

REMEDIAL WORK

Provide a site-specific Erosion and Sediment Pollution Control Plan (ESPCP) for review and approval by the Pennsylvania Department of Environmental Protection's Bureau of Waterways Engineering and Wetlands (BWEW) or the Luzerne Conservation District (LCD) at least ten working days prior to the anticipated construction start date. No work on this project shall begin until written approval of the ESPCP is received from either BWEW or LCD.

Along the indicated reach beginning at the downstream end of the existing riprap near the north side of 156 N. Main St. and extending downstream for 50'± along the southeast streambank, install stacked rock with cutoffs as shown in the attached drawings. Install up to 10 linear feet of R-7 Riprap at the downstream end of the stacked rock to facilitate a smooth transition from the stacked rock to the existing streambank. Should 10 linear feet of R-7 Riprap at the downstream end of the stacked rock be insufficient to provide a suitable transition, install additional R-7 Riprap as directed by the Inspector so that the total length does not to exceed 20 linear feet.

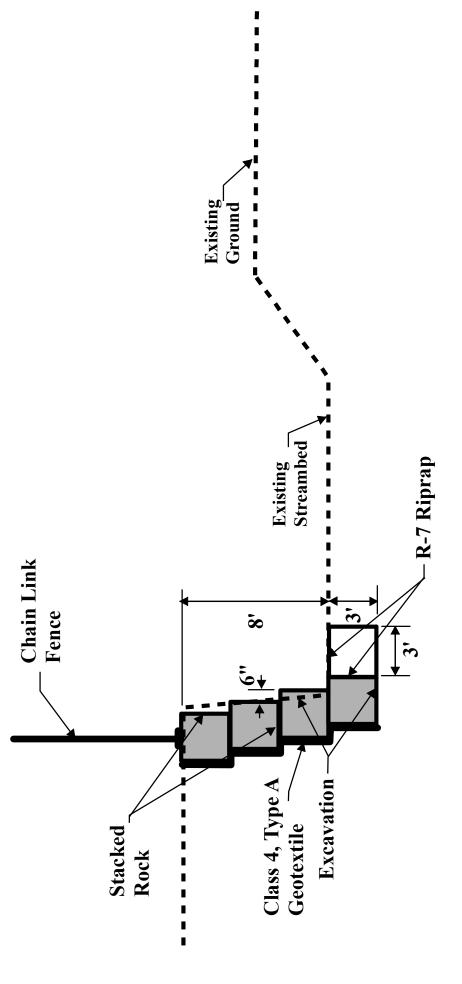
PA Fish and Boat Commission regulations dictate that all in-stream activity must be complete by September 30, 2024.

The stacked rock installation shall be completed from the top of the streambank, with minimal equipment entry into the stream. The use of equipment in water shall be minimized to the greatest extent possible. All equipment shall be inspected prior to the start of each day's work to ensure that it is in good working order with no leaking fluids

NOTES:

- 1. Data concerning utilities has been obtained from available information through the Pennsylvania One Call System, Serial No. 20240313026. Accuracy or completeness of this data is not guaranteed. The Contractor must contact the Pennsylvania One Call System at least three (3), but not more than ten (10) working days prior to the commencement of construction for utility information at 1-800-242-1776.
- 2. The Contractor shall be responsible for all interaction with, and compliance with, utility companies for utility protection and/or relocation during construction. All costs associated with the activities required by utility companies shall be paid by the Contractor and are incidental to the construction of this project.
- 3. The Contractor is responsible for the protection of any private or public facilities in the work area for the duration of the contract. The Contractor's methods of protection of existing structures shall be subject to review by the Inspector. Such review does not relieve the Contractor of his full liability for all damages and loss due to faulty methods of protection. The Contractor shall be responsible for repairing any of their damages to a condition equal to or better than before the project commenced. No additional compensation shall be made for damaged facility repair.
- 4. Access development shall be considered a component of Mobilization Demobilization. Compensation for the development of access to the work site, including repair to blacktop shall be included in the payment for Mobilization Demobilization. Access area and yard shall be repaired to original or better conditions after construction is complete. A staging area will be required for the stacked rock.
- 5. This project will be constructed using an Emergency Permit issued by PA DEP. The Contractor is responsible for securing all other necessary permits and approvals.
- 6. Construction inspection may be provided jointly by the Luzerne Conservation District, Natural Resource Conservation Service, and PA DEP's Bureau of Waterways Engineering, or their designees.
- 7. Borrow and spoil areas shall be secured by the Contractor at its own cost.
- 8. Indiscriminate cutting of trees shall not be permitted. Approval of the Inspector shall be required prior to cutting of any trees.
- 9. The Contractor shall fill and/or grade areas adjacent to the new construction for positive drainage.

- 10. All disturbed areas shall be promptly seeded in accordance with the technical specifications.
- 11. The Contractor shall be responsible for restoring all access roads.
- 12. The Contractor shall follow all guidelines set forth in the Construction Industry Standards, OSHA 2207, of the Occupational Safety and Health Administration, U.S. Department of Labor

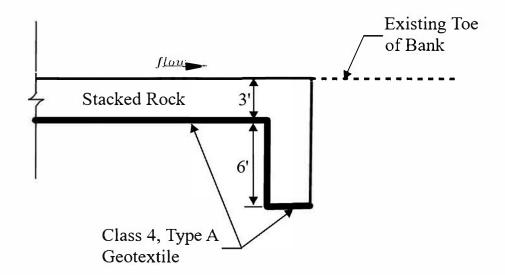


STACKED ROCK ON SOIL SECTION

No Scale

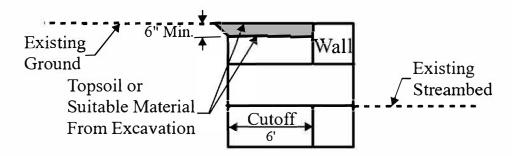
NOTES:

- 1. Install cutoffs as shown on the drawing titled. "Stacked Rock Cutoff Details".
- Stacked Rock. Refer to the technical specification titled, "Chain Link Fence" and the drawings titled, "Chain Link Fence Detail", 2. Chain link fence shall be installed along the top of Stacked Rock, or just behind it depending on evenness of finished top of the and "Anchor Plate Details"
- 3. Install a minimum of 10' of R-7 Riprap downstream of Stacked Rock to transition from Stacked Rock to existing streambank.
- 4. Maintain representative channel width present upstream and downstream of the project area. Do not encroach on the stream with the Stacked Rock alignemnt.



CUTOFF PLAN VIEW

Only downstream cutoff shown. Detail applies to both cutoffs.

