIES, AND UP TO \$25,000 IN MISDEMEANOR CRIMINAL PENALTIES FOR EACH VIOLATION.

THIS PLAN IS NOT TO BE CONSTRUED AS AN ENVIRONMENTAL AUDIT/ASSESSMENT PLAN. THIS SURVEY MAKES NO WARRANTY OR GUARANTEE EITHER EXPRESSED OR IMPLIED AS TO THE ENVIRONMENTAL CONDITIONS OF THE PREMISES HEREON DESCRIBED I.E., THE DETECTION OF SUBSURFACE CONTAMINANTS AS DEFINED IN D.E.P. TITLE 25-PA CODES.

DEFINITION OF CLEAN FILL

CLEAN FILL IS DEFINED AS: UNCONTAMINATED, NON-WATER SOLUBLE, NON-DECOMPOSABLE, INERT, SOLID MATERIAL. THE TERM INCLUDES SOIL, ROCK, STONE, DREDGED MATERIAL, USED ASPHALT, AND BRICK, BLOCK OR CONCRETE FROM CONSTRUCTION AND DEMOLITION ACTIVITIES THAT IS SEPARATE FROM OTHER WASTE AND IS RECOGNIZABLE AS SUCH. THE TERM DOES NOT INCLUDE MATERIALS PLACED IN OR ON THE WATERS OF THE COMMONWEALTH UNLESS OTHERWISE AUTHORIZED. (THE TERM "USED ASPHALT" DOES NOT INCLUDE MILLED ASPHALT OR ASPHALT THAT HAS BEEN PROCESS FOR RE-USE).

CLEAN FILL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE: FILL MATERIALS AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE STILL QUALIFIES AS CLEAN FILL PROVIDED THE TESTING REVEALS THAT THE FILL MATERIAL CONTAINS CONCENTRATIONS OF REGULATED SUBSTANCES THAT ARE BELOW THE RESIDENTIAL LIMITS IN TABLES FP-1A AND FP-1B FOUND IN THE DEPARTMENT'S POLICY "MANAGEMENT OF FILL".

ANY PERSON PLACING CLEAN FILL THAT HAS BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE MUST USE FORM FP-001 TO CERTIFY THE ORIGIN OF THE FILL MATERIAL AND THE RESULTS OF THE ANALYTICAL TESTING TO QUALIFY THE MATERIAL AS CLEAN FILL. FORM FP-001 MUST BE RETAINED BY THE OWNER OF THE PROPERTY RECEIVING THE FILL. A COPY OF FORM FP-001 CAN BE FOUND AT THE END OF THESE INSTRUCTIONS.

PLAN NOTES

A. GENERAL EROSION AND SEDIMENT CONTROL GUIDELINES:

1. SPOIL MATERIALS ARE NOT TO BE DISPOSED OF IN FLOODPLAINS, FLOODWAYS, OR REGULATED WATERS OF THE COMMONWEALTH AND UNITED STATES INCLUDING RIVERS, LAKES AND WETLANDS.
2. ALL DISTURBED SOILS SHOULD BE SEEDD AND/OR PLANTED WITH RIPARIAN VEGETATION IMMEDIATELY AFTER ACHIEVING FINAL GRADE.
3. UPON PROJECT COMMENCEMENT, ALL EARTHWORK ASSOCIATED WITH THIS PROJECT, WITH THE EXCEPTION OF ADDITIONAL TREE AND SHRUB PLANTING, SHOULD BE COMPLETED IMMEDIATELY.
4. A COPY OF THIS E&S CONTROL PLAN SHALL BE KEPT AVAILABLE FOR INSPECTION ON THE CONSTRUCTION SITE AT ALL TIMES THROUGH THE TERMS OF THE PROJECT.
5. THE INTENT OF THIS PLAN/NARRATIVE IS TO INDICATE GENERAL MEANS OF COMPLIANCE WITH THE REQUIREMENTS OF THE RULES AND REGULATIONS OF CHAPTER 102 OF THE PENNSYLVANIA CLEAN STREAMS LAW. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO IMPLEMENT THESE METHODS PLUS ADDITIONAL METHODS AS MAY BE NECESSARY BECAUSE OF THE CONDITIONS CREATED BY LOCALIZED SITE CONDITIONS, AND/OR CONSTRUCTION PROCEDURES IN ORDER TO ASSURE COMPLIANCE WITH APPLICABLE LAW. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN ALL SEDIMENT AND EROSION CONTROL FACILITIES SO THAT THEY PERFORM AS REQUIRED BY LAW.

B. GENERAL EROSION AND SEDIMENT CONTROL METHODS/PROCEDURES

1. IN ALL CASES, THE SMALLEST PRACTICAL AREA OF STABLE LAND SURFACE SHALL BE DISTURBED.
2. ALL RELATED SEDIMENT AND EROSION CONTROL FACILITIES SHALL BE IN PLACE AND CAPABLE OF FUNCTIONING AS INTENDED PRIOR TO EARTHMOVING ACTIVITY.
3. BACKFILLED EXCAVATIONS SHALL BE RESTORED TO ORIGINAL TYPE OF COVER AND GRADE AS PER SPECIFICATIONS. SEEDING SHALL BE DONE ACCORDING TO SCHEDULE FOR PERMANENT SEEDING. TEMPORARY STABILIZATION IS REQUIRED OF ANY AND ALL ERODIBLE/SOLUBLE AREAS AND MATERIALS IMMEDIATELY.
4. CONSTRUCTION ACCESS INTO UNPAVED AREAS FROM PAVED AREAS OR STREETS (PUBLIC OR PRIVATE) SHALL BE VIA A ROCK CONSTRUCTION ENTRANCE.
5. SEDIMENT SPILLED, DROPPED OR TRACKED ONTO PAVED SURFACES SHALL BE REMOVED IMMEDIATELY.
6. ALL SLOPES 3:1 OR STEEPER WILL UTILIZE EROSION CONTROL MATTING.
7. ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE CONSTRUCTION SEQUENCE. EACH STAGE SHALL BE COMPLETED BEFORE THE FOLLOWING STAGE IS INITIATED. CLEARING AND GRUBBING SHALL BE LIMITED ONLY TO THOSE AREAS DESCRIBED IN EACH STAGE.
8. AT LEAST 7 DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES THE OPERATOR SHALL INVITE ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES INCLUDING BUT NOT LIMITED TO: THE LANDOWNER AND ALL APPROPRIATE MUNICIPAL OFFICIALS. A REPRESENTATIVE FROM THE CHESTER COUNTY CONSERVATION DISTRICT FOR AN ON-SITE PRE-CONSTRUCTION MEETING.
9. UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENTATION BMP'S MUST BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENTATION BMP'S AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL SITE INSPECTIONS WILL BE DOCUMENTED IN AN INSPECTION LOG KEPT FOR THIS PURPOSE. THE COMPLIANCE ACTIONS AND THE DATE, TIME AND NAME OF THE PERSON CONDUCTING THE INSPECTION, THE INSPECTION LOG WILL BE KEPT ON SITE AT ALL TIMES AND MADE AVAILABLE TO THE DISTRICT UPON REQUEST.

ALL PREVENTIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REMULCHING AND REMATting, MUST BE PREFORMED IMMEDIATELY. IF EROSION AND SEDIMENTATION BMPs FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMPs OR MODIFICATIONS OF THOSE INSTALLED WILL BE NEEDED.

WHERE BMPs ARE FOUND TO FAIL TO ALLEVIATE EROSION OR SEDIMENT POLLUTION THE PERMITTEE OR CO-PERMITTEE SHALL INCLUDE THE FOLLOWING INFORMATION:
A. THE LOCATION AND SEVERITY OF THE BMPs FAILURE AND ANY POLLUTION EVENTS.
B. ALL STEPS TAKEN TO, REDUCE, ELIMINATE AND PREVENT THE REOCCURENCE OF THE NON-COMPLIANCE.
C. THE TIME FRAME TO CORRECT THE NON-COMPLIANCE, INCLUDING THE EXACT DATES WHEN THE ACTIVITY WILL RETURN TO COMPLIANCE.

AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENT BMPs MUST BE REMOVED. AREAS DISTURBED DURING REMOVAL OF THE BMPs MUST BE STABILIZED IMMEDIATELY.

10. BEFORE INITIATING ANY REVISION TO THE APPROVED EROSION AND SEDIMENT CONTROL PLAN OR REVISIONS TO OTHER PLANS WHICH MAY AFFECT THE EFFECTIVENESS OF THE APPROVED E&S CONTROL PLAN, THE OPERATOR MUST RECEIVE APPROVAL OF THE REVISIONS FROM THE CHESTER COUNTY CONSERVATION DISTRICT. THE OPERATOR SHALL ASSURE THAT THE APPROVED EROSION AND SEDIMENT CONTROL PLAN IS PROPERLY AND COMPLETELY IMPLEMENTED. IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO ELIMINATE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION.

11. ALL PUMPING OF SEDIMENT LADEN WATER OR POTENTIALLY SEDIMENT LADEN WATER SHALL BE THROUGH A SEDIMENT CONTROL BMP, SUCH AS A PUMPED WATER FILTER BAG DISCHARGING OVER NON-DISTURBED AREAS.

12. THE CONTRACTOR IS ADVISED TO BECOME THOROUGHLY FAMILIAR WITH THE PROVISIONS OF THE APPENDIX 64, EROSION CONTROL RULES AND REGULATIONS, TITLE 25, PART 1, DEPARTMENT OF ENVIRONMENTAL PROTECTION, SUBPART C, PROTECTION OF NATURAL RESOURCES, ARTICLE III, WATER RESOURCES, CHAPTER 102, EROSION CONTROL.

13. THE OPERATOR SHALL REMOVE FROM THE SITE, RECYCLE, OR DISPOSE OF ALL BUILDING MATERIALS AND WASTES IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET SEQ., 271.1 ET SEQ., AND 287.1 ET SEQ. THE CONTRACTOR SHALL NOT ILLEGALLY BURY, DUMP, OR DISCHARGE ANY BUILDING MATERIAL OR WASTES AT THE SITE.

14. STOCKPILE HEIGHTS MUST NOT EXCEED 35 FEET. STOCKPILE SLOPES MUST BE 2:1 OR FLATTER.

15. UPON COMPLETION OR TEMPORARY CESSATION OF THE EARTH DISTURBANCE ACTIVITY, OR ANY STAGE THEREOF, THE PROJECT SITE SHALL BE IMMEDIATELY STABILIZED WITH THE APPROPRIATE TEMPORARY OR PERMANENT STABILIZATION.

16. AN AREA SHALL BE CONSIDERED TO HAVE ACHIEVED FINAL STABILIZATION WHEN IT HAS A MINIMUM UNIFORM 70% PERENNIAL VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED SURFACE EROSION AND SUBSURFACE CHARACTERISTICS SUFFICIENT TO RESIST SLIDING AND OTHER MOVEMENTS. IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE, THE OPERATOR SHALL STABILIZE ANY AREAS DISTURBED BY THE ACTIVITIES. DURING NON-GERMINATING PERIODS, MULCH MUST BE APPLIED AT THE SPECIFIED RATES. DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE REDISTURBED WITHIN 1 YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE TEMPORARY VEGETATIVE STABILIZATION SPECIFICATIONS. DISTURBED AREAS WHICH ARE AT FINISHED GRADE OR WHICH WILL NOT BE REDISTURBED WITHIN 1 YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE PERMANENT VEGETATIVE STABILIZATION SPECIFICATIONS.

STOP-CALL BEFORE YOU DIG!

Pennsylvania One Call System, Inc.

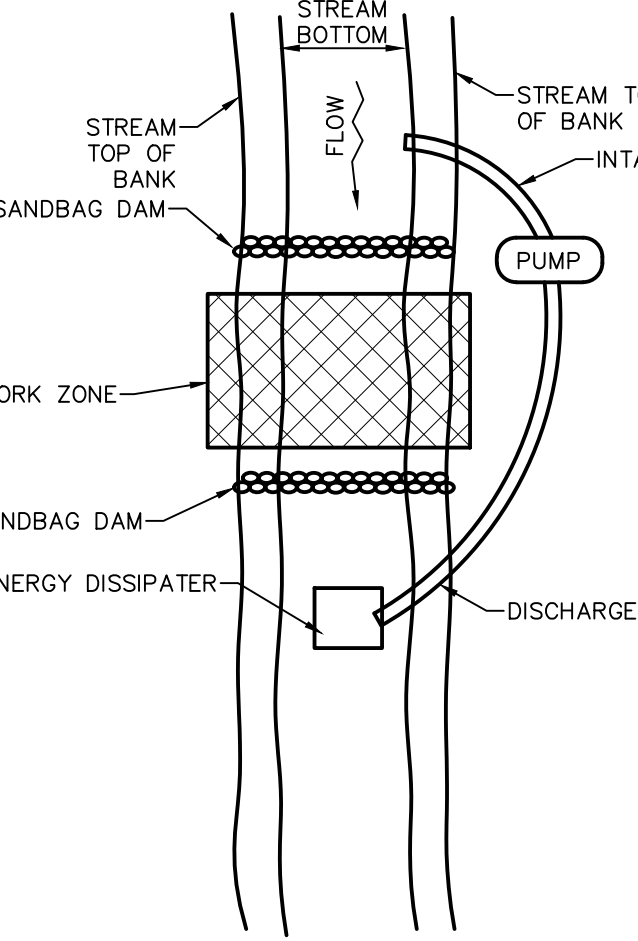
1-800-242-1776



Brinkash and Associates has notified the Pennsylvania One Call System, Inc

DESIGN ONE CALL ONLY
Serial #20240171105

USERS OF THIS PLAN ARE HEREBY CAUTIONED THAT THIS ONE CALL NOTICE IS FOR DESIGN PURPOSES ONLY AND THAT PRIOR TO ANY EXCAVATION OR EARTHMOVING ACTIVITIES, IT SHALL BE THE CONTRACTOR'S/DEVELOPER'S RESPONSIBILITY TO RECONTACT THE PENNA. ONE CALL SYSTEM FOR UNDERGROUND FACILITY LOCATION AND MARKING.



NOTES:

GRUBBING SHALL NOT TAKE PLACE WITHIN 50 FEET OF TOP-OF-BANK UNTIL ALL MATERIALS REQUIRED TO COMPLETE WORK WITHIN THE STREAM CHANNEL ARE ON SITE AND READY FOR INSTALLATION.

BYPASS PUMP INTAKE SHALL BE MAINTAINED A SUFFICIENT DISTANCE FROM THE BOTTOM TO PREVENT PUMPING OF CHANNEL BOTTOM MATERIALS.

HAZARDOUS OR POLLUTANT MATERIAL STORAGE AREAS SHALL BE LOCATED AT LEAST 100 FEET BACK FROM THE TOP OF STREAMBANK.

