

**CONSTRUCTION PLAN**  
*for the*  
**MANASSAS NATIONAL BATTLEFIELD PARK**  
**Prince William County, Virginia**



**DRAFT**  
**July 2008**  
(To incorporate National Park Service Construction Permit Conditions)

**Prepared by:**  
**Dominion Virginia Power**  
**120 Tredegar Street**  
**Richmond, VA 23116**

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- A Plan and Profile drawings
- B Deed of Easement
- C Dominion’s 2008 *Erosion and Sedimentation Control Specifications*

## 1. INTRODUCTION AND PROJECT LOCATION

Dominion Virginia Power (“Dominion”) is in the process of installing a new, approximately 65-mile, 500 kV transmission line (“the Project”) across five counties in northern Virginia. The Project is currently under review by the Virginia State Corporation Commission (SCC) with approval anticipated in October, 2008. Construction permits for road, stream and railroad crossings will be filed with Virginia Department of Transportation (VDOT), the U.S. Army Corps of Engineers (COE), the Virginia Marine Resources Commission (VMRC), the Virginia Department of Environmental Quality (DEQ) and Norfolk Southern Railroad in the fall of 2008. Additionally, Dominion will adhere to sedimentation and erosion control specifications that are approved annually by the Virginia Department of Conservation and Recreation (DCR). Construction on the project is anticipated to begin in January, 2009.

In the northwest portion of Prince William County, Virginia, approximately 1.9 miles of the Project will traverse the Manassas National Battlefield Park (“the Park”) owned by the U.S. Department of the Interior, National Park Service (“NPS”). The location of the Project presently crosses NPS properties between structures 569/26A and 569/35A (north to south) and is illustrated on the proposed new Plan and Profile Sheet Nos. 87, 88 and 89 of \_\_\_\_\_ (Attachment A), on which the NPS properties are identified as tract Nos. 24RA and 24RB in the existing Deed of Easement (Attachment B). The Dominion line is scheduled to be installed across these NPS properties during the 2009 construction season. This *Construction Plan* summarizes the procedures that Dominion will use to:

- Install foundations for the new lines (eastern and western sides of the existing 240’ wide right of way).
- Remove the existing double circuit 230/115 kV transmission line from the Park (eastern side);
- Replace the double circuit 230/115 kV line with a new 500/230 kV line (eastern side);
- After the new 500/230 kV line is energized, remove the existing 500 kV transmission line from the Park (western side);
- Replace the existing 500 kV line with a new 500/230 kV line (western side);
- Maintain the safety of Park visitors during construction;
- Minimize adverse environmental effects during construction; and

- Restore all construction areas after the completion of line installation.

All construction activities on Park property will be in accordance with this *Construction Plan*.

Across the Park the Project will be installed within the existing 240-foot-wide permanent easement of Dominion Virginia Power's existing 500 kV and 230/115 kV transmission lines (Lines #569, #2030 and #124). The existing transmission lines that will be removed and replaced by Dominion, were originally constructed prior to the expansion of the Park in 1988, then relocated in 1995 and represent an established utility easement across the Park and NPS properties.

## **2. CONSTRUCTION PROCEDURES FOR NPS PROPERTIES**

For the crossing of the Park, Dominion will adhere to standard SCC, DCR, COE, VMRC and DEQ regulatory requirements and Project construction specifications, including those pertaining to safety; environmental inspection; stormwater pollution prevention; and erosion and sediment control. The erosion and sediment control specifications are detailed in Dominion's *2008 Erosion and Sedimentation Control Specifications (E&S Specifications)*, which are provided in Attachment C.

*In addition to the standard E&S specifications*, Dominion will implement special procedures for construction activities on NPS properties, with the objectives of conforming to the requirements of the NPS Construction Permit, as well as maintaining safe visitor access in the Park, limiting direct impacts to the Park, mitigating visual effects and minimizing the potential for inconvenience to Park users. The specific procedures that will apply to the crossing of the Park were developed based on consultations with NPS representatives and are described in this *Construction Plan*.

The construction work area ("CWA") across the Park and NPS properties is the existing 240' wide right of way easement shown in the Deed of Easement and illustrated on the attached Plan and Profile Sheets. Dominion will utilize only the CWA and access as shown on the Plan and Profile Sheets and is not permitted to use any access outside this designated CWA, with the exception of designated access points.

The special construction procedures that will be implemented when crossing NPS properties are detailed below.

## **2.1 NOTIFICATIONS AND COORDINATION WITH THE NPS**

### **2.1.1 Pre-Construction Notice and Conference**

Dominion will contact the NPS Park Superintendent for the Park at least **30 days** prior to the anticipated start of construction (or any planned surface disturbing activities) on NPS properties. The Park Superintendent's contact information is as follows:

Mr. Ed W. Clark, Superintendent  
Manassas National Battlefield Park  
12521 Lee Highway  
Manassas, Virginia 20109  
Telephone: 703-754-1861

The Superintendent (or designated representative) will schedule a pre-construction conference with Dominion to review the terms and conditions of the easement across NPS properties, identify sensitive resources in the field (e.g., watercourses, survey markers, historic sites), and confirm the construction procedures to be used to minimize adverse effects to such resources. Dominion's field construction personnel (e.g., personnel from the Project right-of-way, environmental, and construction teams) and representatives of Dominion's construction contractor will attend the pre-construction conference.

### **2.1.2 Notification Required Prior to Entry onto NPS Properties**

Dominion will provide the NPS Superintendent with notification of commencement of construction work at least 72 hours prior to entry onto NPS lands. At least 24-hour notice will be provided to the Superintendent for any emergency entry onto NPS property that will involve surface disturbing activities.

### **2.1.3 Coordination with NPS Representatives, Inspection, and Issue Resolution**

During construction on NPS lands, Dominion will coordinate with NPS representatives who will be assigned to monitor the conformance of the construction on NPS lands to the terms and conditions of the Construction Permit. Dominion will provide NPS representatives with relevant contact information for Dominion and contractor representatives involved in work activities on NPS properties.

Dominion's Construction Coordinator will be on-site during construction activities across NPS lands and will be the primary points of contact with the NPS representatives. In the event an issue arises on NPS property, the Superintendent or designated representative should consult, if possible, with the Construction Coordinator to resolve the issue, prior to issuing any stop work (task) directive. If the issue cannot be resolved, a stop work (task) directive may be issued, pending the resolution of the situation.

#### **2.1.4 Stormwater Pollution Prevention Plan**

Potential pollution sources onsite, include vehicle fueling, sanitary waste facilities, limited chemical usage, construction debris, litter, and concrete washdown.

- Vehicle fueling will take place at the equipment location. Care will be taken to avoid spill onto the site. Any accidental spill will be cleaned up immediately to avoid any discharge.
- Portable Sanitary facilities will be available onsite at all times and serviced as appropriate.
- Chemical use is limited during excavation and construction. Any chemical on site will be properly labeled and stored in the tool trailer.
- Construction debris will be loaded in a container and removed periodically as required.
- Litter will be loaded in a container as it occurs and removed periodically as required.
- An area for concrete washdown will be constructed with proper E&S control at the beginning of the project. Debris from that area will be removed as necessary. The area will be reclaimed and stabilized at the completion of the project.

Construction debris and litter will be disposed of in licensed facilities. Construction spoils will be stockpiled with appropriate E&S measures and periodically loaded and removed as necessary.

All E&S Control will be properly installed and maintained. Periodic inspections will occur as required, and if necessary, replacement or modification of the control will take place as soon as practicable. These inspections will be made by a responsible land disturber (RLD) every 14 days and within 48 hours of the end of a runoff producing storm event. A report of

the inspection, meeting the requirements of the permit, will be made and retained as part of the SWPPP. These reports shall identify any incidents of noncompliance.

## **2.2 GENERAL CONSTRUCTION PROCEDURES**

The following procedures will apply to construction activities on NPS properties:

### **2.2.1 Right-of-Way Clearing and Easement Width**

The CWA will be limited to a width of 240 feet (i.e., to the width of the existing Line #569, #2030 and #124 easement) and designated access ways. All vegetation clearing, grading, and other construction activities will be contained within this 240-foot-wide work area and designated access ways.

Limited brush and trees will be cleared from the designated CWA. In addition, some “danger trees” (trees that could fall within 10 feet of the conductor) in the vicinity of the CWA will have to be taken to allow the safe operation of the electric transmission line. These vegetative materials will be mulched or chipped. Such mulch/chips will be temporarily stockpiled in an upland area, for subsequent use in restoring the CWA. At the direction of the Superintendent’s representative, large diameter, merchantable trees may be: (a) cut and windrowed if topographic conditions allow and adequate space is available within the CWA; (b) cut and chipped; or (c) cut and removed from the CWA.

### **2.2.2 Construction Method**

Construction will occur with two sequential operations, first wrecking and re-building the east side of the right of way and second wrecking and rebuilding the west side of the right of way. The primary activities include:

- Install foundations for all the new structures on Park property (both sides of the right of way).
- Remove the existing double circuit 230 kV steel-H frame line (east side)
- Erect the new double circuit 500/230 kV steel-H frame structures (east side).
- String in the wire conductor and energize line (east side).
- Remove the existing 500 kV steel-H frame line (west side)
- Erect the new double circuit 500/230 kV steel-H frame structures (west side).
- String in the wire conductor and energize line (west side).

- Rehabilitate the right of way.

Removal of all existing structures will be done in sections and all concrete foundations will be excavated to a point 1.5 feet below grade, similar to foundation removal performed for the relocation project in 1995. After the work is completed any temporary access roads will be removed and rehabilitated.

### **2.2.3 Blasting**

Blasting will be required to install the foundations on the NPS properties. Special blasting procedures will be implemented, as discussed below. Rock will be removed as necessary to facilitate the excavation and the installation of the new pole foundations.

### **2.2.4 Watercourse and Wetland Crossings**

In the vicinity of any wetland or watercourse Dominion will implement the Erosion and Sediment Control Plan. Any clearing in wetlands will be performed by hand and any access across wetlands will utilize removable mats.

### **2.2.5 Storage and Disposal of Waste and Construction Materials / Equipment**

Construction areas will be maintained in a sanitary condition at all times; waste materials (including but not limited to human waste, trash, garbage, refuse, oil and petroleum products) will be disposed of promptly at an approved waste disposal site. Dominion's construction contractor will store equipment on the CWA in the evenings and potential non-working periods during the crossing of the Park only during the actual crossing of the properties. Once construction is complete across the NPS lands and restoration of the sites is finalized, all equipment will be removed.

### **2.2.6 Cultural Resource Protection**

As part of pre-construction Project planning, Dominion has conducted cultural resource surveys of the CWA, including the CWA on NPS properties, and has identified and mitigated adverse effects on all known cultural sites. In addition, Dominion has developed an Unanticipated Discoveries Plan that defines the procedures to be followed in the event that cultural materials are uncovered during Project construction. If cultural and/or paleontological resources are discovered during construction activities on NPS property, Dominion will immediately inform the Park Superintendent (or representative) and will work with the Virginia State Historic Preservation Office to define appropriate mitigation

measures. Any artifacts found on NPS lands are recognized as the property of the NPS. The Unanticipated Discoveries Plan is described below:

Dominion will ensure that construction documents contain the following provisions for the treatment of unexpected discoveries. First, in the event that a previously unidentified archeological resource is discovered during ground disturbing activities, Dominion's contractor or staff will notify MNBPC cultural resource staff. Dominion will then immediately notify the SHPO. All construction work involving subsurface disturbance will be halted in the area of the resource and in the surrounding area where further subsurface remains can reasonably be expected to occur. Dominion and the SHPO, or an archeologist meeting *The Secretary of the Interior's Professional Qualifications Standards* (48 FR 44 738-9), immediately will inspect the work site and determine the area and the nature of the affected archeological property. Construction work may then continue in the project area outside the site area. Second, Dominion will consult with the SHPO to determine the National Register eligibility of the previously unidentified resource. Potentially eligible historic properties will be evaluated using the National Register criteria in accordance with 36 CFR 800.4(c). If Dominion and SHPO determine that the resource meets the National Register Criteria for Evaluation (36 CFR Part 60.6), Dominion shall ensure compliance with Section 800.13(b)(3) of the ACHP's Regulations. Work in the affected area shall not proceed until a determination is made that the located resource is not eligible for inclusion on the National Register.

## **2.3 PARK SAFETY PROCEDURES**

The following measures will be implemented to remove and replace the existing transmission line and install the new Dominion transmission line across the Park:

### **2.3.1 Safety Procedures and Access for Park Visitors**

- Dominion recognizes that visitors may use the Park at any time.
- Appropriate barriers, safety fencing, and/or signs will be installed at or along the Park crossing, as appropriate, prior to the initiation of construction activities on NPS properties. Safety measures will be maintained throughout the construction process on NPS properties.
- At all times during blasting across and in the vicinity of the Park, Dominion's contractor will establish a safety zone within which Park visitors will not be permitted during blasting.

### **2.3.2 Construction Procedures for the Park Crossing**

- Across the Park, the removal and replacement of the existing transmission line and the installation of the new Dominion transmission line will be performed as expeditiously as possible and is expected to be accomplished in two phases within approximately five months.
- Blasting will be performed in accordance with standard safety procedures and requirements, including the use of appropriate blasting mats and flyrock suppression. Contractor personnel will establish a safety zone to keep Park visitors away from the blast zone, as noted above.

- All construction materials and construction equipment in the vicinity of the Park will be appropriately secured prior to cessation of work at the end of each work day.