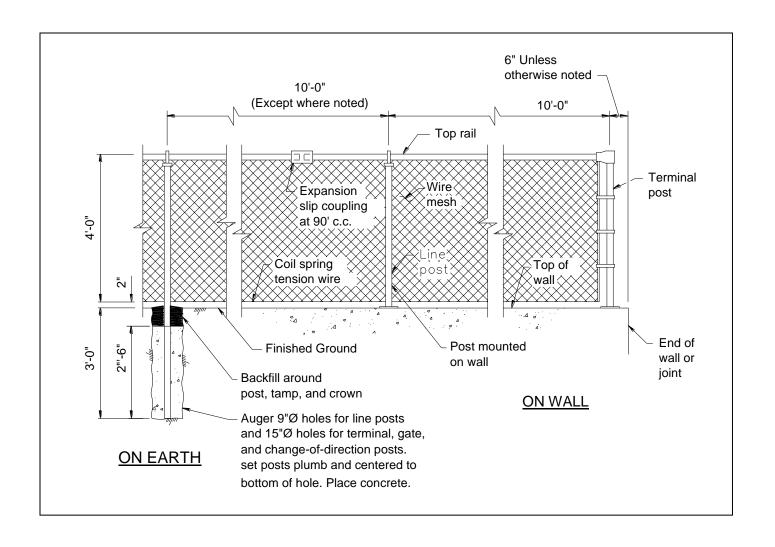


APPLIES TO BOTH CUTOFFS

STACKED ROCK CUTOFF DETAILS

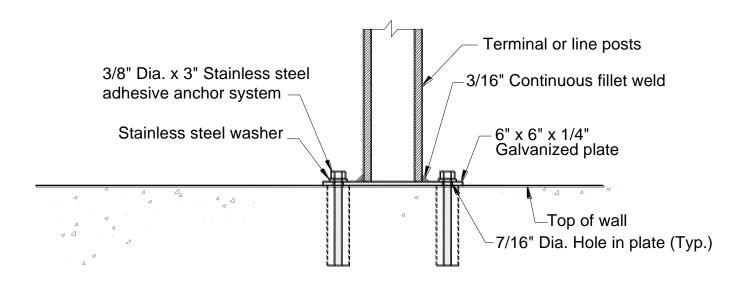
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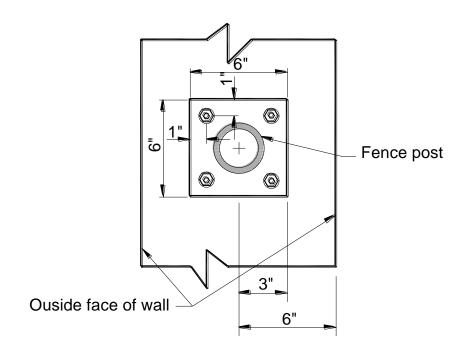
NOTE: R-7 Riprap has been omitted from these details but shall be installed for a minimum of 10', but not more than 20', from the downstream end of the stacked rock installation to provide a smooth transition from stacked rock to existing streambank.



CHAIN LINK FENCE

No Scale





ANCHOR PLATE DETAILS

No Scale

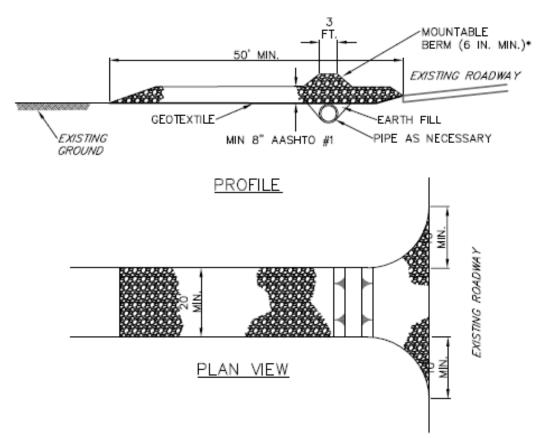
NOTE: Only Adhesive Anchor System is shown. Wedged Anchor System is also acceptable, see Technical Specification Titled, "Chain Link Fence".

Erosion and Sediment Control Guidelines

The guidelines presented below, which address erosion and sediment control, will be included as a condition of all emergency permits. These guidelines must also be followed when work is conducted under an existing permit or when work is undertaken that does not require a permit.

- 1. Maps and plans should show the location of the project with respect to municipalities, access roads, existing structures or other landmarks. The maps and plans should show a detailed drawing of the specific work site(s) including limits of disturbance, stream width, depth, extent of debris and deposition removal, and placement details for bank stabilization materials. Construction entrances should also be shown on the maps and plans.
- 2. Staging areas and construction entrances, including those used for equipment maintenance and servicing should be located away from flowing streams, and shall be stabilized with AASHTO No. 1 rock.
- 3. All work should be done as quickly as possible, with bank stabilization to occur as segments of debris and deposition removal are completed.
- 4. Work should be performed from stream banks, as opposed to equipment operating in flowing streams, whenever possible.
- 5. Rock riprap used to stabilize stream banks or other areas shall be clean, dense, angular, blocky material. Minimum rock size shall be as indicated in the site design and as rated by the National Stone Association.
- 6. All disturbed areas not stabilized with rock riprap, other materials, or seeded and mulched, shall be graded to avoid ponding water or concentrated flow. Standard seed mixtures and their specifications should be used. Hay and straw mulch shall be applied to such disturbed areas at a rate of approximately 3 tons to the acre (a loose layer 3/4 to 1 inch thick). Compost may be applied at a rate of 270-540 cubic yards per acre (2 to 4 inch thick uniform layer). Erosion control blankets should be installed/applied according to the manufacturer's specifications.
- 7. Only clean, non-polluting materials shall be used as fill. Exposed fill surfaces are to be stabilized.
- 8. Any sediment, trees, brush, or similar material excavated during debris removal shall be deposited in a suitable site away from the areas affected by flooding or wetlands, and stabilized with permanent vegetative cover. Other debris containing harmful or potentially hazardous materials should be disposed of in approved landfills.

These guidelines and the maps and plans mentioned in item 1, along with any required contract specifications undertaken in cooperation with the Department of Environmental Protection (DEP) and the Natural Resources Conservation Service (NRCS), are considered to be the Erosion and Sedimentation Control Plan for Emergency Watershed Restoration projects.