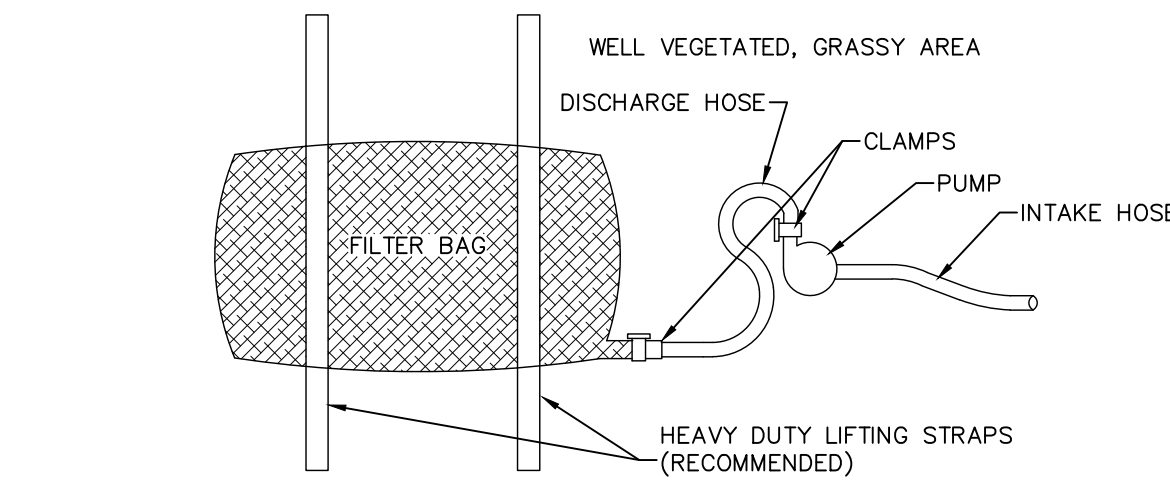
ALL EXCESS EXCAVATED MATERIAL SHALL BE IMMEDIATELY REMOVED FROM THE STREAM CROSSING AREA.

ALL DISTURBED AREAS WITHIN 50 FEET OF TOP-OF-BANK SHALL BE BLANKETED OR MATTED WITHIN 24 HOURS OF INITIAL DISTURBANCE FOR MINOR STREAMS OR 48 HOURS OF INITIAL DISTURBANCE FOR MAJOR STREAMS UNLESS OTHERWISE AUTHORIZED.

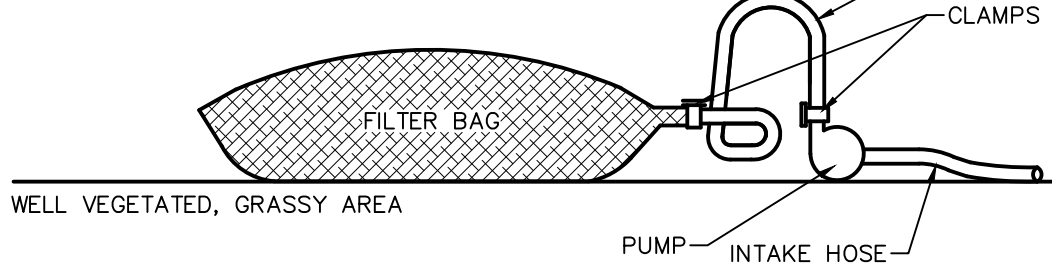
APPROPRIATE STREAMBANK PROTECTION SHALL BE PROVIDED WITHIN THE CHANNEL.

WORKING WITHIN THE STREAM CHANNEL
WITH PUMP BYPASS TYPICAL DETAIL

NOT TO SCALE



PLAN VIEW



ELEVATION VIEW

NOTES:

LOW VOLUME FILTER BAGS SHALL BE MADE FROM NON-WOVEN GEOTEXTILE MATERIAL SEWN WITH HIGH STRENGTH, DOUBLE STITCHED "J" TYPE SEAMS. THEY SHALL BE CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS. HIGH VOLUME FILTER BAGS SHALL BE MADE FROM WOVEN GEOTEXTILES THAT MEET THE FOLLOWING STANDARDS:

PROPERTY	TEST METHOD	MINIMUM STANDARD
AVG. WIDE WIDTH STRENGTH	ASTM D-4884	60 LB/IN
GRAB TENSILE	ASTM D-4632	205 LB
PUNCTURE	ASTM D-4833	110 LB
MULLEN BURST	ASTM D-3786	350 PSI
UV RESISTANCE	ASTM D-4355	70%
AOS % RETAINED	ASTM D-4751	80 SIEVE

A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL PURPOSES SHALL BE PROVIDED. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME 1/2 FULL OF SEDIMENT. SPARE BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE FILLED. BAGS SHALL BE PLACED ON STRAPS TO FACILITATE REMOVAL UNLESS BAGS COME WITH LIFTING STRAPS ALREADY ATTACHED.

BAGS SHALL BE LOCATED IN A WELL-VEGETATED (GRASSY) AREA, AND DISCHARGE INTO STABLE, EROSION RESISTANT AREAS. WHERE THIS IS NOT POSSIBLE, GEOTEXTILE UNDERLAYMENT AND FLOW PATH SHALL BE PROVIDED. BAGS MAY BE PLACED ON FILTER STONE TO INCREASE DISCHARGE CAPACITY. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5% FOR SLOPES EXCEEDING 5%. CLEAN ROCK OR OTHER NON-ERODIBLE AND NON-POLLUTING MATERIAL MAY BE PLACED UNDER THE BAG TO REDUCE SLOPE STEEPNESS.

NO DOWNSLOPE SEDIMENT BARRIER IS REQUIRED FOR MOST INSTALLATIONS. COMPOST BERM OR COMPOST FILTER SOCK SHALL BE INSTALLED BELOW BAGS LOCATED IN HQ OR EV WATERSHEDS, WITHIN 50 FEET OF ANY RECEIVING SURFACE WATER OR WHERE GRASSY AREA IS NOT AVAILABLE.

THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED. A PIECE OF PVC PIPE IS RECOMMENDED FOR THIS PURPOSE.

THE PUMPING RATE SHALL BE NO GREATER THAN 750 GPM OR 1/2 THE MAXIMUM SPECIFIED BY THE MANUFACTURER, WHICHEVER IS LESS. PUMP INTAKES SHALL BE FLOATING AND SCREENED.

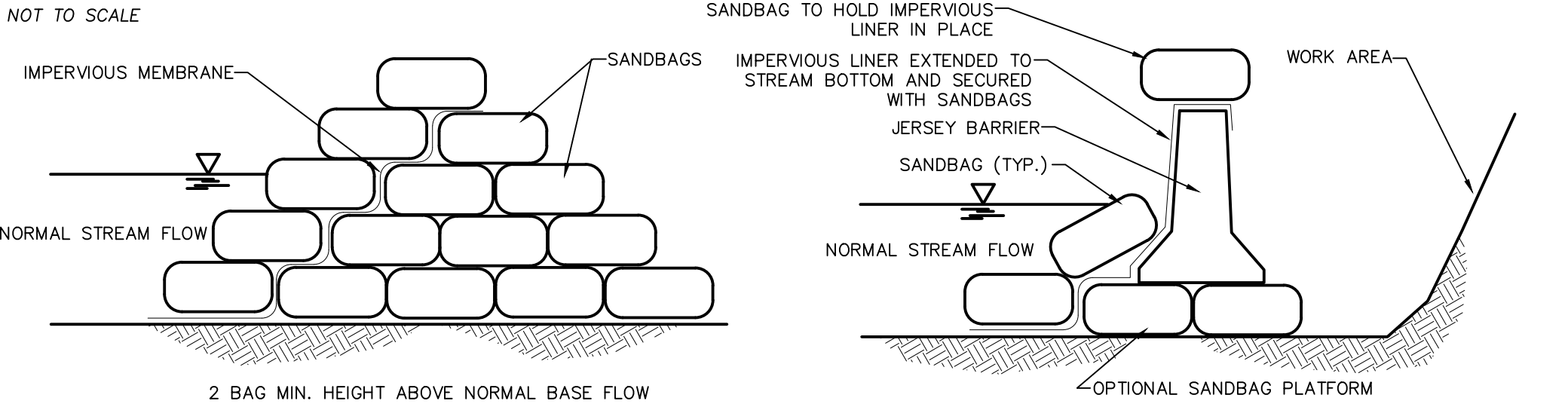
FILTER BAGS SHALL BE INSPECTED DAILY. IF ANY PROBLEM IS DETECTED, PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM IS CORRECTED.

STANDARD CONSTRUCTION DETAIL #3-16
PUMPED WATER FILTER BAG

NOT TO SCALE

SEQUENCE FOR WORKING WITHIN THE STREAM CHANNEL:

1. INSTALL SANDBAG DAM AT THE UPSTREAM END OF THE WORKZONE.
2. PUMP WATER AROUND THE PROPOSED WORKZONE. THE DISCHARGE SHALL BE LOCATED IN A STABLE AREA OF THE STREAMBED AND AN ENERGY DISSIPATOR MUST BE INSTALLED.
3. INSTALL THE DOWNSTREAM SANDBAG DAM AS NEEDED TO MINIMIZE BACK FLOW INTO THE WORKZONE.
4. DEWATER THE WORKZONE AS NEEDED WITH A PUMPED WATER FILTER BAG PER DETAIL.
5. COMPLETE WORK FROM THE TOP OF BANK WHEREVER POSSIBLE. WHERE IT IS NOT POSSIBLE TO WORK FROM THE TOP OF BANK, A TEMPORARY CROSSING OR CAUSEWAY MAY BE USED TO PROVIDE A WORKING PAD FOR ANY EQUIPMENT IN THE STREAM CHANNEL.
6. ALL EXCAVATED CHANNEL MATERIALS SHALL BE PLACED OUTSIDE OF THE FLOODWAY/FLOODPLAIN OR ANY WETLAND AREAS AND IMMEDIATELY REMOVED TO A DISPOSAL SITE HAVING AN E&S PLAN.
7. AT THE END OF EACH WORKING DAY, THE CHANNEL, STREAMBANKS, AND SURROUNDING AREAS WILL BE STABILIZED AND THE PUMPS WILL BE TURNED OFF. ANY DEFICIENCIES OBSERVED IN THE FUNCTION OF THE INSTALLED STRUCTURES SHALL BE REMEDIED.
8. UPON COMPLETION, ALL SANBAG DAMS, CROSSINGS, CAUSEWAYS, AND CHANNEL ENTRANCES SHALL BE REMOVED/RESTORED TO PRE-CONSTRUCTION CONDITIONS OR THE TYPICAL BANKFULL STREAM CHANNEL SIZING DETAIL (IF PREVIOUSLY UNSTABLE).

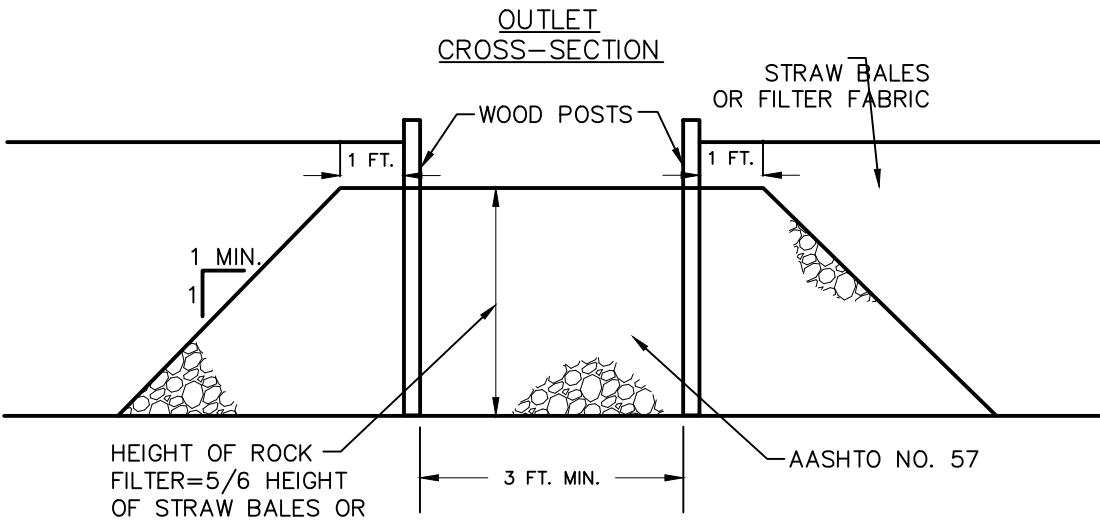
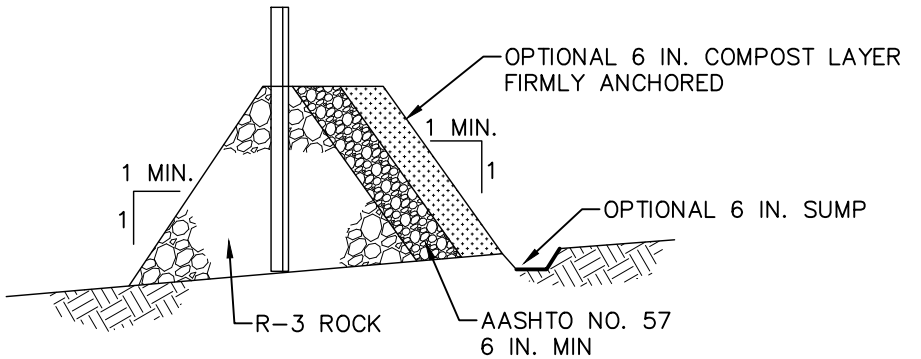


STACKED SANDBAGS OPTION

JERSEY BARRIER OPTION

STANDARD CONSTRUCTION DETAIL #3-15
SANDBAG DIVERSION DAM OR COFFERDAM

NOT TO SCALE



UP-SLOPE FACE

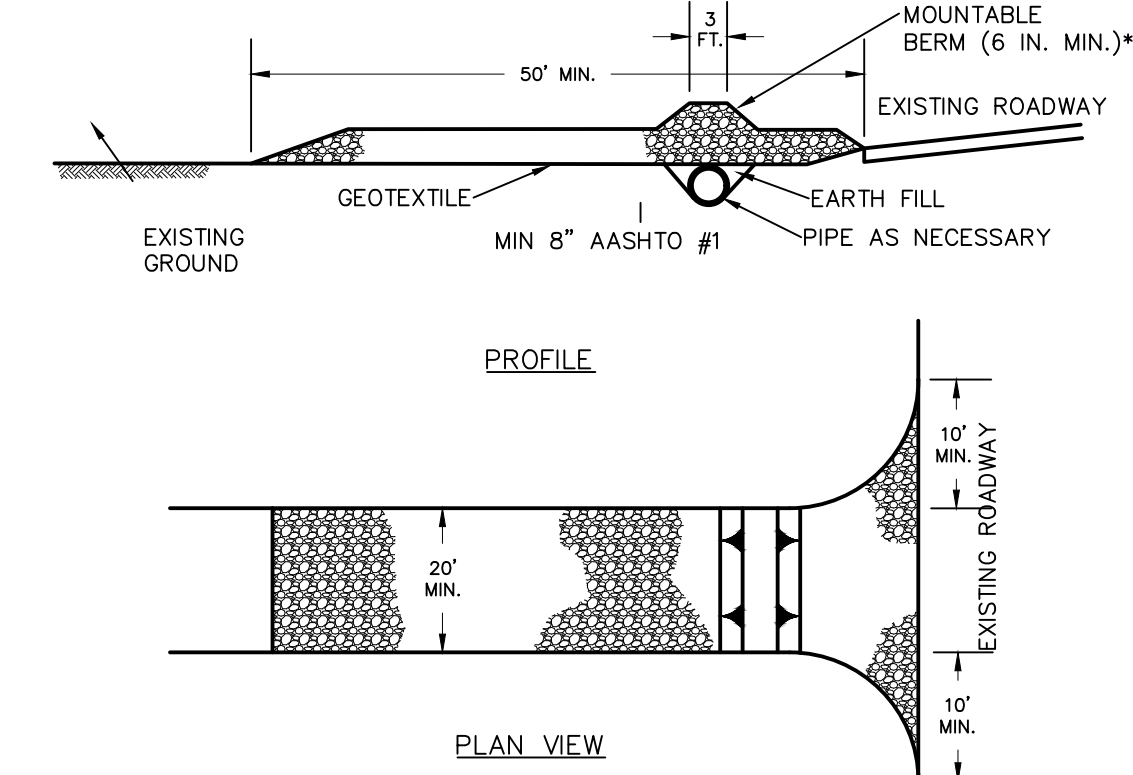
NOTES:

A ROCK FILTER OUTLET SHALL BE INSTALLED WHERE FAILURE OF A SILT FENCE OR STRAW BALE BARRIER HAS OCCURRED DUE TO CONCENTRATED FLOW. ANCHORED COMPOST LAYER SHALL BE USED ON UPSLOPE FACE IN HQ AND EV WATERSHEDS.