#### **2.4 RESTORATION, RECLAMATION AND LANDSCAPING**

After the transmission lines are installed, Dominion will restore the right of way. CWA restoration includes the return to pre-construction contours as close as practical; spreading topsoil; dispersing rock; installing permanent erosion and sediment control devices as appropriate; and liming, fertilizing, seeding, and mulching. These standard techniques are detailed in the Erosion and Sedimentation Specifications. The following seed mix will be used on NPS properties:

- The upland portions of the NPS properties, including the Park, will be reseeded with the following mix: annual ryegrass 50%, perennial ryegrass 35%, creeping fescue 14%, other crop and inert matter < 1%. The guaranteed germination rate will be 90% for both annual and perennial ryegrass and 85% for the red fescue. Lime will be spread at the rate of 4000 lbs. per acre and fertilizer will be spread at the rate of 600 lbs. per acre

**ATTACHMENT A:  
DEED OF EASEMENT**

DEED OF EASEMENT

THIS DEED OF EASEMENT, made this 30th day of May, 1996, by and between the UNITED STATES OF AMERICA, hereinafter referred to as the "GRANTOR" or "OWNER", acting by and through the SECRETARY OF THE INTERIOR, under and through the Director, National Park Service, under and through the Field Director, National Capital Area, and the VIRGINIA ELECTRIC AND POWER COMPANY, a Virginia corporation, hereinafter referred to as the "GRANTEE" or "COMPANY".

WHEREAS: the United States of America and the Virginia Electric and Power Company entered into an agreement dated May 4, 1993, (the "1993 Agreement") setting forth the process to settle the claims of Virginia Electric and Power Company arising from the legislative taking of certain of its easements and structures at Manassas National Battlefield Park contained in the Manassas National Battlefield Park Amendments of 1988 (Title X of the Technical and Miscellaneous Revenue Act of 1988; 102 Stat. 3342, 3810; Pub. L. No. 100-647; 16 U.S.C. § 429(b) (the "Manassas Act").

WHEREAS: pursuant to section 8(b)(i) of the 1993 Agreement, the United States agreed to quitclaim to Company an easement over the property hereinafter described for the transmission of electricity under the authority provided by section 5 of the Act of July 15, 1968 (82 Stat. 356; 16 U.S.C. 4601-22(b)) and the Manassas Act; in exchange for which Company agreed to convey, by

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MAP DRAWER 115 PAGE

Virginia Power  
Pipe Lines Inter-Phase  
File No. 26666  
Ref. Vh. 2-3261

special warranty deed, all of its rights, title and interest in and to the Brawner Farm Easement (described in the 1993 Agreement) and to acknowledge that this exchange and the payment of costs as provided for in the 1993 agreement, when made, will adequately and completely compensate Company for its claims arising from the enactment of the Manassas Act.

WHEREAS: pursuant to paragraph 19 of the 1993 Agreement, the parties intend to settle Company's claims for compensation under the Manassas Act in accord with the terms of the 1993 Agreement.

WITNESSETH:

That for and in consideration of the conveyance by the Grantee herein of its rights, title and interest in and to its easements over parcels of land within Manassas National Battlefield Park and for the Grantee's acknowledgement that this conveyance and the payment of costs as provided for in the 1993 agreement, when made, adequately and completely compensates Company for its claims arising from the enactment of the Manassas Act, the GRANTOR does hereby remise, release and forever quitclaim without any Warranty of Title unto the GRANTEE, its successors and assigns, the following: the perpetual right, privilege and easement of right-of-way Two Hundred Forty (240) feet in width, to construct, operate, and maintain one or more lines of poles, towers or structures, as Company may from time to time deem expedient or advisable, located on the right of way hereinafter described, for the purpose of transmitting electric power by one or more circuits, including all

poles, towers, non-reflective conductors, attachments, ground connections, equipment, accessories and appurtenances desirable in connection therewith (hereinafter referred to as "facilities"), over, upon and across lands of Owner situated in Gainesville Magisterial District of Prince William County, Virginia, as shown on Plat No. 24R A & B, hereto attached and made a part hereof, and more particularly described in Exhibit A, attached hereto and made a part hereof; for the purposes of transmitting and/or distributing electric power, subject to the following conditions and restrictions:

The facilities erected shall remain the property of Company. Company shall have the right to inspect, rebuild, remove, or repair such facilities on such right of way as Company may from time to time deem advisable. Company will comply with all applicable laws and regulations and secure all necessary approvals before making any changes or alterations of the facilities.

Company shall at all times have the right to keep the right-of-way clear of all buildings or structures (except fences), trees, stumps, roots, and undergrowth. The Company will obtain approval from the Superintendent, Manassas National Battlefield Park, in order to trim or fell any tree outside the right-of-way which, in the opinion of the Company, may endanger the safe or proper operation of its facilities, and the Owner agrees not to withhold such approval unreasonably. Such a tree shall be any tree which in falling or being felled could come within ten feet of the facilities.

All trees felled by the Company within or outside of the right-of-way shall be disposed of by Company within one (1) month after they are felled. All trees felled by Company and not removed immediately by Company shall be placed in piles on the right-of-way, subject to applicable regulatory requirements, where they will not block streams or drainage ditches. All trees felled by Company outside the right-of-way six months or more after Company has completed the initial construction of facilities on the right-of-way shall be paid for by Company at their then local market value.

Company shall have the right, but not the obligation, to plant trees and shrubs within the right-of-way at public road crossings.

For the purpose of constructing, inspecting, maintaining or operating its facilities on the right-of-way or on any of its rights-of-way on any other property, Company shall have the right of ingress and egress to the right-of-way. Such access shall be limited to ingress and egress from State Route Number 705 in areas parallel to the right of way, and not to exceed 15 feet in width, at the locations depicted on Plat No. 24R A & B hereto attached and made a part hereof, and at all state road crossings. The right to access the right-of-way at the location identified as #4 on Plat 24RA shall be temporary, for construction purposes only, and shall expire upon the completion of the initial construction. The Company shall travel the right-of-way in all areas not accessible by State Route 705 or other State road crossings. The Owner retains the right to shift, relocate, or close Company's points of ingress and egress across Owner's property to the right-of-way as

may be necessary to conduct park operations, provided reasonable alternative locations for ingress and egress are identified and agreed to in writing by Company.

All rights of ingress and egress shall be exercised in such a manner as to avoid unnecessary damage to natural, cultural, and archeological resources, and to cause the least practicable inconvenience to Owner. No asphalt or similar solid permanent type surface treatment shall be placed within the right-of-way or applied to Owner's property along said points of ingress and egress.

Company shall take steps to avoid damage to the ground surface within the right-of-way, including but not limited to avoiding unnecessary erosion or compaction. Company shall repair damage to fences, roads, other improvements, or the ground surface, and shall pay Owner for any damages to crops, either inside or outside the right-of-way, when such damage results from the exercise of the rights herein granted, provided Owner gives written notice thereof to Company within thirty (30) days after such damage occurs.

No construction or maintenance activities, including but not limited to the mowing of any grassland, shall occur within said right-of-way during the period of April 1 through July 15 of each year except during emergency conditions.

No structures may be placed within delineated wetlands. Any clearing within delineated wetlands shall be done by hand. The use

of herbicides in delineated wetlands or open water is prohibited.

RESERVING to GRANTOR and its successors and assigns, all right, title, interest and privilege as may be exercised and enjoyed without interference with or abridgement of the easements and rights hereby quitclaimed to grantee, including the following:

1. Owner and its successors and assigns, may, without approval of Company, use the right-of-way for agricultural purposes. Owner may plant trees and shrubs at public and park road crossings of the right-of-way provided said planting does not impair or impede Company's safe and proper operations of its facilities.

2. Owner and its successors and assigns may erect fences, excavate or place fill material on said right-of-way, drain fields on said right-of-way, or construct, operate and maintain passways, roads, trails, streets, ditches, water, sewer, telephone, electric or other utility lines (encroachments) across the right-of-way, provided that the Company determines such use does not interfere with or endanger the construction, operation or maintenance of Company's facilities, and provides prior written consent. No buildings or other structures shall be constructed on the right-of-way. The Company shall at all times have the right to cross or cut through such encroachments and to interrupt the use thereof, for the purpose of constructing, maintaining, operating, repairing, altering or replacing its facilities, provided, any damage done by Company in the exercise of such right shall be repaired at Company's own cost and expense.

The Grantee by accepting delivery of this instrument and recordation of the same covenants and agrees that it, the said Grantee, and its successors and assigns, will comply with the National Electrical Safety Code and all laws which are applicable to the lands and interests in lands conveyed herein as well as any applicable federal or Commonwealth rules and regulations governing the construction, operation and maintenance of the facilities.

IN WITNESS WHEREOF, I have caused this instrument to be executed and sealed as the act and on behalf of the United States of America, as of the day and year first hereinabove written.

UNITED STATES OF AMERICA  
Acting Through The National Park  
Service, National Capital Area

By: Robert Stanton  
Robert Stanton, Field Director  
National Capital Area  
National Park Service

WITNESS:

Mr. A. Cook  
\_\_\_\_\_

United States of America )  
 ) ss:  
 )

I, ARTHUR T. PETTIFORD, a Notary Public in and for the DISTRICT OF COLUMBIA, whose commission as such expires on the 31ST day of MAY, ~~19~~ 2001 do hereby certify that ROBERT STANTON, as Field Director, National Capital Area, National Park Service, a party to a Deed bearing date on the 30th day of MAY, 1996, and hereto annexed, personally appeared before me in said District, and being personally well known to me as (or proved by the oath of credible witness to be) the person who executed the said Deed, and acknowledged the same to be his act and deed.

Given under my hand and seal this 3rd day of JUNE, 1996.

Arthur T. Pettiford  
Notary Public



ARTHUR T. PETTIFORD  
NOTARY PUBLIC  
DISTRICT OF COLUMBIA  
MY COMMISSION EXPIRES MAY 31, 2001

## Exhibit A

Parcel 24RA

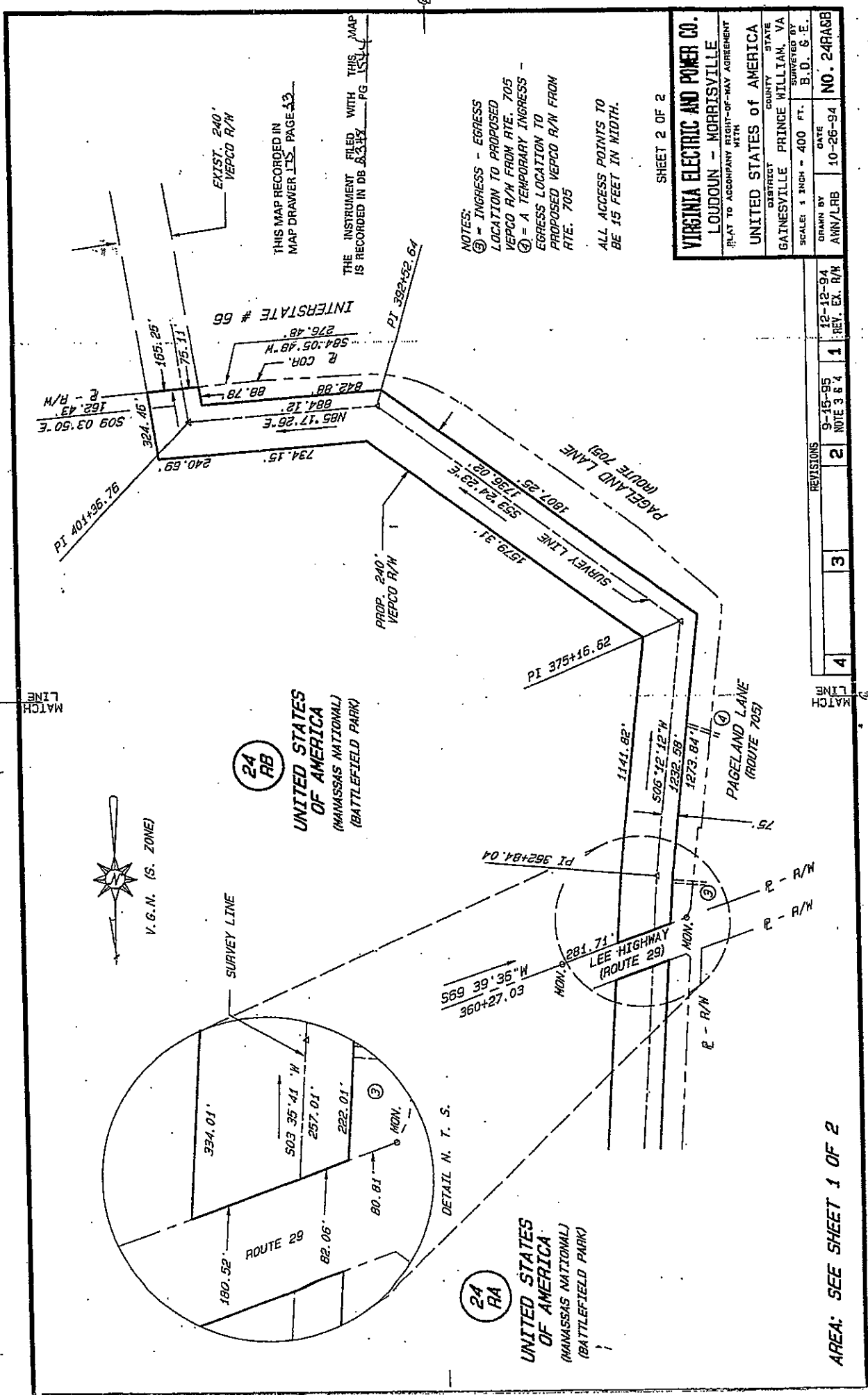
Beginning at a point in the property line dividing Owner's property and property now or formerly of Mary Ann Ghadban, et al; said point being S. 88° 37' 51" W. 765.40 feet from a property line marker, marked by a stone; thence S. 05° 41' 46" W. 479.85 feet across Owner's property to a point; thence S. 52° 19' 27" W. 1871.52 feet across said property to a point; thence S. 01° 50' 17" W. 2020.57 feet across said property to a point; thence S. 03° 35' 41" W. 1518.32 feet across property to a point in the property line dividing Owner's property and the northerly boundary of Lee Highway (Route 29); thence S. 69° 39' 36" W. 180.52 feet along said property line, being said boundary to Station 35 plus 851.36 in a certain proposed survey line; thence S. 69° 39' 36" W. 82.06 feet along said property line, being said boundary to a point; thence N. 03° 35' 41" E. 1621.17 feet across Owner's property to a point; thence N. 01° 50' 17" E. 2130.05 feet across said property to a point; thence N. 52° 19' 27" E. 1881.24 feet across said property to a point; thence N. 05° 41' 46" W. 346.67 feet across said property to a point in the property line dividing Owner's property and property of said Mary Ann Ghadban; thence N. 88° 37' 51" E. 75.57 feet along said property to Station 299 plus 00.00; thence N. 88° 37' 51" E. 166.26 feet along said property line to the point of the beginning.