* MOUNTABLE BERM USED TO PROVIDE PROPER COVER FOR PIPE

NOTES:

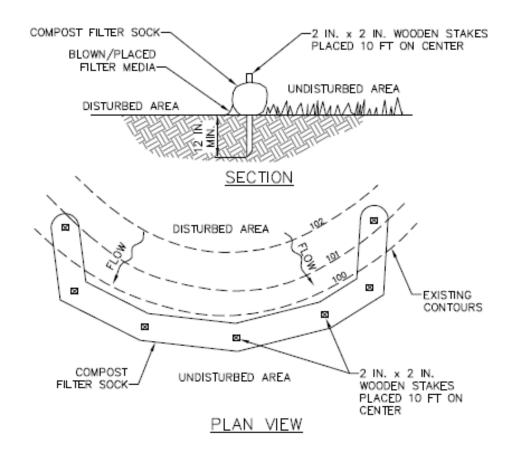
REMOVE TOPSOIL PRIOR TO INSTALLATION OF ROCK CONSTRUCTION ENTRANCE, EXTEND ROCK OVER FULL WIDTH OF ENTRANCE.

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



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.

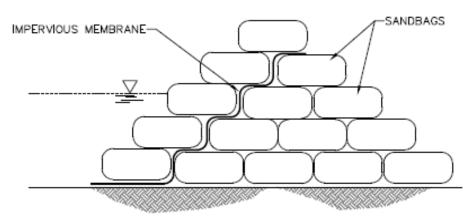
ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/2 THE ABOVE GROUND HEIGHT OF THE BARRIER AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN.

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.

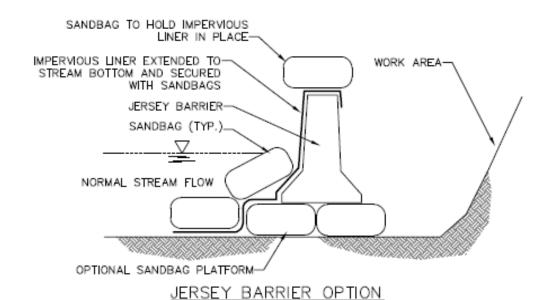
BIODEGRADABLE COMPOST FILTER SOCKS SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

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



2 BAG MIN. HEIGHT ABOVE NORMAL BASE FLOW STACKED SANDBAGS OPTION



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

ROCK CONSTRUCTION ENTRANCE

SCOPE

This work is providing a construction entrance into a work site by placing rock aggregate adjacent to the public access or other access where possible erosion or dust can be a problem. Placement procedure should follow the plan detail drawing entitled "Standard Construction Detail #16, Rock Construction Entrance".

APPLICABLE PUBLICATIONS

Pub. 408 - Specifications, Pennsylvania Department of Transportation.

Bulletin 14 - Aggregate Producers, Pennsylvania Department of Transportation.

Bulletin 15 - Approved Construction Materials, Pennsylvania Department of Transportation.

MATERIALS

- **A.** Coarse Aggregate Coarse aggregate shall be AASHTO #1 coarse aggregate, as specified in Section 703.2 of Publication 408. Obtain coarse aggregate from a PennDOT approved source.
- **B.** Geotextile Geotextiles shall meet the requirements of Section 735 of Publication 408 for Class 1 geotextiles. Use a geotextile listed in Bulletin 15.

PROCEDURE

Place aggregate in the dry, and not on frozen ground. Identify location of construction entrance and layout an area not less than 20 feet wide by 50 feet long. This area is the minimum roadway size, the on-site inspector or the detail drawing may require larger entrance areas. Once the area and location have been determined then strip vegetation from the site and place the geotextile material over the entire area. Pins should be used to hold the material in place. Place the aggregate to a depth of eight (8) inches and compact the aggregate with mechanical tampers or other approved means.

STREAM DIVERSION AND DEWATERING

SCOPE

This work is furnishing, installing, maintaining, and operating diversionary and dewatering works and equipment for the removal of surface water and groundwater to permit construction in the dry and removal of all diversionary and dewatering works and equipment after the construction is completed.

PROCEDURE

- **A. Diverting Surface Water** Build, maintain and operate cofferdams, channels, flumes, sumps, and other diversionary works to divert surface water away from the work area while construction is in progress. Unless otherwise approved, a diversion must discharge into the same natural waterway in which its headwater is located.
- **B. Dewatering the Construction Site** Furnish, install, operate, and maintain drains, sumps, pumps, casings, wellpoints, and other equipment needed to dewater foundations, cutoff trenches, and other areas of the construction site.
- C. Removal of Diversionary and Dewatering Works After construction is completed in an area, remove the temporary works and restore the area.
- **D. Damage** Losses or damage to any part of the work, permanent or temporary, or to private property, will be the responsibility of the Contractor.

CLEARING AND GRUBBING

SCOPE

This work is removal and disposal of all natural growth and objectionable materials within the Contractor's Working Area, as necessary for construction, access, and stockpiling of materials.

PROCEDURE

- **A.** General Before commencing the work, mark the limits for clearing and grubbing at the site and obtain approval from the Inspector. Do not damage existing vegetation and objects designated to remain.
- **B.** Clearing Remove aboveground portions of all objectionable materials, natural growth, timber and logs. Stumps may remain, but shall not extend more than twelve (12) inches above the lowest adjacent original ground.
 - C. Grubbing Remove belowground portions of all objectionable materials, natural growth, timber and logs in riprap foundation areas. Remove roots having a diameter of one and one-half (1-1/2) inches or more to at least three (3) feet below the original ground surface.
 - **D. Disposal** Merchantable timber and logs shall become the property of the Contractor. Dispose of all other cleared and grubbed materials in accordance with local ordinances and regulations.

EXCAVATION

SCOPE

This work is the removal, hauling, and disposal of all materials encountered, as shown on the Drawings.

PROCEDURE

A. General – Follow all guidelines set forth in the Construction Industry Standards, OSHA 2207, of the Occupational Safety and Health Administration, U.S. Department of Labor.

Maintain stable slopes. In case of a slide as a result of negligence or carelessness on the Contractor's part, it shall remove and replace material in the slide at no extra cost.

Protect the work, adjacent buildings, and property.

During excavation, keep the top surface graded for drainage. Replace overexcavated work with materials designated by the Inspector.

- **B.** Excavation Remove all materials to the limits shown on the Drawings. During excavation of a channel, keep erosion and interference with the flow of the stream to a minimum.
- C. Disposal Incorporate suitable materials from required excavation into the work, providing they meet the requirements of the appropriate sections of these Technical Specifications. If necessary, stockpile suitable materials for later use. Dispose of unsuitable, or excess, materials in spoil area in accordance with local codes and ordinances. The Contractor is responsible for securing spoil areas.

UNCLASSIFIED FILL

SCOPE

This work is filling areas with suitable materials, to the limits and grades shown on the Drawings, or as directed by the Inspector

MATERIALS

Obtain material from required excavation to the extent of its availability. The material need not be well graded but shall be free of clusters of large materials, organic matter, trash, and frozen and other objectionable materials. Unless otherwise specified by the Inspector, the material shall be granular and pervious. If necessary, sort the material and/or stockpile for later use at no additional cost.