SEDIMENT SHALL BE REMOVED WHEN ACCUMULATIONS REACH 1/3 THE HEIGHT OF THE OUTLET.

STANDARD CONSTRUCTION DETAIL #4-6
ROCK FILTER OUTLET

NOT TO SCALE



PLAN VIEW

* MOUNTABLE BERM USED TO PROVIDE PROPER COVER FOR PIPE

NOTES:

REMOVE TOPSOIL PRIOR TO INSTALLATION OF ROCK CONSTRUCTION ENTRANCE. EXTEND ROCK OVER FULL WIDTH OF ENTRANCE.

RUNOFF SHALL BE DIVERTED FROM ROADWAY TO A SUITABLE SEDIMENT REMOVAL BMP PRIOR TO ENTERING ROCK CONSTRUCTION ENTRANCE.

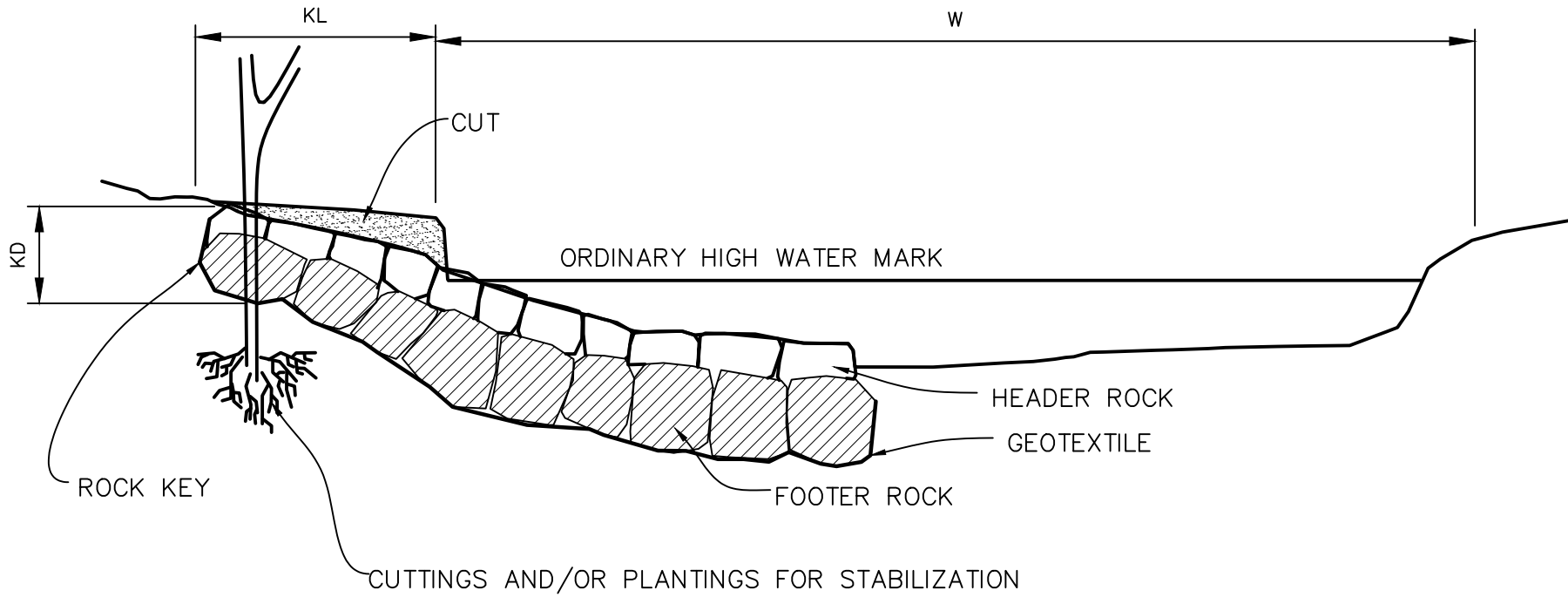
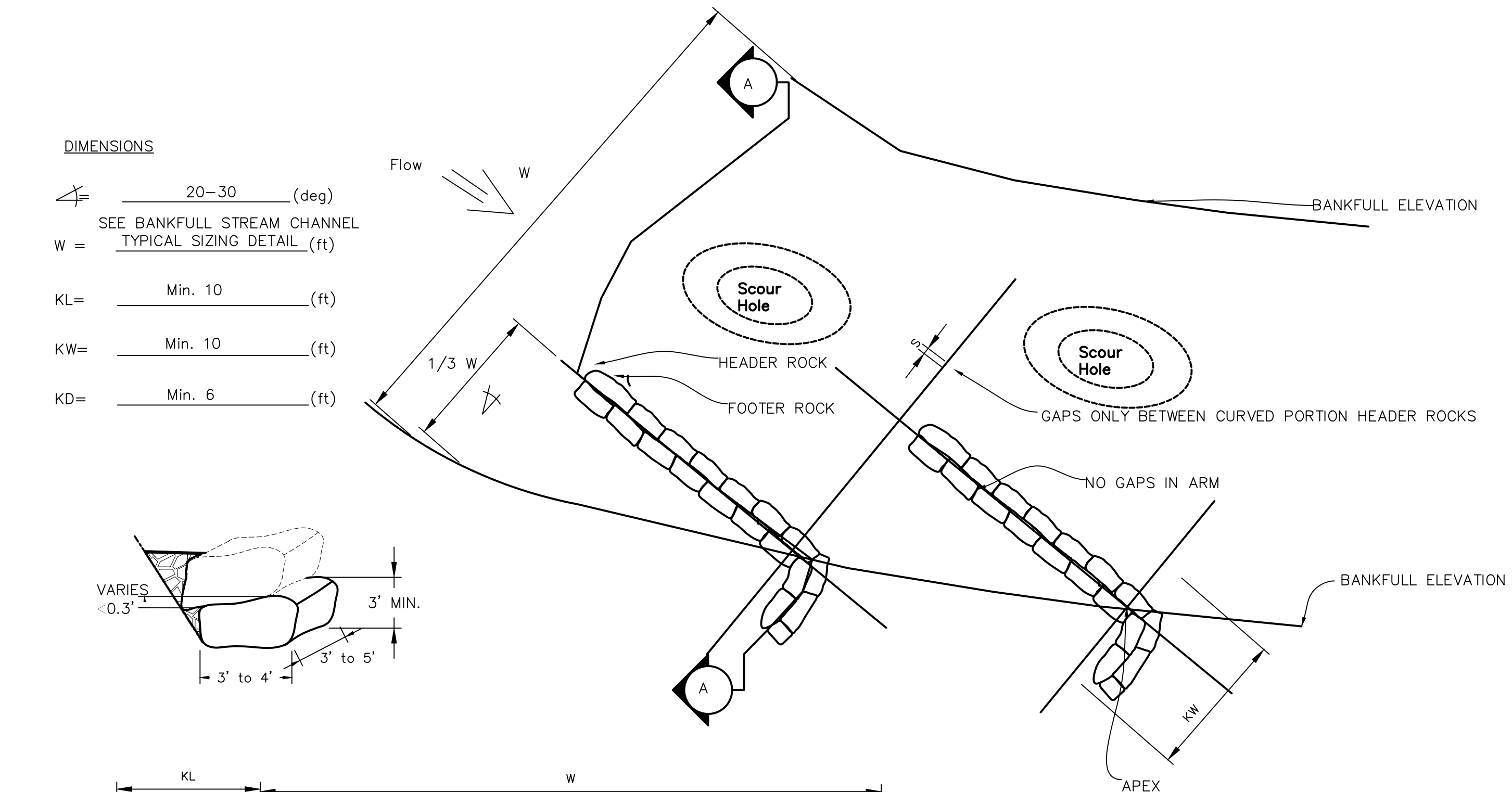
MOUNTABLE BERM SHALL BE INSTALLED WHEREVER OPTIONAL CULVERT PIPE IS USED AND PROPER PIPE COVER AS SPECIFIED BY MANUFACTURER IS NOT OTHERWISE PROVIDED. PIPE SHALL BE SIZED APPROPRIATELY FOR SIZE OF DITCH BEING CROSSED.

MAINTENANCE: ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE SHALL BE MAINTAINED ON SITE FOR THIS PURPOSE. ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE IMMEDIATELY. IF EXCESSIVE AMOUNTS OF SEDIMENT ARE BEING DEPOSITED ON ROADWAY, EXTEND LENGTH OF ROCK CONSTRUCTION ENTRANCE BY 50 FOOT INCREMENTS UNTIL CONDITION IS ALLEVIATED OR INSTALL WASH RACK, WASHING THE ROADWAY OR SWEEPING THE DEPOSITS INTO ROADWAY DITCHES, SEWERS, CULVERTS, OR OTHER DRAINAGE COURSES IS NOT ACCEPTABLE.

STANDARD CONSTRUCTION DETAIL #3-1
ROCK CONSTRUCTION ENTRANCE

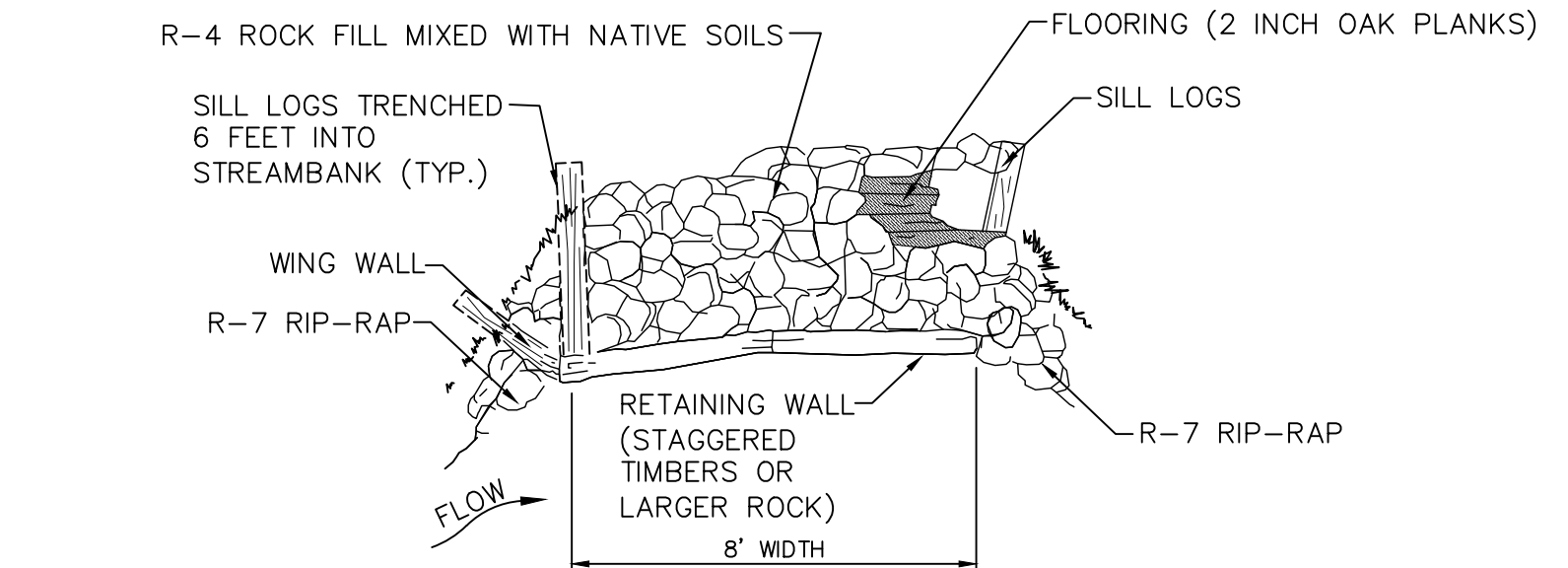
NOT TO SCALE

REVISIONS		RADLEY RUN STREAM AND FLOODPLAIN RESTORATION SITE EROSION AND SEDIMENT CONTROL DETAILS	
		CLAUSER ENVIRONMENTAL, LLC	
		1915 LEIBY LANE, KUTZTOWN, PA 19530	
		(570) 294-0669 www.clouserenvironmental.com	
		DRAWN 4/25/25 ASC CHECK 4/25/25 KSC	
		© 2025 CLAUSER ENVIRONMENTAL, LLC SHEET T1 of 14	