Parcel 24RB

Beginning at a point in the property line dividing Owner's property and the southerly boundary of Lee Highway (Route 29); said point being N. 69° 39' 36" E. 80.81 feet from a property corner marked by a monument; thence N. 69° 39' 36" E. 82.06 feet along said property line, being said boundary to Station 360 plus 27.03 in a certain proposed survey line; thence N 69° 39' 36" E. 180.52 feet along said property line, being said boundary to a point; thence S. 03° 35' 41" W. 334.01 feet across Owner's property to a point; thence S. 06° 12' 12" W. 1141.82 feet across Owner's property to a point; thence S. 53° 24' 23" E. 1579.31 feet across said property to a point; thence N. 85° 17' 26" E. 734.15 feet across said property to a point being the westerly boundary of an existing 240' VEPCO R/W; thence N. 85° 17' 26" E. 240.69 feet across said property to a point being the easterly boundary of said existing 240' VEPCO R/W; thence S. 09° 03' 50" E. 324.46 feet along said boundary to a point in the property line dividing Owner's property and the northerly boundary of Interstate #66; thence S. 84° 05' 48" W. 165.25 feet along said property line, being said boundary to a point in the survey line; thence S. 84° 05' 48" W. 75.11 feet along said property line, being said boundary to a point; thence N. 09° 03' 50" W. 88.78 feet across Owner's property to a point; thence S. 85° 17' 26" W. 842.88 feet across said property to a point; thence N. 53° 24' 23" W. 1807.25 feet across said property to a

point; thence N. 06° 12' 12" E. 1273.84 feet across said property to the point of the beginning.

8X2348 PG1556



THIS MAP RECORDED IN  
MAP DRAWER 115 - PAGE 13

THE INSTRUMENT FILED WITH THIS MAP  
IS RECORDED IN DB 83, PG 1556

NOTES:  
③ - INGRESS - EGRESS  
LOCATION TO PROPOSED  
VEPCO R/W FROM RTE. 705  
④ - A TEMPORARY INGRESS -  
EGRESS LOCATION TO  
PROPOSED VEP CO R/W FROM  
RTE. 705

ALL ACCESS POINTS TO  
BE 15 FEET IN WIDTH.

SHEET 2 OF 2

<b>VIRGINIA ELECTRIC AND POWER CO.</b>	
LOUDBON - MORRISVILLE	
PLAT TO ACCOMPANY RIGHT-OF-WAY AGREEMENT WITH	
<b>UNITED STATES OF AMERICA</b>	STATE
DISTRICT	COUNTY
GAINESVILLE	PRINCE WILLIAM, VA
SURVEYED BY B.D. & E.	
SCALE: 1 INCH = 400 FT.	DATE
DRAWN BY AMN/LRB	10-26-94
NO. 24RACB	

NO.	DATE	REVISIONS
1	12-12-94	REV. EX. R/W
2	9-15-95	NOTE 3 & 4
3		
4		

AREA: SEE SHEET 1 OF 2

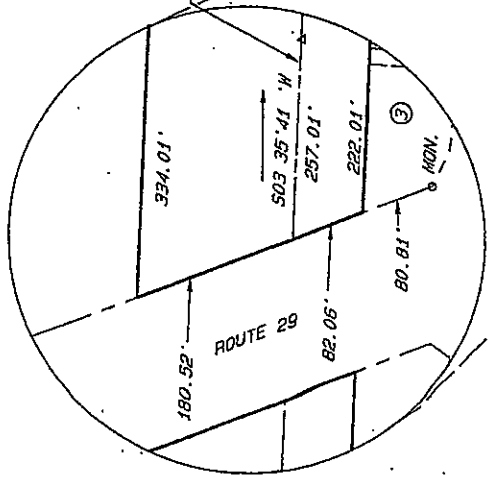


24 RB

**UNITED STATES OF AMERICA**  
(MANASSAS NATIONAL)  
(BATTLEFIELD PARK)

24 RA

**UNITED STATES OF AMERICA**  
(MANASSAS NATIONAL)  
(BATTLEFIELD PARK)



DETAIL N. T. S.



THE INSTRUMENT FILED WITH THIS MAP IS RECORDED IN DB 3328 PG 1514

24 RB

UNITED STATES OF AMERICA  
(MANASSAS NATIONAL)  
(BATTLEFIELD PARK)

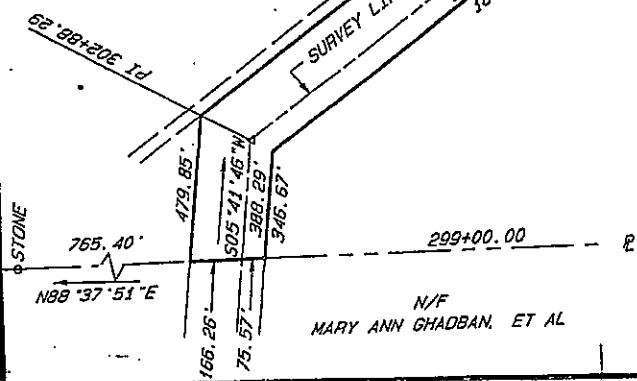
THIS MAP RECORDED IN MAP DRAWER 115 PAGE 32

24 RA

UNITED STATES OF AMERICA  
(MANASSAS NATIONAL)  
(BATTLEFIELD PARK)

Bk. 23-48 1555

MATCH LINE

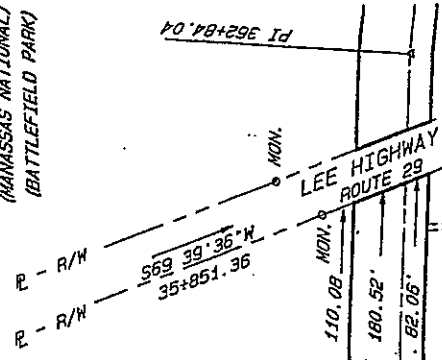


EXIST. 40' EASEMENT FOR COLUMBIA GAS TRANSMISSION CORP.

SURVEY LINE 1871.52'  
S62°19'27\"/>

166.26' 75.57' 479.85' 505'41.46\"/>

299+00.00 N/F MARY ANN GHADBAN, ET AL



P - R/W 569 39°36\"/>

1518.32' 110.08' 180.52' 82.06'

PI 342+62.33

PROP. 240' VEPCO R/W

2020.57'

501'50'17\"/>

2095.84'

2130.05'

PAGELAND LANE (ROUTE 705)

PI 323+66.19'

R - R/W

SHEET 1 OF 2

NOTE:  
① & ② = INGRESS - EGRESS LOCATIONS TO PROPOSED VEPCO R/W FROM RTE. 705  
ALL ACCESS POINTS TO BE 15 FEET IN WIDTH.

**VIRGINIA ELECTRIC AND POWER CO.**  
 LOUDOUN - MORRISVILLE  
 PLAT TO ACCOMPANY REBID-OF-WAY AGREEMENT WITH  
 UNITED STATES OF AMERICA  
 DISTRICT COUNTY STATE  
 GAINESVILLE PRINCE WILLIAM VA  
 SURVEYED BY  
 B. D. & E.  
 SCALE: 1 INCH = 400 FT.  
 DATE 10-24-94  
 DRAWN BY AMY/LRB  
 NO. 24RAB8

REV.	DATE	BY	REVISIONS
1	12-12-94	REV. EX. R/W	
2	9-15-95	NOTE 1 & 2	
3			
4			

AREA - PARCEL (24RA): 32.70 AC  
 AREA - PARCEL (24RB): 23.66 AC  
 AREA - TOTAL: 56.36 AC

**ATTACHMENT B:  
EROSION AND SEDIMENT CONTROL  
PLAN**

**DOMINION SPECIFICATION TE VEP 8000**  
**GENERAL EROSION AND SEDIMENTATION CONTROL SPECIFICATIONS**  
**FOR THE CONSTRUCTION AND MAINTENANCE OF**  
**ELECTRIC TRANSMISSION LINES**

**TE VEP 8000-09-00**

**EROSION AND**  
**SEDIMENTATION**  
**CONTROL**

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**General Erosion and Sedimentation Control Specification  
For  
Construction and Maintenance of Electric Transmission Lines**

**A. PURPOSE**

The intent of this document is to establish general specifications for the control of erosion and sedimentation as a result of land disturbing activities performed during the construction and maintenance of electric transmission lines. While these controls may not be applicable to the existing exemptions (i.e. individual service connections, disturbed areas of less than 10,000 square feet west of I-95, disturbed areas less than 2,500 square feet east of I-95 and installation of electric poles) they will be utilized if site specific conditions warrant.

**B. TRANSMISSION LINE CONSTRUCTION OVERVIEW**

1. Overhead Transmission Lines

Transmission line right-of-ways are cleared to a specific width depending on the voltage of the line. Clearing of right-of-ways is performed by shear cutting with a shear dozer and by hand cutting with power saws. All brush, trees, and old stumps are cut at a maximum height of 3" above the ground. The right-of-way is not grubbed, thus leaving the root mass intact and the soil undisturbed. Structures that are placed on the right-of-way include wood, steel, or concrete poles and steel towers. Structures are either direct embedded or installed on concrete foundations.

2. Underground Transmission Lines

Underground transmission lines are placed in a trench excavated approximately 5 feet deep and backfilled with fluidized thermal backfill (slurry concrete mix), sand and native soil. The right-of-way is cleared similarly to the overhead transmission line except that a narrower right-of-way is acceptable because underground lines have tree clearance requirements only in the immediate vicinity of the trench and construction area.

3. Contractor Responsibility

The Contractor shall be responsible complying with the intent of this specification to provide erosion and sedimentation control both within and outside the limits of the right-of-way that he utilizes. The Contractor shall follow a policy of keeping land disturbing activities to a minimum consistent with good construction practices and long term environmental considerations. The Contractor shall be responsible for temporary stabilization of all areas disturbed during construction activities until final rehabilitation is complete.

#### 4. Dominion Responsibility

The Erosion and Sediment Control (ESC) plan shall be included in all transmission construction specifications and Dominion shall assure that the contractor is aware of their responsibility prior to starting any construction activities by covering this specification during the pre-construction meeting. Dominion shall provide quality assurance for the ESC plan as well as guidance, as needed, for implementation of ESC measures on all projects.

#### 5. Dominion Construction Coordinator

Each Dominion construction project shall have a Construction Coordinator designated to serve as on site quality assurance for Dominion. The Construction Coordinator shall be trained and certified by the Virginia Department of Conservation & Recreation "*Responsible Land Disturber*" program. The Coordinator, or his qualified designee, shall work with the contractor to identify need, in accordance with the ESC Specification and assure that all measures are implemented prior to any construction. The Coordinator shall also assure that all maintenance and rehabilitation activities are performed in accordance with this specification.

Where land disturbance activities are required and a site specific erosion and sedimentation control (ESC) plan is warranted, a notebook containing the ESC plans and inspection reports shall be completed, maintained and made available on-site for review upon request by any local or state agency representative.

The notebook shall contain, at a minimum: a project summary including key contact information, a copy of the Dominion standard erosion and sedimentation control specification TE VEP 8000, initial plans showing the right-of-way, road crossings, and existing features, plan sheets showing limits of land disturbance and proposed stabilization measures, seeding schedules and inspection reports.

The initial plan required for the notebook can be the transmission line plan and profile drawings with sensitive areas labeled as referenced in section D.

For overhead transmission projects, typical structure and access road plans have been developed for use as plan sheets. These plans show an estimated footprint of disturbance, general stabilization measures, reference notes and an installation/ maintenance schedule. The Construction Coordinator is responsible for adding specific measures to the typical plans as needed for site stabilization.

The Certified Responsible Land Disturber shall provide for and document inspections at the following frequency: during or immediately following initial installation of erosion and sediment controls, at least once in every two-week period, within 48 hours following any runoff producing storm event, and at the completion of the project.