PROCEDURE

Do not place material on frozen ground. Deposit material and compact to the satisfaction of the Inspector.

After completion of spreading and compacting, grade the area to the lines and grades shown on the Drawings, or as directed by the Inspector, in such a way that the area blends in with the surrounding terrain with the top surface sloped for drainage.

R-7 RIPRAP

SCOPE

This work is riprap, as shown on the Drawings, or as directed by the Inspector.

APPLICABLE PUBLICATIONS

Pub.408 - Specifications; Pennsylvania Department of Transportation.

Bulletin 15 - Approved Construction Materials; Pennsylvania Department of Transportation

MATERIALS AND STORAGE

- **A General -** Obtain materials from sources approved by the Inspector, but the approval of any source shall not be construed as approval of all materials from that source. Materials from required excavation may be used, provided they meet the requirements of these Technical Specifications.
- **B** Geotextile Provide Class 4, Type A Geotextile, conforming with the requirements of Section 735 of Pub.408. Obtain geotextiles from a manufacturer listed in Bulletin 15.

During the periods of shipment and storage, protect geotextiles from direct sunlight, ultraviolet rays, temperatures greater than 140°F, mud, dirt, dust, and debris. To the extent possible, maintain geotextiles wrapped in a heavy-duty covering or shield from direct sunlight.

Geotextiles will be rejected at the time of installation if any defects, deterioration, or damage has occurred during manufacture, transportation, or storage.

- C Securing Pins for Geotextiles Provide steel securing pins, 18 inches long x 3/16 inches in diameter, pointed at one end; and with a $1\frac{1}{2}$ -inch washer head at the other end. Alternate securing devices, approved by the Inspector, may be used.
- **D Riprap** Obtain riprap from a source approved by the Inspector. Riprap shall consist of sound durable rock, insoluble in water. Friable, stratified rocks such as shales, and rocks liable to decompose in water, such as claystones, will not be approved. The Inspector shall reject localized areas, strata, or channels within an approved area or zone when, in its opinion, the material has disintegrated, weathered badly, or is otherwise unsatisfactory for the intended use. The materials shall be free of objectionable amounts of earth, quarry dust, or other materials; however, washing will not be required.

Stone for riprap shall be block shaped with a specific gravity of at least 2.5. Smooth rounded stone or boulders; flat, thin, elongated, and slab-shaped stone shall not be acceptable. Not more than 25 percent of the stones reasonably well distributed throughout the gradation shall have a length more than two and one-half (2.5) times the breadth or thickness. No stone shall have a length exceeding three (3) times its breadth or thickness.

Riprap shall be R-7 gradation, conforming to Section 850 of Pub.408, except as noted above. The riprap shall be certified as to size and gradation and the Inspector shall accept the onsite riprap based on a visual inspection.

PROCEDURE

- **A General -** Thicknesses indicated on the Drawings are the placement thicknesses of riprap layers.
- **B Foundation Preparation -** Prepare the areas on which riprap is to be placed by excavating, trimming, and dressing to conform to cross sections and slopes shown on the Drawings. Bring up the low areas to grade by filling and compacting in accordance with the "Unclassified Fill" Specification, with materials comparable to adjacent foundation materials.
- C Geotextile Use Class 4, Type A Geotextile.

Place the fabric on the prepared area in a loose, unstretched condition to minimize shifting, puncturing, or tearing the fabric. For stream slope protection, lay the fabric with the long dimension parallel to stream flow, and for protection of the entire stream, lay the fabric with the long dimension perpendicular to the centerline of the channel. Provide a minimum overlap of twelve (12) inches at the joints, with the upstream fabric over the downstream fabric and the upslope fabric over the downslope fabric. Anchor the fabrics in place by inserting securing pins through both fabrics at the overlaps at the spacing shown on the following table:

	STEEPER THAN		FLATTER THAN
SLOPE	3:1	4:1	4:1
SECURING PIN PACING	2 FEET	3 FEET	5 FEET
ALONG OVERLAPS			

Install additional pins as necessary to prevent any slippage of the fabrics.

Protect the fabrics at all times during construction from contamination by surface runoff. Place riprap or cover the fabric with approved covering material as soon as possible, so that Type A fabric is not exposed for more than two (2) weeks.

Do not drop rocks, two (2) feet or larger in any dimension directly on the fabric from a height greater than one (1) foot. Do not allow the riprap placement procedure to puncture or damage the fabric.

Repair and/or replace all damaged fabric to the satisfaction of the Inspector, and at no additional cost.

D - Riprap - Place stones for riprap on the geotextiles, in the dry, and conforming to the lines and grades shown on the Drawings or as directed by the Inspector. Place the stones in such manner as to produce a reasonably well-graded and uniform surface providing the full thickness shown on the Drawings. A tolerance of plus or minus three inches will be allowed in the finished surface except that either extreme of such tolerance shall not be continuous over an area greater than 200 square feet. Place stones to the full course thickness in one operation and without displacing the underlying material. Do not place stones in layers. The finished work

shall be free from objectionable pockets of small stones and clusters of larger stones, and the entire mass of stones shall be roughly graded to conform to the gradation specified. Smaller stones shall be well distributed in order to chink the voids between larger stones, insofar as practicable. Do not place riprap by dumping stones into chutes or by similar methods, likely to cause segregation of the various sizes. Do not use a tractor equipped with bulldozer blade, stone rake, or any similar equipment. The desired distribution of the various sizes of stones throughout the mass shall be obtained by selective loading of the material at the quarry, by controlled dumping

of successive loads during final placing, or by other approved methods. Rearrange individual stones by hand or mechanical means only to the extent necessary to break down bridging and to obtain a reasonably well-graded mass.

Provide cutoff at the upstream and downstream ends of riprap as shown on the Drawings, and do not allow any equipment to pass over the finished riprap surface.

MAINTENANCE - Make all necessary repairs to riprap for the duration of the Contract.

STACKED ROCK WITH R-7 RIPRAP TOE

SCOPE

This work is stacked rock, as shown on the Drawings, or as directed by the Inspector.

APPLICABLE PUBLICATIONS

Pub. 408 Specifications. Pennsylvania Department of Transportation.

Bulletin 14 Aggregate Producers.

Bulletin 15 Approved Construction Material Suppliers. Pennsylvania Department of

Transportation.

MATERIALS AND STORAGE

- **A.** General Obtain materials from sources listed in Bulletin 14 and approved by the Inspector, but the approval of any source shall not be construed as approval of all materials from that source. Materials from required excavation may be used, provided they meet the requirements of these Technical Specifications.
- **B.** Geotextile Provide Class 4, Type A Geotextile, conforming with the requirements of Section 735 of Pub.408. Obtain geotextiles from a manufacturer listed in Bulletin 15.