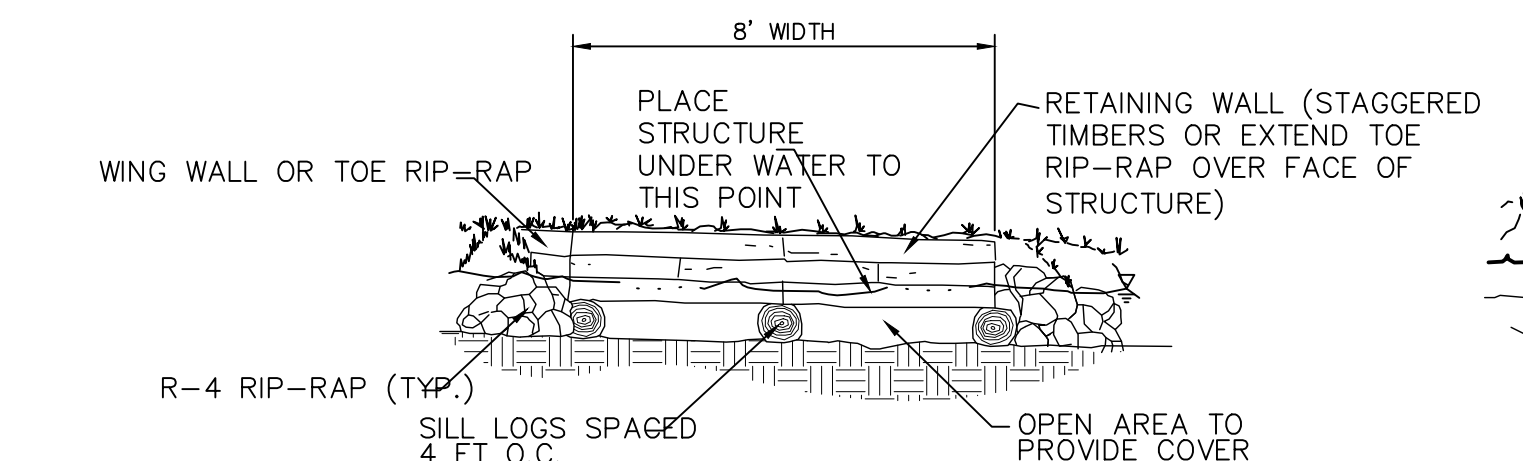


SECTION A
ROCK VANE DETAIL
NOT TO SCALE

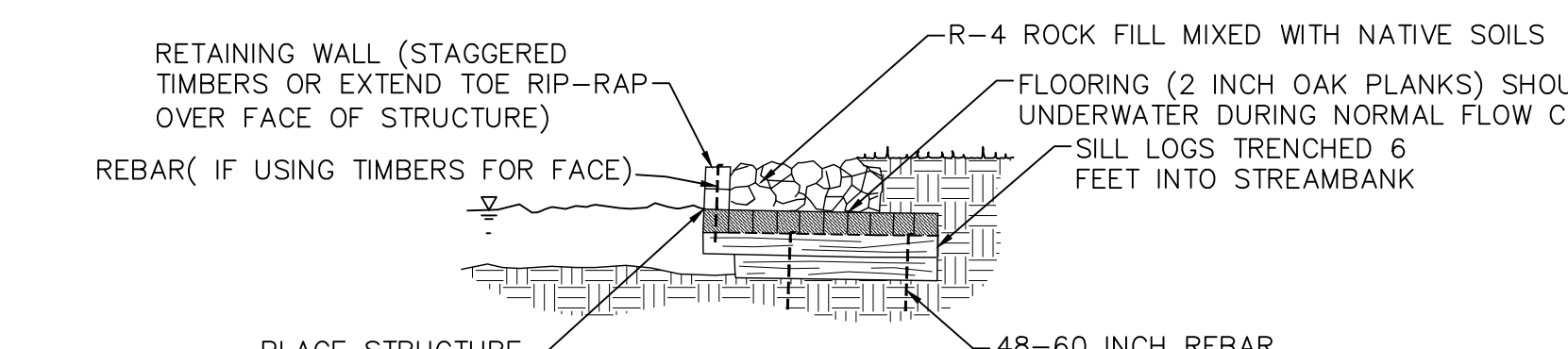
- ROCK VANE NOTES**
1. THE VANE WILL EXTEND INTO THE CHANNEL A TOTAL OF $\frac{1}{3}$ OF THE BANKFULL WIDTH AND WILL BE ANGLED FROM THE STREAMBANK BETWEEN 20° AND 30°.
 2. THE ROCKS SHOULD BE RECTANGULAR OR NEARLY SO AT THE ROCK TO ROCK CONTACT. THE ROCK TO ROCK CONTACT SHOULD BE SOLID. IF ROCKS ARE NOT PERFECTLY FLAT, THE THICKER END SHOULD BE PLACED DOWNSTREAM.
 3. FOOTER ROCKS SHOULD BE ABOUT 50% LARGER THAN OTHER ROCKS AND EXTEND DOWNSTREAM OF HEADER ROCKS.
 4. THE TOP OF THE VANE SHALL HAVE A SLOPE BETWEEN 4° AND 7°.