### C. TRANSMISSION LINE MAINTENANCE OVERVIEW

Many of the activities associated with the maintenance of Electric Transmission Lines mirror the activities of Transmission Line Construction. Dominion intends to employ the same applicable guidelines for erosion and sedimentation controls for Transmission Line Maintenance as for Transmission Line Construction.

### D. EROSION AND SEDIMENTATION CONTROLS

Dominion employs the following erosion and sedimentation controls during soil disturbing activities associated with the construction of transmission lines. At a minimum, **sensitive areas to be protected are identified on the transmission line plan and profile drawings.** The majority of the transmission line construction is for overhead lines with soil disturbing activities limited to construction of temporary access roads and the installation of structures. The most visible activity, right-of-way clearing, is not considered a soil disturbing activity as it is essentially timbering with the root mass and soil left undisturbed.

All measures for the purpose of containing sediment are to be installed prior to up-slope land disturbing activities occurring.

The intent of this specification is to assure that the Minimum Standards set forth in the 2003 Virginia Erosion and Sedimentation Control Regulations are implemented during the construction of the Dominion transmission project. The following is a brief synopsis of the ESC Minimum Standards:

**MS-1 Stabilization of Denuded Areas** Within seven days permanent or temporary soil stabilization shall be applied to denuded areas that may remain dormant for longer than 30.

**MS-2 Stabilization of Soil Stockpiles** During construction, soil stockpiles and borrow areas shall be stabilized or protected with sediment trapping measures.

**MS-3 Establishment of Permanent Vegetation** A permanent vegetative cover shall be established on denuded areas not otherwise permanently stabilized.

**MS-4 Timing and Stabilization of Sediment Trapping Measures** Sediment traps, and all other sediment barriers shall be constructed as a first step in any land-disturbing activity and shall be made functional before upslope land disturbance takes place.

**MS-5 Stabilization of Sediment Trapping Measures** Stabilization measures shall be applied to earthen structures such as dams, dikes and diversions immediately after installation.

- MS-6** **Sediment Basins** Sediment traps and sediment basins shall be designed and constructed based upon the total drainage area to be served by the trap of basin. The minimum storage capacity of a sediment trap shall be 134 cubic yards per acre of drainage area and the trap shall only control drainage areas less than three acres. Sediment basins are not typically used because disturbed and drainage areas are usually not greater than three acres.
- MS-7** **Design, Construction and Stabilization of Cut and Fill Slopes** Cut and fill slopes shall be designed and constructed in a manner that will minimize erosion.
- MS-8** **Concentrated Runoff Contained in Adequate Temporary or Permanent Channel** Concentrated runoff shall not flow down cut or fill slopes unless contained within an adequate temporary or permanent channel, flume or slope drain structure. Not applicable for transmission facilities.
- MS-9** **Adequate Drainage Protection From Water Seeps** Whenever water seeps from a slope face, adequate drainage or other protection shall be provided.
- MS-10** **Storm Sewer Inlet Protection** All storm sewer inlets that are made operable during construction shall be protected against sediment-laden water.
- MS-11** **Stabilization of On-Site Waterways and Outlets** Before newly constructed stormwater conveyance channels or pipes are made operational, adequate outlet protection shall be installed. On site stormwater conveyance channels are not installed on transmission line construction projects.
- MS-12** **Work in Live Watercourse** When work in a live watercourse is performed, precautions shall be taken to minimize encroachment, control sediment transport and stabilize the work area to the greatest extent possible during construction.
- MS-13** **Crossing Live Watercourse** When a live watercourse must be crossed by construction vehicles more than twice in any six-month period, a temporary vehicular stream crossing constructed of nonerodible material shall be provided.
- MS-14** **Comply With All Applicable Federal, State, and Local Regulations for Work in Live Watercourses.**
- MS-15** **Stabilization of Watercourse Bed and Banks** The bed and banks of a watercourse shall be stabilized immediately after work in the watercourse is completed.

**MS-16 Underground Utility Construction** At a minimum, underground utility lines be installed using the following standards:

- a) No more than 500 linear feet of trench may be opened at one time.
- b) Excavated material shall be placed on the uphill side of trenches.
- c) Effluent from dewatering operations shall be appropriately filtered and discharged in a manner that does not adversely affect flowing streams or off-site property.
- d) Material used for backfilling trenches shall be properly compacted in order to minimize erosion and promote stabilization.
- e) Stabilization shall be accomplished in accordance with appropriate regulations.
- f) Applicable safety regulations shall be complied with.

**MS-17 Construction Access Road** Where construction vehicle access routes intersect paved or public roads, provisions shall be made to minimize the transport of sediment by vehicular tracking onto the paved surface.

**MS-18 Disposition of Temporary Measures** All temporary erosion and sediment control measures shall be removed within 30 days after final site stabilization or when temporary measures are no longer needed.

**MS-19 Stormwater Management for Controlling of Off-Site Erosion** Properties and waterways downstream from development sites shall be protected from sediment deposition, erosion and damage due to increases in volume, velocity and peak flow runoff.

**Virginia Uniform Coding System for Erosion and Sedimentation Control Practices**

The following are the more commonly used practices used for transmission line construction. Details for those practices marked \* are included in Appendix A. Refer to the 1992 Virginia Erosion and Sedimentation Control Handbook (VESCH) for full details.

<b><u>Practice</u></b>	<b><u>Title</u></b>	<b><u>Key</u></b>
*3.02	Temporary Stone Construction Entrance.....	CE
3.03	Construction Road Stabilization .....	CRS
*3.04	Straw Bale Barrier.....	STB
*3.05	Silt Fence .....	SF
3.06	Bush Barrier .....	BB
*3.07	Storm Drain Inlet Protection.....	IP
*3.09	Temporary Diversion Dike .....	DD
*3.10	Temporary Fill Diversion .....	FD
*3.11	Temporary Right-Of-Way Diversion.....	RWD
*3.12	Diversion.....	DV
3.13	Temporary Sedimentation Trap.....	ST
3.14	Temporary Sediment Basin.....	SB
3.15	Temporary Slope Drain.....	TSD

3.16	Paved Flume.....	PF
3.17	Stormwater Conveyance Channel.....	SCC
*3.18	Outlet Protection .....	OP
*3.19	Riprap.....	RR
*3.20	Rock Check Dams.....	CD
3.21	Level Spreader .....	LS
3.22	Vegetative Streambank Stabilization.....	VSS
3.23	Structural Streambank Stabilization .....	SSS
*3.24	Temporary Vehicular Stream Crossing .....	SC
*3.25	Utility Stream Crossing.....	USC
*3.26	Dewatering Structure.....	DS
3.28	Subsurface Drain.....	SD
3.29	Surface Roughening.....	SR
3.31	Temporary Seeding .....	TS
3.32	Permanent Seeding.....	PS
3.33	Sodding .....	SO
3.34	Bermudagrass & Zoysiagrass Est. ....	BE/ZE
3.35	Mulching .....	MU
*3.36	Soil Stabilization Blankets & Matting.....	B/M
3.37	Trees, Shrubs, Vines & Ground Cover .....	VEG
3.38	Tree Preservation & Protection.....	TP

The Contractor shall take every reasonable precaution, including the use of temporary and permanent measures, throughout the project to minimize the effects of erosion and sedimentation on site and adjacent streams. The following are specific erosion and sedimentation controls to be used:

1. Temporary Access Roads

Controls to be utilized with the placement of temporary roads shall include, but not be limited to terraces, cutouts, diversions, mulching, the installation of non-erosion outlets, straw bales, brush barriers, cross drains, and water bars.

- a) Roads will be built along the shortest practical route.
- b) The road edges shall be graded to the lowest possible angle and mulched or temporary seeded within 7 days after final grade is reached.
- c) Roads exceeding a 5% grade within 200-foot lengths shall have adequate water bars, terraces or diversions spaced at 50-foot intervals. The low side of the water bars will be protected with straw bales.
- d) Wherever construction roads access paved public roads temporary gravel construction entrance pads shall be installed to prevent mud tracking by construction vehicles.

- e) Pipe culverts will be installed only in areas where the road is crossing a defined drainage way. At low areas the road shall remain as close to grade as possible and shall be stabilized in accordance with VESCH Std. & Spec. 3.03 to trap or minimize erosion. A pipe culvert installed in a defined drainage way shall be installed as if the road were crossing a flowing watercourse. See "f" below.
- f) When a flowing watercourse must be crossed, temporary stream vehicular stream crossings shall be established in accordance with VESCH, Std. & Spec. 3.24. When culverts are used as a temporary crossing, the culvert must be sized to carry a 10-year frequency storm without appreciably altering the stream flow characteristics, using the specific watershed of the stream being crossed. If the crossing will be in place for less than 14 days, it shall be sized to handle a 2-year frequency storm and Table 3.24-A may be used to size the culvert. The contractor building the temporary access is responsible for sizing the culverts.

## 2. Construction Adjacent to Streams for Overhead Transmission Line

Trees and brush located within 100 feet of a stream or ditch with running water shall be cleared by hand. All material 3 inches in diameter and above shall be sawed or cut and removed from the buffer. Material less than 3 inches in diameter will be left undisturbed, and care shall be taken to prevent the disturbance of soil within the 100-foot buffer zone around streams and ditches. Creeks and streams shall be crossed at right angles in one location on the right-of-way using culverts, temporary bridges, or large aggregate stone. All work related to stream crossings shall be in accordance with VESCH Std. & Spec. 3.24. The Contractor shall remove all materials from temporary stream crossings at the completion of the project.

With appropriate permits, brush and logs may be placed across the right-of-way in areas of permanently standing water. This material shall be cut in short lengths and placed in such a manner to enable construction equipment to use the right-of-way. No logs, trimmings, or brush of any description shall be left in ditches, creeks, or drains. Dominion's Construction Coordinator shall designate areas where this procedure is to be used.

When construction activities in streams require a U.S. Army Corps permit, Virginia Marine Resources Commission approval, or approval from the Wetlands Board, Dominion will coordinate or obtain such permits.

## 3. Construction Associated with Structure Foundations and Structure Erection

Before work begins at any site, the Contractor and the Construction Coordinator will evaluate the site with respect to earth disturbance and erosion potential. Sensitive areas to be protected are identified on the transmission line plan and profile drawings. The Coordinator shall generate and implement a written site-specific plan as outlined in section B.5.

The Contractor shall be responsible for stabilizing the work site before moving to the next location. Areas damaged during foundation construction and structural erection activities shall be restored to the approximate original grade and protected by installing erosion and sedimentation control measures specified by the Construction Coordinator. All temporary erosion and sedimentation controls shall remain in place until permanent stabilization is achieved.

#### 4. Construction Associated with Underground Transmission Lines

The primary effort to lessen impacts associated with underground construction is to minimize construction time. During construction all spoils shall be placed on the uphill side of the trench or hauled away to a spoil storage site. The spoils site shall be controlled with either silt fence or straw bale barriers. Should it be necessary to place spoils on the downhill side of the trench, the Construction Coordinator may require the installation of silt fences or straw bales. Where construction occurs in the vicinity of streams or storm drains, the Construction Coordinator may require that these drainage areas to be protected with silt fences or straw bales. Whenever stormwater runoff is pumped out of the trench during construction, this water shall be filtered through straw bales or filter fabric before it enters any drainage system or drain. When installing the underground pipe across a stream, the contractor shall follow the VESCH practice 3.25. All stream protection measures covered in the VESCH shall be followed for an underground stream crossing.

#### 5. Erosion Control Device Maintenance

It is the responsibility of the Contractor to maintain all erosion control devices. Upon inspection, if an erosion control device is damaged or if the capacity is approaching its limit, proper steps of repair or maintenance shall be taken. The Construction Coordinator shall direct the contractor to take the necessary steps should he feel that conditions warrant repair or maintenance.

### E. **SITE REHABILITATION**

Site rehabilitation on a transmission project is a continuous operation. Each contractor performing work on the project is responsible for temporary stabilization of all soil disturbing activities performed. The temporary measures, including straw bales, silt fence, mulching, stone and temporary seeding shall be applied to denuded areas within 7 days. If a portion of transmission line is to be left dormant for more than a year the Construction Coordinator shall require permanent restoration of that section of line.

Permanent site rehabilitation shall be performed after all work on a section of the transmission line is completed or may be left dormant for more than a year. The rehabilitation of the right of way shall include the stabilizing and permanent seeding of transmission construction roads, tower sites, stockpiles and all other areas disturbed as a result of the various construction activities. All temporary sedimentation and erosion control measures shall be disposed of within 30 days after final stabilization is achieved. Stabilization will be considered final when the vegetative cover is uniform and mature enough to survive and will inhibit erosion.

The contractor responsible for permanent rehabilitation shall, at a minimum, establish permanent vegetative cover on all denuded areas not otherwise permanently stabilized following the specific measures below in conjunction with applicable VESCH Std. & Spec.

1. Soil Preparation

- a) All bare soil areas resulting from construction, including construction roads and tower sites, shall be worked by disking to a depth of three inches. Discing shall be perpendicular to the line of slope when possible. Water bars or other drainage facilities, if destroyed, must be repaired.
- b) In lieu of a soil test, apply 500 pounds of 10-20-10 fertilizer per acre, and lime at a minimum rate of two tons per acre to insure successful germination and growth. The application shall be made prior to disking to work the fertilizer and lime into the soil. The fertilizer must be applied uniformly over the bare soil and shall not be applied more than four weeks before seeding.
- c) Cross drains may be installed on all construction roads on and off the right-of-way as directed by the Coordinator, Transmission Construction or Forestry Representative and are installed as a part of the cleanup activity.