During the periods of shipment and storage, protect geotextiles from direct sunlight, ultraviolet rays, temperatures greater than 140°F, mud, dirt, dust, and debris. To the extent possible, maintain geotextiles wrapped in a heavy-duty covering or shield from direct sunlight.

Geotextiles will be rejected at the time of installation if any defects, deterioration, or damage has occurred during manufacture, transportation, or storage.

- C. Securing Pins for Geotextiles Provide steel securing pins, 18 inches long x 3/16 inches in diameter, pointed at one end; and with a 1½-inch washer head at the other end. Alternate securing devices, approved by the Department, may be used.
- **D. Stacked Rock** Obtain Stacked Rock from a source listed in Bulletin 14 and approved by the Inspector. The stacked rocks shall be durable limestone or sandstone, approximately 3' X 3' X 3' to 3' X 3' X 6' and cubical.
- **E. R-7 Riprap** Use R-7 Riprap as defined in the Technical Specification titled, "R-7 Riprap".

PROCEDURE

- **A. General -** Dimensions indicated on the Drawings are the placement dimensions of stacked rock.
- **B.** Foundation Preparation Prepare the areas on which the stacked rock is to be placed by excavating, trimming, and dressing to conform to cross sections and slopes shown on the Drawings. Bring up the low areas to grade by filling and compacting in accordance with the "Unclassified Fill" Specification, with materials comparable to adjacent foundation materials.
- C. Geotextile Use Class 4, Type A Geotextile.

Place the fabric on the prepared area in a loose, unstretched condition to minimize shifting, puncturing, or tearing the fabric. For stream slope protection, lay the fabric with the long dimension parallel to stream flow, and for protection of the entire stream, lay the fabric with the long dimension perpendicular to the centerline of the channel. Provide a minimum overlap of twelve (12) inches at the joints, with the upstream fabric over the downstream fabric and the upslope fabric over the downslope fabric. Anchor the fabrics in place by inserting securing pins through both fabrics at the overlaps at the spacing shown on the following table:

	STEEPER THAN		FLATTER THAN
SLOPE	3:1	4:1	4:1
SECURING PIN PACING ALONG OVERLAPS	2 FEET	3 FEET	5 FEET

Install additional pins as necessary to prevent any slippage of the fabrics.

Protect the fabrics at all times during construction from contamination by surface runoff. Place stacked rock or cover the fabric with approved covering material as soon as possible, so that Type A fabric is not exposed for more than two (2) weeks.

Do not drop rocks, two (2) feet or larger in any dimension directly on the fabric from a height greater than one (1) foot. Do not allow the stacked rock placement procedure to puncture or damage the fabric. Repair and/or replace all damaged fabric to the satisfaction of, and at no additional cost.

D. Stacked Rock – Place the stacked rocks neatly as shown on the Stacked Rock Section drawing. Smaller rock shall be used to fill voids so that each rock rests solidly on the lower layer without movement. Vertical joints between rocks in the top layer shall be offset from those in the bottom layer and laterally, each rock shall be shingled outward 3" from the next downstream rock. Place R-7 riprap at the toe of the stacked rock wall as shown on the Typical Stacked Rock Section drawing. Install cutoffs at the upstream and downstream ends of the stacked rock, as shown on the Stacked Rock Section Cutoff Details.

MAINTENANCE - Make all necessary repairs to stacked rock and riprap for the duration of the Contract.

CHAIN LINK FENCE

SCOPE

This work is furnishing and installing chain link fence of height shown on the Drawings.

APPLICABLE PUBLICATIONS

AASHTO M 232 - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.

AASHTO M 280 - Standard Specification for Zinc-Coated (Galvanized) Steel Barbed Wire.

ANSI B 18.22.1 - Standard Specification for Plain Washers.

ASTM A 6 - Standard Specification for General Requirements for Rolled Steel Plates, Shapes, Sheet Piling and Bars for Structural Use.

ASTM A 36 - Standard Specification for Structural Steel.

ASTM A 53 - Standard Specification for Pipe Steel, Black and Hot-Dipped, Zinc Coated Welded Seamless.

ASTM A 276 - Standard Specification Stainless Steel Bars and Shapes.

ASTM A 582 - Standard Specification Free-Machining Stainless Steel Bars.

ASTM C 387 - Standard Specification for Packaged, Dry, Combined Materials for Mortar and Concrete.

ASTM F 593 - Standard Specification for Stainless Steel Bolts, Hex Cap Screws and Studs.

ASTM F 594 - Standard Specification Stainless Steel Nuts.

ASTM F 626 - Standard Specification for Fence Fittings.

ASTM F 668 - Standard Specification for Poly (Vinyl Chloride) (PVC)-Coated Steel Chain Link Fence Fabric

ASTM F 1043 - Standard Specification for Strength and Protective Coatings on Metal Industrial Chain Link Fence Framework.

ASTM F 1083 - Standard Specification for Pipe, Steel, Hot-Dipped Zinc-Coated (Galvanized) Welded, for Fence Structures.

MATERIALS

- **A.** Fence Fabric, posts, gates, and necessary hardware shall meet the following requirements:
 - 1. Fabric Fabric shall be Class 2b, PVC-coated wire consisting of a PVC coating fused and adhered to a zinc-coated, aluminum-coated, or zinc-5% aluminum-mischmetal alloy-coated steel wire, conforming to the requirements of ASTM F 668 with the following additions and/or modifications. Fabric shall be not less than No. 9 gage wire with 2-inch mesh sizes. The vinyl coating shall be of color approved by the Inspector. The selvage shall be knuckle-knuckle (top-bottom). All wire ends shall be coated.
 - 2. Posts Use posts of galvanized steel and that will be referred to as "terminal" or "line". Terminal posts include corner, angle, pull, and end posts. Line posts are also known as "intermediate" posts. Pipes for posts shall conform with the requirements of ASTM F 1083, Schedule S-40, or the requirements of SS-40 of Allied Tube and Conduit Fence Division, 16100 South Lathrop Ave., Harvey, IL 60426, except that the weight of zinc coating shall not be less than 2 ounces per square foot.

For fence heights of less than 5 feet, the nominal sizes of terminal and line posts shall not be less than 2 inches and 1-1/2 inches, respectively. For fence heights of 5 feet or more, the nominal sizes of terminal and line posts shall not be less than 2-1/2 inches and 2 inches, respectively.