PLAN VIEW



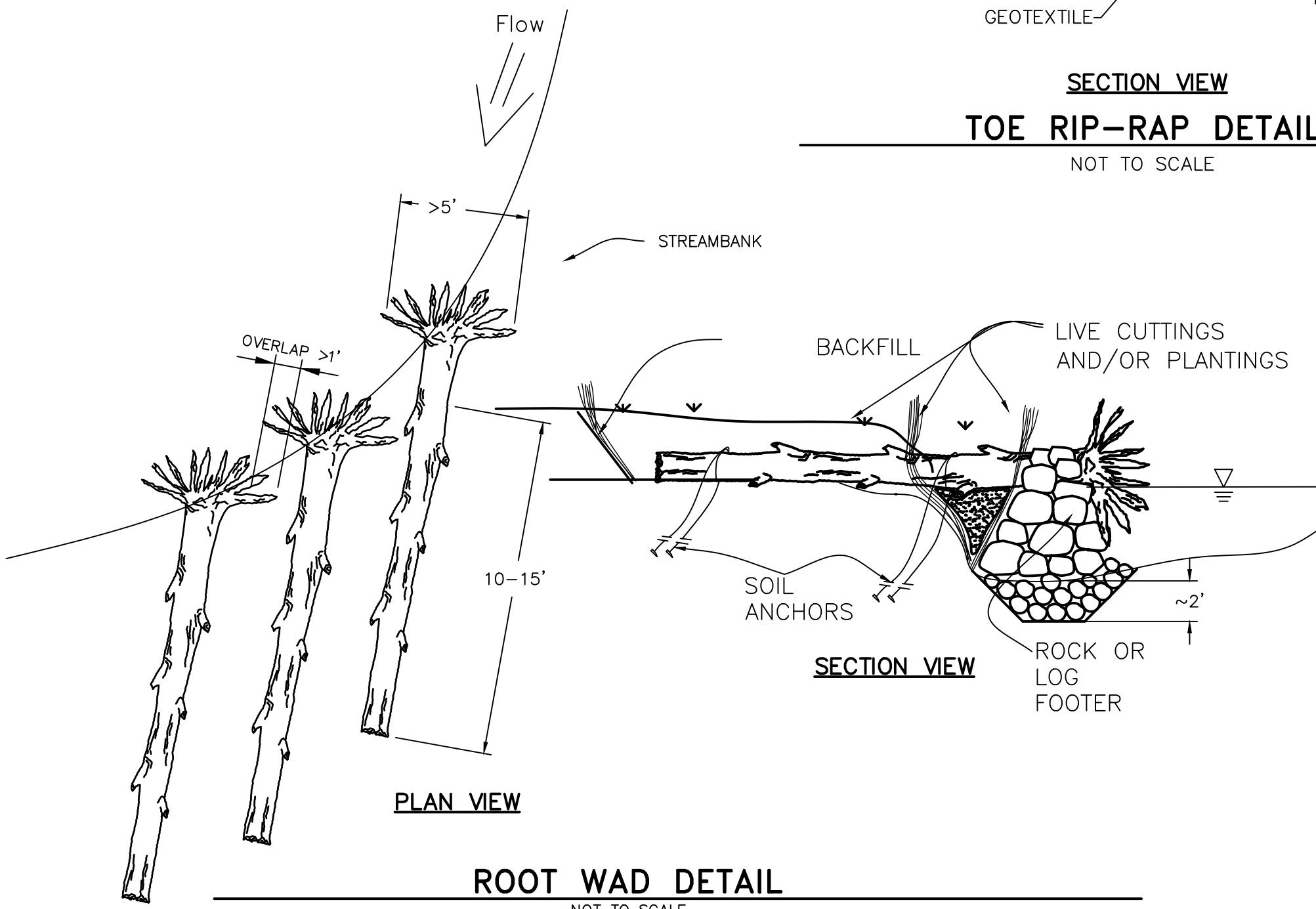
PROFILE VIEW



SECTION VIEW

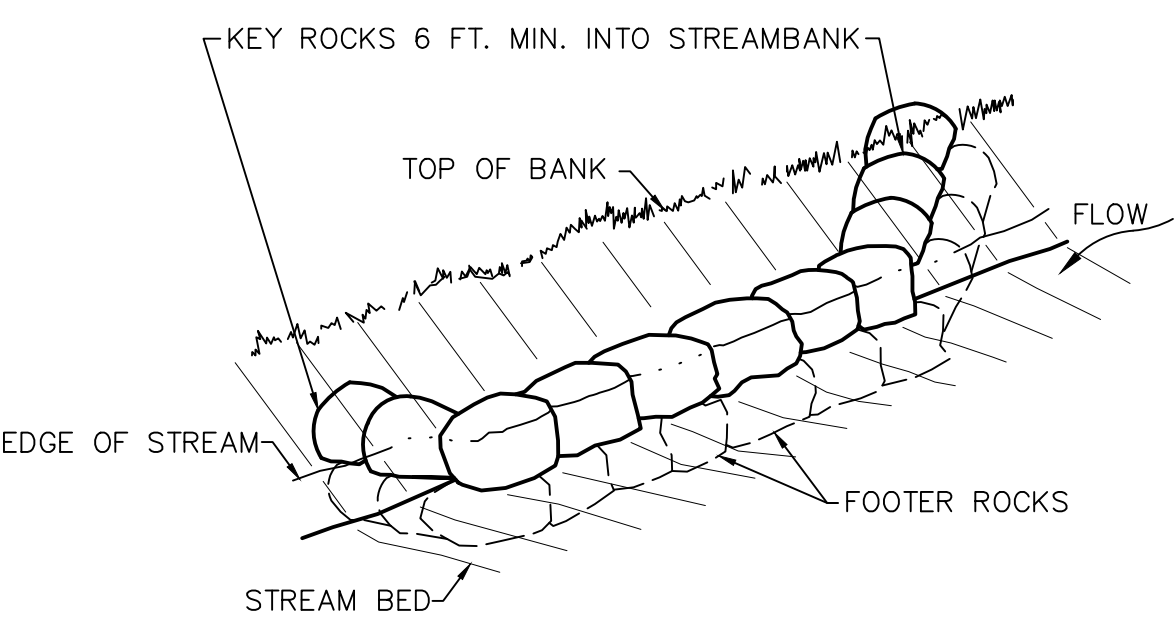
MUD-SILL DETAIL
NOT TO SCALE

ISOMETRIC VIEW

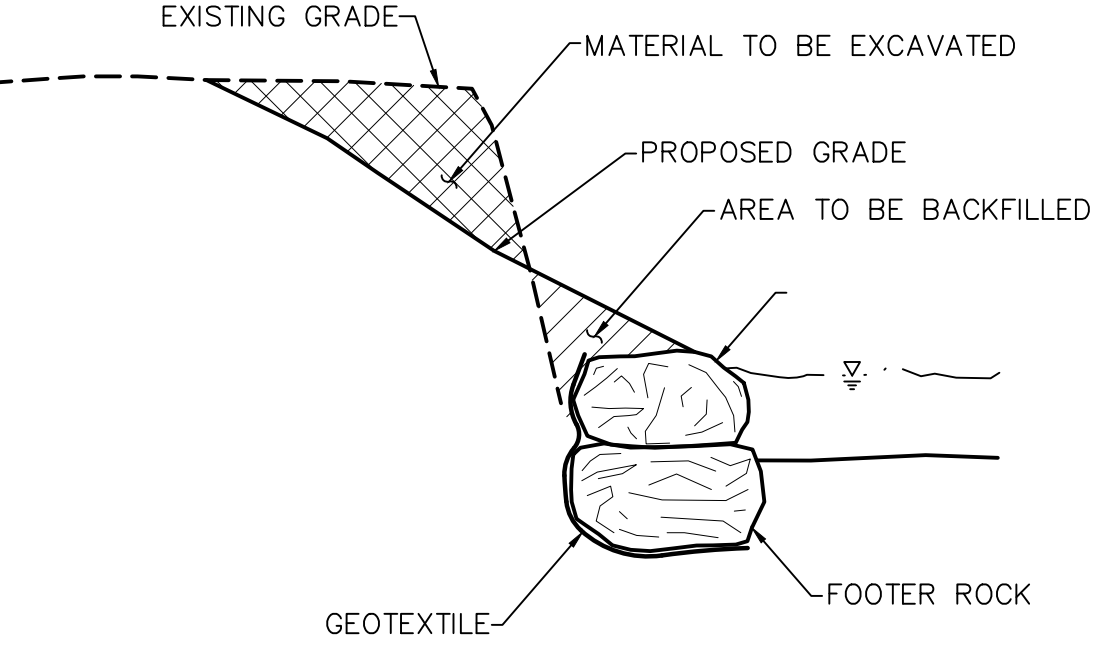


PLAN VIEW

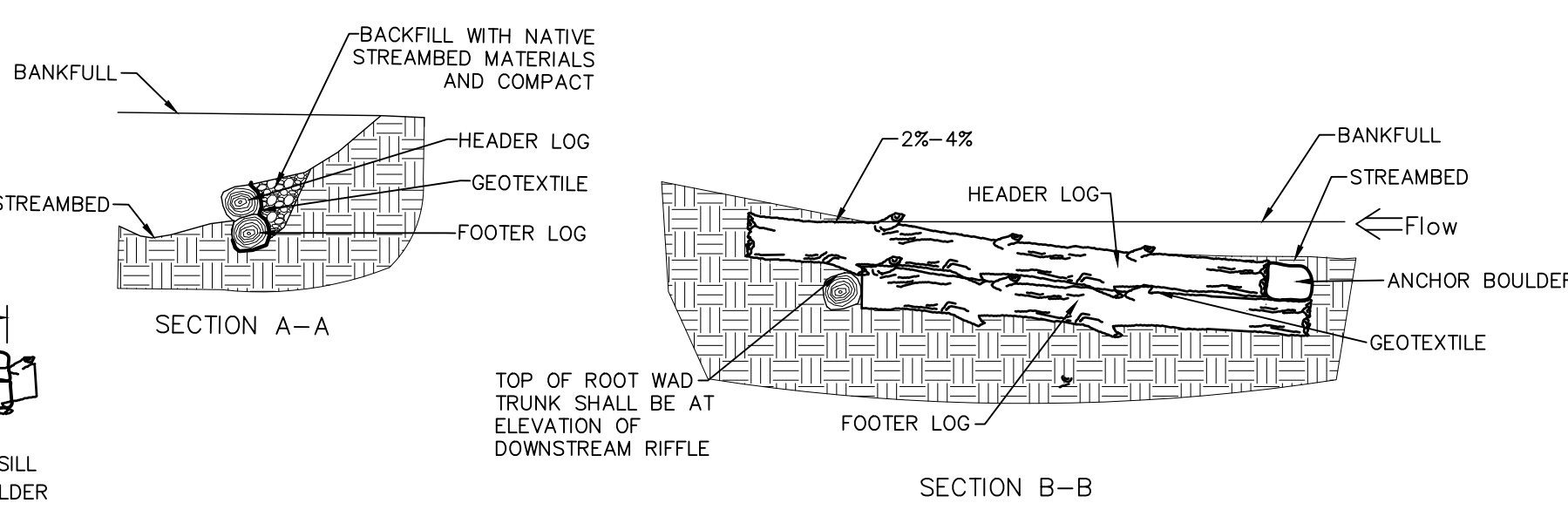
ROOT WAD DETAIL
NOT TO SCALE



ISOMETRIC VIEW

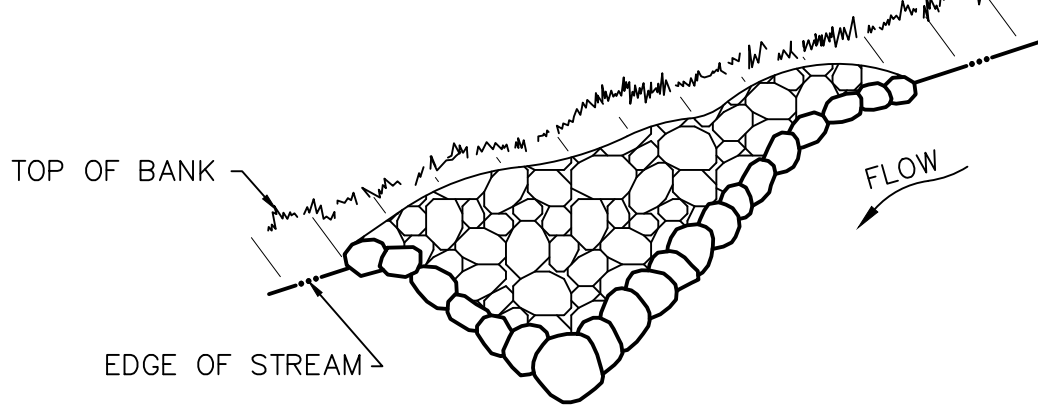


SECTION VIEW
TOE RIP-RAP DETAIL
NOT TO SCALE

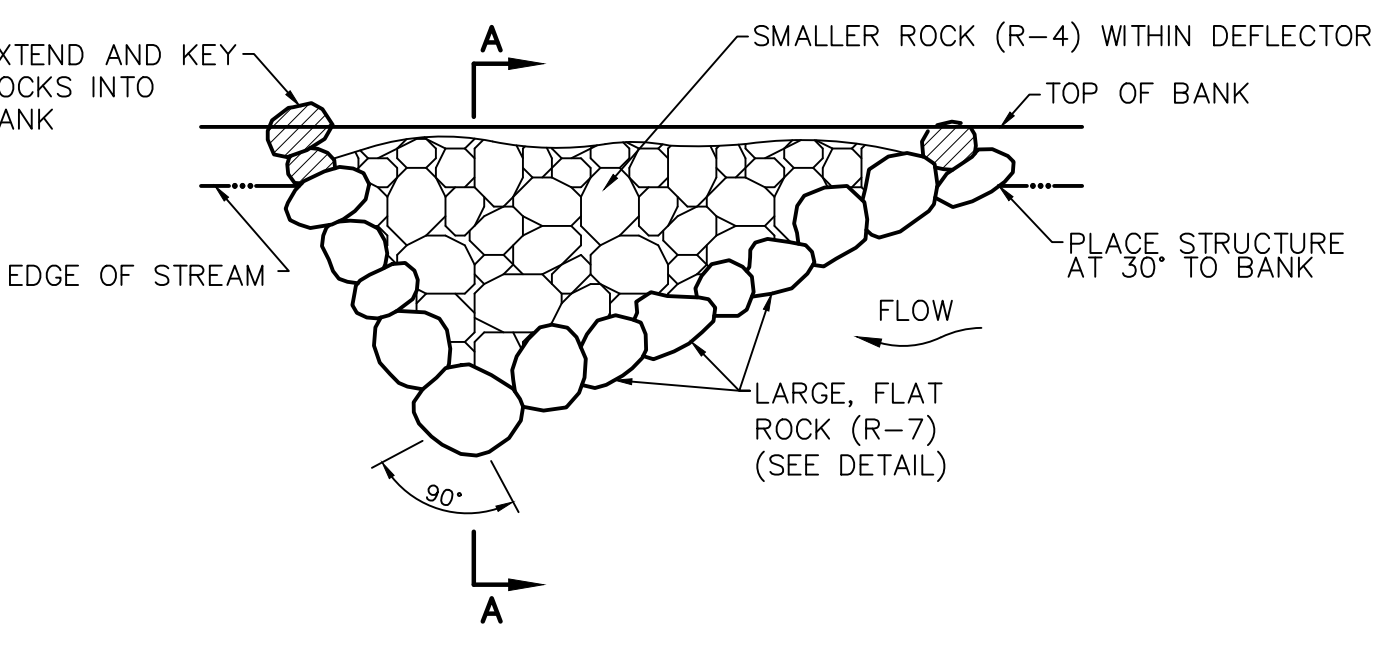


- NOTES:**
1. ROOT WAD LOGS SHOULD BE A MINIMUM OF 24" IN DIAMETER AND 18' LONG. VANE ARM LOGS SHOULD BE A MINIMUM OF 18" IN DIAMETER AND 20' LONG. ALL LOGS SHOULD BE RELATIVELY STRAIGHT AND OF A HARDWOOD OR HEMLOCK SPECIES.
 2. THE TOP VANE LOGS SHOULD BE PINNED EVERY 3'. THE VANE LOGS SHOULD BE OFFSET SO THE TOP VANE LOG EXTENDS OVER THE ROOT WAD LOG. THE BOTTOM LOG SHOULD EXTEND INTO THE STREAMBED SO AN ANCHOR BOULDER MAY BE SET ON TOP OF IT AT THE END OF THE TOP LOG.
 3. THE LOG VANE SHOULD BE BURIED INTO THE BANK AND INTO THE STREAMBED A MINIMUM OF 6'. THE SURFACE LOG SHALL BE PLACED ON THE FOOTER LOG AND A ROOT WAD AT ITS INSERTION INTO THE BANK. ROOT WAD SHALL BE TIED TO THE SURFACE LOG AND FOOTER LOG WITH CORROSION RESISTANT STEEL CABLE AND ANCHORED WITH BOULDERS.
 4. NAIL FILTER FABRIC ON TO THE UPSTREAM SIDE OF LOGS USING 3" 10d GALVANIZED COMMON NAIL ON 2' SPACING ALONG THE LOG. FOLD OVER GEOTEXTILE ALONG NAIL LINE.
 5. PIN THE LOG VANE WITH $\frac{3}{4}$ " CORROSION RESISTANT, THREADED, STEEL ROD WITH ROUND WASHERS (2" MIN OD), LOCK WASHERS, AND NUTS THROUGH PRE-DRILLED HOLES (3" ON CENTER). HOLES ARE ANGLED OFF OF THE VERTICAL, ALTERNATING DIRECTION (UPSTREAM, DOWNSTREAM).
 6. BACKFILL THE UPSTREAM SIDE OF THE VANE AND COMPACT TO FORM A TIGHT FITTING SEAL.
 7. THE SILL TRENCH SHOULD EXTEND ACROSS AND BE KEYED INTO THE SLOPE ON THE BANK SIDE OF THE BANKFULL BENCH (I.E. A MINIMUM OF 10' IN LENGTH AT THE BANK END OF THE LOG). THE SILL TRENCH SHOULD BE A MINIMUM OF 3' DEEP AND USE STONES THAT ARE $\geq 2'$ IN DIAMETER. GEOTEXTILE SHOULD WRAP THE BOTTOM AND UPSTREAM SIDE OF THE SILL STONES.
 8. FOR LOG VANES THAT DO NOT INCLUDE ROOT WADS ON THE SITE PLAN, EXTEND FOOTER LOG AS FAR AS HEADER LOG INTO BANK AND STREAMBED. OTHERWISE, CONSTRUCT PER THIS DETAIL.

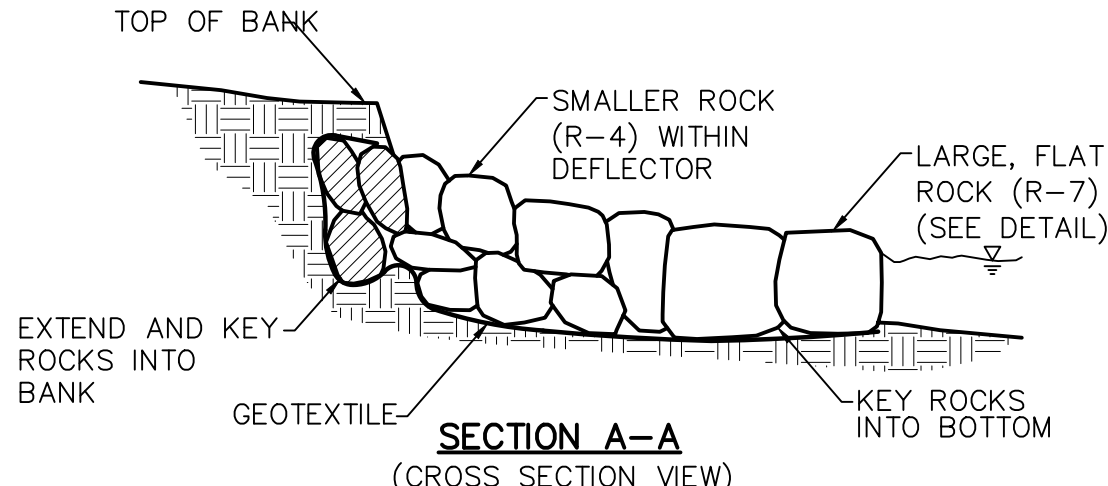
LOG VANE ROOT WAD COMBO DETAIL
NOT TO SCALE



ISOMETRIC VIEW



PLAN VIEW

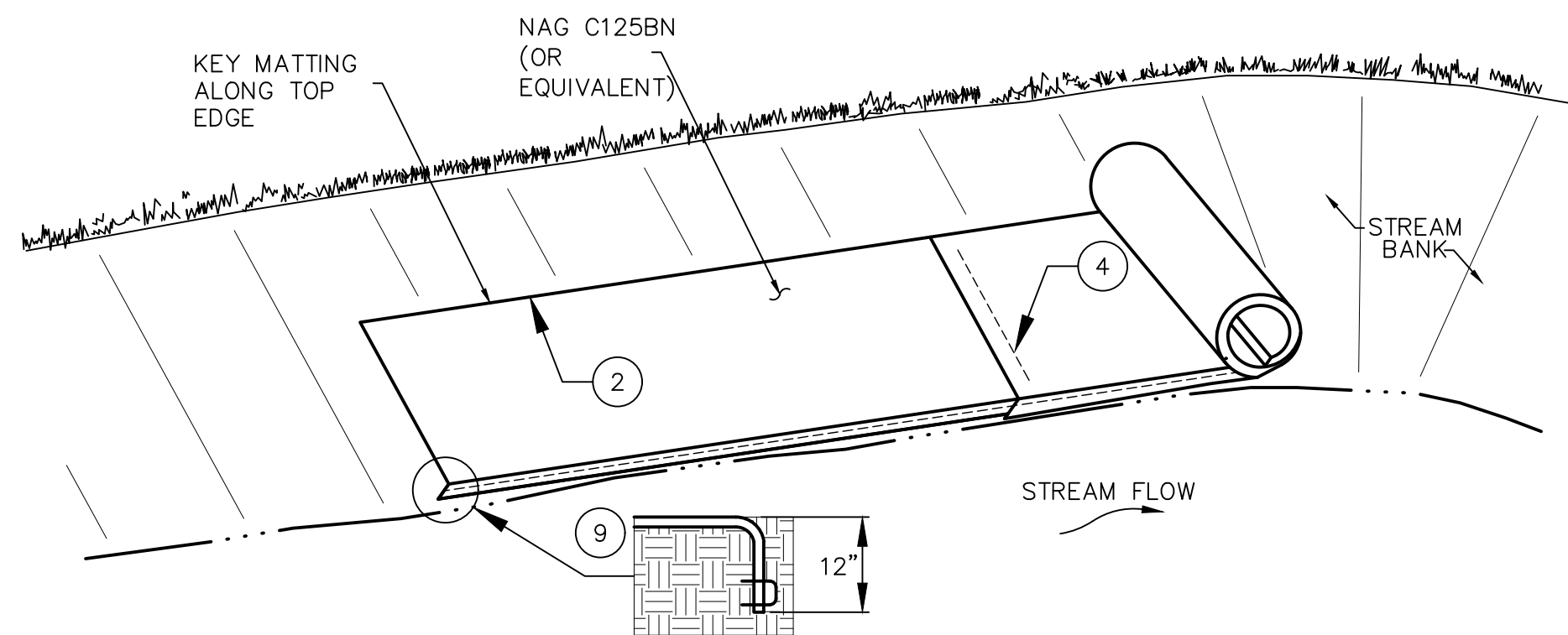


SECTION A-A
(CROSS SECTION VIEW)

- NOTES:**
- DEFLECTORS SHOULD BE KEPT LOW, THE TIP EXTENDING NOT MORE THAN 6" ABOVE NORMAL FLOW AT THE TIP AND TAPERING UPWARD AT THE BANK AND INTO THE BANK TO PREVENT THE POSSIBILITY OF WATER WASHING BEHIND THE STRUCTURE.
 - THE OUTLINE OF THE DEFLECTOR SHOULD BE ROCKS LARGE ENOUGH THAT HIGH WATER IS NOT APT TO MOVE THEM. THE CENTER CAN BE SMALLER ROCKS BUT THEY SHOULD BE PLACED IN SUCH A MANNER AS TO NOT BE WASHED AWAY EASILY.