Cross drains are to be located as follows:

<u>Percent Slope</u>	<u>Distance Between Cross Drain (Ft)</u>
2 .....	240
5 .....	140
10 .....	80
15 .....	60
20 .....	45
25 .....	40
30 .....	35
40 .....	30

Cross drains shall be constructed to carry the amount of excess surface water anticipated at each location. Cross drains are not to be constructed at right angles to the direction of slope, but are angled to carry the excess water with the direction of the slope.

## 2. Site Stabilization

In order to stabilize disturbed areas and establish permanent vegetation the following seeding program will be implemented:

- a. Seeding shall be done with a tractor-mounted cyclone-type or no till seeder. Hydroseeding may be considered.
- b. After fertilizing and discing, or if no till equipment is used, the applicable grass mixtures shall be uniformly applied at the rates specified in standard specification 3.32 of the “Virginia Erosion and Sediment Control Handbook”.
- c. Seeding shall not be done in July or August or from November to spring thaw when weather conditions prevent proper operation. Weather conditions (soil moisture) may permit alterations in this requirement.
- d. When grading is complete, seeding and mulching shall be performed. Mulch will be used on hillside and in cross drains.
- e. Permanent or temporary soil stabilization will be applied to denuded areas within 7 days after final grade is reached on any portion of the site. Soil stabilization will also be applied within 7 days to denuded areas which may not be at final grade but will remain undisturbed for longer than 30 days.

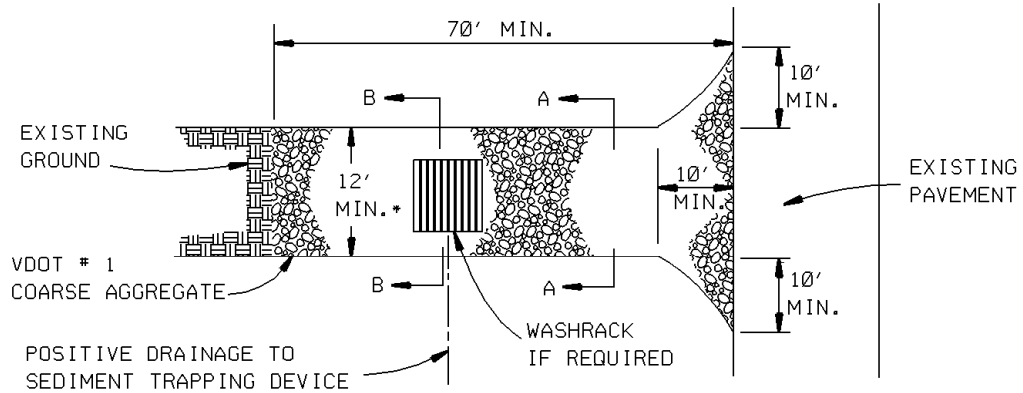
**APPENDIX A**

The following Construction details are taken from the Virginia Erosion and Sediment Control Handbook,(VESCH) Third Edition. Specific details and guidelines are covered more completely in Chapter 3 of the VESCH.

The Contractor shall go to the VESCH to reference practices that are covered in the specification but not listed below.

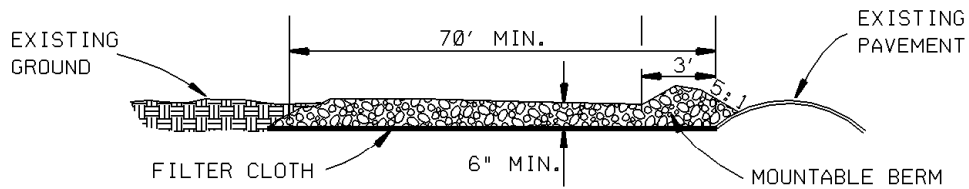
<b><u>Practice</u></b>	<b><u>Title</u></b>	<b><u>Key</u></b>
3.02	Temporary Stone Construction Entrance.....	CE
3.04	Straw Bale Barrier.....	STB
3.05	Silt Fence .....	SF
3.07	Storm Drain Inlet Protection.....	IP
3.09	Temporary Diversion Dike .....	DD
3.10	Temporary Fill Diversion .....	FD
3.11	Temporary Right-Of-Way Diversion.....	RWD
3.12	Diversion.....	DV
3.18	Outlet Protection .....	OP
3.19	RipRap .....	RR
3.20	Rock Check Dams.....	CD
3.24	Temporary Vehicular Stream Crossing .....	SC
3.25	Utility Stream Crossing.....	USC
3.26	Dewatering Structure.....	DW
3.36	Soil Stabilization Blankets & Matting.....	B/M

## STONE CONSTRUCTION ENTRANCE - 3.02

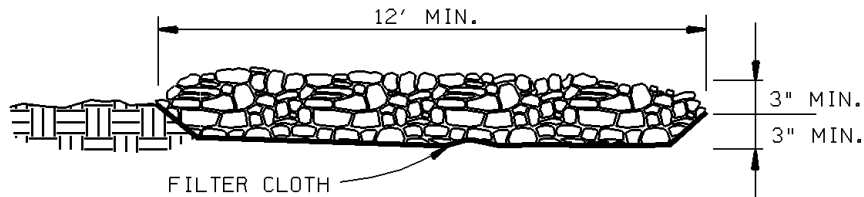


\* MUST EXTEND FULL WIDTH OF INGRESS AND EGRESS OPERATION

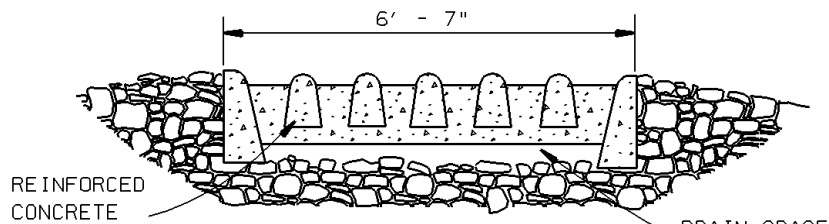
PLAN VIEW



ELEVATION



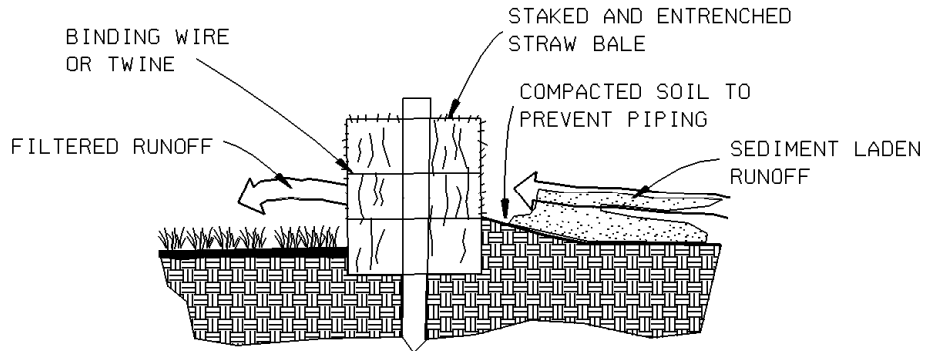
SECTION A - A



SECTION B - B

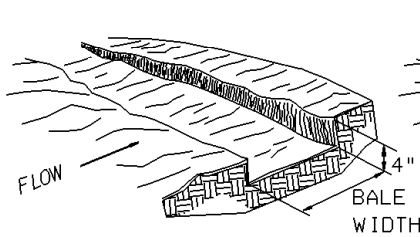
vee302.dgn

## STRAW BALE BARRIER - 3.04

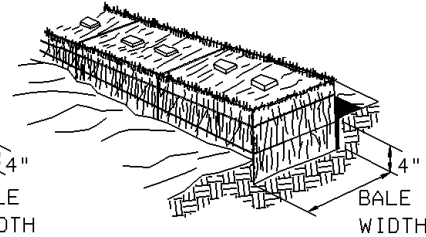


PROPERLY INSTALLED STRAW BALE  
CROSS SECTION

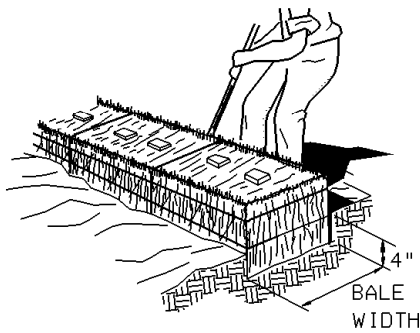
1. EXCAVATE THE TRENCH



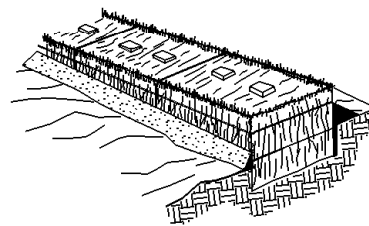
2. PLACE AND STAKE STRAW BALES



3. WEDGE LOOSE STRAW BETWEEN BALES



4. BACKFILL AND COMPACT THE EXCAVATED SOIL



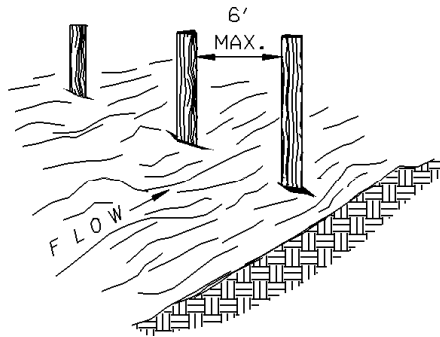
CONSTRUCTION OF STRAW BALE BARRIER

v66304.dgn

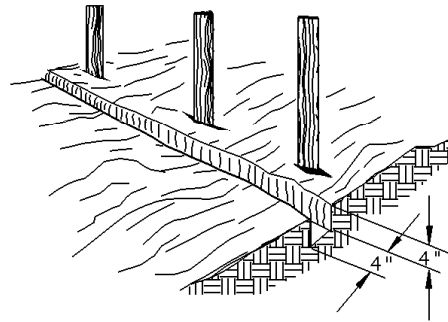
## SILT FENCE - 3.05

### CONSTRUCTION OF SILT FENCE

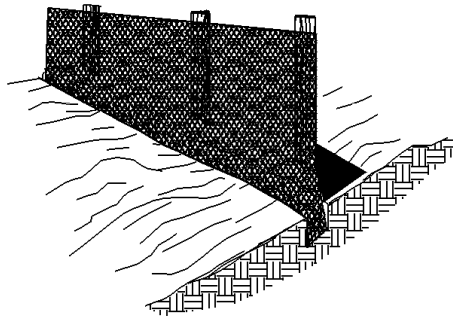
1. SET THE STAKES



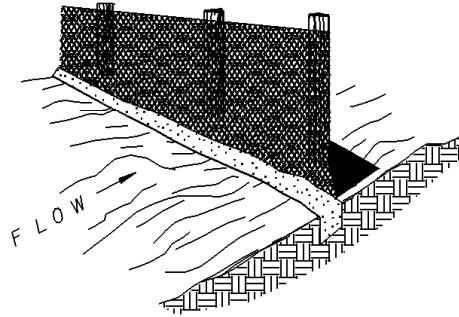
2. EXCAVATE A 4" X 4" TRENCH UPSLOPE ALONG THE LINE OF STAKES.



3. STAPLE FILTER MATERIAL TO STAKES AND EXTEND IT INTO TRENCH.

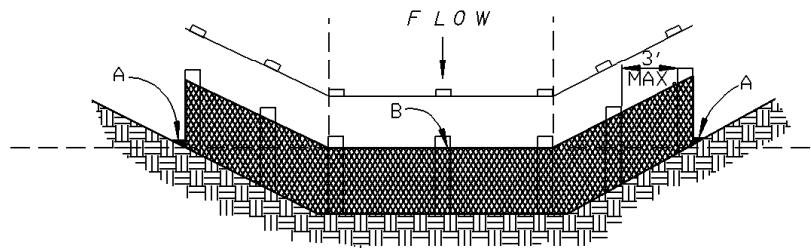


4. BACKFILL AND COMPACT THE EXCAVATED SOIL.



### SHEET FLOW INSTALLATION

(PERSPECTIVE VIEW)



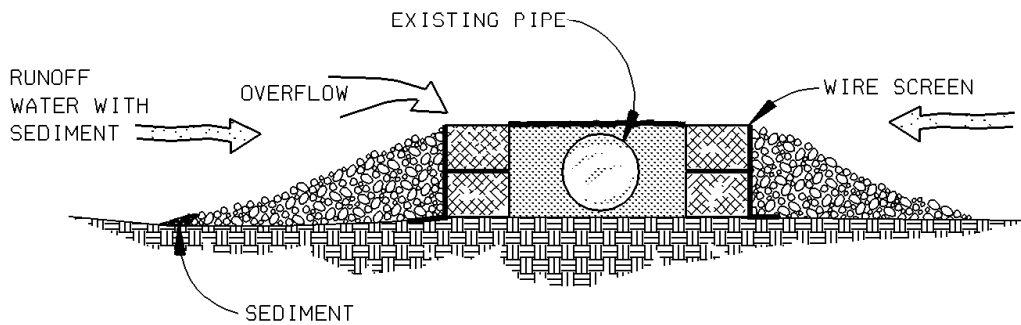
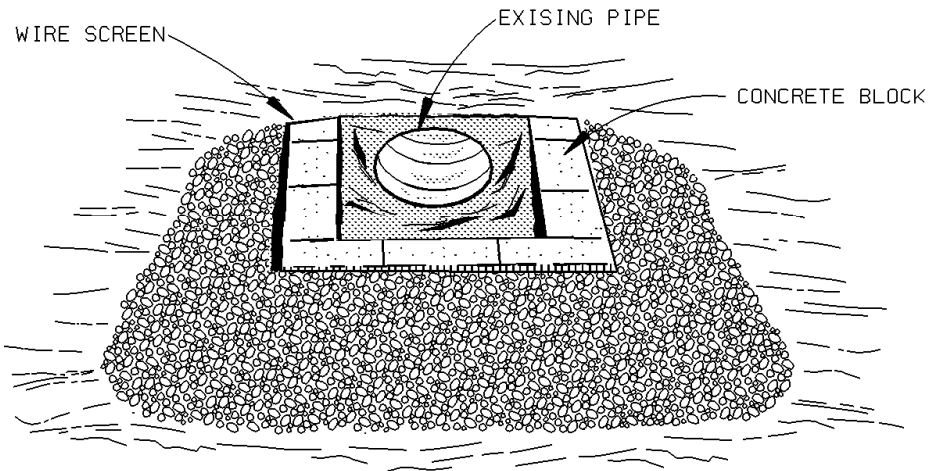
POINTS A SHOULD BE HIGHER THAN POINT B