- **3. Anchorage** Either type specified below may be used. The Inspector must approve the anchorage system and installation method. Submit manufacturer's product specifications and installation recommendations for Inspector approval prior to installation.
 - **a.** Wedged Anchorage Anchorage shall be stainless steel. Bolts shall conform to ASTM A 276, Type 304, or ASTM A 582, Type 303. Bolts shall be 3/8-inch diameter and factory fitted with wedged shields that expand to securely anchor the bolts in place when the anchoring nut is fully tightened to the manufacturer's specification.
 - **b.** Adhesive Anchorage Anchorage shall be stainless steel adhesive anchor system. Bolts shall conform to ASTM F 593. Nuts shall conform to ASTM F 594. Washers shall conform to ANSI B18.22.1, Type A Plain. Bolts shall be 3/8-inch diameter and each anchor shall develop minimum tensile bond strength of 4,000 lbs. per anchor.
- **4. Top Rail -** Top rail shall not be less than 1-1/4 inch nominal size galvanized steel pipe conforming with the requirements of ASTM F 1083, Schedule S-40, or the requirements of SS-40 of Allied Tube and Conduit Fence Division, 16100 South Lathrop Ave., Harvey, IL 60426, except that the weight of zinc coating shall not be less than 2 ounces per square foot.

- 5. **Bottom Wire** Bottom wire shall be galvanized and vinyl-coated coil spring tension wire. The galvanized core wire shall not be less than 7 gage in size, and it shall be vinyl coated conforming to the same requirements as those of the fabric mentioned above.
- **6. Braces -** When required, braces shall not be less than 1-1/4 inch nominal size galvanized steel pipe conforming with the requirements of ASTM F 626, Schedule S-40, or the requirements of SS-40 of Allied Tube and Conduit Fence Division, 16100 South Lathrop Ave., Harvey, IL 60426, except that the weight of zinc coating shall not be less than 2 ounces per square foot.
- 7. Truss Rods When required, truss rods shall not be less than 3/8-inch diameter steel rods conforming with the requirements of ASTM F 626, except that the weight of the zinc coating shall not be less than 2 ounces per square foot. Truss rods shall be provided with suitable turnbuckles.
- **8. Gates -** When required, gates shall be of types and widths shown on the Drawings. Frames shall be of round pipes of not less than 2 inches in diameter conforming with the requirements of ASTM F 1083, Schedule S-40, or the requirements of SS-40 of Allied Tube and Conduit Fence Division, 16100 South Lathrop Ave., Harvey, IL 60426, except that the thickness of zinc coating shall be as specified for the posts mentioned above. All joints shall be securely welded, and the gates shall be galvanized after fabrication. The fabric for the gates shall be the same as the fence.
- 9. Fittings All fittings shall conform with the requirements of ASTM F 626. Terminal post caps shall be fitted with recessed allen wrench head set screws for anchoring the cap to the post.
- **10. Hardware -** All hardware (bolts, nuts, washers, etc.) shall be of commercial quality or better, and shall be galvanized in accordance with the requirements of AASHTO M 232.
- **11. Locks and Keys -** Provide a waterproof lock for each gate and a set of 3 brass keys for each lock. Key all locks on the project alike.
 - **a. Anchoring Grout -** Use either hydraulic cementitious grout or epoxy resin mortar.

PROCEDURE FOR INSTALLATION ON TOP OF WALL

For installing fence on concrete or masonry structures, furnish and install anchor plates as shown on the drawings titled, "Anchor Plate Details", or as recommended by the precast modular wall manufacturer. Drill holes with a rotary bit with no damage to the surrounding materials. Percussion drilling will not be permitted. Drilling of core holes to place posts will not be permitted.

Install posts plumb, in proper horizontal alignment with the top of the posts in proper vertical alignment, and in equal spacing not exceeding 10 feet. Install corner posts at

changes in direction where the deflection angle so requires in the opinion of the manufacturer, as approved by the Inspector.

Install pull posts at changes in grade of 10 percent or more. Also, install pull posts at intervals not exceeding 500 feet and at closer equal spacing on curves, as recommended by the manufacturer, so that the strain of the fence shall not bend the line posts. Space pull posts evenly between corner, gate and/or end posts.

Insert top rails through the base of the line post caps, with expansion couplings joining the rails to form a continuous brace for each stretch of fence between terminal posts. Outside sleeve type expansion couplings shall be at least 6 inches long and shall be installed at spacings recommended by the manufacturer. Securely fasten the top rails to the terminal and gate posts by rail ends and brace bands. Install bottom wire as shown on the Drawings.

For fences 4 feet in height, braces will be required only when recommended by the manufacturer. Follow manufacturer's instructions for installing braces.

Securely fasten the fabric to all posts, top rail, and bottom wire at intervals of not more than 14 inches. Fasten fabric to the outside or most commonly seen side of the posts. Place fabric parallel to the base surface. The nominal distance between the base surface and the fabric shall be 2 inches and shall not exceed 3 inches. In case of irregular ground surfaces, grade the area at no additional cost.

If necessary, install gates in accordance with the recommendations of the manufacturer and as directed by the Inspector, at locations shown on the Drawings.

Close gaps between terminal posts and adjoining features with extensions of fencing, as approved by the Inspector.

At no additional cost, repair or replace any damaged component of the fence for the duration of the Contract.

PROCEDURE FOR INSTALLATION IN SOIL

Identify post locations. Auger 36-inch-deep footing holes (9-inch-diameter for line posts and 15-inch-diameter for terminal, gate, and change-of-direction posts). Set posts, centered and plumb, on the bottom of the holes. Place and tamp backfill. Crown the finished surface to shed water.

Install fence posts in proper horizontal alignment with the top of the posts in proper vertical alignment. Posts shall be equally spaced not more than 10 feet apart.

Install corner posts at changes in direction where the deflection angle so requires in the opinion of the manufacturer, as approved by the Inspector.

Install pull posts at changes in grade of 10 percent or more. Also, install pull posts at intervals not exceeding 500 feet and at closer equal spacings on curves, as recommended by the manufacturer so that the strain of the fence shall not bend the line posts. Space pull posts evenly between corner, gate and/or end posts.

Insert top rails through the base of the line post caps, with expansion couplings joining the rails to form a continuous brace for each stretch of fence between terminal posts. Outside sleeve type expansion couplings shall be at least 6 inches long and shall be installed at spacings recommended by the manufacturer. Securely fasten the top rails to the terminal and gate posts by rail ends and brace bands. Install bottom wire as shown on the Drawings.

Install braces as recommended by the manufacturer if braces are required by the manufacturer. Place the truss rods with turnbuckles between the brace end on the line post and the bottom wire end on the terminal post.

Securely fasten the fabric to all posts, top rail, and bottom wire at intervals of not more than 14 inches. Fasten fabric to the outside or most commonly seen side of the posts. Place fabric parallel to the base surface. The nominal distance between the base surface and the fabric shall be 2 inches and shall not exceed 3 inches. In case of irregular ground surfaces, grade the area.