ROCK DEFLECTOR DETAIL
NOT TO SCALE

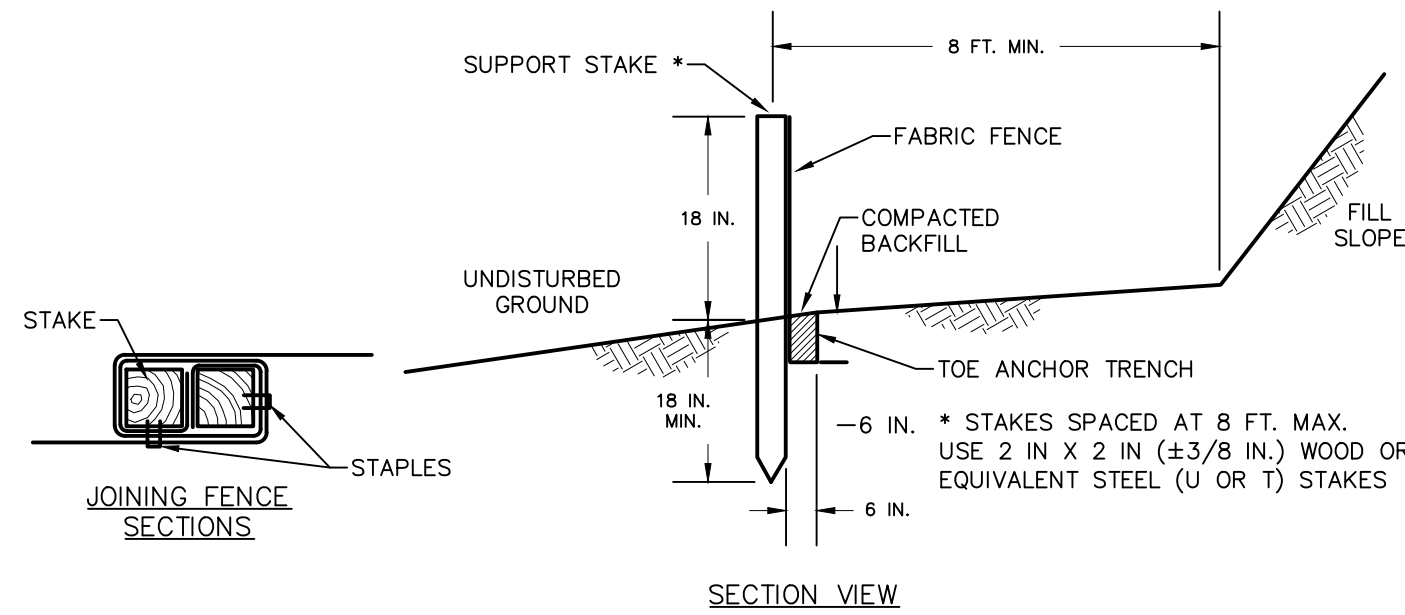
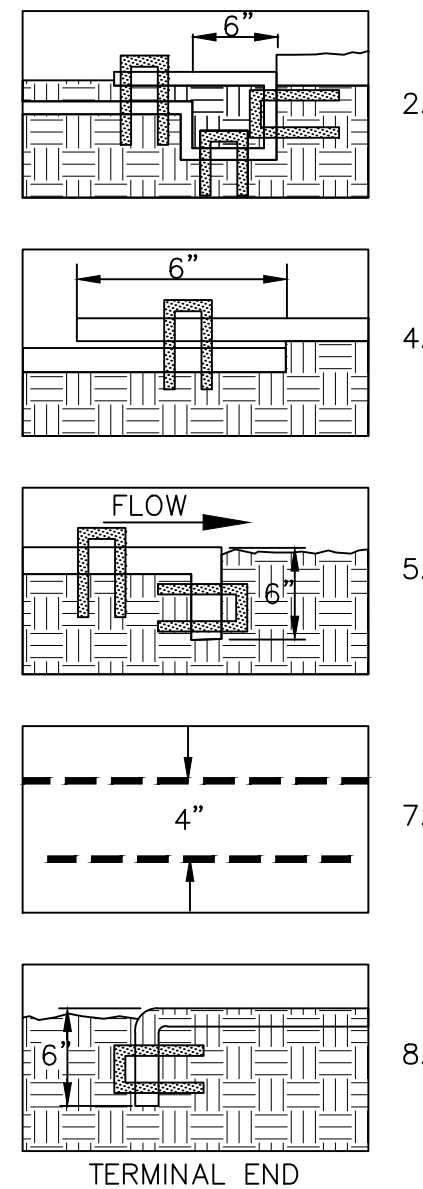
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		CLAUSER ENVIRONMENTAL, LLC	
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- NOTE: THE USE OF EROSION CONTROL MATTING IS REQUIRED ALONG RESTORED STREAM BANKS AND ON ALL SLOPES GREATER THAN 3:1 OR WHERE SHOWN ON PLAN
1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING APPLICATION OF LIME, FERTILIZER, AND SEED.
 2. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE BLANKET IN A 6" DEEP x 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
 3. ROLL CENTER BLANKET IN DIRECTION OF WATER FLOW HORIZONTALLY ACROSS SHORELINE SLOPE.
 4. PLACE BLANKET END OVER END (SHINGLE STYLE) WITH A 6" OVERLAP. USE A DOUBLE ROW OF STAGGERED STAPLES 4" APART TO SECURE BLANKETS.
 5. FULL LENGTH EDGE OF BLANKETS AT TOP OF SIDE SLOPES MUST BE ANCHORED IN 6" DEEP x 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
 6. BLANKETS ON SIDE SLOPES MUST BE OVERLAPPED 4" OVER THE CENTER BLANKET AND STAPLED
 7. IN HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT INTERVALS. USE A ROW OF STAPLES 4" APART OVER ENTIRE WIDTH OF CHANNEL. PLACE A SECOND ROW 4" BELOW THE FIRST ROW IN A STAGGERED PATTERN.
 8. THE TERMINAL END OF THE BLANKETS MUST BE ANCHORED IN A 6" DEEP x 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
 9. THE EDGE OF ALL HORIZONTAL BLANKETS AT OR BELOW NORMAL WATER LEVEL MUST BE ANCHORED BY PLACING THE BLANKET IN A 6" DEEP x 6" WIDE ANCHOR TRENCH. ANCHOR BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 4" APART IN TRENCH. BACKFILL AND COMPACT TRENCH. AN ACCEPTABLE ALTERNATE IS TO ANCHOR THE EDGE WITH LIVE STAKES CUT FROM NATIVE VEGETATION AT 3 FOOT INTERVALS.

EROSION CONTROL MATTING DETAIL
NOT TO SCALE

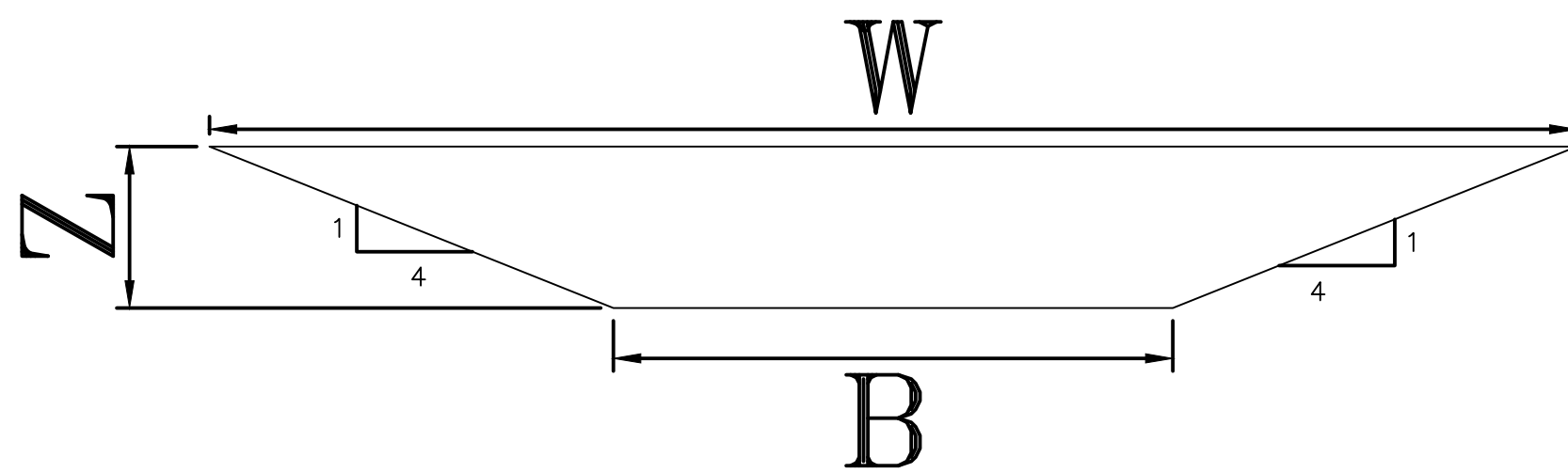
STAPLING SPECIFICATIONS:



- NOTES:
- FABRIC SHALL HAVE THE MINIMUM PROPERTIES AS SHOWN IN TABLE 4.3 OF THE PA DEP EROSION CONTROL MANUAL.
- FABRIC WIDTH SHALL BE 30 IN. MINIMUM. STAKES SHALL BE HARDWOOD OR EQUIVALENT STEEL (U OR T) STAKES.
- SILT FENCE SHALL BE PLACED AT LEVEL EXISTING GRADE. BOTH ENDS OF THE FENCE SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT.
- SEDIMENT SHALL BE REMOVED WHEN ACCUMULATIONS REACH HALF THE ABOVE GROUND HEIGHT OF THE FENCE.
- ANY SECTION OF SILT FENCE WHICH HAS BEEN UNDERMINED OR TOPPED SHALL BE IMMEDIATELY REPLACED WITH A ROCK FILTER OUTLET (STANDARD CONSTRUCTION DETAIL # 4-6).
- FENCE SHALL BE REMOVED AND PROPERLY DISPOSED OF WHEN TRIBUTARY AREA IS PERMANENTLY STABILIZED.

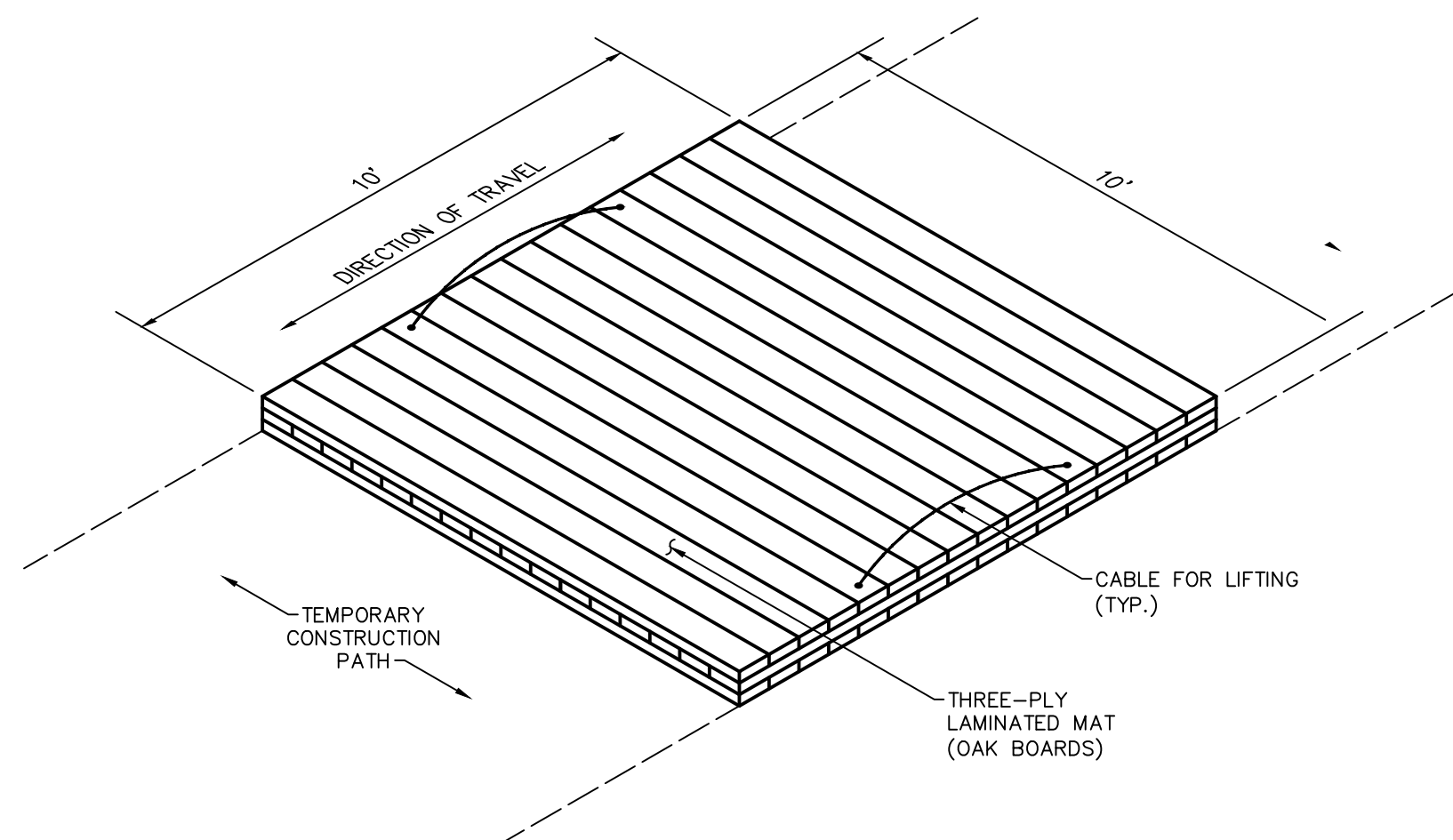
STANDARD CONSTRUCTION DETAIL #4-7
STANDARD SILT FENCE (18" HIGH)

NOT TO SCALE



RADLEY RUN SITE			
LOCATION	W (ft)	Z (ft)	B (ft)
RADLEY RUN	35.6	3.2	10

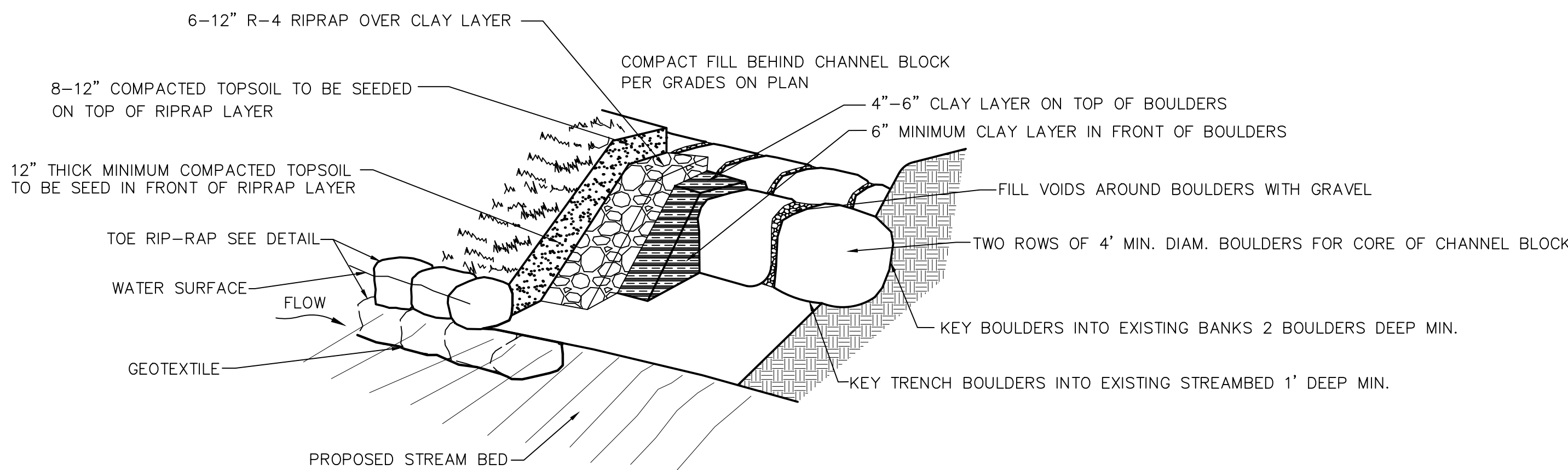
BANKFULL STREAM CHANNEL TYPICAL SIZING DETAIL
NOT TO SCALE