### DRAINAGEWAY INSTALLATION

(ELEVATION)

vee305.dgn

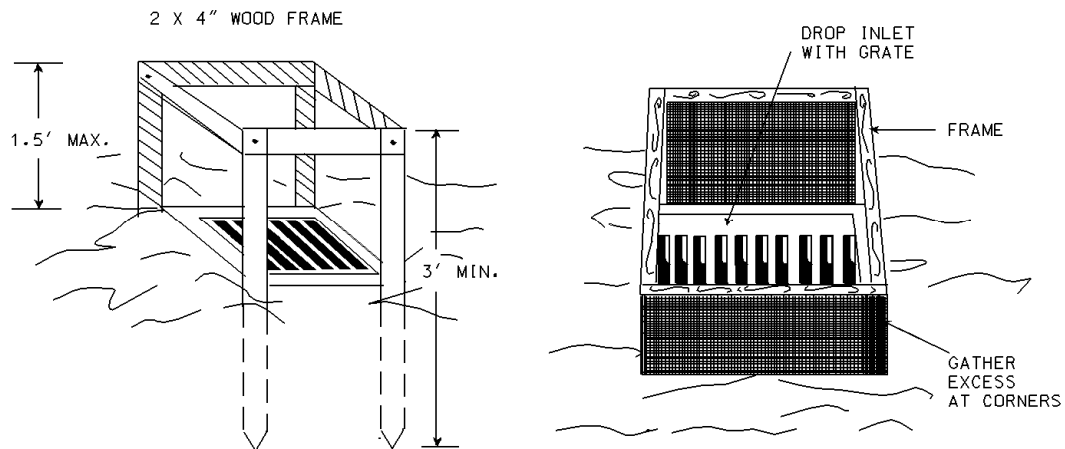
## INLET PIPE PROTECTION - 3.07



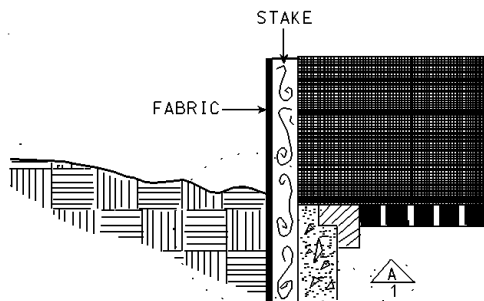
### BLOCK AND GRAVEL PIPE INLET SEDIMENT FILTER

THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE HEAVY FLOWS ARE EXPECTED, AND WHERE AN OVERFLOW CAPACITY IS NECESSARY TO PREVENT EXCESSIVE PONDING AROUND THE STRUCTURE.

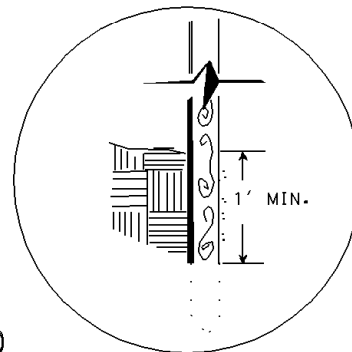
## SILT FENCE DROP INLET PROTECTION - 3.07-1



PERSPECTIVE VIEWS



ELEVATION OF STAKE AND FABRIC ORIENTATION

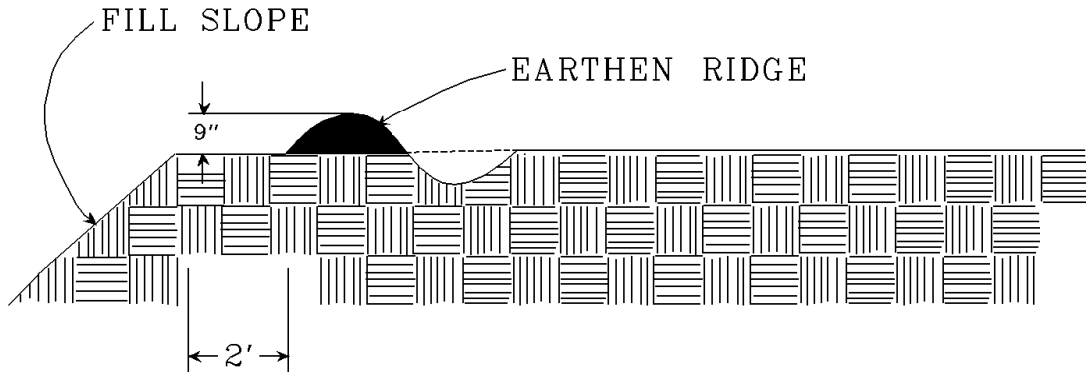


DETAIL A

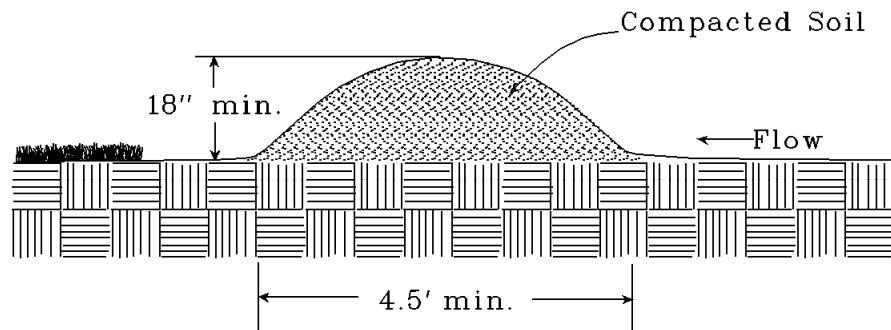
### SPECIFIC APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE THE INLET DRAINS A RELATIVELY FLAT AREA (SLOPE NO GREATER THAN 5%) WHERE THE INLET SHEET OR OVERLAND FLOWS (NOT EXCEEDING 1 C.F.S.) ARE TYPICAL. THE METHOD SHALL NOT APPLY TO INLETS RECEIVING CONCENTRATED FLOWS, SUCH AS IN STREET OR HIGHWAY MEDIANS.

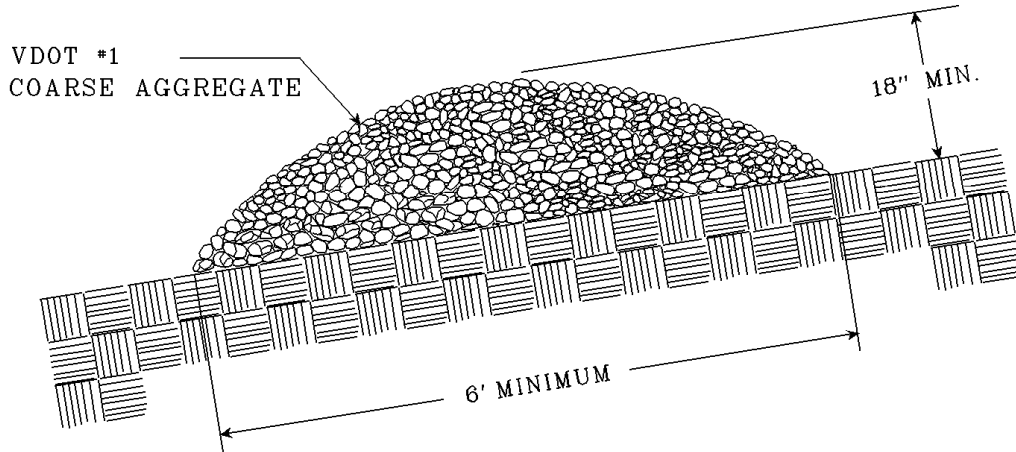
## TEMPORARY FILL DIVERSION - 3.10



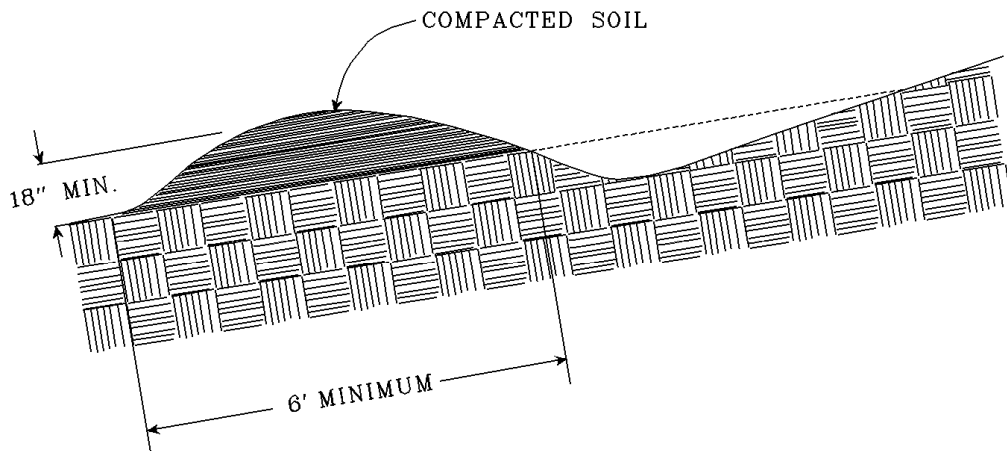
## TEMPORARY DIVERSION DIKE - 3.09



TEMPORARY RIGHT-OF-WAY DIVERSIONS - 3.11

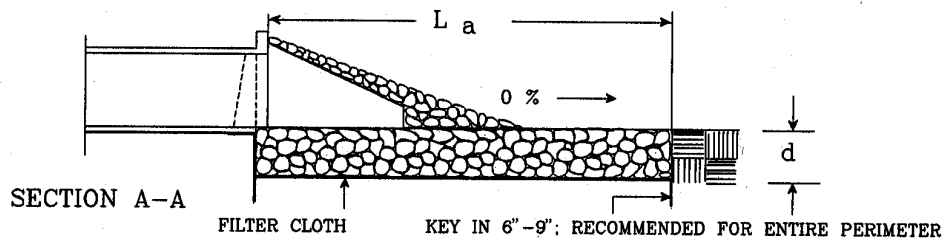
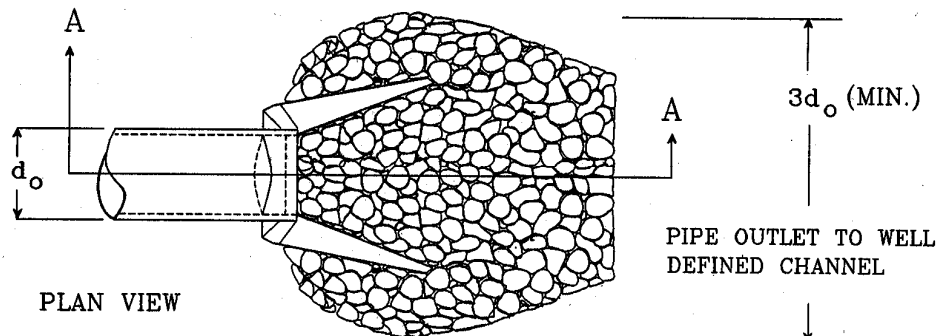
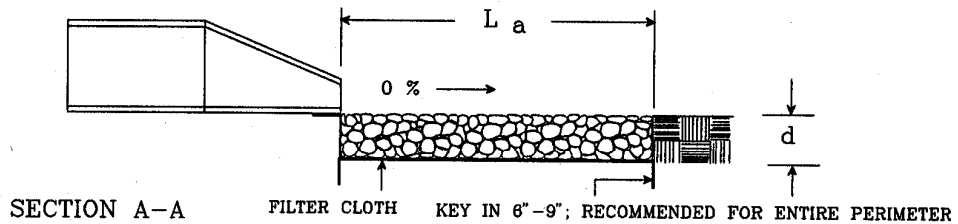
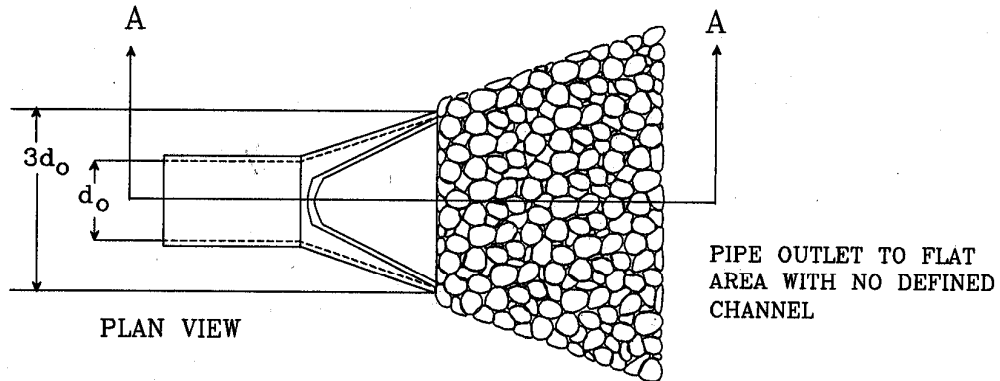