Close gaps between terminal posts and adjoining features with extensions of fencing as approved by the Inspector.

At no additional cost for the duration of the contract, repair or replace all damaged fence components; and apply a manufacturer recommended vinyl repair paint to all exposed surfaces of fabric wire damaged by construction activities.

SEEDING

SCOPE

This work is securing a satisfactory stand of grass on all disturbed areas or where directed by the Inspector. This work includes preparing the seedbed, furnishing and applying lime and fertilizer, furnishing and sowing seed, furnishing and placing mulch, and maintaining the seeded areas.

APPLICABLE ACTS AND PUBLICATIONS

Pennsylvania Seed Act of 1965 (Act No. 187), as amended

Rules For Testing Seed, Association of Official Seed Analysts

Regulations of the Pennsylvania Department of Agriculture, Bureau of Plant Industry

Pennsylvania Agricultural Liming Materials Act of 1978, P.L.15, No.9, as amended

Specification No. L-36 (current issue), Pennsylvania Department of General Services, Bureau of Purchases, Division of Standards and Specifications

Agricultural Liming Materials Rules & Regulations (7 Pa. Code, Part V, Chapter 108)

Pennsylvania Soil Conditioner and Plant Growth Substance Law, Act of December 1, 1977, P.L.258, No.86 (3P.S.68.2) as amended

Bulletin 15 - Approved Construction Materials, Pennsylvania Department of Transportation

MATERIALS

A. Grass Seed - Grass seed shall conform to the applicable acts and regulations specified above in these Technical Specifications, and shall consist of the following seed types and mixtures:

PERMANENT SEEDING (for all areas – including levees, channels, lawns, and parks)

Formula & Species	% Of Total Weight	Minimum Purity %	Minimum Germination %	Maximum Weed Seed %	Seed Application Rate Lbs./1000 SF
Kentucky Bluegrass Mix (poa pratensis) A blend of improved certified varieties, such as Victa, Baron, Fortuna, & Gnome, with no one variety exceeding 40% of total bluegrass component.	40	98	80	0.20	2.8
Strong Creeping Red Fescue or Chewings Fescue (festuca rubra). An improved certified variety, such as Pennlawn.	30	98	85	0.15	2.1
Fine Perennial Ryegrass Mix (lolium perenne) A blend of improved certified varieties, such as Pennefine, Regal, Manhattan, and Citation, with no one variety exceeding 50% of total ryegrass component.	30	98	90	0.15	2.1
Total Lbs./1000 SF				7.0	

TEMPORARY SEEDING (for borrow and spoil areas, and uncompleted areas where work will be delayed by 20 days or more)

Formula & Species	Minimum Purity %	Minimum Germination	Maximum Weed Seed	Seed Application Rate
Tormula & Species	70	%	%	Lbs./1000 SF
		70	70	L03./1000 51
Annual Ryegrass (lolium multiflorum)	98	90	0.15	2.0

No seed shall contain Canada Thistle, Field Bindweed, Johnson Grass, Perennial Sowthistle, Quackgrass, Horse Nettle, Bedstraw, Corncockle, Brassica Kaber, Brassica Nigra, Wild Onion, or Wild Garlic.

Each variety of specified seed shall be separately packaged and fully tagged. Seed shall be mixed in the presence of a representative of the Department. Premixed seed is acceptable, provided an inspection tag stamped, dated, and signed by the Pennsylvania Department of Agriculture inspector is sewn or stapled to the outside of each bag.

Seed which has become wet, moldy, or otherwise damaged in transit or storage, or has a mix date older than 9 months prior to sowing, or has a test date older than 6 months prior to sowing shall not be used.

B. Fertilizer - Fertilizer shall conform to the applicable acts specified in the section of these Technical Specifications titled, "Applicable Acts and Publications". Use dry formulation of 10-20-20-analysis.

Fertilizers shall be delivered in bags or other suitable containers, each fully labeled and bearing the name, trademark, and warranty of the producer.

- C. Lime Lime shall be pulverized agricultural limestone conforming to the applicable acts specified in the section of these Technical Specifications titled, "Applicable Acts and Publications". Lime shall conform to the requirements of Specification No. L-36, Group 1, Class B, Type MO and have an effective neutralizing power of not less than 64 when calculated, using the guaranteed chemical analysis and fineness, in accordance with the Agricultural Liming Materials Rules and Regulations.
- **D.** Mulches Mulches shall be free of foreign materials, coarse or woody materials such as tobacco and soybean stems, substances toxic to plant growth, and mature seed bearing stalks or roots of prohibited and noxious weeds as defined by law. Mulches shall be cut into lengths of not less than 6 inches and cured to less than 20 percent moisture content by weight.

Mulches shall be hay, straw, or a combination both. Hay shall be timothy hay, mixed clover and timothy hay, or other approved native or forage grasses. Straw shall be either wheat or oat straw, reasonably free of viable seeds.

- E. Mulch Binders Mulch binders shall be nonasphaltic emulsions, of either a water soluble natural vegetable gum blended with gelling and hardening agents or a water soluble blend of hydrophyllic polymers, viscosifiers, sticking aids, and gums. Obtain binders from a producer listed in Bulletin 15.
- **F.** Water Water shall be fresh and free from injurious amounts of oil, acid, alkali, salts, and any other materials that may be harmful to the growth of grass.

PROCEDURE

General - The application rates specified for seed, lime, fertilizer and mulch are minimum acceptable rates. The Department may, at its own expense, test the soils to determine if the specified lime and fertilizer application rates are appropriate. If the test results indicate a need for adjustment, do so at no additional cost to the Department and accept full responsibility for obtaining a satisfactory stand of grass.

- A. Prepare Seed Bed by Shallow Tilling After the Department has approved the final grading of areas to be seeded, thoroughly till the surface to a depth of 3 inches by discing, harrowing, or other approved means. Apply fertilizer at a rate of 750 pounds per acre. Apply lime at a rate of 5,000 pounds per acre. Work both thoroughly into the soil to a depth of 3 inches, to ensure satisfactory soil conditions conducive to sowing seed. Bring the surface to a smooth and even final grade. Immediately prior to sowing, rake the soil to a depth of 3/4 inch. Rake parallel to contour lines, not uphill or downhill. On lawn areas, remove all sticks, stones, weeds, roots, and other objectionable materials larger than 5/8 inches in any dimension. On all other areas to be seeded, remove sticks, stones, weeds, roots, and other objectionable materials larger than 2 inches in any dimension. Maintain the surface in a true and even condition while sowing the seed. If hydroseeding or grain drilling is employed, apply limestone and fertilizer as specified in the section of these Technical Specifications titled, "Materials". On areas that are steeper than 3:1, till the surface in the cross slope (horizontal) direction. Sufficiently scarify so as to break up surface crust and eliminate irregularities that may have been caused by soil erosion. Remove all objectionable materials from the surface.
- **B.** Sow Seed Sow the seed mixture on a still day at the minimum rate specified in the section of these Technical Specifications titled, "Materials". Do not sow seed on frozen or partially frozen ground. For best results, sow permanent seed from March 15 to June 15 for spring establishment or from August 15 to October 15 for fall establishment. Sow by hand or by approved sowing equipment in 2 applications. Sow one-half the seed while traveling in one direction and the other half while traveling at a right angle to the first direction. After seeding is complete, lightly rake, cultipack, or brush drag the surface, just deep enough to cover the seeds. Rake parallel to contour lines, not uphill or downhill.