ISOMETRIC VIEW

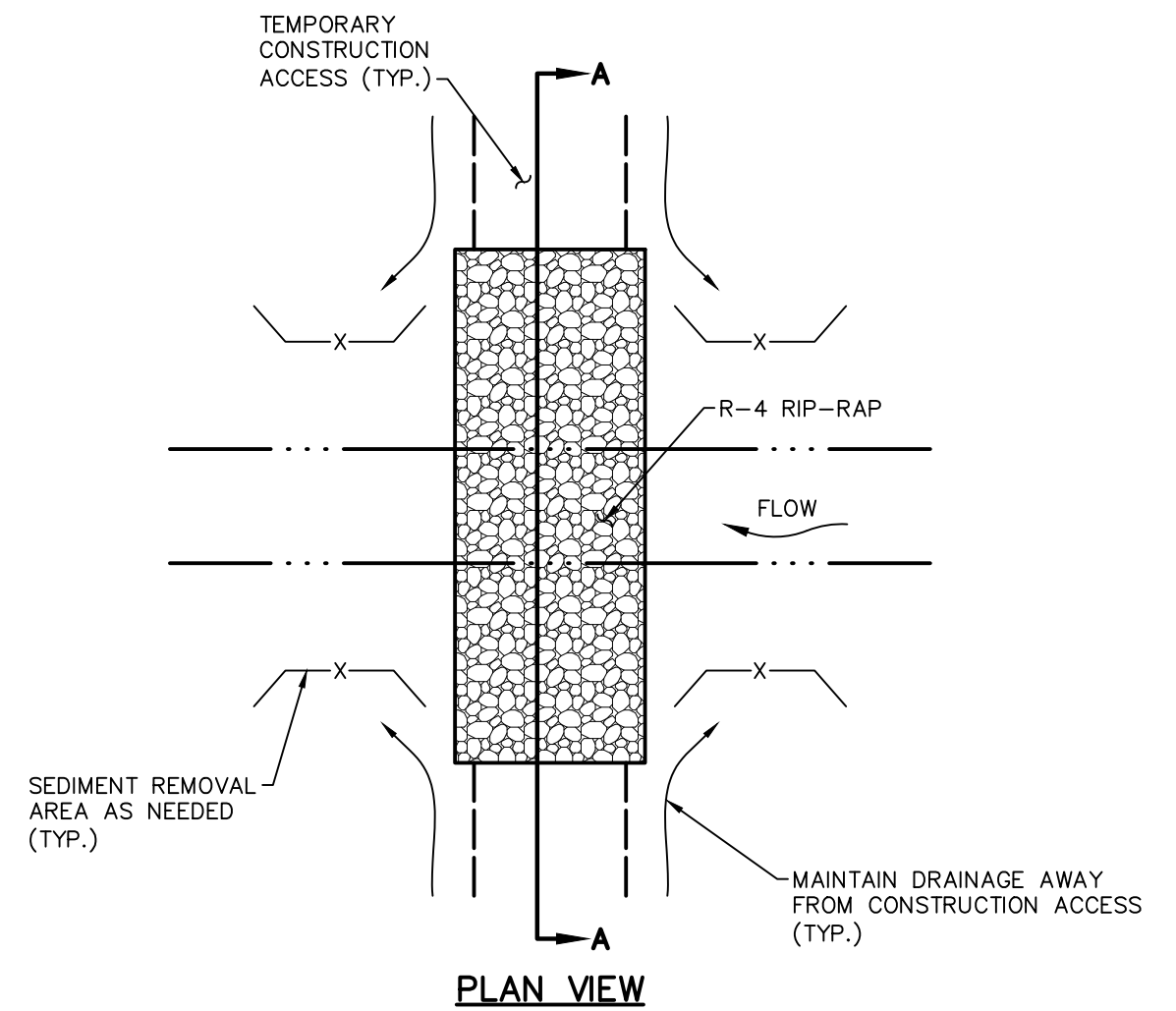
- PROTECTIVE MAT NOTE:
1. USE PROTECTIVE MATS OVER ANY WET AREAS (WHEN NEEDED TO PREVENT RUTTING), DRIVEWAYS WHEN METAL TRACKED VEHICLES ARE CROSSING, UTILITY LINES, OR DRAIN PIPES.

PROTECTIVE MAT DETAIL (AS NEEDED)
NOT TO SCALE



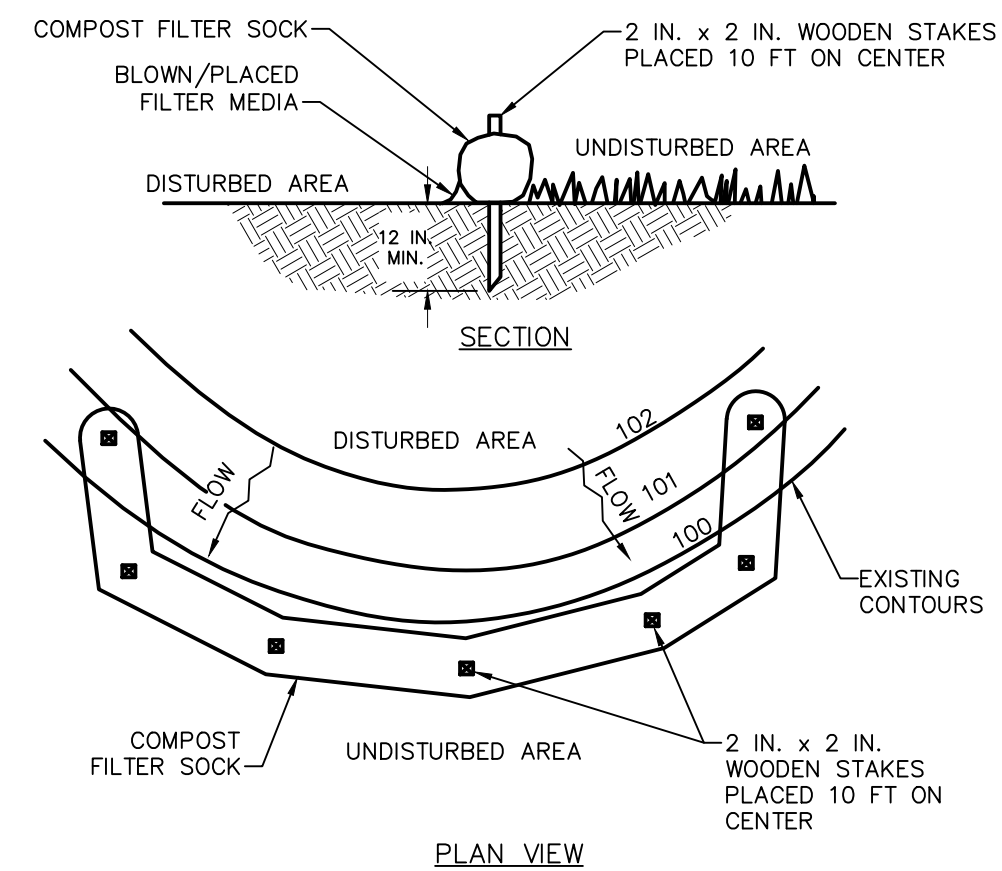
ISOMETRIC VIEW

STREAM CHANNEL BLOCK DETAIL
NOT TO SCALE



SECTION A-A

TEMPORARY CONSTRUCTION FORD CROSSING DETAIL
NOT TO SCALE



- NOTES:
- SOCK FABRIC SHALL MEET STANDARDS OF TABLE 4.1 OF THE PA DEP EROSION CONTROL MANUAL. COMPOST SHALL MEET THE STANDARDS OF TABLE 4.2 OF THE PA DEP EROSION CONTROL MANUAL.
- COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE BARRIER SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN BARRIER ALIGNMENT. MAXIMUM SLOPE LENGTH ABOVE ANY BARRIER SHALL NOT EXCEED THAT SPECIFIED FOR THE SIZE OF THE SOCK AND THE SLOPE OF ITS TRIBUTARY AREA.
- TRAFFIC SHALL NOT BE PERMITTED TO CROSS COMPOST FILTER SOCKS.
- ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/2 THE ABOVE GROUND HEIGHT OF THE BARRIER AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN.
- COMPOST FILTER SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION.
- BIODEGRADABLE COMPOST FILTER SOCKS SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
- UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES SHALL BE REMOVED. THE SOCK MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED. IN THE LATTER CASE, THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT.

STANDARD CONSTRUCTION DETAIL #4-1
COMPOST FILTER SOCK
NOT TO SCALE

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SEEDING SPECIFICATIONS

A. SEEDING FOR RIPARIAN BUFFER AREAS

RIPARIAN BUFFER MIX (ERNMX-178)

% OF MIX	LATIN NAME	COMMON NAME
20	ELYMUS VIRGINICUS	VIRGINIA WILD RYE
18	PANICUM CLANDESTINUM	TIOGA DEER TONGUE
17.9	ANDROPOGON GERARDII	BIG BLUESTEM
17.9	SORGHASTRUM NUTANS	INDIAN GRASS
9	PANICUM VIRGATUM	SWITCH GRASS
3.5	VERBENA HASTATA	BLUE VERVAIN
3	RUDBECKIA HIRTA	BLACK EYED SUSAN
2.4	ASCLEPIAS INCARNATA	SWAMP MILKWEED
2.4	ASTER PILOSUS	HEATH ASTER
2	HELIOPSIS HELIANTHOIDES	OX EYE SUNFLOWER
1.5	ZIZIA AUREA	GOLDEN ALEXANDERS
0.8	EUPATORIUM PERFORIATUM	BONESET
0.8	SOLIDAGO RUGOSA	WRINKLELEAF GOLDENROD
0.5	MONARDA FISTULOSA	WILD BERGAMOT
0.3	EUPATORIUM FISTULOSUM	JOE PYE WEED

1. SEED THIS MIX AT A RATE OF 20 BULK LBS PER ACRE OR $\frac{1}{3}$ TO $\frac{1}{2}$ LB. PER 1,000 SQ. FT.
2. SEED OATS (AVENA SATIVA) AS A COMPANION CROP AND FOR EROSION CONTROL AT 30 LBS PER ACRE.

B. SEEDING FOR ANY DISTURBED LAWN AREAS

COMMERCIAL CONSERVATION MIX (ERNMX-113)

% OF MIX	LATIN NAME	COMMON NAME
25	FESTUCA RUBRA	CREeping RED FESCUE, "PENNLAWN"
25	LOLIUM MULTIFLORUM	ANNUAL RYEGRASS
25	LOLIUM PERENNE	PERENNIAL RYEGRASS, "NOBILITY"
25	LOLIUM PERENNE	PERENNIAL RYEGRASS, "AMAZING"

1. SEED THIS MIX AT A RATE OF 75-150 BULK LBS PER ACRE.

C. SEEDING FOR ANY DISTURBED PASTURE AREAS

MULTI-FUNCTIONAL NATIVE PASTURE MIX (ERNMX-124)

% OF MIX	LATIN NAME	COMMON NAME
38	ANDROPOGON GERARDII	BIG BLUESTEM
18	ELYMUS VIRGINICUS	VIRGINIA WILD RYE
14	PANICUM VIRGATUM	SWITCHGRASS
10	SORGHASTRUM NUTANS	INDIAN GRASS
9.5	PANICUM AMARUM	COASTAL PANICGRASS
3	CHAMAECRISTA FASCICULATA	PARTRIDGE PEA
2.2	HELIOPSIS HELIANTHOIDES	OXEYE SUNFLOWER
1.5	DESMODIUM CANADENSE	SHOWY TICKTREFOIL
1	SILPHIUM PERFORIATUM	CUP PLANT
0.5	ASTER NOVAE-ANGLIAE	NEW ENGLAND ASTER
0.5	DESMODIUM PANICULATUM	PANICLEDLEAF TICKTREFOIL
0.5	MONARDA FISTULOSA	WILD BERGAMOT
0.5	SENNA HEBCARPIS	WILD SENNA
0.5	SENNA MARILANDICA	MARYLAND SENNA
0.3	PHYCANTHEMUM TENUIFOLIUM	NARROWLEAF MOUNTAINMINT

1. SEED THIS MIX AT A RATE OF 10 LBS. PLS PER ACRE.
2. SEED OATS (AVENA SATIVA) AS A COMPANION CROP AND FOR EROSION CONTROL AT 30 LBS PER ACRE.