TYPICAL GRAVEL STRUCTURE



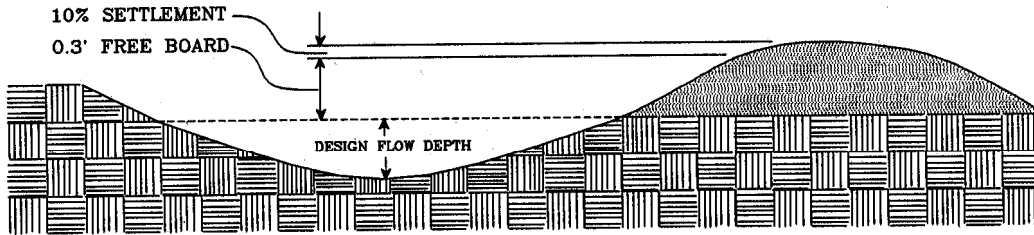
TYPICAL EARTHEN STRUCTURE

## PIPE OUTLET CONDITIONS 3.12

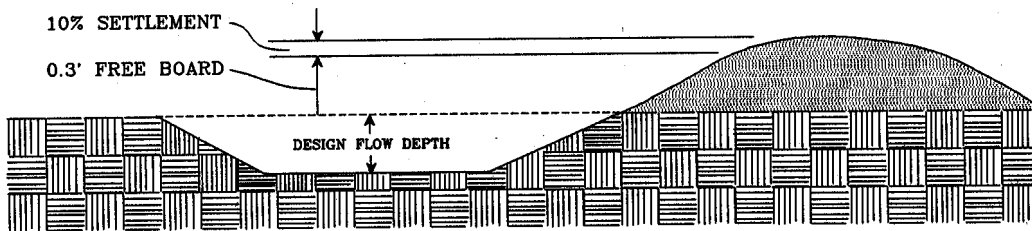


- NOTES: 1. APRON LINING MAY BE RIPRAP, GROUDED RIPRAP, GABION BASKET, OR CONCRETE.  
 2.  $L_a$  IS THE LENGTH OF THE RIPRAP APRON AS CALCULATED USING PLATES 3.18-3 AND 3.18-4.  
 3.  $d = 1.5$  TIMES THE MAXIMUM STONE DIAMETER, BUT NOT LESS THAN 6 INCHES.

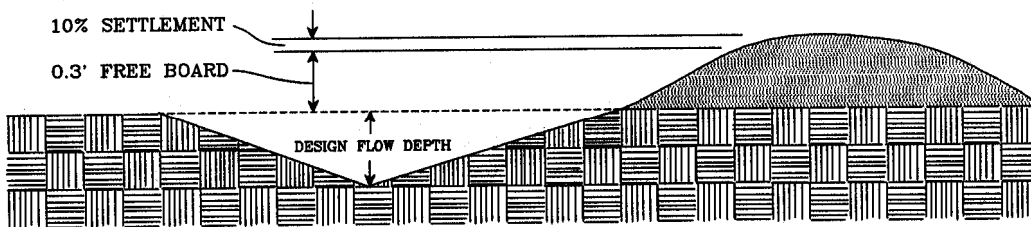
## DIVERSION 3.18



TYPICAL PARABOLIC DIVERSION



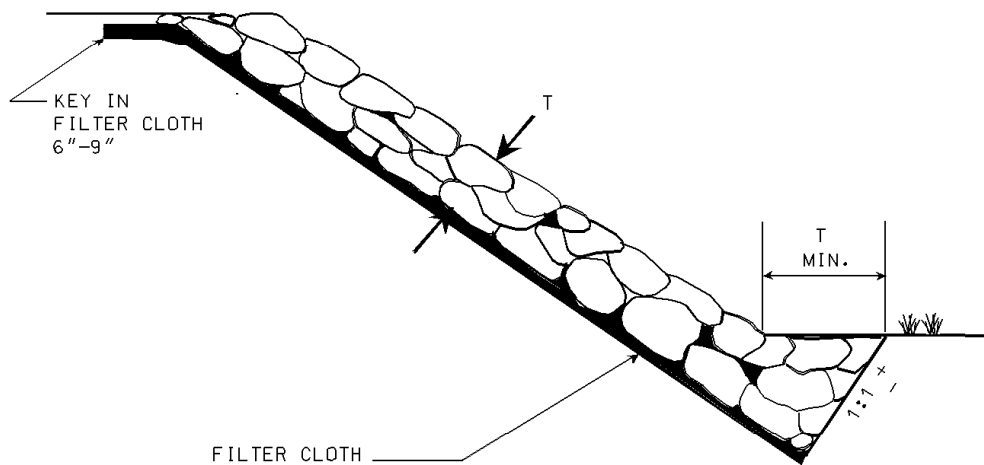
TYPICAL TRAPEZOIDAL DIVERSION



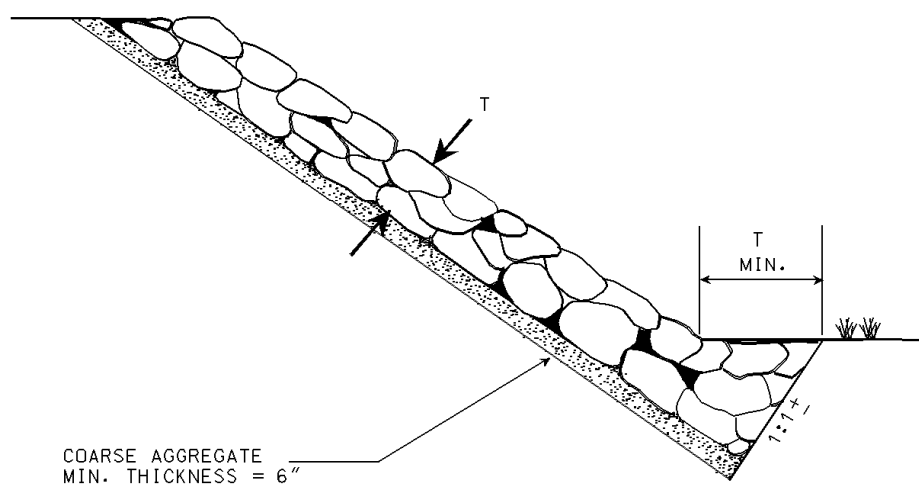
TYPICAL VEE-SHAPED DIVERSION

TOE REQUIREMENTS FOR  
BANK STABILIZATION - 3.19

FILTER CLOTH UNDERLINER  
(PREFERRED)

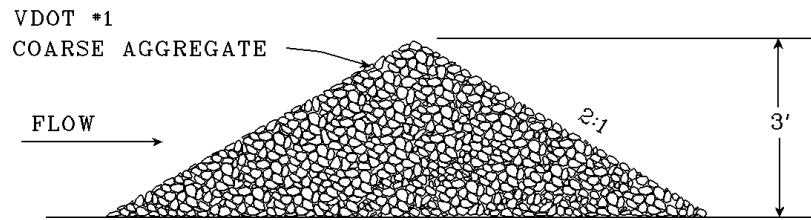
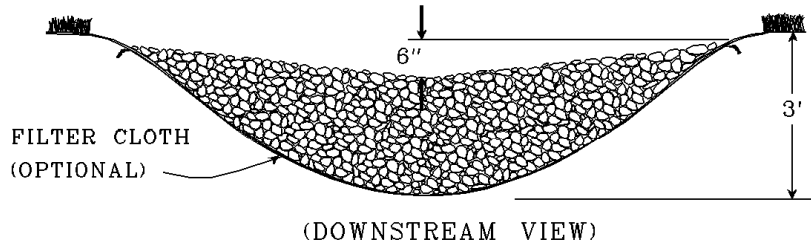


GRANULAR FILTER

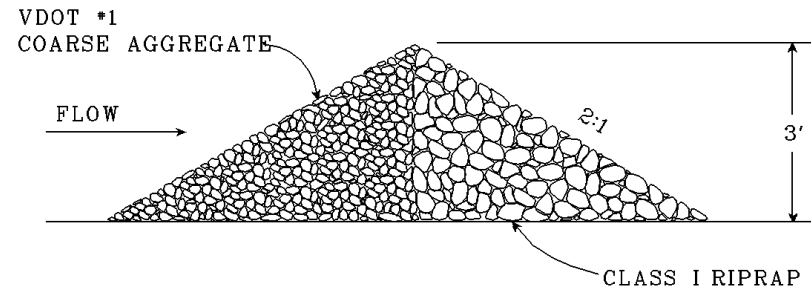
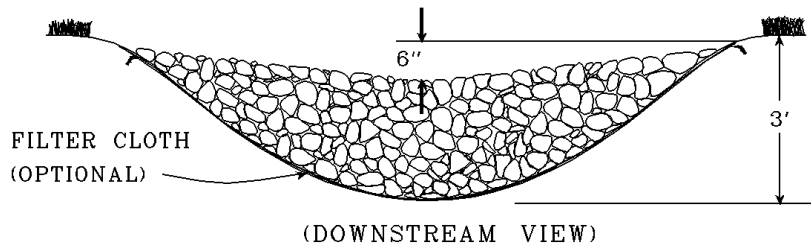


# ROCK CHECK DAM - 3.20

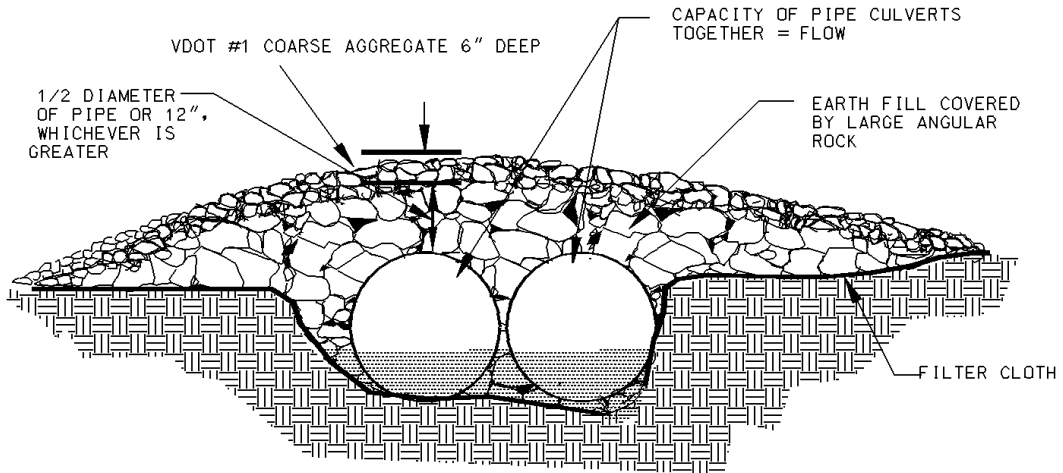
2 ACRES OR LESS OF DRAINAGE AREA:



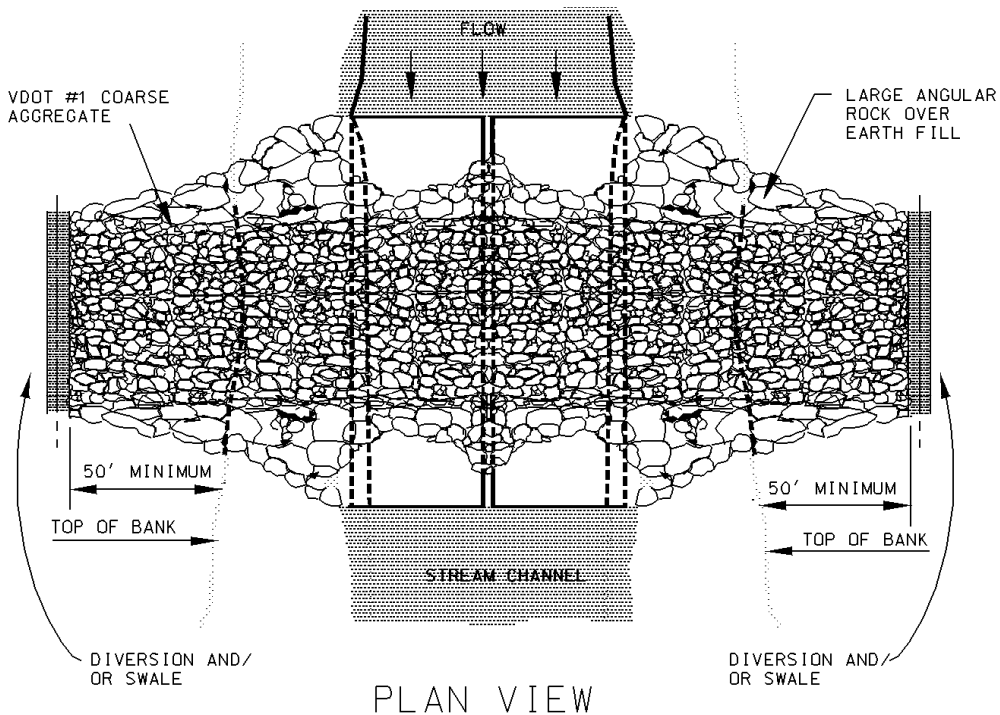
2-10 ACRES OF DRAINAGE AREA:



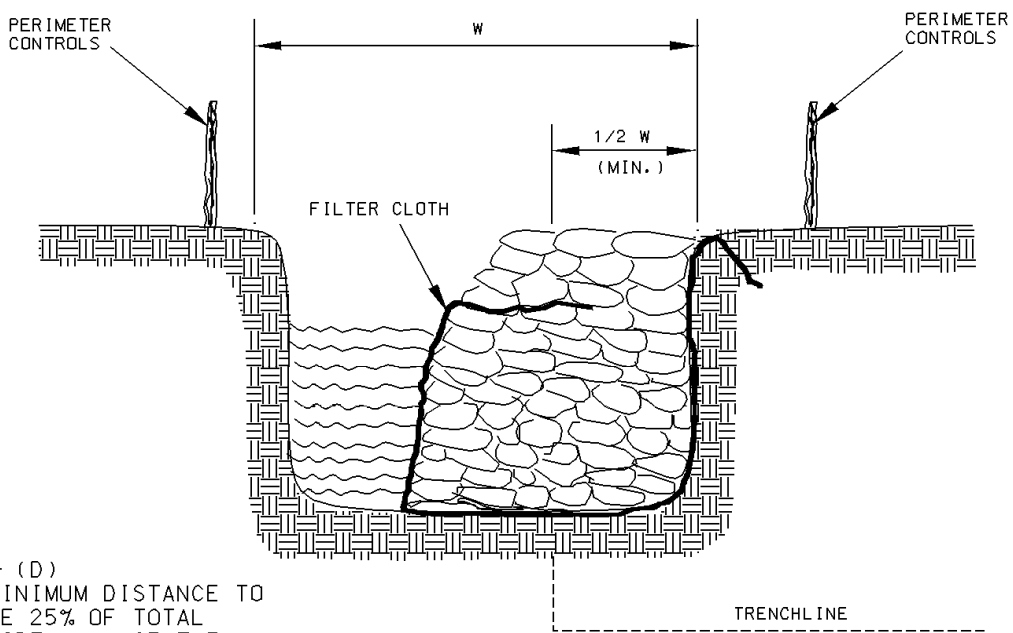
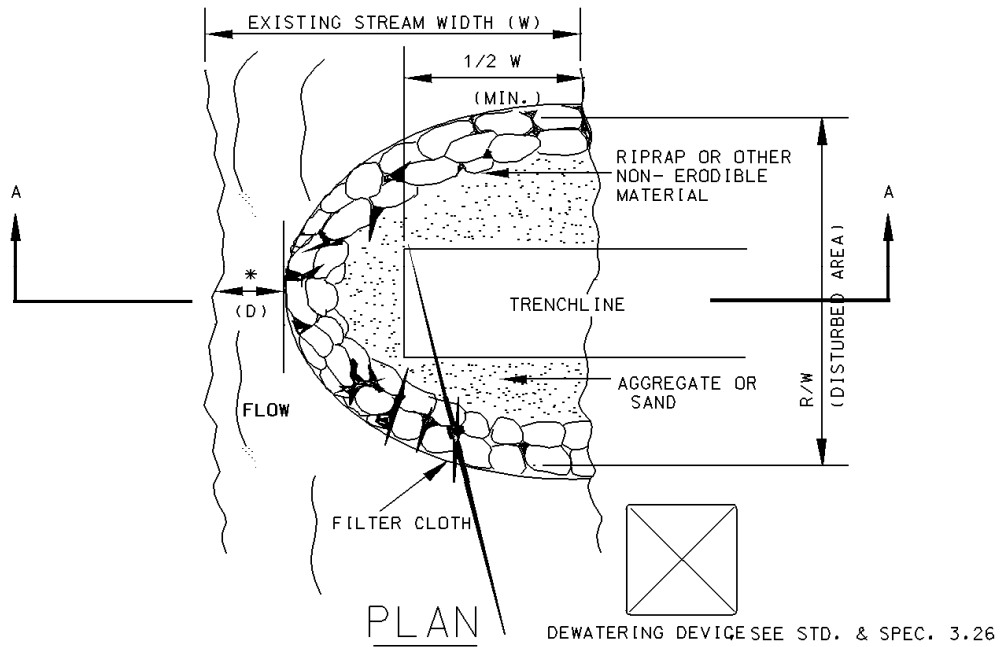
# TEMPORARY CULVERT CROSSING - 3.24



ELEVATION



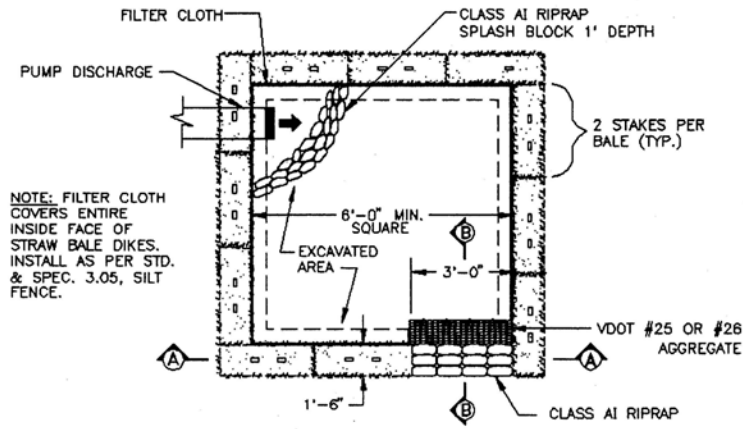
# COFFERDAM CROSSING - 3.25



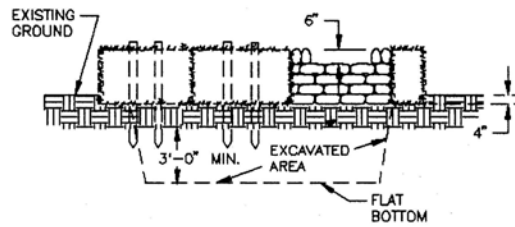
\* (D)  
MINIMUM DISTANCE TO  
BE 25% OF TOTAL  
WIDTH (W) OF THE  
STREAM.

SECTION A-A

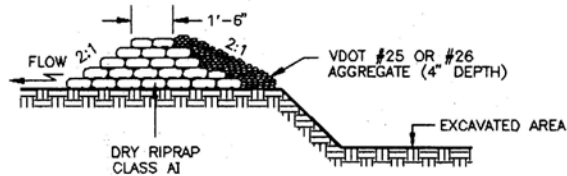
# STRAW BALE/SILT FENCE PIT



PLAN VIEW



CROSS-SECTION A-A



CROSS-SECTION B-B

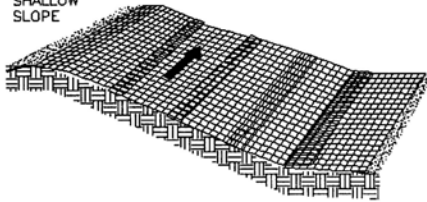
Source: Va. DSWC

Plate 3.26-3

III - 244

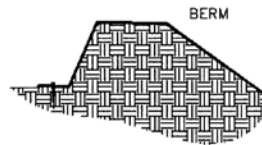
## TYPICAL ORIENTATION OF TREATMENT - 1 (SOIL STABILIZATION BLANKET)

SHALLOW  
SLOPE

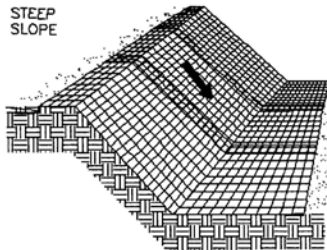


ON SHALLOW SLOPES, STRIPS OF NETTING PROTECTIVE COVERINGS MAY BE APPLIED ACROSS THE SLOPE.

WHERE THERE IS A BERM AT THE TOP OF THE SLOPE, BRING THE MATERIAL OVER THE BERM AND ANCHOR IT BEHIND THE BERM.

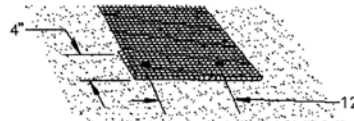


STEEP  
SLOPE

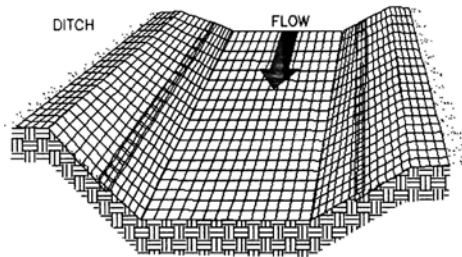


ON STEEP SLOPES, APPLY PROTECTIVE COVERING PARALLEL TO THE DIRECTION OF FLOW AND ANCHOR SECURELY.

BRING MATERIAL DOWN TO A LEVEL AREA BEFORE TERMINATING THE INSTALLATION. TURN THE END UNDER 4" AND STAPLE AT 12" INTERVALS.



DITCH



IN DITCHES, APPLY PROTECTIVE COVERING PARALLEL TO THE DIRECTION OF FLOW. USE CHECK SLOTS AS REQUIRED. AVOID JOINING MATERIAL IN THE CENTER OF THE DITCH IF AT ALL POSSIBLE.

Source: Adapted from Ludlow Products Brochure

Plate 3.36-1

III - 361

**ORIGINAL:**

**Submitted by:** D. L. Clarke  
**Approved by:** M. S. Allen

**Date:** 02-03-04  
**Date:** 02-03-04

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**REVISION:**

**Submitted by:** D. L. Clarke  
**Approved by:** M. S. Allen

**Date:** 03/15/06  
**Date:** 03/15/06

---

**REVISION:**

**Submitted by:** D. L. Clarke  
**Approved by:** M. S. Allen

**Date:** 01/29/07  
**Date:** 01/29/07

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**REVISION:**

**Submitted by:** D. L. Clarke  
**Approved by:** M. S. Allen

**Date:** 11/14/07  
**Date:** 11/14/07

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**REVISION:**

**Submitted by:** J. R. Klotz  
**Approved by:** M. S. Allen

**Date:** 10/30/08  
**Date:** 10/30/08

---

L. Preston Bryant, Jr.  
Secretary of Natural  
Resources



Joseph H. Maroon  
Director

**COMMONWEALTH of VIRGINIA**  
**DEPARTMENT OF CONSERVATION AND RECREATION**

203 Governor Street, Suite 206  
Richmond, Virginia 23219  
Phone: (804) 786-2064 Fax: (804) 786-1798

February 3, 2009

Ms. Courtney Fisher  
Dominion Virginia Power Electric Transmission  
701 East Cary Street – OJRP 12<sup>th</sup> Floor  
Richmond, VA 23219

Subject: Dominion Virginia Power Electric Transmission  
2009 General Erosion & Sediment Control Standards & Specifications Approval

Dear Ms. Fisher:

The Virginia Soil and Water Conservation Board (VSWCB) approved the 2009 General Erosion & Sediment Control Standards and Specifications (ESCSS) for Dominion Virginia Power Electric Transmission. The VSWCB approval was based on Department of Conservation and Recreation (DCR) staff review and recommendations. The VSWCB approval contained the following conditions and responses on variance requests:

1. A revised list of all proposed projects planned for construction from January 30, 2009 to December 31, 2009 must be submitted by March 6, 2009. The following information must be submitted for each project:
  - Project name (or number)
  - Project location (including nearest major intersection)
  - On-site project manager name and contact information
  - Project description
  - Acreage of disturbed area for project
  - Project start and finish dates
2. Project information unknown prior to March 6, 2009 must be provided to DCR two (2) weeks in advance of land disturbing activities by e-mail at the following address [LinearProjects@dcr.virginia.gov](mailto:LinearProjects@dcr.virginia.gov).
3. Notify DCR of the Responsible Land Disturber (RLD) at least two (2) weeks in advance of land disturbing activities by e-mail at the following address [LinearProjects@dcr.virginia.gov](mailto:LinearProjects@dcr.virginia.gov). The information to be provided is name, contact information and certification number.

4. Install and maintain all erosion and sediment control practices in accordance with the 1992 Virginia Erosion and Sediment Control Handbook.

Please note that all land disturbing activities regulated by §10.1-563.D undertaken between January 30, 2009 through December 31, 2009 on private and publicly owned lands in Virginia must be conducted in accordance with the approved 2009 ESCSS. Individual project-specific erosion and sediment control plans must be prepared to ensure proper on site implementation of erosion and sediment control measures. However, these plans need not be submitted to DCR for approval as long as they comply with the approved 2009 ESCSS.

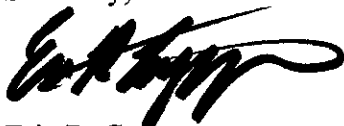
To ensure compliance with approved specifications and the Virginia Erosion and Sediment Control Law, DCR staff will conduct random site inspections, respond to complaints, and provide on site technical assistance with specific erosion and sediment control measures and plan implementation.

To ensure an efficient information exchange and response to inquiries, the Richmond Central Office is your primary point of contact. Central Office staff will coordinate with our regional staff as appropriate. Your point of contact is:

Larry Gavan  
Department of Conservation and Recreation  
Richmond Central Office  
Phone: (804) 786-4508  
Fax: (804) 786-1798  
[LinearProjects@dcr.virginia.gov](mailto:LinearProjects@dcr.virginia.gov)

Thank you very much for your submission and continued efforts to conserve and protect Virginia's precious natural resources.

Sincerely,



Eric R. Capps  
ESC and Construction Permitting Manager  
Stormwater Management Programs