Hydroseeding or grain drilling is acceptable, provided the Department approves all methods and equipment used. If hydroseeding is employed, fertilizer and limestone may be applied at the time of sowing. If grain drilling is employed, only fertilizer may be applied at the time of sowing, provided it does not come in contact with the seed. Drill parallel to contour lines, not uphill or downhill.

C. Apply Mulch – Immediately after seeding, or within 6 hours after seeding is completed, spread mulch uniformly over the entire seeded area at a rate of 6,000 pounds (dry weight) per acre. The mulch shall be moist at the time of placement. To prevent the mulch from being blown away or bunched by the wind and to ensure the mulch cover holds the soil and seed in place, anchor the moist mulch to the soil by an approved means. On slopes where machinery cannot be used, hold the mulch in place by a means that will not be detrimental to subsequent operations. Nonasphaltic mulch binders may be applied uniformly over and through the mulch at the manufacturer's recommended rate.

MAINTENANCE

At no additional cost, maintain the seeded areas until all work under the Contract has been completed and accepted. Maintenance shall include refilling rain-washed gullies, reseeding, reapplying fertilizer, lime and mulch, and removal of large and noxious weeds, as directed by the Inspector.

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======PENNSYLVANIA UNDERGROUND UTILITY LINE PROTECTION REQUEST=======
Serial Number--[20240313026]-[000] Channel#--[1517AWEB][0537][2019-08]
Message Type--[NEW][EXCAVATION][FINAL DESIGN]
County--[LUZERNE]
                         Municipality--[KINGSTON TWP]
Work Site--[156 N MAIN ST]
    Nearest Intersection -- [E CENTER ST]
     Second Intersection -- [E FRANKLIN ST]
    At Intersection--[N] Between Intersections--[N]
    Subdivision--[]
Location Information --
     [PROJECT IS ALONG E STRMBANK BEHIND 156 N MAIN ST. UPSTRM END OF PROJECT
     ABUTS END OF EXISTING RIPRAP DOWNSTRM OF MAIN ST BRIDGE AND EXTENDS
     DOWNSTRM FOR 70 FT ALONG E STRMBANK]
     Caller Lat/Lon--[41.321700/-75.940612,41.321494/-75.940639]
Mapped Type--[C] Mapped Lat/Lon--
    []
     Attachments--[http://www.pa811.org/attachments/20240313026]
Type of Work--[STACKED ROCK WALL INSTALLATION]
                                                            Depth--[4 FT]
Extent of Excavation--[70 FT X 10 FT] Method of Excavation--[DIGGING]
Equip Type--[TRACKHOE]
Street--[] Sidewalk--[] Pub Prop--[] Pvt Prop--[X] Other--[]
Private Front--[] Rear--[X] Left--[] Right--[X]
  Project Dates--[
                           ] thru [
                                            ] Response Due Date--[14-Feb-24]
                     Scheduled Excavation Date--[DESIGN]
Caller--[WILLIAM KCENICH]
Caller Phone--[717-783-0369]
Excavator -- [PA DEPT OF ENVIRONMENTAL PROTECTION]
Address--[WATERWAYS ENGINEERING]
City--[HARRISBURG]
                                                State--[PA] Zip--[17105]
FAX--[717-772-0409]
                               Caller Type--[B]
Email--[WKCENICH@PA.GOV]
Work For--[PA DEPT OF ENVIRONMENTAL PROTECTION]
Project Contact--[WILLIAM KCENICH]
Project Contact Phone--[717-783-0369]
                                                 Contact Ext--[NONE]
Best Time to Call--[0715-1545]
Project Contact Email--[WKCENICH@PA.GOV]
Job Number -- [S40:50]
PennDOT Contract/Permit Number--[N/A]
CPA Project ID--[6067873]
Prepared--[31-Jan-24] at [1526] by [WKCENICH]
Remarks--
    [EQUIPMENT WILL ACCESS PROJECT FROM BOTH E AND W STRMBANKS.]
AQ10 AQ1=COMCAST
                         DM10 DM1=DALLAS AREA MA FP10 FP1=VEOLIA WATER PA
GJ 0 GJ =UGI WILKES KGS0 KGS=KINGSTON TWP UE 0 UE =UGI ELECTRIC
Serial Number--[20240313026]-[000]
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Latest Responses for SN: 20240313026 as of 04-Mar-2024 14:03:05

CDC Member Name	Response	Notes Response Date	Initials
AQ1 COMCAST	ENGINEERING COMPLETED. A PDF FILE OR MARKED UP	19-FEB-2024	CLS-
	PLANS WERE SENT TO THE REQUESTOR.	12:59:44	WEBSVC
DM1 DALLAS AREA MUNICIPAL AUTHORITY	ENGINEERING COMPLETED. A PDF FILE OR MARKED UP	01-FEB-2024	PC-WEB
	PLANS WERE SENT TO THE REQUESTOR.	10:06:14	
FP1 VEOLIA WATER PENNSYLVANIA INC	DID NOT RESPOND THROUGH PA ONE CALL.	15-FEB-2024	
	DID NOT RESPOND THROUGH PA ONE CALL.	00:03:59	
GJ UGI UTL WILKES BARRE	ENGINEERING COMPLETED. A PDF FILE OR MARKED UP	01-FEB-2024	AAA-
GJ UGI UTL WILKES BARRE	PLANS WERE SENT TO THE REQUESTOR.	08:31:30	WEBSVC
KGS KINGSTON TOWNSHIP	CLEAR. NO FACILITIES OR FACILITIES NOT INVOLVED BASED	02-FEB-2024	TC-OTM
	ON TICKET INFORMATION.	12:41:18	IC-OTIVI
UE UGLUTL ELECTRIC	CLEAR. NO FACILITIES OR FACILITIES NOT INVOLVED BASED	14-FEB-2024	CLS-
UE UGIUIL ELECIRIC	ON TICKET INFORMATION.	16:58:50	WEBSVC

3/4/2024, 2:03 PM