D. MULCH APPLICATION

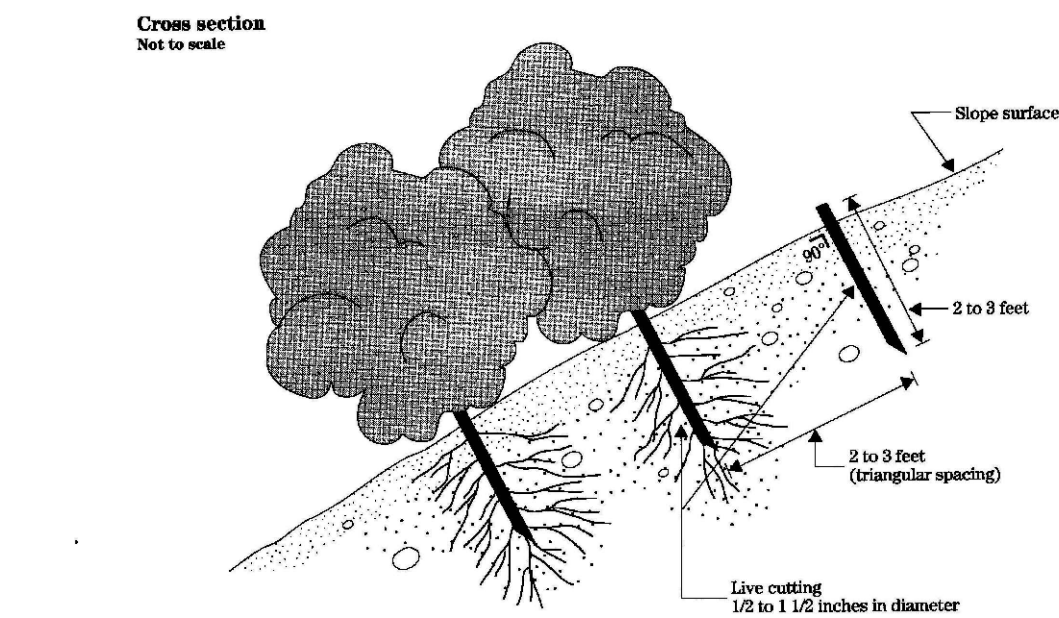
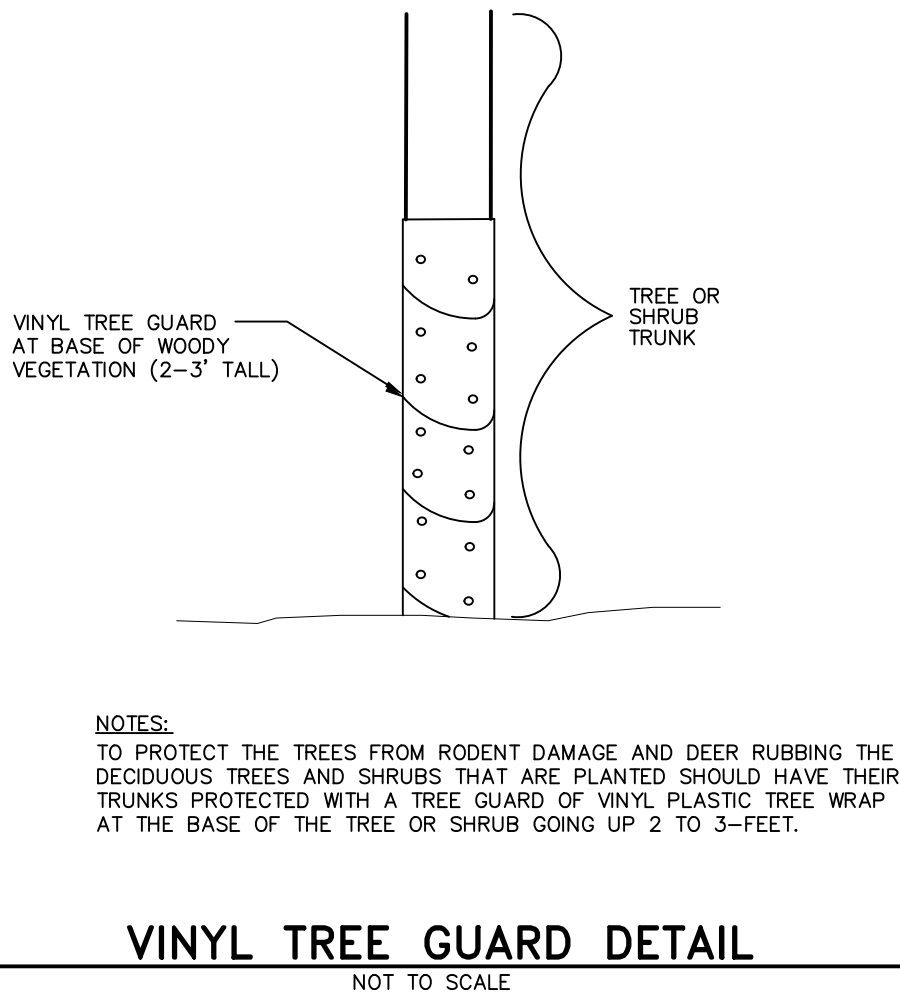
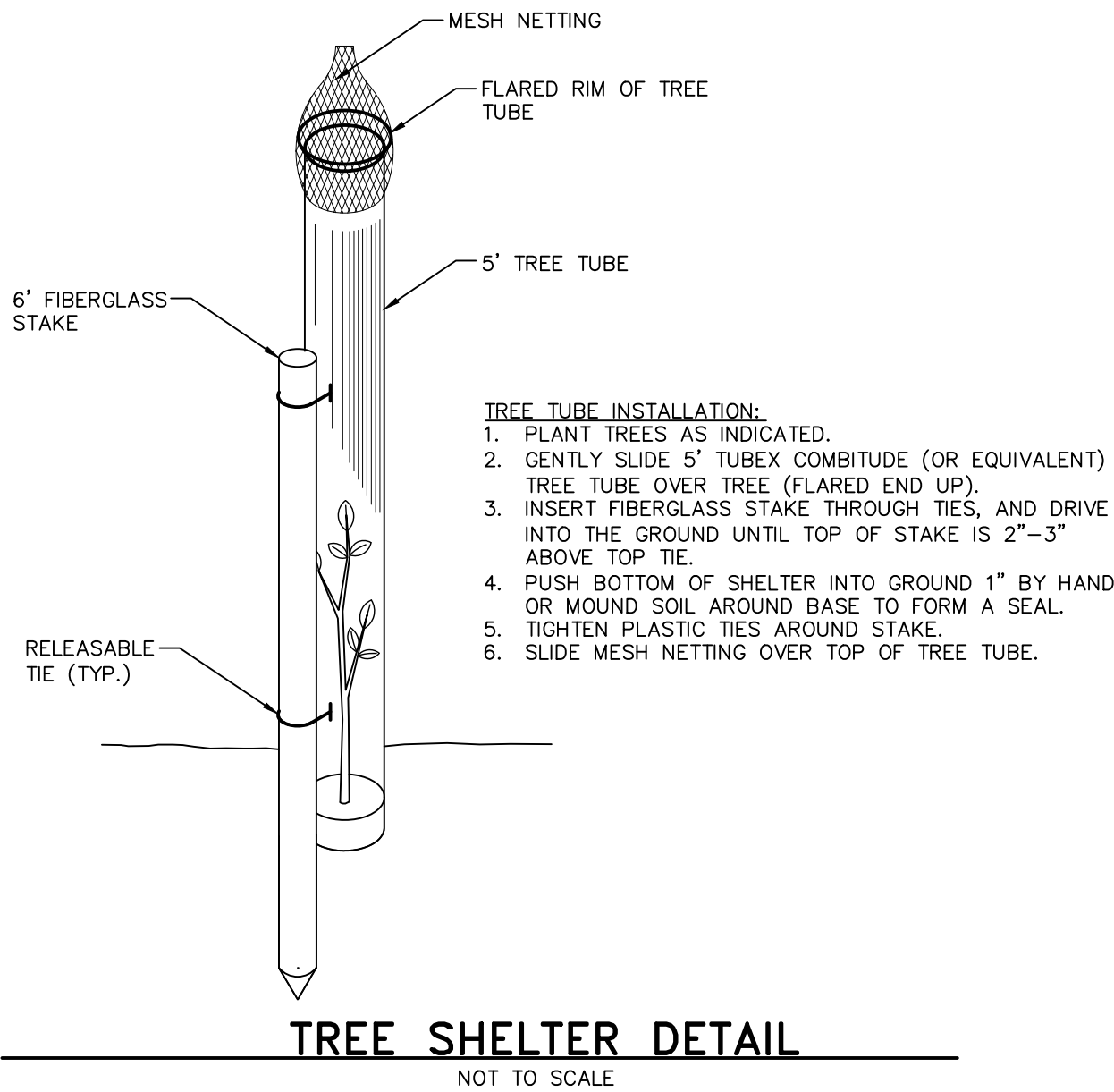
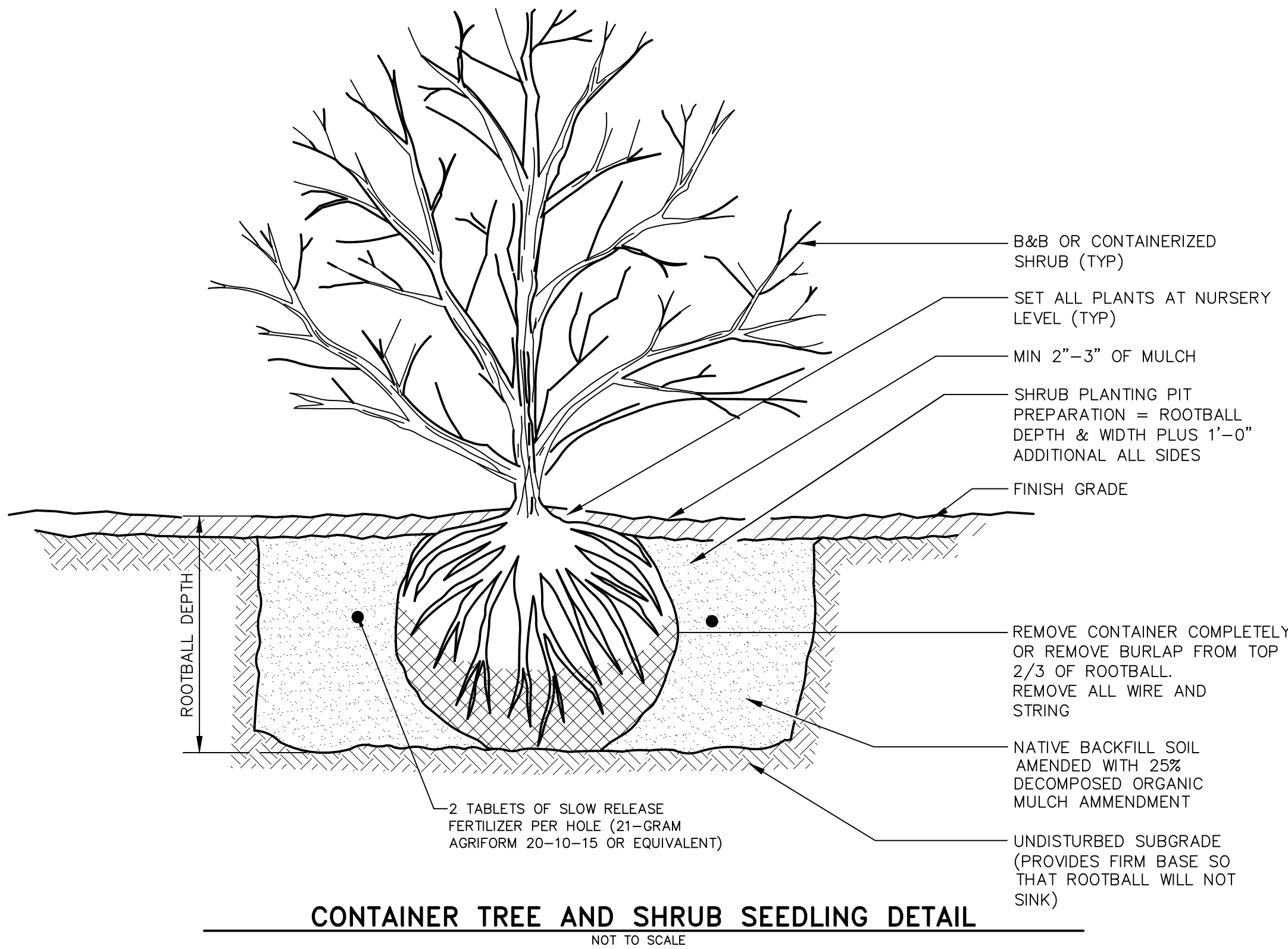
1. HAY OR STRAW AT 3 TONS PER ACRE OR 140 LBS PER 1,000 SQ.FT.
2. SEED OATS (AVENA SATIVA) AS A COMPANION CROP AND FOR EROSION CONTROL AT 30 LBS PER ACRE.

E. AVAILABILITY

1. SEED MIXES ARE AVAILABLE FROM ERNST CONSERVATION SEEDS, 9006 MERCER PIKE, MEADVILLE, PA 16335, PHONE: (800) 873-3321.

Tree Plantings:		
Trees (4' tall minimum size) will receive a tree tube or vinyl tree guard		
Shrub and Tree Plantings are to be planted in the designated area. Plant tree and shrub species 15' O.C. Tree and shrub plantings may occur September-November or March-May only. Suggested tree species are listed below.		
Latin Name	Common Name	Indicator Status
<i>Quercus bicolor</i>	swamp white oak	FACW+
<i>Salix nigra</i>	black willow	FACW+
<i>Quercus palustris</i>	pin oak	FACW
<i>Betula nigra</i>	river birch	FACW
<i>Betula alleghaniensis</i>	yellow birch	FAC
<i>Nyssa sylvatica</i>	black gum	FAC
<i>Acer rubrum</i>	red maple	FAC
<i>Betula populifolia</i>	gray birch	FAC
<i>Crataegus phaenopyrum</i>	Washington hawthorn	FAC

Shrub Plantings:		
Shrubs (2.5' tall minimum size) will not receive a tree tube or vinyl tree guard		
Latin Name	Common Name	Indicator Status
<i>Ilex verticillata</i>	common winterberry	FACW+
<i>Spiraea alba</i>	meadow-sweet	FACW+
<i>Alnus rugosa</i>	speckled alder	FACW+
<i>Cornus stolonifera</i>	red-osier dogwood	FACW+
<i>Cornus amomum</i>	silky dogwood	FACW
<i>Vaccinium corymbosum</i>	highbush blueberry	FACW-
<i>Lindera benzoin</i>	spicebush	FACW-
<i>Amelanchier canadensis</i>	oblong service-berry	FAC
<i>Viburnum dentatum</i>	southern arrow-wood	FAC
<i>Hamamelis virginiana</i>	American witch-hazel	FAC-



INSTALL TWO ROWS OF LIVE STAKES ON ALL DISTUBED STREAMBANKS. THE LIVE STAKES SHOULD BE SPACED 3' APART.

NOTES:

- OBTAIN NATIVE ADVENTITIOUSLY ROOTABLE STOCK THAT IS COMPRISED OF AT LEAST THREE OF THE FOLLOWING SPECIES:
- *Cornus amomum* (Silky Dogwood)
- *Physocarpus opulifolius* (Ninebark)
- *Platanus occidentalis* (American Sycamore)
- *Salix amygdaloides* (Peachleaf Willow)
- *Salix discolor* (Pussy Willow)
- *Salix exigua* ssp. interior (Sandbar Willow)
- *Salix lucida* (Shining Willow)
- *Salix nigra* (Black Willow)
- *Salix sericea* (Silky Willow)
- *Sambucus canadensis* (Elderberry)
- *Viburnum dentatum* (Arrowwood)
- *Viburnum lentago* (Nannyberry)
- SELECTED MATERIAL SHOULD BE $\frac{1}{2}$ TO $1\frac{1}{2}$ INCHES IN DIAMETER AND 2 TO 3 FEET LONG.
- MATERIAL SHOULD BE FROM AN AREA WITH SIMILAR SOIL, CLIMATE, AND LOCATION RELATIVE TO THE STREAM. THE MATERIAL SHALL BE FREE OF DISEASE, ROT, OR INSECT INFESTATION.
- MATERIAL SHALL BE HARVESTED WHILE DORMANT AND SOAKED (1 TO 14 DAYS) BEFORE INSTALLATION.

LIVE STAKE DETAIL

NOT TO SCALE

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